



2016-06-27

Project Plan for the CEN Workshop 84 on a Self-Sovereign Identifier(s) for Personal Data Ownership and Usage Control (CEN WS ISAEN)

1. Status of the Project Plan

The present project plan was approved at the kick-off meeting held on 27 June 2016 in Brussels.

2. Background to the CEN Workshop

This proposal seeks to operationalize the burgeoning policy initiatives related to personal data usage, in particular in relation to personal data management and the protection of individuals' fundamental rights. This is set against the backdrop of the rapidly expanding digital era of personal data usage and the evolving European Digital Single Market.

To develop the proposal in this Project Plan, an interdisciplinary team has been gathered, composed of marketing and innovation specialists, engineers, data practitioners and lawyers specialized in issues related to business, privacy, human rights and policymaking.

This combination of expertise has led to a European proposal whose core feature is the set of specifications, good practice and interoperability guidelines for describing a self-sovereign identifier for the use of policy makers, companies, and individuals. The self-sovereign identifier that will be described in the CWA and that is represented by this set of specifications serve as a measurement tool to empower individuals, help them take control of their data, and make their fundamental right to privacy more accessible and actionable.

This workshop contributes in its specific way to Privacy by Default and by Design.

Market environment: Setting the stage – The challenges of Big Data for individuals

The development of information technology combined with the globalization of information systems has led to public and private actors collecting and using in an unprecedented capacity and velocity massive volume of varied data on individuals. This phenomenon, also known as big data, represents a world of opportunities for society, for connecting people, fostering exchanges between individuals and countries, encouraging digital innovative services, offering



tailored opportunities to customers adjusted to their needs, simplifying their choice process, and fostering development in emerging countries. Big data also comes with major concerns that range from massive electronic surveillance, leakage of personal data in the public space, data thefts, and the trade of such data.

As a result of these opportunities and challenges, automatically collected and processed data can be circulated and commoditized. Such collected personal data can be transferred from one department to national agency to another; it can also be sold to third parties. As a result, identifiable individuals (data subjects) from whom the data comes and entities that have collected the data can lose track of it. They lose track of information that, once collected, reveals, alone or combined with other information, a number of personal preferences about every individual. Revealing such personal preferences without the prior approval and knowledge of individuals can lead to significant infringement of individuals' fundamental rights and freedoms, in particular, their right to privacy, freedom of thought, freedom of conscience, and freedom of expression.

Policy environment

The New European **General Data Protection Regulation (EC Regulation 2016/679)** which aims to give citizens back control of their personal data and create a high, uniform level of data protection across the EU fit for the digital era was given its final approval by **European Parliament on the 14th April 2016**. The reform also sets minimum standards on use of data for policing and judicial purposes.

The new rules include provisions on:

- a right to be forgotten,
- the right to object and the right to erasure;
- "clear and affirmative consent" to the processing of private data by the person concerned,
- the right to inhibit additional processing of data
- a right to transfer your data to another service provider,
- the right to know when your data has been hacked,
- ensuring that privacy policies are explained in clear and understandable language, and
- stronger enforcement and fines up to 4% of firms' total worldwide annual turnover, as a deterrent to breaking the rules.

There has been a growing awareness and demand from individuals to respect their privacy and have the control of their personal data. Looking at the European example, the European Commission has indicated that two-thirds of Europeans are concerned by the inefficient control



they have over the information they provide online while 70% of them are worried about the use companies can make of their data.

International and supranational organizations joined by states have recently been reacting to the challenges of big data, demonstrating a growing awareness of these issues and a willingness to act to protect individuals. This awareness has led to a number of declarations and reports on the topic of big data. In December 2013, the United Nations adopted Resolution 68/167 explaining that in the digital age, the rights held by individuals offline must also be protected online. Furthermore, the High Commissioner for Human Rights prepared a report dated June 2014 addressing data collection and stressing that both states and businesses should ensure that they protect and respect human rights, in particular the right to privacy in digital communications.

The GDPR will extend the previous EU Cookie Directive (2009/136/EC) requires websites to obtain informed consent from visitors before they store information on a computer or any web connected device. GDPR will also facilitate also the deployment of The Network and Information Security Directive (NIS) which aims to ensure a high common level of cybersecurity in the European Union.

But how to actually implement the rights set forth in the GDPR and subsequent legislations and regulations? More generally, how to operationalise the growing international, supranational and national standards aiming at reinforcing individual rights and empowering individuals? To date, individuals have very little means of adjusting to the challenges of big data. In the meantime, their concerns over the use and control of their personal data are likely to be growing while their fundamental rights can be endangered.

Empowerment and protection of individuals: the proposed Self-Sovereign Identifier(s) enables to measure where and how individuals' data are used

Awareness of where and how individuals' data are used is essential. The self-sovereign identifier that is at the core of the project presented in this paper has the potential to implement the requirements set forth in recent legislation, regulations and policies that aim to regulate big data, in particular the GDPR. This identifier would enable companies, agencies, and other entities collecting individuals' data to comply with the requirements from the GDPR, in particular in relation to the right to portability of data or right to be forgotten. In return, this identifier would help consumers track their data, facilitate their portability, know where their data is used, how it is used and control this use while retaining possession of their data and choosing where to transfer it and under which conditions. With towards the empowerment and protection of individuals, this identifier system would enable individuals to retain control over their linkability and /or correlation across different contexts.

The self-sovereign identifier offers individuals, also known as data subjects, the possibility e.g. by hashing and data watermarking technologies to sign and mark their stream of data. Such identifier system is proposed to be called the **ISAEN: Individual perSONal data Auditable addrESS Number**. Individuals could generate themselves an **ISAEN** allowing them to retrieve information about the exact localisation and use of their data. This smart navigation can be compared with a GPS for the data.



This innovative and technical proposition for the **ISAEN** as a new self-sovereign identifier will be accompanied by an innovative mode of governance to build up the legitimacy of the **ISAEN** amongst all stakeholders, both public and private including companies, governments, civil society advocates and individuals.

The proposed CEN Workshop will focus on a self-sovereign identifier suitable for personal data ownership and usage control.

Benefits to all stakeholders

- **For Institutions and Academics:**

- **ISAEN** is a framework that will ease **Data 'A Posteriori' compliance audits** as recommended by the **European General Data Protection Regulation (GDPR)** with an application as early as May 2018.
- **ISAEN** acts as a data provider framework towards the National and European Digital ID provider, facilitating the **'Know Your Customer' governance (KYC)**.

- **For the Private sector:**

- **ISAEN** will help businesses to add a new **'Private Data Accountability'** dimension in their **Sustainability** report: economic, environmental, social **and private data governance**.
- **ISAEN** will help businesses leverage Privacy by Design (PbD) as a unique differentiator
- **ISAEN** will reduce ambiguity for secondary usage of personal data.

- **For Citizens:**

- **ISAEN** provides an answer to Digital Citizens' main concern **'Where are my Data? Who is Using them?'**
- **ISAEN** will help them to self-administer **their online consents, authorizations, revocation (OptIn/OptOut)** and set the roadmap for a Public Smart Contract/Consent on data privacy.
- **ISAEN** will help them to **minimize the disclosure of their persona's attributes** while complying with most "KYC" requirements.

- **For All stakeholders:**

- **ISAEN** will promote the creation of innovative data services and businesses where all the stakeholders transparently monitor the common public governance and **share the benefits of the new personal data economy**.



Existing standards and standard related activities and documents

Big Data is a very new area and only a few standardization (or pre-standardization) initiatives have been started at international level. ISO/IEC JTC 1/WG 9 'Big Data' is developing an architecture framework completed by some terminology work. ISO/TC 69 initiated a work item on application of statistical methods for Big Data.

This proposed CEN Workshop will focus on the definition of a so called ISÆN identifier and it will work out a structure of associated metadata that may be used in different use cases.

It will help implementing data privacy policy with processes that may use the existing standards in the field of data security.

ISÆN does not act as a centralized Digital ID provider but acts as a data provider framework towards the national, European and international Digital Identity providers.

ISÆN interoperates with most accepted Digital ID standards. It could be used together with relevant standards in the context of implementation of related frameworks such as:

- eIDAS standardization framework (established under M/460 EC standardization request)
- FRANCE Connect
- SAML, OpenID, OAuth

Consortia and other activities:

As the proposed CEN Workshop will develop semantic requirements associated with the **ISÆN** identifier. To this aim, it could be useful to look for liaisons with related activities such as W3C, Kantara initiative, Dublincore, RDA, IETF or ISO/TC 46 'Information et documentation'.

This proposal is out of the scope of CEN/CLC JWG 8, whose standardization work is primarily dedicated to the European standardization request on privacy and personal data protection management in the context of security products and services.

3. CEN Workshop proposers and CEN Workshop participants

The Workshop proposer is ÆTERNAM whose experts put forward a proposal for the design of a self-sovereign identifier for the use of policy makers, companies, and individuals. Some other European organizations ¹expressed their commitment to support this standardization activity as follows:

- Voyages-SNCF – Groupe SNCF (FR)

¹ A detailed list of organization supporting the Workshop is enclosed as Annex 1.



- Big Data Value Association (BDVA)
- Fraunhofer IESE (DE)
- AOK Krankenkasse (DE)
- ITSO Berlin (DE)
- Business & Decision (FR)
- BERTIN IT – Groupe CNIM (FR)
- FZI Research Center for Information Technology (DE)
- TRIALOG (FR)
- OGILVY (FR)
- ADAPTANT (DE)
- ATOS (ES)
- ANEC – European Consumer Association (BE)
- SAP (FR)
- DIGITAL Catapult (FR)
- Oxford Center for Innovation (UK)
- PersonalData.io (UK)
- National Healthcare Data Agency Denmark (DK)
- Danish Standards (DK)

The Workshop is open to any interested party willing to take part to this pre-standardization activity. Possible interested stakeholders in the work developed by this CEN Workshop might stem from national public authorities, administrative regulatory bodies in data privacy, lawyers, companies implementing big data processes, data users and data generators, representatives of consumers, ID providers and academics.

4. CEN Workshop scope and objectives

This Workshop deliverables will collect requirements from national Data Protection Officer(s) , the European Data Protection Supervisor (EDPS) and liaise with the Presidency of the Working Party Article 29 .

The Workshop aims to develop at least two CWAs on the technical requirements as follows:

- The CWA 1 will set out requirements for a self-sovereign Identifier for Personal Data ownership and Usage Control, for the purpose of this project plan tentatively called the **ISÆN: Individual Personal data Auditable address Number**.

This objective of the **ISÆN** CWA is to bring to individuals trust in data management and empower them to know where their data is located, how their data is used and giving them



control over it. It would also serve as a way to encourage companies and organizations and provide them with a significant competitive advantage in managing data. Ultimately, using this new CWA and having data streams governed by the **ISAEN** would be an appreciation of how socially responsible companies and organizations may address individual's privacy needs.

- The CWA 2 on uses cases will also bring guidelines on how to use the **ISAEN** identifier in some specific contexts useful for the market implementation. This second document would be built as a report with implementation scenarios/ models of use.

Both CWAs will be developed in parallel.

In the future, and depending of resource and time left, the Workshop might address a CWA 3 for a "reference architecture".

5. CEN Workshop program

The working language will be English. The CWAs will be published in English.

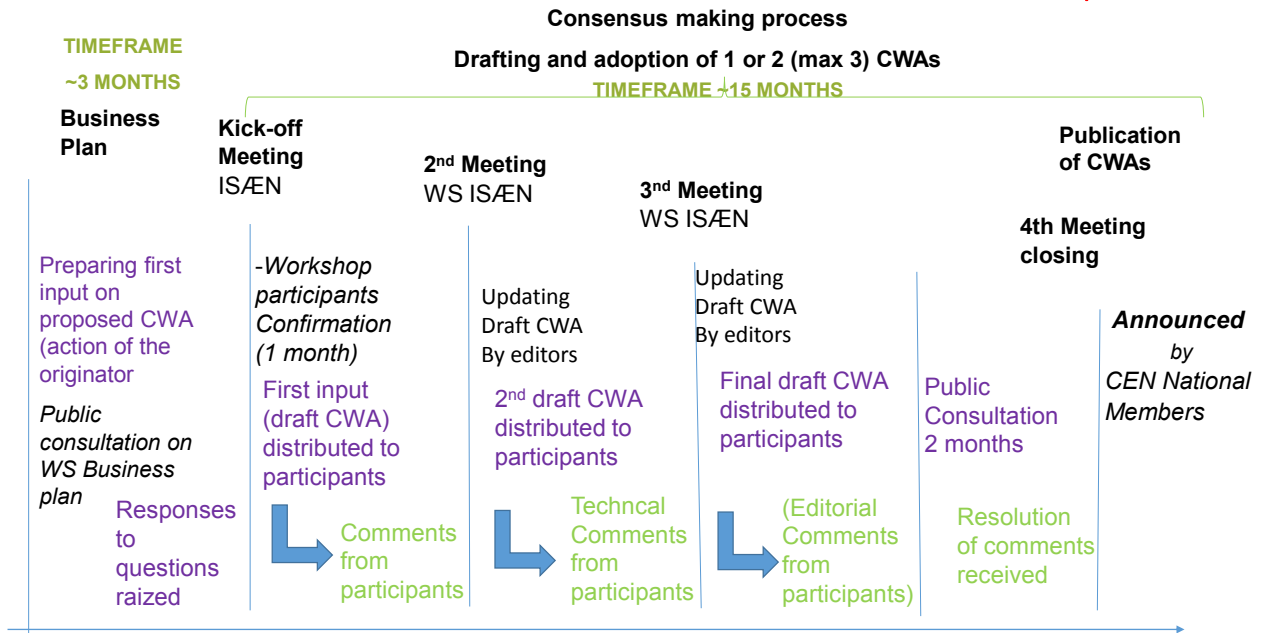
The estimated duration of this workshop is 15 months. During the CEN Workshop lifetime, several meetings are foreseen depending on the project evolution. The kick-off meeting was held on 2016-06-27 (CCMC premises, Brussels).

Timetable (see also the figure below):

- Announcement of the Project plan on the CEN website
- Kick-off meeting with agreement on project plan
- Repartition of tasks for the preparation of the CWAs and appointment of a Project Team
- 2nd and 3rd workshop meeting adjusting the CWAs contents
- Public review during 2 months
- 4th workshop meeting- Final meeting (resolution of comments received at review stage and final vote of the CWAs by Workshop participants)
- Publication of the CWA and announcement by CEN National Members



Provisional Time Frame for ISEAN CEN Workshop



6. CEN Workshop structure

The CEN Workshop will operate under the CEN rules for the CEN Workshop Agreement.

The Chairman has been appointed at the kick-off meeting. The responsibilities of the Workshop Chair include the following tasks:

- To chair Workshop plenary meetings;
- To ensure that the Workshop delivers in line with its Project Plan;
- To manage the consensus building process.
- To draft the first draft CWAs and incorporating the comments to produce revision 2 documents.

Two vice-chairs have been appointed at the Kick-off meeting to support the WS chair in accomplishing the above tasks.

The CEN Workshop Secretariat will support the agreed upon CEN Workshop activities. The Secretariat provides a professional management support in the form of administrative, operational and technical services to the Workshop (preparation of the agendas, approvals, communication, arrangement of meetings, and registration of the decisions, minutes).

All communication shall be copied to Secretariat and all participants to ensure transparency, openness and equal treatment of all stakeholders.



AFNOR, the CEN member from France, provides the Workshop secretariat.

7. Resource requirements

The cost of the CEN Workshop process will be funded by the ÆTERNAM Association. There is no fee for the registration to the workshop.

All costs related to the participation of interested parties in the CEN Workshop's activities have to be borne by themselves.

Participation to this workshop is open to all interested parties. All physical meetings will be located in Europe, the kick-off meeting is held in Brussels. Use of electronic meetings will be encouraged as much as possible.

8. Related activities, liaisons, etc.

At this stage, no formal liaison is required. However, links could be established with relevant European and/or International Technical Committees when discussing use cases (i.e. CEN/TC 224 'Personal identification and related devices', ETSI/TC ESI 'Electronic signatures and infrastructures', CEN/CLC JWG 8 'Privacy management in products and services, ISO/IEC/JTC 1/WG 9 'Big data'...).

9. Contact points

Chairperson: Name: Mr. David ROBERT Company: ÆTERNAM	Secretariat: Name: Clément CHEVAUCHÉ AFNOR Tel: +33(0) 141 62 82 79 e-mail: clement.chevauche@afnor.org
Vice-Chairpersons: Prof. Stefan Jähnichen e-Mail: stefan.jaehnichen@tu-berlin.de Paul Mundt e-Mail: paul.mundt@adaptant.io	CEN-CENELEC Management Centre Name of Program Manager: Alina IATAN CCMC e-mail: aiatan@cencenelec.eu



Annex 1- List of organizations that support the Workshop proposal

- **ÆTERNAM** is a non-profit for general benefit Association under the French law. **ÆTERNAM** has gathered an interdisciplinary team, composed of marketing and innovation specialists, data-architects and lawyers specialized in issues related to business and human rights and policymaking.

This combination of expertise has led to the proposal for the design of a self-sovereign Identifier(s) for the use of policy makers, companies, and individuals. This self-sovereign Identifier(s) could serve in conjunction with a measurement tool to empower individuals, help them take control of their personal data, and make their fundamental right to privacy more actionable.

The Association interdisciplinary team will collaborate with all National, European and International bodies on all major 'Citizens' Social Data' questions:

- Data economy
- Data Portability
- Privacy Awareness, impact or Risk Assessment
- Business Models for Privacy and/or Economics of Privacy
- Modelling of Privacy Requirements
- Design and Engineering, i.e. Adoption of Privacy Enhancing Technologies

- **Voyages-SNCF** – Groupe SNCF wants to get clients from door to door, whether they are taking a long journey or just commuting day to day. SNCF are developing important new applications and technologies to help achieve this new mobility.

Launched in July 2012 in the VSC (voyages-sncf.com) Lab, Mytripset was a travel-planning tool that passengers can use to plan their travel on a computer or tablet, choosing from a wide range of itineraries and multimodal solutions – trains, planes, automobiles, ferries, buses and more. With Mytripset, they can map out an entire journey, from their front door to the exact address of their vacation hotel; research local transport options on both ends of the trip; filter results by price, length of journey and transport mode; and even calculate the carbon footprint of each itinerary. By March 2013, 50,000-60,000 people were consulting the app every month.

Finding a balance between citizens' data privacy and delivering innovative mobility data solutions are a permanent concern at SNCF Group.

- **Big Data Value Association (BDVA)** The Big Data Value Association AISBL is a fully self-financed not-for-profit organisation under Belgian law. Currently there are 24 founding



members from large and SME industry and research. The BDVA will present an industry-led contractual counterpart to the European Commission for the implementation of the Big Data Value PPP cPPP. A basic principle is openness, transparency and inclusiveness.

The main role of the Big Data Value Association will be providing the Big Data Value strategic research innovation agenda (SRIA) and its regular updates, defining and monitoring the metrics of the cPPP and joining the European Commission in the cPPP partnership board.

- **Fraunhofer IESE** is one of 67 institutes and research units of the Fraunhofer-Gesellschaft. Together they have a major impact on shaping applied research in Europe and contribute to Germany's competitiveness in international markets.

Fraunhofer IESE develops innovative methods and solutions for the development of high-quality, complex information systems and embedded systems. In order to offer an immediate added value, we apply our methods directly during your product development and/or transfer our methods and solutions to industry. In research, we perform contract research for our customers and conduct research in public projects. We have focused and tailored our competencies to our customers' challenges in the information systems and embedded systems domain. We address new upcoming systems of systems that combine information systems and embedded systems through our research focus on smart ecosystems. As basic competencies for all system classes, we provide support in the field of process management. The fields of security and privacy on the one hand side, as well as big data on the other side are two of the essential core competencies of Fraunhofer IESE. We are part of the Fraunhofer Big Data Alliance, and the Fraunhofer Industrial Data Space initiative. Furthermore, Fraunhofer IESE won the project 'PRO-OPT – Big Data Production Optimization in Smart Ecosystems', which makes a core contribution to the technology contest 'Smart Data – Innovations from Data' of the German Federal Ministry for Economic Affairs and Energy, using the automotive industry as an example.

Fraunhofer IESE's interest and contribution in this Workshop initiative is related to its core competence on the concepts of distributed data usage control and its supporting technology IND²UCE. With the help of data usage control concepts and the IND²UCE framework, sensitive information is protected from future misuse and, on the other hand, new business models are made possible. For this purpose, end-users and data owners in general can specify usage control policies that tell other parties about what is permitted and what is not. The data owners can use these to precisely define, e.g., which data may be read, copied, or forwarded how often, whether they may be read on smartphones or for which data analysis purposes the data can be used and how often. Researchers of Fraunhofer IESE have won the renowned Innovation Prize of the European Association of Research and Technology Organisations EARTO for the IND²UCE framework.

Fraunhofer IESE sees the ISÆN as outlined in this paper as a promising initiative and as an important ingredient to identify data objects the end-users wants to specify policies for. This will enable the users to apply concepts of distributed data usage control. Therefore, Fraunhofer IESE is interested in a joint elaboration of a standard that supports the data usage control framework to empower the end-users. We can imagine to evaluate how



concepts like the ISÆN and distributed usage control, when jointly applied, can lead to a strong empowerment of end-users to get transparency and keep control over their data, while still allowing industry to perform new data-based business models.

- **AOK KrankenKasse.** For over 125 years, the AOK has guaranteed high quality medical care for its insured members in the event of ill health. It is the largest of Germany's roughly 180 statutory health insurance funds. Around 24 million people are insured under the regional 11 AOKs - close to a third of the German population. More than 53,000 qualified AOK employees based in over 1,200 offices ensure that members receive all the services they require: quickly, competently and without bureaucracy.

Since 1976, the AOK system has benefited from scientific analysis and extensive and reliable data, thanks to its own research institute, WIdO. Special research fields of expert knowledge include the pharmaceuticals and hospitals sector. WIdO's findings are acknowledged as a credible source of information for the entire German health care system. And the AOK's systems and software house, AOK-Systems, develops SAP-based, individually-customized IT solutions for the AOK and other statutory health insurance funds.

The "Gesundheitswissenschaftliches Institut Nordost (GeWINO) der AOK Nordost" is running several experimentations to interconnect various medical records systems and provide each patient with an integrated Health Data Portfolio.

ISÆN might be a way to establish trustful identification, easy usage, in agreement with regulations as well as interoperability.

ISÆN could act as a facilitator for the deployment and acceptance of eHealth platforms in the interest of all stakeholders.

- **ITSO Berlin** is a software development and consultancy company located in Berlin. ITSO is working for several public sector institutions like German Parliament, Public Transport Authority of Berlin BVG or the Trust for Admission to Higher Education, a Trust under German Federal Public Law. ITSO is a spin-off of Fraunhofer Society and has contributed to Research Projects in the past.

Due to continuous improvements in digitalizing workflows within institutions as well as broadening the data exchange with external partners like Public School Administrations, Colleges and Universities nationally and internationally the need to find reliable and trusted identifiers for this data exchange rises. The German Federal Ministry of the Interior is part of the Digital Agenda 2014 - 2017 of the Federal Government. Electronic Identification plays a vital role within this Digital Agenda.

To get rid of paper verifications for instance in the area of facilitating international student mobility and to offer easy and cost efficient digital services for graduates applying there is a need for interoperability of standards and for user centric thinking. Therefore ITSO is very much interested in working on standards and technologies that will help to broaden the



usage not only by prescribing technological standards but also by acceptance of light weight solutions. **ISAEN** might be a way to establish trustful identification, easy usage, in agreement with regulations as well as interoperability to other electronic identification systems.

- **Business & Decision** is a global consulting and systems integration (CSI) Group, is a leader in Big Data, Business Intelligence (BI) and CRM, and a major player in e-Business. We leverage a unique combination of technical, functional and industry specialization, as well as partnerships with all of the key software vendors, to deliver maximum-value projects and help clients break through barriers to innovation such as Big Data and digital transformation. Business & Decision operates in 15 countries and employs over 2,500 expert worldwide.
- **BERTIN IT – Groupe CNIM** - A subsidiary of Bertin Technologies (Groupe CNIM), Bertin IT is an expert provider of advanced software solutions for cyber-security, cyber intelligence, strategic intelligence and voice recognition purposes.

Bertin IT lends its expertise in virtualization, cryptology, data flow management and secure interoperability to research into the creation of solutions that are ever more innovative and effective in ensuring the security of sensitive information systems and critical infrastructures.

– **FZI Research Center for Information Technology**

The FZI Research Center for Information Technology at the Karlsruhe Institute of Technology is a non-profit institution for applied research in information technology and technology transfer. Its task is to provide businesses and public institutions with the latest research findings in information technology. It also qualifies young scientists for their career in academia or business as well as self-employment.

Led by professors from different faculties, research teams at FZI interdisciplinary develop and prototype concepts, software, hardware and system solutions for their clients. Scientific excellence and interdisciplinary practice are therefore well established at FZI.

As an independent research institution, FZI works for companies and public institutions regardless of company size: from small business to large corporations, from local public administrations to the European Union. The FZI House of Living Labs offers a unique research environment for applied research.

Every department at FZI operates under a certified quality management system according to DIN EN ISO 9001:2008. FZI has its head office in Karlsruhe and a branch office in Berlin.

FZI is the IT innovation hub in Baden-Württemberg. Application research with reliable knowledge and technology transfer is the core business and competence of FZI Forschungszentrum Informatik. FZI is the innovation partner of the Karlsruhe Institute of Technology (KIT) and the industry.



Additional new supporters that joined during the KickOff Meeting:

- TRIALOG (FR)
- OGILVY (FR)
- ADAPTANT (DE)
- ATOS (ES)
- ANEC – European Consumer Association (BE)
- SAP (FR)
- DIGITAL Catapult (FR)
- Oxford Center for Innovation (UK)
- PersonalData.io (UK)
- National Healthcare Data Agency Denmark (DK)
- Danish Standards (DK)