



Grant Agreement No.: 101091933 Call: HORIZON-CL4-2022-RESILIENCE-01

Type of action: CSA




ICT Standardisation Observatory and Support Facility in Europe

D4.1 Standardisation Training Strategy

Work package	WP4 “Standards Academy Programme”
Task	Task 4.1 – Strategic management & implementation of the Standards Training Academy
Due date	31/08/2023
Submission date	24/08/2023
Deliverable lead	FHG
Version	Ver. 1.0
Authors	Knut Blind (FHG)
Reviewers	Francesco Osimanti, Gabriele Quattrocchi (Trust-IT)

Executive Summary	Included
Keywords	Education, ICT Standardisation

D4.1: Standardisation Training Strategy	 ICT Standardisation Observatory and Support Facility in Europe
Grant Agreement No.: 101091933	


Document Revision History

Version	Date	Description of change	List of contributors
0.1	19.04.2023	Table of Contents	Knut Blind (FHG)
0.2	08.08.2023	First Structure	Knut Blind (FHG)
0.3	11.08.2023	Input related to SMEs	Alexander Chourreau (DSME)
0.8	14.08.2023	First draft	Knut Blind (FHG); Simone Wurster (FHG)
0.9	23.08.2023	Peer-review	Francesco Osimanti, Gabriele Quattrocchi (Trust-IT)
1.0	23.08.2023	Final quality check & formatting	Francesco Osimanti, Gabriele Quattrocchi (Trust-IT)

Disclaimer

StandICT.eu 2026 has received funding from the European Union's Horizon Europe programme under Grant Agreement No. 101091933. The content of this document does not represent the opinion of the European Union, and the European Union is not responsible for any use that might be made of such content.

The European Commission is not liable for any use that may be made of the information contained herein.

D4.1: Standardisation Training Strategy	 ICT Standardisation Observatory and Support Facility in Europe
Grant Agreement No.: 101091933	

Copyright notice

Nature of the deliverable:		Sensitive
Dissemination Level		
PU	Public, fully open, e.g. web	✓
CO	Confidential, only for members of the consortium (including the Commission)	
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)	
EU-CON	Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)	
EU-SEC	EU-SEC. Classified Information: SECRET UE (Commission Decision 2005/444/EC)	

* *R: Document, report (excluding the periodic and final reports)*

DEM: Demonstrator, pilot, prototype, plan designs

DEC: Websites, patents filing, press & media actions, videos, etc.

OTHER: Software, technical diagram, etc.

EXECUTIVE SUMMARY

The Standardisation Training Strategy (STS) of STANDICT.eu 2026 has been developed under Task 4.1 of WP4 “Standards Academy Programme”. The deliverable has the objective to guide the implementation of the Standards Training Academy of STANDICT.eu 2026.


Following the structure of a strategy paper, it states the vision and mission of the STS after the background has been elaborated in the introduction. Its vision is that the EU has a leading position in ICT standardisation and, therefore, protects European values in the global context, but also that ICT standardisation contributes to the twin green and digital transition. Therefore, the mission is to increase the number of experts in the EU with know-how in ICT standardisation, but also to broaden and update their knowledge base related to the role of standardisation for ICT, but also the green and digital transition.

Following the vision and the mission, the status quo of education about standardisation in general and in particular related to ICT is presented starting with the current strategies launched by the EU, but also the U.S. government. Then the insights of the few studies and reports are displayed including the activities of the standard development organisations (SDOs). Very important are also the various EU funded projects, in particular HSBooster.eu. Their activities and focus are presented before their implications for the STS of StandICT.eu 2026 are derived. Then, its objectives differentiated into short-term within the next six months, medium-term until the end of STANDICT.eu 2026 in December 2025 and long-term beyond 2025 are displayed including a subsection about the goals related to SMEs. Correspondingly, the action plan is structured according to these three time periods first focusing on the creation of content and then on its dissemination. The STS strategy of STANDICT.eu 2026 ends with a brief outlook.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
1. INTRODUCTION	10
1.1 BACKGROUND	10
1.2 STRUCTURE OF REPORT	10
1.3 RELATION WITH OTHER PROJECT DELIVERABLES	10
2. VISION AND MISSION	11
2.1 VISION.....	11
2.2 MISSION	11
3. STATUS QUO	12
3.1 STRATEGIES	12
3.2 STUDIES AND REPORTS	12
3.3 ACTIVITIES OF SDOs	13
3.4 EU PROJECTS.....	14
3.4.1 HSBooster.eu	14
3.4.2 STAND4EU	14
3.4.3 SEEBLOCKS.....	15
3.4.4 Forthcoming EU Projects	15
4. OBJECTIVES.....	17
4.1 SHORT-TERM OBJECTIVES	17
4.2 MEDIUM-TERM OBJECTIVES	17
4.3 LONG-TERM OBJECTIVES	18
4.4 SME-RELATED OBJECTIVES.....	18
4.4.1 SME leadership Skills workshops	18
4.4.2 SME access to StandICT2026 training modules.....	18
4.4.3 SME mentorship programme	19
5. ACTION PLAN	20
5.1 SHORT-TERM ACTIONS	20
5.2 MEDIUM-TERM ACTIONS.....	20
5.3 LONG-TERM ACTIONS	21

6. OUTLOOK.....	22
7. REFERENCES.....	23

D4.1: Standardisation Training Strategy	 <small>ICT Standardisation Observatory and Support Facility in Europe</small>
Grant Agreement No.: 101091933	

LIST OF FIGURES

FIGURE 1 – ACTIVITIES OFSDOS RELATED TO EDUCATIION ABOUT STANDARDISATION PER REGION (SOURCE: CATALANI GABRIEL ET AL. 2022, P. 14) 13

LIST OF TABLES

TABLE 1 - LINKS TO OTHER EU PROJECTS.....	16
---	----

ABBREVIATIONS

CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CSA	Coordination and support action
DCU	Dublin City University
DG	Directorate-General
DIN	Deutsches Institut für Normung e.V.
DLT	Distributed Ledger Technology
DS	Danish Standards
DSME	European Digital SME Alliance
EARTO	European Association of Research and Technology Organisation
EC	European Commission
EUIPO	European Union Intellectual Property Office
EPO	European Patent Office
ETSI	European Telecommunications Standards Institute
EU	European Union
EUOS	EU Observatory for ICT Standardisation
EURAS	European Academy for Standardisation
HEI	Higher Education Institute
HLF	High-Level Forum on Standardisation
IEC	International Electrotechnical Commission
IEEE SA	Institute of Electrical and Electronics Engineers Standards Association
IPR	Intellectual Property Right
ISO	International Organization for Standardization
ITU	International Telecommunication Union
KPI	Key Performance Indicator
MoU	Memorandum of Understanding
OFE	OpenForum Europe
PRO	Public Research Organisation
RTO	Research and Technology Organisation
R&D	Research & Development
R&I	Research & Innovation
SBS	Small Business Standards
SDG	Sustainable Development Goal
SDO	Standard Development Organisation
SEG	Standards Education Group
SME	Small and medium-sized enterprise
STS	Standardisation Training Strategy
UNE	Spanish Association for Standardisation

1. INTRODUCTION

1.1 Background

The objective of this deliverable is to present and specify the standardisation training strategy of StandICT.eu 2026. The strategy document intends to guide on the proposed teaching content and to achieve the envisaged number of trained experts.

It takes into consideration the work of the predecessor project StandICT.eu 2023, which has documented its achievements in *D4.5. Final Report on Education in Standardisation* (StandICT.eu 2023). However, it considers also previous studies about the needs for skills related to standardisation in industry (Blind and Drechsler, 2017), but current landscape of course and programmes (e.g. Catalani Gabriel et al. 2022), but also the challenges in universities to provide them (Blind, 2019). On the policy level, the strategy document has to take the EU Strategy on Standardisation into account, which acknowledges the need for education and skills related to standardisation (European Commission, 2022). Consequently, the Code of Practice on standardisation in the European Research Area asks the Higher Education Institutions (HEIs) to provide for education and training on standardisation. Currently, the European Commission established High-Level Forum (HFL) on Standardisation, a body established to advise the EC on strategic political matters in this field also includes a specific horizontal work-stream Education and Skills. However, not only the EU, but also the U.S. government meanwhile recognises the need to educate and empower the new standards workforce by asking their HEIs to increase their efforts in teaching related to standardisation and standards (Biden-Harris Administration 2023).

1.2 Structure of report

The strategy document, whose main elements have been presented both at the webinar “[EUOS Standards Academy: Towards the future of education on standardization](#)” in collaboration with the predecessor StandICT.eu 2023 and at a panel “Education About Standardisation” at [EURAS 2023](#) in Aachen, featuring the following structure:

- Vision and Mission
- Status Quo
- Objectives (short-, medium- and long-term)
- Action plan
- Outlook

1.3 Relation with other project deliverables

The following forthcoming deliverables of StandICT.eu 2026 will be based on this document:

- D4.2 Interim report on education in standardisation.
- D4.3 Final report on education in standardisation.

2. VISION AND MISSION

2.1 Vision

The vision of the Standardisation Training Strategy (STS) of StandICT.eu 2026 has two components, which are derived mainly from the EU standardisation strategy (European Commission, 2022), but also from the Green Deal (European Commission, 2019):

- EU has a leading position in ICT standardisation and, therefore, protects European values in the global context.
- ICT standardisation contributes to the twin green and digital transition.

Based from this vision, the mission of the STS of StandICT.eu 2026 is derived.

2.2 Mission

In order to contribute to the realisation of the vision, the STS of StandICT.eu 2026 has two components. Since the standardisation strategies of the EU, but also U.S. point to the general lack of expertise related to standardisation, which will be aggravated by the upcoming demographic development due to the retirement of the “baby boomers” generation, the first mission of StandICT.eu 2026 is to tackle this first dimension with a strong focus on ICT:

- Increase the number of experts in the EU with know-how in ICT standardisation.

However, the challenges generated by the envisaged green and digital transition do not only require to raise the number of standardisation experts, but also to adjust the content of the teaching material in order to tackle the upcoming challenges. Therefore, the second part of the mission of the STS is to:

- Broaden and update their knowledge base related to the role of standardisation for ICT, but also the green and digital transition.

From this mission, the action plan will be derived in Chapter 4, but has to consider the status quo of strategies, studies and other relevant EU projects to be presented in the following Chapter 3.

3. STATUS QUO

This chapter presents the status quo related to education on standardisation by considering the already mentioned strategies, studies and reports, activities of SDOs and running EU projects. These cornerstones have to be considered in the development of the STS.

3.1 Strategies

As already elaborated in the introduction, there are currently three relevant strategy documents to consider:

- EU Standardisation Strategy (2022).
- EU Code of Practice on Standardisation (2023).
- Biden-Harrison Administration National Standardisation Strategy (2023).

These strategy documents support only the general mission of the STS of StandICT.eu 2026 without providing further details. However, the U.S. strategy focused on eight critical and emerging technologies, at least half of them directly linked to ICT. StandICT.eu 2026 sees the potential of these technologies and related standardisation activities and aims to also consider them by the STS.

3.2 Studies and reports

There is little insight about the specific demand for experts in the EU related to standardisation in general, and ICT standardisation in particular. However, the study [by Blind and Drechsler \(2017\)](#) on behalf of DG GROW reveals that the majority of the surveyed professionals active in standardisation complain that they have not provided the necessary competencies by the HEIs they have graduated from. Whereas there is no more large-scale scientific evidence about the demand for education about standardisation, the study by Blind (2019) on the supply side reveals the challenges for the limited number suppliers of education about standardisation. A success factor is the close collaboration between HEIs and the national Standard Development Organisations (SDOs). The survey by Catalani Gabriel et al. (2022) reveals the SDOs see a need for education about standardisation and are therefore actively involved.

The most recent report on education about standardisation (StandICT.eu 2023) summarises the presentations and discussions of a webinar organized by StandICT.eu in January 2023. As major challenge has been identified the need to increase the number of students educated in standardisation applying attractive teaching methods in European HEIs, because the demand for such skills is increasing and the current experts are belonging mostly to the baby boomers and, therefore, starting to retire. Furthermore, it is obviously challenging to attract students to courses about standardisation confirming the survey results presented by Blind (2019). Finally, the multidisciplinary nature of standardisation is also a substantial challenge for getting the topic integrated into the curricula of still mainly monodisciplinary dominated faculties in HEIs. These challenges complement the one identified by Catalani Gabriel et al. (2022), which focus

mainly on HEIs missing teaching skills and material and therefore courses and programs related to standardisation.

Consequently, it is recommended to improve the recognition of standardisation activities of researchers in HEIs, but also PROs by establishing metrics and key performance indicators (KPIs) similar to scientific publishing and patenting. Furthermore, in line with the mission of the STS content should go beyond just teaching procedural insights and technical or economic consideration to the needs of society at large taking the above-mentioned EU strategy and further geopolitical considerations into account. In the education efforts of HEIs, SDOs should be involved, in particular as they are willing and often already committed (see the survey results by Catalani Gabriel et al. 2022) as well as insights presented by standardisation experts. In order to generate the required number of graduates with knowledge and skills related to standardisation, HEIs and PROs have to develop and implement long term education strategies, like in Asia (Catalani Gabriel et al. 2022).

3.3 Activities of SDOs

The most comprehensive overview of education activities of SDOs is provided by Catalani Gabriel et al. (2022) based on a survey among ISO members resulting in almost 100 responses. The main result is displayed below revealing that the SDOs in Europe are most active followed by Asia and Americas.

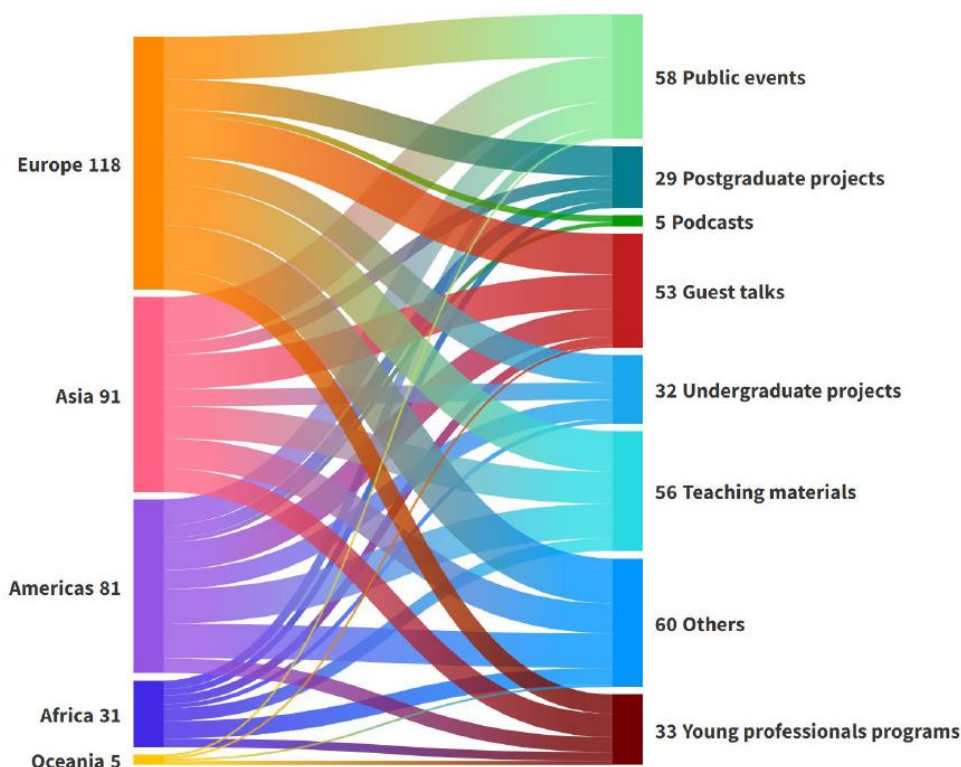


FIGURE 1 – ACTIVITIES OF SDOs RELATED TO EDUCATION ABOUT STANDARDISATION PER REGION (SOURCE: CATALANI GABRIEL ET AL. 2022, P. 14)

Under StandICT.eu 2023, 29 sources about teaching standardisation including reports have been collected. The majority is hosted by international (ISO, IEC), European (CEN-CENELEC) or national SDOs (e.g. DIN, DS, UNE). However, it has to be mentioned that some repositories have not recently been updated. Concerning the development of the STS, the teaching material developed by European Telecommunications Standards Institute (ETSI) has to be mentioned, because it is focused on ICT standardisation (<https://www.etsi.org/education/teaching-material>). As elaborated below, ETSI will be a major partner for the implementation the STS of StandICT.eu 2026.

3.4 EU projects

Whereas the above-mentioned activities of the SDOs follow - at least partly - a long term and even institutionalised approach, the currently running projects funded under Horizon Europe recently have been initiated to contribute to the implementation of both the EU standardisation strategy (European Commission, 2022) as well as of the Code of Practice on standardisation (European Commission, 2023).

We present the project in chronological order because about the most recent projects no broad experience can be reported. And therefore, the implications for the STS are still to be exactly measured and assessed.

3.4.1 HSBOOSTER.EU

HSbooster.eu is a 24-month European Commission initiative that provides services to EU funded projects to help them to increase and valorise their results by contributing to the development or revision of standards. HSbooster.eu has launched the [HSbooster.eu Training Academy](https://www.hsbooster.eu/training-academy) (<https://www.hsbooster.eu/training-academy>) in response to the Code of Practice on Standardisation by providing an efficient mechanism and accessible hub for training knowledge, expertise, and skills in the field of standardisation. Meanwhile, the HSbooster.eu Standardisation Training Academy offers a wide range of educational resources covering a broad range of domains.

The material created and the approach implemented by HSbooster.eu has significant implications for the development of the STS of StandICT.eu 2026. Whereas, StandICT.eu might rely on the content of the basic modules on standardisation and the experiences collected during the first performed trainings, the target groups and therefore the contents of StandICT.eu focusing explicitly on ICT standardisation differs significantly from of Horizon Europe funded project participants needing help or support for the use of standardisation for the valorisation of their research results.

3.4.2 STAND4EU

There are gaps between research and markets. Therefore, STAND4EU aims to increase the probabilities of market up-take of technological innovations by the effective and efficient use of standards in research and innovation projects, which results might then be integrated into future standardisation activities (see already Blind and Gauch, 2009). In a first phase, obstacles related to those mechanism have been identified. Currently, solutions and approaches are developed to foster standardisation as a means of knowledge valorisation. In a final step, the

establishment of the STAND4EU interface between research and standardisation is envisaged. Finally, a realistic plan for sustaining the developed mechanisms beyond Stand4EU will be presented.

In contrast to HSBooster.eu, which has created training approaches and teaching content being relevant for StandICT.eu, Stand4EU might provide insights, which could be integrated into the teaching material to be created and implemented in webinars by StandICT.eu.

3.4.3 SEEBLOCKS


SEEBLOCKS.eu is more specific and aims at delivering a targeted, democratic initiative to support European interests in standardisation in the Blockchain/DLT domain. Overall, it is intended to strengthen the participation of EU stakeholders in the field in order to promote European values, also via educational activities. A Standards Visualisation Tool will be developed and made available of the SEEBLOCKS.eu website also to navigate timely resources for online courses. Courseware (primer and advanced) will be developed to support capacity building in Europe. The materials will be derived from already existing repositories of education material, with significant additions and adjustments to the latest requirements of blockchain/DLT (e.g. video tutorials, lecture's podcasts, textbooks and manuals, learning starter-packs). Eventually, 200 individuals will be awarded an online certification of being trained at www.seeblocks.eu.

The Blockchain/DLT domain is very specific and, therefore, its teaching material might be considered as a small component of the content produced under StandICT.eu 2026. Furthermore, StandICT.eu might continue the teaching activities targeting the blockchain community after the end of the only two lasting SEEBLOCKS.eu project.

3.4.4 FORTHCOMING EU PROJECTS

Although no further EU funded projects are known so far, which include also teaching elements, there will be further initiatives, which will have implications for the STS. Most important, it has to be coordinated with the upcoming project selected for the call *HORIZON-CL4-2023-HUMAN-01-63: Provide for a strong and sustainable pool of experts for European Standardisation: attract the students of university/HEI*. Here, the overall objective is to include standardisation knowledge in the curricula of European HEIs to educate students about standardisation to create eventually “a strong and sustainable pool of European standardisation component professionals ready to engage in European and International Standardisation” (see Horizon Europe Work programme (2023-24) - Cluster 4 https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/horizon-europe-work-programmes_en).

In order to achieve this overall objective, various activities are planned to enlarge the number of courses in HEIs integrating standardisation contents, to increase visibility of standardisation at HEIs through “Academic Standardisation Days” and by setting-up of a Students’ Standardisation Association. In the context of the general scope of the project, it is explicitly expected to inform students about the highly decentralised, global ICT-related standardisation landscape with numerous fora and consortia. Related to this specific topic, a close coordination will be needed. However, the target group of this project are HEIs, their teaching staff and

D4.1: Standardisation Training Strategy	 <small>ICT Standardisation Observatory and Support Facility in Europe</small>
Grant Agreement No.: 101091933	

students, whereas StandICT.eu 2026 will also address HEIs, but has its main target group in the ICT industry, but also public research organisations focusing on ICT.

Finally, the projects selected under the Call *HORIZON-CL4-2023-HUMAN-01-64: Pre-normative research and standardisation in industrial ecosystems (CSA)* might also include the provision training or teaching modules. Therefore, it has to be checked whether there are overlaps to be considered or synergies to be exploited.

The following Table 1 summarises the interfaces of the identified EU-funded projects with the STS of StandICT.eu 2026.

PROJECTS	Inputs into StandICT2026	Outputs of StandICT2026	Challenges	Synergies
HSBooster.eu	HSBooster.eu teaching material	HSBooster.eu might include links to StandICT2026 material	same target audience related to EU funded ICT projects	TRUST-IT and DCU partners in both projects; Knut Blind is member of the EAG of HSBooster
Stand4EU	insights might be considered as input for teaching material	N/A	N/A	MoU
SEEBLOCKS	teaching material related to blockchain	SEEBLOCKS might include links to general StandICT2026 material	same target audience in the blockchain community	TRUST-IT, DCU and FHG partners in both projects
HORIZON-CL4-2023-HUMAN-01-63	to be updated after project start	project might include links to general StandICT2026 material	same target audience related to ICT in HEIs	to be updated after project start
HORIZON-CL4-2023-HUMAN-01-64	to be updated after project start	to be updated after project start	to be updated after project start	to be updated after project start
Relevant forthcoming EU funded projects	projects have to be screened and to be updated after project start	projects have to be screened and to be updated after project start	projects have to be screened and to be updated after project start	projects have to be screened and to be updated after project start

TABLE 1 - LINKS TO OTHER EU PROJECTS

4. OBJECTIVES

The objectives of the STS are structured in short term objectives to be achieved within the next six months, the medium term objectives to be achieved until the end of StandICT.eu in December 2025 and long-term objectives beyond the projects' lifecycle, in particular addressing the foreseen follow-up project addressed in the call *HORIZON-CL4-2024-HUMAN-01-61: Facilitate the engagement in global ICT standardisation development (CSA) in the work programme* (see Horizon Europe Work programme (2023-24) - Cluster 4 https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/horizon-europe-work-programmes_en). Complementary to these general objectives, the SME-related objectives close this chapter.

4.1 Short-term objectives

After receiving feedback to the STS, the next objective is the development of six teaching modules in the next six months until early spring 2024. In particular, three ICT Standardisation Courses address the Beginner level without any experience in standardisation and another three Intermediate and Advanced levels (see details in the next section of the Action Plan). The courses will be designed to be conducted within a maximum two hours.

A sub-objective is to update the current website of the EOUS (EU Observatory for ICT Standardisation) Standards Academy (<https://www.standict.eu/euos-academy>) created under StandICT.eu 2023 with this updated structure until the end of October 2023 to achieve the sixth milestone Training Facility Developed of StandICT.eu 2026.

4.2 Medium-term objectives

To synchronise our activities with the already scheduled webinars of HSBooster.eu in fall 2023, the StandICT.eu 2026 webinars will start in spring 2024 and performed until the end of the project in December 2025. The aim is to have between 50 and 100 participants per webinar. Overall, the objective is have attracted more than 1,000 participants in total, the half of them attending the beginner courses, whereas the other half participating in the intermediate and advanced courses.

Whereas the need to coordinate the standardisation training activities of StandICT.eu with the activities of HSBooster.eu will decrease, the alignment with the forthcoming project responding to the call *HORIZON-CL4-2023-HUMAN-01-63* to build a pool of experts for European Standardisation will increase in order to achieve the main objectives and ensure an efficient allocation of resources.

A final medium-term objective is to consider the experiences collected so far with the training activities in drafting a proposal for the follow-up project of StandICT.eu 2026 responding to the call *HORIZON-CL4-2024-HUMAN-01-61: Facilitate the engagement in global ICT standardisation development (CSA)* to be submitted until March 2024.

Towards the end of StandICT.eu 2026, a sustainability strategy has to be developed. The STS beyond StandICT.eu 2026 should be one important component of such a sustainability strategy.

4.3 Long-term objectives

Beyond the duration of StandICT.eu 2026, the major objective is to continue, perpetuate and broaden the training activities related to standardisation in the follow-up project to be selected among the applications for HORIZON-CL4-2024-HUMAN-01-61. However, even beyond the follow-up project, a sustainable STS has to be developed involving European SDOs, in particular ETSI, but also European HEIs and PROs.

4.4 SME-related objectives

SMEs are an important target audience under StandICT2026's STS. Standardisation training and awareness-raising should go beyond the HEI level, and purpose to integrate the workplace as well. A strong focus on life-long learning is paramount towards a successful European standards education strategy.

Skills development within companies should concern all employees – not just IT experts, but also top-management levels. SMEs are no exception to this. On the contrary; with their smaller structures, it is all the more important that employees have a broad understanding of standardisation tenets.

This Training Strategy foresees three main ways of addressing this objective, which are shown below.

4.4.1 SME LEADERSHIP SKILLS WORKSHOPS

First, two specific leadership workshops will be organised by DIGITAL SME (DSME) by the end of the project's course. Different SDO technical committee convenors will be contacted, to come and present to SMEs, which are not currently engaged in standardisation workstreams on the tenets and benefits of standardisation for their business activities. The performance of the first leadership skills training workshop will be performed until the end of February 2024, the seventh milestone of StandICT.eu 2026.

These workshops will aim to attract a minimum of 20 participants per workshop. A large communication and dissemination effort, both before and after the workshops, will ensure that these efforts are widely reported.

4.4.2 SME ACCESS TO STANDICT2026 TRAINING MODULES

Secondly, SMEs will be oriented towards the different training modules developed by StandICT.eu 2026. The objective, here, is to get a minimum of 30 SMEs having accessed the modules.

SMEs will be proactively reached out to by DSME, with tailored communication material. Feedback on the content of the accessed training materials will also be collected, in order to gather intelligence on how to enhance them further for a more SME-tailored experience.

4.4.3 SME MENTORSHIP PROGRAMME

Last, a mentorship programme will be set up in order to accompany SME experts benefiting from StandICT.eu 2026 support into the standardisation ecosystem. For the upcoming Open Calls, returning experts will be put into contact with new fellows matching their areas of expertise. This one-to-one mentorship programme would enable new coming SME experts with limited experience of the work to carry out in SDO technical committees to benefit from tips and advice from more experienced fellows.

The benefits here are double: not only will the new coming fellows gain from this valuable support, but the program in itself will serve as a 'pull' lever towards other SMEs, which may have previously been in doubt about getting involved in standardisation workstreams due to lack of expertise.

Towards that end, a new mention should be added by the leader of the task related the application form for future Open Calls, both:

- Asking returning experts if they would be willing to provide mentorship to new SME experts;
- Asking new applicants if they would like to benefit from this mentorship programme.

Selected experts on both ends, with similar topics of expertise, can then formally be put in contact by the StandICT.eu 2026 consortium. Feedback can then be requested at the end of the fellowship, in order to positively take stock of the various experiences and apply the required changes for the next cycle.

All in all, carried out conjointly these three main steps should be a useful effort towards bridging the standardisation knowledge gap among the European SME community, and further enable their engagement in standardisation work streams.

5. ACTION PLAN

Following the structure of the objectives of the StandICT.eu STS into short covering the next six months, medium term until the end of the project in December 2025 and long-term beyond StandICT.eu, we structure the action plan accordingly focusing on the short-term and medium-term actions.

5.1 Short-term actions

Following the finalisation of the STS with the submission of D4.1 (August 2023), it will be presented to and discussed with the EUOS Standards Education Group (SEG) chaired by Ivana Mijatovic in order to collect its feedback and modify or expand it, if needed.

At the same time, existing teaching material documented in StandICT.eu 2023 D4.5 (*Final Report on Education in Standardisation*), including previous webinars will be screened and considered to be used as input for the development of the six modules. Most relevant will be the update of the text book published by ETSI (Abdelkafi et al. 2021), because it is focused on ICT and the most recently published source. However, the comprehensive and detailed material presented and provided by HSBooster.eu will also be taken into account (<https://www.hsbooster.eu/training-academy>). The content of the modules will be presented to and discussed by the SEG.

The modules will have the following structure:

The **two basic modules** will focus, on the one hand, on the general role of standards in ICT and, on the other hand, on the ICT standardisation landscape.

The two intermediate modules will cover the linkages between research, innovation and standardisation in ICT in general and patents and standardisation in ICT in particular.

Finally, **the two advanced courses** will address the complex relation between standardisation and open source and finally ICT standardisation in the context of geopolitics (technological sovereignty) or as alternative or complementary technology specific lectures (AI, blockchain, etc) to generate with other projects (e.g. SEEBLOCKS.eu).

The webinars will be based on PDFs of PowerPoint slides plus a short synopsis of three to five pages including also links and references.

In parallel, the structure and content of the first leadership skills training workshop will be prepared until their performance until the end of February 2024.

All the short-term actions will be reflecting the ongoing debates in the HLF and the national mirror committees.

5.2 Medium-term actions

In parallel to the preparation of the training modules, an implementation plan will be developed to structure the organisation of the performance of webinars starting in Spring 2024 until the end of STANDICT.eu 2026. A preliminary proposal is to run the six webinars at least once in

2024 and twice in 2025. With the expectation to have at least 50 participants per webinar, we would reach the envisaged 1,000 participants in total.

In order to reach a sufficient number of participants, the existing contacts to CEN-CENELEC, ETSI, IEC, ISO, ITU, but also IEEE SA and other ICT consortia will be used to discuss the most effective and efficient dissemination strategy, in particular leveraging the vast projects' community on social media channels, like LinkedIn and X (Twitter). In addition, the SME-focused communities will be approached via the partner DSME being member of Small Business Standards (SBS), whereas the open-source communities can be reached out by Open Forum Europe (OFE). It has to be checked, whether and how organisations funded under Horizon 2020 and Horizon Europe can be contacted without creating conflicts with HSBooster.eu, i.e. after its termination. In addition, the Fraunhofer Society is member of European Association of Research and Technology Organisation (EARTO) representing the interests of over 350 Research and Technology Organisations (RTOs) with more than 150,000 of researchers and engineers. Furthermore, due to the close link between patents and standards in some area of ICT, opportunities of collaboration with the European Patent Office (EPO) and the European Union Intellectual Property Office (EUIPO), now responsible to increase the transparency related to standard-essential patents in the EU have to be investigated. Finally, the European Academy for Standardisation (EURAS) (an organisation of researchers and lecturers interested in standardisation) is an important entity to partner with, because of their high visibility and broad coverage of relevant actors. Complementary, the contacts to the HLF and the national mirror committees should be used to support the visibility of the training activities of StandICT.eu 2026, because their members mainly represent industry associations and representatives, important multipliers for the content, webinars and correlated activities of the project.

The collaboration with the listed organisations can be implemented in various ways. In addition, to Memorandums of Understanding (MoUs), these organisations can be involved via guest speakers, but also the common promotion of webinars. As a service of return, the prepared training material can be used as input, e.g. micro interventions, into other training events organised by such organisations.

As mentioned above, all these activities within the implementation of the STS have to be aligned mainly with the activities of HSBooster.eu and in the future with the forthcoming education on standardisation project selected among the proposals submitted to the Call HORIZON-CL4-2023-HUMAN-01-63 to build a pool of experts for European Standardisation.

5.3 Long-term actions

Regarding the long-term actions to be performed beyond StandICT.eu 2026, we cannot be very specific at this stage of the projects' development. However, the materials produced and the insights gained within StandICT.eu should be taken into account in the follow-up project to be selected among the proposals addressing HORIZON-CL4-2024-HUMAN-01-61. However, even beyond the follow-up project, actions have to be considered to realise a sustainable STS. European SDOs, in particular ETSI, but also European HEIs and PROs might relevant and interested partners.

6. OUTLOOK

The elaboration and constant integration of the STS is one of the key outcomes of WP4: the following tasks will be performed in order to effectively achieve such goal. First, Task 4.2, Development, implementation & distribution of tools & services for standards education lead by DCU will be started, which will be based on the International Directory on Education about Standardisation (IdEaS) already started to be collected under STANDICT.eu 2023, also involving the EUOS Standards Education Group (SEG). Second, Task 4.3, the Training facility for European Experts leadership in international standardisation (also under the leadership of DCU) will be established. Based on IdEaS, expert level training material will be developed and integrated into EUOS Academy's Repository of Standards Education Information. It will be accompanied by brief Manual(s) for Expert Training in Standardisation (MANifEST) to be used to deliver the training workshops.

Finally, the STS of STANDICT.eu 2026 and its implementation will be also important for the overall Sustainability Strategy of STANDICT.eu and the work packages relevant for dissemination (WP5 and WP6).

7. REFERENCES

Abdelkafi, N., Bekkers, R. N. A., Bolla, R., Rodriguez-Ascaso, A. & Wetterwald, M. (2021). Understanding ICT Standardization: Principles and Practice (2nd edition). Sofia Antipolis, France: ETSI. 280 p. ISBN: 979-10-92620-50-1. Open Access publication. [URL](#).

Biden-Harris Administration (2023): United States Government National Standards Strategy for Critical and Emerging Technology, <https://www.whitehouse.gov/2023/05/04>.

Blind, K. (2019): Motivation for and Barriers against the Inclusion of Standardisation in European Academic Research and Education”, Publication Office of the EU: Luxembourg.

Blind, K., Drechsler S. (2017): European Market Needs for Education in Standardisation/standardisation-related Competence”, Publication Office of the EU: Luxembourg, <https://op.europa.eu/en/publication-detail/-/publication/c013b068-e084-11e7-9749-01aa75ed71a1>

Blind, K., Gauch, S. (2009): Research and standardisation in nanotechnology: evidence from Germany. The Journal of Technology Transfer 34 (3), 320-342.

Catalani Gabriel, L., de Vries, H. J., Cleeland, B. (2022): Stimulating Education about Standardization – Activities and perspectives of National Standards Bodies. Journal of Standardisation, Vol. 1 (2022). DOI: 10.18757/jos.2022.6298.

European Commission (2019): The European Green Deal, COM (2019) 640 final.

European Commission (2022): An E.U. Strategy on Standardisation: Setting global standards in support of a resilient, green and digital E.U. single market, COM (2022) 31 final.

European Commission (2022): An EU Strategy on Standardisation: Setting global standards in support of a resilient, green and digital EU single market, COM (2022) 31 final.

European Commission (2023): Code of Practice on standardisation in the European Research Area, COMMISSION RECOMMENDATION (EU) 2023/498.

Idowu, S. O., de Vries, H. J., Mijatovic, I., Choi, D. (ed.), (2020): Sustainable Development: Knowledge and Education about Standardisation, Springer.

Mijatovic, I. (2020): Teaching standardisation to Generation Z – Learning outcomes Define Teaching Methods, in Idowu, S.O. de Vries, H.J. Mijatovic, I., Choi, D. Sustainable Development Knowledge and education about standardisation, pp.200, Springer Nature, ISSN 2196-7075, doi:10.1007/978-3-030-28715-3

StandICT2023 (2023a): D4.5 Final Report on Education in Standardisation

StandICT2023 (2023b): Future Standardisation Education: Reflections and Recommendations