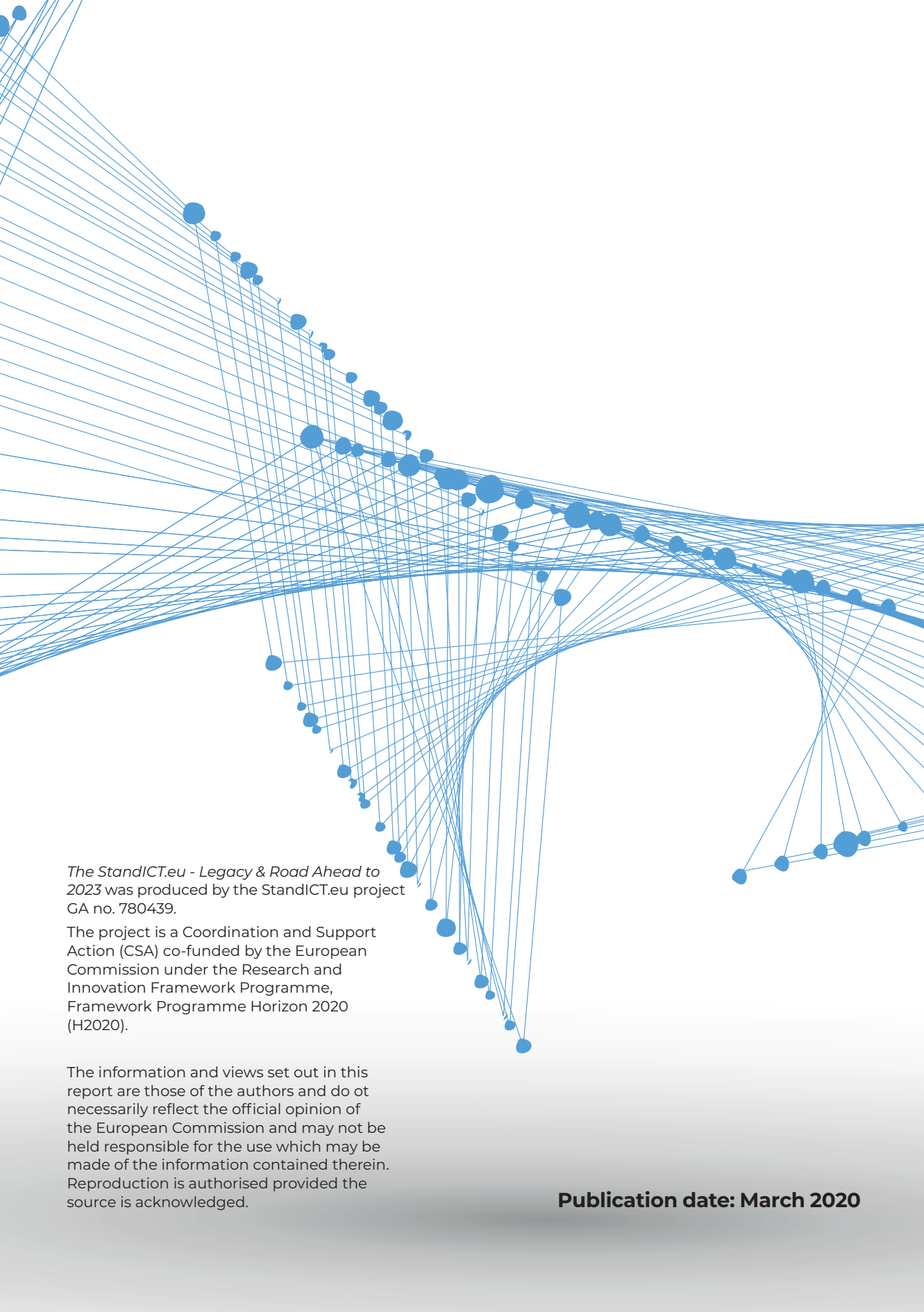


# StandICT.eu

Supporting European Experts Presence in  
International Standardisation Activities in ICT



**Legacy &  
Road Ahead to 2023**



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# Message from the Project Coordinator

Dear Readers,

With this report we have delivered some important lessons learned from working on such a unique “pilot” project as StandICT.eu. It serves as an interesting compilation from “our experts’ voices” who obtained funding and have provided their important feedback to help Policy makers and Funders shape future Work Programmes and recommendations on how to push further European engagement in ICT standards efforts and turn them into concrete future priorities in the coming years.

The scope of StandICT.eu obtained funding **“to encourage and support European leadership in international SDOs working on an array of innovative ICT topics closely tied to the DSM”**. This was the mantra we repeated when the project began. What we witnessed, instead from very early on, was that indeed, there was already a significant number of Europeans actively engaged already and actively contributing to ICT Standards, but many on a voluntary level only and on an ad-hoc basis as they did not have enough funds to support their effort. What StandICT.eu managed to do was to consolidate these individuals’ presence efforts on a coordinated level through financial support and guidance, where necessary, and contributors felt sustained economically and their efforts were finally being put to good use through a regular support process which were delivered through eight Open Calls.

What you will find in the following pages is a truthful and first hand analysis and approach from a number of our experts, to whom we are extremely grateful to, for having provided us with their views on:

- a) How they supported EU policies, regulations (such as GDPR), ethical and European values or ICT standardisation strategies in their standardisation activity &
- b) What would have happened had they not received financial support through StandICT.eu.

We hope you enjoy these insights and look forward to continuing this very relevant initiative on ensuring European priorities are addressed within global standardisation efforts in the future.

Yours Sincerely

**Silvana Muscella**

Project Coordinator of StandICT.eu



# Scope & Main Facts of the StandICT.eu initiative

StandICT.eu concluded its activities in February 2020. This Pilot Project Initiative started back in January 2018, **as a first of its kind in the field of ICT Standardisation**: a continuous Cascade Funding flow spread across 8 different Open Calls, very close together to effectively support endeavors of European ICT Standards experts actively contributing to International ICT standards efforts.

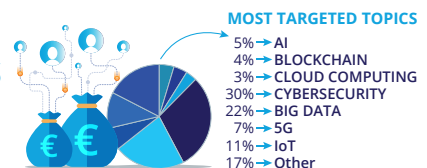
In 26 months, StandICT.eu gained a crescent visibility culminating to be recognised as a widely acknowledged brand as well as an invaluable **financial mechanism to enable specialists to further develop ICT Standards-related activities**. Besides, this process resulted in a flurry of an internal community of ICT Specialists (accounting, to date, of **over 700 individual experts** many renowned in their ICT standards field), a consolidated synergy with hundreds of **Standard Developing Organisations, SMEs, National Standards Bodies, EU Standards associations** and similar Standards-driven projects coming together coupled with the implementation of an interactive Watch to carefully monitor the ICT international Standards landscape.

StandICT.eu experts provided progress with coverage of the many technological areas, of the **Key Pillars of the Digital Single Market** as well as the ones included within the **European ICT Rolling Plan for Standardisation** with an eye in the latter months of novel technologies around blockchain, AI & Smart cities. These reference points acted as a compass to steer the Project guidelines across the ongoing Open Calls and to adequately tackle the most significant Gaps and Priorities Europe was facing. The achievements the project managed to attain are highlighted as follows:

- **239 applications funded** (out of a total of **501** submitted) to fully support Standardisation in multiple domains
- **178** individuals benefitted from StandICT.eu funding scheme
- Significant geographical coverage with applications coming from **26 Member States**
- A highly professional and topic based team of **over 40 Evaluators** that ensured a transparent, fair and fast evaluation procedure
- An esteemed **External Advisory Group** from **18 members from 8 countries** that helped StandICT.eu to keep up and stay well aligned with European legislation, needs and directives
- **+1000 updated Standards** available in the Standards Watch.

StandICT.eu  
Supporting European Experts Presence in  
Information Standardisation Activities in ICT

**8 OPEN CALLS**  
RESULTS & POPULAR TOPICS



# Principal Lessons Learned from StandICT.eu [2018- 2020]

Community Engagement  
Standards Watch  
Seamless Open Call Process

# Community Engagement

The high involvement of the community of specialists has been the crowning achievement of StandICT.eu. Starting from zero, the internal Network grew to now **over 750 active members**. The grantees mostly praised and appreciated the opportunity to carry on their efforts in Standardisation, stating that **this would be (under the best circumstances) very challenging without the support of StandICT.eu**. The hands-on attitude of the community affected also events attendance and Social Media engagement, with StandICT.eu digital channels now regarded as a trustworthy and authoritative source of information for the ICT Standards range.

Any future project should consider the following aspects:



Joining and organising events not exclusively addressed to SDOs or Tech. representatives, but aim to reach out to other Stakeholders and Associations such as **PPPs, StartUps and SMEs and Industry Players, Vertical Industries** and the numerous Research associations that cope with arising ICT subjects.



Work more with European Commission Representatives and the community at large to help support the shaping the content of the Open Calls and shape well the priorities (*ie: certification schemes, cybersecurity topics, aid around the NGI etc.*);



Availing of the possibility to support hosting some Technical Committee (TC) meetings organised by various SDOs in Europe.

# Standards Watch

The realisation of the Standards Watch was carried out with a view to set-up an interactive observatory of the ICT Standards global scenario at the disposal of the EU Standardisation community. The continuous (and still current) effort turned the Standards Watch into a hub that contains today **over 1000 ICT browsable Standards**. Nonetheless, for the benefit of the future initiative, the revised Watch should offer a clearer picture to the ICT Standards Community in order to **enable also newcomers in the ICT field to better figure out the overarching landscape**, by providing a thorough segmentation of each Working Groups (WG) and Technical Committees (TC) within the different SDOs and who's exactly working in a specific field.





As follows, any applicable recommendations to bear in mind to enhance the Watch effectiveness and achieve the former objectives in the coming project:



Include an easy to scroll **Landscape and Gap analysis** of the most relevant guides of ICT Standards activity;



Mapping precisely **Europe's position** within the discussions of digitizing European industry and in Standards Body activities;



Aggregation point for **Education in standardisation**.



Stronger leverage of **User-Empowered contributions**, to bring the European voice right into international SDOs.



Strengthened **synergy with National Bodies and SDOs** to identify ICT contexts where EU intervention is necessary (to serve also as potential topic for future Open Calls).



Full coverage of main **TCs, WGs**, etc. and gather timely information from people involved in PPPs, Chairs and Co-Chairs of WGs and TCs to feed into the Observatory.



Further investigation of pipeline standards in areas like Cobots, 3D Printing, Quantum Computing and Digital Twin will be evaluated.



Running a series of **data collection exercises** (including interviews, surveys and open data aggregation) to comprehensively update the Watch every six months.



Having **funded EU projects under H2020 and the future Horizon Europe and Digital Europe Programme (DEP) with effort on Standardisation should be mandated to contribute actively to the Standards Watch** as part of their implementation work plan.



Full coverage of **relevant ICT standards** (5000+)



Full self-coverage of standardisation activities from H2020/Horizon Europe & DEP



Mention of **main events involving SDOs** (meeting calendar)



Mention of other publications from SDOs (public documents, business models, etc);



Mention of main activities involving Associations



Offer space for National Standardisation Bodies to promote their relevant activities

# Seamless Open Call Process

The overall management of StandICT.eu was a seamless process, mostly thanks to a **fully operational Grants Platform** that allowed administrators, evaluators and applicants to easily perform their duties. The overall impact of StandICT.eu has been featured in the **Final Impact Report**, a document that draws attention to the contributions made by each of the successful experts in their related field. In the future, the initiative should be committed to deliver more in-depth reports after the conclusion of each Open Call, in order to allow a careful analysis of impact and outputs as well as to better tweak the following Calls accordingly.

Recommendations for the future:



Offer **incentives** to those experts who currently act as chairs or editors of some of the WGs or TCs and consider these expert funding applications favourably during the submission phase, maintaining nevertheless the evaluation process both objective and transparent .

# Experts Contributions

ICT Standardisation

EU Policies

Regulatory

Ethical and European Values

# ICT Standardisation

- Support of EU Standardisation activity through work carried out within **ETSI Special Committee User-Group** and TC Cyber.
- Definition and development of **Edge Standardisation processes within 3GPP and IETF** through the release of technical documents, particularly in forking Kubernetes for telecom applications, lightweight containers and new networking paradigms.
- Development of an **ontology following the CIRAM methodology** of Frontex for Border Security Risk Assessment using Semantic Web technologies. This effort, based on the existing semantic representation of the CISE Framework, allowed a semantic alignment between CIRAM ontology and CISE semantic model.
- ICT Standardisation strategy contributions on the **Data economy with data models**, integration with CEF Broker and alignment with Big Data Value Association about the topic of data quality for IoT.
- Support the OASIS Universal Business Language (UBL) TC to the development of Standards in the area of **eBusiness, eInvoicing and eProcurement**.
- Within ISO/TC 299 on Robotics, organization of workshops and lectures to raise awareness among Industry Players on **Robot Safety Standards, Cobot and service robots** to enable innovative robotic products to be brought into the market.
- Draft and publication of W3C Recommendation "**Verifiable Credentials Data Model**" (released in November 2019).
- Participation in the development of ISO/IEC 20000 series of Standards to help to define common Standards for **Service Management** both on European and Global basis.
- Consented and published ITU-T Recommendation on **IoT-related crowdsourced systems** provision.
- Guidance for HL7 FHIR implementers on how to use **FHIR resources** to technically support the **GDPR regulation**.
- Definition of Standards about **common terminology, taxonomy and ontology** of Distributed Ledger Technology (DLT).
- Applications running in TEEs (Trusted Execution Environments) deployed on mobile devices to be leveraged to **improve security in payments**, 5G communication and IoT.
- Series of developments in networks to bolster the deployment of **5G architecture**, especially a set of Standards in Recursive Inter-Network Architecture (**RINA**).
- Concrete support for the establishment of ISO/IEC MPEG group on '**MPEG-21** contracts to smart contracts'.



Development of a series of documents within the ISO/JTC1 SC42 to assess the **technical robustness of Artificial Intelligence**.



Within CEN/CLC/JTC13/WG5, support for the **translation of the GDPR into a privacy-by-design and by default European Standard**, with an innovative associated implementation document dedicated to video-surveillance.



ETSI SC EMTEL has conducted a one-year study from July 2018 to evaluate the **impact of IoT devices on Standards** and requirements for communications in emergency situations.



Development of **PAMs (Process Assessment Models)** to provide the basis of all software and systems engineering, especially in critical applications, as a backbone of multiple IoT applications and products.



Advancement in Standards contributions from European telecommunication operators for **5G network orchestration**, in the IETF ALTO Working Group.















Development of **Smart card and Biometrics Standards** to enable industries to reach interoperability, security, privacy.



Extension of the Standard IEEE1872-2015 for an **ontology for robotics and autonomous systems**. The activities contributed to the release of 3 joint publications addressing the topics of knowledge representation in robotics and autonomous systems, some focus on Cloud Robotics applications.










# EU Policies

The following activities linked to European Policies have been pursued thanks to StandICT.eu funding:

-  Activity in the **Intelligent Transport Field** (ETSI TC ITS and IEEE 802.11) strongly linked to the spectrum regulation framework in Europe and worldwide to support Standards compliance with the RED (Radio Equipment Directive).
-  Support of EU Policies through BDVA activities within **Artificial Intelligence transparency**.
-  Work in shaping the WCAG (Web Content Accessibility Guidelines) to ensure the **full adoption and deployment of the European Web Accessibility Directive 2016/2012** with important impact on strategic policy decisions regarding eInclusion for a more inclusive society, both in the private and public sector.
-  The IETF ROLL work is aimed at aligning with broad EU policies such as **enabling societal adaptation to establish climate-neutral Smart Cities** through IoT energy harvesting devices and overall protocol optimizations.
-  Support of the EU policies on the reuse of **Public-Sector Information (Open Data)**, by means of facilitating, in the context of Spanish public administrations, the homogenisation of how open data is being published mostly by cities in different domains.
-  Within the ITU-T Focus Group on Machine Learning for Future Networks, elaboration of recommendations for **5G networks** to pave the way towards **distributed, resilient, secure, and robust networks**. This is highly correlated with EU policies for empowering European citizens with single, open, secure and free Internet.
-  Contribution to the creation of a **European single digital health market**, by advancing the cooperation among different SDOs. Special focus on the development of the International Patient Summary for the European cross-border care services, in the perspective of the Commission Recommendation on a European Electronic Health Record exchange format.
-  Exploration of different paths towards **metadata harmonization** through a variety of domains as Machine Learning and Artificial Intelligence.
-  Strengthening the **convergence between ITS and Smart mobility**.
-  Within ISO/IEC JTC 1/SC 27 (Information Security), **release of a new Standard on PPI (Personally Identifiable Information)** to help governmental organizations involved with PII collection, on how to verify and validate controls.
-  Within CEN/TC 434 (**eInvoicing**), a new **Open Source tool** has been created to extract data and automatically test if each specification table has equivalent consistent data.
-  Contributions to Cybersecurity standardization, especially within the **Smart Grid area** (IEC TC/SC 57)

# Regulatory

The following activities linked to Regulatory have been pursued thanks to StandICT.eu funding:

-  Promotion of **MCPTT adoption by EU Companies** to meet the requirements of public safety mission-critical voice communication, which include high availability/reliability, low latency, support for group calls and one-to-one calls, talker identification, device-to-device direct communications.
-  Extension and alignment of the Common Information Sharing Environment (CISE) with Common Integrated Risk Analysis Model (CIRAM) to serve **EU priorities in Maritime surveillance and risk analysis for border security**, a field that is gaining momentum especially the countries that are the external borders of the EU (Greece, Italy, etc.).
-  Participation in the development of the **lightweight European cybersecurity methodology** that will be a key point to address the Standardisation challenges as part of the **Cybersecurity Act** implementation.
-  Definition and design **IoT protocols** in a way that can assure device **interoperability in Europe** and the rest of the world also considering the security and privacy aspects.
-  Publication of a guide for **ICT Standards** to more effectively promote the topic to a wider public, to provided an easier way to have an overview of all the Standards areas comprised within the **Digital Single Market framework** and have a publication to attract new people to contribute in the Standards working groups.
-  Within Cen Cenelec JTC 19, contribution to the creation of a common vision between European Standardisation experts for the need to form a specific SDO for technical **guidelines for Blockchain and EU legislation** (e.g. GDPR, eIDAS, NIS, TOOP) and support its development.
-  Enhancement of the **EU level government emergency communications biometrics process** through an AI-Biometrics Standardisation project aimed at ensuring the free movement of people across the EU and offering citizens a high level of protection.
-  Discussion of the **International Standard Content code (ISCC)** as possible solution to tackle the technical issues regarding the **Directive on Copyright 2019/790** (especially 'article 17', which has been decided upon by the EU Parliament on 26 March 2019). The consequent implementation of ISCC as a Standard, it will help to identify copyright protected content, support rights owners to express the rights to their content and communicate them to online content sharing platforms and users.
-  Support of GDPR adoption by pushing privacy-preserving solution in technological Standards, in the context of IEEE 802 LAN/MAN Committee (LMSC).
-  Development of Standards to support the **Cybersecurity Act and Certification scheme**.



Sustain the harmonisation between **Power systems management and E-Mobility charging Infrastructures**.



Tackle the requirements and actions quoted in the Rolling Plan in the section on **eLearning**, (Action 4) to better coordinate European SDOs at international level with relevant Standardisation bodies.



Enable the **uptake of eIDAS regulation across all EU member states** to grant a seamless identity proofing and assurance application.



# Ethical and European values

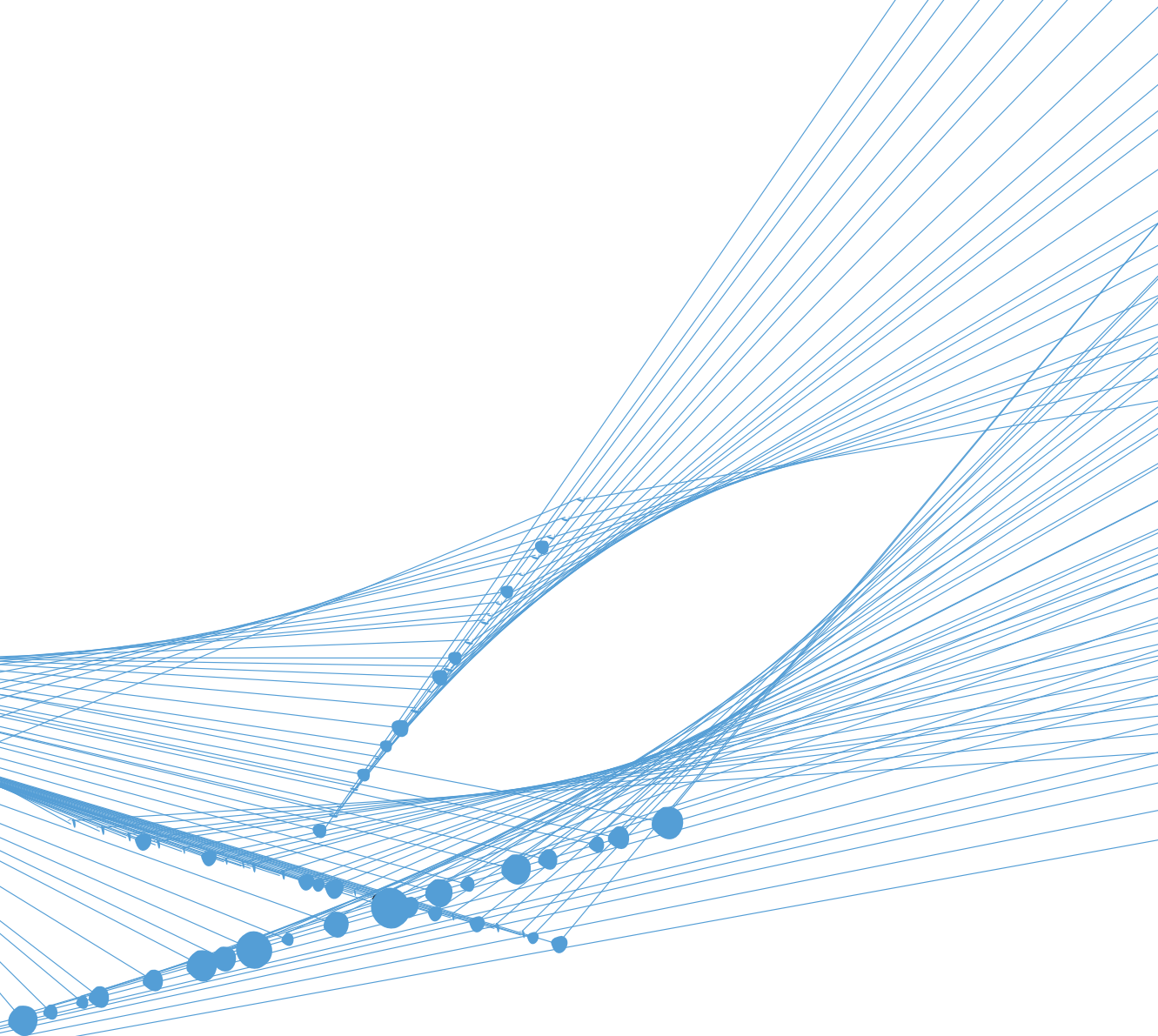
The following activities linked to Ethical & European values have been pursued thanks to StandICT.eu funding:

- ✔ Support of the EU values of **privacy and ICT data protection** in the Internet of Things (IoT) sphere, in line with the EU Charter of Fundamental Rights enforcing EU citizens' right to protect personal data.
- ✔ Within IEEE and IEEE Education Society, promotion of **unification in technologies and methods to design**, implement and use online laboratories for education (mostly in Networked Smart Learning Objects for Online Laboratories) in the spirit of International Cooperation.
- ✔ Promotion of **transparency in Data management** as well as control of data by the citizens by mitigating dependencies on central service providers who are predominantly based outside the EU.
- ✔ Within the ISO JTC1/SC42 subcommittee on Artificial intelligence, discussions on Societal concerns from children to elderly people to **address ethics, privacy and related topics as well as military usage of AI**.
- ✔ Awareness raising on the Human and Social factor in the **IT Service Management and IT Governance domain**.
- ✔ Promotion of **Open Standards** to provide a level of collaboration, trustworthiness, innovation and revenue growth in the EC and worldwide benefiting not just media value chain stakeholders, but society at large.
- ✔ Bringing the **interests of persons with disabilities in the Standardisation arena**, especially by making emerging technologies more focused on vulnerable groups' needs.
- ✔ Promotion of better quality and higher Standards for **Information Systems development** to support aspects of the society including safety, security, well-being and financial stability.
- ✔ Draft of a comprehensive **Standardisation Digital strategy** to align European countries into a unified understanding of what is at stake.
- ✔ Promotion of the **EU priorities in the AI/Ethical sector**, focusing on explicability, fairness, prevention of harm, and respect for human autonomy.
- ✔ In the Blockchain technology field, support of ethical needs to respect technical diversity in the plurality of consensus algorithms and, consequently, allow the **development of infrastructures of all sizes and Blockchain Network**.
- ✔ Development of **Open Health Science** in Europe by working on effective Standardization of FAIR principles in Health Research.
- ✔ Promotion of European values of the **protection of the privacy of the individuals, consumer's rights** and its principle of data minimization in personal data collection.

StandICT.eu Consortium

 **Trust-IT Services**  
*Communicating ICT to markets*

 **Fraunhofer**  
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