European Commission

ROLLING PLAN FOR ICT STANDARDISATION

2018

EXECUTIVE SUMMARY

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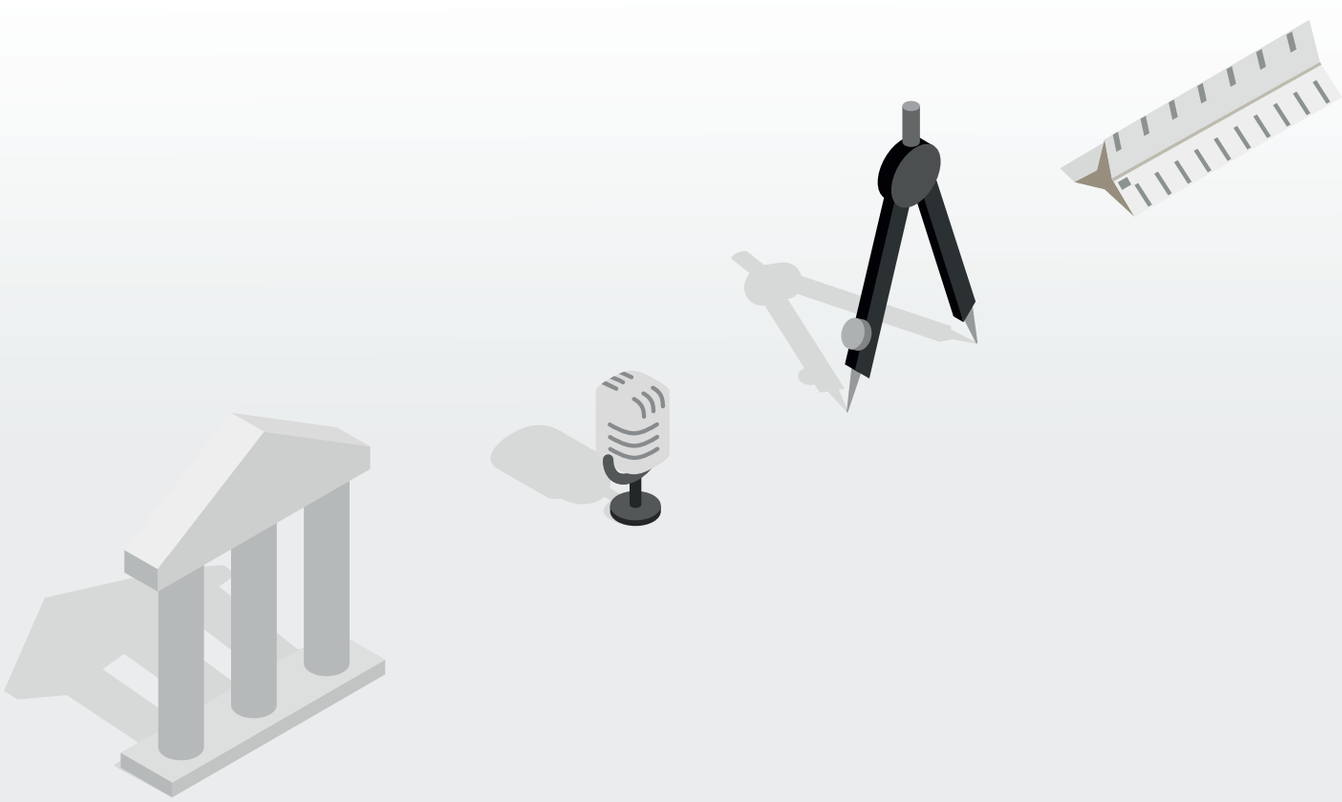

EUROPEAN COMMISSION
Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
Innovation and Advanced Manufacturing
KETs, Digital Manufacturing and Interoperability

EXECUTIVE SUMMARY

The Rolling Plan for ICT Standardisation provides a unique bridge between EU policies and standardisation activities in the field of information and communication technologies (ICT), allowing for increased convergence of standardisation makers' efforts towards European policy goals. This document is the result of a yearly dialogue involving a wide-ranging representation of the major standardisation's interested parties as represented in the multi-stakeholder platform on ICT standardisation. The Rolling Plan focuses on those actions that can support the EU policies and does not seek comprehensiveness as regards to the work programmes of the various standardisation bodies.

The identification of the standardisation actions in support of European policies made in this document is complementary to other instruments, in particular to the annual Union work programme (AUWP). The Rolling Plan further details the requirements for ICT standardisation, articulates them in the form of actions and provides a follow-up mechanism for the actions.

The Rolling Plan 2018 identifies 170 actions organised around four thematic areas: key enablers, societal challenges, innovation for the single market and sustainable growth.

The Commission has identified five priority domains[1] — 5G, cloud, cybersecurity, big data and internet of things (IoT) —where ICT standardisation is considered most urgent for the completion of the digital single market (DSM), as well as a number of application domains that will benefit from standard setting in those horizontal technologies, in particular eHealth, intelligent transport systems, smart energy and advanced manufacturing. The Rolling Plan 2018 continues to include actions in support of the priorities indicated in the Communication.

The Rolling Plan is a living instrument. Compared to the 2017 edition, in the Rolling Plan 2018 new sections have been added (RegTech standardisation, Blockchain and Distributed Digital Ledger Technologies) and some sections were merged (eHealth and healthy living and ageing, Fintech and Regtech).

KEY ENABLERS

5G

5G standards are key to competitiveness and the interoperability of global networks and require collaboration between stakeholders from different standardisation cultures. The Communication on ICT standardisation priorities identifies 5G as priority domain and proposes some actions to foster the emergence and uptake of global 5G standards.

Moreover, The European Commission has adopted a 5G Action Plan and called on Member States and industry to commit to the following objectives:

- a standardisation approach that preserves future evolution capabilities and aims at the availability of 5G global standards by end of 2019;
- a holistic standardisation approach encompassing both radio access and core networks as coordinated activities within global standardisation bodies, encompassing disruptive use-cases and promoting open innovation;
- the establishment of cross-industry partnerships to support timely standard-setting, leveraging on international cooperation partnerships, supporting the digitisation of industry.

In 2017 Member States, in the Ministerial Declaration of Tallinn[2] identified the objective of preserving 5G global interoperability as key in order to make 5G a success for Europe. As standards are of paramount importance to ensure the competitiveness and interoperability of global telecommunication networks, Member States endorsed a comprehensive and inclusive approach to 5G standardisation as a priority for the Digital Single Market and called for encouraging innovation and development of products and services which make use of 5G networks across the EU.

CLOUD COMPUTING

The Communication on ICT Standardisation priorities identifies cloud as priority domain and proposes some actions to foster the development and use of cloud standards.

ISO/IEC JTC 1 (SC38) demonstrated significant activity in cloud standardisation with a focus on service level agreements and interoperability aspects. The Commission services in collaboration with standardisation development organisations and open source (OSS) related organisations launched an action to analyse the impact of open source in the cloud standardisation process.

The Commission has also funded the CloudWatch 2 project which, among others, reported on the status of interoperability and security standards, developed a catalogue of cloud services, mapped EU cloud services and providers.

When it comes to certification and ways for customers to know and be assured that their data is equally safe no matter where they are located or who provides the service, the Commission launched the study Certification Schemes for Cloud Computing (SMART 2016/0029) and a public consultation which ended in October 2017.

In the view of facilitating a fair market for the consumers, the Commission also launched a study on Switching cloud providers to collect evidence on legal, economic, and technical issues when switching from provider .

PUBLIC SECTOR INFORMATION, OPEN DATA AND BIG DATA

In January 2017, the Commission has adopted a Communication on “Building a European Data Economy” exploring issues such as free flow of data, access and transfer in relation to machine generated data, liability and safety in the context of emerging technologies, portability of non-personal data, interoperability and standards.

1 Communication on ICT Standardisation Priorities for the Digital Single Market, COM (2016) 176 final.

2 Ministerial Declaration “Making 5G a success for Europe” signed during the informal meeting of competitiveness and telecommunications ministers on 18 July in Tallinn

Under the Horizon 2020 ICT Work Programme 2016-2017 on topic ICT-14 / Big Data PPP, several actions have started on data integration and experimentation (including cross-sectorial and cross-lingual issues)..

The Communication on ICT Standardisation priorities identifies big data as priority domain and proposes some actions to contribute to global standardisation in the field of data.

INTERNET OF THINGS

The internet of things (IoT) is a key priority area of the digital single market. Industry is best placed to develop the technological standards and solutions to reap the benefits of new global IoT ecosystems while addressing the challenges such as security, scalability and interoperability. In this context, the European large-scale pilots will support the deployment of IoT solutions by validating their acceptability and enhancing the buy-in from users and the public.

The Communication on ICT standardisation priorities identifies IoT as priority domain and proposes some actions to promote the development and uptake of IoT standards. The alliance for internet of things innovation (AIOTI) plays an important role in this field and help fostering a digital single market for IoT.

In 2017, a study to assess the standards landscape for IOT and identify gaps was concluded. Work is ongoing to develop a European standard for cyber security compliance of products that is aligned with the current compliance framework of organisations.

Standardisation bodies are involved with standardising low-power wireless technologies for optional radio coverage in indoor scenarios for data services.

CYBERSECURITY / NETWORK AND INFORMATION SECURITY

The Communication on ICT Standardisation priorities identifies cybersecurity as a priority domain and proposes actions to accelerate the development of appropriate standards in this field.

The European cybersecurity strategy and the Directive on network and information security adopted in July 2015 provide for action to promote the development and take-up of ICT security standards.

In September 2017 the Commission adopted a cybersecurity package. The package builds upon existing instruments and presents new initiatives to further improve EU cyber resilience and response.

In relation to standardisation, for security and notification requirements for operators of essential services, the focus is about establishing a number of reference standards and/or specifications relevant to network and information security. For security and notification requirements for digital service providers, in line with the objectives of the Digital single market strategy, the aim is to to establish a harmonised set of requirements so that they can expect similar rules wherever they operate in the EU.

In 2018 Standardisation organisations are set to develop standards for data protection, network security, data access control in the cloud, information protection and security techniques with specific focus on cybersecurity.

ELECTRONIC IDENTIFICATION AND TRUST SERVICES INCLUDING E-SIGNATURES

Further to the issue of the standardisation mandate M/460 at the end of 2009, CEN and ETSI are working on various standardisation deliverables needed for the completion of the rationalised framework of e-signatures standards.

More recently, CEN and ETSI have extended their activities to cover the standardisation needs that pertain to the implementation of Regulation (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS). Standardisation activities have been started to strengthen the interoperability and security of personal identification and its related personal devices, systems, operations and privacy.

Others SDOs, such as ITU-T, OASIS and IEEE have been involved with further aspects of identification and trust services, such as trust provisioning for future ICT infrastructures, Trust and Secure exchange of web services, and security aspects of blockchain technology and biometric certification.

EPRIVACY

In support of the ePrivacy Directive 2002/58/EC and the General Data Protection Regulation 2016/679/EU, and in line with the standardisation request M/530, standardisation actions are needed to ensure privacy in personal data processing and the free movement of such data. In 2017, the CEN-CENELEC technical committee (TC) 8 "Privacy management in products and services" was set up with the aim to develop standards on Privacy protection by design and by default in products and services. In addition, TC 13 "Cybersecurity and Data protection" has been created to develop standards for data protection, information protection and security techniques with specific focus on cybersecurity covering all concurrent aspects of the evolving information society, including privacy guidelines.

E-INFRASTRUCTURES FOR RESEARCH DATA AND COMPUTING-INTENSIVE SCIENCE

Building on existing EU-funded e-Infrastructures, the European Cloud Initiative strategy aims at consolidating the efforts to accelerate and support the transition to more effective open science and open innovation in the digital single market. In this context, the implementation of standards and recommendations will be of utmost importance in order to allow for interoperability, avoid fragmentation and improve the efficiency and effectiveness of research.

To take advantage of the capabilities of different scientific fields and of the potential of ICT, this Rolling plan calls standard developing organisations to identify the standardisation needs and explore the use of concepts such as digital objects architecture and array databases.

BROADBAND INFRASTRUCTURE MAPPING

The European Commission has launched a project to map fixed and mobile quality of broadband services in Europe, which is a crucial instrument to assess and monitor the achievement of the new connectivity goals as described in the Communication on "Connectivity for a competitive digital single market – Towards a European Gigabit Society". In 2017, in order to complement the deployment of the EU broadband mapping platform, the Commission has launched a new study on Fixed and Mobile Convergence in Europe (SMART 2016/0046). On the basis of the datasets collected in the EU broadband mapping platform, the study will support the EU policy-making process by assessing the technical/political/economic obstacles that prevent the definition of common (fixed and mobile) network performance measurements in the Union.

To support access for individuals to broadband services with higher quality of service, this Rolling Plan calls for the standard developing organisations to analyse the standardisation landscape taking into account the studies the Commission launched to help mapping broadband infrastructures, services offered, demand status and investments, including the definition of common (fixed and mobile) network performance measurement .

ACCESSIBILITY OF ICT PRODUCTS AND SERVICES

Accessibility of ICT products and services includes telecommunications, TV and broadcasting, the web and new emerging technologies both mainstream and in assistive technology, including interoperability of the two.

The Commission adopted the European disability strategy 2010-2020 with the aim of supporting the implementation of the Convention in the EU.

In April 2017, the European Commission issued the standardisation request M/554 to the European standardization organizations in support of Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies. M/554 requests the development of a CEN-CENELEC-ETSI Harmonized (hEN) Standard covering the essential requirements included in the Directive, based on the EN 301 549 V1.1.2 (2015-04. EN 301 549 will be revised accordingly by the CEN-CENELEC-ETSI Joint Working Group on eAccessibility.

SOCIETAL CHALLENGES

EHEALTH AND ACTIVE AND HEALTHY AGEING

In 2016, CEN TC 251 started to work on standardising an international patient summary, drawing from elements of the guidelines developed under the eHealth network. Completion of the standards is expected in 2018. This activity is funded by the Commission and ensures European participation to an international initiative that is expected to enable people to access and share their health data information for emergency or unplanned care anywhere and as needed.

In 2017, development of a European guidance document based on BSI PAS 277 for the use of the eHealth and wellness apps' developers was started. This standardisation activity will address some of the concerns related to the apps quality and reliability.

Besides already defined standardisation needs around citizens electronic health records; identifiers and identification processes; active living and ageing, this Rolling Plan also calls to assess whether a standardisation request might be needed pursuant to Regulation 1025/2012 for one or more European standardisation deliverable(s) concerning data protection by design for the development of eHealth products and services.

E-SKILLS AND E-LEARNING

In support of the objectives set out in the Communications "A New Skills Agenda for Europe"[3], "A Digital single market strategy for Europe[4] and "e-Skills for the 21st Century: Fostering Competitiveness, Growth and Jobs[5]", the Commission is planning to issue in 2018 a standardisation request as announced in the AUWP to develop standards for a comprehensive European framework for the ICT profession which would complement and build on the existing European e-Competence framework.

The e-Competence Framework (EN 16234-1:2016) provides an efficient and broadly accepted common European language about knowledge, skills and competences of the ICT professional workforce and it has proved to be a useful benchmark for all EU industry sectors and HR companies. In 2017, the Commission initiated the first revision of the EN, in line with current business needs, framework development, digitization of industry and ICT market trends.

EMERGENCY COMMUNICATIONS AND ECALL

In 2017 the standards related to location of the emergency calls in accordance with mandate/493, and the development of standards needed to cope with technology advances, such as smartphone apps and next generation networks were published.

Standards for next generation networks are also expected for eCall, as well as standards for other users than M1 and N1 vehicles (lightweight vehicles for the carriage of goods or passengers), for aftermarket equipment and for integration with the cooperative intelligent transport systems.

EGOVERNMENT

In 2016, the Commission adopted the ISA[2] work programme to support the development of the digital solutions that enable public administrations, businesses and citizens in Europe to benefit from interoperable cross-border and cross-sector public services. The DCAT Application profile has been implemented in the pan-European data portal and was adopted by several Member States for their own data portals.

INNOVATION FOR THE DIGITAL SINGLE MARKET

EPROCUREMENT AND E-INVOICING

The 2014 Public Procurement Directives aimed to make e-Procurement the mainstream method for carrying out public procurement to achieve broader competition (even across-borders), increased transparency, value for money on procurement expenditure and savings on procedural costs, and creating opportunities for innovation. This Rolling Plan calls for aligning the CEN/TC440 and TC434 efforts with the ISA core vocabularies to develop a common semantic model for the e-procurement domain. This joint working group is under establishment between the two technical committees. This work should build synergies with the ontology being developed by the Publications Office.

In the last decade or so, many e-invoicing standards/formats have been developed, based mostly on different versions of XML. Many of these are proprietary formats, and are only used by one multinational company and its suppliers, or embed proprietary unique identifiers that may require licensing from a single source. The published EN16931-1, which establishes a semantic data model of the core elements of an electronic invoice, is intended to tackle the fragmentation that is created by the vast number of e-invoicing standards, data formats, and usage requirements exist across the EU and globally.

3 COM(2016) 381 final
4 COM(2015) 192 final
5 COM(2007) 496

CARD, INTERNET AND MOBILE PAYMENTS

In 2017, the Commission continued to encourage the co-operation initiatives both at standardisation (ESOs, W3C and others) and strategic level (ERPB). More analysis of the standardisation gaps and a precise definition of mobile payments are still required in the following years.

DIGITAL CINEMA

The film heritage sector would benefit from European standards that describe the most efficient digital workflows and data formats for the preservation of digital films. The resulting standards for digital preservation of films could also be of interest for digital preservation of other type of documents in public administrations.

FINTECH AND REGTECH STANDARDISATION

The Commission has set up in 2016 an internal task force on financial technologies. Co-chaired by DG FISMA and DG CNECT, the task force brings together services responsible for financial regulation and for the digital single market, along with other colleagues dealing with competition and consumer protection policy. The results of a consultation on FinTech were published in 2017.

In the area of Regtech, the Commission launched the Financial Data Standardisation Project in 2016, to quantitatively study the findings of the 2015-2016 Call for evidence on EU regulatory frameworks for financial services. Intermediate deliverables of the project expose the need to "Define Once" and move towards one "Regtech Data Dictionary (RDD)" as linking method between Regulation and Supervisory Reporting.

Hence, this Rolling Plan calls for a comprehensive set of standardisation actions in the areas of Regulatory and Supervisory Reporting by assessing the possibilities of and developing the foundations for the RDD and mapping existing supervisory reporting frameworks hereto. This initiative forms a key contribution to the Commission's Better Regulation agenda and the Regulatory Fitness and Performance (REFIT) programme, which ensures that EU Legislation delivers results for citizens and businesses effectively, efficiently and at minimum cost.

BLOCKCHAIN AND DISTRIBUTED DIGITAL LEDGER TECHNOLOGIES

Blockchain has great potential in providing an infrastructure for trusted, decentralised and disintermediated services beyond the financial sector. Blockchain is a promising technology to share data and manage transactions in a controlled manner, with many possible applications to deliver social goods in the field of eHealth and eGovernment, health records, land registries or the security certification of links in an IoT chain of devices, manage intellectual property rights and eID. However, this process is hindered by a lack of harmonisation and interoperability that constitute obstacles to cross border and cross sector transactions.

The Commission has established a liaison A with ISO Technical Committee 307 on Blockchain and Distributed Ledger Technologies in order to engage in and contribute to the development of the future standards. The EC will also engage and follow the works of the ITU-T Focus Group on Application for Distributed Ledger Technologies.

A European observatory on Blockchain technologies is planned to be launched to map and monitor developments, build expertise and promote use cases, also regarding standards and interoperability.

This Rolling Plan calls standard developing organisations to identify potential standardisation needs in relation to blockchain technologies. A white paper is also expected to be published on the EU perspective on block chain standardisation and for identifying use cases relevant for the EU.

SUSTAINABLE GROWTH

SMART GRIDS AND SMART METERING

Standards are needed to cover the communication needs of the grid management, balancing and interfacing with the millions of new renewable sources, as well as standards for the complex interactions of the new distributed energy market, and in special a transparent Demand Response scheme which is accessible for all consumers.

Communication standards will also be crucial for the deployment of electric cars and the building-up of smart cities. Harmonised communication protocols would provide standard components and interfaces giving 'plug-and-play' capability for any new entrant to the network, such as renewables or electric cars, or the use of open architectures based on global communication standards. To further promote interoperability, in addition to standardisation, testing and profiling should also be considered.

The Smart Meters Coordination Group, which was created when the European Commission issued the M441 mandate, oversees the standardisation related to the Smart Metering Infrastructure. It has produced reference architecture (TR 50572), a glossary of terms, an overview of available standards, Smart Metering Use Cases and an overview of technical requirements including those for privacy and security. Since end 2016, the CEN-CENELEC-ETSI Smart Energy Grid Coordination Group (CG-SEG) is the focal point and continue to cooperate with EC Smart Grids Task Force (EC SGTF).

SMART CITIES / TECHNOLOGIES AND SERVICES FOR SMART AND EFFICIENT ENERGY USE

The initial phase of the SSCC-CG work had been completed toward end 2016, and an overview white paper from January 2015 has been published. The work is continued by the CEN-CENELEC-ETSI sector forum on smart and sustainable cities and communities. DG CNECT is funding H2020 support actions. In 2017, the core standardisation work is expected to develop hand in hand with cities work based on the principles developed in the European innovation partnership (EIC) on smart cities and communities (SCC)'s memorandum of understanding.

ICT ENVIRONMENTAL IMPACT

Standardisation request M/462 on efficient energy use within broadband deployment was accepted by the ESOs to provide standards for measurement and monitoring, including definition of energy-efficient KPIs. This standardisation request is not only limited to networks but extends as well to data centres and other ICT nodes associated with broadband deployment.. ETSI started standardisation work, with the objective to development KPI standards by 2018, possibly for referencing in ecodesign-related implementing measures.

EUROPEAN ELECTRONIC TOLL SERVICE

Directive 2004/52/EC provides that Member States having electronic road toll systems are to ensure that operators offer the EETS to heavy goods vehicles at the latest three years after the entry into force of the decision defining EETS and to all other categories of vehicle at the latest five years after. In May 2017 the Commission introduced its proposals for a revision of Directive 2004/52/EC and Decision 2009/750/EC. This Rolling Plan calls for the continuous review and update, when necessary of technical standards that support the EETs. In addition it calls SDOs to support the European Commission with with advice and expertise in technical standards-related activities in the field of EETS and electronic tolling in general.

TRANSPORT

The cooperative intelligent transport systems (C-ITS) platform with Member States completed its report in 2016. In particular, the working group on security defined new needs for security in cooperative systems (see ITS section.

With regard to the standardisation request on Urban ITS via the standardisation mandate 546, the prestudy on Urban ITS was carried out by CEN/TC 278.. Based on the proposals submitted to the Commission, work started in 2017 on a core set of these proposals to support multimodality, traffic management and urban logistics.

In 2017, work also started to steer and manage the integration of accurate (public) road data in digital maps with timely updates, based on the ROSATTE project and other activities such as the iMobility Forum.

ADVANCED MANUFACTURING

The Commission launched in April 2016 a set of initiatives in support of the digitisation of the European industry. ICT standards and technical specifications play a key role in the strategy since they ensure the interoperability of the various components and solutions. However, the ongoing standardisation activities in this domain are fragmented and thus there is a need to bring together the key players with a view to address in more detail the various standardisation issues. In response, the Commission has set up a Working Group (MSP/DEI WG) that will report to both the MSP and the High-level governance meeting of the European platform of national initiatives on digitising industry. The MSP/DEI WG is expected to propose concrete actions at the EU level by November 2018.

ROBOTICS AND AUTONOMOUS SYSTEMS

In 2016 robotics standardisation has continued its work in all fronts. During 2016 ISO has issued two new standards on robotics, namely ISO/TS 15066:2016 "Robots and robotic devices — Collaborative robots", and ISO 18646-1:2016 "Robotics -- Performance criteria and related test methods for service robots -- Part 1: Locomotion for wheeled robots". Work on nine other ISO standards on robotics is ongoing.

In February 2016, SPARC the public private partnership on robotics has issued a new update of the multi-annual roadmap. R&D projects on robotics funded by the EU Horizon 2020 have set the scientific basis for new technologies and interoperability. Among them it is worthwhile highlighting the launch of two new projects dealing with robotic operating systems.

CONSTRUCTION

The Commission is calling on more standardisation work in the area of building information modelling.

A road map for standardization for digitization in construction is under development in CEN/TC 442/WG 1 in collaboration with ISO/TC 59/SC 13/TF02 and the corresponding national mirror committees. Based on a survey of ongoing standardization activities and market needs this will give directions for required future standardization. SDOs shall develop European standards when necessary (i.e. if functional gaps are found or international standards are not available).

This Rolling Plan calls SDOs to develop common information requirements for project and information management as part of construction service procurement standards; and to develop European standards for exchange of data on construction products, to ensure quality in data to support Regulation EU No 305/2011 CPR and trade of construction products in the European market.

CISE — COMMON INFORMATION SHARING ENVIRONMENT IN THE MARITIME SECTOR

The objective of the CISE global action is to develop appropriate semantic, technical, organisational and legal solutions and recommendations to enhance the interoperability between existing systems of around 400 maritime public authorities throughout the EU/EEA. . In 2017, the EUCISE 2020 FP7 project (CISE pre-operational validation) will develop the CISE components using the CISE data and service model and validate them in a pre-production environment, involving 37 authorities from 13 European countries. The current CISE data and service model may be considered for standardisation in.

The Commission would like to thank all Members of the Multi-Stakeholder Platform on ICT Standardisation for their active collaboration and for making this document possible: the EU Member States, EFTA States, standards developing organisations (ETSI, CEN, CENELEC, ISO, IEEE, IEC, ITU, OMG, IETF/IAB, OASIS, Ecma, W3C/ERCIM, UN/CEFACT), industry associations (Business Europe, Cable Europe, Digital Europe, ECIS, ETNO, EBU, EuroISPA, SBS, OFE, Orgalime)and stakeholder associations (AGE, ANEC, ECOS, EDF, ETUC).

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