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**COMMISSION STAFF WORKING DOCUMENT**

**EVALUATION**

**of the**

**European Customs Inventory of Chemical Substances (ECICS)**

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## Glossary

<b>BTI</b>	Binding Tariff Information
<b>CAS RN</b>	Chemical Abstracts Service Registry Number
<b>CCC</b>	Customs Code Committee
<b>CLASS</b>	Classification Information System
<b>CLEN</b>	The Customs Laboratories European Network
<b>CN</b>	Combined Nomenclature
<b>CROSS</b>	Customs Rulings Online Search System
<b>CCN/CSI</b>	Common Communication Network/ Common Systems Interface
<b>CUS</b>	Customs union and statistics number
<b>DDS</b>	Data Dissemination System
<b>DG</b>	Directorate-General
<b>DG COMM</b>	Directorate-General for Communication
<b>DG GROW</b>	Directorate-General Internal Market, Industry, Entrepreneurship and SMEs
<b>DG JRC</b>	Directorate-General Joint Research Centre
<b>DGT</b>	Directorate-General for Translation
<b>DG TAXUD</b>	Directorate-General for Taxation and Customs Union
<b>EBTI</b>	European Binding Tariff Information
<b>EC</b>	European Commission
<b>ECHA</b>	European Chemicals Agency
<b>ECICS</b>	European Customs Inventory of Chemical Substances
<b>EDND</b>	European Database on New Drugs
<b>EDQM</b>	European Directorate for the Quality of Medicines and HealthCare
<b>EMCDDA</b>	European Monitoring Centre for Drugs and Drug Addiction
<b>ENS</b>	Entry Summary Declaration
<b>EO</b>	Economic Operators
<b>EU</b>	European Union

<b>EUCLEF</b>	European Chemicals Legislation Finder
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>HS</b>	Harmonised System
<b>ICS</b>	Import Control System
<b>INN</b>	Non-proprietary Names
<b>ISO</b>	International Organization for Standardization
<b>IUPAC</b>	International Union of Pure and Applied Chemistry
<b>JHA</b>	Job Hazard Analysis
<b>MS</b>	Member State
<b>NPS</b>	New Psychoactive Substances
<b>OPC</b>	Open Public Consultation
<b>OPCW</b>	The Organisation for the Prohibition of Chemical Weapons
<b>PIC</b>	Prior Informed Consent - Regulation (EU) No 649/2012 on export and import of hazardous chemicals
<b>REACH</b>	Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals
<b>SCCP</b>	Scientific Committee for Consumer Products
<b>SG</b>	Secretariat -General
<b>SWD</b>	Staff Working Document
<b>TARIC</b>	Integrated Tariff of the European Community
<b>TSCA</b>	Toxic Substances Control Act (USA)
<b>UN number</b>	United Nations Number
<b>US</b>	United States
<b>WCO</b>	World Customs Organisation

## **1. INTRODUCTION**

### **Purpose and scope**

This report presents the results of the evaluation of the European Customs Inventory for Chemical Substances (ECICS). The evaluation exercise was conducted between 2016 and 2017. This exercise was supported by an external study which has been carried out by an independent external evaluator (see Annex 1 for more details). The present Staff Working Document is largely based on the results and conclusions of the external evaluation study.

The purpose of this evaluation was to assess the effectiveness, efficiency, relevance, EU added value and sustainability of the ECICS database, and its coherence vis-à-vis other existing databases. The ultimate aim of this evaluation exercise is to contribute to evidence-based policy-making, to demonstrate the economic and societal value of ECICS and to identify possible improvements.

## **2. BACKGROUND TO THE INTERVENTION**

### **Description of the intervention and its objectives**

The ECICS database was created in 1974 and is provided as a free service by the Commission. It is a searchable database, part of the larger customs IT system portfolio with the purpose of assuring correct goods classification and tariff management. It was from the start developed as a practical tool to facilitate the import and export of chemicals and the work of customs officers, customs laboratories and economic operators.

The public version of ECICS is located on the Europa website, while the secure version is accessed through the Common Communication Network & Common System Interface platform managed by the European Commission and available to customs authorities of the EU Member States.

Article 12(3) of Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff provides that “*In order to ensure the uniform application of the Common Customs Tariff and the Integrated Tariff of the European Community (TARIC), the Commission shall promote coordination and harmonisation of practices in Member States’ customs laboratories, using wherever possible, computerised means.*”. The tariff classification is usually done by experts of the customs laboratories. By the regular discussions between these experts and the continuous update of the database, the harmonized classification of the chemicals is ensured, and therefore the divergences of classification of these products are limited compared to other types of traded goods.

Since ECICS is listed in Regulation (EU) No 1294/2013 of the European Parliament and of the Council of 11 December 2013 establishing an action programme for customs in the European Union for the period 2014-2020 (Customs 2020) as one of the European Information Systems that the programme must support (see Annex II, A.7), it is fundamental to evaluate its effectiveness, efficiency, coherence, relevance and EU added value for the various actors dealing with the external trade of chemicals.

### 3. IMPLEMENTATION / STATE OF PLAY

#### Description of the current situation

Since its first publication in 1974, the ECICS has been constantly extended. Despite its long life-span and its important effect on the European Commission's resources, no evaluation of ECICS has been carried out during this period. Therefore, it was useful to assess how well this database has performed since its creation and whether its existence continues to be justified in terms of effectiveness, efficiency, relevance, coherence and EU added value.

The consultation covered economic operators, competent national authorities and International organisations. It was also addressed to non-European national authorities (e.g. Switzerland, South Africa, Australia).

### 4. METHOD

#### Short description of methodology

The scope of the evaluation covered both the publicly available and secure versions of ECICS. In terms of temporal scope, the evaluators considered the period from ECICS' inception in 1974 to spring 2017.

The evaluation approach consisted of a combination of analysis of data from existing sources, and direct engagement of database users and other stakeholders to generate new primary data. This resulted in a combination of quantitative and qualitative data that was mapped to the different evaluation questions and triangulated to arrive at robust and well-founded conclusions and lessons learnt.

Specific surveys and questionnaires were addressed to both regular and occasional users to understand if the database is relevant and well designed for the large population of users.

The research was based on ten specific evaluation questions across the criteria of relevance, effectiveness, efficiency, coherence, sustainability and EU added value:

Criterion	Evaluation question
Relevance	1. To what extent is the content of ECICS relevant for economic operators involved in external trade operations?
	2. To what extent is the content of ECICS relevant for customs authorities and customs laboratories?
Effectiveness	3. To what extent does the ECICS database facilitate the work of economic operators?
	4. To what extent does the ECICS database facilitate the work of customs officers and laboratories?
Efficiency	5. How do the overall costs for maintaining the database by the European Commission compare to the overall benefits for database users?
Coherence	6. To what extent does ECICS complement other databases that encode chemical substances?
	7. To what extent (and how) does ECICS feed into the customs policy-making process?
	8. To what extent (and how) does ECICS feed into regulatory processes in other policy areas than customs?
Sustainability	9. What (if any) fee would economic operators be prepared to pay to access the database in order to maintain and develop ECICS?
EU added value	10. To what extent is ECICS still justified and why?

## **Limitations and robustness of findings**

The evaluation faced challenges related to the availability and representativeness of relevant data, as the evaluators were only able to monitor traffic and usage of the publicly available version of ECICS. This means that the assessment of the secure version draws only on the perceptions of stakeholders, leading to difficulties to estimate the scale and other aspects of its use.

Moreover, even for the publicly available version of ECICS, the monitoring data was collected only over a 3.5-month period between mid-April and end July 2017.

Similarly, much of the evaluation relied on the perceptions of stakeholders from the Commission, customs authorities and economic operators. It follows that such perceptions are only meaningful inasmuch as they represent the majority of ECICS users.

More general limitations include potential biases among stakeholders contacted for the evaluation. With more time and resources, it would have been possible to further increase the representativeness and robustness of the evidence. Additionally, the timing of the evaluation was such that it was not possible to consider ECICS' new translation module, which had not yet gone live when data was collected.

## **5. ANALYSIS AND ANSWERS TO THE EVALUATION QUESTIONS**

All the evaluation questions listed in the table shown in section 4 have been considered and assessed during the evaluation exercise.

### **RELEVANCE**

In simple terms, the relevance of ECICS relates to the extent to which different user groups need the information contained in the database.

#### **Question 1: To what extent is the content of ECICS relevant for economic operators involved in external trade operations?**

The evaluation considered how the content of the database (i.e. the identifiers, names and other data provided for each product listed) is related to the needs of economic operators. The primary reason most economic operators use ECICS is to identify the Combined Nomenclature and Harmonized System codes for customs classification purposes. 85% of economic operators who responded to the open public consultation named this as the most frequent task.

The evaluation also identified secondary purposes for which economic operators use ECICS:

- to identify the systematic name of a product (International Non-proprietary Names (INN), International Organization for Standardization (ISO), International Union of Pure Applied Chemistry (IUPAC)), to find other identifiers (Chemical Abstract Service Registry Number (CAS RN), United Nations (UN) number), to translate a product's name, and to identify chemical structures;
- to obtain physical or chemical information, information about hazardous substances and to identify the Customs Union and Statistics (CUS) number for a product.

The interviews with economic operators support the finding that most economic operators use ECICS primarily to identify the relevant Combined Nomenclature / Harmonized System code for a chemical product. The content of the database – focussed as it is on providing Combined Nomenclature codes for chemical substances - satisfies this need.

### **Question 2: To what extent is the content of ECICS relevant for customs authorities and laboratories?**

The evaluation showed that customs authorities use ECICS for a variety of purposes from classifying chemicals by identifying the correct chemical names to translating names into different languages. Despite being used for various purposes, by far the most commonly reported task was to identify the Combined Nomenclature code.

However there are some differences in how the database is used by different national authority users.

- In the case of customs officers, who typically do not have chemical knowledge / training, the most frequent purpose of consulting ECICS is to confirm the classification of chemicals (i.e. to identify the Combined Nomenclature code), allowing them to gather information they would not be able deduce themselves.
- For members of the Customs Laboratories European Network (CLEN), who are typically trained chemists, in addition to identifying the Combined Nomenclature code interviews confirm that the secure version in particular is mainly used when conducting analysis and research on chemicals. The secure version of ECICS includes enhanced information on chemical structures (more than 85,000 chemical structures with an advanced searching tool) and its Inter Laboratory Inventory of Analytical Determination (ILIADe) module contains the analytical methods used by customs laboratories.

For **non-EU customs authorities**, who only have access to the public version of ECICS, the results of the questionnaire indicate that for this group, ECICS is used for the identification of the Harmonised Systems code, which is used around the world.

In conclusion, it came out that the public version of ECICS contains information which is relevant to the needs of customs authorities. The key piece of information provided is the Combined Nomenclature code but other information i.e. identifiers such as the Commission and United Nations numbers are also relevant. In future, the database will become more relevant given it lists Customs Union and Statistics (CUS) numbers for chemical substances, which will be mandatory for customs declarations in accordance with the Union Customs Code.

The secure version of the database provides additional content to what is available in the public version. It is of particular relevance to the needs of customs laboratories that use it to find data to identify chemical structures. Its relevance could potentially be increased by providing links to other databases containing analytical data which would complement the identification data provided in ECICS.

### **EFFECTIVENESS**

In simple terms, ‘effectiveness’ in relation to ECICS refers to how helpful it is to its users. This question examined effectiveness in terms of a specific group of users, namely economic operators, with a focus on the publicly available version of ECICS that is available to them.



### **Question 3: To what extent does the ECICS database facilitate the work of economic operators?**

It is worth outlining that the main reason for which the vast majority of the open public consultation respondents use ECICS is to identify the Combined Nomenclature and Harmonized System codes for customs classification purposes.

Given the main use of ECICS described above, facilitating the work of economic operators essentially means helping them to identify Combined Nomenclature codes for chemicals more accurately and / or quickly than would otherwise be the case.

Based on the open public consultation responses and interviews, it can be concluded that in its current form, the publicly available version of ECICS is facilitating the work of economic operators to a great extent. The database caters to the needs of a wide range of businesses, which use it as their go-to source to search for information on a broad range of products. Despite their diversity, economic operators predominantly use ECICS to carry out a simple and vital function, namely to identify Combined Nomenclature codes more quickly and confidently than they would otherwise be able to. Indeed, a lot of economic operators count on being able to obtain cheaply and quickly the information ECICS provides, such that it has become an integral part of their business models.

Economic operators pointed out that there is still scope for improvement, most notably in terms of increasing coverage of chemicals, carrying out updates more frequently and making several changes to improve user experience. Some would also like the database to include additional features, such as providing regulatory information on a product, making the database legally binding and creating links and synergies between ECICS and other databases (e.g. Binding Tariff Information (BTI), Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and European Chemicals Agency (ECHA)).

### **Question 4: To what extent does the ECICS database facilitate the work of customs officers and customs laboratories?**

Overall, the evaluation concludes that in its current form, ECICS is successfully facilitating the work of customs authorities. Most importantly, it allows customs officers and customs laboratories to identify Combined Nomenclature codes more quickly (and confidently) than they would otherwise be able to. In addition to serving this core / main purpose, ECICS is also used for other purposes and is widely appreciated (for example providing non-European Union authorities with the Harmonized System code). With regard to the specific information contained in the secure version of ECICS (i.e. information on analytical data and chemical structures), little evidence was found that this is widely relied by customs laboratories, and that this may be because of the existence of (more) effective alternatives. Nevertheless, it should be noted that the secure version is not only intended to provide more detailed and confidential information. It is also a "working" database (for Commission Services and the contractor maintaining the database) which provides the tools for the control, update and enrichment of ECICS (mass update, update of Combined Nomenclature codes, import/export modules, chemical structure module, translation module).

Despite its overall effectiveness, there was still scope for improvements – the most popular improvement would be to do more of what ECICS is already doing well, i.e. to include more chemicals (and in doing so, to keep more up-to-date with relevant developments). With regard to the secure version in particular, some demand for improving the provision of information relating

to analytical data (used by customs laboratories) was found. In terms of how to improve the user experience (and thereby better facilitate the work of customs authorities), the evaluation showed that some of the strengths of the secure version were weaknesses of the public version, and vice-versa and that as such there is scope to look at ways to build on the strengths of each of these to improve the user experience in each case. For example, the public version is simple to use but does not have as sophisticated (or effective) a search function as the secure version. The secure version has more detailed information of chemical structures but can be more of a challenge to use (in terms of the look and feel of the interface and the need to establish a secure connection).

## **EFFICIENCY**

### **Question 5: How do the overall costs for maintaining the database by the European Commission compare to the overall benefits for database users?**

The answer collected during the interviews highlighted that the costs to the European Commission of operating, maintaining and developing ECICS are relatively modest compared to the estimated benefits achieved for users, particularly in terms of time saved. While it is difficult to put an exact cost on these benefits, the available evidence suggests the time saved significantly outweighs the cost of providing the service.

Considering an average time saved by using ECICS at 30 minutes for successful search and estimating the total number of successful searches conducted annually at approximately 310,000, by multiplying these numbers, the total time saved by ECICS users on annual basis is approximately 155,000 hours.

As regards the expenses for the ECICS functioning and maintenance, annual expenditure (for the period 2010-2016) has shown significant variation (between €36,000 and €195,000). In addition, annual expenditure on contractors over the same period averaged at €334,000 and makes up the largest share of total expenditure on ECICS. Thus, combining operational, maintenance and development expenditure, the average annual cost for the European Commission of running ECICS is approximately €552,000.

Based on the assumptions set out before, for every €1 spent to operate, maintain and develop ECICS, economic operators, customs authorities and laboratories, and other users benefit by saving approximately 15 to 20 minutes of their time.

In addition, there is evidence to suggest that the existence of (the public version of) ECICS has an impact in terms of reducing demand for BTI decisions relating to chemical substances, which is likely to translate into further time savings for economic operators and customs authorities. And the impact of ECICS in saving time related to translation tasks is likely to be considerable, although difficult to estimate.

## **COHERENCE**

Examining the coherence of the database provides insight into how ECICS complements information available elsewhere and supports policy-making processes. Through a desk review and analysis of relevant, comparable databases, the extent that the content and coverage of ECICS overlaps with or is distinct from other databases that encode chemical substances was assessed.

**Question 6: To what extent does ECICS complement other databases that encode chemical substances?**

To investigate how the public version of ECICS fits in the wider universe of databases encoding chemical substances, comparative data on 11 databases provided by different public bodies (including international organisations) and commercial undertakings was gathered. The selection of databases was informed by a review conducted during the initial structuring phase of the evaluation and in response to suggestions made by the steering group and with experts.

The public version of ECICS complements other databases that encode chemical substances by its provision of the Combined Nomenclature code. Evidence suggests this is the main reason visitors use the website. In the absence of ECICS, no other database in its current format would fill the gap left. The evaluators also conclude that the public version of ECICS complements the existing offering of other databases in its provision of the Customs Union and Statistics (CUS) number. No other available databases currently provide this number to the same extent as ECICS – which creates this number for over 46,000 chemical substances. This will be an increasingly important feature of the public version of ECICS once the provision of the Customs Union and Statistics (CUS) number for customs declarations becomes mandatory.

The extent to which the secure version of ECICS complements other chemical databases is less clear cut. While there is clearly a need for customs laboratories to have access to analytical data of the sort to be provided in the secure version, the evaluation found evidence that users would like to see this aspect of the database improved. Customs laboratories and other EC services sometimes turn to other sources to find relevant analytical data rather than using ECICS. Adding links to these other databases would increase the coherence of ECICS as well as adding to its overall value to users.

**Question 7: To what extent (and how) does ECICS feed into the customs policy making process?**

Beyond its primary purpose of facilitating the classification of chemical products for customs purposes, the evaluation also examined the extent to which ECICS is used to inform policy making in the field of customs. The answer to this question is informed mainly by a review of relevant documents and interviews with officials within the Directorate-General for Taxation and the Customs Union (DG TAXUD) .

The evaluation found limited evidence of ECICS data being directly referred to in policy documents. Instead, the influence of ECICS can be observed mainly in terms of lightening the administrative burden on Commission Services and national administrations. The use of ECICS by the economic operators can reduce the requests for Binding Tariff Information (BTI). This is of course a reduced burden for the customs administration which can face a reduced number of applications. In addition, due to extensive use of ECICS and the reduced number of BTI, also the officials in the Commission Services can experience a reduced need for discussion on the classification of chemical products. Classification regulations in this area are very rarely needed.

Specifically, the number of BTI decisions issued which relate to Chapters 28 and 29 (the two chapters of the Combined Nomenclature which comprise the vast majority of ECICS entries) are disproportionately low in comparison with the value and volume of trade in these products and the number of Combined Nomenclature and Integrated Tariff of the European Community (TARIC) codes found in these chapters. This discrepancy could be explained by the existence of

ECICS: rather than applying for a Binding Tariff Information (BTI) decision, economic operators can consult ECICS to find information to be sufficiently confident of the tariff applicable to these products.

Secondly, where ECICS has impacted on the policy making or regulatory process is with regard to the classification regulations decided by the Customs Code Committee. Of the 1031 regulations in force on 4 October 2016 only two concern pure chemicals i.e. relate to substances which are covered by ECICS and they are very old (1989 and 1993). As with the relatively low number of Binding Tariff Information (BTI) decisions, it is possible to infer that this results from the fact that ECICS provides economic operators with sufficient clarity with regard to the classification of chemical products. And because of this, classification regulations in this area are very rarely needed. Evidence from Commission officials supports this conclusion: discussions within the committee and its regulations rarely concern pure chemicals, notwithstanding their relative importance in terms of trade value and the wide array of chemicals traded which number in the tens of thousands.

While there is limited evidence of ECICS ‘feeding into’ the customs policy making process, the database’s impact is mainly felt in terms of reducing the administrative burden on other Commission services. For example, ECICS is used by the Commission services when updating the list of products benefitting from a tariff suspension. A list of the products currently under suspension is provided by Council Regulation (EU) No 1387/2013. It is regularly amended (in January and July each year) to take into consideration new requests presented by the Member States. The suspension regulation contains a lot of chemical substances. If the product subject to a suspension is listed in ECICS, the data needed for the suspension regulation (name, translation and classification) can be simply copy-pasted from ECICS.

It is reasonable to conclude that ECICS is used as an alternative and provides sufficient certainty to economic operators with regard to the tariff applicable to chemical products.

**Question 8: To what extent (and how) does ECICS feed into regulatory processes in other policy areas than customs?**

The evaluation examined the extent to which public administrations beyond the domain of customs rely on ECICS in their regulatory processes. The answer to this question is informed by a review of relevant documentation and, primarily, by a series of interviews and written feedback from Commission services, Member State authorities and international organisations.

It can be concluded that among the different administrations which engaged with the evaluation, use of and reliance on ECICS varies considerably. Interestingly, almost all of the interviewees who said they use ECICS consult only the public version of ECICS and confirmed that the level of information which it provides is sufficient to meet their needs.

- Among Commission services, DG Translation in particular stressed the importance of ECICS for its work. ECICS is seen as an important resource for its accurate translation of chemical names into EU languages. As a tool for translation, ECICS is useful for the translation of documents including legislation, policy documents, and guidelines. DG Translation relies on ECICS when translating documents across the EC’s policy areas (examples given related to health (pharmaceuticals) and environmental protection) as well as for customs-related documents.

- Another Commission service which relies on ECICS is DG Environment. It uses ECICS to check chemical names and obtain Combined Nomenclature (CN) codes in the preparation of regulatory acts.
- Other Commission services told the evaluators that while they themselves do not use ECICS, they encourage national authorities to make use of it when enforcing EU legislation. But the evaluation found no evidence of national authorities consulting ECICS for this purpose. This may be attributable to a lack of awareness suggesting there is greater scope to promote the database among this potential user group.
- Equally, DG HOME and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) do not use it, but national authorities engaged in the monitoring of New Psychoactive Substances (NPS) have expressed interest in these substances. One submission to the open public consultation was critical of the limited coverage of New Psychoactive Substances in ECICS. DG TAXUD acknowledges these gaps but point to the difficulty of providing up-to-date coverage of New Psychoactive Substances given the rapid evolution in the development of these substances.
- Interviewees from international organisations International Organization for Standardization (ISO) and International Union of Pure and Applied Chemistry (IUPAC) said that they tended to feed into ECICS e.g. by working with DG TAXUD and its contractors to develop the databases content, or flagging inaccuracies among existing entries.
- Finally interviewees who engaged with the evaluation (DG TRADE, the World Health Organisation) said they did not use ECICS, as they did not consider the information it contains to be useful for their work.

To sum up, it can be underlined that ECICS contributes to the regulatory processes of Commission services beyond the field of customs. In particular, the database's translations of chemical names are judged to be very useful by DG Translation. Other services consult the database on an occasional basis but find it to be a useful resource when they do. In almost all cases, Commission services use the public (rather than the secure) version of ECICS.

## SUSTAINABILITY

### **Question 9: What (if any) fee would economic operators be prepared to pay to access the database in order to maintain and develop ECICS?**

Economic operators mainly use the database for tariff classification purposes of chemical substances. It is because of this core function that ECICS is valued most, making the database irreplaceable in users' eyes. Based on respondents' open responses, interviews and investigations carried out directly by the evaluators, there are no current alternatives to ECICS on the market. It was found that economic operators are not accustomed to paying for this kind of service, and would only potentially be willing to pay if the database was substantially improved (such as increasing coverage of chemical substances and guaranteeing that it is up to date).

Given the low propensity of economic operators to pay for databases, European Commission services believe that at this stage charging economic operators for access to ECICS would be met with resistance and could potentially lead to lower traffic, as many individuals pointed out.

Nevertheless, since no comparable database is currently available, economic operators would still rely on ECICS to conduct their work – nuancing the above findings.

## **EU ADDED VALUE**

### **Question 10: EU added value: to what extent is ECICS still justified?**

ECICS has been in existence for over 40 years without any detailed examination of its underlying rationale and usefulness. Therefore the spontaneous question which could be raised is the following: if there were no ECICS would someone have to invent it?

Based on the evidence collected and analysed for the evaluation, the overall answer to the question is ‘yes’ because ECICS meets the specific needs of stakeholders.

In particular:

1. Considering that the Customs Union is an exclusive competence of EU, in order to guarantee that authorities and economic operators in the Member States are implementing the rules consistently, the update of a database such ECICS should be crucial and be done at European level; Stakeholders' views confirmed that ECICS is unique;
2. ECICS meets the specific needs of stakeholders which have been identified in the core function of the database, i.e. the identification of codes for classification purposes;
3. ECICS contributes substantially to the work of its core users;
4. ECICS provides demonstrable value for money. As an EU initiative, ECICS also generates economies of scale by allowing the Member States to benefit from the same database.

## **6. CONCLUSIONS AND LESSONS LEARNT**

### **Conclusions**

The Commission appreciated the overall quality of the external study supporting this evaluation and acknowledged the methodological difficulties and efforts undertaken to mitigate them. The evaluation findings as presented in this report were deemed credible and the conclusions accurately drawn.

Based on the evidences collected and analysed with this evaluation, it was concluded that ECICS is definitely an added value for the EU users because it meets the specific needs of stakeholders. The following paragraphs go through each of the main reasons that can support these findings.

At a high level it is worth pointing out that the **Customs Union is an exclusive competence of the EU**. This means that customs rules, including those related to the import and export of chemicals, are set at EU level. Since national authorities are then responsible for implementing these rules consistently, it is vital for these authorities and the economic operators who deal with them to base their decisions and behaviour on identical (or at least very similar) information. Before even considering such issues as the practical usefulness of ECICS and potential economies of scale, the European nature of customs implies that if any public actor should take

responsibility for a database such as ECICS, that actor should be at European level. This shows that the database brings **added value for the EU** and its stakeholders.

Considering the **relevance** of ECICS related to the extent to which different user groups need the information contained in the database, it can be concluded that **ECICS meets the specific needs of stakeholders**. The evaluation devoted a lot of time to figuring out what these needs are and how they relate to the services ECICS provides. Across customs authorities, customs laboratories and economic operators, and the public and secure versions of ECICS, the evaluation showed that its offer corresponds closely to demonstrated needs. For the vast majority of economic operators and customs authorities, these needs were encapsulated in the core function of the public version of ECICS, namely the identification of Combined Nomenclature (CN) and Harmonized System (HS) codes for customs classification purposes.

As regards the **effectiveness** of ECICS and its capability to ease the life of its users, it is worth to say that **ECICS contributes substantially to the work of its core users**. Beyond merely expressing general satisfaction with the database, audiences across the spectrum praised it for several reasons, including the accuracy / reliability of the data, speed, content, coverage and user interface. They also elaborated on concrete ways ECICS facilitated key tasks and made users' lives easier. Most importantly for economic operators and customs authorities, ECICS saves time in terms of chemical and tariff classification tasks.

Concerning the **coherence** of ECICS, the evaluation **confirmed that the database is unique**. For Combined Nomenclature (CN) / Harmonized System (HS) classification (on the public version) and detailed identification data on chemicals (on the secure version), there are no readily available alternatives to ECICS. This means that it has been integrated into the business models of economic operators and standard operating procedures of authorities both within the EU and further afield. Usage statistics back this up, suggesting that at least 350,000 successful searches are conducted on an annual basis, by visitors from across the EU Member States and other countries.

Evaluating the **efficiency** of ECICS by conducting a cost-effectiveness assessment to compare the benefit achieved for the database's main user groups with the costs incurred, it can be concluded that ECICS **provides demonstrable value for money**. As an EU initiative, ECICS also **generates economies of scale** by allowing all Member States to benefit from the same database. Otherwise Member States either would have to reproduce a similar database individually, leading to considerable duplication of efforts, or free-ride on the investment some Member States might hypothetically make.

However, the evaluation pointed out that ECICS is far to be perfect.

Most important were criticisms from users about the **insufficient coverage of chemicals and timeliness of updates**. This was exacerbated by the long wait for users to get replies from requests made to the ECICS mailbox. Such problems undermined confidence in the database as a single source for tariff classification purposes, where mistakes could lead to wasted time and fines (for economic operators) or lost revenues (for national authorities). Linked to this there were **concerns about classifications in ECICS not being legally binding**, meaning that users applied them at their own risk. Others complained that neither the public nor secure versions of ECICS had user-friendly interfaces. Due to the **lack of resources to promote the database**, many potentially relevant stakeholders do not even know about it.

At the same time, it was found that **considerable time and effort were devoted to providing information that few users expressed a need for**. These included data on regulations and translations of product names, which are mainly used internally by the Commission services. It could be argued that the limited budget for ECICS would be better deployed on improving core functions used by the majority of ECICS' users while scaling back or eliminating some expensive but underutilised ones.

## 1. Lessons learnt - High-Level Suggestions

- **More depth, less breadth:** the evaluation showed that the ability to provide users with Combined Nomenclature (CN) and Harmonized System (HS) codes is by far the main selling point of the public version of ECICS. Additionally, customs labs use the secure version of ECICS mainly to identify the Combined Nomenclature code but also to find identification data. **The Commission could increase the added value of ECICS by increasingly focusing as much as possible on these core functions, allowing it to carry out updates more frequently and increase coverage of substances.**

While ECICS contains already most of the important chemicals from trade and control points of view, the increase of the coverage of substances will be a priority. Member States could be invited to participate also to the enrichment as they have the possibility to enter themselves new products. Economic operators should be also involved in this enrichment. Concerning the updates, synchronisation of the public website with the secure database could be envisaged more frequently.

- **Integration into a broader customs platform:** taking into account other priorities as well, it could be possible to integrate ECICS into (for example) CLASS in the years to come. This would rationalise some of the maintenance and development costs of ECICS, thereby increasing its efficiency. Moreover, by providing all customs-related information for chemicals alongside that of other products, an integrated platform would provide a true one-stop-shop for customs authorities and economic operators. Such a platform would make their lives easier and increase the added value of the Commission's efforts.

It is worth to mention that ECICS is already part of a global Commission customs platform, sharing already parts of software and reference data. A further rationalisation of the maintenance and development costs of ECICS should be therefore hypothetic. However ECICS can and will be integrated in other systems which could be mutually beneficiary such as CLASS. An integration of ECICS in platforms dealing specifically with chemicals or trade could also be envisaged. As an example, the use of ECICS could be also beneficial for the Import Control System (ICS) which is systems architecture developed by the Community for the lodging and processing of the Entry Summary Declaration (ENS).

- **More communication:** the evaluation found evidence that there are potential user groups for whom ECICS could provide useful support (e.g. authorities responsible for the enforcement of the Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation (REACH) and PIC legislation). Commission Services should consider how they might best use existing tools and channels to reach these groups, including those which have been used in the past (for example, presenting ECICS at European Chemicals Agency (ECHA) seminars which bring together enforcement authorities), and new



initiatives in this area<sup>1</sup>. There should be more encouragement for other DGs to use ECICS. This would improve the accuracy and quality of original documents, which would, in turn, make translation easier for the Commission.

Promotion of ECICS in any potential user groups should be increased and development of cooperation, with Commission services, national authorities and economic operators will be encouraged. Presentations on ECICS could be given in seminars about customs classification or in events organised by specific trade contact groups and federations.

## 2. Specific improvements

The evaluation exercise considers retaining the database in its current form in the short-term, while making incremental improvements that would address some of the shortcomings identified during the evaluation.

- **Adding value by adding links to other databases:** particularly with regard to the secure version of ECICS, users would appreciate links to analytical data. While this might be difficult and / or expensive, it should be investigated whether links could be included to other relevant databases for this purpose. This could be especially useful for specific types of substances where relevant databases exist.
  - On adding spectra data to ECICS: spectra data (in particular those of new drugs) needs to be stored somewhere and ECICS would be a good platform to do this. However, data on physical properties (such as the melting point / boiling point) is less of a priority. Instead of duplicating this information, ECICS could simply provide users with a link to European Chemicals Agency (ECHA)<sup>2</sup>.
  - On adding safety data to ECICS: there are specific kinds of safety data (e.g. precautionary statements) that are currently stored in ECICS rather than in European Chemicals Agency (ECHA). Yet adding more safety data to ECICS should not be a priority since overall European Chemicals Agency (ECHA) is better placed to host this type of data.

The possibility to link ECICS to other databases will be investigated, whenever possible, in order to avoid a duplication of efforts. In the future, ECICS could also be linked to the European Chemicals Legislation Finder (EUCLEF) as soon as it is ready.

- **Reducing errors, particularly with regard to translation:** in recent years ECICS' coverage of the EU's official languages has increased as a result of the work of contractors who have been engaged to develop the translation of entries. This work is valued by some users including, in particular by DG Translation. Improving the level of accuracy of translation in some languages already covered by the database and including those EU languages not covered when the data underlying this report was collected<sup>3</sup> has been flagged as an issue on which these efforts should focus in future.

It is important to mention that the new translation module of chemical names has been installed in the meantime and the translation is started. IUPAC chemical names will

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<sup>1</sup> At the time of writing, the European Chemicals Agency (ECHA) is conducting a study which will assess the feasibility for the development of a 'central European Chemicals Legislation Finder' (EUCLEF). The study will consider whether an online tool could be built to support economic operators and national authorities (including customs) to quickly identify the EU and national rules which apply to a chemical substance.

<sup>2</sup> <https://echa.europa.eu/information-on-chemicals>

<sup>3</sup> The translation software was completed in August 2017.

therefore be soon correctly translated. The work of adding new languages and developing the translation of other types of chemical names will be continued.

- **Make the translation module public:** at the time of writing, the translation module is foreseen to be accessible only via the secure connection to ECICS. In order to better serve the 15% of ECICS users who use the public version to find translations, and those who could potentially use it for this purpose in future, granting access to the translation module through the public version of ECICS should be considered.

The installation of the translation module on the public website Data Dissemination System (DDS) has been requested. All interested parties in the world will have therefore the possibility to translate IUPAC chemical names in all the EU languages.

- **Decreasing the time delay between updates:** above all, finding a way to reduce the amount of time for a chemical to appear on ECICS would increase its effectiveness for users of all kinds and would increase their confidence in the database.

The secure version is updated soon after the validation by the Customs Code Committee but the public version is not synchronized rapidly enough. The synchronisation of the public website with the secure database will be performed at least three times per year.

- **Devote more attention to communication:** even in the short term, it could be possible to boost awareness of ECICS at relatively low cost. This could include conducting search engine optimisation exercises to ensure relevant users find ECICS when looking for help to classify chemicals, using events such as those hosted by the World Customs Organisation (WCO), industry associations and other fora (European Chemicals Agency (ECHA), Organisation for the Prohibition of Chemical Weapons (OPCW), World Health Organisation (WHO)) to present ECICS and its features to potential users and making more use of Twitter and other social media accounts to inform audiences about updates and other ECICS-related developments.

All possible events and fora to promote ECICS will be explored. Increased use, as far as possible, of social media and information sources (Wikipedia) will be promoted and all interested parties will be invited to make reference to ECICS on their websites.

- **Make the interface more user-friendly:** the evaluation revealed several difficulties users have with the ECICS interface. This could be improved by using internal web development services to conduct a usability audit. Based on this, it should be possible to bring the database into line with best practice regarding such issues as ease of navigation, interactivity, search functions, facilities for different browsers (e.g. desktop versus mobile / tablet), personalisation features and accessibility.

The current interface of the public version is considered as already simple to use, while maybe some tricks could be given to the users during the future promotion events. The secure version can difficultly be simplified as it is in particular destined to ECICS managers, advanced users or users having more complicated needs. Investigations on how to facilitate the use of ECICS on both versions will be carried out.

- **Enhance monitoring:** the evaluators note that detailed and accurate information on the use of ECICS was difficult to obtain for the purposes of the evaluation. While any future monitoring efforts should be proportionate, making arrangements to monitor certain aspects of user access and behaviour on an on-going basis would allow Commission Services to identify problems and take quick corrective action.

It has already requested to keep the Europa Analytics tool on the public version.

The Commission will undertake a dedicated exercise to address the lessons learnt and draw up an action plan for their implementation and follow-up, taking into consideration their character, influence on the database and possible timeline for their execution.

## **7. ANNEXES**

### **Annex 1: Procedural information**

DG TAXUD (Unit A.4) is the lead DG for this evaluation which was outsourced to Coffey International Development Limited, Oxford Research AB, Economisti Associati, wedo IT and the Reach Centre following the use of the framework contract TAXUD/2015/CC/132. The specific contract with reference TAXUD/2016/DE/327 was signed on 26 October 2016 with Final Report to be completed by August 2017.

An Inter-services Steering Group (ISG) concerning the evaluation of the ECICS was set up in May 2016 to oversee the evaluation of the work. The following DGs took part in this steering group: DG TAXUD, DG GROW, DG JRC, DGT and SG. Its mandate was to support the evaluation work, monitor the progress of the evaluation, provide comments and assure the quality and objectivity of evaluation report and finally analyse the results of the evaluation in view of the subsequent follow-up.

The ISG met on:

- 26 May 2016: Terms of reference
- 16 January 2017: Inception Report
- 19 July 2017: Draft final report meeting

The inception report was submitted in January 2017 and the progress report was issued in May 2017 as foreseen in the contract.

The final report was forwarded to the Commission services in July 2017 (as was foreseen contractually) and was transmitted to the ISG members for final comments and for quality check assessment.

## Annex 2: Stakeholder consultation

The Terms of Reference for the evaluation point out that “despite its long life-span of more than 40 years and its important effect on the Commission resources, ECICS has not been evaluated”. The objective of the evaluation was therefore to provide a holistic as well as retrospective / ex post evaluation (in accordance with the Better Regulation Guidelines<sup>4</sup>) of the functioning of ECICS in all its operational aspects. The ultimate purpose of this evaluation was to contribute to evidence-based policy-making, including to demonstrate the economic and societal value of ECICS, and to identify possible improvements. In particular, the evaluation focused on the continued relevance, value and utility for stakeholders (effectiveness) and the extent to which ECICS can successfully accomplish its objectives efficiently.

The scope of the evaluation covered both the publicly available and secure versions of ECICS. In terms of temporal scope, the period from ECICS’ inception in 1974 to spring 2017 was considered. However, while some documentary evidence dates from the earlier period, for practical reasons most of the data collected, particularly from stakeholders, relates to contemporary usage.

The purpose of the consultation was to allow the stakeholder to provide views on the relevance and performance of ECICS.

The research was based on **ten specific evaluation questions** across the criteria of relevance, effectiveness, efficiency, coherence, sustainability and EU added value. These questions allowed the evaluation to include both a process evaluation, which focused on ECICS’ implementation and practical usefulness, and a cost-effectiveness evaluation, which to the extent possible quantified ECICS’ benefits and compared them to its development, operating and maintenance costs.

Criterion and priority level	Evaluation question
Relevance	1. To what extent is the content of ECICS relevant for economic operators involved in external trade operations?
	2. To what extent is the content of ECICS relevant for customs authorities and customs laboratories?
Effectiveness	3. To what extent does the ECICS database facilitate the work of economic operators?
	4. To what extent does the ECICS database facilitate the work of customs officers and laboratories?
Efficiency	5. How do the overall costs for maintaining the database by DG TAXUD compare to the overall benefits for database users?
Coherence	6. To what extent does ECICS complement other databases that encode chemical substances?
	7. To what extent (and how) does ECICS feed into the customs policy-making process?
	8. To what extent (and how) does ECICS feed into regulatory processes in other policy areas than customs?
Sustainability	9. What (if any) fee would economic operators be prepared to pay to access the database in order to maintain and develop ECICS?

4 [http://ec.europa.eu/smart-regulation/guidelines/toc\\_guide\\_en.htm](http://ec.europa.eu/smart-regulation/guidelines/toc_guide_en.htm)

EU added value	10. To what extent is ECICS still justified and why?

As stipulated in the terms of reference, the research focused the most on, and devoted proportionately greatest resources to answering, the questions on relevance, effectiveness, efficiency and EU added value. In addition, the evaluation distinguished between economic operators and customs authorities / laboratories whenever relevant. The last question, on the EU added value of ECICS, was treated as an overall conclusion to the evaluation. This brings together the evidence analysed throughout the evaluation to make a judgement on whether ECICS continues to be justified, both in general terms and as an EU initiative. Leading from the answers to the evaluation questions, the evaluation also sought to identify lessons learnt and possible suggestions for improvement of ECICS.

In order to respond to the requirements outlined above, the evaluation collected and analysed evidence based on several methods and research tools.

- Desk-based review and analysis of existing sources: the evaluators reviewed and analysed existing data from both qualitative and quantitative sources in order to assess various aspects of ECICS. Sources included legal texts, communication material, terms of reference and other information relating to the external contractors working on ECICS, Europa Analytics data collected over a 3.5-month period, the database itself and other databases.
- Open public consultation: an open public consultation (OPC) was online from 14 March 2017 to 6 June 2017 (12 weeks) and was promoted via a link to the consultation on the ECICS website, including through invitations sent to the DG TAXUD Trade Contact Group.
- Questionnaire and follow-up interviews with national authorities: 46 customs authorities and national customs laboratories completed a detailed evaluation questionnaire between April and June 2017 which sought to gather information on their views and experience of both the publicly available and secure versions of ECICS. The evaluation questionnaires were complemented with 19 interviews from a range of EU countries and Switzerland.
- Interviews with economic operators: 23 follow-up interviews were completed with a selection of 23 respondents to the open public consultation who had indicated their willingness to be interviewed. The evaluators spoke to economic operators representing different sectors, including importers and exporters, cargo and logistics providers as well as customs brokers.

### **Desk-based review and analysis of existing sources**

Existing data from both qualitative and quantitative sources were analysed in order to assess various aspects of ECICS. The purpose of the research on qualitative sources was to:

- Fully understand and map the delivery mechanisms, decision-making processes, communication channels, relating to the use of ECICS at EU and national level;
- Undertake an assessment of the functioning of the database;
- Compile and analyse feedback and input from relevant stakeholders that has already been collected;

- Develop initial working hypotheses regarding strengths, weaknesses, challenges, bottlenecks, opportunities for improvements etc. that can be further tested with stakeholders via the questionnaires and interviews.

Sources included legal texts, communication material, terms of reference and other information relating to the external contractors working on ECICS, the database itself and websites of other databases.

Quantitative data and statistics played an important role in the evaluation, allowing the evaluator to explore trends and relationships regarding the use of ECICS and its costs. More concretely:

- ECICS usage: a web analytics tool (Europa Analytics) was installed on the publicly available ECICS website to measure and monitor user traffic and behaviour during the 3.5 months from mid-April to the end of July 2017. This gave the data needed to make some inferences about the use of the database despite the lack of previous visitor tracking.
- ECICS costs: DG TAXUD supplied budgetary data relating to in-house expenditure (including staff costs) related to the operation, maintenance and development of ECICS, in addition to the amounts spent on the external contractors charged with updating ECICS' content and making translations.

The evaluation work started in March 2017 and lasted before the summer and encompassed an on-line survey and a number of targeted interviews through.

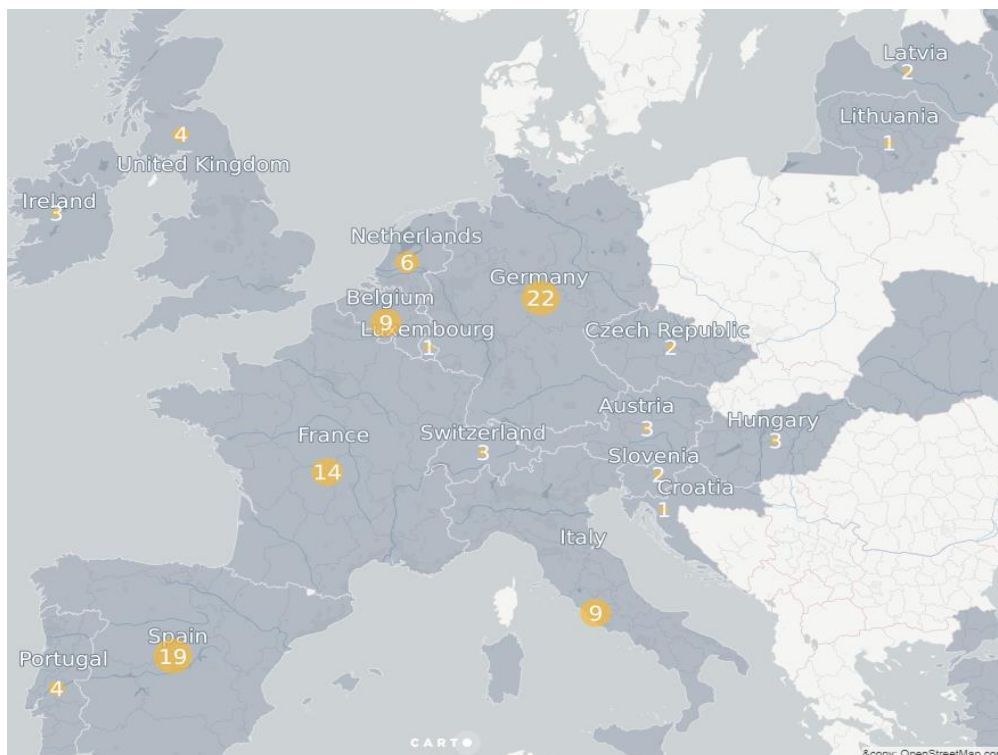
#### **SUMMARY OF RESPONSES TO THE OPEN PUBLIC CONSULTATION**

The open public consultation was online from the 14 March to 6 June 2017 (12 weeks) as part of a wider evaluation of ECICS. It was promoted via a link to the consultation on the ECICS website and through invitations sent to the DG TAXUD Trade Contact Group. It was developed with the help from DG TAXUD and the evaluation steering group.

The open public consultation gave the possibility to interested parties to express their views and opinions on ECICS, with a focus on profile information, their use of ECICS, alternative sources of information, satisfaction with the database, ideas for improvement and willingness to pay for access. The survey was available in all the EU languages.

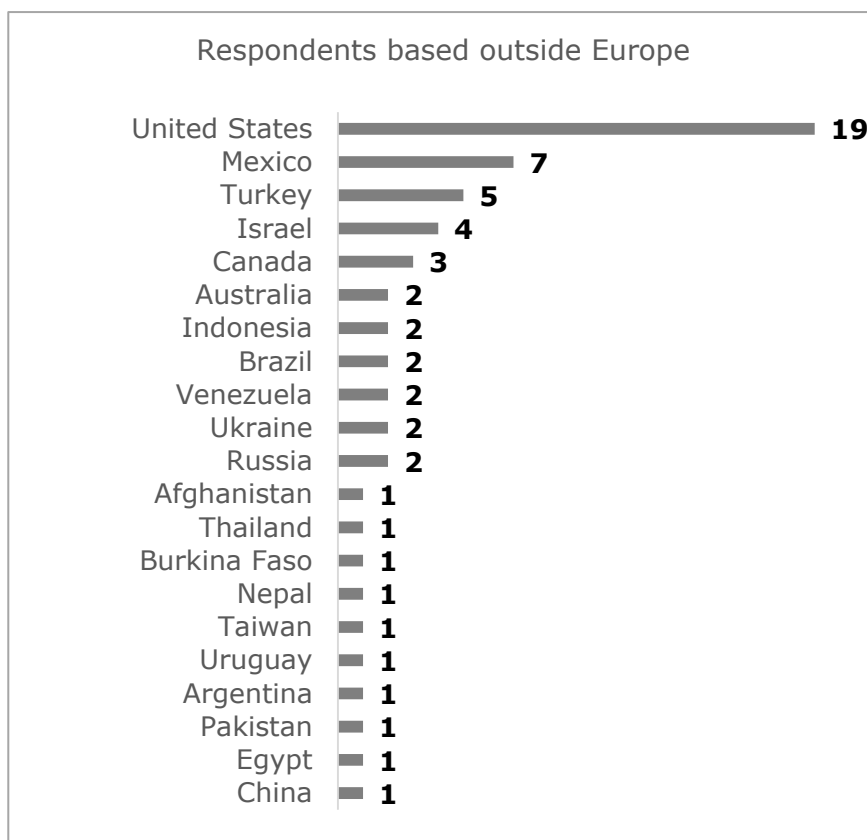
In total, 171 responses to the open public consultation were received. As illustrated below, the highest number of replies were received from respondents based in Germany (22), followed by Spain (19), the United States (19) and France (14). Surprisingly, there was high representation of non-European respondents, with one in three being based outside Europe.

*Respondents' location*



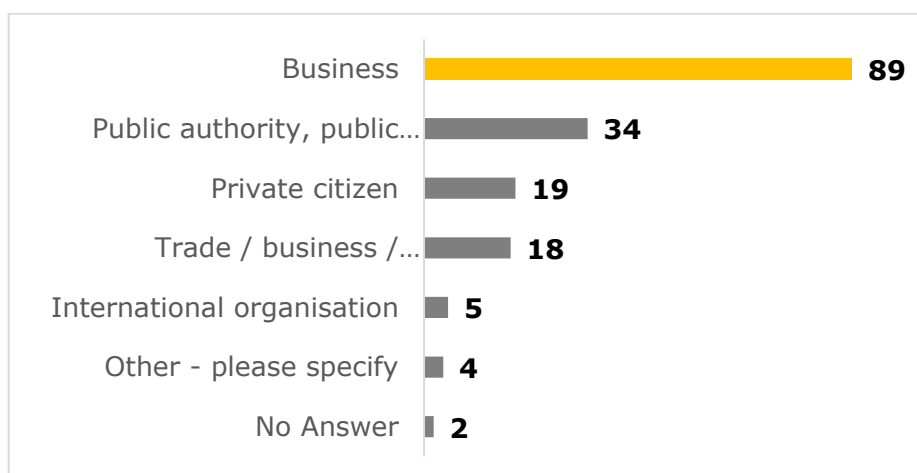
Map produced with CARTO and OpenStreetMap®





Respondents were asked to state whether they were responding to the open public consultation as an individual or on behalf of an organisation or institution, as well as their main field of professional activity. More than half of the respondents (52%) reported they were replying on behalf of a business, while a further 11% of respondents were from a “trade / business / professional association.” The next largest category of respondents was “public authorities, institutions, and customs authorities” which made up 20% of respondents. The figure below summarises the number of responses from each of the different groups.

*Respondents' profile*



## **SUMMARY OF NATIONAL AUTHORITIES' QUESTIONNAIRE RESPONSES AND INTERVIEWS**

A total of 46 customs officials and national laboratories representatives completed a detailed evaluation questionnaire between April and June 2017 which sought to gather information on their views and experience using ECICS.

The evaluation team sent the questionnaire to:

- 126 delegates to the Customs Code Committee (CCC) (sub-section for agriculture and chemistry) across the 28 EU Member States;
- 41 members to the Customs Laboratories European Network (CLEN) in the EU28 and five candidate countries; and
- 45 delegates to the World Customs Organisation (WCO) scientific subcommittee from the 33 WCO members which are not also EU members.

In addition, the evaluation team:

- Prepared a message which DG TAXUD Unit B2 forwarded with the questionnaire to their network of experts in the field of customs controls and risk management (covering the EU28 Member States, Norway and Switzerland); and
- Sent reminders and follow up emails to ensure a high response rate.

In total, the evaluators received responses from 22 delegates to the Customs Code Committee, 14 members to Customs Laboratories European Network (CLEN), as well as 8 delegates to the World Customs Organisation scientific subcommittee.

The evaluation questionnaires were complemented with 19 interviews. These were conducted by telephone after the questionnaire responses had been collected and analysed in May and June 2017. The evaluation team were able to explore responses to the questionnaire in order to seek clarification and ask respondents to elaborate on their written comments.

## **SUMMARY OF NATIONAL AUTHORITIES' QUESTIONNAIRE RESPONSES AND INTERVIEWS**

The evaluation team carried out interviews with 23 economic operators. These had previously responded to the open public consultation. The team first spoke with 15 individuals working for a wide range of businesses, who regularly use ECICS as part of their work. To arrive at the interview sample, open public consultation respondents were selected representing EU and non-EU Member States, different sectors and business activities, as well as a range of sizes.

The team also reached out to EU-level trade associations representing relevant industries. However, it proved difficult reaching individuals willing to speak to the evaluators in this capacity. Having sent numerous e-mails and reminders without success, the team decided to speak with an additional 8 economic operators to gather further insights.

Interviewees were selected from among respondents of the open public consultation who had indicated their willingness to be interviewed. Out of the pool of 171 respondents, 136 said that they would be willing to be contacted for a follow up interview. The evaluators then selected a relevant sample, taking into account the geographic spread, company size as well as the nature of their work.

Interviewees were based amongst others in Germany, the Netherlands, Israel, Spain, Pakistan, Canada, United States of America (USA) and represented a wide range of economic activities.

The interviews allowed the evaluators to further develop some of the answers provided in the open public consultation, with a particular focus on how ECICS was perceived amongst economic operators, as well as the perceived added value of the database for them.

Most interviews were conducted in April and May 2017 over the telephone and lasted on average between 15 and 25 minutes. Two economic operators submitted written responses to the interview questions via e-mail.

### **Annex 3: Methods used in preparing the evaluation**

The evaluation included a targeted consultation of stakeholders carried out through an on-line survey and interviews. The survey questionnaire (see icon here below) included several introduction questions, to establish the relation between the respondent and the evaluator, and was followed by questions on the relevance, effectiveness, efficiency, coherence, sustainability and EU added value of its activities.

The detailed questionnaire posed for the open public consultation can be consulted by clicking on the icon here below.



Questionnaire  
EN.pdf

The detailed questionnaire posed to the specific stakeholders can be consulted by clicking on the icon here below.



National authorities  
questionnaire - EU MS

## Annex 4: Summary of ECICS web statistics

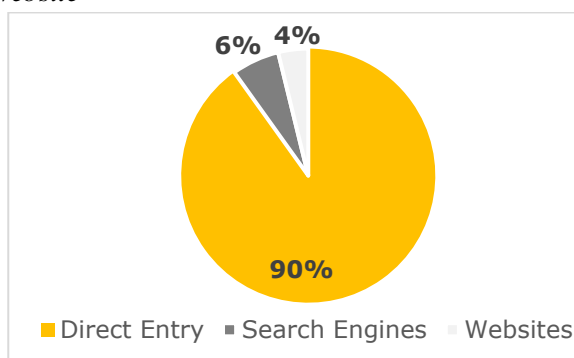
With the help of Europa Analytics, a web analytics reporting tool (Piwik) was installed on the ECICS website.<sup>5</sup> This tool measures and monitors website user behaviour and records website traffic statistics and was operational from mid-April (2017). Some content tracking functionality, such as on-site tracking of search key words was not available but are planned to be included in future updates to the ECICS website.

There was no visitor tracking in place previously on the ECICS website, except for aggregated statistics on ‘hits’ on the ECICS database and visits. Little baseline data is therefore available. This makes it difficult to compare and analyse trends over time since little context is available to the results generated. The below presentation is consequently descriptive in nature but where possible inferences and comparisons are made to contextualise the results. Attention should be given to the fact that the statistics used are based on the amount of IP-addresses registered, and there can in fact be a number of users behind one IP-address (as an IP-address can provide access for a larger number of users). Similarly, the metric ‘unique visitors’ are determined using first party cookies stored in visitor’s browser. When the same person visits ECICS on different devices (for example laptop and mobile phone) this will be registered as two unique visitors. The great majority of ECICS visitors use desktop devices (97 %) to access the ECICS website so this should not impact or skew results to any large extent.

- **How visitors find ECICS**

The majority of traffic to the ECICS website comes from direct entry (i.e. they entered the URL in their browser directly). This suggests that users are already aware of the website and retention (i.e. number of users that come back) is high since they access ECICS directly and not through referral via another source such as search engines. Spontaneous visitors who click through to ECICS from other websites or search engine results appear to be quite rare, with only one in ten visitors not accessing it directly.

*Origin of traffic to the website*



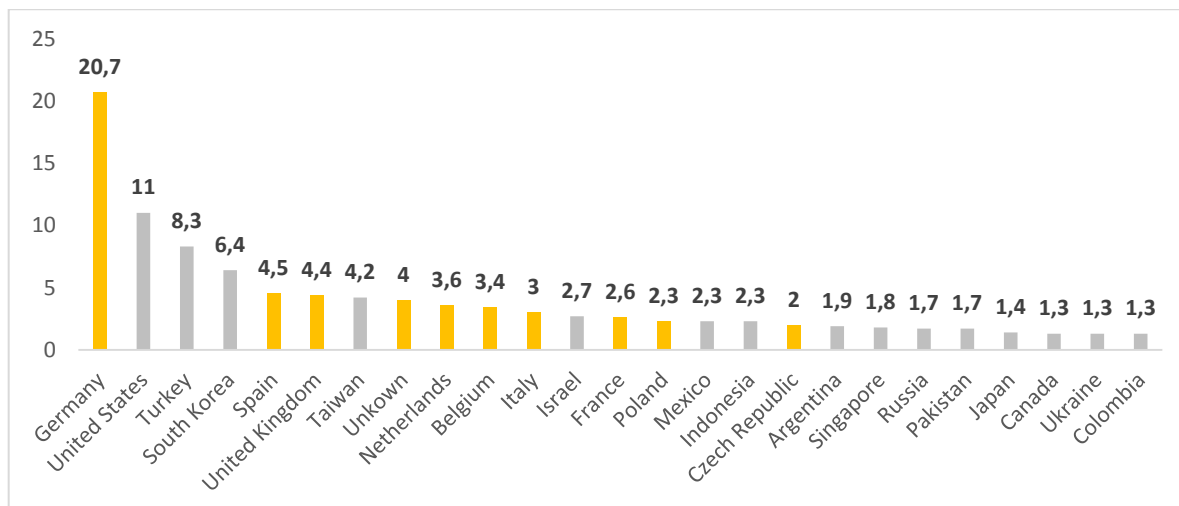
- **Visitors location**

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<sup>5</sup> Europa Analytics is the corporate web analytics service of the European Commission managed by DG COMM with DIGIT support. For more information on Piwik see <https://piwik.org/>

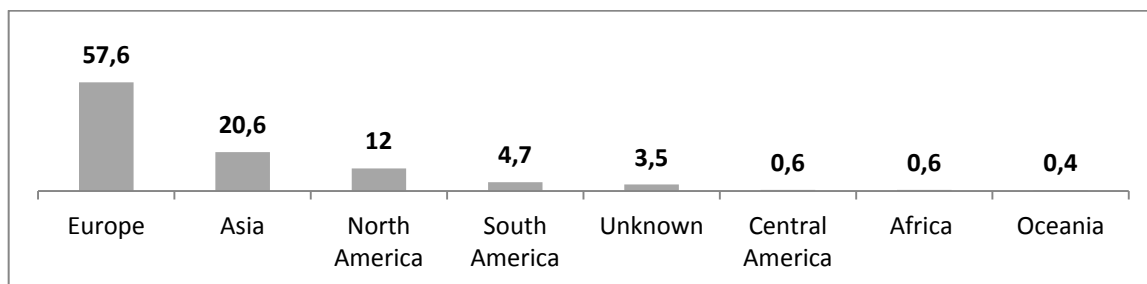
The most obvious indicator of where visitors using ECICS come from is the country metric. This is determined through geolocation of the IP address.<sup>6</sup> Of all countries, Germany had the most frequent visitors to ECICS with almost a quarter of the traffic. Interestingly, Germany is followed by three non-EU countries (United States, Turkey and South Korea). Only in fifth place with 5 % of visitors for whom the IP address is known, do we see another EU country (Spain). All in all, 15 of the top 25 countries are based outside the EU.

*Number of ECICS visitors by country (percentage of total visitors)*



In general, when using IP geolocation, the more aggregated level used, the more accurate the information is. Identifying which country or continent a user is from is more precise compared to the exact physical location on the ground (longitude and latitude).

*Proportion of ECICS visitors by continent (%)*



<sup>6</sup>IP geolocation is the identification or estimation of the real-world geographic location of a website visitor. IP address location data can include information such as country, region, city, postal/zip code, latitude, longitude and time zone.

- **Visitor traffic and behaviour**

In the time period in question (mid-April to end of July) there were almost 130,000 visitors to the ECICS website. Extrapolating, this rate of visits (everything else equal) results in around 450,000 visits to the ECICS website per year.

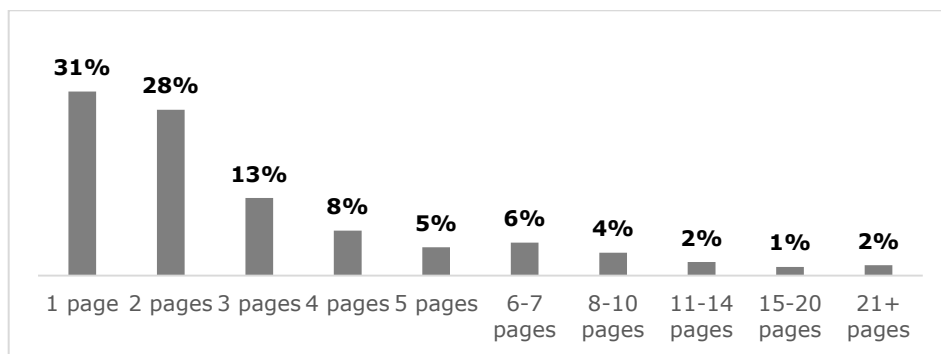
Visitors to the ECICS website are also to a large extent returning visitors (two out of three) for the time period in question. Though no comprehensive benchmarks are available for ECICS, for commercial websites, 30-40 % rate of return visits is considered good. High rates of return visits also indicate a high degree of audience loyalty (and engaging content). It can be seen as a thermometer on the usefulness visitors derive from the website or service. In the case of the ECICS website users appear to rate the service ECICS provides highly.

In addition, visitors stay relatively short on the site, around five minutes in average.<sup>7</sup> Considering ECICS website is in essence a searchable database a reasonable conclusion is that users perform their actions and then exit, the interaction being transactional in nature.

Another metric commonly used is bounce rate which needs context to be useful. A high bounce rate is often interpreted as visitors expressing dissatisfaction by leaving the site without exploring it further than the page they entered by. There are however many factors that can impact bounce rates such as ease of navigation, page loading, design and low quality content. As a measure for retaining visitors, the 31% that ECICS scores is a close to the average bounce rate. Although no direct comparison is available, Google Analytics gives the benchmark of 10-30% for service sites.<sup>8</sup>

Another source of information about visitor behaviour can be found in how many pages in average are visited per session (visit). Visitors to the ECICS website are largely clustered around visiting between one to four pages. The distribution has however a long tail, with almost a fifth of the distribution visiting between five to 21 or more pages. Indeed, the average action per visit was four, which indicates that users do at least a couple of searches before they exit the ECICS website.

*Pages per visit*



<sup>7</sup> Averages can easily be skewed by outliers (extreme values) why this result needs to be taken in moderation, however given the relatively large sample size this error source is reduced.

<sup>8</sup> See for example, Aleks Vizulis, *How to Find Your Industry Bounce Rate Benchmark*, URL: <http://blog.21handshake.com/how-to-find-your-industry-bounce-rate-benchmark>

## Annex 5: Comparison of ECICS with other relevant databases

Name of Database	Name of host organisation	Nature of host organisation	Purpose of Database	Data sources	Database contents	Number of substances	Languages available	Publically accessible
ECICS <sup>9</sup>	European Commission's Directorate General (DG) for Taxation and Customs Union	EU Institution	Identifying chemicals; classifying them correctly and easily in the Combined Nomenclature as well as naming them in all EU languages for regulation purposes	Various legislation such as Chemical Weapons Convention, PIC, WHO. Continuously updated since the 1970s with controlled and in other ways commercially significant products	Mainly pure chemicals. Includes: all pesticides and other plant protection products; Non-proprietary Names (INN); Salts and esters of INN; Intermediate pharmaceuticals; Narcotic and psychotropic substances and their precursors; Ozone-depleting substances; Toxic/dangerous chemicals controlled under the Chemical Weapons Convention; Chemicals subject to the international prior informed consent (PIC) procedure; Other products subject to import/export controls; Color Index dyes and pigments; Other commercially significant products	43,000 in public version. In total 129,000 chemicals listed	11	√
C&L Inventory <sup>10</sup>	European Chemicals Agency (ECHA)	EU Institution	Keeping record of classification and labelling information on notified and registered substances received from manufacturers and importers as required by EU regulation since	Notifications from manufacturers and importers. The database is refreshed regularly with new and updated notifications	Registered substances received from manufacturers and importers	124,000 substances	23	√

<sup>9</sup> Available at: [http://ec.europa.eu/taxation\\_customs/dds2/ecics/chemicalsubstance\\_consultation.jsp?Lang=en](http://ec.europa.eu/taxation_customs/dds2/ecics/chemicalsubstance_consultation.jsp?Lang=en)

<sup>10</sup> Available at: <https://echa.europa.eu/fr/information-on-chemicals>



Name of Database	Name of host organisation	Nature of host organisation	Purpose of Database	Data sources	Database contents	Number of substances	Languages available	Publically accessible
CAS registry <sup>11</sup>	Chemical Abstracts Services (CAS)	A division of the American Chemical Society	2009 Keeping a record of chemical substances since early 1900s. The CAS registry number is used by scientists, industry and regulatory bodies as a standard numeric identifier. It provides a common link between the various nomenclatures terms used to describe substances	Chemical Substances (CAS Registry); References (CAplus); Reactions (CASREACT); Regulated chemicals (Chemlist); Chemical suppliers (CHEMCATS); Chemical Industry Notes (CIN); Markush (MARPAT)	Organic and inorganic chemical substances, such as alloys, coordination compounds, minerals, mixtures, polymers and salts, and more than 66 million sequences	125 million unique organic and inorganic chemical substances and 66 million sequences	3	X
SIGMA Chemical Catalogue <sup>12</sup>	Sigma-Aldrich Corporation	American chemical, life science and Biotechnology Company	The company's sales portal allows users to find and purchase screening compounds and building blocks. It also serves as a chemical database for early stage discovery efforts and custom libraries	Data provided by 70 different chemical suppliers	A wide range of chemical products	8 million products from more than 60 chemical suppliers	1	√
European Database on	European Monitoring	EU Institution	Providing up to date data on New	Data is provided mainly by the	Up to date information on New Psychoactive Substances (NPS) detected	approx. 670 NPS	1	√

<sup>11</sup> Available at: <https://www.cas.org/content/chemical-substances>

<sup>12</sup> Available at: <http://www.sigmaaldrich.com/catalog/AdvancedSearchPage.do>

Name of Database	Name of host organisation	Nature of host organisation	Purpose of Database	Data sources	Database contents	Number of substances	Languages available	Publically accessible
New Drugs (EDND) <sup>13</sup>	Centre for Drugs and Drug Addiction		Psychoactive Substances in the EU. Includes chemical structures, street names and CAS number	National Focal Points of the Reitox network (Reitox is the European information network on drugs and drug addiction)	in the EU			
Common European Drug Database <sup>14</sup> (Pilot)	National Health Insurance Fund Administration of Hungary	National Government Agency	To make prices of pharmaceuticals easily available for the public of Europe, as well as allowing the public comparison of prices of the reimbursed drugs	Data is drawn from internet publications and also provided by competent authorities	Up to date price information of chemicals	N/A	10	√
European Pharmacopoeia <sup>15</sup>	Council of Europe / European Directorate for the Quality of Medicines and HealthCare (EDQM)	EU Institution	Promoting public health through the provision of recognised common standards for the quality of medicines and their components as well as facilitating the free movement of medicinal products in Europe and beyond	N/A	2,300 monographs, 350 general chapters illustrated with diagrams or chromatograms, and over 2,500 descriptions of reagents	2,300 monographs and 2,500 descriptions of reagents	2	<b>X</b>

<sup>13</sup> Available at: <https://ednd-cma.emcdda.europa.eu/>

<sup>14</sup> Available at: <http://cedd.oep.hu/>

<sup>15</sup> Available at: <http://online.pheur.org/EN/entry.htm>

Name of Database	Name of host organisation	Nature of host organisation	Purpose of Database	Data sources	Database contents	Number of substances	Languages available	Publically accessible
Cosmetic Ingredients and Substances (CosIng) <sup>16</sup>	The Directorate-General for Internal Market, Industry, Entrepreneur-ship and SMEs (DG GROW), European Commission	EU Institution	A specialist database with information on cosmetic substances and ingredients. It enables easy access to data on these substances, including legal requirements and restrictions.	CosIng describes cosmetic ingredients contained in the consolidated version of the Cosmetics Directive 76/768/EEC, the Inventory of Cosmetic Ingredients, as amended; as well as opinions on cosmetic ingredients of the Scientific Committee for Consumer Products (SCCP).	Contains data on over 1700 cosmetic products in the Regulation (EC) No 1223/2009, as well as over 1600 substances included in the consolidated version of the Cosmetics directive 26/768/ECC	Over 1700 cosmetic products and over 1600 substances.	1	√
Merck Millipore database <sup>17</sup>	Millipore Sigma	German subsidiary of American pharmaceutical company	The company's sales portal provides results for products, services and associated documents in the areas of life science and biopharmaceutical manufacturing.	N/A	Products, services and associated documents	N/A	1	√
Customs Rulings	U.S. Customs and	Federal law	CROSS is a searchable	Data provided by	U.S. Customs and Border Protection	Data on	1	√

<sup>16</sup> Available at: <http://ec.europa.eu/growth/tools-databases/cosing/index.cfm?fuseaction=search.simple>

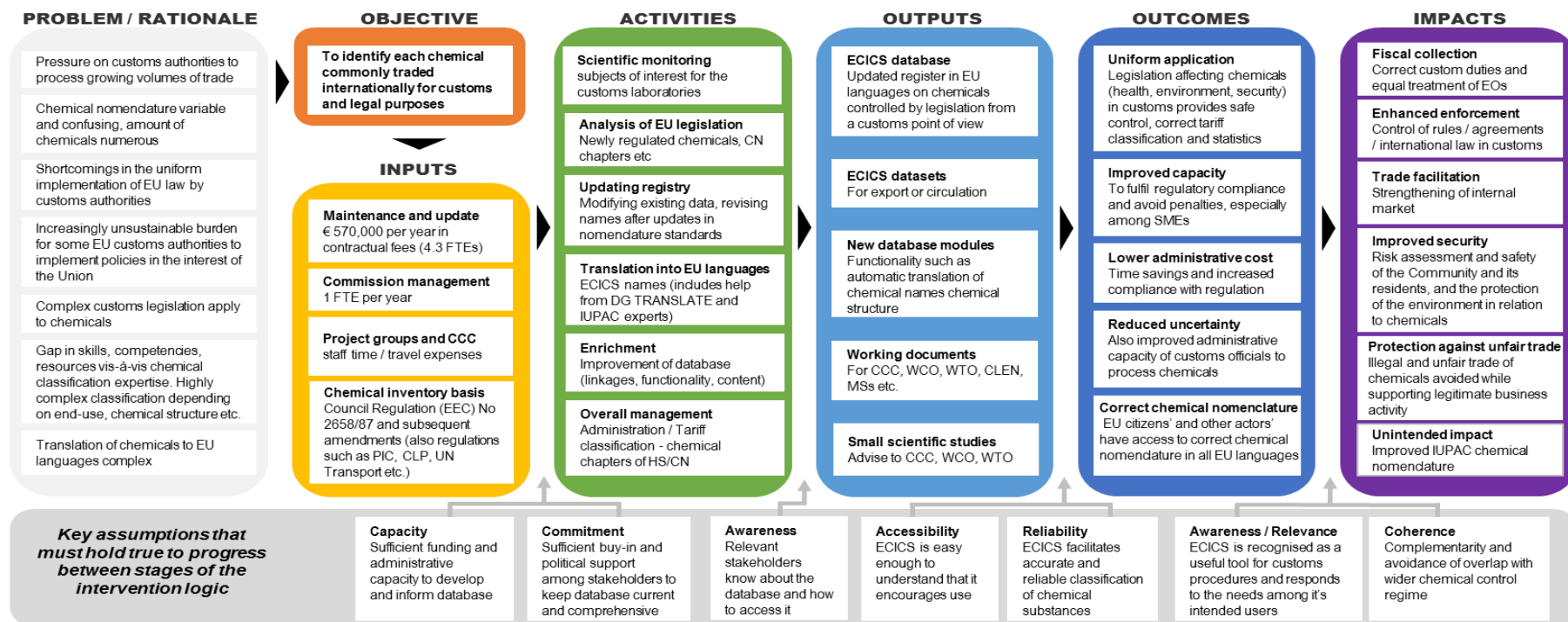
<sup>17</sup> Available at: <http://www.merckmillipore.com/>

Name of Database	Name of host organisation	Nature of host organisation	Purpose of Database	Data sources	Database contents	Number of substances	Languages available	Publically accessible
Online Search System (CROSS) <sup>18</sup>	Border Protection	enforcement agency of the United States Department of Homeland Security	database of Customs Border Protection rulings that can be retrieved based on simple or complex search characteristics using keywords	U.S. Customs and Border Protection	rulings dating from 1989.	193843 rulings		

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<sup>18</sup> Available at: <https://rulings.cbp.gov/>

## Annex 6: Intervention logic for ECICS



Source: Intervention Logic based on interviews with DG TAXUD, DG TAXUD presentations, strategic documents and contractor reports relating to ECICS