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THE FUTURE OF CUSTOMS in the EU 2040

A foresight project for EU policy

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A foresight project for EU policy

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ABSTRACT

The Future of Customs in the EU 2040 report is an outcome of a year-long foresight process. Its aim is to support strategic reflection on the future of the European Union's Customs Union, its relevance and its effectiveness in the long-term. The European Commission's Joint Research Centre (JRC) undertook the project in collaboration with the Directorate-General for Taxation and Customs Union (DG TAXUD). Being participatory and multidisciplinary is an inherent part of any foresight process, and thus it involved all relevant stakeholder groups: including representatives of EU Member States, key trading partners, trade associations, businesses, consumer organisations, international organisations, academia, and different services and Directorates-General of the European Commission. Foresight serves policymakers in identifying, understanding and directing change, and hence supports the creation of policies that are more robust and fit for the long-term future. To that end, four scenarios of how customs in the European Union could look in 2040, have been created. Further, the exploration of the scenarios and insights from the process fed into a vision-building process, which resulted in a co-created vision for EU Customs in 2040. The foresight process also included a first reflection on how the vision can be reached. Part I of the report presents the summarised outcomes of the foresight methods used, and Part II provides detailed outputs and methodology. The step-by-step process descriptions in Part II can be useful for future foresight initiatives in customs or related policy areas.

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LIST OF ABBREVIATIONS

AEO	Authorised Economic Operator
CELBET	Customs Eastern and South-Eastern Land Border Expert Team
DG	Directorate-General of the European Commission
DG HOME	European Commission's Directorate-General for Migration and Home Affairs
DG TRADE	European Commission's Directorate-General for Trade
ETCIT	Expert Team for Centralised IT customs applications
EUROPOL	European Police Office
FRONTEX	European Border and Coast Guard Agency
IT	Information Technologies
JCO	Joint Customs Operations
JRC	European Commission's Joint Research Centre
LFCG	Land Frontier Contact Group
MARINFO	Maritime Information Group
ODYSSUD	Contact group of customs managers working in the major southern ports of the EU
OECD	The Organisation for Economic Co-operation and Development
OLAF	European Anti-Fraud Office
RALFH	Contact group of customs managers working in the major northern ports of the EU
RTD	Real-Time Delphi
SES	Scenario Exploration System
TAXUD	European Commission's Directorate-General for Taxation and Customs
VAT	Value Added Tax
WTO	World Trade Organization
WCO	World Customs Organization

EXECUTIVE SUMMARY

In 2018, the European Union, and the European Commission's Directorate-General for Taxation and Customs (DG TAXUD), celebrated the 50th anniversary of the Customs Union. This event highlighted the importance of the Customs Union as one of the core policies of the European Union and its tremendous achievements in enabling the single market over five decades. However, it also brought to the fore the recognition of how much more progress and improvement could still be achieved and the need to adapt to a world trade in transformation.

In society today, supply chains are in time and global, health and product standards are ensured, and intellectual property is protected. Alongside the collection of customs duties, safety, security and the facilitation of legitimate trade, now represent core activities of customs. Digitalisation, climate change, variations in the global economy and international trade tensions (amongst other factors) continue to drive this transformation. Already today, new legislation on EU-wide action in non-customs policy areas is adding to the vast range of responsibilities of customs authorities. This is expected to continue in the future.

Furthermore, the increasing pace of change in the world renders it essential for the European Union to increase its anticipatory knowledge and capacity, and to be proactive - in order to remain one of the world's most important trading partners. The Customs Union has a crucial role to play in this context considering its mission to protect the single market and European citizens, which was re-emphasised when von der Leyen's Commission took office in 2019. As stated in the Political Guidelines for the European Commission 2019-2024 "It is time to take the Customs Union to the next level, equipping it with a stronger framework that will allow us to better protect our citizens and our single market"[1].

DG TAXUD launched a foresight exercise to ensure that EU Customs[2] would remain relevant and effective in the long-term. The participatory foresight process aimed at generating strategic intelligence for policy-making in the customs domain, in which all relevant groups of stakeholders would take part from the beginning to its end. In addition, there was a recognition of the need for EU Customs to create a shared vision of what they aspire to be in 2040.

It is important to underline in advance that foresight does not imply predicting the future. The role of foresight is to serve policymakers in identifying, understanding and directing change, and thus it supports the creation of policies that are more robust and fit for the long-term. 'Identifying change' helps one to be aware of possible trends and developments that might influence an existing policy, or a call for new policy design in the future. 'Understanding change' helps to grasp what possible alternative scenarios, consequences and outcomes these new trends and developments might lead to. By analysing and assessing the possible futures and possible pathways, policymakers can 'direct change' and design the right policies.

The foresight process on The future of Customs in the EU 2040 provides a range of outputs, including:

- a vision for EU Customs in 2040; and
- alternative scenarios on how customs could look in 2040.

The foresight process has highlighted several challenging areas where decisions and actions by EU Customs need to be taken now and in the coming years to achieve the 2040 vision. The following sections briefly outline the vision, the foresight process, and insights and recommendations stemming from it.

1 von der Leyen, 2019, A Union that strives for more – My agenda for Europe, Political guidelines for the next European Commission 2019-2024. https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

2 'EU Customs' is used throughout the report as a synonym for 'EU Customs Union'.

Co-created vision for EU Customs 2040

The following vision was co-created with the stakeholders who participated in the foresight process, and was concluded and supported by all Member States at Directors-General level, during a dedicated workshop. It describes how, by 2040, 'customs in the EU' have become 'EU Customs', and what is wished to be fully achieved by then.

'FROM CUSTOMS IN THE EU TO EU CUSTOMS'

In 2040, we, EU Customs, fully protect society, the environment and the EU economy through effective facilitation of legitimate trade, and intelligent, risk-based supervision of supply chains.

We, EU Customs, are proactive, working seamlessly with our stakeholders and are committed to innovation and sustainability. We are the reference for customs worldwide.

In 2040, we are seen to act as one!

The foresight process

The foresight process for *The Future of Customs in the EU 2040* included several well-established foresight methods, such as real-time Delphi survey, scenario-building and vision-building – all of which are participatory methods. Scenarios are useful for imagining a range of realistic possible futures and bringing implicit assumptions to the fore, in a systemic perspective. They highlight key differences between the present and the future and can reveal choices available, as well as their potential consequences and trade-offs. The exploration of the 2040 scenarios and insights from the whole foresight process fed into the vision-building process. A vision gives a sense of direction and common purpose to decision-making. It can also unite people around a set of common values and motivate them to achieve the vision. For this reason, the foresight exercise delivered 'a vision for EU Customs in 2040' as its main outcome.

Insights and recommendations

Addressing the governance challenge: Creating a joint governance structure to manage EU Customs

The customs authorities of some Member States are struggling with the challenges of performing their roles up to the European Union standards, as set out in the Union Customs Code (UCC), mainly because of a lack of resources. Stakeholders participating in this foresight process highlighted (several times) the difficulties to implement actions at the European level, when there are different customs authorities for all EU Member States. The study results indicate that an EU Customs 'acting as one' and being 'seen as one' is essential to address nearly all the issues in view of the future scenarios and in order to achieve the 2040 vision. This applies across customs' areas - from data management and IT systems, to customs operations, business support to traders and to international relations. Examples of issues include: the need for EU Customs to

have a stronger voice within international institutions (such as WCO, WTO etc.), the influence in leading international negotiations, equal human capacity building and training across Member States, a common risk analysis, and the harmonisation of IT systems and operations paving the way for a common European system in the mid- to long-term.

All the scenarios from the study indicate a need for better coordination, and that it would be beneficial to **have a centralised, joint governance structure, of some form, to operationally manage the Customs Union.**

Leveraging technological advancements and making the most effective use of customs' data

Emerging technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and 3D-printing, are increasingly being used in industry, commerce and the public sector, and this will contribute to the expected massive increase in data volumes exchanged and to the variety of data in the coming years. This will inevitably bring large changes to EU Customs. Looking ahead to possible future scenarios for customs in 2040, a common denominator is the increased use of technology and the enlarged access to, use and analysis of data.

To leverage the use of emerging technologies and enhance customs' operations, this foresight process has highlighted that Member States' customs authorities should achieve a high level of data collection, use and exchange. They should also establish data pipelines between trusted partners and data sharing mechanisms, suggestively using a common EU customs data system. Data should also be exploited fully. **The stakeholders involved in the foresight process believe that harmonisation of Member States' IT systems, or in the mid to longer-term moving to one EU IT system, is crucial for the efficient functioning of EU Customs.** Fundamentally, in order to enable customs operations to function efficiently, all Member States need to have the same level of IT-capabilities and operate in a harmonised way. That could also pave the way for a common, cost-effective, real-time risk assessment and analysis.

EU Customs will have to align with the developments in the trade sector and to leverage technology to ensure its operations are effective. This will require substantial investment in equipment, infrastructure, research and innovation. At the same time, it will require thorough considerations of new risks and vulnerabilities. A common element underpins all the future scenarios: the increased use of new technologies will lead to new, or intensified forms of crime, such as data-related crimes including data corruption. Cyber threats will also increase.

Taking business support and trade facilitation to the next level

Across the 2040 scenarios for customs, a reinforcement of the Authorised Economic Operator (AEO)[3] framework is mentioned, from improving it all the way up to making it mandatory. This indicates that this is an important starting point - amongst other trade facilitation measures - for the cooperation between EU Customs and legitimate businesses.

In order to ensure efficient business support in 2040 and to achieve more simplification and facilitation of trade, the results of the study highlight the following: the creation of a **fully integrated IT Customs system, Smart Border Crossing[4], common EU Sanctions system, and the implementation of the Single Window[5] as well as the development**

3 According to the World Customs Organization (WCO), an Authorized Economic Operator (AEO) is a party involved in the international movement of goods in whatever function that has been approved by or on behalf of a national Customs administration as complying with WCO or equivalent supply chain security standards.

4 'Smart Border Crossing' here means when customs formalities are done electronically, and not necessarily at the border, but rather before and after the actual crossing of the border.

5 The Single Window provides an integrated set of interoperable electronic services at Union and national level through the European Union Customs Single Window Certificates Exchange System to support interaction and information exchange between the national single window environments for customs and the Union non-customs systems. It lays down rules for the national single window environments for customs and rules on digital administrative cooperation and information sharing within the European Union Single Window Environment for Customs.

of the next level Single Window. To be realised, they would require a new legal framework and an enhanced partnership between all concerned parties involved in customs policy-related matters.

Ensuring the right skills and competences for EU Customs' future

The rapidly changing legal and trade environment requires constant learning from customs' staff already today. **The increased use of technology in the future will require enhanced skills and competencies for customs officers**. Upskilling should in particular address AI, machine learning and automated decision-making. Ensuring IT and economic literacy will also be necessary. This will require substantial investments in continuous training. Stakeholders highlighted that establishing joint education programmes to raise customs' expertise to the same level in all the EU Member States could be one possible solution. Considering that having enough staff with the right skills in 2040 may be a challenge, efforts should be made to attract new talents, as well as to maintain the personnel in EU Customs.

This also relates to the broad challenge of increasing the understanding of the benefits of customs. To tackle this aspect, efforts on strategic communication and information campaigns are required, involving all levels of government, up to reaching out to citizens. It is likely that the role of customs in environmental protection will expand in the future. For example, controlling exports and imports by applying higher sustainability criteria or collecting more environmental duties is likely to become a bigger share of customs' activities. Increased preparedness in this area should go hand-in-hand with other customs' missions and more efficient operations (for example in relation to trade and the controls of goods - such as the implementation of the Single Window).

Driving reforms at the international level through a strong, united European position

Stakeholders participating in the foresight process have recognised that the European Union should play a larger role to drive international reforms in the trade and customs areas. **For that, EU Customs would need to strengthen its own governance to be able to speak with one voice and have a strong influence within international organisations** (such as WCO, WTO, OECD). The creation of a 'World Customs Code' and an international settlement body for disagreements represent two examples of where the European Union could be in the driving seat at international level.

Implementing the Union Customs Code and Customs Action Plan is the first step

Several actions identified during the foresight process should occur as a result of the implementation of the Union Customs Code (UCC) and the Customs Action Plan[6], where efforts are already underway. **The full and proper implementation of the UCC and the Customs Action Plan by 2025 will thus provide the foundation for further developing EU Customs in the long-term.**

.../...

Political leadership is key for the results of any foresight process to be transformed into strategies and action. The sort of longer-term analysis that foresight involves and the new networks and capabilities that it can forge, cannot be expected to achieve results overnight. Rather, continued efforts are needed to steer the development of customs policy in the desired direction.

6 European Commission, 2020, COM(2020) 581 final, Taking the Customs Union to the Next Level: a Plan for Action. https://ec.europa.eu/taxation_customs/sites/taxation/files/customs-action-plan-2020_en.pdf

1. INTRODUCTION

Global trade is evolving fast and the European Union is one of the world's most important trading partners. New technologies, products, value chains, trade patterns, regulations and measures continuously create risks and opportunities that challenge customs in the European Union. Communities and businesses all around the globe have strong expectations from public services, including customs. Protectionism and geopolitical conflicts challenge international trade, while new routes are opening and old ones are being transformed. Aggravating resource scarcity (in particular water and food insecurity) can intensify existing conflicts and create new ones. Global crises, such as COVID-19, are testing the resilience of global supply chains and pushing economies and public administrations towards more cooperation. In a world where we live more and more digitally (and trade digital goods), cyber threats could change everything in one second.

Despite the fact that acting together in these times could amplify our power, influence and resources, countries still act in siloed isolation and harmonization is not always a natural first choice. In the customs world, it has become apparent that some Member States' customs authorities are struggling with the challenges of performing their various roles up to the level expected by trade and in a harmonised way, as requested by the legislation.

The Charter of Customs Administrations of the European Union dated 12 July 2018 sets out that the mission of the EU customs administrations fundamentally is: "We protect society. We facilitate trade. We act as one." The conclusions of this foresight study echo the same thoughts and values. This highlights the determination of relevant stakeholders and adds a new clarity to what customs stand for. The Charter also states that the EU customs administrations "share the same values and implement a common set of rules".

In this context, the Directorate-General for Taxation and Customs Union (DG TAXUD) recognised the importance of engaging in a thorough work of anticipation to make sure that EU Customs remain relevant and effective in the long-term in line with current and future challenges, and that the policy makers have the best possible evidence to create the EU Customs of the future. In order to have a clear direction going forward, the urgent need of having a shared vision for the Customs Union was also recognised.

Foresight can be particularly useful in situations when strategic decisions have to be made. Yet, the level of impact it can have on policy-making depends on timing, in relation to policy and political agendas. The timing for this foresight project was well chosen in order to contribute to the Communication on Taking the Customs Union to the Next Level: a Plan for Action (Customs Action Plan)7, recently released by the European Commission, and the 2nd Biennial Report8. The former identifies priority issues that will require EU Customs' attention in the next few years and which are intended to be the first steps towards the 2040 vision.

In addition, the moment of the publication of this report on *The Future of Customs in the EU 2040* is of strategic importance for EU policy-making, as the first-ever Annual Strategic Foresight Report[9] was published by the European Commission in September 2020. The current report represents a very good example of how foresight can be embedded into the policy-making cycle and what it means in practice, but also how it can strengthen a culture of preparedness and evidence-based anticipatory policy-making.

This foresight process has been built on the outcome

7 European Commission, 2020, COM(2020) 581 final, Taking the Customs Union to the Next Level: a Plan for Action. https://ec.europa.eu/taxation_customs/sites/taxation/files/customs-action-plan-2020_en.pdf

8 European Commission, 2020, SWD(2020) 213 final, 2nd Biennial Report on Progress in Developing the EU Customs Union and its Governance. https://ec.europa.eu/taxation_customs/sites/taxation/files/2nd-biennial-report-progress-developing-eu-customs-union_en.pdf

9 European Commission, 2020, COM(2020) 493 final, 2020 Strategic Foresight Report. https://ec.europa.eu/info/strategy/priorities-2019-2024/new-push-european-democracy/strategic-foresight_en

of the pilot activity on foresight started in 2018 by DG TAXUD, with the support of their 'Think Tank' composed of expert representatives from six EU Member States. This pilot activity followed up on a reflection triggered by the celebration of 50 years of the Customs Union - which also inspired the drafting of the above-mentioned Charter.

Foresight is based on the fundamental premise that the future is open: it cannot be predicted, but can be shaped. There is no single organisation or person who could do that on their own. That is why foresight relies on collective intelligence and a participative process. Foresight facilitates exchanges between people who bring diverse perspectives to the table. This is precisely what the EU Customs had a need for: creating a shared understanding among key stakeholders of ways to deal with current and future challenges.

Any proper foresight process aims to have a real impact on policy-making and inspire a forward-looking policy, even though the outcome of a foresight study does not represent a policy instrument in itself. In this particular case, it contributes to realising objectives that were already announced by President von der Leyen in July 2019: *"It is time to take the Customs Union to the next level, equipping it with a stronger framework that will allow us to better protect our citizens and our single market"*[10]. Von der Leyen said that the Commission would propose *"an integrated European approach to reinforce customs risk management and support effective controls by the Member States"*. Turning these political objectives into an operational reality reinforced the motivation and momentum of the foresight study.

The main objectives of this project have been to:

- develop a process to generate strategic intelligence for EU policy-making in the domain of customs in the European Union, including foresight scenarios;
- create a shared and strategic understanding among key stakeholders of ways to deal with current and future challenges for customs;
- generate a tool to help relevant actors and stakeholders of EU Customs engage with the foresight scenarios developed by this project;
- generate a shared vision for customs in the European Union in 2040;
- support an action-oriented reflection on what the outcomes of the foresight process could mean for decision-making.

This project was performed by the European Commission's Joint Research Centre's (JRC) Competence Centre on Foresight, in collaboration with DG TAXUD between February 2019 and August 2020. It relied on expertise developed at the JRC during earlier foresight exercises - covering both the development and use of scenarios for policy (e.g. for DG RTD, DG SANTE, DG CNECT), the development of visions for policy (for DG GROW) and the development and use of foresight engagement tools (e.g. for DG HOME, DG SANTE, DG CNECT, DG CLIMA). This experience allowed the JRC team to put together a comprehensive foresight approach tailored to the multiple requirements of this specific project.

A group of experts representing the diversity of the customs' stakeholders participated throughout the entire foresight process - in order to achieve the objectives of the project. This ensured the depth and breadth of expertise required to deliver high-quality outcomes.

The foresight process

The foresight process was inclusive: it engaged approximately 40 participants over the year-long participatory process. Participants included all the relevant groups of stakeholders: customs authorities from various EU Member States, trade associations, businesses, international organisations, consumer organisations, academia, representatives of key

10 von der Leyen, 2019, A Union that strives for more – My agenda for Europe, Political guidelines for the next European Commission 2019-2024. https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

trading partners, relevant European Commission Directorates-General and services, and of course DG TAXUD. The engagement was mainly through participatory and interactive workshops that encouraged a systemic way of thinking. In addition, the Steering Group of EU Member States and about 70 high-level national and EU policy makers were consulted, on a regular basis and at key moments in the foresight process.

The various methodologies and techniques used in the study were:

- **Horizon scanning** as a way to build situational awareness and support the scoping phase of the project.
- **The Canvas tool** as a system-mapping approach to help scope the project, and create a common understanding of 'customs in the EU'.
- A real-time **Delphi survey**, answered by more than 300 stakeholders, as a collection of intelligence on the future of customs in the EU.
- A **scenario-building methodology** to stimulate strategic and systemic thinking, and to develop four different plausible future scenarios for customs in the EU, in 2040.
- The **Scenario Exploration System** (SES), an award-winning engagement tool that enables participants to use scenarios to better understand possible paths towards the future. A specific 'Customs version' of the SES was developed and used during the foresight process.
- **Vision-building** to give a sense of direction for the long-term, and to co-create a common vision for the Customs Union in 2040.
- **Road-mapping** to orient the strategic reflection on milestones on the road to a realized vision in 2040. This was the stage where foresight intersected with a policy mind-set.

The first four workshops in the project were pure foresight workshops, and all of the above listed groups of stakeholders participated. In the fifth and final workshop, the foresight methods intersected with a policy reflection, and the participants were high-level national policymakers from all Member States and European policy makers.

The report structure

Part I of this report presents summarises the results of the study on The Future of Customs 2040, including:

- the main challenging areas for the future of EU Customs (section 2);
- real-time Delphi survey findings (section 3);
- the key drivers and scenarios for customs in the EU 2040 (section 4);
- the vision (section 5); and
- two possible roadmaps to achieve the vision (section 6).

Part II provides a detailed description of the foresight process and methodology, which can be useful for future foresight initiatives carried out in the field of customs, or related policy areas. It furthermore presents detailed outcomes of all of the foresight methods.

PART I

Summary of outcomes on the future of customs in the EU

2. MAIN CHALLENGING AREAS AND RECOMMENDATIONS FOR THE FUTURE OF CUSTOMS IN THE EUROPEAN UNION

This section presents the main challenging areas for the EU Customs' future, which need attention and action in light of the trends and future scenarios. It also presents recommendations derived from the foresight project and the discussions with the stakeholders involved. These areas are:

- Trade, business support and protection;
- Data management and technology;
- Customs capacity and human resources;
- Climate change and the sustainable transition;
- Future of international relations and geopolitical conflicts;
- Customs' contribution to the European project;
- COVID-19 and similar future crisis with global impact;
- Customs governance.

2.1. Trade, business support and protection

Global trade and value chains are being reshaped and this is largely being driven by technological advancements. E-commerce is increasing fast[11], cross-border services represent an increasingly more important part of the composition of trade, though the intensity in the trade of goods is declining.[12] These developments are expected to continue.

In the future, new technologies such as the Internet-of-Things (IoT), Artifical Intelligence (AI), Blockchain and 3D-printing could completely transform international trade, impacting what is traded, the cost of trading and who trades.[13] For example, 3D-printing could potentially radically change the manufacturing landscape. Cross border trade of data, software, design objects and blueprints could increasingly overtake material products crossing borders.[14] What intellectual property rights exist in trade will continue to be redefined. Automated vehicles are likely to carry out transport of goods to a larger extent than today, e.g. drones used for last-mile deliveries.

EU Customs needs to be proactive in preparing for how future trade for the European Union may look, while at the same time, considering the uncertainty around it. Even though there is a probability that international trade levels will continue to increase from today's levels[15], the future scenarios developed through the foresight process indicate that EU Customs should be prepared for trade volumes entering the European Union both increasing and decreasing in the long-term. The latter could be caused by factors such as geopolitically-motivated, increased, intra-regional trade, or the increase of the circular economy. Moreover, the evolution of infrastructures such as ports, airports etc. will influence, and be influenced by trade trends and future trade flows.

The scenario exercise has revealed that it is possible that EU Customs will have to deal with a very complex regulatory landscape (with for e.g. safety and security rules), and with an expanded array of tariff/trade rules. This could accompany a significant increase in the number of trade agreements (whether multilateral or bilateral) in the coming decades, or protectionist measures creating swift rule changes. A

11 WTO, 2018, World Trade Report 2018
12 McKinsey Global Institute, 2019, Globalization in transition: The future of trade and value chains.
13 WTO, 2018, World Trade Report 2018
14 Idem
15 ESPAS, 2019, Global Trends to 2030: Challenges and choices for Europe.

prevalence of economic sanctions could potentially add to this complexity. To manage such a regulatory situation would require a continual redesign of processes and a very agile organisation.

With these trends and future uncertainties in mind, the foresight study highlights several elements which EU Customs should target, to ensure business support and to ensure that only safe and secure consignments enter the single market in 2040.

Facilitation and simplification are among them. The level of depth and the objective will be different depending on the scenario (related to the European Union's economic development and the state of the world – peaceful or conflictual). Actions to take to achieve more facilitation and simplification could include:

- The creation of a fully integrated IT Customs system/solution (developed below in section 2.2.).
- A Smart Border Crossing. This would demand an integrated scanning system at the EU external borders and the implementation of the Single Window at EU level ('No-Stop-Shop' automation). Advanced EU-level risk management, an electronic system that ensures access to businesses' data and a new legal base would also be necessary.
- Developing the next level Single Window (Business to Government).

Even if the future holds more conflicts and crime than today, simplification and facilitation would remain a key component for EU Customs. In such scenarios, simplification and facilitation would be more prominent regarding exports, while easing the control functions on import would be limited to integrated and harmonised control of goods at EU entry. In order to ensure protection in a conflictual world, a Smart Border Crossing would be needed even more.

Realizing further simplification and facilitation of trade would require a new legal framework and more integration and enhanced operational cooperation at all levels. The re-assessment of the importance of the Authorised Economic Operator (AEO) certificate represents another desirable element by the participants of this study. Depending on geopolitical conflicts and the European Union's economic development, the AEO's nature will likely change: it may be enhanced and compulsory or still only of increasing importance. The scenarios indicate that the more customs are needed to protect and ensure safety, the more the focus will be on creating a compulsory AEO regime based on harmonised EU-wide procedures, identical risk analysis approach, and enhanced cooperation between tax, customs and other sectoral agencies. On the other hand, in a scenario with dynamic EU economic development, customs could put the emphasis on security and trade facilitation at the same level. Exercising control through a mechanism of trusted operations would be desirable. All evolutions related to the AEO will require a legal framework and a policy body capable of dealing with it efficiently.

As highlighted by stakeholders participating in the foresight process, more simplification and an enhanced AEO concept would function best if there were a strengthened partnership with the traders, but also a common EU Sanctions System. Regarding the partnership with the traders, stakeholders mentioned that it should be based on an open-minded relationship and would require a mentality change in the customs world. It would also require a common understanding of EU regulation (on for example which activities/services could be outsourced and under which conditions), common development of standards, mutual trust, and the application of corporate best practices.

Cross-border control measures (e.g. 100% scanning, penalty duties) play an important role too. Depending on the level of international trade and geopolitical conflict in the world (as in the scenarios of this study), distinctive measures could be applied for exports or imports in order to maintain a high level of compliance with EU standards. As the scenarios show, the level of inspections could also be increased in a world where international trade

flow is fragmented and trust between international trading partners is low. Moreover, in a world where customs have little resources and the geopolitical conflicts are increasing, there will be a need to focus more on security and put less emphasis on client management. In this case, the close scrutinization of international business through increased efforts of border control would be the mission of EU Customs.

2.2. Data management and technology

Technological advancements are currently transforming our societies and economies, and the access to new, large volumes and varieties of data is one of the main contributions to this revolution. In the coming years, data volumes are expected to increase rapidly.[16] Emerging technologies, such as AI, are increasingly being used in industry, commerce, and government[17], which further adds to this development. This will inevitably bring large changes to EU Customs too. Looking at all the future scenarios for customs in 2040 developed throughout the foresight process, a common denominator is the increased use of technology and the enlarged access to, use and analysis of data.

Data management

The massive amounts of data already collected or accessed by customs today will increase, and this data, combined from different sources, could be leveraged to help EU Customs achieve its mission and create intelligence for several customs areas. To reach that end, the participants in the study highlight that it is first of all essential to achieve a high level of data exchange between Member States' customs authorities (themselves), as well as with other authorities (e.g. market surveillance authorities, veterinary bodies, law enforcement authorities), and stakeholders (of all sizes). It would also require access to traders' data, as well as public and private platforms' data.

It has been proposed that having the appropriate legal framework in place is one of the preconditions for this to happen. Additionally, to make the collection and exchange of the data functional, establishing data pipelines between trusted partners, and further data pull mechanisms, would be important. To get all private actors on board, it has been underlined in the foresight process that the image of customs may need to evolve in the direction of 'being a partner'.

Beyond collection and exchange, making the best use of the data and exploiting it fully will be key, according to the study results. It will be necessary to build the capacity to manage and analyse big data and to expand this capacity following further technological advancements in the decades to come. This is linked to investing in shared databases that go across different relevant domains (beyond customs) and internal frontiers. The development of the Single Window (mentioned above under 2.1) and 'No-Stop-Shop' functions would likely go in this direction.

A milestone brought up several times during the foresight process concerning data management, is the creation over time, of a fully integrated IT Customs system. For this to happen, the study highlights the need to create a new legal basis, to allocate a budget, to exchange data between different equipment producers and to create a common database accessible for all customs authorities.

A common element for all four scenarios is the improved quantity, quality and exploitation of data, which paves the way for improved risk analysis: reaching this reality would also require data systems that are fit for that purpose. That data is processed to the largest extent possible in an automated way would be preferred in terms of efficiency gains. A full

16 European Commission, 2020, A European strategy for data; OECD, 2017, OECD Digital Economy Outlook 2017.

17 Craglia M. et al, 2018, Artificial Intelligence – A European Perspective.

cost-effective, real-time risk assessment would be a desirable element for the EU Customs of the future, as stated by participants in the study. For that to become a reality, having a common risk analysis, and one single risk analysis body, has been suggested several times.

In view of the above, and to enable customs operations in the Customs Union to function efficiently in the future, all the Member States would need to have the same level of IT-capability and operate in a harmonized way. As has been underlined already in the foresight process, uniformity of Member States' IT systems is crucial for this, and having one EU IT system is the goal expressed by many. An important first step would be to clearly define the current common denominators of customs systems across the customs authorities. The stakeholders further expressed two possibilities: developing national components to the extent that uniformity is reached or creating one, new system.

Customs' data management has a natural link to policy areas such as taxation, trade, health and consumer protection, environment and climate and so on. Based on the foresight study outcomes, it can be concluded that further integration of these would be vital.

The full implementation of the Union Customs Code (which should be achieved by 2025) would improve customs' data, its quality and the harmonization of data and processes - all of which would contribute to creating a data management system fit for the future.

Technology

New technologies will likely change the way customs authorities control the flow of goods and collect duties. Following the uptake of new technologies, such as Internet of Things (IoT), Artificial Intelligence (AI), 3D-printing, Blockchain/Distributed Ledger Technologies, in different domains of society and the economy, the expectations towards EU Customs will also increase. It would be beneficial to exploit opportunities deriving from technologies to the furthest extent possible, such as to manage data and controls among other things, all in order to support the Customs' objectives.

It has been mentioned in the foresight process that one desirable element would be a 100% validated supervision of supply chains from the point of origin to the final destination. How to get there, on the technological side, would imply high-tech trace and tracking systems of the goods as well as sophisticated control systems. Moreover, Smart Border Crossing (mentioned above in 2.1) and 'No-Stop-shops' are also examples of functions where technological solutions will be needed. Among the new technologies, for instance AI could be used in safety and security controls and to assist the operator to detect contraband and fiscal fraud (tariff-related).

With increased data access and the uptake of new technologies, new vulnerabilities will arise, such as increased cybersecurity risks.[18] Following for example the development of security policies which demand more personal data to be provided, customs, like other authorities, will have to deal with that and with issues such as privacy.[19] This will require significant attention because, as mentioned in the new European data strategy, citizens will trust and embrace data-driven innovations only if they are confident that any personal data sharing in the European Union is subject to full compliance with the EU's strict data protection rules.[20]

Cyber threats are a common element of all future scenarios developed in this foresight project. This clearly highlights the need to improve capacity to tackle cyber threats, as they could increase strongly, all the way up to cyber-warfare against the European

18 Nai Fovino I. et al., 2020, Cybersecurity, our digital anchor.

19 WCO, 2018, Environmental Scan.

20 European Commission, 2020, A European strategy for data.

Union. Because customs will depend more and more on the analysis of data and computer-automated decision-making in the future, the risks of cyber-attacks on the functions of customs will be greatly amplified. For example, viruses and malware could be used to reduce the import duties applied, or to clear goods without controls. Similarly, they could even be used to erase or modify the data about suspicious companies, or to delay cargo of competitors through useless controls. The European Commission and Member States would benefit from increasing cybersecurity in close cooperation with enforcement agencies, such as Europol and Interpol.

Alongside cyber-attacks, the increased use of new technologies could lead to intensified or new forms of crime, as observed across the scenarios. This calls for a proactive approach and preparedness for e.g. an increase in other data-related crimes such as data corruption. Customs will also need to be able to identify prohibited or dangerous goods that are based on or incorporated into new technologies (e.g. nanotechnology, biotechnology, robotics, AI products), and to detect them in the flow of cargo.

It has been highlighted during the foresight process that to be able to manage the rapid changes technology will bring, EU Customs needs to expand its capacity, to invest in research and development, to have a continuous technology forecasting/ assessment, and to further enable the testing and uptake of technologies. It would be important to have a clear strategy for the integration of new technologies in customs systems.

As technology allows trade to evolve, EU Customs will have to keep up with and match the developments and to leverage technology to ensure its operations are effective. As expressed by the participants of the foresight process, this will require substantial investment in equipment, infrastructure, research and innovation. In the future, data management, data harmonisation, data exchange, data analysis and data profiling are all functions and skills that will have a central role in EU Customs. At the same time, thorough considerations of the new risks and vulnerabilities that arise along with this will be needed. Additionally,, an expected debate for the future may regard how far society may accept automated close (intrusive) surveillance aimed at fighting illegal trade.

2.3. Customs capacity and human resources

To have the capacity to meet circumstances in different future scenarios and still be able to live up to the vision, EU Customs needs to be well-equipped in terms of equipment and infrastructure, but also human resources.

The foresight process has indicated that from now to 2040, it is desirable that EU Customs makes use of more technologies, such as surveillance software, scanning, sensing, tracking, and data analytics etc. In addition, establishing advanced laboratories for controls and tests could be recommended. As mentioned above, new technologies will change possibilities and this should be leveraged (albeit responsibly). New structures may be needed within the EU customs administrations to ensure the continuous awareness of modern technologies, as well as the opportunity to test, and if relevant, implement such.

The increase in use of technology (as well as an enlarged portfolio of customs administrations) that can be expected regardless of the future scenario, will require increased skills and competencies for customs' officers. New skills needs will continuously arise, and for example, the relation with AI, machine learning, and automated decision-making can already be anticipated.

Participants in the foresight study have expressed that ensuring IT and economic literacy will be necessary, and this will require substantial investment and continuous training. Having joint education programmes to increase customs' expertise have been brought up repeatedly. Suggestions have

been master programs, exchange programs, as well as a fully-fledged Customs Academy at EU level, that could harmonise the competencies across Member States customs authorities.

In some 2040 scenarios, customs operations have moved in the direction of less traditional work at the border towards having more intelligence type of work. If this is to be achieved it would require a change in the mentality of customs' staff, and essentially a change in 'organisational identity' in the customs authorities. This is also vital for creating organisational agility in general. Having a conscious change management plan for that would be advised including hiring personnel with new and relevant expertise areas, as well as training and education.

In terms of the customs personnel, it has also been expressed as desirable to have more auditors, to increase customs operations' follow-up.

The ability to attract customs officers in the future is likely interlinked with the image of jobs within customs administrations and more generally the public image of customs. Regarding the former, it has been highlighted that the job benefits need to be on par with the tasks. The latter relates to the broad challenge of increasing the understanding of the benefits of customs, from the level of government all the way to the level of citizens. Addressing this would require strategic communication efforts and intelligently using the opportunities for attracting attention to customs that may arise. On this issue, it would likely help if customs were to have stronger connections with more high-profile political files.

2.4. Climate change and the sustainable transition

In 2040, climate change will have become more evident to Europe's population. The Intergovernmental Panel on Climate Change (IPCC) estimates that global warming is likely to reach 1.5°C between the year 2030 and 2052 if the current rate of temperature increase continues.[21] Beyond the impact that this is having and will have on the environment and wildlife, sea levels, ocean temperatures, ecosystems, and biodiversity, it is endangering human well-being and societies by causing risks to food security, water supply, health, human security, livelihoods and economic growth.[22]

Climate change and environmental degradation is pushing Europe and the world to undergo a transition to a sustainable society and economy. That the world is facing increased resource scarcity is also pushing in the direction of a more circular economy. These issues are reaching higher on the political and societal agendas in many European countries and in the European Union most recently through the European Green Deal.

In this context, it is likely that the role of customs linked to environmental protection and climate change will expand in the future.[23] This would normally follow a decision and legislation brought forward in other policy areas, while the EU Customs would be tasked with carrying out the necessary controls and activities. Nevertheless, EU Customs should prepare for this potential development where its role in environmental protection and the transition towards a more sustainable economy increases significantly. The foresight process also highlights that controlling exports and imports by applying higher sustainability criteria or collecting more environmental duties is likely to become a bigger share of customs' activities. In a 2040 scenario where the economy is more circular, there would be an increased preference for circular economy business models, local consumption and production. Because of this, more raw materials would be transported than end products. This would have several implications for customs authorities, e.g. monitoring material flows would require an

21 IPCC, 2018, Global Warming of 1.5°C.

22 Idem

23 See e.g. the Carbon Border Adjustment Mechanism identified in the European Green Deal.

awareness of a product's entire lifecycle. Moreover, the trade crossing EU borders in a more circular economy may require a very complex tariff landscape e.g. due to the inclusion of environmental duties.

Ensuring preparedness for a broadened role in protecting the European Union's environment could go hand-in-hand with other customs' missions and more efficient operations in relation to trade and the controls of goods. Implementing the Single Window, where all information on the goods required would be provided at once to the customs authorities, would be a step in that direction.

2.5. Future of international relations and geopolitical conflicts

The future of international relations will affect EU Customs regardless of the geographical position of countries (even without external land or see borders).

During the foresight process, customs' stakeholders identified 45 drivers of change, which are internal or external factors that cause change to a system - the Customs Union in this case. From all 45 drivers of change, those that were most important as well as uncertain were ranked. One of the two highest ranked was "Geopolitical conflicts". Thus, the level of geopolitical conflicts will influence all possible futures for EU Customs, in an extrinsic manner. Certainly, customs policymakers will have to deal with events outside of their control.

EU Customs should strengthen its own governance to be able to speak with one voice and have a strong influence within international organisations. To do that, Member States should work more together to empower EU Customs with a unified position and could, for example, create a strong international department who could play a leading role within the international organisations. Increasing the European Union's influence within the international organisations (WCO, WTO, OECD etc.) and the reform of some of these international bodies was mentioned several times by customs' stakeholders.

Customs stakeholders who participated in the study aspire to improve international collaboration on customs within international organizations; it would for instance be desirable to have such a thing as a 'World Customs Code', where the European Union could use and build on the experience of the UCC. Having a World Customs Code would mean an increased level of agreements on certain international provisions. The creation of an international settlement body for disagreements was also mentioned by the actors involved, especially in a scenario where the international organisations are strong, and the European Union's position is weaker.

In order to draw policymakers' awareness to some major extrinsic factors, the foresight process touched upon some of the megatrends that could cause geopolitical conflicts: the shift of economic and political power, climate change, digitalization, demography. Below are some examples of these developments.

Economic transition and the change of power could be the cause of a geopolitical conflict. In the history, it was observed that, every time the main economic power has been economically overtaken by another power, there has been a war[24]. Similar to the shift of economic power, digitalization will affect everything, representing more an accelerator in the way that it increases the direction we are taking (regardless of the direction), or the nature of the conflicts in which we are engaging. In addition, increasing demographic imbalances bring other risks such as: urban conflicts, internal conflicts, civil wars and displaced people.

Conflicts related to natural resources and/or environmental degradation are twice as likely to return to violence within five years[25]. Stakeholders

24 Eamonn Noonan, European Parliamentary Research Service at the European Parliament, presentation at workshop on the 24 June, Brussels

25 The Millennium Project, 15 Global Challenges, 201, http://www.millennium-project.org/challenge-10/.

involved in the foresight project mentioned water scarcity as a game changer. The combined effects of demographic growth, growing consumerism and continuing urbanisation will see demand for water rising exponentially, while supply becomes more erratic and uncertain. Moreover, by 2025, 50% of the world's population might be living in water-stressed areas and over 70% of the global water withdrawals go to agriculture.[26] As an example of potential consequences, if China loses its ability to produce food for its own population, that will have serious implications for how China acts in foreign policy and international trade.

In addition, the UN Security Council notes the adverse effects that climate change and greater competition for scarce resources have on the stability of many countries in Western and Central Africa such as Mali, Somalia or Sudan. People in poorer countries are on average 6 times more likely to be displaced, evacuated, or to require emergency assistance due to climate-related disasters than those in rich countries. While there is evidence that climate change and extreme weather events trigger displacement, these movements are mostly short-term and short-distance, rarely crossing national borders.[27]

The scenarios, which show how different situations in terms of international relations could affect customs in 2040, highlights some possible insights.

As expressed in one of the scenarios, peace in international relations could lead to a 'trust by default' attitude with few controls at the EU borders, accompanied by a risk of high sanctions for whomever would get caught cheating. In such a situation, more agreements and international conventions would come into place, as countries understand that cooperation is a 'positive sum' game.[28] When international relations are based on trust, customs could focus on improving border effectiveness, greater facilitation of legitimate trade and strengthening global stability.

In a contrasting scenario, where conflicts arise and competition between countries accelerates, this could translate into protectionist reflexes and the preference for bi-lateral trade agreements. This could go hand in hand with rising nationalism within the EU. In such a scenario, international trade could intensify between allies and decrease between antagonistic powers. International organisations could lose influence, along with global rules and standards. In turn, customs diplomacy could gain importance, as was highlighted in the foresight project. In this scenario, EU Customs could be positioned at borders to play a prominent role across the international supply chain, ensuring a sustainable and secure future for its citizens.

Security is still one of the major concerns for states, with the persistence of terrorist strikes throughout countries and the development of local conflict zones, particularly in borderlands. The Union Customs Code was already amended several times to include reinforced security aspects. For example, complex IT systems like the Import Control System (ICS) have been built and are still being improved for security aspects. According to a WCO study, transnational terrorism has already led Customs to implement important changes in many countries beyond the traditional Customs' mission and might demand a greater participation from their side in the policy-making debate, but also integration into emergency response teams at borders (cooperation with Border Guards) and participation to migration controls.[29]

26 World Health Organization, Joint Monitoring Programme, 2017, https://www.who.int/water_sanitation_health/publications/jmp-2017/en/.

27 JRC, 2020, Megatrends interlinkages - Briefing "Security and geopolitics in a changing climate".

28 WCO, 2019, Environmental Scan.

29 WCO, 2018, Environmental Scan.

2.6. Customs' contribution to the European project

While the evolution of the Customs Union and what it provides may have a significant impact on the progress of the European project (because for e.g., citizens' demands from the EU on matters such as data protection, safety and security, climate and environment can be expected to increase), it is the future of the European construction that will have the most influence on the Customs Union.

The foresight process has highlighted that EU Customs have suffered for too long because of different approaches and the lack of harmonization between customs national authorities. As has been brought forward, one EU Customs structure, well connected to other policies, strong on the international stage, and communicating to citizens, could contribute to a stronger Europe. On the other hand, fragmented national customs authorities, competing and creating legislating in isolation, not communicating on their benefit and added value, could harm the functioning of the European Union and encourage protectionism, nationalist patterns.

50 years ago, the fathers of the European Union had the vision to build the Customs Union, a standardised system for trade ensuring that goods can circulate freely within the EU and no customs duties are charged inside the EU borders. What we might take for granted today is essential for the functioning of the common internal market and the free movement of goods, but also for our safety and security. The European Union is one of the world's biggest trade players, accounting for about 15% of global trade[30]. This gives the EU more negotiating power than any of the Member States by themselves. Thus, EU Customs is an important part of the EU, and their developments are interlinked. UK withdrawal from the European Union and the recent COVID-19 have made it even more clear just how important the Customs Union and free trade is for all parties.

2.7. COVID-19 and similar future crisis with global impact

The spread of the pandemic has had dramatic impacts on issues of high sensitivity for consumers and citizens in general: food security, transportation, trade limitation, fraud, crossing borders but also national security and safety. Many rights and liberties that we took for granted, became privileges for the part of the population with reduced income. This could be a good opportunity for EU Customs to approach consumers and better communicate on their role and capacities, but also making sure that no one is left behind.

The coronavirus outbreak accelerated the digitalisation of our society and raised even higher the risk of data corruption and importance of cybersecurity. It demonstrated that cybersecurity is a game changer for the European Union's security and stability, but also for the EU Customs – managing more and more data.

In addition, as WCO's Environmental Scan for 2020 argues, the COVID-19 crisis has clearly showed the need for exceptional facilitation measures globally, as well as at EU level, to keep uninterrupted flows of goods and allow companies to run their businesses to the greatest possible extent. Customs administrations could take the lead on business continuity and on securing trade flows.[31]

On the business side, COVID-19 accelerated the already existing trend of increasing nearshoring and resilience. This could have an impact on customs as applying a nearshoring strategy means as well less import duties.[32]

Trade facilitation during COVID-19 times also highlighted the need to cooperate further between EU Member States, and with third countries[33].

30 The EU's position in world trade in figures (infographic), European Parliament, 2019

31 WCO, 2020, Environmental Scan.

32 Antwerp Management School, 2020

33 Antwerp Management School, 2020

In the preparation for future crises, EU Customs should act fast and be fully involved in EU, national and regional discussions. Having a strong EU governance could facilitate the dialogue and could prevent fragmentation and protectionism. For example, it would reduce the risk that in a future global crisis some Member States could create distortions of the EU internal market by closing their borders and controlling the free movement of goods between Member States.

2.8. Customs governance

During this foresight process, stakeholders highlighted several times the difficulty to act as one/ do more at European level when having 27 different customs authorities in the EU. Moreover, the majority of the stakeholders involved in the Real-time Delphi Study of foresight project stated that there is a competition between Member States happening today, although there was disagreement about whether this competition leads to a weakening of the EU internal market.

The world is becoming more and more complex and the EU Customs needs a stronger and a more powerful governing body to allow it to transcend from national initiatives to "we act as one", a phrase that is stated in the 2018 Charter on the Customs Administrations of the European Union.

The possible future scenarios in the foresight study have shown that the future is uncertain and different future situations will create different needs, but the commonality between all is the issue of governance.

"Acting as one" and being "seen as one" represent one of the preconditions for almost all that the EU Customs need to achieve within different possible futures to remain relevant and be able to function efficiently. This applies to all customs' areas, from the control of goods, to data management and IT, operations, business support and international relations. Examples can vary from the need to have a stronger voice and influence within the international institutions, the power to lead international negotiations and other reforms, to having harmonised IT systems (or one common IT system in the mid to long-term), the capacity to pull, analyse and dispatch data to relevant parties, to perform and share risk analysis, fighting cyber threats and sophisticated crime and to carry out the simplification that the business sector needs.

In addition, it was highlighted several times by the stakeholders participating in the foresight process that the differences in the way customs are administrated in each EU Member State, bring along different working conditions and remuneration of customs officers in the Member States.

The outcomes of the foresight process thus indicate that a central, joint governance structure could not just be the solution for the harmonization of customs operations across the European Union, but it could support in satisfying other needs: such as visibility in the daily life of citizens; more coordination with other policy areas and governing bodies (managing environment, social issues, finance, international relations);, and the ability to take rapid decisions.

The foresight process brings the following possibilities into place under different scenarios:

- Harmonization of national customs authorities under the governance of an Executive Central Body with political power and coordination role. The function of a High Representative for Customs is also envisaged in a future with appeased geopolitical relations, a dynamic economic development, and a collaborative spirit in the European Union.
- A stand-alone EU Customs & Border Agency with the focus on safety and security, especially in a conflictual future where migratory pressure and crime are very high.
- An EU Customs Risk Analysis Agency for shared and efficient risk analysis and risk management. This option came into discussion in a future conflictual world in which customs budgets are

significantly reduced, where customs policy is very complex, and where there are many disagreements within the European Union and national agendas are prevailing.

- In another world, where there are less conflicts and fewer controls at the border, but yet a slow EU economy, the option brought forward by the stakeholders was a single EU Customs Agency focusing on IT processes for trade facilitation. This would allow data harmonisation and new functions to safeguard society and sustainability. The EU Customs Agency as described here would operate under strong budgetary pressure, collecting mainly environmental duties.

The link between the Customs Union and the other EU policies was considered the most important driver of change by the customs stakeholders.

Having a joint governing body would increase the opportunities for efficient cooperation with different agencies such as Europol, Frontex, Eurojust, OLAF, the EU Intellectual Property Office (EUIPO), the European Chemicals Agency (ECHA), as well as environmental agencies, the police and military, trade associations, HR recruiters etc. In addition, EU Customs should develop a permanent dialogue with other EU policy areas such as Budget and Taxation, Trade, Digital, Business and Industry but also Transport, Security and Defence, Public Health, Food safety and consumer protection, Justice and Home affairs, Education, and Research and Innovation.

3. FINDINGS OF THE REAL-TIME DELPHI SURVEY

A Real-time Delphi survey was used in the foresight process at an early stage to collect the opinion of experts, practitioners, and stakeholders related to the customs system on how they perceive and assess different possible future developments. This structured expert survey methodology is generally used to gather opinions on different possible developments in the long-term, which naturally are very uncertain.[34] This type of survey is also a useful way to elicit, collect and synthesise the opinions of a large group of experts, to create consensus, and to give ideas to start a debate.

In this Real-time Delphi survey, the participants were asked to react to 16 statements formulated as if they were taking place in the year 2040. They covered different issues related to customs, such as the role of customs, trade, digital and technological development, human resources, and corruption and fraud.

For each statement, respondents were asked to answer four sub-questions: an estimate of the likelihood of the statement happening, the timeframe by when it might occur, an indication of which domains of EU action would be influential on the statement, and a suggestion of which EU action could support the achievement of the statement (or its prevention, depending on the case). People were also encouraged to explain their response.

Survey findings

The following points are based on the analysis of the outcomes of the Delphi survey. From a total of 750 people contacted between April 5th and May 5th 2019, 332 people answered, 94% from an EU Member State and 6% from outside of the European Union. The most represented professional categories were Government (57%), Trade (14%) and International organisations (10%).

Respondents are in broad agreement regarding developments on the **role of customs**. The majority perceive the mission of customs authorities as already having evolved into a broad scope, contributing to the welfare of society well beyond merely collecting VAT and customs duties. Further, it is seen as likely that EU customs authorities continue on a path to increased data exchange with all stakeholders and achieving to do so in a safe and efficient manner. A majority of respondents also think that it is likely that eventually (most think at 2025 or beyond), EU Customs will be integrated into a larger body dealing with border control and migration management. This implies that there would be support of the creation of "EU Customs" instead of "customs in each EU Member State". When it comes to the **public perception**, however, there is not a united view on whether the EU public will ever value the customs highly. A point that was mentioned repeatedly is communication: according to several respondents, European citizens do not know enough about what customs do for them on a daily basis and therefore cannot value it.

The **culture of the customs' institutions** was also a salient issue. Many respondents invoked a need for change: moving away from the financial perspective with taxation at the core, to a more general approach, which includes protecting the environment, ensuring welfare, encouraging a circular economy model, supporting migration management etc. This could, as was suggested, happen if the Customs Union works more closely with other policy domains, both at EU level and national level. This goes hand in hand with re-thinking the customs mission and vision, and better defining the Customs Union strategy and objectives. The creation of a single European Customs Agency or Authority was also mentioned several times.

The **developments related to trade** triggered contrasting response patterns. While most respondents think that it is likely that the European Union and its customs system will have the capacity to ensure safe and fair trade for all, they disagreed on when. Most respondents believe that it is unlikely

34 http://www.foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/classical-delphi/

that border infrastructure for trade in goods will lose a lot of its importance due to a more circular economy and value chains becoming shorter (closer to places of consumption). An important aspect to consider here is that even though trade will evolve and infrastructure might become more digital than physical, the control will not lose importance. Moreover, because of an assumed increase in international trade, new trade routes could emerge, meaning new customs. Furthermore, opinions diverge also on the likelihood that the European Union becomes less of a model for development and less of an economic and strategic partner for third countries, leading to strongly increased risk of fraud from global supply chains. They also diverge on whether the competition between EU Member States will lead to reduced controls on trade flows as well as to a weakening of the EU internal market.

Issues related to **digital and technological developments** generated a debate about the level of technological advancements considered likely to be achieved in the next 20 years. It also shed light on diverging views on what may be new structures or responsibilities of customs in the future. For example, there are different opinions on whether in the future there will be duties on cross-border data exchanges and if so, if it would be the task of the customs to collect (and hence be regarded as revenue from the customs) or not. While respondents mostly believe that collaboration between the public and private sector will increase in relations to customs, a strong majority considers unlikely that EU Customs would be privatised and governed by big online platforms. What is considered more likely is that more than 30% of goods will be transported by cargo drones and hyper-loops by 2040 (or sooner). In general, respondents believe that new technologies will play a very important role for customs in the future, mainly to fight illegal trade, ensure efficient controls and increase the level of cybersecurity. However, to make this happen, support from the European Union is necessary to invest in research, innovation and infrastructure development. There is clear disagreement on whether artificial intelligence (AI) and robot-performed controls could replace all manual controls by 2040 and lead to the customs workforce decreasing by 50%. Several respondents explain that their standpoint is that AI and robots will replace many controls, but not all; and that the number of customs officers will indeed decrease, but not to that extent.

On the **human resources** challenge, most respondents had no opinion or found it unlikely that many in the young generation will be interested to work in the customs sector in the future. Regarding the **future skills** need, IT skills are clearly in high demand but many respondents highlighted the fact that customs should also enrol young people with specific skills in domains that are not traditional for customs such as environmental protection, social welfare etc.

In relation to **corruption and fraud** respondents were very much aligned, with a majority arguing that terrorism and organised crime value chains have already shifted from the physical to the cyber-world, representing the biggest threat for the EU Customs as data owner. Moreover, within a period of 10-15 years, most respondents find it likely that AI, automation and integration across EU Customs will have led to significantly reduced corruption and illegal trade. Respondents also said that customs need a serious **anticipatory capacity** not only to deal with change and trends from trade (e.g. e-commerce, Chinese Silk Road project etc.), geopolitics and technology, but also to deal with security, safety and fraud risks. Such an anticipatory capacity would allow customs to act fast and proactively.

As the results show, many EU policy areas can have an influence on the future of EU Customs, as there are more or less direct interlinkages between developments in different policy areas and implications for customs. The domains of EU action that were considered influential by the respondents in most instances were Budget and Taxation, Trade,

Box 1. A majority of respondents think that these are likely developments by 2040(+) or sooner

- Customs authorities in the EU exchange data safely and efficiently with all stakeholders (traders, other authorities, banks, other countries).
- The mission of customs in the EU has evolved from 'we collect customs duties' to 'we contribute to the welfare of society'.
- The roles of EU customs, border control and migration management have been combined into a single new powerful body.
- The EU and its customs system have the capacity to ensure safe and fair trade for all.
- More than 30% of goods are transported by hyper-loops and cargo drones.
- Corruption and illegal trade are reduced significantly due to high levels of artificial intelligence, automation and integration across the EU Customs system.
- The terrorism and organised crime value chains have shifted from the physical to the cyber-world and represents the biggest threat for the EU Customs system as data owner.

Digital, and Business and Industry. Other policy areas which were considered influential by most respondents with regards to specific statements, were Transport; Security and Defence; Public Health, Food safety and consumer protection; Justice and Home affairs; Education; and Research and Innovation.

The full results of the Real-Time Delphi survey are presented in a separate report.[35] The boxes display all 16 statements about the future of customs in the European Union, which were included in the survey, classified according to how high their estimated likelihood was by the participants. Box 1 presents the statements that a majority of respondents believe are likely to happen between today and 2040 or beyond, Box 2 presents those that were deemed unlikely to happen and Box 3 those for which there was no clear majority either way.

35 https://ec.europa.eu/jrc/en/publication/future-customs-eu-2040-results-real-time-delphi-survey

Box 2. A majority of respondents think that these are unlikely developments by 2040

- The economy has become circular and the global value chain has shifted closer to the places of consumption. As a result, border infrastructure for trade in goods has lost a lot of importance.
- EU customs are privatised and governed by big online platforms (e.g. Amazon, Alibaba, etc.).

Box 3. No agreement on the likelihood of these developments by 2040 – the jury is still out

- Many EU citizens value the customs in the EU highly.
- Tariffs and duties resulting from EU policies on climate and sustainable development generate the bulk of revenues collected by EU Customs.
- The EU has become less of a model for development and less of an economic and strategic partner for many third countries. This has strongly increased the risk of fraud from global supply chains.
- Competition between EU Member States to attract trade flows reduces controls and ultimately weakens the EU internal market.
- The revenue from trade in data and digital products reaches 60% of the customs' revenue due to new duties being collected on the cross-border data exchanges.
- Many in the young generation are interested to work in the fast developing customs sector.
- As artificial intelligence and robot-performed controls have replaced all manual controls, the customs workforce has decreased by 50%.

4. SCENARIO-BUILDING FOR THE FUTURE OF CUSTOMS IN THE EU 2040

Geopolitical conflicts	Emerging technologies for customs operations	Harmonization	Ageing society	Black market place	Political evolution of EU project
EU economic development	New business models	Changing consumption patterns	Extra-territorial actors + systems	Globalisation	Space colonisation
Changing societal values	Data policy	Demand for safety	Terrorism	Global economic development	Evolution or change of world trade system
Crime pressure	Fiscal policy	Social unrest	Emerging technologies for transport	Climate change	Product standardisation + certification
Emerging technologies for products	Management of customs	Migration	Tracking technologies	Competition for natural resources	Urbanisation
Cyber threats	Links between customs and other policies	Image of customs in society	Protectionism	Energy supply	Simplification of customs process
New types of products + new infrastructure from new technologies	Geopolitical shift	New skills	New products	Modal shift of transport	Crisis management response
Circular economy		New actors in society		Spread of infectious diseases + other biohazards	

Figure 1. Drivers of change of the customs system

Scenario-building was used to help stakeholders imagine a range of plausible futures for customs in the European Union and bring implicit assumptions about the future to the fore. It is perhaps the most emblematic and widely used foresight method.[36] Scenarios are not predictions about the future but rather stories about possible and plausible futures. They highlight key differences between the present and the future (be it more of less desired) and can reveal the choices available to shape the future and their trade-offs.

The scenarios were built in two consecutive participatory workshops, using the classic 'matrix' approach. During the first workshop, participants identified the key drivers of change for customs in the European Union and selected the two key factors around which to construct the 2040 scenarios. During the second workshop, participants 'put flesh on the bones' of the scenarios, making sure that drivers of change that are highly uncertain go in different directions in different scenarios. The scenarios were then further developed by the JRC team before being submitted for comments to all participants, and later verified and finalised in a third workshop. For a detailed methodology of the scenario-building process, see section 8.4.

4.1. Drivers of change of the EU Customs system

In order to build future scenarios, the first step is to understand what are the drivers of change in the EU Customs Union. The future of a system depends on the combined developments of these drivers. Figure 1 presents the 45 drivers of change that were identified by the customs stakeholders.

36 Schwarts, P., 1997, Art of the Long View: Planning for the Future in an Uncertain World. ; van der Heijden, K., 2011, Scenarios: The Art of Strategic Conversation.

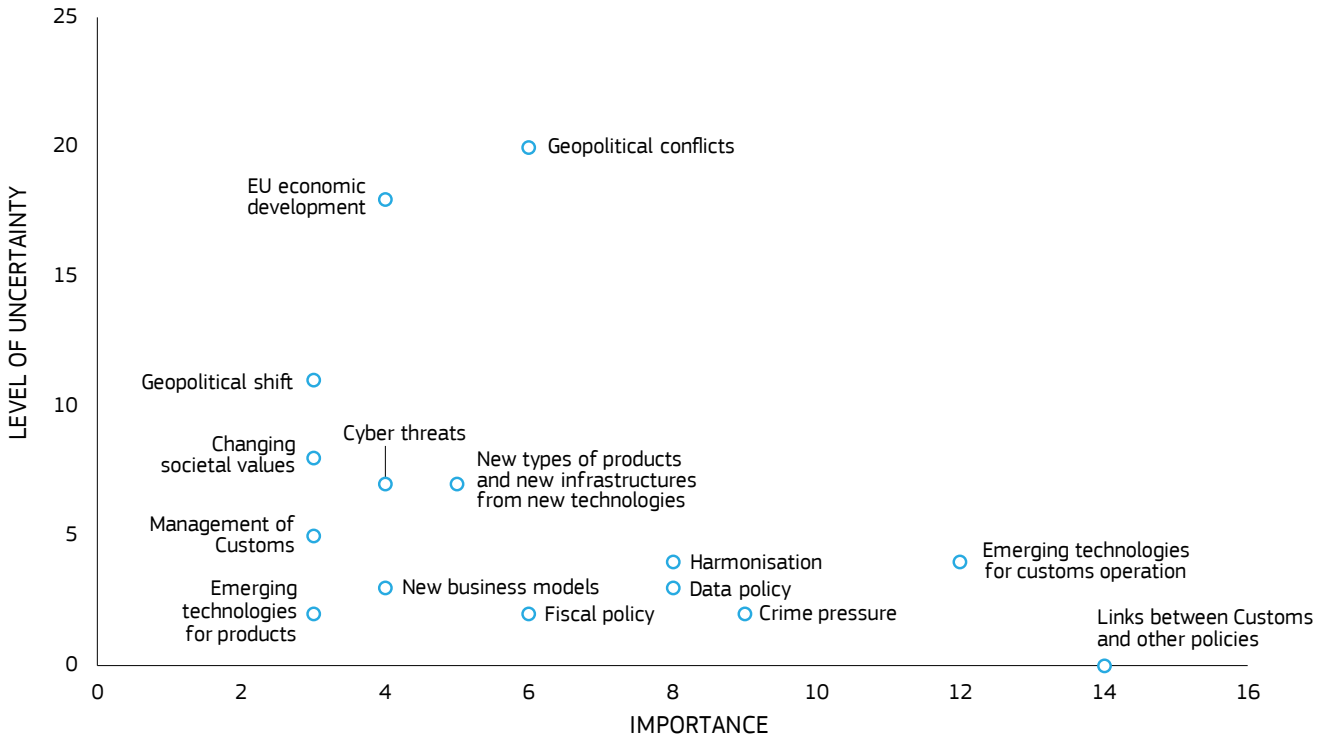

Figure 2. The 15 most impactful drivers of change and their level of importance and uncertainty.

Out of these 45, the 15 most important were ranked through a collective exercise. Those 15 key drivers were further ranked according to their uncertainty in terms of which direction they may go. Subsequently, we were able to create the following scatter plot for the 15 most impactful drivers of change (figure 2):

The following section will outline the most important and uncertain drivers of change and the relationship with the customs system.

Links between customs and other policies

The culture of customs' institutions is constantly changing, moving away from the financial perspective with taxation at the core, to a more general approach, which includes protecting the environment, ensuring welfare, encouraging a circular economy model, supporting migration management etc. This highlights the fact that customs must work more closely with other policy areas and organizations in charge, both at EU level and national level.

In addition, many EU policy areas can have an influence on the future of the EU Customs system, as there are direct interlinkages between developments in different policy areas, with implications for customs. The domains of EU action that were considered most influential by the stakeholders were: budget and taxation, trade, digital, business and industry, but also more sectorial, such as transport, security and defence, public health, food safety and consumer protection, justice and home affairs, education, research and innovation.

Emerging technologies

Advancements in nanotechnology, robotics, 3D printing and artificial intelligence, photonics, quantum and other emerging technologies and the synergies among them are accelerating. They are changing the nature and speed of new scientific discoveries and are challenging our understanding of what is possible. Hyperconnectivity, the IoT, augmented

reality and collective intelligence systems, combined with falling costs of implementation of new technologies are transforming entire systems of production, management, and governance.[37]

These emerging technologies will change the way customs operate. As some flows of goods become digital due to 3D printing technologies, this has important implications for the customs tariffs and duties.

Crime pressure

Terrorism and organised crime value chains have already shifted from the physical to the cyber world. This represents the biggest threat for customs as data owner. Within a period of 10-15 years, AI, automation and integration across the EU Customs system could lead to significantly reduced corruption in the customs domain and the volume of contraband.

Harmonisation

Harmonization could be a game changer for the EU Customs in the future. This could happen at many levels, starting with data harmonization (collection and analysis), harmonization of national customs authorities and the way they operate, harmonisation and interoperability of interfaces to ensure proper collection of customs duties and facilitate trade etc. Harmonisation is tightly linked to governance and the body for EU Customs to make political choices and implement changes needed.

Data policy

Data policy is considered one of the leading practices that could change the future of EU Customs significantly. It represents the desire of a community as the EU Customs to access and exchange relevant data in a transparent and seamless manner to enable business support and efficient operations. Data policy is very high on the EU agenda with the publication of the European data strategy.[38]

Geopolitical conflicts

The general level of conflicts in the world outside of the European Union was considered as the most significant driver to influence the future of customs yet very difficult to predict. Future geopolitical conflicts will affect EU Customs regardless of the geographical position of countries (port, land border, or none of the two).

EU economic development

By 2040, the European Union could find itself in a situation of slow economic development as a result of either general degradation or a conscious choice for a restricted economy making strong efforts to reduce the use of resources. Alternatively, it could find itself in a situation of dynamic economic development, either because of the continuation of an economic model based on GDP growth, climate change permitting, or because of very dynamic approach to building a sustainable economy with strong investments into new technologies and infrastructures to reduce materials and energy use while maintaining activity as much as possible.

Fiscal policy

Traditionally, customs were very important for the fiscal policy of governments for charging customs duties and other taxes on import and export. In the future, new environmental duties could be added and more synergies with fiscal policies could be found. We could imagine a world where customs' mission has evolved to maintaining welfare and protecting the environment, which could reduce the number of duties and change completely the customs' business. This could involve a change in the way the public perceives EU Customs. For EU Customs, tax harmonization and an EU-wide VAT scheme could play a very important role.

Cyber threats

In recent years, cybercrime has increased massively, targeting both individuals and organisations. Over the next decade, cyber threats are expected to increase at a similar rate[39] (as the number of people and devices

37 https://ec.europa.eu/knowledge4policy/foresight/tool/megatrends-hub_en

38 European Commission, 2020, A European strategy for data.

39 In particular, as cyberspaces continue to remain ungoverned. Globsec Policy Institue, 2018, Globsec Megatrends 2018.

connected to the internet continues to grow) as they have been over the past ten years.[40] Cyber threats can significantly affect the operations of customs as those depend on the (mostly automated) handling and processing of large amounts of data. Protection of the customs data and customs IT tools from hacking is paramount, especially as customs' automation will increase and more decisions will be taken directly by IT systems without human intervention.

New business models

3D printing, digitalization, AI services, circular economy and the societal needs could change completely the business models and so, the business and mission of EU Customs. For example, as a result of the local production more raw materials will be transported than end products. Even though, the economy could become circular and the global value chain might shift closer to the places of consumption, the results from the Real-time Delphi survey suggests that it is unlikely that border infrastructure for trade in goods will lose a lot of its importance. In addition, EU Customs as a community of authorities might need to adapt and deliver value in new economic, social and cultural contexts. Overcoming these challenges and opportunities might involve more harmonization and "act as one" EU Customs.

Geopolitical shift

Economic power is already shifting from traditional industrial nations to the emerging nations of Asia. Currently, primarily China is in ascent, India is expected to follow soon. At the heart of this in economic power is population growth, which will continue in Asia until almost 2050. By 2050, Europe's and United States' combined share of world GDP will drop from 31% to 21%[41]. For EU Customs, this further shift towards importers from Asia with specific economic and political agendas will bring new challenges, not least of them linguistic in nature, and require new skill sets.

Moreover, other expanding and demanding markets are gaining in importance and new trade partnerships are being create (e.g. Africa-China). As a result, international trade will be boosted and new trade routes will emerge, which means EU Customs needs will increase. In this case, the need to safeguard and protect the internal EU market could be even bigger.

Changing societal values

Protecting citizens against threats such as contaminated food, unsafe toys and consumer products, fake medicines and other counterfeit products could play a more important role when planning future policies, always interconnected with other policies such as: environmental and social policies, security, data strategy, regulations regarding chemical substances etc.

In addition, we are experiencing a collective societal demand to build a more peaceful, sustainable and just world, as nations and societies become increasingly interconnected and interdependent. Any change integrated by the EU Customs policies should adapt to this new reality, where society reclaims its rights and demands openly, sometimes during street protests, for the state functions to be fulfilled. Controlling borders is one of the oldest functions of the state and EU Customs should remain pragmatic and realistic in carrying this public duty. On the contrary, we could expect that citizens and companies play a bigger role in ensuring border control.

The concept of providing security for its citizens is also one of the core functions of the state services. The EU Customs is playing already a crucial role, which could be expanded to providing national economic security. The interlinkages between these two policies could be addressed more in the future.

An analysis of the security aspect also includes data security. According to the new European data strategy, citizens will trust and embrace data-driven innovations only if they are confident that any personal data sharing in the EU will be subject to full compliance with the EU's strict data protection rules.

40 Nai Fovino I. et al., 2020, Cybersecurity, our digital anchor.

41 Blackrock, 2018, Megatrends: The forces driving our future.

Management of Customs

The management of customs means today the 27 national customs authorities implementing the same legislation and meeting regularly in the Customs Policy Group (CPG). It has been highlighted throughout the foresight process the significant differences that exists between the 27 national organizations, management styles, recruitment and salaries, and a need for a management structure who could better serve the Customs Union and the general EU decision-making process, especially in the relations with the Council. Better and deeper cooperation with other policy areas and within the national customs authorities, building consensus around long-term priorities and before releasing new legislative packages was mentioned during the foresight project. In this sense, more staff and funding, training, more EU competences, more Expert Groups to advance ideas were pointed by the stakeholders to improve management. New measures and a joint governing body for all EU Member States could act as an enabler.

When it comes to the public perception, however, there is not a united view on whether the EU public will ever value the customs highly. A point that was mentioned repeatedly is communication: according to several respondents, European citizens do not know enough about what customs do for them on a daily basis and therefore cannot value it.

4.2. The four scenarios for customs in the EU 2040

After the participants had identified the key drivers of change for customs in the EU, it was possible to select the two key factors, which formed the logic around which to construct the scenarios for 2040. These were Geopolitical conflicts and EU economic development, because they were the most uncertain and important drivers of change. They form one axis each in the matrix for the scenarios (see figure 3).

Below are summaries of each scenario. The full scenarios can be found in section 8.4.2

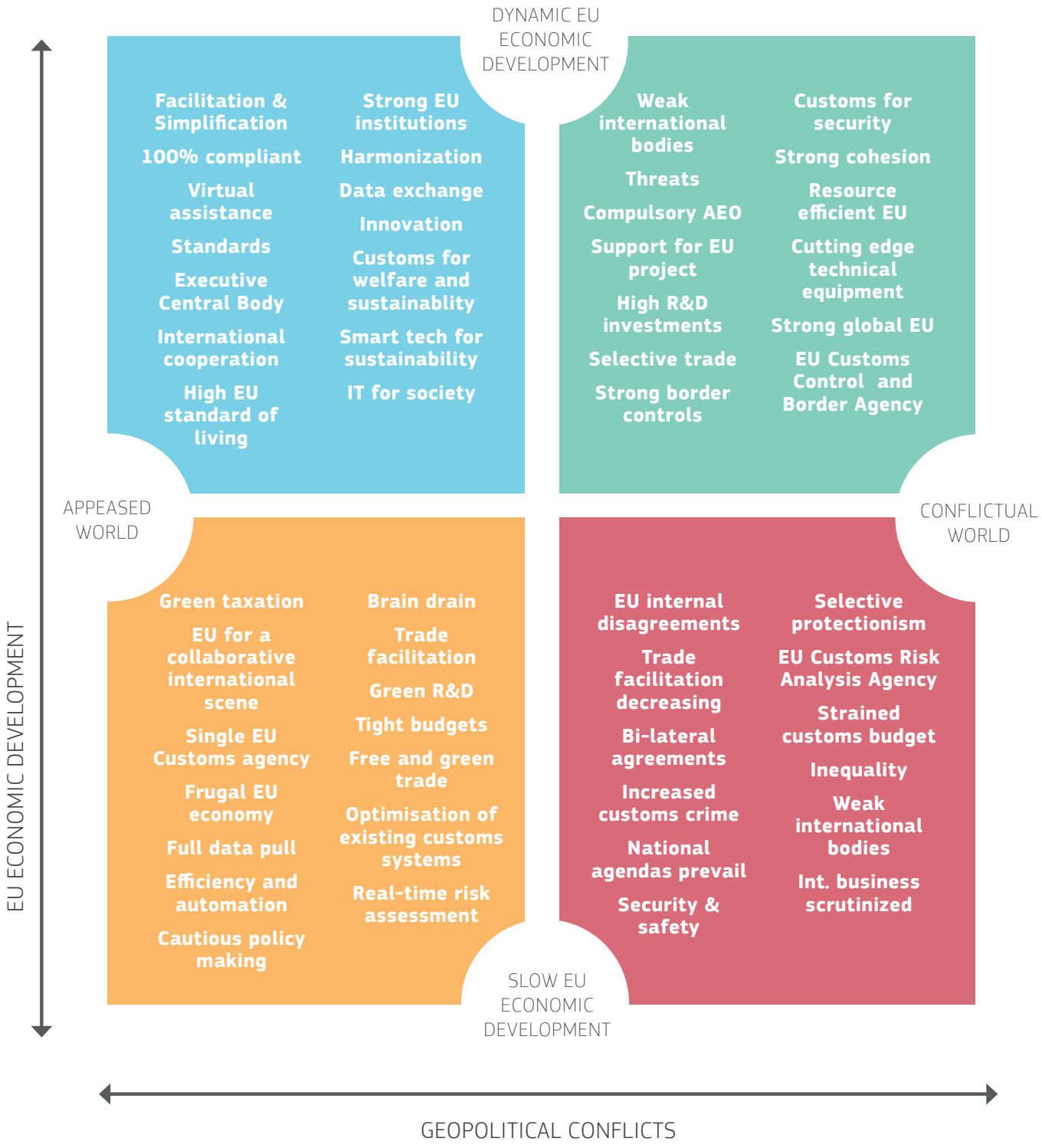

Figure 3. Word cloud giving an overview of the scenarios for the future of customs in the EU 2040.

CUSTOMS FOR SOCIETY

(Scenario 1)

Europe in 2040

The EU is back in the game after a major social and climate-induced crisis. Deep reforms across all sectors (e.g. trade, environment, migration) and EU institutions restored a high standard of living for all. Citizens have changed their lifestyles radically and the EU is a great place to live. Digitalisation is a key source of progress for society. Investments in technology are used to drive sustainability and maintain living standards; cyber-threats and disinformation are continuously countered and debunked. The EU model has shifted towards social welfare and sustainability - the core of the European project. The euro is stable, raising the global influence of the EU. More trust leads to more multilateral trade agreements, but the priority is not increasing trade volumes, but rather fairer access to natural resources and efficiency gains. Most geopolitical blocks have reached appeased relationships. In a strong and popular EU, people feel protected and safe, and qualified migrants contribute to an inclusive economy.

Customs in 2040

Customs policy & Governance	Data management & IT
Mission has evolved: maintain welfare, safety, security, duties collection (mainly environmental)	Harmonised and interoperable interfaces ensure proper collection of customs duties and facilitate trade
Executive Central Body with political power & coordination role; High Representative for Customs	Relevant data is exchanged
Customs policies connected to other sectors	One EU IT system
Harmonization of national customs authorities	Holistic chain management
Long term vision, well communicated to citizens	Capacity to explore and implement innovation: blockchain, control by drones etc.
International exchanges	**Customs capacity**
International cooperation is the basic principle, even if power games continue	IT and economic literacy is mandatory
EU standards are promoted worldwide	Stronger role in environmental protection
EU is doing great internally so the focus is on international trade	Advanced labs to control & test
EU gains more influence within international organisations, completely reformed	Investments are made in innovation to maintain satisfaction high (citizens & employees)
More agreements and international conventions	Young people join customs
Business support	**Operational support**
Facilitation (customs green lanes) and simplification (one EU VAT system) is key	Benefits from large investments in smart technologies
International trade at lower levels due to circular economy	Capacity to manage big data
New EU big players, strong competition rules	Radio-frequency identification systems applied for high traceability & quality controls for goods
Imports are fully compliant with EU standards	Cybersecurity threats can completely change this scenario
Access to raw materials	
Fight against sophisticated fraud	

APPEASED WORLD
DYNAMIC EU ECONOMY
VAT SYSTEM

PROTECTED UNION

(Scenario 2)

Europe in 2040

In a conflictual world challenged by climate change and resources scarcity, the EU has managed to adapt successfully. With increased strategic autonomy, high investments in R&D and a resource-efficient economy based on the 4R's (Reduce, Reuse, Recycle, Repair), it remains a major global economic power with a high standard of living. Its citizens are committed to the European project and to the EU's determination to win the space race for resources. Strengthening economic and social cohesion across the continent is a key policy priority. So are border control and integration as the EU is an attractive migration destination. As a result of international turmoil, organised crime, state-sponsored crime and espionage try relentlessly to undermine the EU, thereby increasing the citizens' constant sense of threat and their willingness to accept surveillance and security measures. International institutions have been weakened by global competition and are less relevant than 20 years ago.

Customs in 2040

Customs policy & Governance	Data management & IT
Stand-alone EU Customs & Border Agency	One shared EU IT system
Strong focus on safety and security	Constant effort to fight cyber-security threats
Export controls important due to prevalence of economic sanctions	High tech and sophisticated methods
Tariffs to protect internal market (anti-dumping, EU standards)	Data pipelines between trusted partners
Strong migratory pressure, crime	Use of data mining, source identification etc. to counter incomplete declarations
International exchanges	**Customs capacity**
Fragmentation of international trade flow & trade tensions	Customs and border protection are well funded and well equipped
Preferential trade only between allies	Increased skills requirements for customs officials
Little relevance of international organisations, rules & standards	Public image of customs and customs jobs improved
Customs diplomacy	Surveillance of EU borders, complex customs operations, SAFE2EU
Business support	**Operational support**
Compulsory AEO regime	Reduced human intervention at borders due to AI and robots
Data-pull mechanisms	Strong physical EU border & controls
Simplification for allies – green lane, fewer inspections, quicker processing	Reliance on cutting edge technology
Fewer levels of duties	Main focus on digital products and raw materials

CONFLICTUAL WORLD
DYNAMIC EU ECONOMY
VAT SYSTEM

CUSTOMS UNDER STRAIN

(Scenario 3)

Europe in 2040

Strong competition for resources and influence between powerful nations leads to the spread of conflicts around the world. The EU economy, which was traditionally very dependent on imports of resources, has shrunk but become more circular to adjust to resource scarcity. Inequality and the re-emergence of a class society cause social unrest. Unemployment is high and criminality is on the rise. The EU political situation is complicated: while external pressures sharpen the need for unity and autonomy, economic strains and diverging political visions increase tensions between the Member States. A polarisation around trade exists: while some preach protectionism, others believe in more trade cooperation. The overall result is selective protectionism to accommodate everyone. In this unstable world, a technological race between the main world powers is raging and multilateral institutions have been largely abandoned, leaving the EU to look for international alliances based on resource needs and shared values.

Customs in 2040

Customs policy & Governance	Data management & IT
Customs policy more complex because of global power shifts and disagreements in the EU	More customs formalities and increased data requirements
National agendas are prevailing	Union Customs Code legacy with distributed systems
Focus on enforcement, security, safety and control	EU Customs Risk Analysis Agency established
Internal security, origin determination, control of intangible goods important	Strong increase in cyber-attack and new threats constantly
Trade facilitation dwindling - only some support to EU industry	More data-related crimes e.g. data corruption and data purity

International exchanges	Customs capacity
Poor international cooperation on many pressing issues	Customs are more visible
EU nationalism on the rise	More technology used than before: data analytics, tracking, sensing, scanning, surveillance software etc.
Difficult for EU to speak with one voice abroad	This requires substantial investment and continuous training of customs officers
Some Member States very active in diplomacy, others not	Budgets for customs are under strain
More bi-lateral agreements	Customs staff numbers strongly declined at the same time as heavy workload
E-commerce is increasing	
EU target of cyber wars	

Business support	Operational support
EU-international trade have declined	Less customs because of less trade
Incoherent trade rules and customs law, different interpretations	Large number of safeguarding infrastructure and surveillance equipment etc.
SME's may take advantage of weak customs implementation	National data highway backbones for customs
Customs cooperation with all legitimate EU businesses - AEO importance increasing	Cyber controls carried out by customs
International businesses closely scrutinized	Increase white collar crime such as VAT evasion, regulated non-compliance etc.
	Control of dual-use products highly

CONFLICTUAL WORLD
SLOW EU ECONOMIC DEVELOPMENT
VAT SYSTEM
RISK ANALYSIS

‘NO-STOP-SHOP’

(Scenario 4)

Europe in 2040

Buffeted by climate change and confronted with the increasing might of the global East and South, an economically stagnant EU carefully advances its game plan. Its values and need for resources push it to act to preserve a collaborative international environment. Europe’s population has aged and the EU has adopted frugal economic policies. Its global clout has decreased but its stability and relative wealth still make it attractive to migrants. Policy-making in the EU is slow as it is quite cautious but the need for migrants to compensate ageing has led it to develop active integration policies. In parallel, highly educated Europeans emigrate to more dynamic countries. Strong green taxation has pushed the economy to become circular: a very close eye is kept on energy and resources consumption, driving technological development. International cooperation to save ecosystems, ensure food security and manage migration has increased strongly in a global environment which is relatively friendly to free trade.

Customs in 2040

Customs policy & Governance	Data management & IT
A single EU Customs Agency invests in IT for trade facilitation.	Common EU customs data system
Some new functions to safeguard society and sustainability	Advanced data protection technology to address persistent organised cyber-crime,
The EU is now member of WCO	Data harmonisation (e.g. formats).
Single control, trust by default but high sanctions	EU customs data pipelines work seamlessly with private platforms. This is a global reference
Few controls at the border	Data profiling to control and reduce threats
Good connection with VAT authorities across EU	Large companies have a privileged role.

International exchanges	Customs capacity
Humankind is fighting for its long-term survival	As resources are limited, the EU Customs Agency integrates customs services for more efficiency
Multilateral efforts to facilitate international trade but overall the EU has lost clout.	Data management and IT skills needed.
International organisations (e.g. WCO) are strong.	Full data pull mechanisms
Having a single EU Customs Agency is giving the EU relatively more clout.	More auditors, follow-up capacity
Few duties, mostly environmental	Specific EU level education programmes for customs personnel
Remaining export controls for resources	Less traditional work for customs (i.e. checking goods at the border), more intelligence capacity

Business support	Operational support
Full cost effective real-time risk assessment	From a transaction based to a system based process: operational hand of the single window
AEO improved, trusted traders, 24/7 service	High-tech risk assessment and self-assessment
IPR challenged by dematerialisation/digitisation of the economy	Automation and 'rationalisation' for trade facilitation: "No-Stop Shop".
Digital "imports"/"exports" without goods crossing borders, a paradigm shift for customs	Strong budgetary pressure.
Industry 6.0 & 3-D printing changed the manufacturing landscape radically	Synergy between taxation and customs.
	Business has a good image of customs.

APPEASED WORLD
SLOW EU ECONOMIC DEVELOPMENT
VAT SYSTEM

4.3. A tool to explore the scenarios

To enable stakeholders to actively engage with the scenarios, we created a specific interactive tool: a Customs edition of the award-winning JRC discussion platform, the Scenario Exploration System (SES). The SES makes it possible to use any set of scenarios to engage with any interested actors. It helps participants understand the scenarios and the consequences they could have for the issue they are interested in. Each participant plays a relevant role during the scenario exploration.[42] Learn more about the Customs version of the SES in section 8.6.

The Customs version of the SES was used with high-level representatives from national customs administrations at the High-Level Seminar on Strategic Foresight and the Future of the Customs Union organised by the Finnish Presidency to the EU in October 2019. It stimulated their long-term thinking and understanding of the potential consequences and trade-offs of the 2040 scenarios. The outcomes of this scenario exploration can be found in section 8.7.

The Customs SES is available for use under a Creative Commons license (CC-BY-SA) and fully accessible online[43]. It can be used by any customs stakeholders, who wish to develop a strategic perspective about the future of customs.

42 Bontoux, L. et al, 2016, The JRC scenario exploration system - from study to serious game.

43 https://ec.europa.eu/knowledge4policy/foresight/future-customs-eu-2040-ses-edition_en

5. THE VISION FOR EU CUSTOMS IN 2040

One of the key objectives of this foresight exercise was to create a shared vision for EU Customs in 2040. A vision is an aspirational image of the future; it describes where one wants to be at a particular point. One of the important contributions of foresight is to help people design meaningful, attractive, credible and motivating visions.

A vision provides a strategic direction for policy-making – that is why it is essential in a policy process. Without a clear vision and direction, agenda setting, prioritisation and planning actions will be less effective.

For a vision to fulfil its role, it needs to have a number of characteristics. First of all, it must be future-oriented with a long enough time horizon. It must also be credible, engaging and challenging. However, its ideal nature should still be perceived as being achievable by the people for whom the vision is created. To facilitate its achievement, a vision should also be co-created (to maximise buy-in), clear and stable along a sufficiently long period of time to facilitate investment and long-term strategy development.

To ensure that a group will stand behind a vision, it is important that the vision is aligned with its values, ethics and principles, sometimes even stating them. Where do we want to get? What do we want from the EU Customs by 2040? Which values should be embodied in this vision? These were the questions that guided stakeholders' reflection during the vision-building process for the vision for EU Customs 2040.

The first workshop dedicated to visioning led to a strong draft 2040 vision agreed by all participants representing all key stakeholder groups. First in the plenary and then in pairs and small groups, the stakeholders worked with visioning elements which were later translated into draft visions and sharpened through cumulative discussions. In the end, the last version was debated in a plenary debate (see box 4).

Some participants had the impression that this vision did not challenge the *status quo* enough. Others remarked that while the statements in the vision correspond broadly to current policy objectives, achieving this vision is a lot more challenging.

This first draft vision was then shared widely. It received a strong endorsement from the representatives of business and trade in the European Union through meetings of the project Steering Committee and the European Commission's Trade Contact Group. It was also shared with customs representatives from all EU Member States and discussed at a Customs Policy Group (Director General level). Minor adjustments were proposed by some Member States that strengthened the message. In response, the draft vision was amended to include references to legitimate trade and risk assessment but its substance remained untouched.

This updated draft vision was then presented for endorsement during the final workshop where all the Member States were represented and which was more policy oriented. In spite of a strong endorsement of the original version by the vast majority of Member States, concerns by two Member States led to further revision of the vision statement (see box 5). The final wording below was then endorsed by all the Member States.

This narrative was developed by the JRC team and DG TAXUD to further detail the vision:

In 2040, we, EU Customs, fully protect society, the environment and the EU economy through effective facilitation of legitimate trade and intelligent, risk-based supervision of supply chains.

The smart use of cutting-edge technology, advanced multidisciplinary know-how, close integration with and contribution to all relevant policy domains and sophisticated data collection, sharing and (risk) analysis capabilities have turned EU Customs into a powerful

and intelligent administration at the service of EU society, environment and economy. Its capacity to understand and monitor supply chains and manage risks linked to trade has enabled customs to fulfil its core mission with a light touch, fully at the service of legitimate trade and of an open EU economy.

We, EU Customs, are proactive, working seamlessly with our stakeholders and committed to innovation and sustainability. We are the reference for customs worldwide.

Box 4. First vision statement 'From customs in the EU to EU Customs'

In 2040, we don't act as one, we are one!

The Customs Union is fully integrated, with harmonized implementation.
We excel in protecting society, the environment and the EU economy through effective facilitation and intelligent supervision of supply chains.
We are the reference for efficient and reliable customs worldwide.

European values and identity drive our every day actions.
We are committed to innovation, continuous education and training.
We are proactive, we cooperate intelligently with all stakeholders and we use foresight to develop our medium and long-term strategies.

Box 5. Second vision statement 'From customs in the EU to EU Customs'

In 2040, we, EU Customs, fully protect society, the environment and the EU economy through effective facilitation of legitimate trade, and intelligent, risk-based supervision of supply chains.

We, EU Customs, are proactive, working seamlessly with our stakeholders and are committed to innovation and sustainability. We are the reference for customs worldwide.

In 2040, we are seen to act as one!

THE VISION

EU Customs are a strategic and future-oriented organisation that enhances its operations and maintains its intelligence in part thanks to its close links with its stakeholders. Excellence, fast technology development and the need for intelligence create strong demands for a highly educated customs workforce and for maintaining the capacity to make the best possible use of technology. EU Customs also need to maintain their capacity in the context of a fast-changing world. Business is collaborating with customs and developing tailor-made solutions. Excellence in dealing with an enormous volume of trade in very diverse circumstances and border challenges across a whole continent has turned EU Customs into an example that many across the globe want to emulate. EU Customs have developed intelligent state-of-the-art practice across many functions of customs and taken into account geographical particularity.

In 2040, we are seen to act as one!

By 2040, customs services across the European Union have reached a degree of integration so advanced that they are perceived and can act as a single EU customs service/organization, e.g. with shared infrastructure, seamless cooperation and data sharing, training and a common identity.

6. POSSIBLE ROADMAPS TOWARDS THE 2040 VISION

At the final workshop where the Member States where represented at a high-level, a roadmapping exercise was undertaken to outline how the vision could be reached and to show that the way forward is not predetermined. Through a participatory workshop two different roadmaps towards the 2040 vision were created: one where the vision is reached under resource-constrained circumstances and the other under circumstances with no resource constraints. The participants filled in a timeline towards 2040 with a set of milestones that would need to be achieved on the way towards the vision.

The roadmapping exercise was purely exploratory; it allowed the participants to consider the different ways the vision could be achieved. The participants of the foresight process were not asked to endorse the roadmaps.

Tables 1 and 2 present the milestones of each roadmap. The grey highlights indicate the milestones for which a first outline of implementation actions was developed (see in more detail in annex 6).

Table 1. Outcome of the roadmapping exercise in a resource constrained world. The highlighted milestones were the object of an in-depth reflection with respect to their implementation

2020-2025	2025-2030	2030-2035	2035-2040
Customs Action Plan and Communications campaign for 2040	Implementation Single Window	Common development programme for EU customs resources	Fully integrated EU IT service for customs
Data Use (CRMS, ICS 2)	Rationalise EU Customs and linked services organisational scheme	Output-based approach	UCC 2.0
Data mining / Analysis requirement	E-customs (UCC)	Single risk management authority for EU	MASP XXL
Policy setting interoperability	Legal Base (Interoperability)	Data use and governance exploitation	Customs evolve from operational to regulatory body
	Improving CELBET to a permanent structure	Real-time supply chain information and access to traders' IT systems	Action Plan for EU Customs 50+
	Integrated scanning system at the EU external border	Next level Single Window	
	Common EU risk analysis across all processes	Crisis response unit created	
	Optimise EU Customs governance and policy process	The customs Academy 2030	
	Creating buffer zone partnerships	Outsource some activities (non-core)	
	Creating a fund for customs development	Common EU sanctions system	
		EU Customs Agency	

Table 2. Outcome of the roadmapping exercise in a world not constrained by resource. The highlighted milestones were the object of an in-depth reflection with respect to their implementation.

2020-2025	2025-2030	2030-2035	2035-2040
Start and complete analysis	Single Window at EU level	HR	New profile for Customs Officers
Commission Action Plan	Customs Erasmus	Partnerships with trade	Common structure to manage operational CU
Harmonised training and education	Common database for predictive analysis and common risk management	New UCC	Harmonised sanctions
Media and social media campaigns	Fully integrated IT system	Enhanced AEO for tax and customs and agencies	One Europe, one customs, one system
Council endorsement (High-level meeting)	Next MFF: What's in it for Customs?	Sharing resources on common standards (also HR)	
Coordinated approach to build trust	Common infrastructure and equipment	Common corporate design and communication	
UCC implementation ICT	Rapid deployment teams	Integrated part of Blockchain	
	WCO Sec. Gen. from EU	Smart border-crossing (no declaration, direct access)	

Several elements are common for the two roadmaps. This indicates that in order to reach the vision in 2040, there is a need to:

- Implement UCC and eventually develop and adopt a new legal package
- Implement the Customs Action Plan
- Roll-out communications campaigns
- Make customs fully electronic
- Have a fully integrated IT system for customs
- Implement the Single Window at EU-level and further develop it
- Have a common risk management/analysis and potentially a single risk management authority for the European Union
- Harmonize training and education and set up EU education programmes for customs
- Set up teams on EU-level that can rapidly respond to crises
- Harmonize sanctions on EU-level
- Have one system to operationally manage the Customs Union

In order to realize the above milestones, the stakeholders participating in the foresight process provided a broad set of ideas that can be taken further into the policy reflection.

Reflection on DG TAXUD's perspective

- The main reflexions focused on the institutional role of the Customs Policy Group and the improvements needed to better serve the Customs Union and the general EU decision-making process (e.g. relation with the Council – it is really working in the best way?).
- Better and deeper cooperation with other Directorates-General (DGs) inside the European Commission – working together on a common IT system, build consensus around long-term priorities and before releasing new legislative packages – was mentioned. In addition, cooperation with stakeholders and other trading blocs can play

an important role. In this sense, more staff and funding, training, more EU competences, more Expert Groups to advance ideas were pointed out. New technologies could act as an enabler in the EU decision-making process.

- For the implementation of all these points, the publication of the new legislation is of paramount importance.

Reflection on DG TRADE's perspective

- The stakeholders started their discussion by stating DG TRADE's mission: ensuring legitimate flow of goods and services. They touched upon the Single EU Window and DG Trade's role in reducing costs and administrative burdens through harmonization and standardization (especially for VAT and duties), but also non-intrusive equipment.
- Stakeholders also highlighted the need to actively defend multilateralism and to strengthen relations with the World Customs Organisation and the World Trade Organisation to defend the position of the EU. In addition, Free Trade Agreements with new third countries should include new elements such as data exchange.
- Active participation by DG TRADE and the push towards emerging technologies for seamless flow of legitimate goods and services were considered crucial points.

Reflection on the perspective of a Member State with land borders

- Several issues were discussed: integrated coordination of the scanning systems, the permanence of CELBET and the possibility to have an EU Customs Agency. Common training for customs officers (Customs Academy), joint risk analysis (same level of controls throughout the EU) and better cooperation with third countries/ agencies represented other needs addressed. Regarding the relation with third countries, stakeholders emphasized the desire to develop a system for cross-border cooperation to smooth traffic, balance development and create tailor-made approaches.
- The coordination between DG TAXUD, OLAF, EUROPOL, DG HOME, FRONTEX, DG TRADE and their proactivity in sharing information could determine regional cooperation. In addition, deeper cooperation between CELBET, LFCG, RALFH, ODYSSUD, MARINFO, ETCIT can increase efficiency. Similarly, Member States with land borders should also use the Joint *Customs* Operations (JCO*s*) to tackle fraud.
- The need to increase the visibility of the EU customs officers through the use of the same uniforms was also discussed.

Reflection on the perspective of a Member State with sea borders

Because these countries develop relations with different stakeholders using different means of transportation for different volumes, they need different tools and structure. Three core issues were mentioned: hardware, control strategy and knowledge. For example, they highlighted the need to implement data provisioning in a more uniform way with a better coordination between stakeholders, shipping components community and port authorities (an "IT based cooperation"). They also stated that the best tools are the ones that support a Member State driven cooperation according to the needs of Member States with sea borders.

They also insisted on having a specific group to discuss strategic issues with other Member States with sea borders. This group would have a strategic role, more than just operational. In addition to the new structure, it was referred to RALFH (customs managers representing the major northern ports of the EU) and the need to better explore existing partnerships. Moreover, reinforcing the role of the Customs Policy Group to coordinate the strategic participation of the European Commission, EU agencies and the Member States in the Customs Union was proposed.

100% scanning and e-commerce information based on new technologies with no intervention within the supply chain and in the harbours was also mentioned, as well as the wise use of data.

Reflection on the perspective of a Member State with no external EU border other than an airport

- The stakeholders exchanged on the future role of customs which will evolve from border management to different activities taking place everywhere across the Member States. They also mentioned better cooperation between national and international authorities and the need to redefine and enlarge the Steering Committee to other authorized stakeholders. Regarding needed tools, stakeholders highlighted different purposes for resource management: budget/funds, IT systems, human resources, and monitoring.

PART II

The Foresight process: methods and detailed outputs

7. INTRODUCTION TO FORESIGHT: WHAT IT CAN DO FOR EU POLICY-MAKING AND WHAT ARE ITS LIMITATIONS

To make sure that policymakers anticipate change when updating and designing new policy, foresight can be of a valuable contribution. By being able to identify, understand and direct change it is easier to make more robust policies for the long-term. 'Identifying change' helps to be aware of possible trends and developments that might influence an existing policy or will call for new policy design in the future. 'Understanding change' helps to grasp what possible scenarios, consequences and outcomes these new trends and developments might lead to. By analysing and assessing the possible futures to envision and the most preferable direction, policymakers can 'direct change' and design the right policies.

In the case of foresight specifically addressing policy-making, it may have six specific functions:

- Informing policy by supplying anticipatory intelligence on the dynamics of change, future challenges and options as an input to policy conceptualisation and design.
- Embedding participation in policy-making by facilitating the participation of different stakeholders in the policy-making process, thereby improving its transparency and legitimacy.
- Supporting policy definition by jointly translating outcomes from the collective process into specific options for policy definition and implementation.
- Facilitating policy implementation by building and supporting networks of stakeholders with a common awareness of the current situation, of the challenges to come and of desired visions of the future.
- Reconfiguring the policy system in a way that makes it more apt to address long-term challenges.
- Symbolic function by indicating to the public that policy is based on evidence and developed through transparent processes.[44]

Firstly, they can lead to the generation of new knowledge that can contribute to decision-making and priority-setting processes. Secondly, they can assist in managing the uncertainty associated with innovation activities (and with long-term policy decisions in general). Thirdly, they can provide spaces for both businesses and societies to come together to better appreciate their mutual positions vis-à-vis future innovation directions, as well as to build trust and to develop partnerships. This coordination potential extends to policy arenas, where foresight can enhance communication and understanding between policy 'silos' and thereby support the emergence of an effective policy mix for innovation.[45]

Foresight sets out to generate visions, which will be driven by an understanding of relevant social changes and/or technological developments. Some national and regional exercises have succeeded in achieving quite widespread consensus on such visions. However, the consensus is difficult to achieve in practice and foresight is not a magic wand able to impose consensus where there are profound underlying disagreements.[46] In addition, political leadership to transform results into strong strategies and regulations, and trust in the methodology are key for any foresight process. Without those, the impact of the foresight exercise can be significantly reduced.

44 https://ec.europa.eu/knowledge4policy/foresight/topic/forlearn-online-foresight-guide_en
45 Idem
46 Idem

A foresight exercise may provide the information needed (e.g. a list of priorities, potential scenarios) for a particular policy to be implemented. But the sorts of longer-term analysis that foresight involves, and the new networks and capabilities that it can forge, cannot be expected to achieve results overnight. Often the process of interacting around ideas of what opportunities might be seized, how particular challenges might be confronted, etc. will take a long time to produce widely accepted notions of the way forward. The problems the exercise addresses have often matured over many years – effecting significant change is often going to require lengthy preparation and considerable groundwork.[47]

In addition, it is very important to highlight that foresight does not mean predicting the future; nor dividing the future into bad and good scenarios. The future is uncertain, influenced by many trends and signals; it is very probable that the future will be a mix of different factors present within different scenarios and not that given scenario that the foresight project has described.

47 https://ec.europa.eu/knowledge4policy/foresight/topic/forlearn-online-foresight-guide_en

8. THE STEPS IN THE FORESIGHT PROCESS

Foresight uses different methodologies and tools, useful at different moments of a foresight project, in any order that makes sense for that specific policy need. From horizon scanning and literature review, to running a Real-Time Delphi questionnaire, building scenarios and exploring those, creating a co-shared vision and a roadmap to implement the vision, formulating policy recommendations and stress-testing policies – each foresight project must be tailor-made to the policy need.

This section provides the full detail of all the activities performed during the project. There were nine methodological steps and each is described in two sub-sections. The first presents the practical steps taken to achieve the desired outcomes, with the aim to enable any reader to apply the method used her/himself. The second presents the results obtained at the occasion of this project on the future of customs in the European Union.

In order to maximise the policy relevance of this foresight exercise while providing a longer-term view in which current policy choices and options can be situated and interpreted, the study called on several foresight methodologies. The aim was to be inclusive of all relevant stakeholders, to develop a systemic and integrated view of the future of customs in the European Union to all participants and to provide a qualitative understanding of possible in- and out-of-the-box developments that will affect EU Customs.

The different methodologies and techniques used in the study were:

- **Horizon scanning** as a way to build situational awareness and support the scoping phase of the project.
- **The Canvas tool** as a system-mapping approach to help scope the project, and create a common understanding of 'customs in the EU'.
- A real-time **Delphi survey**, answered by more than 300 stakeholders, as a collection of intelligence on the future of customs in the EU.
- A **scenario-building methodology** to stimulate strategic and systemic thinking, and to develop four different plausible future scenarios for customs in the EU, in 2040.
- The **Scenario Exploration System** (SES), an award-winning engagement tool that enables participants to use scenarios to better understand possible paths towards the future. A specific 'Customs version' of the SES was developed and used during the foresight process.
- **Vision-building** to give a sense of direction for the long-term, and to co-create a common vision for the Customs Union in 2040.
- **Road-mapping** to orient the strategic reflection on milestones on the road to a realized vision in 2040. This was the stage where foresight intersected with a policy mind-set.

In order to obtain outcomes that are as robust as possible, the study engaged participants from all the relevant groups of stakeholders: traders, business, international organisations, consumer associations, academia, representatives of key EU trading partners, representatives of customs from various EU Member States, relevant European Commission services and of course DG TAXUD. The same group of around 40 people participated in the first 4 workshops of the foresight project. In the 5th workshop representatives from all EU-27 Member States participated, as well as representatives from DG TAXUD and other European Commission Directorates-Generals, forming a group of around 70 participants.

Summaries of all the workshops can be found on the blog of the project.[48]

8.1. Horizon scanning

Horizon scanning activities aim at collecting information in a structured fashion and making sense of it to detect and analyse trends, weak signals, discontinuities and emerging issues that could have significant impact on a topic of interest.

48 https://blogs.ec.europa.eu/eupolicylab/tag/futureofcustoms/

The process

The purpose of horizon scanning could alternatively be to increase situational awareness, and understand the changes that can already be observed. It is an activity which is often performed at the start of a foresight process to get a first understanding of the forces and trends at play. The process, just as it was done in the foresight project on *The Future of Customs in the EU 2040*, is often mainly based on desk research analysis and it is typically structured in two steps: the scanning of sources and a sense-making/relevance identification phase. While the scanning itself can build on a wide array of different inputs and sources, the sense-making is usually focused on a particular field or issue. A big benefit of horizon scanning is that it provides structure and differentiation for usually complex and multi-layered reflections on current observable as well potential future developments. It can serve as a starting point to inform discussions and workshops. It can also be used as a resource for later steps e.g. for the identification of hypothesis in a Delphi questionnaire or for identifying critical elements in scenario development.

Here, the approach was thus structured into the typical two phases with respective sub-steps:

STEP 1: Scanning for trend identification.

STEP 2: Sense-making and identification of relevance and implications.

In order to identify trends, primarily three kinds of sources were used: the trend information from the Megatrends Hub of the JRC Competence Centre on Foresight[49], other megatrend studies, as well as research and publications specifically dealing with the future of customs, leading to a first interim output: a set of research summaries. The horizon scanning activity thus led to the identification of a first set of global long-term trends with relevance for the future of EU Customs. After the trend identification, the trends identified as relevant were described into a structured template (see annex 1), covering these elements:

- Short summary – describing key aspects of the trend in a sentence
- Recent developments – describing key changes in the past, up to today
- Possible future developments – summarizing expectations for future change within the field of the trend
- Implications / Impact on EU Customs – describing the relevance of the trend for future EU Customs

After the compilation of the trend descriptions, the key information was summarized in an overview table illustrating the trends identified in a STEEP-structure (table 3) as well as bringing together the implications per trend as identified so far, in a second overview table (table 4). These tables serve to get a first understanding of identified trends, issues and signals of change.

While the aim here was not to identify all potentially relevant trends, nor to go into depth in terms of the trends' impacts and potential future pathways, the step of horizon scanning still pointed at areas of change to be considered during the following steps of the process, as well as at potential future pathways and possible implications for customs. It thus provided a first input to the steps centring on sense-making and awareness-building around issues of current and potential future change within the context of future EU Customs.

The output

The step of trend identification resulted in the list of trends shown in the table below (covering only trends with a potential high relevance for EU Customs - according to this first analysis), drawing from existing research and available data.

49 See https://ec.europa.eu/knowledge4policy/foresight/tool/megatrends-hub_en for an overview of all JRC Megatrends.

Table 3. Overview of the relevant trends identified during the horizon scanning

STEEP-Field	Society	Technology	Economy	Environment	Politics
Start and complete analysis	Increasing Demographic Imbalances	Accelerating Technological Change	Changing Nature of Work	Climate Change and Environmental Degradation	Rise of Populist Economic Policies and Protectionism
Commission Action Plan	Growing Consumerism	Hyper-connectivity & Digitalisation	Shifting Economic Power		
Harmonised training and education	Increasing Significance of Migration	Big Data / Virtual Services	Increased Volatility of Trade Flows and Volumes	Aggravating Resource Scarcity	Changing Security Paradigm
Media and social media campaigns	Increase in Transnational and Organised Crime	Increase in Cybercrime / Tech-Crime			

Table 4. Summary of first insights on trend implications from the horizon scanning

Trend	Trend implications/impacts on the Future of EU Customs (First insights)
Accelerating Technological Change	Only through leveraging the rapid advances in technology will border agencies be able to meet the pace of private enterprise.
	Autonomous drones and vehicle technology will have a huge impact at the border (both as opportunity and as a risk – automatic border control vs. smuggling, etc.).
	Blockchain offers great potential for customs*, enabling agencies to get a much clearer picture of international trade and the movement of goods, easing fraud detection and improving compliance.
	Big Data and AI-applications provide border agencies with the opportunity to improve decision-making through better analysis **
	New threats: Breakthroughs in nanotechnology and other frontiers of research advance the capacity of "bad actors" for disruption and destruction.
	States' regulatory answers to new developments may impact greatly on customs (e.g. tariffs on 3D-printing – only on raw materials, or also on designs [i.e. the finished product]? How to enforce the latter in cross-border traffic?).
Changing Nature of Work	The mismatch between the skills offered by prospective employees and those demanded by border agencies will increase.
	Re-skilling could begin earlier to reduce shortfall.
	Opportunities offered by AI and robotics to support workers to extend working lives and expand responsibilities have to be fully realised and proactively pursued.
Climate Change and Environmental Degradation	Border agencies may be charged with controlling imports for environmental factors and rejecting unsustainable products.
	Migration may be much higher than today, putting additional strain on resources.
Demographic Change	As workforces age, border agencies will have to make special efforts to maintain current staff levels.
	Technological innovations in border management can potentially ease and in this way extend working lives.
	Workforces will have to become more diverse as new workers come in from abroad.

* WCO, 2018. The Potential of Blockchain for Customs.

** WCO, 2017, Implications of Big Data for Customs.

Trend	Trend implications/impacts on the Future of EU Customs (First insights)
Growing Consumerism	Governments need to respond to increasingly evident challenges such as the smuggling (misdeclaration) of illicit goods.
	Efficient management of cross-border e-commerce requires, in particular, timely and accurate information, e.g. through data sharing with major sales platforms (Amazon et al.).
	Massive expansion of e-commerce has already brought challenges "regarding trade facilitation and the simplification of procedures, safety and security, revenue collection and measurement and analysis"***; this will only increase (e.g. through expiry of VAT exemption below 22€).
	The "WCO Cross-Border E-Commerce Framework of Standards"**** should be implemented, technical specifications developed, and capacities built.
Hyperconnectivity and Digitalisation	In a hyperconnected world, a much greater part of border management will be implemented in the digital domain.
	Customs will handle much more personal data, privacy concerns will increase, as will exposure to cybercrime.
	Fully connected enterprises will require border agencies to also be completely integrated.
	Securing data veracity will play a key role (safeguards against inaccurate, manipulated, and biased data).
	AR technology can be used both for training and to enhance capabilities during physical inspections.
Increase in Migration / Personal Mobility	Pressure on border-crossing infrastructure increases.
	Traffic hubs should be secured.
	Controls should be offshored.
	New technology necessary to track movements, secure identity, and automate decision-making.
Aggravating Resource Scarcity	In a future circular economy, cross-border flow of goods will require an extremely complex tariffs landscape.
	Should tariffs be placed on exported/imported material inputs, monitoring material flows would require border management to be aware of a product's entire lifecycle.
	Customs may be charged with safeguarding a product's sustainability.
Rise of Populist Economic Policies and Protectionism	Tit-for-tat protectionist measures and the resulting complex regulatory landscape would place great strain on EU Customs.
	Rapid changes in operational handling of goods necessitate a constant redesign of processes, the organisation would have to be extremely agile.
	Staff numbers could inflate suddenly (e.g. if other EU Member States should decide to leave the Union), making it necessary to hire outside service providers and integrate these seamlessly into the border management organisation.
Changing Security Paradigms	Following the 9/11 attacks, a new customs supply chain security paradigm emerged, but its inferences were never fully realised*****
	New security standards should be developed to make border management IT systems more resilient in the face of increased integration with private networks.
	Greater integration with security forces may be necessary, with overlaps of tasks and means.
	Public trust in EU Customs should all be maintained in the face of increasing (perceived) threats.

*** WCO, 2018: Environmental Scan.
****http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/activities-and-programmes/ecommerce/wco-framework-of-standards-on-crossborder-ecommerce_en.pdf?la=en
*****WCO, 2011: The Customs Supply Chain Security Paradigm and 9/11: Ten Years on and Beyond.

In the reflection on the scanning outcomes, there was also a discussion on some other trends that should flow into the projects' next steps, although these could not be included in the scanning report in more detail. These trends are: Increasing influence of new governance systems; continuing urbanisation; diversifying inequalities; and diversification of education and learning.

Concerning the implications of the trends, those listed in table 5 provides an initial overview of the first identified opportunities and challenges for EU Customs in the decades to come. Overlaps between implications across trends in this summary are intentional - they might indicate areas where there is a particularly obvious or strong need to reflect on possible changes and devise respective strategies and policy-side reactions.

8.2. System mapping and scoping: the Canvas method

In a foresight process, it is crucial to create from the very beginning a good shared understanding of what the foresight process will address: what system it will deal with and how wide a scope will be taken. Canvases offer a visual structure that helps users describe different parts of a system, their relationships and as a consequence the actors or factors of the systems and their functions.

The process

In the present case, the scope and system definition were clarified in a participatory workshop bringing together DG TAXUD, other relevant services of the European Commission and high-level customs officials from several EU Member States.

The exercise was built around a draft map of customs in the EU (a so-called canvas). It revealed how differently various actors perceived customs in the European Union and how complex customs in the union is. At the same time, the structured participatory process designed around the draft canvas made it possible to enrich significantly the picture by harnessing the diverse expertise and perspectives on customs in the EU that the participants brought to the table. At the end of this workshop, a clear consensus emerged on the need to take a broad scope for the foresight process, looking at the European Union in its international dimension, with the diverse realities in the EU Member States, the complex EU decision making, the diversity of users of customs, the threats, technology, etc.

Canvases are visual structures that enable decision making in complex systems. Their use is widespread, ranging from simpler versions, like the traditional business model canvases used as a strategic management tool for business to more complex (but less popular) solutions that move beyond boxes and lists to visualise identities and relationships. The JRC canvas for social economy is one example of such.[50]

A key strength of canvases is their visual character that makes it possible to reveal in plain sight how different people view a particular context and the relationships between its parts. In the case of *The Future of Customs in the EU 2040 project*, the following process was followed:

STEP 1: Engage with the client (here DG TAXUD) and start with an initial collaborative mapping of the key agents and forces acting on the system to develop a comprehensive map of customs in the European Union: who does what on customs in the EU and how they relate.

STEP 2: Formalise a first draft of the map and validate it with 'the client'. Then use the draft map to scope the foresight project with a larger group of stakeholders.

STEP 3: Bring together the stakeholders most likely to use the results of the project and split in 4 groups according to type: DG TAXUD, Member States, DG TRADE, other relevant services from the Commission. Present the draft map to them.

50 https://webgate.ec.europa.eu/fpfis/wikis/display/SEC/Social+Economy+Canvas

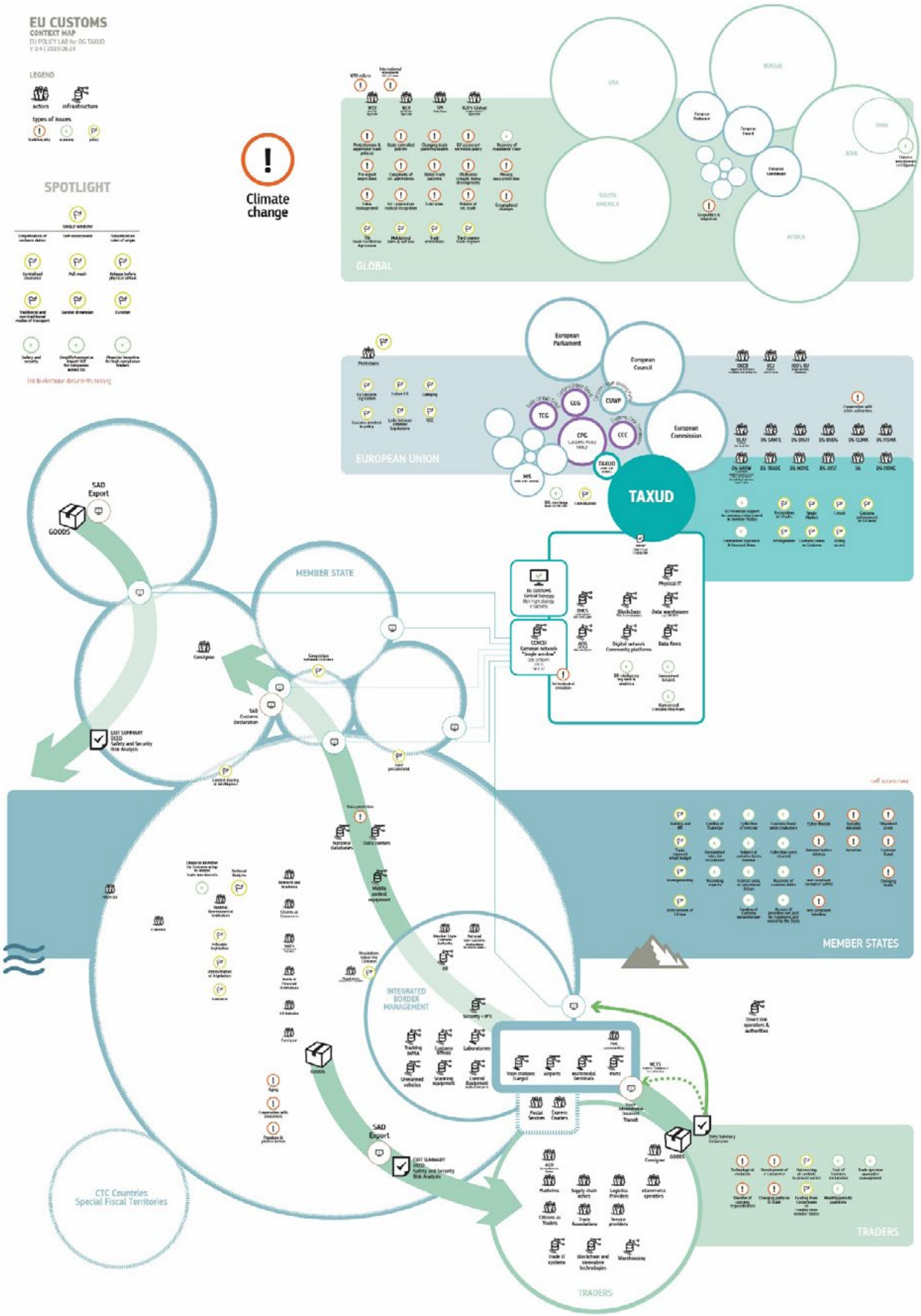

Figure 4. The canvas for customs in the EU describing what was taken into account in the foresight process.

STEP 4: Explain how customs in the EU can be looked at in four layers: actors and stakeholders, infrastructure, regulation and governance, and external and international issues.

STEP 5: Make the four groups identify and map all relevant elements successively in each of the four layers through a group exercise. This uses a large map printed on paper displayed on a large table.

STEP 6: Consolidation of the overall picture; final review and approval of the EU Customs canvas by the participants.

STEP 7: Scoping - Drawing the line (physically) around what will be considered in the foresight project and identification of key questions and dimensions to take up in it.

The output

This exercise around the EU Customs canvas was an eye opener for all involved. It delivered four main benefits:

- It revealed how differently various actors perceived customs in the EU.
- It showed to everyone how complex customs in the EU are and made it possible to enrich significantly the picture by harnessing the diverse expertise and perspectives on customs in the EU that the participants brought to the table.
- It helped participants develop a more aligned view of customs in the EU.
- Last but not least, it allowed to generate a clear consensus among participants on the benefit of taking a broad scope for the foresight process. This would allow looking at the EU in its international dimension, with the diverse realities in the Member States, the complex EU decision making, the diversity of users of customs, the threats, technology, etc.

At the end of the day, not only had this process identified the core elements of the system to study and a shared understanding around them but, importantly, it had established a good working relationship between the participants, a valuable gain for the rest of the foresight project.

The resulting description of customs in the EU is captured in figure 4. It can also be viewed and downloaded online.[51]

8.3. Real-time Delphi survey

The Real-time Delphi survey method is a structured expert survey methodology used to gather opinions on different possible developments in the long-term future on a given topic.[52] This type of surveys is a useful way to elicit, collect and synthesise the opinions of a large group of experts and to give ideas to start a debate.

The process

The *Real-time Delphi* survey method is an adaptation of the traditional *Delphi* method, a structured expert survey methodology developed towards the end of the 1950's which has commonly been used to gather opinions on different possible developments in the long-term future.[53] This type of surveys is a useful way to elicit, collect and synthesise the opinions of a large group of experts on a certain topic. In addition to gathering experts' judgements, the Delphi method also aims at starting a debate, facilitating the exchange of views, and achieving a degree of convergence of opinion. Since there are no facts about the long-term future, what is needed is the subjective input – which the Delphi method helps to deliver.[54]

The Real-time Delphi Survey builds on the traditional Delphi survey[55], but the main differences are that it is carried out online, and the responses are uploaded immediately and the response statistics updated in

51 https://blogs.ec.europa.eu/eupolicylab/files/2020/11/TAXUD-customs-context-v04.pdf
52 http://www.foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/classical-delphi/
53 Idem
54 Lindstone, H., and Turoff, M. (ed.), The Delphi Method, Addison Wesley Publishing Co., 1975
55 http://www.foresight-platform.eu/community/forlearn/how-to-do-foresight/methods/classical-delphi/

real time. The responses then become instantly visible to each survey respondent. Participants are allowed and encouraged to revisit their online questionnaire as many times as they wish to change their responses in view of possible changes in the results as more and more participants provide their answers. Confronting respondents with other experts' opinions generates ideas and debate, as well as stimulates people to justify their answers in contexts of high uncertainty.

The following key steps were taken when carrying out the survey on the future of customs in the European Union:

STEP 1. Draft a list of statements about the future of customs, formulated as if they were taking place in 2040. In this project, the statements were developed based on previous work of DG TAXUD, input provided from a scoping workshop, and outcomes of horizon scanning.

STEP 2. Define a set of sub-questions that can apply to all statements. We asked for an estimate of the likelihood of the statement happening, the timeframe by when it might occur, an indication of which domains of EU action would be influential on the statement and a suggestion of what EU action could support the achievement of the statement (or its prevention, depending on the case). In addition, the respondents were asked which country they were from and for what type of organisation they worked. They were also asked to self-assess their own expertise level in the field of customs.

STEP 3. Build the survey, launch it and disseminate it as broadly as possible to customs stakeholders. Encourage people to answer and re-visit the survey questionnaire as many times as they wish.

STEP 4. Present the results statement by statement as well as a summary of the results.

The output

All the results of the Real-Time Delphi survey on the Future of Customs 2040 can be found in a separate report.[56]

8.4. Scenario building

Scenarios are used to help stakeholders imagine a range of realistic possible futures for customs in the European Union and bring implicit assumptions to the fore in a systemic perspective to reveal the choices available as well as their potential consequences and trade-offs.

8.4.1. The process

The knowledge generated during the scenario development process can be used to inform decision making and to articulate preferred visions of the future. They also help stimulate creativity and detach decision-makers from the conventional obsession with present and short-term problems. Scenarios are not an end in themselves but rather a means to help people make better strategic decisions. They are sometimes used by decision-makers to simulate the impact of different decisions.

To be effective, scenarios must be:

- Plausible; this means that they must fall within the limits of what might conceivably happen.
- Internally consistent; this means that they should follow a coherent logic and not have any built-in inconsistencies that would undermine their credibility.
- Useful; they should contribute with concrete insights into the future that will help decision-making regarding the issue or system that was selected.

In addition, qualitative scenarios are not bound by the limitations of quantitative methods. They can easily explore relationships and trends for which either little or no numerical data are available, or dimensions which are not quantifiable such as values, feelings, shocks and discontinuities, motivations or behaviour. They often also create images that capture the imagination of those for whom they are intended.

56 https://ec.europa.eu/jrc/en/publication/future-customs-eu-2040-results-real-time-delphi-survey

A good scenario building process is inclusive of:

- People with different backgrounds that can provide diverse insights to the scenario building process (i.e. science and technology, social sciences, environmental sciences, economics, demography, etc.).
- People from outside: if you are running an exercise on the future of an organisation, you must bring in people from other organisations; if you are building scenarios on a policy area, you might want to involve people from other policy areas or related fields.

The direct participation of the concerned decision-makers implies that they truly understand and 'own' the scenarios and, as a result, are more likely to let them inform their decision-making.

There are many ways of developing scenarios. We describe here the approach applied in this project, containing two important elements. One is the 'decision-focus' of the scenarios, meaning that the process is focussed on the strategic issue that the scenarios should shed light on. The second key element is the 'scenario logic'. In relation to the strategic issue, it is also important to select the appropriate time-horizon for the scenarios (here 2040), because it will affect the range of issues to be considered within the scenario development process.

The classic 'matrix' approach for scenario building was applied. The scenarios were created through workshops with representatives from all stakeholders. It went through the following 7 steps:

STEP 1: System definition: Make sure all participants in the scenario building (typically 30-40) understand the scope of the EU Customs system, and what the objective of the scenarios is.

STEP 2: Identify and analyse the drivers of change: This step consists of brainstorming to identify all the factors that will influence the evolution of the system towards the future at macro and micro-level. This step should take place in a 360° perspective. To that effect, participants are often asked to use the so-called 'STEEP framework'. These five letters stand for Society, Technology, Environment, Economy and Policy. This is sometimes presented as the STEEPV (when 'Values' are added) or the PESTEL (when 'Legislation' is added) framework. If participants are asked to consider the factors of change emanating from each of these categories, it is unlikely that any major factor is omitted. This work is best performed in groups of 4-7 people.

STEP 3: Clarification of the drivers of change: Once all groups have completed their brainstorming, the output from each group is collected. As there are many overlaps, the drivers of change emanating from all groups are collected in plenary and clustered. At that occasion, they are defined more precisely to make sure that all input is collected and understood by all. Often, this is performed by writing the drivers of change on post-its and presented on a wall around the STEEP categories. The 'harvest' typically ranges from about 30 to 70 drivers of change.

STEP 4: Prioritisation of the drivers of change: Once the final agreed list of drivers of change is available, participants are asked to identify those they consider the most impactful. Typically, people are given 3 votes each to be distributed on three drivers of change. Participants are asked to come together to look at the complete list, to reflect individually on their votes for a few minutes and then to express their votes all at the same time to avoid too much influence being yielded by those who would vote first. This step usually gives 10-15 drivers of change with two or more votes.

STEP 5: Ranking by level of uncertainty: The next step consists in the ranking of the drivers of change on the basis of the degree of 'uncertainty' surrounding them. Participants agree that the 10-15 factors selected in the previous step have a significant impact, but while the direction of the pressure exerted by some can be estimated readily, this is not the case for others. The aim of this step is therefore to identify among these 10-15 factors the two factors for which

the direction of the pressure exerted is the most uncertain. Again, people are given 3 votes each to be distributed on three drivers of change.

At the end of that step, a scatter plot of impact vs uncertainty is drawn with the results of the vote. The two drivers of change with the highest impact and uncertainty scores (hopefully in the top right corner) are selected as the two key uncertainties around which the logic for building the scenarios will be constructed.

STEP 6: Clarification of the scenario logic: The two drivers of change selected in the previous step become the two axes around which a 2x2 matrix is created: this is the scenario logic. Determining the axes of the scenarios is probably the most crucial step in the entire scenario-generating process. At this point, all participants in the scenario building exercise must develop a solid shared and agreed understanding of the key factors at the basis of the scenario logic. They also have to define the extremes of both axes, which will create the conditions for the elaboration of the scenarios. The final scenario matrix, with the right labels, is then presented to all. This is a natural point to stop a workshop. The rest can be performed in a subsequent workshop with the same participants.

STEP 7: Scenario development: This is a step in which, in addition to knowledge of the subject matter, intuition, insight, common sense and creativity play their greatest role. In this method, the objective is to end-up with four contrasting scenarios that challenge the decision-maker constructively. In the process applied for the future of customs, scenario development started with a short (20 min) plenary session during which all participants were invited to identify keywords that they would associate with each of the scenarios. Looking at all scenarios at the same time allowed everyone to compare and contrast quadrants and develop a feeling for how each of the scenarios would shape up. The participants were then split into four moderated groups corresponding to the four scenarios, to build the substance of the scenarios. These groups were then rotated in World Café style to make sure that all participants had had a chance to contribute top all scenarios. The session finishes with all scenarios being presented to all participants. The four contrasting scenarios contain both desirable and undesirable elements to ensure realism and plausibility. They must also be internally consistent.

At the end of step 7, the scenarios are only at the stage of crude, if quite rich, drafts. The proper writing of the detailed scenarios must be performed by the study team on that basis. A highly descriptive short and memorable title will also have to be developed for each scenario. Once the full draft scenarios are written, they must be shared with the participants for comments before being finalised.

A table of comparative descriptions can be very useful to help complete the scenarios and give them their nuances and texture, while providing a useful analytical framework to those who will use the scenarios. Visual material can also help bring the scenarios to life. Do not despair during the process: it is difficult task to draw up credible and useful scenarios.

8.4.2. The output

The purpose of this scenario building exercise was both to create a broad community of reflection on the future of customs in the European Union and to develop a space for strategic thinking that could be shared with other people beyond the 40 or so members of the study group. The in-depth reflection, analysis, imagination and systemic thinking that took place throughout the workshops enabled people to deepen their own understanding of issues and to connect them to the future of the EU as a whole. In other words, the scenarios created a solid contextual frame that helped deepen the strategic reflection.

8.4.2.1. The scenario matrix

The drivers of change that were considered by the stakeholders as most uncertain and important for the future of customs were Geopolitical conflicts and EU Economic development. Therefore, they are the axis around which the scenario logic was built (see figure 5).

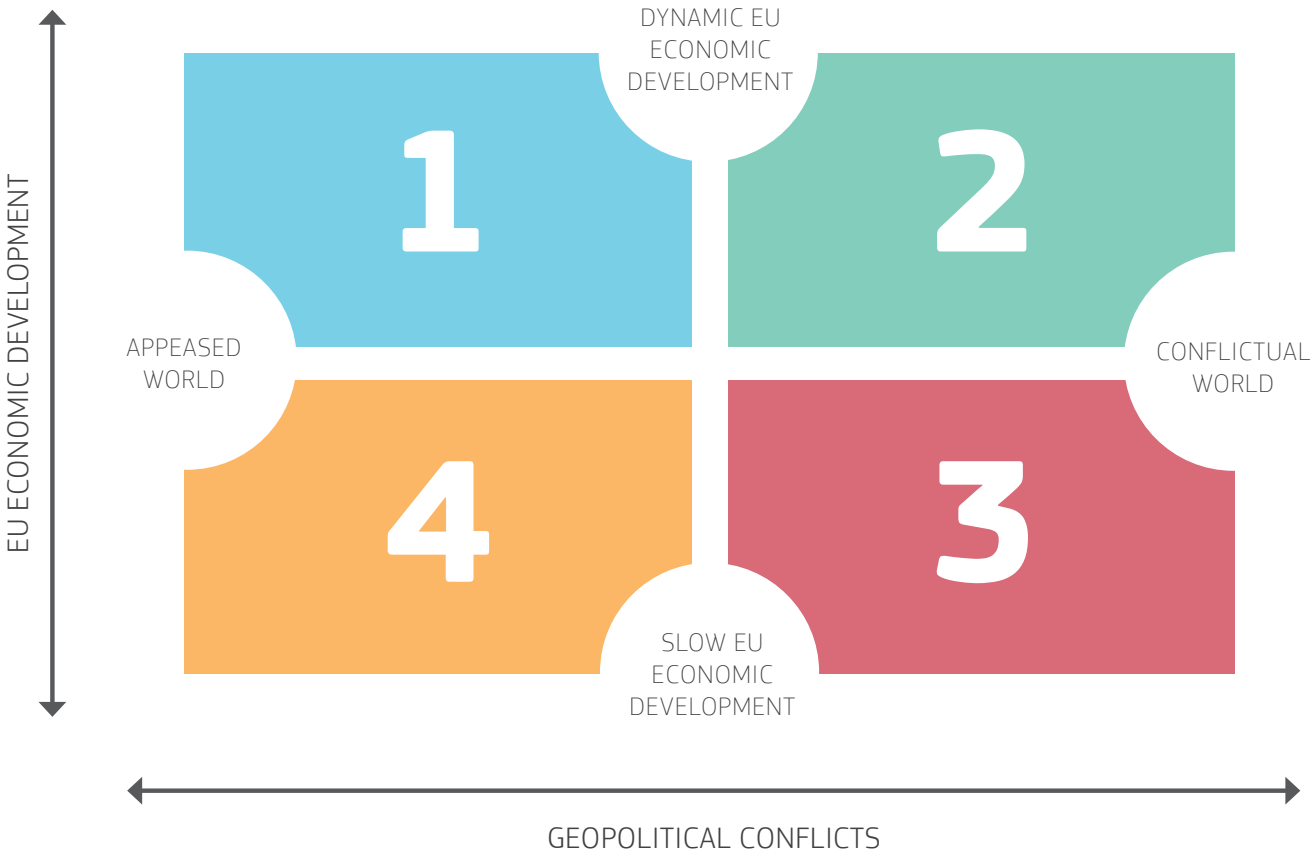

Figure 5. Scenario matrix.

'Geopolitical conflicts' represents the general level of conflicts in the world outside of the EU. The participants in the foresight project considered that this factor is among the most significant to influence the future of customs and that it is very difficult to know today how it will have evolved by 2040. The two extremes along this axis are "Appeased world", in which there are few conflicts around the world and most geopolitical blocks have reached appeased, relatively cooperative relationships and "Conflictual world" which represents the opposite situation, where the main blocks are engaged in a harsh competition for resources and influence. This can lead both to open conflicts and resurgent terrorism, with weakened international institutions.

'EU economic development' represents the general level of economic development in the EU, also an important an uncertain factor. By 2040, the EU could find itself in a situation of slow economic development as a result of either general degradation, or crisis, or a conscious choice for a restricted economy making strong efforts to reduce resource use. Alternatively, it could find itself in a situation of dynamic economic development, either because of the continuation of an economic model based on GDP growth, climate change permitting, or because of very dynamic approach to building a sustainable economy with strong investments in new technologies and infrastructures to reduce materials and energy use while maintaining activity as much as possible.

8.4.2.2. The full version of the scenarios

This section contains the full version of the scenarios developed for the customs in the EU in 2040. Each row represents key areas for the EU Customs, present in all scenarios, allowing us to compare them and use systematic thinking.

	Scenario 1 – Customs for society
EU economy	After having gone through a major climate and social crisis, the European economy has found a new strong footing. It has shifted towards a sustainable social market model.
Geopolitical situation	Over the last twenty years, the scale of the impacts of climate change has shown how interdependent all countries around the world are. Most countries adopt more cooperative attitudes to actually address the common challenge. While Asia and Africa have gained a lot of geopolitical weight, the relationship between China, Russia and the US stabilises and the re-energised European project inspires the rest of the world.
Society	The status of the EU in the world and its standard of living are still buffeted by global megatrends: strong pressure from climate change, increased migration, the rise of Asia and Africa and the global technological race put the EU under pressure. Because of the pollution, overexploitation of natural resources and environmental degradation that led to the late 2020's deep crisis, people understood the scale of the challenge and the added value of belonging to the EU. They changed completely their mind-sets in just a few years towards resilience and sustainability. After having gone widely off the mark regarding the achievement of the UN Sustainable Development goals by 2030, the EU is now using a revised ambitious set of goals towards sustainability as a compass for all its policies. In 2040, EU policies are well integrated; sustainability and social cohesion are firmly at the core of the European project, with strong societal support. The ageing of native populations and the dramatic destiny of millions of refugees looking for shelter in a world affected by climate catastrophes have forced the EU to change the way it deals with migrants: both the asylum and migration policies are streamlined, making sure that all legitimate refugees can find shelter and, as the EU now has an attractive economy, that the properly qualified opportunistic migrants can contribute to society and the economy. Member States have understood the value of standing together and collaborate better than in the past. At the same time, public authorities in the EU have engaged with the private sector to mobilise means and creativity to offer adequate services and products to the growing elderly population. While longevity in the EU has now plateaued, people remain healthy longer. After having long suffered under attacks on its democratic political model and from strong disruptions related to climate change, the EU is back in the game. In addition to putting sustainable development at the core of EU and national policies, a new generation of bold politicians has also acted improve the EU's international clout. In that line, the EU invests a lot in development aid and emergency response to natural and social catastrophes around the world to try and prevent further migration. Innovative approaches are developed across the board thanks to a highly educated population. The deep internal reforms in sectors such as trade, environment and migration and the establishment of new European institutions to ensure a high standard of living for all and manage crises better give the Europeans confidence in their international dealings. The structural, long-lasting changes making the EU a great place to live also make it stronger, better equipped and a model of peace for the entire world. EU society is now inclusive, fighting actively all types of inequality (e.g. including the digital divide and access to health). While this translates into a good quality of life for all EU citizens, it also imposes a social discipline that the older generations were not used to. For example, energy use is controlled strictly, making short city trips by plane a dream of the past and individual transport very expensive. Also, ageing and lingering effects from past traumas show their effects in high risks to health related to non-communicable diseases such as cancer, mental illness and diabetes, but also pandemics. This is well taken care of by social security and public healthcare system.
Technology	Digitalisation is now a key source of progress for society as a whole. Investments in technology are mainly used to drive sustainability and maintain high living standards. The EU's dynamic economic development and its shift towards a more sustainable operation go hand in hand with very strong investment in new technologies and infrastructures. To run this technology and eradicate the digital divide within society, the EU supports re-skilling and education: IT and sustainability literacy are now core curriculum. Investments are made in innovation to maintain the satisfaction of citizens and employees and give an edge to EU exports on international markets. Only 10 years ago, the EU had to make do with dysfunctional and archaic security systems based on old technology. Today, investments in technological innovation are very high. In an appeased world, security is less of a problem but disinformation and cybersecurity threats still need to be addressed. There is less focus on making transport fast and cheap and more on making mobility efficient and sustainable: the EU relies largely on rail, sea and barge freight to transport goods. Multimodal transport is now main stream and has allowed combining efficiency, relative speed and sustainability in transportation. Broad cooperation and licensing agreements stimulate development far and wide.

	Scenario 1 – Customs for society
Economy	Fruitful international cooperation has been instrumental in helping the EU overcome the large disruptions of the previous decade. It has happened under duress, following several spectacular bankruptcies of large companies rooted in the old paradigm, but the EU economy has clearly shifted towards a sustainable operation for the citizens' well-being. By 2040 the EU has become a positive societal project basing its economic model on the delivery of social welfare and the achievement of its own goals for sustainable development rather than GDP growth. Environmental taxes are harmonised and a coherent VAT regime is applied across an EU-wide Eurozone. As all countries have been very seriously affected by global heating and other global scale challenges, the world's trade system has evolved and now recognises the importance of sustainability in managing international trade. More multilateral agreements are created based on trusted economic exchanges, mutual benefits and appeased relationships. A profound reform of multilateral organisations to keep the balance between states and markets has been instigated. International trade has found a balance and operates where it makes sense in a sustainability perspective. Trade flows freely but there is no pursuit of ever-increasing volumes. The EU has managed to combat protectionism internally and its economic model has shifted towards promoting a broadly based social welfare. The euro is very stable and is now a global reference. This has raised the influence of the EU in international organisations. E-commerce has found its place in a sustainable economy. Practices such as next day deliveries have almost disappeared, giving precedence to low impact transport, facilitated by a strong development of intermodality.
Environment	In the two decades leading to 2040, Europeans experienced food shortages, wildfires and extreme weather conditions, mass die-offs of plant and animal species and rising sea levels. Water resources are also impacted. This created poverty in many regions of the world and intensified migration. This global environmental crisis caused an urgent and profound transformation within the EU and put sustainability at the heart of the European project. Ambitious legislation to protect biodiversity, restore ecosystems and reduce pollution, waste and resources use has been promulgated. End-of-life products are recovered or recycled as far as possible to create further value. While this cannot reverse some of the historical damage, it puts the EU on a path to recovery for many ecosystems. By 2040, the EU is leading the way towards a fair and sustainable transition worldwide. However even actions taken to mitigate the effects of global environmental change cannot reverse all the consequences of sizeable previous irreversible damage. The EU is now taking advantage of its current dynamic economic development to invest more in renewable energy and decarbonised means of transportation, to stimulate new sustainable business models and to invest in actions for the benefit of the environment and people. Frugality has become a key driver and waste (even old landfills) is seen as a resource to be recovered. Exports of waste are limited to particular fractions dealt with by highly specialised operators. As most geopolitical blocks have reached appeased relationships, the competition for natural resources is leading to less crime and conflicts. Agreements exist to regulate access to resources. Citizens completely changed their lifestyles and consumption patterns, while focusing more on immaterial goods.
Policy	The successful management of the latest climate-social crisis ended up giving a boost to the role of the EU in the world and bringing a profound change in international relations. The lessons from the two world wars have been drawn, leading to a relatively appeased international order. Nevertheless, terrorism, organised crime and cyberattacks have no border and continue to challenge the EU, fuelling a continued demand for safety and security among citizens. In this appeased world with a dynamic economic development, the European project puts its resources into bringing people together and keeping them safe, thereby building trust. A large portion of European citizens is strongly supporting the EU project. There are new, diverse actors arising in the society gaining more influence. The growing role of non-state actors, the emergence of a global consciousness and the prominence of social media platforms have changed the political environment. Large market actors play a bigger role but they are controlled by Governments and comply fully with international and European standards (which they contribute to shape). Strong EU rules and controls ensure that goods coming into the Single Market comply with all EU trade, safety and environmental standards. Even if the international political scene is appeased, crime and cyber threats continue to raise their ugly heads, forcing the EU to develop policies and tools to contain them. The EU also combats intellectual property rights (IPR) theft (in its many new digital forms) and fiscal fraud. The EU decision making process is completely transformed and has become very flexible. Resilience and crisis management characterise the political arena. In addition, as a consequence of the past societal-climate and health crisis, governments adopted an anticipatory culture and developed the capacity to operate more pro-actively.

	Scenario 1 – Customs for society
Data management & IT	Taking maximum advantage of this context of broad international cooperation requires the development of powerful harmonised and interoperable interfaces to ensure the proper collection of customs duties and facilitate trade. Holistic chain management is applied. In this appeased world, strong efforts are made to guarantee data security and integrity and this is ensured to almost 100%. Across the whole EU, economic operators use one IT system for customs declaration. Customs have the capacity to explore and implement innovation: blockchain, control by drones etc. Because trade partners trust each other, the system includes relevant data from other authorities and third countries.
Customs capacity	Routine operations run by customs officers and related stakeholders require high-level IT and economic skills. This is attractive to a number of returnees from the European diaspora, who had left Europe for a better life when the going was rough and are now coming back. Moreover, in view of their broader role, customs enrol young people with skills in domains such as environmental protection, social welfare etc. Customs laboratories have been thoroughly renewed and updated. In general, investments are made in innovation to maintain citizens' satisfaction high, including employees.
Business support	Trade facilitation and simplification have increased the EU's overall trade flows compared to the previous difficult times, leading to higher revenues across the board and job creation. However, shorter material loops and distribution circuits resulting from a circular economy keep international trade to lower levels than in the 2010s. In addition, fiscal harmonization has resulted in one EU VAT system, simplifying work for customs in the EU. As a result, many companies who had left the EU come back and invest in new sustainable, digitalized solutions for customs. New large EU players have emerged. To ensure that the European economy remains strong, the EU has put in place strong competition rules and stimulates innovation. Traders comply fully with EU standards and imported products are safe for consumers. New sustainable business models are constantly emerging in response to the circular economy. Sustainability generates new revenues and technology is there to protect and make citizens' life better. Because the new international order fosters trust in relationships with third countries, customs green lanes develop. Hardly anything needs to be checked physically anymore. This has completely transformed the processing of imports and exports: it is now more effective and easier, even though customs maintain their fight against sophisticated fraud. Thanks to international agreements, the EU has secured access to the critical raw materials it needs, which are now integrated in a circular economic model.
Customs policy & governance	In this inclusive society concerned with the happiness and well-being of its citizens, the mission of customs is expanding to preserve the welfare of EU citizens broadly in addition to safety, security and the traditional tax collection duties. This is backed by sizeable EU resources. Customs policies become more robust and the long-term vision is communicated efficiently. Customs policies are well coordinated with other sectoral policies, mainly Public Health, Food Safety, Consumer Protection, Environment, Climate, Education and Social Affairs. Sustainability policies result in new duties, standards and rules being introduced to protect health and the environment. Implementation of rules is harmonized across the EU due to the harmonization of the national customs authorities. Regarding governance, we have an Executive Central Body with political power and coordination role and a High Representative for EU Customs. European citizens see the general added-value of the EU in their daily lives and support further EU integration including for customs policies. Customs in the EU moved away from transaction-based to system-based interventions.
Operational support	As a result of the technological innovations created to support citizens' welfare, and of the positive economic environment, customs have benefited from very large investments in 'smart' technologies: customs now offer virtual assistance. New business solutions associated to improved customs' IT infrastructure and capacity to manage big data perform surprisingly well, even though cybersecurity threats can completely change this. Radio-frequency identification systems (RFID) are applied to almost all shipments, leading to excellent traceability and quality controls for goods across all sectors, at all times. Due to the technological development, human intervention for goods and product safety has been reduced drastically. Infrastructures are now very developed. New powerful artificial intelligence systems serve well the increased breadth of operation of customs. The various pieces of infrastructure now 'talk' to each other.
International exchanges	In an appeased world with few serious conflicts, international cooperation is the basic principle for trade exchanges. Nations work together for the benefit of societies around the world. At international level, influence has shifted towards Asia and Africa where groups of countries try to replicate the European project. The relation between China and the US stabilises. Even if power games continue to exist, a basic level of mutual trust allows efficient interoperability with third countries. The EU political project has become a model for the entire world and European standards are promoted worldwide, especially for import. More agreements and international conventions come into place as countries understand that cooperation is a positive sum game. Because the EU currency is very stable, EU gains more influence within international organisations which are completely reformed.

	Scenario 2 - Protected Union
EU economy	The economy of the EU has been invigorated thanks to heavy investment into resilience and a successful shift to a resource and energy efficient economic model.
Geopolitical situation	The EU, China, the USA, India, Russia, Brazil, Iran, Saudi Arabia and other countries compete for resources and influence, promoting their own world views. This gives rise to strong competition using a variety of means and leading to proxy wars around the world. A major direct conflict cannot be excluded.
Society	The EU is under pressure from a relentless worsening of climate change and an increased global competition for resources. It is trying to increase its strategic autonomy but the international context is harsh. Migratory pressure is reaching record levels resulting from the combination of streams from the countries that are the poorest, those that are most affected by natural catastrophes and those that are victims of conflicts linked to the geopolitical instability. Internally, the difficult access to global resources is making it difficult for the EU to preserve its socio-economic model and its previous resolve to achieve sustainable development: creative solutions must be found. Its relative success in that respect means that it has remained one of the main international poles of attraction for migrants. This renders the migration issue one of prime political and societal concern across the continent. As a result, EU migration policy has developed towards a combination of selectivity ('brain gain') and active integration used to counter the effects of ageing in the native populations and boost the economy. International competition has reached levels unprecedented since the cold war and international cooperation is testing new lows. In these troubled times, while the EU has been able to preserve itself and remains relatively well off, strong economic disparities between various countries and regions of the world remain. Some countries, especially from Africa and Asia, have charted a successful course. They now challenge openly the 'old powers', including the EU. For example, EU values are being tested when negotiating at international level. The combination of economic disparities and desire from some parts of the world to harm the EU is providing fertile ground for black market operations and organised crime exploiting price differences between countries. State sponsored criminality and destabilisation efforts against the EU are also common. This creates a general situation in which EU citizens feel a strong need for protection and governments strive to gather intelligence about virtually everything. Under these conditions, surveillance, in the EU and outside, develops strongly, albeit with some level of democratic oversight in the EU. In view of this general context, both internal and external to the EU, cohesion policy has been much strengthened. It now covers both a geographical dimension to reduce disparities between regions and a social dimension to ensure that EU values, such as human dignity, freedom, democracy, equality, rule of law and human rights are upheld and that economic and social integration is assured for newcomers. This also extends to investments into public health for prevention as well as in healthcare.
Technology	This very competitive world, under pressure from global environmental change, witnesses a relentless technological race, especially in all things digital and in any means to compensate for resource scarcity. Technological innovation in the EU is strongly supported and pursues three priority objectives: strategic autonomy, frugality and digital resilience, in which data protection is a key priority. There is also a search for international competitiveness. As a consequence, all technologies providing renewable energy, facilitating resource recovery, ensuring security (cyber- and physical) and supporting efficiency in general benefit from strong public support. The space race, with its promise to access critical raw materials and its importance for strategic autonomy, is also seen in a positive light. New means of carrying goods at low energy cost are now in use. Industrial espionage is rife and enforcing intellectual property rights internationally has become very difficult beyond friendly countries.
Economy	Disruptions from extreme weather events, sea level rise and climate change in general are putting pressure on infrastructures, agriculture and logistics chains. The EU economy has had to become a lot more self-sustaining as well as resource and energy efficient. Overall, energy and raw material consumption are significantly lower than in 2020 as the EU has to make do largely with what it has on its own territory, including raw materials locked into legacy products from times past. Material recovery, recycling and repair have become a sizable part of the economy, especially as international trade has become unreliable. 'End waste' is reduced to a minimum. An EU-wide VAT scheme has been put in place in coherence with this need for resource efficiency. This has dampened the development of e-commerce for physical goods but not for 'content'. In view of the realities of this conflictual world, by 2040 the EU has had to take decisions regarding access to strategic goods and materials and to invest heavily in its own geostrategic autonomy. Thanks to its success in preserving its economy from international turmoil and in fostering innovation capacity from its highly educated population, the EU has finally built inner strength and has managed to keep some leverage at international level. Trade agreements are made selectively with trusted partner states that are strategic allies. Coupled to the strong effort to shorten material loops, this limits the volume of international trade the EU engages in. At the same time, as geopolitical shifts have taken place and in spite of the robust EU economy, the international standing of the euro has remained limited. Large countries, especially the USA and China, push their respective currencies as agents of influence. This creates de facto zones of economic influence in which the weak currencies either disappear or peg to the dominant currency of the area.

	Scenario 2 – Protected Union
Environment	An increasing world population, increasing pressure from climate change and a global context in which exports and imports cannot be taken for granted has led to more urbanisation, more competition for land and more demand for local resources. This leads to more pollution and more biodiversity loss around the world. In many regions, especially the Middle East, parts of China and parts of Africa, water scarcity has become acute, resulting in unrest, forced displacement and emigration. Some countries see the environment as a short-term zero-sum game, trying to capture resources for themselves (e.g. the Amazon rain forest), a clear tragedy for the commons. The needs are so crying that the traditional strengths of the EU in environmental technologies and environmental protection allow it to remain a large international player in this area. This plays out both through economic operators selling environmental technologies wherever possible and through development aid. While there is a strong development of environmental policies at home contributing to a more sustainable development in Europe, development aid is used to promote and implement the sustainability agenda elsewhere. This is in the advantage of the EU as environmental issues such as climate change and ecosystems losses know no borders and affect everyone. At the same time, as what was earlier considered as waste is a resource and many countries are no longer ready to accept waste shipped from elsewhere, waste exports from the EU have ceased.
Policy	The perception of strong common external threats has increased both the need and the sense of belonging to the EU across all Member States: EU nationalism is starting to emerge and, for European citizens and many others, the EU is a symbol of security in a dangerous world. The new EU motto is "Standing Together for a Better World". The need to deal with so many external threats has pushed the development of security measures and surveillance at many levels: at the borders, of course, but also to detect threats that could be present both inside the Union (data collection, personal monitoring, cybersecurity, etc.) and outside (hence the need for space technology investments). The EU and Member States governments build strength by reinforcing their coordination and engaging in bold policy initiatives. The EU treaties have been updated and strengthened. While international organisations still exist, the strong disagreements and competition between the various geopolitical blocks means that their authority is contested. This reinforces the need for the EU to be strong and stand strong for its citizens. A strong development policy is one way the EU pushes its agenda at international level.
Data management & IT	The need for customs and border control to deal with a changing and potentially aggressive geopolitical environment results in strong cooperation at EU level in IT development and management. There is now one shared EU IT system. This streamlines the constant efforts made to fight cyber-threats. The lack of cooperation at international level means that, in many cases, customs cannot rely on spontaneous declarations from importers and foreign authorities to obtain all relevant data. In response, and to complement customs declarations, "pull mechanisms" are implemented to retrieve data: data mining, source identification and other techniques are applied to obtain data from importers. To facilitate the work of customs, "data pipelines" are established between trusted partners. Because of the criticality of the matter, data protection and IPR are the object of reinforced attention.
Customs capacity	The general feeling of EU citizens that they need protection in this dangerous world provides the political conditions needed to increase capacity both for surveillance of the EU borders and for dealing with increasingly complex customs operations. Intense technological development over the last 20 years has provided the AI and robots needed to ensure this surveillance, deal with complex rules and reduce traditional physical checks. The SAFE2EU programme is well resourced. This level of sophistication of customs operation coupled to the perception of the importance of securing borders increases the image of customs on the job market. This is creating pressure to recruit specialists in IT, robotics and data analytics and other highly skilled professions in a context of an ageing population. Attracting highly-skilled migrants offers partially a way out of this limitation.
Business support	The need to save energy and materials in all sectors, pushing the economy to go "circular" on the one hand and the world context on the other hand weigh on international trade. New technologies such as 3-D printing and other developments under the Industry 6.0 model have also created the conditions for the emergence of new business and industrial models more closely embedded locally. Customs have had to design a new code, especially in view of the rise of digital products and of physical products intimately linked to digital services or operation as well as to respond to the increasing need for strong controls at the border of the remaining trade. A simplification drive has led to fewer levels of duties. There is now a compulsory Authorised Economic Operator (AEO) regime, with simplified customs clearance procedures for goods from countries with which agreements have been signed: green lanes, quicker processing, fewer inspections.

	Scenario 2 - Protected Union
Customs policy & governance	In this unstable world, safety and security are centre stage. As groups of countries compete on the world scene, there are less global standards and geopolitical blocks use their own standards as commercial weapons. In this context, determination of origin is critical and its verification an important function for customs. Tariffs are in place to protect the internal market (anti-dumping, protection of EU standards). In view of the very different types of relationships that the EU maintains with third countries, export controls have gained in importance: economic sanctions are numerous and require special handling of exports. In response to these demands and in the face of criminality and strong migration pressure, over the years the various border agencies have had to work ever more closely together. This led Member States and the EU to overhaul the Customs Union and create a single powerful EU Integrated Customs & Border Agency dealing with border police, migration control and customs.
Operational support	In an unstable international environment, strong border control has become vital to protect the EU and the need to establish trust with importers reliably has become acute. The concept of 'border' has evolved in connection to the emergence of robotics, AI, smart tracking technology, sensors, etc. These technologies also impact how customs checks are performed: remote scanning, automated checks, track & trace, sniffing. The physical external EU border is reinforced with a high reliance on technology and automated checks. This requires building trust in technology: technical reliability, reassurance towards EU citizens that it is performing well and legitimacy towards actors exporting to the EU who expect fair treatment. Digital products and raw materials are the object of particular attention due to their potentially critical nature.
International exchanges	Over the last 20 years, China has been partially successful in pushing forward its Belt & Road Initiative. While it has managed to bully and bankroll a few countries (e.g. Pakistan) into making the necessary investments, other countries have sided with other geostrategic camps and taken an active role in pushing Chinese influence back. The march of globalisation, long taken for granted, has taken an uneven turn. International trade flows have intensified and become more integrated between allies and decreased between antagonistic powers. Trade tensions between some countries have risen and some customs disagreements between opposed geopolitical blocks linger.... In this context, international organisations have lost clout, along with global rules and standards. In turn, customs diplomacy has gained importance.

	Scenario 3 - Customs under strain
EU economy	Confronted with a need to become environmentally sustainable and an increased international competition for resources, the economy of the EU has had to slow down.
Geopolitical situation	The EU, China, the USA, India, Russia, Brazil, Iran, Saudi Arabia and other countries compete for resources and influence, promoting their own world views. This gives rise to strong competition using a variety of means and leading to proxy wars around the world. A major direct conflict cannot be excluded.
Society (1/2)	The rapid forced transition towards a sustainable economy in a context of increased international competition for resources and technologies has created tensions in the EU. Polarisation has grown on the basis of differing economic situations, principles, visions and worldviews across Europe. While some believe that the best way forward is protectionism & less international cooperation, others believe that it is better to develop trade cooperation to achieve better sustainability outcomes both for the EU and globally (win-win). The two sides manage to keep themselves afloat with ups and downs according to electoral cycles and different circumstances in various EU Member States. Overall, one can see on the one hand an evolution towards a more autonomous, closed and protective EU under the pressure of events and on the other hand the development of privileged trade partnerships for strategic reasons and access to critical raw materials and energy. Nevertheless, the challenges faced by the EU create pressure to adapt quickly, leading to a wave of innovation and some forced integration between Member States. This happens on the cheap as a result of the economic situation. In the meantime, the elderly is an increasingly large part of Europe's population. In a context of slow economic development, this has put a high strain on pension systems. Even though today the official retirement age has been pushed to over 70 years in most EU countries, the work force is still not large enough to sustain the pensions system. Guaranteed public pension levels decrease, forcing many people to work longer.

	Scenario 3 - Customs under strain
Society (2/2)	The overall poor economic opportunities in Europe are not distributed equally. This leads to Europeans from the poorer regions moving to the areas providing more opportunities. Some of the most qualified also leave for other, wealthier countries of the world. These movements of population favour the emergence of ghettos along socio-economic, cultural and ethnicity lines. Inequality and social segregation have grown significantly during the last 20 years. There is talk of a re-emergence of a class society. Access to education and to the labour market is unequal. Crime is high and citizens distrust the authorities' ability to tackle it. Violent extremism has grown notably during the past couple of years. Conflicts and war in other parts of the world are a large European concern and are transposed to some extent within the EU through tensions between different political and immigrant groups. Although the number of refugees in need of protection in the world has never been higher due to conflicts and climate change, the EU is unwilling to accept many migrants, arguing that the ones wanting to come to Europe are not the most qualified. Economic hardship, inequalities and ethnic tensions feed social unrest. Large demonstrations often rock European capitals. Trust in government is low and the influence of non-state actors (such as digital communities, religious groups, transnational civil society organisations, etc.) is growing. A low social cohesion leads people to keep more to themselves and work towards increasing their own resilience. Cities segregate and inequalities rise. Local authorities have a strong role to play to fight this trend. Also, while many people in the EU push for greener taxes, the people hit hardest by the slowing economy remain reluctant. This leads to a heated public debate on priorities. However, everybody agrees on demand for security.
Technology	The pressures that the EU is facing, many of them external, create a strong demand to face the challenges and leads to diverse creative responses in a context of limited resources and lack of solidarity. However, the high importance of data security for all means that efforts to harmonize data management inside the EU increase, although some Member States are hesitant or even reluctant towards this. A technological race with the other main world powers is raging. The difficult and competitive geopolitical environment creates a need for autonomy and independence of the EU. The slow economy reduces public budgets and exacerbates intra-EU disparities but the shared concern about external threats creates consensus on the need for a strong border and for public R&D to hold one's own in the international technological race. This influences technology development in many domains, but a few priorities remain, especially IT, robotisation, AI, cyber-security and resource independence (e.g. biotech for biofuels). This technology also serves to decrease costs. In this race, the technology gaps between countries around the world increase dramatically. The same phenomenon can be observed to some extent within the EU because of the need to create critical mass in some areas.
Economy	The economy has shrunk, forced to become a lot more 'circular'. Energy and raw material consumption are significantly lower than in 2020. The EU is subjected to contradictory trends. On the one hand, the external pressures strengthen the rationale and the need for Member States to belong to the EU, but on the other hand, the economic strains and competing political visions within the Union increase tensions. Overall, the EU institutions weaken. The different ways that Member States apply state aid lead to intra-EU competition and harm the Single Market. It also reinforces the drive of consumers to buy local. This creates favourable conditions for SMEs operating locally, but also for the black economy which exploits tax differences and uses the weakness of companies and entrepreneurs in a context of shrinking margins. Government agencies have few resources to audit and track fraud. In this time of severe economic downturn, international pressures and economic disparities within the Union, the euro's international standing has also weakened, putting the currency under threat. As the economy has been both slowing and changing dramatically, local production has become even more important to consumers and e-commerce suffers. Tax harmonisation is a distant dream, and sustainability a second-tier concern. Unemployment is high. The difficult international situation means that exporting to some countries has become more difficult but preferential agreements exist with others. A polarisation around the approach to trade exists: while some preach protectionism, others believe in more trade cooperation. The overall result is selective protectionism to accommodate everyone. The decrease in trade with non-partner states and increase with partner states leads to less VAT and duties revenue. Selective trade rules linked to climate change have been put in place (e.g. no imports on product having had high CO2 emissions). Meanwhile, the influence of multilateral institutions has declined, and the WTO is a shadow of its former self.

	Scenario 3 - Customs under strain
Environment	While the EU is relatively well endowed with agricultural resources and can more or less feed its population in spite of large impacts from climate change, the situation is less favourable regarding many other resources. For many minerals and resources of biological origin such as rubber, the EU remains very dependent on other regions. Regarding water, large parts of Southern Europe have become deserts and other regions have to deal with erratic rainfall and regular floods. These large variations in water supply affect river transport, hydroelectricity production and nuclear power. Even though the EU has managed to reduce its energy needs for both economic and geopolitical reasons, it is insufficient to rely only on indigenous sources of energy (renewable and not). Even though they are mostly highly taxed, some people still want to import oil and gas but this raises issues in view of the conflictual geopolitical context. This competition leads some EU countries to use more renewable sources and some less. In this context, waste is now often seen as an energy resource. In this general context, environmental protection efforts around the EU are unequal.
Policy	The political philosophy of the EU has evolved towards "Open when possible, closed when necessary". In this conflictual geopolitical landscape, the EU is looking for alliances on the basis of shared values and resources needs. While the reaction to the external challenges is eliciting diverse and polarised responses that put the EU under strain, 'realpolitik' makes the EU more necessary than ever some argue. The demanding international geopolitical situation requires a lot of effort on issues which are far from the citizens' daily life concerns. As a result, and although it was on the rise 20 years ago, citizen engagement is no longer a priority and only minimal efforts are taken to include the citizens in policy-making. All Europeans agree on "We all want change" but the fundamental disagreements between different groups of Europeans often lead to political gridlock. In this complex situation, there is a trend towards more disrespect of EU legislation and the scope for fraud increases. This is putting a strain on EU integration. This feeds a push for re-thinking subsidiarity with a desire for more local decisions where it makes sense and the EU level dedicated more to the geopolitical and high-level issues.
Data management & IT	In this unstable global environment, new threats emerge constantly and there is a strong increase in cyber-attacks. There are also more data-related crimes such as data corruption and data purity. In addition, the increased complexity of trade rules and tariffs have resulted in more customs formalities and increased data requirements. The legacy of the EU's Union Customs Code remains, and the Member States have distributed systems. Technological advances have, however, made it possible to increase data security significantly. While EU Member States have kept their own national customs services, in order to deal with the constantly renewed threats they now share data analysis systems for risk management and an EU Customs Risk Analysis Agency is created.
Customs capacity	20 years ago, it was expected that customs would become less visible over the years. But customs are actually more visible today. More technology is used than ever before: data analytics, tracking, sensing, scanning, surveillance software and other IT systems have become the workhorses of customs. This requires substantial investment and continuous training of customs officers. Therefore, customs budgets have been put under severe strain. Coupled to automation, this has caused staff numbers to decline strongly. Hence, while the workload increases on customs staff, they also become less in number, leading to a lot of pressure.
Business support	The EU's trade with the rest of the world has declined. As a consequence, and because the manufacturing sector is struggling, customs cooperation with trading partners internationally has become even more important to maintain exports. Indeed, exports to countries with which the EU is either in conflict or hostage to other conflicts have plummeted. International developments put pressure on EU businesses (including SMEs) which were traditionally large exporters. Overall, there is therefore a smaller volume of imports to and exports from the EU. Home sourcing and reshoring have only to a small extent compensated the decline of international trade. The trade situation, in which sustainability, trade sanctions and complex trade partnerships are all the source of sometimes incoherent trade rules, is complex. In addition, different interpretations of trade rules and customs law are common. In this situation, there is a heightened risk that SME's may take advantage of weak customs implementation. While suspected illegitimate EU businesses and international businesses are closely scrutinized by customs authorities, there is an increasingly advanced customs cooperation with legitimate EU businesses. The importance of AEO's has increased, and partnerships with AEO's are more sophisticated as data-exchange systems require long-term cooperation.

	Scenario 3 - Customs under strain
Customs policy & governance	In a context of conflicts, power shifts towards the global East and South, changing alliances and sometimes strong disagreements among Member States, customs policy in the EU has become more complex. National agendas are prevailing over a common EU agenda on customs. The focus is now clearly on enforcement, safety, security and controls. The trade facilitation is dwindling, and there is only some support to EU industry. Revenue collection is of course always there, but the roles of customs in internal security and determination of origin have become a lot more important than 20 years ago. Also, in line with the technological developments, the controls on intangible goods (e.g. files for 3D printing) have become a bigger part of the customs work. Questions have emerged about the control of the service sector, especially in the case of companies from or operating in unfriendly or embargoed countries.
Operational support	Less trade has naturally led to less customs. But on the physical side of it, there are nevertheless large numbers of safeguarding infrastructure and surveillance equipment. On the digital side of it, there are national data highway backbones for customs. Customs need to carry out cyber controls, and the control of dual-use products have also become highly important. Moreover, customs need to tackle increased white-collar crime such as VAT evasion, and regulated non-compliance etc.
International exchanges	In this time, international cooperation is poor on many very pressing issues, not least handling military conflicts and tackling climate change. In the EU national interests have the upper hand and nationalism is on the rise, and so the slightly schizophrenic nature of the union makes it difficult for it to speak with one voice abroad. This translates at international level simultaneously into protectionist reflexes and little cooperation on some sectors because of the nationalistic tendencies expressed by some Member States, and cooperation and open trade relations for some other sectors because other Member States looking for export markets to preserve their industries. E-commerce is still increasing, and on the whole, there are more and more bi-lateral agreements that are being struck. The EU refrains from being dragged into war but is the target of cyber-attacks and must defend itself. Some EU Member States are very active in diplomacy trying to deal with this very complex international scene, whether others are doing the contrary.

	Scenario 4 - 'No-Stop-Shop'
EU economy	Confronted with a need to become environmentally sustainable and an increased international competition for resources, the economy of the EU has had to slow down.
Geopolitical situation	Over the last twenty years, the scale of the impacts of climate change has shown how interdependent all countries around the world are. Most countries adopt more cooperative attitudes to actually address the common challenge. While Asia and Africa have gained a lot of geopolitical weight, the relationship between China, Russia and the USA stabilises.
Society (1/2)	Over the last 20 years, under pressure from natural catastrophes and international competition for resources, material consumption has not only decreased but also changed in nature. There is a lot less of a throw away culture. Physical goods tend to be more expensive than in the past, fast fashion is only a memory and, except in the medical sector, single use items have pretty much disappeared. After a period of strong political tensions both within and between Member States, public opinion across the EU has finally taken a resigned stance: a majority of people is of the opinion that keeping the EU is in their best interest, even if the heart is not much into it. Over the whole period, the EU economy engaged into a progressive slow down, paralleled by a slow general decline of the EU. International competition for resources and less fossil fuel use due to strong legislation to reduce greenhouse gas emissions have taken their toll. A privileged few control resources and inequality has risen, fuelling populist politics and affecting social cohesion. As often in these circumstances, the 'feel good' factor given by luxury goods means that this sector of the economy is still doing well.

	Scenario 4 - 'No-Stop-Shop'
Society (2/2)	
	Many other countries around the world face similar circumstances, reducing the appetite for large-scale conflicts. As there are few geopolitical conflicts around the globe, more and more highly educated Europeans leave the continent to pursue opportunities in the most dynamic areas of the world. In the meantime, the population born in the EU has continued to age. The situation is most acute in countries affected by both low natality and emigration, many in the Eastern part of the EU. However, inflows of climate-driven migrants, especially over the last 10 years, have contributed to rejuvenate slightly the European workforce. Policy in this area has clearly shifted towards facilitating integration and citizenship of the newcomers as the conditions for survival in the areas of the world most affected by climate change make it impossible for people to return.
Technology	In this context, European technology development has also slowed down. Limited resources have forced a focus on frugal innovation: new technologies and products aim at maintaining quality of life while reducing energy and material consumption as much as possible. As it is relatively easy to trade with international partners and the pressure to increase EU autonomy is low, high-tech developments come mostly from other areas of the world. An exception to this rule is a few critical data, AI and security technologies.
Economy	The EU has shifted largely to a circular economic model in which energy and raw material consumption are significantly lower than in 2020. Material recovery, recycling and repair have become a sizable part of the economy. In this context, GDP growth is subdued but other indicators of development have appeared to be able to monitor human development and give policymakers scope for claiming some policy successes. The tax system has clearly shifted compared to 20 years ago. Taxes on raw materials, energy and fossil fuels are very high, creating an incentive for fraud and barter. There is also more tax harmonisation at EU level. Countries have understood that cooperation was the best way forward in view of the scale of global environmental change and the interdependencies between all. Thanks to this relatively cooperative mood at global level, international trade has become freer. There are also less trade sanctions. At the same time, high energy costs and short material loops mean that the volume of international trade has remained moderate. This puts a lid on the collection of VAT and duties at EU borders. E-commerce remains in its niche. In this open global context, the economic weakness of the EU means that many foreign actors buy EU assets. Market pressure also tempts European actors to compromise on EU values. As a logical consequence of these developments, the influence of multilateral organisations has increased compared to 2020.
Environment	The strong acceleration of the impacts of climate change in a context of competition for land, deforestation and loss of biodiversity in the 2020's has led to major catastrophes at global scale. Regarding water, large parts of Southern Europe have become deserts and other regions have to deal with erratic rainfall and regular floods. These large variations in water supply affect river transport, hydroelectricity production and nuclear power (because of the unreliable nature of rivers for cooling), weighing on the economy. It has become clear that no single country or even continent can muster enough clout to mount a meaningful response against climate change and other major environmental changes on its own. Only by cooperating, both at European and at global scale can humankind stand a chance of being able to deal with the issues. All have understood that, on the long-term, sustainability is the only possible way forward. Cooperation to protect the global commons has emerged and is now quite active.

	Scenario 4 – 'No-Stop-Shop'
Policy	By 2040 policy-making is slow at EU level and in many Member States due to strong constraints from the international level and limited financial means. The need for all countries to face the global environmental threats and the realisation that global cooperation is the only meaningful way forward have led to a relatively stable global geopolitical environment. Many international partnerships have emerged, underpinned by strong international organisations. In this context, state-sponsored crime has decreased significantly compared to previous periods of geopolitical turmoil. However, non-state, spontaneous organised crime still strives, especially to circumvent high tax regimes on raw materials. In view of global population growth dynamics and economic trends, the EU has lost influence on the global stage compared to 20 years ago. For example, the UN Security Council has become more inclusive and the number of permanent members has increased. All continents are now represented. The global mood for cooperation in the face of environmental adversity means that UN-based decisions provide a strong orientation to what is left of EU development policy.
Data management & IT	In view of the many international partnerships that have been established, data exchange across the external borders of the EU is intense and smooth. However, because of persistent organised cyber-crime, technology has been licenced to provide advanced data protection and to rationalise the operation of customs. A lot of effort has been put into data harmonisation at EU level (e.g. formats), finally leading to the emergence of a common EU data system for customs. Comprehensive data management allows customs in the EU to have data pipelines and to work seamlessly with private platforms. In this context, large companies have a privileged role. EU Member States have agreed to pool resources and streamline customs operations: an efficient EU customs agency is born. Thanks to all this, the data system EU customs use has become an example for other countries around the world. The smart and efficient system developed by a resource conscious EU becomes an international benchmark. Data profiling has become routine to control and reduce threats.
Customs capacity	The evolution of customs over the last 20 years, in the face of a general reduction in resources, has been remarkable. An EU Customs Agency integrates all national customs services to generate operational synergies. As full data pull mechanisms are in place, this agency has a strong need to develop data management and IT skills. In particular, advanced data analytics are in high demand, serving the needs of a large number of auditors with a strong follow-up capacity. As there is more harmonisation and integration of customs data infrastructures, specific education programmes for customs personnel at EU level have been developed. All these developments translate into less traditional work for customs (i.e. checking goods at the border) complemented by a lot more intelligence capacity.
Business support	In this resource constrained world, physical production happens as close to market as possible and as tailored to needs as possible while keeping a very close eye on energy and resources consumption. This pressure drives R&D efforts towards frugal innovation and the need to keep material loops as short and closed as possible. Material goods tend to be expensive. In this very digitalised world, intellectual property rights have remained very important but the challenges they pose have evolved from the days when they applied to mostly material goods. In the world of Industry 6.0, a lot of the activity is dematerialised. The development and spreading of 3-D printing, now able to use a wide variety of raw materials, has changed the manufacturing landscape radically. Production units are ubiquitous and production orders come constantly from multiple customers by way of digital files. This type of "imports" or "exports" with an exchange of data without any goods crossing borders presents very particular challenges for intellectual property. It also creates a paradigm shift in how VAT or duties are collected and how people understand the role of customs. Customs operate a very cost-effective and complete real-time risk assessment. The Authorised Economic Operators (AEO) scheme has been improved. Trusted traders enjoy a 24/7 service. The IPR legal framework has adapted to this new reality

	Scenario 4 - 'No-Stop-Shop'
Customs policy & governance	We have clearly entered an era in which the main role of customs is to safeguard society and preserve the international resolve towards sustainability. As a result of two decades of technology development, the concept of what is a 'good' has evolved as the digital content of goods has increased and the border between goods and services has continued to blur. This is opening the door both to challenges in view of the dematerialisation of trade, but also to large opportunities for trade facilitation. The EU Customs Agency has invested heavily in IT for trade facilitation. The existence of numerous trade agreements and the re-emergence of multilateral efforts to facilitate international trade at global level translate into less controls at the border, less traditional revenue collection while there is now one overarching VAT scheme for the whole EU and a good connection of the EU Customs Agency with VAT authorities across the EU. The EU is now a full member of the WCO and complies with international standards. The pre-eminence of concerns for sustainability in the EU means that trade facilitation has a 'green' character: customs rules, VAT rates and duties reflect the need for enforcing high standards in terms of materials use, energy efficiency and greenhouse gases emissions to make sure that trade remains fair. There is a 'trust by default' attitude with few controls at the border but this is accompanied by a risk of high sanctions for whomever would get caught cheating.
Operational support	Overall, there is a shift in the work of customs from a transaction-based process to a system-based process as this allows more automation and 'rationalisation' of resources. Investments have led to a lot of innovation clearly oriented towards trade facilitation. It is the operational hand of the Single Window. We have now reached the point at which customs operates according to a "No-Stop Shop" model. The simplification and automation of customs processes coupled to high tech tracking systems mean that most trade is cleared at the point of dispatch and does not have to stop at the border any more. As a result, business tends to have a good image of customs.
International exchanges	In such a world, appeased geopolitically, but in which humankind is fighting for its long-term survival, there is more international collaboration but overall the EU has lost clout. The UN and its organisations are strengthened and play an active role to maintain this world order. In particular, the World Customs Organisation is now a strong body in which many rules are decided and applied at global level. In contrast to other domains, having a single EU Customs Agency is giving the EU relatively more clout in this organisation than when Member States were acting individually. Overall, export controls have been reduced but some remain regarding the export of critical resources.

8.4.2.3. Drivers of change in each scenario

How the specific drivers of change play out in different scenarios is described in the table 5 below. This facilitates a comparing and contrasting of several specific drivers between the four future scenarios.

Table 5. Overview of driver characteristics per scenario.

DRIVERS OF CHANGE	Scenario 1 - Customs for Society	Scenario 2 - Protected Union	Scenario 3 - Customs under Strain	Scenario 4 - NO-STOP-SHOP
Links between Customs and other policies	Strong	Not enough	Weak	Weak
Emerging technologies for customs operation	High with focus on environmental sustainability and social welfare	High with focus on resource efficiency	Moderate with focus on scanning and surveillance	Moderate with focus on risk assessment
Crime pressure/risks	Countered	Increased but countered	Increased	Countered

DRIVERS OF CHANGE	Scenario 1 - Customs for Society	Scenario 2 - Protected Union	Scenario 3 - Customs under Strain	Scenario 4 - NO-STOP-SHOP
Harmonisation	Fully	Fully	Fragmented	Modest
Data policy	Strong, Data exchange	Medium, Data exchange between trusted partners	Weak, Data Corruption	Common EU customs data system, Data harmonisation
Geopolitical conflicts	Appeased world	Conflictual word	Conflictual word	Appeased world
New types of products and new infrastructures from new technology	High	High	Medium	Medium
Fiscal policy	Green, harmonised	Green, harmonised	Not harmonised, not green	Not harmonised, strong green taxation
EU economic development	Dynamic	Dynamic	Slow	Slow
Cyber threats	Countered	Increased but countered	Increased	Countered
New business models	Digitalization, Sustainability, Inclusive economy	Digitalization, Resource-efficient, EU Strategic Autonomy	Tech & resources race	Circular economy drives tech
Geopolitical shift	While Asia and Africa have gained a lot of geopolitical weight, the relationship between China, Russia and the US stabilises and the re-energised European project inspires the rest of the world.	The EU, China, the USA, India, Russia, Brazil, Iran, Saudi Arabia and other countries compete for resources and influence, promoting their own world views. A major direct conflict cannot be excluded.	The EU, China, the USA, India, Russia, Brazil, Iran, Saudi Arabia and other countries compete for resources and influence, promoting their own world views. A major direct conflict cannot be excluded.	While Asia and Africa have gained a lot of geopolitical weight, the relationship between China, Russia and the USA stabilises.
Changing societal values	Strong cohesion, sustainability and welfare	Strong cohesion, protection	Low cohesion, social unrest, instability, inequality	Low cohesion, brain drain, increased migration
Management of Customs	Executive Central Body with political power & coordination role. High Representative	EU Customs & Border Agency	EU Customs Risk Analysis Agency	EU Customs Agency, focus IT for trade facilitation
Emerging technologies for products	Smart tech	Cutting edge	High Tech	High Tech

8.5 How a customs officer experiences the different scenarios

Personas are fictitious characters used to bring scenarios to life. They allow a scenario to be discovered by reading somebody's story of how he or she experiences life under a given scenario.

The process

In order to bring the scenarios to life, an expert was asked to create 'personas'. Classically, this is done by describing a day in the life of an important actor of the scenarios. Here, a day in the life of a customs officer is described during each of the four scenarios.

The output

A day in the life of a customs officer

Scenario 1 – Customs for society

"When Dimitri, my Personal Assistant Robot (PAR), considered it appropriate, it woke me up gently. We all have PARs at home. They help us monitor ourselves and live in an optimal way for longer health. They also act as information assistants. They are small drone devices that interact with nanosensors disposed in our clothes, glasses, watch or other items we wear. I also chose to ingest some, as to monitor my body for cancer and other such nasty illnesses. Dimitri also connects with other robots and Internet of Things (IoT) devices, such as the autonomous shared vehicles. As I was heading to the shower, Dimitri reported that I had a good night sleep, without any snoring or other respiratory difficulties and that all family members had a good night sleep, except Kate, my eldest daughter, who apparently went to sleep very late in the flat she has at the university where she studies abroad. I asked Dimitri for her alcohol level, but I was informed that Kate had removed my access rights to her data. OK, she is a big girl now...

My younger children arrived for breakfast late as usual. They refuse to use their PARs to wake them up. Of course, this is part of their rights, this allows to sustain the same stress I had with my parents when I was a teenager and arrived late for breakfast. The difference is that my father was driving me to school, whilst my children use the Autonomous Shared Vehicles (ASVs) that do not wait. Indeed, it is now a long time since we sold our personal cars and use these ASVs to move around. We could no longer afford having useless cars in our garages all day long as the taxation policy made this a luxury for the very few. Dimitri said the ASV will be at the door in 3 minutes and 17 seconds. I trust Dimitri to interact with the ASV in real time and monitor its arrival and progress towards the school, just in case.

As the kids have left, I can finally focus on my own program. I have a meeting with my colleagues from all European customs today. As usual, I will participate from home, connected with my virtual presence equipment to the Borschette room. We call this "Borschette" with reference to an old Commission building that is now converted into apartments for climate refugees. We do not need any more a physical meeting room to meet for business reasons. Indeed, the EU was capable, due to its good financial status, of significant investments that have cut down dramatically the need to move around for meetings. Anyway, EU level meetings are now rendered impossible by the legislation that forbids short plane trips so as to cut carbon emissions. I love this situation, first, because it allows effective and efficient telework even from my holiday home, but also because we can collaborate with any colleague in the Commission or in an EU public administration easily and efficiently. This is a good decision of the EU I think; we contribute to our sustainability efforts with a sustainable public administration.

In our meeting we have to examine how customs is progressing towards enforcing IPR protection for all private citizen data. This is a new duty for customs in Europe that we could undertake due to simplifications of the fiscal regime with the harmonisation of VAT and the automation of controls of shipments. IPR protection of citizen data held by internet operators

is necessary following the decision that citizen data belong to the citizen and not to the internet operators. It is a very delicate duty as much of this data resides in other territories, so we need strong and appeased relationships with our partners to have this enforced. We use of course as foundation our international relations with these territories that we built for traditional customs business, but this is a challenging matter as many internet businesses have built their business model on the free use of these data. Now they have to ask for permission and pay the data owners per use. Easy to say, not so easy to do. It is good that we at least all speak with a single voice in the EU; this makes us stronger in this difficult process as we share knowledge and views. It is also good that we have excellent young colleagues with detailed IT knowledge in data management and artificial intelligence; they help us understand how bots are capable to control this data use.

Going in my virtual presence room, I took my cup of coffee and remembered the old days in 2010-2020, when we were still trying to implement the UCC. At the time most of us were afraid of the future and considered that our kids would have a worse life than we had. I am glad I have lived through these years and seen that we were capable of managing this change within the EU. Now I see a positive future for my kids. A few things have remained the same since, inter alia my habit to drink coffee in meetings despite Dimitri's warnings for my blood pressure. Stupid robot!"

Scenario 2 – Protected Union

"When the telephone rang in the middle of the night, I woke up with the usual stress and tachycardia, fearing bad news. My son is an officer in the European Navy and is assigned to the aircraft carrier that patrols to protect the oil and gas plants in east Mediterranean, basically in Cyprus, the Greek border and the south of Crete. Bearing in mind the many threats, the Europeans have finally decided to create a substantial European army. My kids have grown up in this environment of international systematic tension, and my son decided to work for the navy to actively participate in the protection of EU but also to embrace a career that brings him close to the sea, a family passion. I am proud of him; he is a bright officer who finished first of his class in the European war school. The tensions in the EU neighbourhood, that started years ago, continue to exist and war engagements are not uncommon. The protection of European assets is necessary and soft power approaches have been abandoned by European politicians in the middle of 2020s.

Luckily, this was not the Navy, but the office. A crisis is looming and I chair the crisis management team. Apparently, there is something big going on with the safety of the border in Poland; the system reports cyber-attacks, maybe from Russia, that could aim at preventing our risk system to function properly. I was somehow reassured, I would rather hear about this than the life of my son being threatened, but this was still highly important. I jumped out of bed, put my uniform on and called for the office's autonomous vehicle to pick me up. With the merge of customs and border agencies, officials were given a formal status that requires wearing the uniform at all times during orange or red alert levels. Unfortunately, we have had the orange level continuously for a few years now. I gave instructions for the risk assessment and indicated that I would declare the crisis officially after a more thorough assessment that I have asked the security people to give us as soon as possible. We have to avoid a diplomatic crisis if the attack is led by the actors in organised crime; this would not be the first time they attack our system.

I grabbed my coffee and jumped into the car. Whilst it was driving me to the office, I checked the crisis dashboard to see whether there were any other reasons to worry. I could see that our access to specific social media data was interrupted for some time. This is often the case when organised crime tries to hide the organisation of some coup. The access to all social media systems has been authorized by law and only the operators that provide the access have the right to operate on EU territory. This is miles away from the soft policies of the

years 2000 to 2025. We cannot protect our territory properly if we have insufficient intelligence. I called the office and asked them to check precisely the reasons of this interrupted access.

I also asked them to check the declarations of shipments arriving in Poland. They will have to query the trader systems for details of the shipments and persons involved. This is an evolution of the control system put in place in the 2020s, as we these days have open access to proper intelligence from our partner agencies at the borders.

In the office, I went to the "war room", were we manage crises. I looked at the immense screens and the graphs showing the nature and size of the attack. My team was there, and we had to examine the information at hand. The Poles were there too, connected by the advanced video system. We also had to examine our capacity to defend and prepare a counter cyber-attack. I needed to be careful and precise before inviting the crisis management team for decisions.

Today we act as an operationally unique organisation. The time of the loose connections between customs and even worse with police is long over; now we are a unique agency, with bright colleagues from police and border control that integrate our teams. And we all have a job to do: protect the EU border.

Enough of general considerations, let's work on this crisis!"

Scenario 3 - Customs under strain

"A bad night's sleep as usual.... Lots of difficultly to get things going, stress nightmares. The crisis that has developed puts our systems and ethics to test. And my family under financial strain. My salary has been reduced; my kids cannot leave home because they have no jobs. The eldest has announced he will leave and go abroad: he has found a job, reasonably paid. He will be one of the many leaving this country. Some of my classmates do the same in despair, they cannot feed their families and depend on the reduced pensions of their old parents.

The crisis has deepened the social class differences. There are areas in town that have developed into ghettos Shops have shut down in previously commercial streets, house prices and rent fees have been slashed and anyway most of the rents are not paid on time. In other areas, on the contrary, opulence is still displayed. In these neighbourhoods, most of the time people ignore the other parts of town; they keep their eyes shut and ignore the problems of the many. Luckily, the church and other charitable bodies distribute food every day, since in the poorest areas people do not have enough. Obviously, a credit crisis is also ongoing: how can people pay their mortgages with reduced income? How are banks supposed to recover their money with houses that are no longer worth their purchase price? There is high social despair.

Well, we still have to work, but with what passion, courage, motivation? Times are hard. We have a web of new technology and equipment for which we need skilled staff, and the salaries we offer to newcomers with the right skills make them run away. Clearly, we need a new policy for salaries. We need to be able to hire staff to fill empty positions; empty chairs do not run complex computer systems yet.

We also need to combat fraud, which has rocketed. Everyone works for themselves, there is no more trust in the government and the political system bounces from populism to another form of populism. People do not trust anybody anymore and their fears are being exploited and manipulated by the political forces. So, they all try to cheat, at all levels and I must say with reasonable success. I also do not pay VAT whenever I can avoid it and I work 'black' sometimes to assure a second revenue stream for my family. Fortunately, my computer skills are still worth something on the market.

Although we are strongly affected by the crisis, we are still part of the European club. It has developed to a three-speed club, with the rich in the upper floor, the normal on the ground floor and the few really in deep trouble in the basement. Essentially, the rich

pay the others for all good university graduates that leave their own countries to work there, but this leaves an immense gap in the middle-income and poorer countries that lose all capacity to innovate. Their resources and infrastructures are purchased by the richer countries as well as other continent players, e.g. the Chinese and the Russians, that invest heavily in all EU infrastructure and resources. Many in the south see their traditional tourism resources evaporate as a consequence of global warming and desertification.

For customs, we can all use common data analytics, and this does allow risk analysis and control in theory. However, bribing has increased and there are rogue colleagues that circumvent their salary loss in that way rather than getting a second job as I do. I cannot blame them; family survival is a top tier objective…

We need a political and societal turn; this is not sustainable. We need less populism, more visions for the future. We need more solidarity, more sustainability, more frugality at all levels. I think I will ask to be assigned to a smaller town, next to the countryside. Here the ghettos, the social unrest and the black market make life awful. I need some fresh air."

Scenario 4 – No-stop-shop

"What a form! I feel great. With the rejuvenation intervention on my DNA that I did 5 years ago, paid of course by the social security, I feel stronger, fit, and in good health. I was fearing the increase of retirement age, which is now over 75. Clearly now there is really nothing to worry about any more, other than how we are going to pay for the pensions of all those people that reach 110 in good form. Of course, the reduction of health expenses that we achieve through DNA manipulation is of great help. And I am proud to contribute to another major contribution to our social rights schemes: the proper collection of customs duties and VAT.

When I was 68, we were offered either an increase of our social security levies, or the manipulation of our DNA so as to profit from the research that tends to make humans almost immortal. This technique, initially restricted to the very wealthy of this world, has rapidly been optimised to support those that accept to work longer than to 75. The objective here is not immortality, but a better health so that we work longer and contribute to the pension fund. We can thus alleviate the reduction of births in the country. This technique is also employed to make some people smarter in the most advanced societies. It is a disruption on the development of humankind, something that makes some people different in relation to illness and ageing. I am unsure where this will bring society, but for now I feel great.

As we sold our cars 10 years ago, I usually go by public transport to the office. Today, however the sun was shining and I decided to walk the 6 km to the office. I therefore had the time to reflect on my life in the last 20 years.

What has been great at a personal level is the sustainability turn, and the end of overconsumption. We have rediscovered the beauty of cultivating a small garden, repairing equipment when it fails, walking in the countryside, having simpler pleasures of everyday life. We have stopped finding excitement in week-end city trips, but rather stay on the beach under a tent. At the same time, biotechnology has developed to keep us in better health through DNA manipulation. Artificial intelligence also allows having better diagnostics of people's diseases and rationalises the use of doctors so that they only intervene when AI cannot. Although these changes are potentially dangerous, the appeased international climate has allowed society to only reap the benefits from them. I hope this will continue.

On the professional side, I have seen the shift towards better control put on the neo-liberal model through better tax policy and better enforcement of it. As the model shifted towards more services given to the elderly, the politicians found themselves in the need to finally control the fraud on VAT and excises that was considered for years as a given. They also changed the rules for taxation for companies, so as

to avoid tax shopping in the EU. For customs, they pushed for facilitation of legitimate trade, rationality in the organisation and security of society through pulling of our intelligence against organised crime, through better control on imports of drugs etc. These have been harsh changes considering the looming competition at the end of the 2020s and the immense VAT gaps at the time.

Customs have been exemplary in the implementation of data pipelines among transacting commercial entities and their use by customs, using data analytics and artificial intelligence for the control of the payment of duties. Actually, we shifted the logic from tracking goods to tracking the responsible for the tax payment, keeping - at all times and for all transactions between commercial entities - a clear accountability for the tax due. We used this principle also in the EU for the tracking of VAT and excise. There, the data pipelines are actually implementing electronic invoicing between companies and use the same principle of accountability for the tax due all the time. The tax administration licenses the operation of these pipelines to private operators through a form of Authorised Economic Operator (AEO) and thus has a free access to the big data collected. These changes have allowed for sanity of the business and drastic reduction of tax evasion.

These essential changes required drastic and voluntary approaches. We have understood that we cannot continue to work with systems designed 50 years ago and we had to rethink them. It was not easy, as people tend not to want to change. But in front of the harsh consequences of climate breakdown, demographic changes, migration pressure etc., we have seen that we need some drastic adaptation in the EU. This took time to decide about and to implement. We are now in good shape, still struggling with some tax evasion for VAT and excise in some parts of the EU where this was traditional, but thanks to a unique administration and rational decisions, we are getting there.

Well, I arrived at the office. In the cafeteria the coffee is still the same. We need some AI for coffee makers in the administration, or a DNA patch to be able to ingest this drink they call coffee. This is a change nobody will resist to!"

8.6 Building a tool to explore the scenarios: the EU Customs Scenario Exploration System

The Scenario Exploration System (SES)[57] is a platform that makes it possible to use any set of scenarios to engage with any interested party. It makes participants understand the scenarios and what consequences they could have for the issue they are interested in. This takes place in a systemic perspective, each participant playing a relevant role during scenario exploration.

The process

While scenarios should provide compelling storylines about how the domain of interest might look like and function within the selected time horizon (here Customs in the EU in 2040), the richness of understanding that this provides tends to be limited to those who participated in creating the scenarios. This is not very surprising as building scenarios takes time and effort. Experience shows that sharing this understanding with people who were not part of the scenario building requires specific interventions. In addition, if one wants to be able to reach many people, and especially decision makers, these interventions must be as short and efficient as possible.

Often, rather than understanding the intricate details of scenario dynamics, potential users are more interested in understanding the implications that the scenarios could have on their specific issue of interest or on the behaviour of a particular stakeholder (e.g. themselves in the future). This is what allows them to start turning the scenarios into

57 More info on the SES here: https://ec.europa.eu/knowledge4policy/foresight/tool/scenario-exploration-system-ses_en

a way to feed strategy development. The Scenario Exploration System is a foresight tool that was developed to do just that in less than 3 hours.[58]

In the foresight project, an EU Customs edition of the Scenario Exploration System (SES) was co-created with the group of stakeholders. This process description can be found in annex 2.

The output

The EU Customs version of the Scenario Exploration System (SES), including all elements, can be downloaded from the Competence Centre on Foresight's website[59]. Among the material, you can also find a detailed instruction of how to use the tool. The tool can be useful for any organisation interested in or affected by the future of customs in the EU.

In the EU Customs SES, the four main scenario explorers (roles) are a *Customs policy maker*, a *Policy maker* (in a relevant policy field), an *EU business*, and a *Non-EU business*. Another important role is the *Public voice* who vets the actions of the other actors. Together the explore two opposite future scenarios for Customs in the EU: 'Customs under Strain' and 'Customs for Society', or 'Protected Union' and 'No-stop-shop'.

This edition of the Scenario Exploration System, as well as all other editions, is released under a Creative Commons license (CC-BY-SA). Anyone is free to use and modify it, but the adaptations have to be shared under the same conditions and the work must be attributed to its originators.

8.7 Exploring the scenarios

Immersing oneself into different scenarios, i.e. exploring scenarios, can stimulate a reflection on possible future realities and the implications on a specific policy field. This can support strategy development.

The process

Strategy development processes are often confidential and only involve a limited number of senior decision-makers and their advisers, possibly with the help of consultants. This is a 'closed' strategy process. However, there is a lot of value in involving a broad range of stakeholders in strategy development, especially for public policy. This is called 'Open Strategy' in the academic literature and is defined as "*an openness in terms of inclusiveness, in other words, the range of people involved in making strategy, and an openness in terms of transparency, both in the strategy formulation stage and, more commonly, in the communication of strategies once they are formulated*".[60]

In the case of this project on the Future of Customs in the EU 2040, we have followed the so-called 'process branch' of Open Strategy. The purpose of this approach is to enhance strategy formulation by making the broadest possible range of relevant stakeholders participate. In our case, this has taken place by combining a scenario building approach inclusive of a broad range of internal and external stakeholders with a scenario exploration inclusive of all policy makers involved in the implementation of the future strategy.

The opportunity for the scenario exploration came through the organisation of a High-Level Seminar on Strategic Foresight and the Future of the Customs Union by the Finnish Presidency of the EU at the end of October 2019. The idea of using the Scenario Exploration System (SES) to engage with the Director-Generals of the various customs administrations across the EU emerged very early in the process, at the occasion of the scoping workshop (February 2019). The Finnish Presidency was looking for a truly innovative way to brainstorm about the future of customs. In response, the use of the SES was offered as a possibility in principle. The concept was clearly attractive but people were not familiar with the tool and could not commit on vague promises. The idea

58 Bontoux et al., 2016

59 https://ec.europa.eu/knowledge4policy/foresight/future-customs-eu-2040-ses-edition_en

60 Whittington et al., 2011; Seidl et al., 2019.

matured progressively as the scenarios were being developed and the final go ahead for the use of the SES in Helsinki came shortly after the customs edition of the SES had been developed.

In view of that, the steps presented here focus on how a scenario exploration can be embedded in a strategic brainstorming workshop to serve its purpose.

One scenario exploration table, whether physical or online, can cater to a minimum of five and a maximum of about 15 participants in addition to the scenario exploration master. As a consequence, for large events, the number of tables (and therefore scenario exploration masters) has to be adjusted depending on both the number of people foreseen at each table and the total number of participants.

The number and types of roles are selected prior to the event to serve the desired objectives optimally. This selection takes fully into account which participants will attend. A standard version of the SES contains 4 scenario explorers and one Public Voice. At the event in Helsinki a 'media' role was also added. There, in addition to its role of summarising what happened through the writing of headlines, the person acting as media was responsible for collecting elements from the conversations taking place during the exploration that could contribute to answering the three strategic questions that had been selected for the event. These elements were then collected to prime the brainstorming scheduled after the scenario explorations.

In order to ensure a maximum breadth of reflection and perspectives, the 8 tables of the Helsinki event were made to explore the scenarios in different ways.

STEP 1 (10'): Explanation of context and purpose of the event, introduction to the scenario exploration.

STEP2 (15'): Distribution of the participants to ensure diversity in function of the number of tables and roles foreseen and brief introduction to the tool in plenary. If the event has more than one table, the scenario exploration masters (facilitators) then take over, each at their table.

STEP 3 (160'): Scenario exploration.[61]

STEP 4 (45'): Debriefing with scenario exploration masters and persons acting as 'media' according to prearranged instructions and preparation of the subsequent classic brainstorming.

STEP 5 (15'): Organisation of the sub-groups for brainstorming. Each group was arranged so as to have half its participants coming from scenario explorations with scenarios 1 and 3 and the other half coming from scenario explorations with scenarios 2 and 4. Again, the objective was to have a maximum diversity of perspectives.

STEP 6 (120'): Moderated brainstorming in group to answer the three strategic questions:

What key elements for the future of customs emerged from the scenario exploration?

What are the current strengths and weaknesses of the Customs Union?

How do you see the future state of the Customs Union in 2040?

Each of the groups had a moderator and a rapporteur to make sure that all relevant elements of conversation would be harvested.

STEP 7 (90'): Consolidation of the answers to the three strategic questions: Moderators and rapporteurs meet to compile and analyse the data from each of the brainstorming groups and prepare a comprehensive report for all participants.

STEP 8 (30'): Reporting back: An overall rapporteur presents the overall results of the event to all participants. This material is then available for subsequent strategy discussions.

The output

The organisation by the Finnish Presidency of the EU of a High-Level Seminar on Strategic Foresight and the Future of the Customs Union provided the

61 See detailed instructions in the SES material: https://ec.europa.eu/knowledge4policy/foresight/future-customs-eu-2040-ses-edition_en

opportunity to involve the highest level of customs administrations across the EU and officials from the European Commission, as well as the Secretary General of the World Customs Organisation.

At the event, the EU Customs edition of the Scenario Exploration System (see section 8.6.) was used by over 70 participants, most of them Directors General, Deputy Directors Generals, Directors and key collaborators from customs administrations, who engaged in the exploration of all four scenarios generated under the foresight process. The purpose of the event was to foster discussion on strategic questions for the future of customs in the EU, and those discussions are summarised below. 87% of the participants felt that the scenario exploration helped them to develop a strategic perspective. The full feedback from the participants can be found in annex 3.

These discussions were followed by the elaboration and adoption of a formal declaration, expressing the desire from all participants to "*apply Strategic Foresight in a systematic fashion to support the development and future-proofing of the EU Customs Union*" (see annex 4).

What key elements for the future of customs emerged from the scenario exploration?

Participants noted that the dynamics of what happened during the scenario explorations depended to a large extent on who was playing. However, the diversity of circumstances around the various tables led to a number of interesting observations. There was a unanimous feeling that all scenarios were realistic, but at the same time, and unsurprisingly to many, that there were constant surprises during the scenario explorations. Participants realised that the roles of the Public Voice and of the media were crucial.

In many cases, people observed that customs were not paying much attention to business but were rather driven by their own internal logic and their own duties. The diverse sets of events occurring at the various tables also led people to compare and contrast very reactive strategies to more reflective approaches. In particular, crises occasionally prevented cooperation but sometimes had the opposite effect and led scenario explorers to cooperate better and through that finding solutions. All in all, people saw that cooperation increases cooperation. In all cases, people felt that trade facilitation with non-EU businesses was complicated. Action (and the lack of it) was noted to have a cumulative effect – acting early enough and fast enough had a significant impact on outcomes.

A broad consensus emerged that working together is usually the key to overcome difficulties. Often, policy-makers were an impediment to trade, sometimes causing trade to back up or even to relocate outside the EU in extreme cases. In general, a lack of governmental support brought strong dynamics between the scenario explorers. Customs were also constantly under significant influence from outside. Across the various scenario explorations, the private sector tended to be more flexible and dynamic than customs or policy, with a strong problem-solving attitude.

What are the current strengths and weaknesses of the Customs Union?

Participants remarked that the EU is a very strong global player but slow at the same time. The flexibility of decision-making is low and discussions about who has legal competence to do what do not help, but active preparation can mitigate this to some extent. At the base, there is a need to define a common ground on what the core business of customs is and then move forward.

Participants also observed that in times of crisis, the rule book usually gets dropped and ad hoc decision-making takes place. There is therefore a need to make legislation as simple and flexible as possible to be able to reflect what happens under all four scenarios, all realistic. Different practices and ways to implement legislation at national level add a further level of complexity. Slow response times are also due to unsatisfactory coordination and territorial fights between authorities. The current coordination and cooperation on the EU level and between

Member States should be enhanced, especially avoiding overlapping visits, surveys and projects. With greater alignment one also must consider structural and organisational integration. So far, from the integration point of view, some of the current structures are illogical.

The Customs Union should have the power to influence policy but policy objectives need to be clarified and streamlined. One key challenge is how to successfully implement one customs process serving several policy areas. Customs have many unique competences to support new initiatives such as carbon taxation, but coordination is not enough: there is also a need for better alignment with different policy areas. Clear identification and definition of priorities and risks in common with other areas (including sanitary and phytosanitary rules) are needed. In particular, ways must be found to balance different risks.

Also, while there is common European legislation, the resources are in the hands of the Member States and in several cases not even customs services. This means that more tasks given to customs does not always translate into more resources to implement them.

Issues related to customs' image are not purely a communications problem: they impact attribution of resources, attractiveness, etc. Building a compelling narrative is challenging, but needed.

However, the honesty of customs administrations towards themselves is a great strength in the Union, as is common legislation. For third countries, the EU and its common rulebook is an example to follow. In addition, while the desire for greater integration is clearly a strength, there can also be strength in diversity.

Questions were raised about whether customs were actually clear on their policy objectives as regards data, digitalisation and AI and whether they depend on other policy objectives. Integration is clearly perceived as a source of strength. People also called for more cooperation among Member States and felt that customs have unique competences that are mostly not recognised by others and not leveraged by themselves. There is clearly a need for the right data but also for the right tools and to avoid data overload.

Regarding trade facilitation, there are more ways to facilitate trade than simply by speeding up clearance for business; the best would be to abolish customs clearance. Questions emerged around what e-commerce will be like in ten years, the circular economy, industrial re-shoring, and the fragmentation of the global economy.

On the issue of human resources, people recognised the need to bring in new skills, training (how to ensure capacity with current staff) and proposed setting up joint training centres for EU Customs.

Overall, there was a strong feeling that customs already suffer from mission creep (going beyond the classic mission of customs) with a realisation of differences of perception and treatment with peer organisations such as Frontex. This seems to be leading to an identity crisis with a realisation that customs cannot stay the same until 2040 and should make an effort to increase their own visibility. Are customs a victim of its past successes?

How do you see the future state of the Customs Union in 2040?

After having recognised the trends mentioned previously, a number of issues perceived as essential for building a future vision were discussed. People recognised the difficulty to have perspectives beyond a 5-year horizon as customs are mostly rules-based and operationally oriented.

In terms of how participants saw the future state of the Customs Union in 2040, there was a call to increase the visibility of customs in a positive way. Today, customs are visible mostly in a reactive way with reporting and promotion usually following seizures and operations. More positive "day-to-day" visibility would help to attract new talent and retain current ones. There must be a better realisation of how customs, through its modern operations, are

improving quality of life for citizens. However, “it is hard for other images of customs to compete in the public with a Labrador”.

Participants asked a number of fundamental questions to build on for creating a vision for the future of customs. Do customs have a corporate identity? What are the areas to highlight for further cooperation? What are the governance options, the possible organisational models? What does society really want customs for? Should the definition of “goods” also cover digital products? In any case, the focus cannot only be on the border.

In spite of the sensitivity of the issue, the question whether to have a Customs Agency could not be avoided, with a general agreement that form should follow function. A model based on voluntary cooperation was proposed: an agency with an opt-out. Is that a possibility? Would one more agency in the union actually help to get visibility? Customs Union Performance (CUP) indicators and key performance indicators are important to measure successes and gaps.

Skills need to be harmonized to a certain extent across the EU but the implementation of the Competency Framework is not uniform. Are customs aware of what skills are actually needed? Certainly, future technologies will require a harmonized approach. Information exchange and interoperability will translate into a single pipeline of existing information instead of questionnaires. The question of whether a single data interface for single Member States could evolve into a single interface for the EU remains open. The EU is a facilitator of collaboration, not a centraliser per se. What is the eventual added value from harmonization?

A number of concrete ideas for the future of customs, on which there was a high level of agreement, were also formulated.

A strong competency framework with identical skills across the EU should be made mandatory. Projects such as CELBET and expert teams should be further promoted. A corps of EU customs officers should be created to fill gaps of competences in the Member States (rapid deployment customs teams?). Based on experience, there was a clear desire not to waste money on short-term solutions and to engage ECOFIN more actively.

The role of the European Commission’s Customs Policy Group (CPG) should be exploited better, for example by setting up a group that develops terms of reference and a roadmap for a future customs administration and its vision document. This is something that participants felt could be put on the next CPG agenda after the event.

There was also the expression of a clear need to map concretely the strengths of customs in the EU and to put them at the core of the future vision. As customs work in coordination with many organisations, mapping other organizations’ governance and competences in order to increase the agility and speed of EU Customs reaction in crisis was seen as a useful idea.

Ultimately, participants felt that the basis of the future vision for EU Customs should be:

”We want to be the best in the world”.

8.8 Creating a vision

The purpose of a vision is to set a direction of travel and to steer action while engaging and motivating people to build a preferred future. A vision is a brief description of the future that a group of people would like to build together.

The process

A vision is an aspirational image of the future. It describes where one wants to be at a particular point in the future. One of the important contributions of foresight is to help people design meaningful, attractive, credible and motivating visions.

For a vision to fulfil its role, it needs to have a number of characteristics. First of all, it must be

future-oriented with a long enough time horizon. It must also be credible, engaging and challenging. However, its ideal nature should still be perceived as being achievable by the people for whom the vision is created. To facilitate its achievement, a vision should also be co-created (to maximise buy-in), clear and stable along a sufficiently long period of time to facilitate investment and long-term strategy development.

To ensure that a group will stand behind a vision, it is important that this vision is aligned with its values, ethics and principles, sometimes even stating them.

As a result of all this, a vision often follows a clear structure. It first describes who or what the group, system or organisation will be and its reason for being (function). It then presents the values and/or principles that will apply and how. Sometimes, a vision can go as far as adding core needs and requirements to the first two parts when these are deemed worth stating for a particular organisation.

A good vision is:

- Future-oriented, with a sufficiently distant time horizon to go beyond the usual range of planning.
- Ideal, to give an inspiring positive image of the future to achieve something better than today.
- Engaging to make sure that it can motivate people.
- Co-created with as many relevant stakeholders as possible to ensure broad buy-in.
- Credible so as to avoid the vision being abandoned as unrealistic.
- Challenging to avoid complacency and generate enough momentum for progress.
- Clear so that all concerned understand it and can work towards it.
- Stable, to make sure that people can use it reliably to set long-term goals.
- Achievable, so that people can build enough confidence a successful achievement of the vision.

A template for the key elements of a vision, forming a structure, can help build a good vision. In our case, we started by asking the following questions for EU Customs:

- What do we want to be?
- What for? What functions do we want to have?
- What values and principles do we want to hold?
- What are the key needs and requirements? (This last question was optional)

In order to generate a first draft of the vision for customs in 2040, a vision building exercise was held with the original diverse group of stakeholders. With the above definition of a vision and key questions in mind, and helped by vision-relevant keywords harvested from previous policy documents and from the High-Level Foresight Seminar held in Helsinki, participants organised the 50 or so visioning elements into a vision building template.

In the present case, the visioning process was implemented with essentially the same participants who had developed the scenarios and the EU Customs edition of the Scenario Exploration System. Some had also participated in the scenario exploration in Helsinki.

The visioning process for the EU Customs consisted of the following steps:

STEP 1 (20'): Recall background of the project, overview of previous steps and objectives of this exercise.

STEP 2 (30'): Provide participants with a historical perspective on the EU Customs Union. This gives them a sense of the long-term over the past and how much change has taken place.

STEP 3 (15'): Remind participants of the reality of the customs system in the EU today: the starting situation before embarking on visioning per se.

STEP 4 (20'): Explain to participants what a vision is (its goal, characteristics, structure – what, what for, how).

STEP 5 (20'-30'): Effective start of the visioning: mapping of relevant keywords collected from existing policy documents, from the scenario exploration session and from the ice-breaker organised at the start of the day according to the vision structure (post-its on a wall).

STEP 6 (20'): Ask participants to work in pairs and draft a first vision text using the proposed structure on the basis of the available elements. People are free to generate new ideas for the vision.

STEP 7 (+/- 150'): Combination process: the pairs are asked to join other pairs (one or two depending on the total number of participants and the desired number of rounds) and consolidate their contributions according to the same template. After a given time, the groups are asked to pair up again and repeat the exercise. This process is repeated as many times as necessary to obtain one consolidated draft vision in plenary. In the case of this project, steps 6 and 7 went through 5 iterations of 15 min, 25 min, 40 min, 30 min and 30 min before coming up with a first draft consolidated vision.

STEP 8 (40'): Come back to the draft vision with a fresh look. Finalise it in a plenary discussion with all stakeholders.

STEP 9: Sharing the draft vision with the project's Steering Committee and with national customs administrations from all EU Member States for comments. A few constructive comments were made over a few weeks.

STEP 10 (40'): Passing the vision to the political level. Presentation of the updated draft vision and of the process behind its creation to representatives of all EU Member States in a workshop setting. Final discussion of the draft vision and finalisation of the text; endorsement.

The output

The output of the vision-building, the co-created vision, is detailed in Part 1, section 5.

8.9 Roadmapping

Roadmapping is a method that generates answers to the question 'what needs to be done' along a timeline corresponding to the time horizon of a vision. It is a flexible tool to harvest practical ideas to feed strategy development.

The process

In this project, the aim with this method was to explore how the vision for EU Customs in 2040 can be reached and show that the way forward is not predetermined. Practically, this was done by using a thick line on a large sheet of paper as an easy, graphic way to communicate a sense of progression and time frames towards 2040. The roadmapping method was used here not only as a way to collect concrete ideas, but also to involve those most likely to implement the policy to achieve the long-term vision. Developing their feeling of being part of the construction of the common European future for customs was also one of the reasons.

In this case, two roadmaps were created, exemplifying that achieving a vision does not necessarily set people on a unique possible course: more than one path can lead to Rome. The following steps were taken during this roadmapping exercise, which involved a high number of participants (around 70).

The participants were asked to split into eight groups of about ten persons each. Four groups were asked to construct a roadmap to the vision for a world that would be resource constrained and the other four to construct one for a world that would not be resource constrained. The small groups were then given 30 minutes to identify the steps that would have to be taken on the way to achieve the vision and to write them on post-its and place them on a large sheet of paper with a timeline from today up to year 2040.

At the end of the allocated time, the sub-groups were asked to merge by two and to consolidate their work. After 30 minutes, they were asked to merge and

consolidate again into two big groups of about 38 people each.

STEP 1 (30'): Start of the roadmapping - The participants are split into two large groups (A and B). One group is tasked with developing a roadmap in resource-constrained conditions and the other in optimal conditions. Each of these groups is split further into 4 groups of 6-8 people, each of which receives a timeline to 2040 split into 5-year steps on a large sheet of paper. Their role is to imagine a set of steps necessary to reach the vision and to place them on the timeline to 2040 (1 milestone per post-it). This work must be performed taking into account the perspectives from all stakeholders.

STEP 2 (30'): Merge 1 - The groups are asked to merge two by two within the A and B camps. They reconcile and merge their draft roadmaps. The identified milestones are clarified.

STEP 3 (30'): Merge 2 - Again, the groups are asked to merge two by two within the A and B camps. They reconcile and merge their draft roadmaps. The identified milestones are clarified. The A and B roadmaps are ready.

STEP 4 (45'): Sharing results – The draft roadmaps A and B are presented to all participants and discussed in plenary. Points are clarified.

STEP 5: Editing - After the workshop, the draft roadmaps are cleaned and edited for the sake of clarity. Milestones are clearly identified and defined.

The output

The two roadmaps obtained at the occasion of this exercise are presented as Tables 3 and 4 (see section 6). They are quite comprehensive and take due account of the stages that are already planned in policy for the first few years. It is interesting to note that a customs agency seems to be required under resource-constrained circumstances but not necessarily if resources are plentiful. While there is a significant degree of overlap between the two roadmaps, there are also some differences both in terms of timing of some unescapable steps and in terms of what milestones need to be achieved. The yellow highlighted milestones in the roadmaps were further developed in the next step of the process (8.10).

8.10 From roadmaps to possible actions

An essential role of foresight is to generate actionable outcomes. This exercise allows to collect as much know-how, ideas and experiences from the participants as possible, to gather practical insights to enable the EU to take action towards the vision, in line with the ideas generated about the roadmaps. In addition, the possible actions are attributed to specific stakeholders who could act upon.

The process

The starting point for this exercise were the milestones in the roadmaps. Each milestone was attributed to a pair of participants, whose task was to fill the template shown in figure 6 for 'their' milestone. In essence the work consisted of defining what conditions (pre-requisites) had to be fulfilled before for each milestone to be achieved and who should do what in that respect. The purpose of this process was to make the roadmaps as operational as possible. This was achieved by taking an in-depth look at each milestone, identifying obstacles to overcome and actions to take. This exercise was intended to provide concrete elements to feed the reflection of the policymakers when thinking about the strategy to bring the Customs Union "*to the next level*".

As there were about twice as many milestones as could be processed, the JRC team organised a collective prioritisation exercise. Participants were each given 5 sticky dots that they could use to vote on the milestones they considered the most important. This gave a clearly distinctive scoring (most voted versus least voted) that allowed an easy attribution of 28 milestones in a decreasing order of priority to pairs of participants.

This exercise was organized in the following way:

STEP 1 (20'): Process explanation and definition of the requirements for achieving the milestones in plenary. Each milestone is attributed to a pair of participants who will have to identify who has to do what by when to achieve it. As far as possible, the identified strategic objectives should be SMART. This work is guided by achievement templates (see annex 5).

STEP 2 (45'): Attribution of milestones – As the total number of milestones was close to 60, it was clear that not all could be looked at in detail. As a result, participants were asked to prioritise them by voting. Each participant received three dots of colour that they were asked to use to identify the three milestones on both roadmaps that they personally thought were the most important. This provided a clear order of priority. Following this, the JRC team then went through the milestones by decreasing order of priority and asked who would be interested in filling the template for each milestone. 28 milestones could be covered (highlighted in the roadmaps).

STEP 3 (20'): Filling the milestone templates – the pairs joined a workspace and filled jointly the templates. Once their work was complete, each filled template was posted on a large wall.

STEP 4 (40'): Reviewing the milestone achievement templates – once all had finished their work, and to strengthen the reflection behind each milestone, participants were invited to a gallery walk during which they could review all the milestones they were interested in and make comments and contributions.

Once this work was completed, it was useful to take a step back and a more strategic perspective on how best to implement a policy towards achieving the vision. As a result, the Commission was interested in involving the Member States in thinking about which tools could be needed at EU level to manage the Customs Union on the way to 2040 and implement the roadmap.

STEP 5 (15'): Provoke a reflection on the tools needed to manage the Customs Union and the roadmap at EU level. The questions are: What is available? What would be needed? 8 groups are then set up in parallel to brainstorm. Each is given a role, depicting which perspective to take during the brainstorm:

- Group 1 & 2: DG TAXUD
- Group 3: DG TRADE
- Group 4 & 5: Member States with predominant EU external land border
- Group 6 & 7: Member States with predominant EU external sea border
- Group 8: Member States with no EU external border other than an airport

STEP 6 (30'): Group brainstorming - Identify tools to implement the roadmap

STEP 7 (40'): Reporting back and compilation of all the ideas for tools. One group starts, others with the same ideas add to it, etc. until all groups have given all their ideas.

While this material confirms naturally the crucial and central role of the European Commission, it also confirms the essential role of the Member States for each and every milestone. It is clear that one of the most influential roles of the Commission is the one of coordination. However, this body of work also shows that the Customs Union is a strongly collective endeavour in which the Member States have a major responsibility and for which Member States and the Commission must work very closely together. The other stakeholders such as economic operators or technology suppliers have minor overall roles but are critical for a few specific milestones (e.g. for the enhanced AEO scheme, for IT systems etc.).

The output

The table 6 presents the 28 milestones that were analysed in detail by EU Member States and Commission experts. The detailed outcome can be found in the annex 6. The output of the group discussions have been presented in Section 6.

Table 6. The 28 milestones that were analysed in detail by EU Member States and European Commission experts.

MILESTONE	TIME HORIZON
Start and complete analysis of the current situation to provide a starting point/baseline for the vision	2020-2022
Customs Action Plan and communication campaign for 2040	2020 ongoing
Council endorsement of high level OG meeting	2022
Implementation of the Single Window (in case of limited resources)	2025
Improving CELBET and transforming it into a permanent structure	2025
Single Window at EU Level	2026
Customs Erasmus	2027
Common risk management (common database for predictive analysis)	2028
Common infrastructure and equipment	2028
Rapid deployment teams implemented	2029
Common EU Risk Analysis across all processes	2026+
Integrated scanning system at the EU external border	2025-2030
Common EU Sanctions System	2025-2030
Single EU Risk Management Authority	2025-2030
Access to trader's IT systems: real time supply chain information for customs	2030-2035
Enhanced Partnership with Trade	2030
Output based approach, society oriented	2030
EU Customs Agency	2030
Creating a fund for Customs development	2030
Next level Single Window (Business to Government)	2030
Enhanced AEO scheme for tax, customs and agencies	2030
The EU Customs Academy	2030
Fully integrated IT systems	2035
Smart border crossing	2035
Fully integrated EU IT service for customs - Mapping by 2021 and agreeing the scope and financing by 2023	2035
New profile for customs officers. Use of new technologies/crisis management (safety-security), new training modes, foreign languages, communication skills (P.R.)	2036
Common structure to manage operational Customs Union	2038
Harmonised sanctions	2040

9. Looking back... and forward

This foresight process was exceptional in three ways. First of all, it was very comprehensive. It used a wide range of foresight tools and methods, each logically feeding into the next and building on each other. Secondly, the length and the broad selection of participants included in the process allowed it to generate a robust and strategic reflection of the customs field. Finally, it dealt with a policy domain which, even if often out of sight of the general public, lies at the very core of the European Union and its values.

Looking back at these 15 months of intense cooperation between the JRC and DG TAXUD, it is important to highlight the positive but also the most challenging elements that allowed us to run the foresight process and get to the final results.

On the positive side, the project benefited from a strong interest of the policymakers responsible for customs who wanted to deepen their forward-looking reflection on the future of customs. The policy demand was clear. As a result, the project team had the time and resources to build and run a solid process. Trust and support from DG TAXUD made it possible to recruit a broad range of stakeholders and to connect periodically with the policymakers and keep them in the loop. Their active involvement also provided policymakers with deeper knowledge of the foresight process. Having built the strategic foresight process around tried and tested methods allowed us to build confidence along the whole duration of the project and win over the Finnish Presidency of the EU. This offered a unique opportunity to use an EU Presidency event to give the EU high-level policymakers first-hand experience of what foresight means in practice and how it can support strategic thinking. It also allowed Member States to get a clearer picture of the various ideological camps when reflecting on the future of customs in the EU. The project witnessed exceptional circumstances as it was carried out in a year in which the new European Commission put both the Customs Union and foresight at the top of the EU policy agenda.

On the negative side, the project could not escape to the confrontation with the political reality at the Member States and EU level. In a completely different register, the project was confronted with the unpredictability of the future. A special Customs Policy Group meeting organised beyond the project plan as a grand finale to engage with policymakers had to be cancelled because of the lock-down resulting from the Covid-19 pandemic.

The EU Customs is a very complex system at the core of the EU that acts as an essential interface between the EU and the rest of the world. It fulfils an essential role in protecting EU citizens, their environment and the Single Market. The stakeholders in a position to shape the future of customs in the EU harbour a rich set of ideas about the future of customs in the EU and we hope that this foresight process has helped them both mature these ideas and create a richer understanding, more aligned with that of their policy and business partners.

In the same way that current policy discussions made their way into this foresight process, many ideas that emerged during the foresight process will likely make their way into future policy discussions. The intention of this report is to provide food for thought as well as hands-on tools, that can be used by DG TAXUD in the future to update the forward-looking reflection that took place within the project.

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Trend Name (Indicating the direction of change)	
Trend Description - Recent Developments	
Trend Projections: Possible Future Developments	
Trend Implications / Impact on the Future of EU Customs	
Sources	

Annex 2. Declaration from the High-Level Seminar on Strategic Foresight and the Future of the Customs Union in Helsinki, October 2019

The development of the EU Customs edition of the Scenario Exploration System[62] took place at the occasion of a two-day workshop. The step by step process does not include the standard steps necessary to make a workshop successful as this is often dependent on specific circumstances and context (e.g. background presentation, ice-breakers, etc.). The process below requires knowledge of what the SES is and which elements are needed, which can be found online.

STEP 1 (20'): Remind the scenarios to the participants to make sure that all have them fresh in their minds.

STEP 2 (120'): Imagine which logical sequence of events would have to take place to evolve from today to each of the scenarios and place them in three-time intervals. For this task, participants are split into 4 groups (one per scenario) moderated by a member of the project team. Each group has a blank timeline from 2020 to 2040 divided into three-time intervals (with 5 and 10 years as intervals). Then they brainstorm and fill in the events on the timeline, making sure to have events in each of these categories: EU, International trade, Economy, Society and environment, Customs, and Technology for customs. In the end, this would tell a story that would unfold between now and the selected time-horizon and be convincing, logical, and plausible. Depending on the time available, the groups can rotate in World Café fashion, or only to visit the 'opposite' scenario in the quadrant. This should be followed by a reporting session to make sure everyone is on board.

STEP 3 (20'): Explain the Scenario Exploration System (SES) to the participants and explain all the SES elements that will have to be created as well as their role in a scenario exploration.

STEP 4 (20'): Decide on what are the four most relevant roles for the scenario explorers as well as their relative strengths in the various scenarios in plenary. This is used as a basis to determine the amount of resources that will be attributed to each role, in each scenario.

STEP 5 (20'): Identify +/- 10 actions relevant for each role and produce prototype cards on blank templates. For this task, participants are split into 4 groups (one per role).

STEP 6 (60'): Prepare the rest of the SES elements. Participants are split into three groups, each with a different task and moderated by a member of the project team with experience of the SES. One group selects the 5 most relevant megatrends and 15 interesting variable drivers. Another group redacts the best possible stories for the Real-Life cards (6-8 different ones). These two groups write the result of their work on blank card templates in sufficient numbers of copies. The third group reflects on the best strategic questions to address during the SES session and/or afterwards in a brainstorming.

STEP 7 (20'): Review all the elements and finalise the strategic questions in a plenary session.

STEP 8 (90') -Test the tool: Split the participants into groups of at least 5 and a moderator to test the tool. Ideally, there should be 4 tables, testing to explore one scenario each.

STEP 9 (30'): Fix the last details in the SES prototype on the basis of the experience in the testing session.

62 https://ec.europa.eu/knowledge4policy/foresight/future-customs-eu-2040-ses-edition_en

Annex 3. Feedback on the scenario exploration at the High-Level Seminar on Strategic Foresight and the Future of the Customs Union in Helsinki, October 2019

47 participants filled the survey (see results in the table below). Most said that they saw this High-Level Seminar as more innovative and forward-looking than the equivalent events they were used to attend. When asked to identify what they enjoyed most, the bulk of the participants mentioned creativity, the stimulating discussions, the game dynamics, taking up roles, the scenarios, the systemic perspective and interactions between different points of view.

Table: Results from the scenario exploration participant survey (quantitative questions) at the High-Level Seminar on Strategic Foresight and the Future of the Customs Union in Helsinki, October 2019.

Questions	Score
How well did you enjoy this session?	8.0/10
How well did the session help you take a future-oriented perspective?	7.6/10
How well did the Scenario Exploration System help you understand scenarios?	8.3/10
Did the scenario exploration help you to develop a strategic perspective?	87% Yes
Did anything surprise you during the exploration?	53% Yes
Did you learn anything in this scenario exploration?	81% Yes

Two thirds of respondents also mentioned that their real-life experience was useful both to understand the situations coming up in the scenario exploration and to shape their responses. Many people were grateful that the experience created a need to adopt an open mind and helped discover new perspectives. The main lessons reported by the participants were the discovery of the value of foresight, how this exercise opened the mind and made people discover the importance of considering diverse points of view, the importance of context/scenarios for decision making, the complexity and inter-dependencies in the world, the capacity to imagine the unimaginable and the usefulness of the exercise to learn how to face the unexpected.

Annex 4. Declaration from the Helsinki High-Level Strategic Foresight Seminar on the future of Customs in the EU

HELSINKI DECLARATION

High Level Seminar on Strategic Foresight and the future of Customs Union

30-31 October 2019

THE PARTICIPANTS OF THE HIGH-LEVEL SEMINAR FOR THE HEADS OF CUSTOMS ADMINISTRATIONS FROM THE EUROPEAN UNION MEMBER STATES, PARTICIPATING CANDIDATE COUNTRIES AND THE EUROPEAN COMMISSION:

Underlining the crucial support that the EU Customs Union has provided to the single market for more than 50 years and the competitiveness of the economic operators of the European Union

Noting the EU Customs Union's growing role as one of the key functions in the EU Security Union;

Recalling the shared commitment of the European Commission and the Member States' customs administrations to modernise and develop EU Customs cooperation and governance as stated in the Declarations of Ruka (2010), Seville (2011), Athens (2014) and Vienna (2018) High Level Seminars, among others;

Recalling the outcomes of the previous future-proofing exercises of the EU Customs Union, including the Future Role of Customs (FROC), Future Customs Initiative (FCI), the Commission Governance Communication and the First Biennial Report with their related requirements for consequential action, as well as the related Council Conclusions;

Recalling that the Customs Policy Group (CPG) of the EU's Directors-General of Customs agreed in 2018 to implement a full-fledged Strategic Foresight exercise to engage with the upcoming trends and challenges in the operational environment of EU Customs;

Considering that the Charter of the Customs Administrations of the EU reaffirms the task of the Customs Union to be to 'protect society, facilitate trade and act as one – now and in the future';

Noting that Strategic Foresight constitutes a viable mechanism for systematic strategic assessment of the future development of the EU Customs Union;

Noting customs' unique role as multimodal organisations, the international nature of customs challenges such as e-commerce and the fight against fraud, and the related need for cross-cutting approaches to customs activities;

Emphasising that the EU Customs need to have a systemic approach to future challenges, in order to support the security, safety and competitiveness of the Union;

Recognising that Strategic Foresight provides a practical and forward-looking support tool to the overall policy-making process of the Customs Union;

Noting the intention of the Commission President-elect to 'take the Customs Union to the next level', inviting a profound discussion on future EU Customs policy, supported by the appointment of a Commissioner-designate for Interinstitutional relations and Foresight in the incoming Commission;

Noting that the Mission Letter to the Commissioner-designate responsible for customs calls for better protection and integrated risk-management, more effective controls fit for the modern economy, consistent cooperation with different agencies and authorities on customs controls, all working closely with Member States;

Considering global megatrends and key change drivers, such as accelerating technological change and hyperconnectivity, expanding influence of east and south, climate change and environmental degradation, a shifting security paradigm, the evolving nature of work, and changing attitudes and values, and their impact on Customs Union and Member States individually;

Agreed to:

- use the input from the Helsinki High Level Seminar to help shape the vision for the Customs Union from now to 2040;
- apply Strategic Foresight in a systematic fashion to support the development and future-proofing of the EU Customs Union;
- continue the Strategic Foresight initiative in full collaboration with other institutions and authorities, in order to ensure the continuous development of the customs' ecosystem and working methods;
- provide a strong foundation for Customs Union Governance; and

Emphasised in particular the importance of:

- anticipating and responding proactively to emerging challenges, opportunities and expectations for the EU Customs Union and Member States;
- taking actions to reinforce the core functions of customs and ensuring effectiveness across the entire EU;
- concretely improving the visibility and identity of customs and the Customs Union;
- addressing the importance of common key competencies and skills for customs officers; and
- cooperating concretely, together and with other relevant policy areas, on issues such as border presence, data and technologies.

Annex 5. Milestone achievement template

MILESTONE:

DEADLINE

PRE-REQUISITES to be able to achieve the milestone

-
-
-
-
-

WHO	**should do**	**WHAT**

Annex 6. Information collected in the milestone achievement templates

MILESTONE:

INTEGRATED SCANNING SYSTEM AT THE EU EXTERNAL BORDER 2025-2030

DEADLINE

2025

PRE-REQUISITES to be able to achieve the milestone

1. Legal Basis
2. Budget
3. Possibility for data exchange between different brands of X-ray equipment producers and other relevant equip
4. One common database accessible to all Customs Authorities
5. Manifest and X-ray image connected in database
6. Artificial intelligence to assist the operator to detect contraband and fiscal fraud (tariff related)

WHO	**should do**	**WHAT**
Commission		Provide legal basis
Commission – Parliament -MS		Funding (CCET)
Customs Detection Technology Project Group (CDTPG) and Customs Lab European Network (CLEN)		Organise the tendering process

MILESTONE: FULLY INTERGRATED IT SYSTEMS

DEADLINE

2035

PRE-REQUISITES to be able to achieve the milestone

1. Strategy on enhanced collaboration
2. Proof cases
3. Required legislation
4. Finance and IT
5. Improved tools and environment for collaboration
6. Managed and systematic IT collaboration

WHO	should do	WHAT
ETCIT		Provide study and a strategy on enhanced collaboration
ETCIT + MEMBER STATES +Trade		Pilots / Proof cases
DG TAXUD		Initiate legislation
DG TAXUD		IT Architecture (1 platform) MASP →Business case Financing
ETCIT+TAXUD+MS+OTHER ACTORS		Improved collaborative tools and environment
DG TAXUD + MS		Managed and systematic IT collaboration

MILESTONE: SMART BORDER CROSSING

DEADLINE

2035

PRE-REQUISITES to be able to achieve the milestone

1. Standard specifications for BCP ´s infrastructure and equipment
2. Single window EU level
3. IT solution to integrate equipment at EU level
4. Advanced EU level risk management
5. Legal base for declaration by access to businesses IT
6. IT system for declaration by access to businesses IT

WHO	should do	WHAT
Customs 2027 Expert group		Standard list of infrastructure and equipment
Member States		National Single Window
Commission		EU Single Window
Commission /MS/Research		EU level risk management
Commission /MS/TRADE		Legal base
Commission /MS/TRADE		IT systems

MILESTONE: IMPLEMENTATION SINGLE WINDOW (IN A WORLD WITH LIMITED RESOURCES)

DEADLINE

2025

PRE-REQUISITES

1. Government to government SW at European level - Common database of every certificate and authorisation
2. EU (CFRTEX) certificates not national

WHO	**should do**	**WHAT**
TAXUD manages and involves other agencies		EU platform (TRACES plus)
Commission and EU Parliament		New legislation

MILESTONE: CUSTOMS ACTION PLAN AND COMMUNICATION CAMPAIGN FOR 2040

DEADLINE

2020 ONGOING

PRE-REQUISITES

1. Customs community needs to be united behind the vision
2. Timing and purpose of each communication needs to be clear
3. Need active engagement of all MS and key stakeholders if action plan is to be credible
4. Need to be comfortable with uncertainty and need therefore to work in a spirit of trust and common cause
5. Need to be flexible in our approach and take a phased approach to action plan(s) and communication

WHO	should do	WHAT
Collaboration between Commission and MS needs to be the way of working	Have agreed process and structures Have agreed decision mechanisms to be sure everyone on board
National Administrations	Involve frontline staff and managers so they feel part of process and have an opportunity to contribute
Commission and MS	Make sure action plans and communication plans are aligned
National Administrations and Commission	Engage with trade rep. bodies and provide feedback opportunities and mechanisms (they v-can be significant communicators of our message /vision)
National Administrations and Commission	Be alert to opportunities and possible challenges to key customs role and how we can bring added value for business and society
National Administrations and Commission	Consider how to engage, using social media tools, with business, society and all stakeholders, and respond in real time to questions/concerns/events

MILESTONE: ENHANCED PARTNERSHIP WITH TRADE

DEADLINE

2030

Detailed explanation: outsourcing of certain non-core activities and services without giving up powers and retaining the supervision /regulatory power. Example: after decision by customs and under supervision of customs, a private company undertakes the prescribed checks and report back to customs

PRE-REQUISITES

1. Open mind/change culture/ mentality
2. Common EU understanding regulation on which activities / services could be outsourced and under which conditions and develop common standards
3. Engage with Trade and develop mutual trust and anticipate corporate best practices
4. Use the free capacities and human resources obtained through outsourcing to focus on the core-business future and recent different new kind of staff (e.g. data scientists)
5.

WHO	**should do**	**WHAT**
EU Commission		Initiative for outsourcing (possible list of services, legal requirements…) Pilot-project (EU-wide)
Member States/ political support from Member States		Pro-actively contribute to the proposals be part of the pilot project
WCO (WTO)		Support help developing standards
TRADE		Develop and put at the disposal resources; do investments develop IT-tools / AI-tools
National customs officers		Accept their new role

MILESTONE: START AND COMPLETE ANALYSIS 2020-2030

DEADLINE

End 2020

PRE-REQUISITES

1. Allocation of human resources both at MS, Council secretariat and COMMISSION level

WHO	**should do**	**WHAT**
Member States and Commission	Analysis of current situation with the aim of providing a starting point/baseline for the vision should include: • SWOT • Efficiency and effectiveness current governance • Impact of differences in logistics supply chain • Interaction with other actors(OLAF,FRONTEX) Based on analysis: options for improvement in relation to the vision	

MILESTONE: OUTPUT-BASED APPROACH

DEADLINE

2030 COB

PRE-REQUISITES

1. Measurement and Analytical tools
2. Common understanding of the cultural context
3. Society oriented approach
4. Planning

WHO	**should do**	**WHAT**
EU institutions (Commission, Council WP EP)	Set goals Prioritise Set parameters Assess	Funding
MS (Authorities)	Plan Execute the goals set Analyse Peer-to-peer review	Funding
Society	Prioritise/influence goals Opinion/influence	Funding
Independent evaluator	Assess and recommend Evaluate	

MILESTONE: COMMON "STRUCTURE" TO MANAGE OPERATIONAL CUSTOMS UNION

DEADLINE

2038

PRE-REQUISITES

1. Benefits of common structure and added value
2. Consensus among Member States
3. Study for the best approach - Pilot
4. Legislation
5. Structure in Place
6. Voilà

WHO	**should do**	**WHAT**
1 Commission in cooperation with MS		Feasibility study
2 Member States		Negotiations Discussions Consultations Positive, constructive thinking (Glass is half Full)
3 Commission		Concept paper Pilot project with selected / voluntary M.S.
4 Commission + Member States		Proposal for legislation
5 Commission		Concept paper Sound legislation Positive thinking

MILESTONE: SINGE WINDOW EU LEVEL

DEADLINE

2026

PRE-REQUISITES

1. Successful pilots
2. IT system in place
3. Agreement of agencies and authorities
4. Interoperability

WHO	**should do**	**WHAT**
Commission	Legal base(regulation proposal)	
Commission	Design of IT standards	
Commission and Member States	Agreement on customs leadership	
Member States	Development of systems interoperability	
Commission and Member States	Implementation	
Commission and Member States	Communication campaign	

MILESTONE: IMPROVING CELBET TO A PERMANENT STRUCTURE

DEADLINE

2025

PRE-REQUISITES

1. Problem statement
2. Feasibility study
3. Piloting
4. Assessment and proposal for future
5. Approval by Customs Policy Group
6. Agreement with TAXUD

WHO	**should do**	**WHAT**
CELBET 3		Problem statement 2020
CELBET 3 (steering committee)		Feasibility study 2021
CELBET 3		Piloting 2022
CELBET 3 (steering committee)		Assessment and proposal for future end 2022
CELBET 3 presenting to CPG		Proposal for CELBET permanent structure end 2022
TAXUD		Approval of CELBET permanent structure beginning 2023

MILESTONE: EU CUSTOMS AGENCY

DEADLINE

2030

PRE-REQUISITES

1. Creating task force group
2. Implementing the IT systems (MASP/UCC)
3. Creating framework for integrated. training
4. Improve the IBM framework
5. Creating a common risk management system
6. Integrate all P-R and creating EU Customs Agency

WHO	should do	WHAT
MS , EU Commission		Bring expertise shape the future EUCC Coord. TFG-Setup Project.
MS EC operators EU COM		Develop Verify and support
EU COM Member States		Create Common Platform and database Provide trainers / themes
EU COM Member States		Create an integrated system of AQ Analysis of needs
EU COM Member States		Carry out risk analysis Monitor Implementation alerts, risk analysis
EU COM EU Parliament EU Council MS		EU procedures Share some of the actions

MILESTONE: CREATING A FUND FOR CUSTOMS DEVELOPMENT

DEADLINE

2030

PRE-REQUISITES

1. Political decision
2. To increase awareness of importance of customs
3. To create positive image in public opinion
4. Use of existing 20% of customs duties in traditional own resources

WHO	**should do**	**WHAT**
Customs Administrations		To explain crucial role of customs for society
Customs Administrations request to		EU policy makers National policy makers
Traders		Support customs request
Policy makers		Official decision process

MILESTONE: FULLY INTEGRATED IT EU SERVICE CUSTOMS

Mapping – 2021 Agreeing the scope and financing – 2023

DEADLINE

2035

PRE-REQUISITES

1. Mapping
2. Budget and Financing arrangement
3. Interoperability
4. Training
5. Traditional period to test the system

WHO should do	**WHAT**
Commission, external experts MS	Possible concepts - make recommendations Scope Timing Customer interface (structure) Financing
Council	Approval roadmap Regulations (task Commission to draft regulations) Launch International tender - design system
Joint action Member States, IT agency, body, consortium Expert group	Detailed step by step way forward Responsible for ownership and maintenance
Member States and Commission	Reviewing, monitoring development and implementation of the system
Member States	Piloting of services/ phased approach to possibly adoption by region

MILESTONE: CUSTOMS ERASMUS

DEADLINE

2027

PRE-REQUISITES

1. Financial Envelope
2. Member States willing to participate
3. Legal framework
4. Language skills
5. Portal at EU level to manage application

WHO	**should do**	**WHAT**
Commission – Council - Parliament – Member states		To approve a financial envelope - budget
Commission		Promote the programme
Commission propose to Council		The legal framework
Responsibility of Member States		Provide language training
Commission		Administer the portal

MILESTONE: COMMON EU SANCTIONS SYSTEM

DEADLINE

2025-2030

PRE-REQUISITES

1. New proposal after severe considerations and analysis
2. Discussion in Council
3. Agreement?
4. If agreed , step by step implementation
5. Review
6. Can´t predict the far future

WHO	**should do**	**WHAT**
Commission		Think long and hard proposal
Member States		Discuss etc.
Member States, Commission, European Parliament		Agree?
Member States		Change law
Member States, Commission, European Parliament		Review

MILESTONE: HARMONISED SANCTIONS

DEADLINE
2040

PRE-REQUISITES

1. The necessity should be approved among Member States
2. The ministries of justice should be involved
3. The legislation should be acted in pieces
4. The first proposal could include only breaches of the UCC

WHO	should do	WHAT
The Commission		Collects information on the present situation
The Commission		Invites a seminar for both customs legal experts and the experts of sanction legislation in the ministries of Justices
The Member States and Commission		Understand better the differences of the legislation systems of the Member States
The Commission		Accepts a proposal for sanctions xxx of breaching the UCC at 2023
The Council		Accepts the legislation at 2024
The Commission and the Council		On the basis of the Commission proposals the Council accepts legislation concerning other EU legislation the Customs implements

MILESTONE: NEXT LEVEL SINGLE WINDOW (BUSINESS TO GOVERNMENT)

DEADLINE

2030

PRE-REQUISITES

Legal base

Functioning government to Government

SW

WHO	**should do**	**WHAT**
DG TAXUD	Coordination	
National customs authorities	Coordination at national level	
Partner competent authorities	Support and cooperation	

MILESTONE: ENHANCED AEO FOR TAX AND CUSTOMS AND AGENCIES 2030

DEADLINE

2030

PRE-REQUISITES

1. Harmonised procedure EU-wide and at national level
2. Identical risk analysis approach
3. Human resources training
4. Cross cooperation between tax/customs/other agencies
5. Common criteria (and interpretation)
6. Build on experiences (lessons learned)

WHO	**should do**	**WHAT**
EU Commission		Should build on lessons learnt and develop further common criteria Make available common unified criteria
Member States		Integrate the enhanced AEO in national level Keep an eye on AEO´s Have the right resources (account)
Economic operators		Should improve procedural /IT/ and internal control systems
Customs and Tax		Enhance human resource power in order to cope with refined conditions

MILESTONE: COMMON RISK MANAGEMENT (COMMON DATABSE FOR PREDICTIVE ANALYSIS)

DEADLINE

2028

PRE-REQUISITES

1. To have common agreements of EC and MS
2. To achieve what is already planned in current system
3. Surveillance (system) must be fully operational
4. Analyse the current system and to find out the strong and weak points (SWOT analysis)

WHO	**should do**	**WHAT**
EC and MS		Detailed description of aims of the new system
EC and MS		To prepare a plan how to implement (achieve) the aim
EC and MS		To find resources to operate the new system (HR, technological, money)
EC with MS		To endorse a new legislation
EC and MS		Implement the new system

MILESTONE: COUNCIL ENDORSEMENT HIGH LEVEL OG MEETING

DEADLINE
2022

PRE-REQUISITES

1. Analysis
2. Communication from the Commission
3. High level meeting
4. Discussion in Council (working group + COREPER level)
5. Council conclusions
6. To be repeated at every successive political step

WHO	**should do**	**WHAT**
Member States, Commission, stakeholders	Analyse where we stand now possible directions	
Commission, Member States, experts, comitology	Passing usual Commission procedures Publication	
Member State that wants to take up organisation	Organising the OG customs meeting at high level	
Council, Commission working group + COREPER	Presentation of the communication and analysis followed by discussion	
Council	Orientation Decision in the form of conclusions	
See above will take as much time as necessary	See above	

MILESTONE: RAPID DEPLOYMENT TEAMS

DEADLINE

2029

PRE-REQUISITES

1. Legal base
2. EU- crisis management
3. Equipment
4. Resources

WHO	**should do**	**WHAT**
Commission, Council, Parliament		Proposal of the legal act, defining powers, responsibilities areas (FRONTEX)
Commission Member States		Elaboration of roles, responsibilities, procedures, IT
Member States, Commission		Fully implementation on national bases, virtual EU Customs Academy
Commission, Member States		Stable funding of customs equipment standardisation
EU, Member States		Staff Member States, Funding EU

MILESTONE: THE EU CUSTOMS ACADEMY 2030

DEADLINE

2030

PRE-REQUISITES

1. Identify expertise/teachers in MS
2. Regional organisation taking into consideration control areas
3. Customs training funding – EU budget
4. Identify the right audience
5. Time period to be defined (long vs. short)

WHO	**should do**	**WHAT**
Commission coordinates MS		Identification of experts / teachers
Commission + MS		Decide organisation + places (s) + structure
Commission + MS		Funding → part of MFF
MS		Identify who is sent to Academy (young officers)
MS + Commission		Time period of training

MILESTONE: COMMON EU RISK ANALYSIS ACROSS ALL PROCESSES

DEADLINE

2026+

PRE-REQUISITES

1. Data gathering from Member States
2. Analysis of Member States data
3. Decision – will this work?
4. Legal basis established (if necessary)
5. An IT solution found

WHO	**should do**	**WHAT**
Member States		Share their risk profiles in order to analyse them
Commission + Enforcement bodies		Look into similarities and differences
Commission + MS		Establish if the task is possible
Commission		Take care of the legal side
Commission		An IT solution
Commission		Impact evaluation

MILESTONE: SINGLE RISK MANAGEMENT EU AUTHORITY

DEADLINE

2025-2030

PRE-REQUISITES

1. Interoperability of national risk analysis system

2. Legal base for the transmission of risk related data from MS to authority

3. Union data base for storing and manage the information

WHO	should do	WHAT
European Commission proposal 2021		Legal base for the transmission of risk related data 2021
European Commission 2023-2028		Central system for the storage and analysis of data 2023-2028
MS 2025-2027		Alignment of MS´s risk analysis system specifications 2025-2027
European Commission 2025-2028		Integration /connection with Single Window,ACS, ECS, NTCS and other EU systems 2025-2028
MS 2025		Penalty system information interoperable with central system 2025

MILESTONE: ACCESS TO TRADERS IT SYSTEMS: REAL TIME SUPPLY CHAIN INFORMATION (CUSTOMS)

DEADLINE

PRE-REQUISITES

1. Define common vision and roadmap beyond shared with TRADE
2. Scan current practice across EU-share best practice / Enabling technology opportunities / interoperability /integration
3. Enabling legitimate trade free flows → certification of trusted partners; customs →promote compliance by design;
4. UCC implemented – process, data harmonisation
5. Funding trade, authorities
6. Communication plan to mobilise /attract

WHO	should do	WHAT
EU Customs Union (EU+MS+CTC countries) Policy		Communication plan to promote initiative Orientation towards vision "real time access to Trader's data" for authorities maximising compliance and minimising interventions Legal basis /certification scheme Explore trade interest for the initiative Vision document/ Implementation plan Common EU IT system connected
Joint initiative Big supply chain actors/ traders		Extend existing business models Technology Administrative agreement with customs and trade Implementation plan Pilots
TCG Trade unions		Mobilise trade actors for initiative Collaborative on the design
Technology providers IT providers		Blockchain-like technology Provide / implement IT-enabling solutions Data / system security Tools for analytics
EU Customs Union (EU+MS+CT countries) Operational Joint initiative		New operational model Resources Trading staff Change Management/Business continuity Data analytics/risk analysis
Other authorities at Border /OLAF/Port Authorities		Collaboration scheme for data sharing Collaboration scheme for risk analysis, control/release Single Window access for authorities

MILESTONE: COMMON INFRASTRUCTURE AND EQUIPMENT

DEADLINE

2028

PRE-REQUISITES

1. Study on the site for the customs of all MS in order to decide which infrastructure and equipment meet some special needs of the MS

2. Draft study for budgetary needs

3. Funding

4. Human resources

•

WHO	**should do**	**WHAT**
Commission and MS		To organise workgroups to run the study or to take external support
Commission and MS		To define the budget for the implementation of the project
Commission and MS		To take the necessary steps for the funding of the project
Commission and MS		To provide training and education

MILESTONE: NEW PROFILE FOR CUSTOMS OFFICERS.

Use of new technologies/crisis management (safety-security)/new training modes/foreign languages/communication skills (P.R.)

DEADLINE

2036

PRE-REQUISITES

1. Monitoring advanced technology market (cooperation with science research) / innovation purchase projects
2. Pilots of high technologies and new solutions in customs environment (artificial intelligence, virtual reality for training, innovative controls equipment etc.
3. Training programmes to work with new solutions (customs academy)
4. New policy of recruitment of customs officers

WHO	should do	WHAT
Commission +MS (think tank project) Science / research centres		Analysis of application possibilities of innovation (high tech/AI/ virtual reality etc.) in customs environment
MS +Commission Academic society Start ups		Launch of pilot projects for innovation
MS (EU funds?)		Purchase and introduction of innovation
Customs academy /MS		Preparation of training programs: Programming /use of new technologies Virtual reality for training on customs inspections and safety measures, etc.
MS (or Customs Agency if in place)		To introduce new recruitment policies allowing sharing of human resources between MS and between different agencies To introduce other measures to attract skilled staff to work in customs environment

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