

EARTO Response to the EC Consultation on EU Standardisation Strategy

28 July 2021

To answer the European Commission's [public consultation on the European Standardisation Strategy](#), EARTO, the network of over 350 Research and Technology Organisations (RTOs), would like to bring forward the following recommendations:

EARTO Recommendations:

- 1. Adopt a sound EU standardisation strategy recognising and raising awareness about the major economic significance of standards at the European level.** This is essential to achieve the Twin Transition and fulfil the objectives of the EU Green Deal and of the European Digital Decade. Ensuring interoperability is even more essential than ever before in fourth industrial revolution (4IR) technologies, incl. Artificial Intelligence (AI), smart grids, smart sensors, telecom, 5G, big data, Internet of Things (IoT), quantum computing, etc. Every strategy for funding future technologies needs to include standardisation as a key component. This will be key for Europe to keep leading the way in fostering efficient and interoperable standards.
- 2. Provide effective incentives and support to all European RD&I actors to contribute and collaborate in European standard-setting activities and to represent European interest in International Standardisation.** Technical standards are of great importance to allow European industry to scale up technology developments to new products and services that will be internationally competitive. However, standardisation is costly, and it should be further supported and incentivised both at national and EU levels, and better incorporated into RD&I publicly funded programmes, including Horizon Europe. Standards resulting from research projects should receive equal recognition compared to publications and patents.
- 3. Make sure that the EU standardisation strategy does not weaken the well-functioning EU Intellectual Property Rights' system: standards and patents are complementary.** The development of a European standardisation strategy is only possible if it does not weaken the IPRs framework, including for Standard Essential Patents, essential copyrights and associated rights (sui generis database rights). More generally, EU policies should not weaken IPRs in the digital field.
- 4. Support the European Patent Office (EPO) and maintain a sufficient number of well-qualified patents courts in Europe to continue to ensure the high quality of EU patents: this is the key for maintaining a healthy patents system.** IP's crucial role in innovation and in fostering knowledge co-creation also needs to be better recognised at EU level, for instance by ensuring a balanced approach between Open Science and IP policy. Further incentives should also be put in place for researchers to efficiently disseminate and exploit their research results and encourage their translation into the commercial world, especially through patent filing.
- 5. Promote the use of Fair Reasonable and Non-Discriminatory (FRAND) licencing terms as the right investment incentives' mechanism to make collaborative standardisation successful while ensuring access and market entry for all players.** Financial returns from FRAND licensing can be invested to develop new technologies for standards, creating a virtuous circle which guarantees the evolution of standards and their future viability. FRAND is and must remain a two-way street: the rights and obligations must flow to and from licensors and licensees alike.

1. RTOs are key players in the EU Digital Single Market and active in EU and international technical standardisation

EARTO members' technologies cover all scientific fields. RTOs are non-profit organisations with the public mission to translate basic research into innovation, tackling our global challenges and enabling technology uptake by industry, thereby delivering impact for society. RTOs are essential components of European industrial innovation ecosystems, and they will be key to achieve the twin transition and fulfil the objectives of the European Green Deal and of the EU Digital Decade. RTOs closely cooperate both with industry, from SMEs to large multinationals across all industrial sectors, and with a wide array of public actors.

RTOs' business models are based on their sound management of Intellectual Property Rights (IPRs). RTOs are large patent portfolio holders and managers. Among others, their technology transfer activities are based on how they manage their IPRs and patent portfolios as well as their activities in supporting standards development. RTOs have played a crucial role in the development of the Digital Single Market, including for the development of the internet and telecommunication systems, internet-based and other communication-based products and services, and they continue to enable progress towards the DSM both at European and national levels today.

In addition, RTOs are actively participating in Standard Setting Organisations (SSOs), Standard Development Organisations (SDOs) and digital standardisation communities (e.g. CEN-CENELEC, ETSI, ISO, ITU, DVB, ATSC, IETF, OMG). This allows RTOs to support the development of essential technical standards. Those technical standards are of great importance to allow European industry to scale up technology developments to new products and services that will be internationally competitive, and as such further develop the European Digital Single Market. However, standardisation is costly, and it should be further supported and incentivised both at national and EU levels.

2. The EU needs to support collaborative standard setting efforts in Europe

It is crucial for Europe to keep leading the way in fostering efficient and interoperable standards. Standards enable to drive innovation, promote competition, and facilitate interconnectivity, allowing citizens to benefit from constantly improving performance, choice, and price. Internet of Things (IoT), 5G, big data and Artificial Intelligence (AI) are expected to bring billions of new connected devices. Interconnecting all these devices will place even more emphasis on standards in the Digital Single Market (DSM). The success of the DSM depends on Europe maintaining its leading role in the creation, development and deployment of the technologies needed to drive the Fourth Industrial Revolution's technologies.

Standardisation allows European companies to participate and cooperate with each other so they can compete on a global scale. It also allows research organisations to participate and cooperate in this collaborative process. Standards developed by players and governed by Standard Setting organisations (SSOs) are, by their very nature, collaborative and, in this sense, "open". According to the definition of (collaborative) standardisation, market players voluntarily contribute their intellectual property, market insight and other expertise to the creation of global competitive standards, fulfilling governments' objectives, for the benefit of society and industry. Standardisation can only be successful if there are the right incentives for companies (large and small), universities and research organisations (including RTOs) to make such contributions. Collaborative standardisation provides the greatest potential for access to all. The most attractive standards, with the highest performing technologies, can only be developed and evolve if incentives are maintained for collaborative, voluntary and consensus-based standardisation efforts to contribute to valuable RD&I and related expertise.

The alternative to collaborative standards (open standards) is more *de facto* standards set by single companies. These are often closed proprietary standards. And where *de facto* standards are indeed "open", the objective for companies setting up such standard is often to gain low cost (or even no cost) access to IP held by technology developers while increasing the margin of the technology implementor. The impact on the DSM architecture would most likely lead to consumer lock-in, fewer choices and higher prices. We would see a world of fragmented, incompatible technologies. Performance, capabilities and interconnectivity would suffer.

3. Boosting standardisation to remain a technological leader at global level to retain global technological leadership

Industries and research institutions that actively file patents, manage copyrights (and other associated rights in the digital field like the sui generis right for databases), and establish standards, make a crucial contribution to technological leadership. When a successful technology prevails, it drives competing

initiatives out of the market. Failing to maintain proactive standardisation activities would lead to less European-developed technology being adopted in important non-European markets. This lowers the demand for European technology, while simultaneously increasing dependencies of Europe on non-European technology. These negative effects are already noticeable in the domains of telecommunication, network equipment, computer technology, medical engineering and internet technology.

A [study published by the European Patent Office](#) (EPO) shows that innovation in fourth industrial revolution (4IR) technologies has accelerated significantly worldwide. As stated by the EPO: “US (is) in the lead, Europe (is) growing but losing ground. Looking at the geographical origin of 4IR innovation, the study confirms that the US remains the world leader, accounting for around a third of all inventions between 2000 and 2018, compared with Europe and Japan with about one fifth each. The US has even reinforced its lead in patents filed globally since 2010, growing annually on average by 18.5%, which is faster than both Europe and Japan (average annual growth rates of 15.5% and 15.8% over the same period). Starting from very low levels in the late 2000s, the innovative activity of China and South Korea has increased at a very high rate (posting annual average growth of 39.3% and 25.2% respectively from 2010 until 2018)”.

Indeed, China already intensively employs the instrument of standardisation associated with strong IPRs as a tool to attain technological leadership in key strategic areas (e.g. semiconductor industry, 5G, IoT, etc.). This leads to other companies and nations being gradually dependent on them. In the USA, e.g., Intel and Microsoft have established themselves as de facto standard-setting companies. If technology that is potentially superior to their solutions is not supported by these companies, it has little chance to be incorporated into products of European companies. The same applies to Facebook and Google, who dominate the areas of internet and AI technologies. Europe needs to take a critical view on these dependencies, especially under the scope of data privacy, technological sovereignty (Edler, Blind et al. 2020) and future economic standing.

In such context, it is therefore essential for the EU to promote the right incentives for all entities to collaborate and contribute their expertise to collaborative standardisation efforts, and discourage the development of “de facto” proprietary closed standards which would hinder the development of the DSM. Creating the right incentives to support a collaborative standardisation process would foster the ability of European companies to cooperate with others to achieve the scale necessary for global competitiveness, which is direly needed today. It is also key for the EU to ensure a level-playing field in the DSM regarding the implementation of the EU State Aid rules, making sure that a too risk-adverse interpretation of the rules by Member States do not hamper Europe’s innovation capacity (see [EARTO response to the EC revised Framework for State Aid RD&I](#)).

4. An effective EU standardisation strategy should not weaken the well-functioning EU IPR system: standards and patents are complementary

The development of a European standardisation strategy is only possible if it does not weaken the IPRs framework, including for Standard Essential Patents, essential copyrights and associated rights (sui generis database rights). Industry is usually only willing to invest in RD&I leading to a competitive edge over entities that have chosen not to invest. This requires protecting certain results with IPRs. IP systems are designed in large part to provide adequate incentives for creators and inventors to invest in the production of novel ideas and content, while at the same time encouraging beneficial diffusion of knowledge. As detailed by the World Intellectual Property Organisation (WIPO), IP is a broad concept and includes many different intangibles, such as patents, copyrights and associated rights (like the sui generis right for databases), know-how, trade secrets, trademarks, industrial designs. The sound management of IPR is essential to foster innovation and technology uptake by industry, especially to achieve the Twin Transition for which RD&I trans-disciplinarity is key.

The long-standing experience of RTOs shows that the European patenting system is well-functioning. When patents are involved in standards, increasing patent quality will facilitate the negotiations to determine whether a patent is essential to the standard or not, because there will be fewer patents involved in these negotiations and those to be looked at will be of higher quality and easier to assess. Continuing to ensure the high quality of EU patents, combined with keeping a good number of well-qualified patents courts in Europe, is the key for maintaining a healthy patents system. The EPO’s role to continue boosting patent quality in all fields is essential and should be further supported by the EC.

Besides, IP’s crucial role in innovation and in fostering knowledge co-creation also needs to be better recognised at EU level, for instance by adopting a balanced approach between Open Science and IP policy. Further incentives should also be created for researchers to efficiently disseminate and exploit their research results and encourage their translation into the commercial world, especially through patent filing.

Moreover, IPRs (patents, copyrights, ...) are strong tools for coordinating, structuring and securing Open Science, Open Standardisation and Open Innovation activities. Therefore, it is of utmost importance that EU policies do not weaken IPRs. Especially in the digital field, EU policies should take great care not to weaken patentability, and not weaken copyright and other associated rights (database sui generis rights...). A weakening of EU IPR policies would only hinder the development of Open Science, Open Standardisation and Open Innovation Activities.

5. FRAND licensing: the recipe for making collaborative standards so successful

Standard Setting Organisations' request to the owners of IPR that is or may become essential to a standard to commit to Fair Reasonable and Non-Discriminatory (FRAND) licencing was a vital ingredient behind the phenomenal success of 2G, 3G and 4G mobile standards. FRAND has provided the investment incentives which have made these collaborative standards so successful. It has also ensured access and market entry for all players. Indeed, mobile standards provide a very attractive open ecosystem for new devices, apps, networks and business models, upon which many companies – large and small – build commercial success. FRAND licensing will also lead to the same successes in all other technologies where standardisation is needed (other ICTs, Hydrogen technologies, batteries, technologies for the green transition,).

Financial returns from FRAND licensing can be invested to develop new technologies for standards. FRAND licensing creates a virtuous circle ensuring continued investment and re-investment in new technologies, infrastructure, and employment. This, in turn, guarantees the evolution of standards and their future viability.

FRAND is and must remain a two-way street. This means that the rights and obligations must flow to and from licensors and licensees alike. This has been confirmed by the Court of Justice of the European Union in the decision of Huawei v. ZTE, which provided an analysis of European law vis-à-vis international licensing negotiations pertaining to standard essential patents. A framework which encourages the conclusion of FRAND licenses in a timely and efficient manner is the basis of successful implementation of collaborative standards.

EARTO remains at the disposal of the EU institutions to further discuss these recommendations and support the creation of a new European Standardisation Strategy.

RTOs - Research and Technology Organisations: *From the lab to your everyday life. RTOs innovate to improve your health and well-being, your safety and security, your mobility and connectivity. RTOs' technologies cover all scientific fields. Their work ranges from basic research to new products and services development. RTOs are non-profit organisations with public missions to support society. To do so, they closely collaborate with industries, large and small, as well as a wide array of public actors.*

EARTO - European Association of Research and Technology Organisations: *Founded in 1999, EARTO promotes RTOs and represents their interest in Europe. EARTO network counts over 350 RTOs in more than 20 countries. EARTO members represent 150.000 highly-skilled researchers and engineers managing a wide range of technology infrastructures.*

Read more on EARTO's previous papers on related topics:

- [EARTO Recommendations for EU RD&I Policy Post 2020](#) (chapter 4), 2019
- [EARTO Views on EC Communication on SEPs](#), 2017
- [EARTO Paper on the EU Licencing Framework for SEPs](#), 2017
- [EARTO voting recommendations to support innovation for globally competitive standardisation](#), 2017
- [EARTO Answer to EC Consultation on Patens and Standards](#), 2015