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From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
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To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	C(2023) 1320 final
Subject:	COMMISSION RECOMMENDATION of 1.3.2023 on a Code of Practice on standardisation in the European Research Area

Delegations will find attached document C(2023) 1320 final.

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EUROPEAN
COMMISSION

Brussels, 1.3.2023
C(2023) 1320 final

COMMISSION RECOMMENDATION

of 1.3.2023

on a Code of Practice on standardisation in the European Research Area

COMMISSION RECOMMENDATION

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on a Code of Practice on standardisation in the European Research Area

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

(1) Standards help researchers and innovators bring their innovation closer to the market and spread technological advances by establishing uniform criteria and by developing methods, practices and procedures which are publicly available in a formal document. European and international standards provide access to large global and regional markets for innovative new products and services.

(2) Standards offer a basis for the integration of diverse technologies into complex, innovative systems and solutions, and enable interoperability between components, products and services thereby avoiding vendor lock-in and providing more choice for customers globally – a critical role in a world undergoing digital transformation across all industries and sectors.

(3) Standards enable the free movement of goods, services and data by removing technical barriers. They serve to set minimum safety requirements to the development, transport and use of these goods and services, to protect the public and workers. Standards directly address the UN Sustainable Development Goals and can help strengthen resilience of the economy of the Union. They play a key role in the Union's ambitions towards a climate neutral, resilient and circular economy and in strengthening its open strategic autonomy. Having a strong global footprint in standardisation activities and leading the work in key international fora and institutions will be essential for the Union to remain a global standard-setter.

(4) Evidence across many different types of research and innovation (R&I) projects supports the role of standardisation in creating marketable products and solutions[1]. Standards can codify requirements from users and other stakeholders to guide research and technology development. They allow technologies, products and services to be interoperable: since a standard provides details on the use and content of a technology or a product, it is much easier to know when and how it can be used in combination with other technologies or products.

(5) Awareness of the benefits of standardisation is an important prerequisite for the successful involvement of research actors in standardisation activities. It is important to plan standardisation activities upfront in the initial R&I project work plan and to identify the standardisation needs at the beginning of the project, before delivering exploitable results.

[1] Scoping study for supporting the development of a code of practice for researchers on standardisation - Publications Office of the EU (europa.eu).

(6) Stable and recurring sets of elements of good practice of research projects dealing with standardisation exist[2]. At the same time, there is a strong potential for raising researchers' awareness of and know-how about standardisation processes, and for the development of recognised performance indicators to track the success of technology transfer and valorisation activities. Awareness and know-how could equally be raised regarding how standardisation processes are interrelated to and interacting with research processes and innovation processes. The successful integration of R&I and standardisation activities can give a significant impetus to the uptake of R&I activities.

(7) Technology readiness levels (TRLs) and the change therein during the project can be considered important indicators for assessing the relevance and performance of an R&I project in terms of the standardisation activities. Different TRLs may also imply different needs in terms of standards and standardisation: lower TRLs are typically associated more with work to be done, for example, on terminologies and concepts, metrology and testing, use cases and reference architectures; while later-stage TRLs are typically more concerned with issues such as interoperability and performance (for example, in terms of security, safety, environmental impact and functionality) of the technology/innovation – hence, standards across all TRLs are important for researchers and innovators across many technology and application domains.

(8) R&I actors can either lead, follow or adopt new standards in support of the development and international deployment of the latest technologies, innovations and trends. The earlier R&I actors engage in the standards development process, integrated within their overall R&I process, the sooner they can bring their standards-informed innovations to competitive global markets, resulting in greater value and rewards. Hence the leaders get ahead by leveraging their early and active involvement in setting new standards. During the standards development process, they also obtain valuable technical and market insights to inform their R&I strategy and roadmaps and gain a time-to-market advantage over their competitors due to their early engagement in developing the new standards. These leaders (including SMEs and start-ups) also gain the opportunity to position and add their own unique product or service innovations on top of the foundational standard that they helped set.

(9) There is a need to address the skills gap in training and lecturing[3]. It is essential to build a fundamental understanding of the characteristics and relationships between research processes, innovation processes, and standardisation processes and how they can reinforce each other to boost knowledge valorisation[4].

(10) One of the major issues to be addressed in a Higher Education Institution (HEI) or research organisation policy regarding standards and standardisation for research valorisation is to incentivise the standardisation activities of its researchers and make these activities count towards career development.

(11) In the Union, Technology Transfer Offices have over the years established themselves in many Higher education institutions and research organisations as service stops not only for handling and filing IP, or supporting start-up creation, but also for providing

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2 Idem

3 As stressed in the stakeholders feedback to the EU Strategy on Standardisation, "There is no formal education nor vocational training on standardisation. Many EU companies – whether large or small – lack a structured and strategic approach to standardisation capturing its relevance for various economic operations, whether it is legal compliance, market access or general business strategy".

4 EN ISO 56002:2019 Innovation management — Innovation management system - Guidance

general support when dealing with contract research and helping to administer collaborative research projects. Technology transfer organisations are hence another institutional anchor point indicated for supporting standardisation, and their involvement is a logical continuation of their knowledge / technology transfer role. In contrast to patents and scientific publications, it seems that the concept of authorship is not widely implemented, making it more difficult to track impact using citation measurement techniques.

(12) For many R&I projects, involvement in creating a new standard may not be the best or even a feasible option. At the same time there is great potential from researchers engaging in the early stages of standardisation activities within R&I programmes, where researchers gain important knowledge and networks, while also contributing to the development of key new or improved international and European standards in critical topic areas for industry and society.

(13) When a project recognises its limits in terms of scope, duration and resources, it may seek to consolidate its findings and inputs with other similar projects. Many thematic platforms and clusters already exist in different sectors and seek to improve the performance and maximise progress of their specific sectors.

(14) In line with the European Research Area (ERA) Policy Agenda[5] which includes an action to 'Upgrade EU guidance for better knowledge valorisation', the Commission proposes this Recommendation on a Code of Practice on standardisation in the European Research Area to implement the Council Recommendation (EU) 2022/2415[6]. The call for this Recommendation was identified in the Commission Communication on a new ERA for Research and Innovation[7] and in the Council Conclusions of 26 November 2021 on the governance of ERA and on the Pact for Research and Innovation in Europe[8]. Furthermore, the EU Strategy on Standardisation[9] emphasises the importance of raising strategic awareness and engaging the R&I community early on in standardisation and states the need for this Recommendation.

(15) This Recommendation reflects the new directions introduced by the Council Recommendation (EU) 2022/2415 as it aims to raise strategic awareness among researchers and innovators of the very substantial benefits of integrating R&I and standardisation, and to provide best practice advice on how to do this integration successfully across their R&I activities for maximum value creation and impact.

(16) This Recommendation is formulated at the level of higher education institutions and private and public research and innovation organisations, at research and innovation project partners level and at policy and wider stakeholder level. This Recommendation should be applied in compliance with any relevant rule at national or regional level and at the level of the Union.

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5 European Research Area Policy Agenda (europa.eu)

6 Council Recommendation (EU) 2022/2415 of 2 December 2022 on the guiding principles for knowledge valorisation (OJ L 317, 9.12.2022, p. 141).

7 Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions - A new ERA for Research and Innovation (COM/2020/628 final).

8 Future governance of the European Research Area (ERA) - Council conclusions

9 COM(2022) 31 final

HAS ADOPTED THIS RECOMMENDATION:

1. DEFINITIONS

For the purpose of this Recommendation the following definitions apply:

(1) intellectual property means the result of intellectual activities that is eligible for legal protection and includes inventions, literary and artistic works, and symbols, names, images, and designs;

(2) standard means a technical specification, adopted by a recognised standardisation body on international, European or national level, for repeated or continuous application, with which compliance is not compulsory[10];

(3) Standard Development Organisation means a body that specialises in the development of standards through the process of consensus and facilitates experts to participate in the standardisation process;

(4) standardisation means a process aiming at the definition of voluntary technical or quality specifications with which current or future products, production processes or services may comply. Standardisation can cover various issues, such as standardisation of different grades or sizes of a particular product or technical specifications in product or services markets where compatibility and interoperability with other products or systems are essential[11];

(5) technical committee means a diverse stakeholder group of experts responsible for the development and drafting of standards which are then recognised by a standardisation body;

(6) technical specification means a document that sets out technical requirements to be fulfilled by a product, process, service or system and which lays down the characteristics required of a product or service such as quality and performance, the production methods and processes used and the methods and the criteria for assessing the performance of construction products[12].

2. HIGHER EDUCATION INSTITUTIONS AND PRIVATE AND PUBLIC RESEARCH AND INNOVATION ORGANISATIONS

2.1. It is recommended to develop a standardisation policy, self-standing or as part of an intellectual property or research results valorisation policy.

(7) Higher education institutions and private and public R&I organisations should explore which research fields can potentially be involved in standardisation and how standardisation can help valorise research results. This means that needs assessment regarding standards and standardisation should be carried out at the organisation level. Higher education institutions and R&I organisations should build a collaborative culture and foster cooperation between the organisation and its stakeholders including industry, policymakers, standardisation experts, standardisation bodies and users' representatives. The role of standards in testbeds should also be explored to create two-way feedback loops between R&I and standardisation activities to achieve better standards faster. The European Committee

[10] In accordance with EU Regulation 1025/2012

[11] In accordance with EU Regulation 1025/2012

[12] In accordance with EU Regulation 1025/2012

for Standardisation and European Committee for Electrotechnical Standardisation (CEN-CENELEC), and the European Telecommunication Standardisation Institute (ETSI) facilitate direct liaison between higher education institutions, R&I organisations and Standard Development Organisations (SDOs) to provide access to information and expertise on standardisation. Hence, CEN-CENELEC and ETSI could help higher education institutions and R&I organisations to develop new policies to integrate their R&I and standardisation activities.[13]

(8) A two-pronged approach should be followed to develop a standardisation policy. Firstly, intelligence should be gathered by launching an enquiry addressed to all internal research units within higher education institutions and R&I organisations about their level of actual and possible engagement with standards and standardisation activities, as well as their level of knowledge of these activities. Secondly, implementation should be ensured by liaising with SDOs, in particular with CEN-CENELEC and ETSI and national standardisation bodies, which can support higher education institutions and R&I organisations on standardisation as a task in research projects.

2.2. It is recommended to consider standardisation activities and outputs appropriately in the career development plans and research assessment exercises of researchers.

(9) The policy of higher education institutions and research and innovation organisations regarding standards and standardisation should encourage researchers to contact and actively participate in the technical committees of relevant standardisation bodies, in order to exploit their expertise in standardisation. The researchers should receive recognition for career development related to their contribution to standardisation.

(10) In the context of the European stakeholder-driven initiative for reforming research assessment, which is a part of the ERA Policy Agenda for 2022-2024 and the Paris Call on Research Assessment[14], standardisation activities should be considered as valuable contributions with potential significant impacts and effects of a scientific, technological, economic, environmental or societal nature.

2.3. It is recommended to provide for education and training on standardisation.

(11) Targeted training should be delivered first to key executive staff at higher education institutions and R&I organisations, such as vice deans for research, Chief Innovation Officers and Chief Valorisation Officers, ensuring their support for further development of a standardisation policy in their institutions. Following this, training should be offered to those innovators, researchers, head of departments and professors who are most likely to be affected by and exposed to the topics of standardisation. Trainers from SDOs and from industry should be involved in the training and teaching programmes. Where relevant, users' representatives should also be involved.

(12) As part of standardisation strategies, standardisation should also be considered as a topic for teaching in appropriate business, innovation, entrepreneurship, technology

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13 Both CEN-CENELEC and ETSI have programmes in place (Standardisation, Innovation and Research (STAIR) and Research, Innovation and Standards Ecosystem (RISE)) to bridge R&I and standardisation activities.

14 Paris Call on Research Assessment

and science programmes, for example in innovation management education programmes.

2.4. It is recommended to make Technology Transfer Offices fit for standardisation.

(13) Technology Transfer Offices should build capacity – for example, through training and institutional empowerment – to offer a set of services in relation to standardisation, such as:

(a) raising awareness on the benefits of standardisation;

(b) advice on relevant standardisation deliverables (such as European standards, international standards, technical specifications, pre-standards, European Committee for Standardisation Workshop Agreement, International Standards Group specifications);

(c) ability to link to SDOs and their trainings and services offer;

(d) guidance on how to link with national standardisation bodies and European Standards Organisations and on how to join technical committees in SDOs;

(e) basic support when drafting project proposals to include reference to standards and standardisation;

(f) basic support in the standardisation process when it comes to filling out forms and/or referral to SDOs for that purpose;

(g) support when dealing with IP matters in standardisation processes;

(h) monitoring and reporting of standardisation-related outputs of R&I projects;

(i) organisation of trainings for researchers and innovators in higher education institutions, R&I organisations, R&I centres (such as European Digital Innovation Hubs, Knowledge and Innovation Communities of the European Institute of Innovation and Technology) and for their industry partners.

2.5. It is recommended to develop an indicator and evaluation system.

(14) R&I organisations should monitor their standardisation activities based on output, outcome and impact indicators. It is recommended to collaborate closely with other higher education institutions, R&I organisations and Technology Transfer Offices to create common and comparable methods of data collection and interpretation. Research and technology organisations and university associations could play an important role in this regard. A mixed approach, including qualitative and quantitative parameters should be applied to ensure that not only data for quantitative indicators are defined and collected. It is needed that researchers and/or Technology Transfer Offices write self-assessment reports or develop other qualitative methods detailing the context of the standardisation activities. This would help the interpretation of the quantitative indicators and provide evidence-based improvements of monitoring and indicator systems. Leveraging on existing networks of Technology Transfer Offices, as implementers of a monitoring system, would be advisable.

(15) Engagement with scientific data repositories, notably through the European Open Science Cloud, should be pursued enabling specific metadata to link standardisation actions with supporting data and publications. Cooperation with European Standards Organisations and other SDOs should be encouraged in this respect. Taken together, the following needs should be identified: firstly, to build up an evidence base

regarding the advantages and disadvantages of certain standardisation-related indicators to track knowledge valorisation; secondly, to draw on a set of indicators rather than single indicators.

3. PROJECT PARTNERS

3.1. It is recommended to analyse the existing standards landscape and assess the contribution which standardisation can offer to the research and innovation project.

(16) At the beginning of the process of drafting a project proposal, it is recommended to take the following steps:

a) to explore ongoing standardisation activities around the research topic to understand the state of the art;

b) to assess if and how the R&I results could be incorporated into new standards or used to update existing standards.

(17) Standardisation should be understood as a tool and not an objective in itself. When deciding whether standards and standardisation could be included in a project proposal the following indications should be considered:

(a) the call for proposals mentions standardisation and standards explicitly in the text and/or in the evaluation criteria;

(b) the research or technology field requires interoperability of different technological components, devices, systems and data;

(c) there are safety, security, environmental, performance, measurement or health issues to be defined and addressed;

(d) there is a need to develop common terminology, concepts, methodologies and innovative use cases to be considered and used by different stakeholders;

(e) there is a need to have clearly defined ways of quantifying, testing and measuring problems; and to demonstrate compliance with technical or regulatory requirements;

(f) the technology field is evolving and new or amended standards are needed;

(g) existing standards can be used in benchmarking new methodologies and for proposing updates of the existing benchmark standards. A standardisation gap analysis should be considered as one of the first tasks during project execution. It should be carried out by an organisation familiar with the standards landscape, such as an SDO that could support the drafting of a standardisation gap analysis and could benefit from support tools such as StandICT.eu[15] and StandardPlusInnovation.eu[16].

15 StandICT.eu

16 StandardPlusInnovation.eu

3.2. In case of a collaborative project, it is recommended to create in the consortium a common understanding as well as a common strategic position on standardisation and standardisation issues.

(18) Project partners should have or obtain a knowledge of formal standardisation processes, including the need to achieve consensus among many stakeholders in standardisation work; analyse the possibilities and limitations of the different standardisation-related deliverables such as reference and specification documents (such as CEN Workshop Agreements); and to analyse the processes leading up to these deliverables, including their requirements, consultations and timing.

(19) Project partners should define a common strategic position regarding the planned standards and standardisation activities. When partners act on behalf of the project in the different working groups and standardisation fora, they should have the backing of the other partners and avoid situations where different partners contradict each other. They should find common ground regarding technical features to be developed further in the standardisation activities.

(20) Project partners are invited to establish contact with CEN-CENELEC and ETSI or their network of national members to be aware of the range of standardisation and pre-standardisation deliverables available to them, such as CEN-CENELEC Workshop Agreements, ETSI International Standards Group deliverables, technical specifications or technical reports.

3.3. In case of a collaborative project, it is recommended to involve partners with standardisation experience in the team, with good access to the standardisation community.

(21) SDOs should be involved in the consortium, or at least some liaison with them should be ensured (for example, though letters of support, expression of interest, membership of project advisory board). The liaison with SDOs should also be leveraged through the interinstitutional contacts between the Technology Transfer Offices and research offices of higher education institutions, R&I organisations and SDOs.

(22) If direct links between the project partners and technical committees cannot be established from the start of project, technical committee members (or active standardisation specialists) might be involved as sounding boards for the project. It is recommended to include partners with standardisation experience who also have good access to the standardisation community (for example, previous experience participating in a relevant technical committee) in the consortium. Ideally, such partners should already be on board from the start of the project. Strong links to technical committees of the SDOs should be established by the project partners since technical committees take the decisions on ongoing standardisation activities. Therefore, ideally, researchers and innovators in the consortium should also be members of the relevant technical committees. In the case where there is no existing technical committee for the topic in question, there are various pre-standardisation processes available via different SDOs that project partners can use, for example, the workshop and workshop agreement process via the International Organisation for Standardisation and CEN-CENELEC, and the International Standards Group process via ETSI.

(23) All project partners[17] who are not familiar with standards and standardisation should be provided with training and awareness raising. Awareness raising and training could also be offered by SDOs specifically to partners as part of project activities.

3.4. It is recommended to make standards a tangible component of the project.

(24) Standardisation is recommended to be a tangible component of a project proposal, although partners should not be over ambitious about the potential contribution of their project to standardisation to avoid falling into so called 'standards-washing'.

(25) A standardisation strategy should be defined within the project, and relevant activities should be translated into work packages or tasks. To ensure that the planned activities are carried out they should be underpinned with sufficient budgets, time resources and responsibilities.

(26) During reviews of the project results, reviewers should identify possible project outcomes with potential of contributing to standardisation, leading to the allocation of resources to that end. The EU Innovation Radar[18] is also a tool that can contribute to this end.

3.5. **It is recommended to invest in and cater for stakeholder engagement throughout the project.**

(27) A large proportion of standardisation activities translate in practice into stakeholder engagement, including potential users. Partners are encouraged to use established European Standards Organisations' partnerships and liaisons to support their projects. Four areas of action can be identified in this respect:

(a) ensuring industry involvement: regardless of the kind of contributions to standardisation (whether the development or amendment of a new standard or technical specification, or an intermediate step such as a CEN Workshop Agreement), there is a need to have as much industry support and direct involvement as possible. This is essential for the standardisation activities to succeed and to ensure the market uptake of the innovations developed;

(b) implementing a good dissemination and communication plan: it is advised to develop a dedicated dissemination and communication plan in relation to standardisation activities. In this regard, dedicated websites, mailing lists or series of webinars s could be used;

(c) training in negotiation skills and policy work: training related to stakeholder engagement and participation in standards development committees should be encouraged. Partners may find relevant information on support via the HSBooster.eu[19] portal;

(d) resourcing: sufficient time and resources need to be allocated for stakeholder engagement activities.

3.6. It is recommended to be realistic about outputs, outcomes and impact and to consider suitable key performance indicators.

(28) In case of portfolios, strings or clusters of projects: To the extent that the realisation of project strings, clusters, portfolios is realistic and feasible, the creation of a

17 Learn more about the European Standards + Innovation initiative (standardsplusinnovation.eu)
18 Innovation Radar > Discover great EU-funded innovations (innoradar.eu)
19 HSBooster.eu

standard with a string or clusters of projects could be strategically shaped for developing new standards with the support of R&I funding. In some occasions, these activities could be reinforced by Public and Private Partnerships focused on topics, in which partners have interest in participating.[20]

(29) In case of contributions to reference documents and technical specifications: if developing a new standard as a whole is unfeasible, projects should be more closely involved in the work of technical committees to develop standardisation documents that do not need full consensus, for example, by preparing reference documents and specifications such as CEN Workshop Agreements, reference architectures, white papers, technical reports. Projects partners should be aware with the advantages and disadvantages of these tools and gather as much industry support for these specifications as possible.

(30) Project partners should consider developing key performance indicators which are realistic outputs, outcomes and impacts in line with point 14.

3.7. It is recommended to strive for combined qualitative and quantitative performance reporting for evaluations and monitoring.

(31) To assess valorisation performance, combined qualitative and quantitative indicators reporting should be carried out by the project. In particular, partners should define indicators and collect the corresponding data. Emphasis should be placed on qualitative reporting and interpretation of the indicators, such as in the form of (self) assessment reports.

(32) Researchers are invited to contact CEN-CENELEC and ETSI or their national members to best valorise the outcomes of their projects, such as CEN Workshop Agreements, as for the adoption of the CEN Workshop Agreement, full consensus is not required (hence no full balloting among the CEN CENELEC members), in contrast to European Standard, which requires full consensus among members. A list of potential indicators and a suggestion of which level of the impact pathway to use to measure the indicator, as a basis for further development, adaptation and specification are set out in the Annex.

3.8. It is recommended to take standardisation considerations into account in innovation and intellectual assets management (and vice versa).

(33) Defining standardisation outputs and impacts can usually not be done in isolation from other activities to commercialise R&I results. Commercialisation activities, such as different licensing models (including open-source licences) and creation of start-ups, involve strategic considerations regarding the use of IP. Intellectual assets management should therefore be considered in conjunction with standardisation when defining a proper commercialisation strategy.

(34) Standardisation considerations should be taken into account in the intellectual assets management strategy. This approach should not only be defined in the HEI's or R&I organisation's intellectual assets management and standardisation practices but it should equally be reflected at the project level.

[20] Such as the Smart Network and Services Joint Undertaking, the Alliance for IoT and Edge Computing Innovation, the Big Data Value Association, the European Factories of the Future Research Association, and the Regulations, Codes and Standards Strategy Coordination (RCSSC) Group of the Clean Hydrogen Joint Undertaking

(35) Before engaging in standardisation activities concerning new technologies, partners should consider filing a patent application.

3.9. It is recommended to ensure sustainability beyond the running time of the project.

(36) To create impact, particularly in relation to standardisation activities that extend beyond the timeframe of a project, results should be sustained beyond the running time of the project. The following options are suggested:

(a) having the results incorporated into technical specifications and reference documents such as CEN Workshop Agreement or technical reports can increase the sustainability of the standardisation-specific results;

(b) ensure that the results remain visible and accessible after the end of the project by submitting them to repositories such as the Horizon Result Platform[21] to ensure response to industry interest as well as potential user's interest;

(c) consider follow-up projects to ensure sustainability in the standards development process.

3.10. It is recommended to address standardisation within sector platforms, Public and Private Partnerships, project clusters, R&I Centres or other joint fora.

(37) Project partners should promote standardisation as a powerful tool within sector platforms, Public and Private Partnerships, project clusters, R&I Centres or other joint fora. Joining forces with the afore mentioned entities will bring a broader and more sustainable space for gathering evidence at sector level. Public and Private Partnerships linked to Union funded research activities can be a good platform to ensure contribution of projects to standardisation. Established European Standards Organisations' partnerships and liaisons with established sector fora, and institutional stakeholders can support this measure. Partners should gain access to these groups through the European standardisation network. European Standards Organisations' initiatives like STAIR or RISE could support this.

4. POLICY AND STAKEHOLDERS

4.1. It is recommended to promote standardisation as means of knowledge valorisation at national and regional level through collaboration with SDOs, higher education institutions as well as associations of R&I organisations and Technology Transfer Offices.

(38) Member States should liaise with SDOs, associations of higher education institutions, research organisations and associations of Technology Transfer Offices and professionals.

(39) Specific activities that could be tackled through this collaboration are:

(a) establishing joint working groups for the harmonised development of indicators to track knowledge valorisation through standardisation;

(b) collection and reporting of the data;

(c) elaborating principles by which innovation and intellectual assets management strategies can be aligned with standardisation activities[22];

[21] Horizon Result Platform

(d) offering training and awareness-raising activities (for innovators, researchers and Technology Transfer Offices);

(e) developing specific support services to be provided by Technology Transfer Offices to researchers and innovators (also including referrals to SDOs for specific types of services);

(f) elaborating on ways in which research performance assessment can take standardisation activities into account; and evaluating the feasibility of establishing a standardisation helpdesk similar to the already existing European IP Helpdesk[23];

(g) supporting the participation of researchers and innovators in concrete standardisation activities, for example, through support actions like StandICT and future 'R&I + Standards' actions in Member States.

4.2. It is recommended that Member States examine the needs of startups and SMEs in R&I projects in relation to standards and standardisation.

(40) It is recommended for Member States to examine the role of startups and SMEs in R&I projects, specifically regarding their use and exposure to standards and standardisation topics. In this context it is suggested for Member States and SDOs to seek collaborations with leading SME associations and startup incubators. Overall, this could lead to specific actions, such as an SME-tailored or SME-specific standardisation booster.

4.3. It is recommended that SDOs further develop their service portfolios for R&I actors and examine new ways to align their activities with R&I.

(41) SDOs are encouraged to extend their outreach and service activities to other units and stakeholders within higher education institutions and R&I organisations. This refers particularly to the offices of vice deans responsible for research at the higher education institutions, to Technology Transfer Offices and to the equivalent units in R&I organisations.

(42) Furthermore, SDOs are encouraged to evaluate whether there are ways, particularly in early phases of standardisation, to make the standardisation processes more flexible and hence easier to synchronise with R&I activities. It is recommended to assess possibilities by which authorship and contributions to standards creation can be better tracked (which is important for measuring research performance). Finally, training and awareness raising should continue to be offered to researchers and innovators and explained in greater detail, such as what are the advantages and disadvantages of 'standards-light'-like/pre-standard outputs (including CEN Workshop Agreement, technical report, technical specification).

4.4. It is recommended that Member States use national support structures in relation to the role of standardisation in R&I results valorisation.

(43) National ministries in charge of education and R&I should support the topic of standardisation and standards in relation with R&I activities, such as when negotiating performance contracts with higher education institutions. Linkage and

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[22] EN ISO 56002:2019 Innovation management — Innovation management system – Guidance, EN ISO 56005:2020 Innovation management — Tools and methods for intellectual property management — Guidance

[23] European IP Helpdesk (europa.eu)

engagement with national stakeholders should be promoted considering local peculiarities in order to obtain greater engagement and effectiveness.

(44) National support structures should aim to help researchers in their efforts to participate successfully in R&I projects. Overall, the establishment of a national contact point for standards and standardisation could be considered, similar to the already existing national contact points for the thematic areas of Horizon Europe[24]. Moreover, national support structures should encourage start-ups and SMEs to share their successful experiences in standardisation activities.

Done at Brussels, 1.3.2023

For the Commission
Mariya Gabriel
Member of the Commission

CERTIFIED COPY
For the Secretary-General

Martine DEPREZ
Director
Decision-making & Collegiality
EUROPEAN COMMISSION

[24] Funding & tenders (europa.eu)