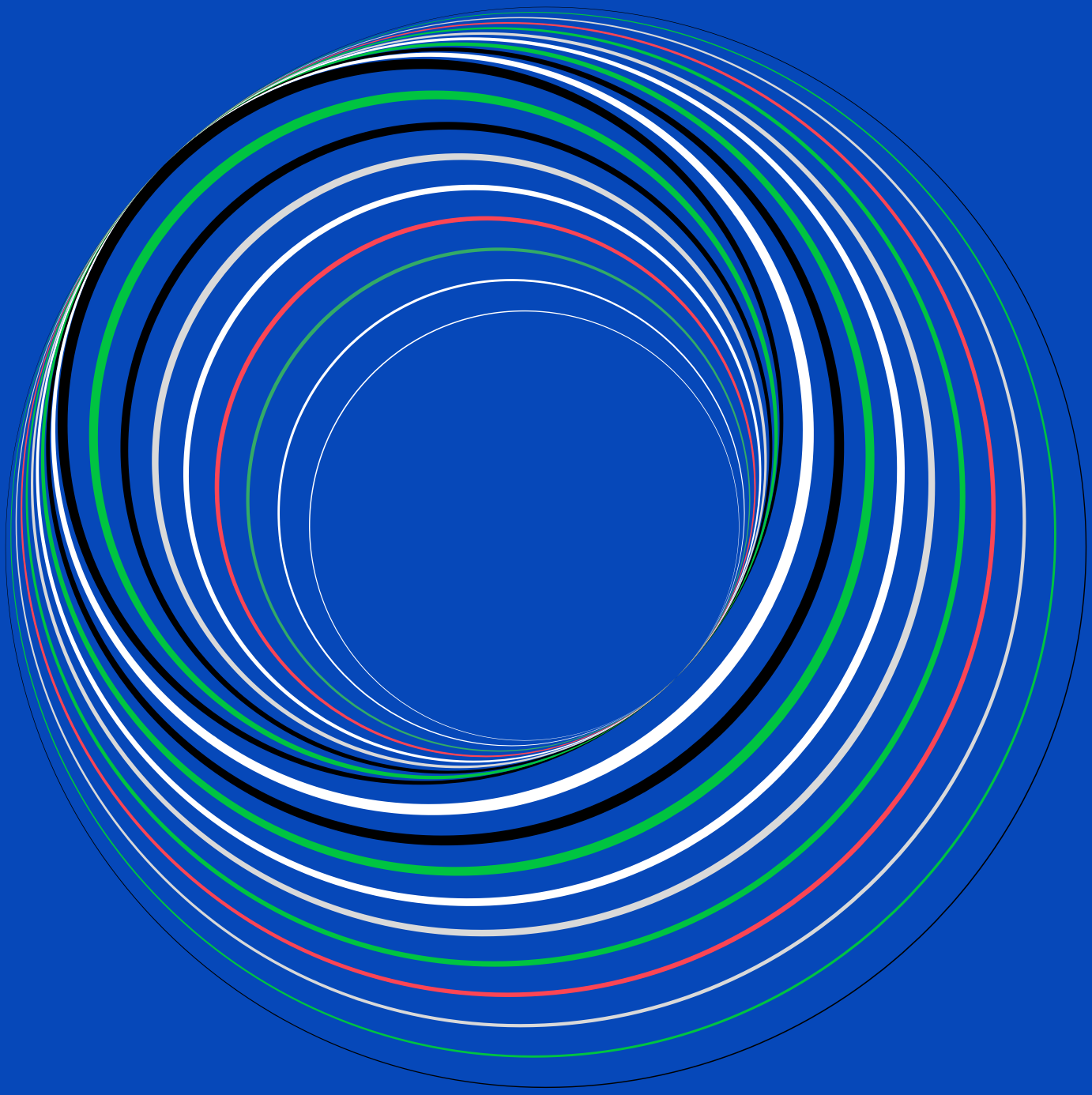
ITEA
Annual report 2021



ITEA4

eureka

ITEA is the Eureka Cluster
on software innovation

The Quality Management System of ITEA Office is ISO 9001:2015 certified.

Contents

About ITEA

ITEA is the Eureka RD&I Cluster on software innovation, enabling a strong international community of large industry, SMEs, start-ups, academia and customer organisations to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society. ITEA is industry-driven and covers a wide range of business opportunities facilitated by digitisation, such as smart mobility, healthcare, smart cities, energy, manufacturing, engineering and safety & security. ITEA pushes important technology fields like artificial intelligence, big data, simulation and high-performance computing into concrete business applications.

Our vision

In a rapidly changing society where challenges are omnipresent, digitisation is no longer an option but should instead be regarded as an opportunity to create innovative solutions. Digital technology will be applied in all aspects of society, touching every element of people's lives. Software innovation is a core component for mastering this Digital Transition and this is the main focus of ITEA.

Digital Transition is not a one-step process. It has many dimensions in which development must be continuous. The more that digitisation is enabled, the more penetrative the transition becomes. This increases the need for more solutions. To achieve this continuous process in a smooth way, a fertile and collaborative environment is needed in which there are innovative ideas and knowledgeable people who are eager to share, inspire and be inspired by each other.

Our mission

It is ITEA's mission to enable businesses, with the involvement of their customers, to create innovative solutions that master the Digital Transition and tackle the major challenges in a way that helps bring society forward. ITEA encourages its global Community to create impact and value through RD&I projects in the area of software innovation using the knowledge of industry and the capabilities of national financing.

ITEA is:

- **Global and trusted cooperation in an industrial community**
  ITEA stimulates innovation projects in a global community of large industry, small and medium-sized enterprises (SMEs), start-ups, academia and customer organisations. ITEA's bottom-up project creation ensures that project ideas are industry-driven and based on actual customer needs. ITEA provides a trusted framework for cooperation in which standard project collaboration agreements are available, including in the complex domains of confidentiality and intellectual property. ITEA is managed by and for industry in close cooperation with national Public Authorities (PAs).
- **Project financing through national public and private funding**
  The ITEA programme is publicly funded at a national level. Each ITEA project partner can apply for funding from their own national Public Authority. An early dialogue between project teams and Public Authorities supports alignment with national priorities and the best possible opportunities for funding, leading to high success rates.
- **Commercialisation of research results**
  ITEA enables organisations to create actual commercial results from research projects. Impact is one of the core values in ITEA: impact on business, the economy and society. Impact is central during the project lifecycle: proposal evaluation, monitoring, closure and the communication of the results.
- **Focus on high-quality processes and support**
  ITEA follows a flexible and supportive approach towards its project consortia in order for them to maximise the results of their efforts and their project's impact. Each year, ITEA issues a Call for projects, starting with a brokerage event. Each Call follows a two-step procedure in which industrial experts evaluate the quality of the project proposal in terms of innovation, impact and the consortium. During the project lifetime, ITEA provides full-cycle project monitoring in a peer-to-peer mode with digital reports and physical reviews to improve the quality and value creation of projects. ITEA also has an ISO 9001-certified Quality Management System (by DEKRA).

Message from our Chairwoman

ITEA aims to create impactful economic and societal results to enable growth through innovation by collaboration. This is only possible by building on futuristic ideas and needs that are aligned with realistic environmental conditions, just as in natural evolution. ITEA 4 has been designed on the basis of the same principle, with continuous support and feedback from its stakeholders: the ITEA Community and ITEA Public Authorities. Thanks to this support, ITEA 4 (as a Eureka Cluster on software innovation) was born in 2021 within the concept of the new innovation instrument of Eureka, the Eureka Clusters Programme (ECP).

In 2021, ITEA mainly focused on three topics:

- Continuing the firm focus on creating impact through ITEA projects.
- Preparing and delivering the first actions of ITEA 4.
- Supporting the design, preparation and delivery of the first actions of the ECP.

In 2021, four new Impact stories were published by ITEA and these projects had impressive outcomes that prove the impact of ITEA and its Community:

- The Reflexion project had exceptional results on how to valorise big data to propagate new, meaningful knowledge to be used in operations, services and new developments.
- The FUSE-IT project focused on the protection of smart infrastructures against combined cyber and physical threats as a pioneer project to enable its partners to be strategic leaders on this topic.
- The ASSUME project provided a set of tools for multi-core technologies and increased the performance of activities by between 40% and 100% for its partners and software developers across all industries.
- The Flex4Apps project focused on creating a full loop that allows companies to offer more complex services while advancing the Digital Transition.

The preparations for the application for ITEA 4 were the most challenging activity of the first half of 2021. With the strong industrial backing of the ITEA Board companies and the continuous support from Public Authorities, ITEA 4 has been labelled by the Eureka High Level Group in the concept of the ECP. ITEA Call 2021, the first Call of ITEA 4, was subsequently launched in September. Additionally, the ITEA Smart City Advisory Board (SCAB) and Cyber Security Advisory Board (CySAB) were established and meetings for both were held online in the first half of 2021 and in a hybrid way in the final quarter of the year. Furthermore, ITEA was part of two customer-oriented events: the Smart City Business Forum in Barcelona and the Cyber Security & Cloud Expo in Amsterdam.

The concept of the new Eureka Clusters Programme was created in 2020. But the rules and regulations for Joint Calls and management structures in this ECP were established in 2021. ITEA, with the collaboration of the Eureka Clusters and Public Authorities, contributed to the preparation of the first Multi-Annual Plan (MAP) and Annual Operational Plan (AOP) of the ECP. In addition to these activities, ITEA has taken a co-leadership role in preparing a common portal for Public Authorities as a main ECP activity with CELTIC-NEXT. The Joint Eureka Clusters AI Call 2021 was also co-led by ITEA and CELTIC-NEXT.

Alongside the positive developments in ITEA, there have also been some challenges. The size of ITEA 3 Call 6 and the hit rate of the projects were the lowest in its history. Furthermore, the time from idea to project has again increased to 19 months. The ECP is designed to improve interest in the Clusters and the process for the Clusters, such as better and faster funding decisions and stronger Calls with higher hit rates. This should be applicable for the Joint Calls as well as the ITEA bottom-up Calls. In 2022, ITEA will also continue to create impact with bottom-up ITEA projects and Joint Call projects, by building activities to strengthen ITEA 4 (e.g. the international customer workshop on Smart Health) and by supporting and reinforcing the ECP with collaboration between its stakeholders.

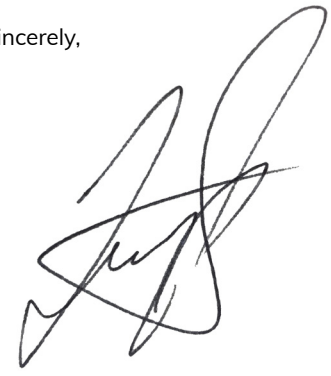
While undergoing these activities, ITEA has the ambition to create happiness, be sustainable in and out and provide high-quality support to all parties as a flexible and agile organisation. Over the next year, 2022, ITEA will continue to track improvement activities by:

- Participating in ECP group meetings to contribute to future and ongoing activities of the ECP.
- Actively participating in Joint Calls and monitoring the Return on Investment of Joint Calls.
- Supporting the ECP Call infrastructure by developing ICT platforms and designing rules and regulations when needed.
- Focusing on ITEA bottom-up Calls in the ECP environment.
- Participating in and/or contributing to customer-oriented events in order to understand market needs in the best possible way to create impact.
- Continuing our efforts to bring the Call size back to at least €110 m, to decrease the time from idea to project start and to keep customer satisfaction at a high level.

We hope that 2022 will be a more balanced year for the ITEA Community and Public Authorities, also in view of physical and online meetings and events. In any case, I am sure that ITEA will continue to build its impact with the dedicated support of industry and Public Authorities.

Have a nice read.

Sincerely,



Zeynep Sarılar
ITEA Chairwoman

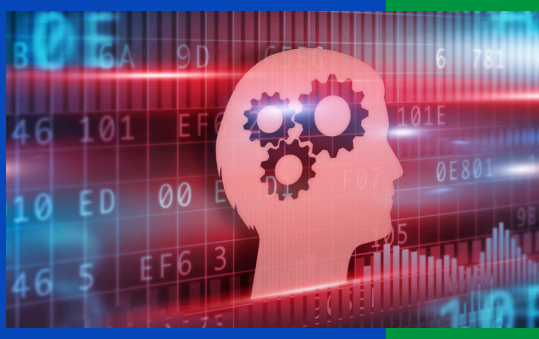
1/ Achievements and improvement priorities

1.1 ITEA project impact

Since the start of ITEA, impact - both on business and on society - has been one of the main ambitions. In 2021, an impressive impact on society, the economy and everyday life was again created by the ITEA project partners with the support of the national Public Authorities. Since 2017, we have made it one of our priorities to gather remarkable project Impact stories, and a total of 32 stories have already been created.

Below, you can discover the highlights of 2 projects to inspire you. The other 2021 Impact stories can be found in **section 4.1 ITEA Impact stories** of this annual report and online via https://itea4.org/impact-stream.html. You can also create your own personal ITEA Impact stream online by choosing the challenges, countries and topics of your interest.

Reflexion Impact story



Thanks to the emergence of cheap sensors and affordable large-scale data storage, terabytes of data are acquired daily from complex systems. The trick is to filter the data in such a way that only relevant, valuable information remains that can be used to valorise operational data and propagate newfound knowledge back into the development cycle, services and maintenance. The Reflexion project has achieved exceptional results in this area.

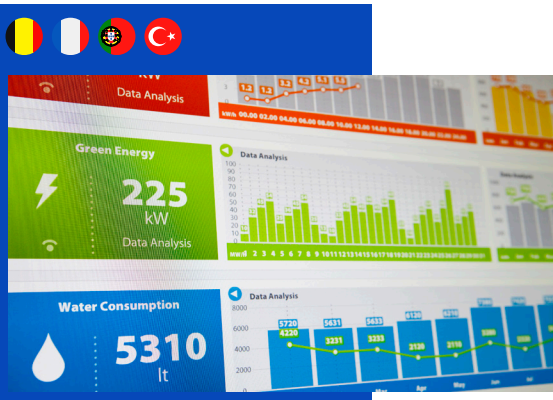
Impact highlights:

- Thanks to the achievements resulting from the Reflexion project, Axini aims to realise an additional €2.5 m of revenue between 2020-2025 and a company growth of 20%.
- Bridging the existing tabular data with log, text and image data allowed SynerScope to bring the first-time-right percentage up from 90% to 99.5%, effectively saving 40 FTE. Structured log analysis and analytics on

interaction logs are now part of its user experience monitoring, reducing the time from the initial problem to pinpointed bottleneck by at least half. In addition, the structured log analysis has opened up exploitation in the new verticals of energy and oil & gas, which represent a multimillion-euro market opportunity.

- During Reflexion, Canon Production Printing developed an incredible maturity for the full digital loop and a set of products and methodologies that can be useful for many other European players. Thanks to this new approach, Canon Production Printing has improved its mean time to repair (MTTR) for all new machines by 50%.
- Due to its participation in Reflexion, Yazzoom expects that the results of the Reflexion project will lead to an additional revenue of €2.5 m in the five years after the project's completion.
- For Barco and TNO, new business models (e.g. the NEXXIS Care Plan) were introduced, the value of which was estimated at €20 m in the next 5 years after the end of the project in 2019.
- Besides the incredible industrial impact, 25 data science jobs were created among the project partners during the project. This workforce is continuing to work on the Reflexion agenda and address several smart industry challenges (such as the effective use of scarce human expert capital) by exploiting data to assist the realisation of better operational solutions and designed systems.

FUSE-IT Impact story



FUSE-IT addressed the need for sustainable, reliable, user-friendly, efficient, safe and secure Building Management Systems in the context of smart critical sites like hospitals. From a site management perspective, it solves the dilemma of efficiency and security in intelligent buildings. At the user level, a smart unified building management interface enables the daily monitoring and control of a building, while a full security management interface enables the supervision of both physical and logical security throughout the premises. At the end-user level, this can save both energy and lives.

Impact highlights:

- A new (and misunderstood) topic when the project idea was first introduced back in 2013 was the protection of smart infrastructures against combined cyber and physical threats. This now appears in the top 3 areas of investment by public and private actors. From this perspective, FUSE-IT has been a pioneer project, enabling the consortium members to take a strategic lead.
- Since 2017, about €48 m in revenue has been reported in direct relation to the project results. The most striking commercial successes include:
  - 17 system integration operation contracts in the field of smart building management and optimisation.
  - 25 contracts won in the field of critical infrastructure protection against cyber and physical threats.
  - The successful market introduction of a start-up company delivering SaaS platform services for enhanced control and management of sensitive building information.
- The project has led to the acceptance of 4 patents.
- Airbus CyberSecurity has been awarded a €740 k contract to fulfil risk assessment surveys on 14 sites of Airbus Defence and Space in Spain, France, the UK and Germany and a contract worth €500 k to secure a data centre organisation against cyber and physical threats. In addition, Airbus CyberSecurity has been awarded a multi-million euro contract with an important gas transportation company, an integration contract for the protection of a large data centre's infrastructure and several contracts with large energy production utilities and distribution system operators in the UK, France and Germany.
- The FUSE-IT project allowed Niko to grow faster and become more attractive to other companies. The team is still growing and has had double-digit growth during the last 5 years.

1.2 ITEA improvement priorities and results 2021

As part of our annual quality process, several important improvement priorities were defined in collaboration with the ITEA Board in order to keep the ITEA programme strong and aligned with its goals and the innovation landscape. Below, you can find the 2021 improvement priorities along with their current statuses.

1.2.1 Finalising preparations to launch ITEA 4 as part of the ECP

For the last two years, there have been intensive preparations for ITEA 4 with the continuous support of the ITEA Community and the ITEA Public Authorities. 2021 was the transition year from ITEA 3 to ITEA 4. New KPIs were defined for ITEA 4 with additional economic criteria to enable growth through innovation via collaboration and a new challenge, Smart energy, has been added. Based on the State-of-the-Art documents of ITEA 3 projects, new potential topics have been gathered in the Strategic Vision and Technology Roadmap. The Impact Plan for ITEA *4 the future*, the Strategic Vision and the Technology Roadmap for ITEA 4 were finalised and approved by the Eureka High Level Group (HLG) in June 2021.

Furthermore, a number of documents have been produced in cooperation with the ITEA bodies to make the launch of ITEA 4 possible. These can be subdivided into legal documents and documents supporting ITEA's application to be one of the Clusters in the new Eureka Clusters Programme (ECP). The first set of documents consisted of the ITEA 4 Frame Agreement, the Articles of Association for ITEA 4 and the Project Consortium Agreement, among others. The application for the Eureka Clusters Programme was supported by the Impact Plan for ITEA *4 the future*, the Strategic Vision and Technology Roadmap for ITEA 4 and the Financial Plan and the Call Schedule for ITEA 4.

1.2.2 Participation in ECP groups (CC, CC Support Group) that will shape the future of the Clusters (including cooperation and a relationship with CCF)

To facilitate and support the governance of the ECP and all of its activities, several bodies have been created in which the Eureka Clusters, their Community Bodies and the Public Authorities work together to shape and operate the ECP. The involvement and contribution of the Clusters and industrial representatives has mainly been realised via the Clusters Committee (CC) and CC Support Group (CC SG). The Presidium participates in these bodies together with a selection of Board and BSG members.

1.2.3 Continuation of ITEA bottom-up Calls in the new ECP

One of the spearheads that ITEA has advocated for in the bodies mentioned above is the continuation of the bottom-up ITEA Calls in the ECP. Furthermore, this was also a central topic in meetings that were held with individual PAs and within the ITEA Authorities Committee Workgroup (ITAC-WG). The bottom-up ITEA Calls are at the heart of the ITEA Community and should remain so in the future. The concept of Joint Eureka Clusters Calls is an excellent way to broaden the Clusters' activities and stimulate cooperation and crossover innovation between the different Communities. Still, the individual Cluster Calls are the catalysers of the different Clusters and the binder that keeps the Communities strong and alive.

1.2.4 Preparing Joint Eureka Clusters Call rules and agreements, initiating the next Joint Call(s)

ECP has added a new concept of Joint Eureka Clusters Calls, which enable collaboration among Eureka Clusters' Communities. This new concept of Joint Eureka Clusters Calls enables harmonisation between the Call management rules of the Eureka Clusters, such as on project evaluation and project reviews. The Joint Eureka Clusters Calls are promoted to Eureka Clusters' Communities simultaneously with the same content. The main purpose of these Joint Calls is to increase collaboration among the Communities of Eureka Clusters and improve the impact of Eureka Clusters. In a Joint Eureka Clusters Call, a project may select a primary and secondary Cluster to access the knowledge base of multiple Clusters. This new type of Call therefore needs a set of new rules to manage the Call and to share the new workload and financials. Eureka Clusters defined these rules with the support of Public Authorities and they were approved by the Eureka HLG. In addition, sustainability has been defined as the topic for the first ECP Joint Call, which was launched on 1 February 2022.

1.2.5 Continuing customer orientation through ITEA events

Since 2015, ITEA has had a strong focus on customer orientation to improve the projects, their outcomes and their potential to create impact. In 2021, we continued this customer orientation through our events by organising a Cyber Security Day, a Smart City Day and a Smart Energy customer workshop and by participating in the Cyber Security & Cloud Expo 2021 together with 6 ITEA projects. Due to the strong focus that ITEA already had within several activities on Smart cities, the decision was made to not participate in the Smart City Expo World Congress 2021. Due to the pandemic, it was also unfortunately not possible to investigate potential additional events (e.g. on Smart industry and Smart engineering). However, we are very proud that we were able to establish the Cyber Security Advisory Board (CySAB) and expand the Smart City Advisory Board (SCAB) in 2021. More information on these advisory boards can be found in **section 4.2 ITEA customer orientation**. These events and activities have brought ITEA even closer to the market, focusing on real customer and societal challenges.

1.2.6 Continued efforts (including KPIs) on:

- **Achieving an ITEA Call 7 size of €110 m (excluding 2021 Joint Eureka Cluster Calls)**
  In recent years, it has become more challenging for ITEA to maintain Call sizes that match the targeted level of the ITEA KPIs. For Call 6 in particular, there has been a decline in the funding level in some countries. Despite this tendency, a positive turnaround is recognisable in Call 7, which developed towards a size of almost €90 m in 2021.
- **Minimising the time between the idea and the project start in the ECP**
  To improve the processes of the Clusters, they have been reorganised into the new Eureka Clusters Programme, which should lead to better and clearer funding decisions more quickly. This goes for the Joint Calls but should also be applicable to the ITEA bottom-up Calls. The importance of shortening the time between the project idea and the project start has been confirmed by the participating ITAC members. For ITEA Call 2021 and the Joint Eureka Clusters Call 2021, we are targeting a time-to-project of 12 months.
- **Expanding the ITEA programme in new countries that participate in the ECP**
  Despite the disadvantage of hardly having any physical meetings due to the pandemic, a number of contacts have been made with countries that support ITEA projects or AI Call projects in which ITEA has a leading role. An example of this is Singapore, which has been involved in more ITEA activities (such as the PO Days) and now has a partner in one of the POs which is invited to submit an FPP in ITEA Call 2021.
- **Press approach in combination with partners**
  This year, ITEA has again teamed up with the project partners of award-winning ITEA projects and has created 4 press releases that can be found at https://itea4.org/press_releases.html. Based on the advice of Bosch, external press was invited to the online ITEA award ceremony and a dedicated press Q&A was organised afterwards. Although no articles on ITEA or the award-winning projects have appeared in the national press yet, the coverage has been strongly improved and the awards for EMPHYSIS and PARTNER were particularly well-covered by external websites thanks to the communication efforts of several project partners.
- **Impact stream**
  4 new ITEA Impact stories have been added to the online ITEA Impact stream, showing strong results achieved in different domains, pushing the Digital Transition and improving customer satisfaction. Reflexion focused on the continuous, real-time conversion of operational user data from industry into information, while the Flex4Apps partners built reference architectures that provide template solutions for dealing with monitoring and analytics and developed methodological support to help teams leverage these. FUSE-IT addressed the need for sustainable, reliable, user-friendly, efficient, safe and secure Building Management Systems in the context of smart critical sites and ASSUME dealt with the demands of multi-core technologies in highly automated systems.

1.2.7 High-level KPIs

The ITEA Office has a Quality Management System (QMS) in place; since April 2014, this QMS has been ISO9001:2008-certified and, since April 2017, the QMS of the ITEA Office has met the requirements of the new ISO 9001:2015 standard. As part of this QMS, several high-level KPIs have been defined for ITEA. In 2021, ITEA achieved the following scores for these high-level KPIs:

Strategic Leadership	Target 2021	Realised 2021
Forecast for funded Call size of ITEA 3 Call 7	>€110 m	€65 m - €90 m
Time from idea to project start of ITEA 3 Call 7	<12 months	19 months (estimated)
Hit rate of ITEA 3 Call 6	>70%	45%
Average quality of events (Smart City Day, Cyber Security Day, customer workshop, Online PO Days, Cyber Security & Cloud Expo)	>3.5	3.5

Table 1: Results for ITEA high-level KPIs 2021.

In this annual report, the sections **3.1 ITEA programme size, 3.2 ITEA Calls progress** and **4.3 ITEA events** give an explanation and more details on these KPIs and their values in 2021.

1.3 ITEA improvement priorities 2022

To continuously enhance the ITEA programme, improvement priorities are defined on a yearly basis. For the upcoming year, the following improvement priorities have been defined.

1.3.1 Participation in ECP groups (CC, CC Support Group) that will shape the future of the Clusters

We will continue our involvement and contribution to the different bodies that are determining the direction and operation of the different activities within the ECP, such as the Joint Calls, as well as the emergence of new Clusters.

1.3.2 Selective participation in Joint Calls: improving the balance between cost/effort and the outcome of Joint Calls

The operation and support of the Joint Calls offer added value for the ITEA Community in terms of windows of opportunity to explore new innovation themes and partnerships. However, they also clearly impact the ITEA Office and the industrial contribution regarding the evaluation, monitoring and support of the increasing number of (submitted) projects. To keep all efforts and available resources in balance, it is necessary to consciously weigh up our decision to participate in Joint Eureka Clusters Calls.

1.3.3 Evaluating rules, regulations and agreements regarding the ECP, Joint Call(s) and Cluster Cooperation and preparing ICT for Joint Calls

In 2020 and 2021, the first Joint Eureka Clusters Call experiments were initiated via the AI Calls 2020 and 2021. Based on these Joint Calls, the Clusters have made initial agreements concerning their cooperation. The most important aspects of these agreements are the sharing of costs for the Cluster(s) that are managing the Joint Call, the sharing of the contribution revenues between the primary and secondary Clusters and the division of tasks regarding the different activities that need to be done in a Joint Call, such as matchmaking, brokerage events, branding, communication and more. Furthermore, agreements have been made on ICT cooperation between the Clusters. A first important step is the development of a so-called PA Portal, which gives PAs access to the data of all Joint and single Cluster Calls that take place and/or have operated in the recent past.

1.3.4 Successful ITEA bottom-up Calls in the new ECP

ITEA bottom-up Calls have had a proven track record of impact and success for over 20 years. With more than 30 stories, the ITEA Impact stream (https://itea4.org/impact-stream.html) shows that ITEA projects are impactful – both on the economy and society. To enable this stream of impact, ITEA bottom-up Calls are of huge importance. In the Multi-Annual Plan (MAP) of the ECP, ITEA 4 has announced that bottom-up Calls will be held each year in September as before and that Public Authorities will support these Calls with either dedicated or open budgets. Bottom-up ITEA Calls

offer the ITEA Community the freedom to innovate on new concepts that are not in commodity yet. And this free thinking fertilises new ways of solving emerging problems and the needs of end-users and the ITEA Community, such as new worldwide standards or new concepts of digitalisation. Maintaining and preserving a focus on ITEA bottom-up Calls is therefore a demand of the ITEA Community and is supported by Public Authorities.

This support from Public Authorities (in the form of good funding opportunities) is one of the pillars for the success of a Call. We will continue to work with our industry partners and the Public Authorities to improve the funding possibilities, both in the usual ITEA countries and in new countries. For 2022, we have set the target for the ITEA Call 2021 at €110 m.

1.3.5 Continued customer orientation by exploring other possible topical events

In 2022, ITEA will continue on its course of strengthening its customer orientation through events by organising a Smart health customer workshop, a Smart engineering technical workshop and Smart City and Cyber Security Advisory Board meetings and by exploring possibilities to participate in external customer-oriented events.

1.3.6 Continued efforts on:

- **Minimising the time between the idea and the project start in the ECP**
  To improve the processes of the Clusters, they have been reorganised into the new Eureka Clusters Programme, which should lead to better and clearer funding decisions more quickly. This applies to the Joint Calls but should also be applicable to the ITEA bottom-up Calls. The importance of shortening the time between the project idea and the project start has been confirmed by the participating ITAC members. For both the bottom-up ITEA Calls and the Joint Eureka Clusters Calls, we are striving for improvements and targeting a time-to-project of 12 months.
- **Expanding the ITEA programme in new countries that participate in the ECP**
  Eureka has a big network of participating countries and is continuously investing in participation by new countries. The Joint Calls, where PAs also have a voice in choosing the subject, are a strong tool for attracting new countries and familiarising them with the Clusters. These new countries can then more easily be approached and involved in ITEA's bottom-up Call. For example, Singapore participated in the 2020 Joint AI Call preparations, then joined the 2020 ITEA PO Days and is now involved in a project which has been invited to submit an FPP in ITEA Call 2021.
- **Expanding the ITEA Board**
  We aim to expand the ITEA Board with two more companies in 2022.
- **Extending the Impact stream**
  As in past years, ITEA will continue its efforts to highlight and promote the strong outcomes of ITEA projects. For 2022, a goal has been set to publish at least four new Impact stories.
- **Press approach in cooperation with partners**
  With the new lessons learned over the past years and the support of project partners, ITEA will strive to improve its press approach in 2022 in order to achieve the ambition of two articles in national press.

2/ Positioning and strategic activities

2.1 Positioning of Eureka, the ECP and ITEA

Eureka is the world's biggest public network for international cooperation on RD&I and innovation, present in over 45 countries. Eureka aims to boost the competitiveness and innovation capacity of Eureka countries and industries via international collaboration in funded projects.

Eureka has different instruments to foster innovation, including the Eureka Clusters Programme (ECP). These instruments are funded by national Public Authorities. Eureka therefore means more dialogue between industry and Public Authorities, and this dialogue enables new projects to be funded and new instruments to be developed based on the national priorities defined by Public Authorities and the urgent needs of industry.

The ECP consists of industry-driven and bottom-up RD&I programmes with thematic communities of experts. The ECP enables Eureka to be proactive, faster and more flexible and to also address new and emerging areas and cross-cutting themes for RD&I collaboration which complements the themes addressed by the Eureka Clusters.

ITEA is the Eureka RD&I Cluster on software innovation, enabling a strong international community of large industry, SMEs, start-ups, academia and customer organisations to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society. This is industry-driven and covers a wide range of business opportunities facilitated by digitisation, such as smart mobility, healthcare, smart cities, energy, manufacturing, engineering and safety & security. ITEA pushes important technology fields like artificial intelligence, big data, simulation and high-performance computing into concrete business applications.

2.1.1 Complementarity in the European RD&I funding landscape

In many countries, there are national programmes that help to establish critical mass and differentiation for developing organisations and support national champions that meet the RD&I strategies and plans of the country. In national programmes, the project consortia (mainly consisting of organisations from only one country) are restricted to the available national RD&I resources and capabilities. But many projects need an international scope and market to realise the full potential of their ambitions. Eureka and the Eureka Clusters Programme, including ITEA, offer such an international scope and market.

At the European level, there are strategic programmes based on agreed priorities that provide support for early collaborative activities (as in H2020 and its follow-up programme, Horizon Europe) and large technology initiatives (as in the ECSEL JU and its successor, Key Digital Technologies Joint Undertaking (KDT JU). These programmes have a top-down approach in which work programmes define specific topics to address major technological, economic and societal challenges. The topic of each Call for proposals is often quite prescriptive, allowing a relatively limited scope for applicants to explore undefined topics that cross over different thematic areas. Whereas the European Union (as a supranational entity) tends to focus on the harmonisation of rules and the centralisation of implementing programmes, Eureka (being an intergovernmental organisation) emphasises the need for diversity, flexibility and variable geometry in the cooperation between countries. These approaches are fully complementary and mutually reinforcing.

In addition, the industry-driven, bottom-up focus of the Eureka Clusters Programme, including ITEA, and the close connection with national RD&I priorities perfectly complement the multinational and research excellence focus of Horizon Europe. In some cases, an ECP project might be the logical next step for a Horizon Europe project consortium to successfully exploit their project results and bring them to the market.

2.2 The launch of the ECP and ITEA 4

In June 2021, the Eureka High Level Group approved the new Eureka Clusters Programme (ECP) and the participation of ITEA 4, CELTIC-NEXT, Eurogia, SMART and Xecs. Xecs, the Eureka Cluster in the field of Electronics Components & Systems, is the result of the merging of the former Eureka Clusters Penta and Euripides. The ECP, which was launched on 1 July 2021, has been established to give the Eureka Clusters a new boost, to strengthen collaboration and dialogue between the Eureka Clusters and with all stakeholders and to strengthen the Clusters' impact.

Within the ECP, ITEA will continue to stimulate international collaboration on software innovation, the Digital Transition and sustainable growth. ITEA's mission is to spawn innovative publicly and privately funded projects of a high quality. Catalysed by their label and coaching, these deliver game-changing solutions through software innovation and ensure both the fast and long-term exploitation of results.

The ambition for ITEA projects is to:

- Provide concrete global solutions with tangible results to tackle the urgent challenges and trends of society, as defined by international consortia, in order to benefit all stakeholders.
- Accelerate the sustainable growth of industry through innovative products, services, platforms and standards.
- Push for new and upcoming trends in software innovation, including AI, big data, machine learning and so on.
- Create crossover innovations through ITEA's open innovation Community and by cooperating with other Eureka Clusters.

2.3 ECP bodies and activities

To optimise collaboration and the operation of the ECP, several ECP working groups and activities have been set up in which ITEA representatives take part:

- **ECP-related working groups**
  - The Clusters Committee (CC) is composed of industry representatives from the Eureka Clusters. The CC is the decisionmaker and strategical deciding body for the ECP on the industrial side. The CC and Public Authorities Committee (PAC) define the themes for the Joint Eureka Clusters Calls and steer the future of the ECP.
  - The Clusters' Committee Support Group consists of three representatives from members of the CC companies in order to support CC meetings and discuss CC-related topics at the execution level. This group is chaired by the CCF for industry.
  - The InterCluster Operations Group (ICOG) has been established to take care of the daily operations of the Clusters regarding the ECP, including the definition of joint Eureka Clusters activities like Joint Calls and the preparation of the Multi-Annual Plan (MAP) that will be issued every two years.
  - The ECP Branding & Communications Group consists of a few representatives from the Clusters Offices, the Eureka Secretariat and the Public Authorities and has the goal to expand the strong, knowledgeable and diverse network and create industrial and societal recognition.

- **ECP Calls and events**
  - **Eureka Clusters AI Call 2021, including the online AI Call 2021 Brokerage event**
    In order to support project idea leaders in the creation of a project proposal and the building of their consortium, an online Brokerage event was organised on 22 April 2021 for the Eureka Clusters AI Call 2021. The event consisted of four different sessions: an introduction, two project idea pitch sessions and a session on the next steps. During the event, 24 pitches were presented. 667 registered participants from 34 countries were registered for this free online event.
  - **Global Innovation Summit Austria (18-20 May 2021)**
    Together with all the Eureka Clusters, ITEA was part of the Global Innovation Summit (GIS) 2021. This event was organised by the Austrian Eureka Chair on 18-20 May and focused on the Green Transition, Digital Transformation and Post-COVID. During this event, ITEA participated in the virtual booth and ITEA project PARTNER was also showcased at the virtual exhibition.
    On the second day of GIS, the Eureka Clusters organised the session 'Accelerating Trusted Digital Transformation for a Sustainable Future'. Participants could discover the Eureka Clusters funding instrument and interact with the Clusters, project partners and PAs on the topics of Sustainability and Trusted Digital Transformation.

3/ Calls overview

3.1 **ITEA programme size** (status on 31 December 2021)

At the moment, five Calls from ITEA 3 and the Joint Eureka Clusters AI Call 2020 are running. Furthermore, the Joint Eureka Clusters AI Call 2021 projects have been submitted and approved and are now waiting for their official label. Finally, ITEA Call 2021, the first Call of ITEA 4, is ongoing (FPP submission deadline: 15 February 2022).

Eight projects of the ITEA 3 Programme have (recently) been completed and 44 projects are running, of which 39 are ITEA 3 projects and five are Joint Eureka Clusters AI Call 2020 projects. Seven projects are still waiting for final funding decisions, of which six are ITEA 3 projects and one is from the Joint Eureka Clusters AI Call 2020. Alongside these, 10 projects submitted to ITEA in the Joint Eureka Clusters AI Call 2021 were approved and are now waiting for their official label.

As for the funded Call sizes, ITEA 3 Call 2 reached almost €114 m, a real improvement compared to Call 1 which achieved a size of €103 m. ITEA 3 Call 3 was again a smaller Call of €106 m but the size of ITEA 3 Call 4 was back to a better level of €119 m. Due to the funding position of Germany and the delays in the funding decisions for Call 5 in general, that Call has developed towards €88 m. Due to a lack of funding and delays in funding decisions in Call 6, only nine out of 20 projects started and the funded Call size realized was only €61 m. Although there are still quite a few pending decisions, Call 7 signals an increase in the funded Call size, which is forecasted between €65 m and €90 m. On the other hand, the funded Call size for the Joint Eureka Clusters AI Call 2020 is forecasted at around €30 m. As projects in the Joint AI Call 2021 have not officially been labelled yet, it is not possible to give a forecast for the size of this Call yet.

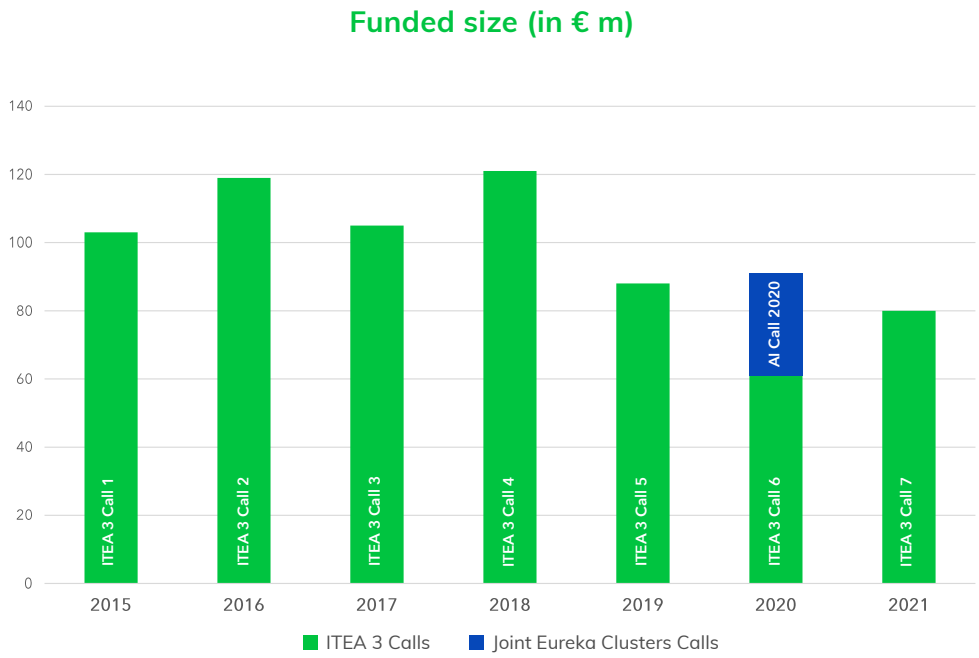


Figure 1: ITEA (estimated) funded Call size in million euros.

3.2 Call progress

3.2.1 ITEA Calls and Joint Eureka Clusters AI Call 2020 progress

In the following graph, the progress of the ITEA Calls is represented by several hit rates. These hit rates show the percentage of the projects, efforts and costs actually accomplished or actually running in the ITEA programme compared to the projects, efforts and costs initially labelled.

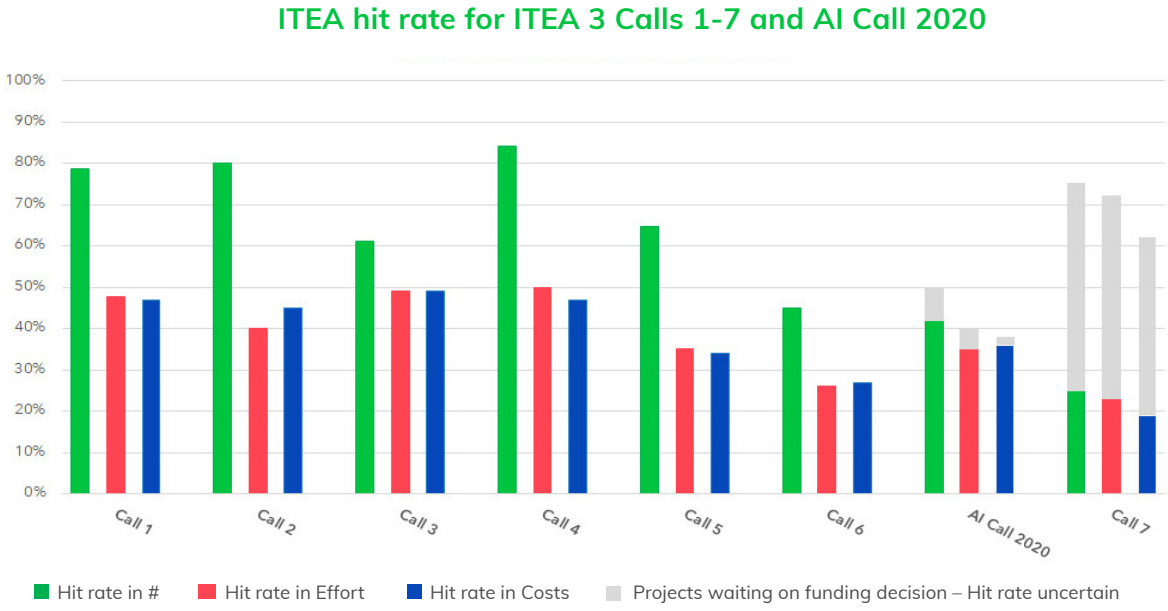


Figure 2: ITEA hit rates for ITEA 3 Calls 1 to 7 and the AI Call 2020 as of 31 December 2021. Figures based on latest FPP.

The grey areas represent the projects that are still waiting on a funding decision and can therefore still influence the hit rates. The ITEA 3 Calls 5 and 6 are also still subject to some (minor) changes as Change Requests are also possible for ongoing projects. Nevertheless, these Calls are rather stable now. All projects in ITEA 3 Call 1 and Call 2 are now complete. One project from ITEA 3 Call 3 is still running but will be completed by the end of Q2 of 2022. The Joint Eureka Clusters AI Call 2020 is rather stable now and reached a hit rate of 50%.

For ITEA 3 Call 7, there are still a lot of uncertainties. For ITEA 3 Call 7, a hit rate of 55-65% would be more realistic when we take into account everything that is currently known.

A quick start to a project can have a positive impact on maintaining its original size as partners remain involved and the topic remains relevant, as is also visible in Figure 2. The time from project idea to project start has therefore been a high-level KPI in ITEA for a few years now. As the result of this KPI has not improved over the first ITEA 3 Calls, the ITEA label validity has been implemented as of ITEA 3 Call 3.

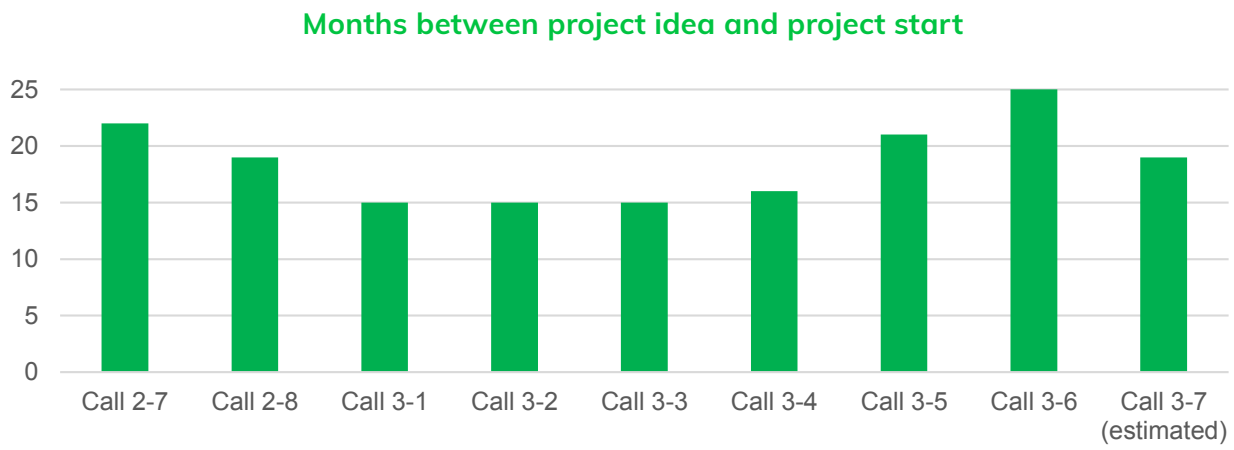


Figure 3: Time from ITEA project idea to project start (when >50% of the projects of the Call have started) from ITEA 2 Call 7 to ITEA 3 Call 7.

Due to several circumstances and the changing environment, however, the label validity deadline has not yet resulted in a reduction of the time-to-project. Regarding ITEA 3 Call 5, the time-to-project for this Call was already even more than the previous Calls due to funding decisions in Germany and the changed situation in France. Call 6 was a special case as it never reached the hit rate threshold of 50% of the started number of projects. The status of the last project was only clarified recently, making this the Call with the longest duration between project idea and project start. For Call 7, a shorter time-to-project is again expected when compared to Call 5 and Call 6. Nevertheless, this is still not close to the desired level of 12 months or less, so this remains one of our priorities to improve.

The current status of the ITEA projects is as follows:

	2021			2020		
	#	Effort in PY	Cost in €100 k	#	Effort in PY	Cost in €100 k
Labelled during the year	26	3007	2789	32	3333	3596
Running at the end of the year	41	3722	3521	36	3870	3502
Waiting at the end of the year	19	1808	1580	24	2389	2398
Completed during the year	8	631	649	16	1399	1376
Cancelled during the year	17	2216	2067	10	1286	1346

Table 2: Status of ITEA projects in 2021 and 2020 as of 31 December 2021 and 31 December 2020 respectively. Figures are based on labelled and latest FPPs. Note: the figures include the ITEA projects that resulted from the Joint Eureka Clusters AI Call 2020 and 2021, as projects become ITEA projects after labelling (when they have indicated ITEA as the main Cluster).

3.3 Project landscape

To create innovation-driven growth, ITEA needs to focus on future markets and the challenges posed by a fast-changing world in which 'smart' is the key concept. At present, there are eight main societal challenges that the ITEA Community addresses. The figure below shows the distribution per Call of the ITEA projects across these challenges. As Smart energy is a new challenge, introduced for ITEA 4, this challenge is not yet well reflected in figure 4.

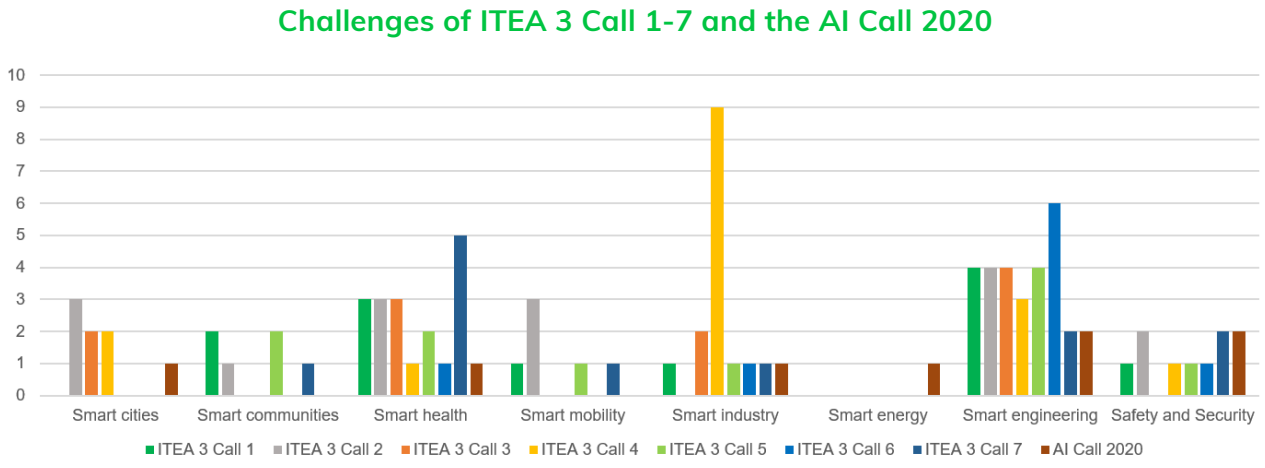


Figure 4: Number of ITEA 3 and AI Call 2020 projects per ITEA challenge.

3.4 New projects – ITEA 3 Call 7

The final Call of ITEA 3, ITEA 3 Call 7, delivered 23 submitted FPPs, ultimately resulting in 16 labelled ITEA projects involving 2432 PY and 21 countries. This illustrates the vitality of the ITEA Community, which has been able to deliver high-quality projects despite the absence of physical meetings, since the ITEA PO Days were held online in September 2020. As usual, there is a good balance between SMEs that have the agility to innovate, large industries that can quickly bring the outcomes of the projects to the market and research centres that provide beyond State-of-the-Art research.

As mentioned above, it is expected that the size of several Call 7 projects will be reduced due to some delays in the funding decisions. The labelled projects 3STARS, The Mechanical Web, CONTRAST and RESILIANT.ai were already cancelled during the year due to lack of funding in the main countries.

The themes arising from this Call are:

Theme	ITEA 3 Call 7 projects
Smart engineering	SmartDelta, InnoSale
Smart health	HeKDisco, ASSIST, VRCare, Secur-e-Health, SIGNET
Safety and Security	NGAST, ENTA
Smart communities	COMRADE
Smart mobility	V-Space
Smart industry	OMD

A short description of each project can be found below.

ASSIST 20044

Automation, Surgery Support and Intuitive 3D visualization to optimize workflow in IGT SysTems

Project leader: Philips (Netherlands)

Current software image-guided therapy applications to assist the physician still require significant manual user interaction while all attention should go to the patient instead. The ASSIST project will develop technologies and solutions to get the physician back in control of the clinical procedure by assisting or automating part of the physician's tasks during image-guided therapy procedures. The aim of the project is to optimise and simplify the workflow in image-guided therapy procedures with the main goal of streamlining physicians' work, optimising imaging systems, improving patient outcomes, reducing human error and lowering costs.

https://itea4.org/project/assist.html

COMRADE 20008

COMmunicate and collaboRAte in extendeD rEality

Project leader: TNO (Netherlands)

Traditional video conferencing tools come with limitations that prevent efficient and meaningful remote communication and interactive participation. The global pandemic and climate change urgently demand an era of eXtended Reality (XR) communication and collaboration. The aim of the COMRADE project is to specify, develop, integrate and validate end-to-end networked solutions for real-time communication and collaboration in XR. The project goal is to enable XR video conferencing and meetings, virtual travelling, expertise at a distance, virtual studio productions, virtual home improvement and shared media and entertainment.

https://itea4.org/project/comrade.html

ENTA

20020

Encrypted Network Traffic Analysis for Cyber Security

Project leader: Solana Networks (Canada)

Today, more than 80% of Internet traffic is encrypted and there is a strong need for innovative research and the development of tools that are able to provide visibility in encrypted traffic and detect cyber-attacks. The ENTA project will explore 3 solutions based on Encrypted Network Traffic Analysis (ENTA) in order to identify encrypted applications, encrypted data exfiltration and rogue encrypted IoT devices. The ENTA project will deliver an encrypted traffic analysis service platform for cybersecurity that will support several basic building blocks necessary for any machine learning/ deep learning-based traffic analysis.

https://itea4.org/project/enta.html

HeKDisco

20030

Healthcare Knowledge Discovery

Project leader: Mantis (Turkey)

The main purpose of the HeKDisco project is to reduce potential human mistakes in medical care for patients. Following evidence-based medicine (EBM), HeKDisco aims to use the best (reliable) evidence in making decisions on the care of individual patients so that the clinician experience, patient values and preferences and best empirical clinical guidelines are all integrated. HeKDisco aims to transform big health data from volume-based to value-based by generating a relational knowledge base that can lead to innovative treatments, predict therapeutic outcomes and provide early diagnosis.

https://itea4.org/project/hekdisco.html

InnoSale

20054

Innovating Sales and Planning of Complex Industrial Products Exploiting Artificial Intelligence

Project leader: Software AG (Germany)

InnoSale aims to innovate today's sales systems and processes for complex and variable industrial equipment, plants and services that require time-consuming back-office support. InnoSale develops methods to increase the expressiveness of validation rules and to suggest relevant purchase options (case-based reasoning). Sales engineers will be supported in finding previous customer requests & orders and other suitable solutions quickly, as well as in identifying similarities between customers (evolutional clustering). User experience will be improved and supported by combining deep learning systems with augmented reality techniques, 3D modelling and 3D printing.

https://itea4.org/project/innosale.html

NGAST

20013

Next Generation Automated Security Testing

Project leader: ARD GROUP (Turkey)

Internet of Things (IoT) device manufacturers and operators face the challenge of defending a vastly larger attack surface with essentially the same resources. Methods and tools for automated security testing are needed to eliminate security weaknesses lurking in software or APIs. NGAST will tackle these challenges by creating (1) methods to automatically identify software bugs that lead to security vulnerabilities and (2) an open, extensible platform where these methods can be easily applied. NGAST's goal is to develop next-generation continuous integration/continuous delivery-capable automated security testing solutions for source code, binaries and distributed systems in the IoT domain.

https://itea4.org/project/ngast.html

OMD

20003

Optimal Management of Demand

Project leader: Experteam (Turkey)

Increasing demands and time pressures accelerated by the pandemic are causing organisations to ask for new automations to proactively manage their environments. The OMD framework produced in this project will help businesses to assign the correct agent to a specific service demand effectively and remotely. This will shorten the time and reduce the cost of operations by avoiding repetitions. The OMD framework will rapidly and effectively contribute to many sectors, using AI models to improve services as a CSM approach. By improving the overall efficiency of operations on the supply side, the project will also increase customer happiness.

https://itea4.org/project/omd.html

Secur-e-Health

20050

Privacy preserving cross-organizational data analysis in the healthcare sector

Project leader: Kelvin Zero (Canada)

Sensitive health data is often kept in silos in a way that cannot be efficiently leveraged for legitimate medical, research and data analysis purposes. The goal of the Secur-e-Health project is to integrate new approaches to digital identification technologies and privacy-preserving analysis techniques in a secure system infrastructure. The Secur-e-Health system will allow medical institutions of all types to collaborate together and leverage data analyses and insights. This is expected to have a significant impact on the quality of the medical predictive models, the efficiency of data-driven treatments, the acceleration of new clinical research and the improvement of healthcare in general.

https://itea4.org/project/secur-e-health.html

SIGNET

20052

Sensing and Image-Guided Neurological therapies, cardiac Electrophysiology and Tumour treatments

Project leader: Philips (Netherlands)

Image-guided treatment technologies can improve the outcome of many complex medical interventions. Due to safety reasons and a lack of targeting accuracy, many complex medical treatments are currently delivered over several sessions. The overall objective of SIGNET is to develop an ecosystem of companies and institutes to deliver efficient image-guided treatment workflows for safe and efficient single-visit treatments. This will replace current complex procedures in cardiology, oncology and neurology and improve patient comfort, safety, treatment outcomes, staff availability and economic viability.

https://itea4.org/project/signet.html

SmartDelta

20023

Automated Quality Assurance and Optimization in Incremental Industrial Software Systems Development

Project leader: RISE (Sweden)

Too often, certain quality aspects of a system begin to deteriorate as it is built and incremented with new features. It is therefore important to be able to accurately analyse and determine the quality implications of each change and increment to a system. To address these challenges, SmartDelta will build automated solutions for the quality assessment of product deltas in a continuous engineering environment by providing smart analytics from development artifacts and system execution, offering insights into quality improvements or the degradation of different product versions and providing recommendations for the next builds.

https://itea4.org/project/smartdelta.html

VRCare

20048

Virtual Reality Healthcare Simulations

Project leader: Lapland University of Applied Sciences (Finland)

Despite the rapid development of the eXtended Reality (XR) industry, there is a lack of high-quality, certified training and simulation for healthcare professionals. The VRCare project responds to these needs by co-creating the first XR healthcare ecosystem across Europe, which employs a holistic approach to XR healthcare simulation by combining strong technical knowledge, service design, AI & machine learning, hand tracking, natural language processing, pedagogical design, research and certification. VRCare aims to improve overall healthcare performance and make a positive impact on patients' lives by reducing the number of mistakes professionals make.

https://itea4.org/project/vrcare.html

V-Space

20039

Hybrid workspaces for humans and (semi-)autonomous vehicles

Project leader: SparxSystems (Austria)

Autonomous vehicles (AVs) are being utilised by many industries, such as agriculture, retail, mining and manufacturing. The aim of the V-Space project is to bring a unified solution for hybrid workspaces where humans and AVs collaborate together. The project has 2 complementary use-cases focusing on ports and private spaces. Autonomous transport within ports is a key enabler of more intelligent and sustainable ports, forming the basis for predictable and cost-efficient operations. Similarly, there are large opportunities to be gained in smaller warehouses and other private spaces exploited by companies.

https://itea4.org/project/v-space.html

3.5 New projects – Joint Eureka Clusters AI Call 2021

Like in 2020, a Joint Eureka Clusters Call was organised on Artificial Intelligence (AI). The Joint Eureka Clusters AI Call 2021 again attracted a lot of interest; by the deadline on 28 June, 45 project proposals had been received, of which 24 indicated ITEA as the main Cluster and 9 had ITEA as a secondary Cluster. As 2 proposals were not eligible, 22 ITEA proposals with a total of 1357 Person Years were evaluated by the ITEA reviewers, resulting in 10 approved AI projects from 11 different countries with ITEA as the main Cluster and 4 with ITEA as a secondary Cluster. The labelled project WireSEAS was cancelled in February 2022 due to lack of funding in one of the two participating countries.

The main themes arising from the ITEA projects in this AI Call 2021 are:

Eureka Clusters AI Call 2021	ITEA projects
AI for Agriculture	Deep4sat43
AI for a Circular Economy	SAIP, FAMILIAR
AI for Climate Response	FAMILIAR
AI for eHealth	IWISH, SentioCura, AiECHOES, ReTrAIn
AI for ICT and Applications	FAMILIAR
AI for Industry 4.0	EXPLAIN, FAMILIAR, TSMA, NexGenAI, AI-Power-Prod
AI for Low Carbon Energy	AI FORSchung
AI for Manufacturing	FAMILIAR, TSMA, NexGenAI, AI-Power-Prod
AI for Safety	FAMILIAR, ReTrAIn
AI for Smart Cities	AI FORSchung
AI for Smart Engineering	AI FORSchung
AI for Software Innovation	FAMILIAR, ReTrAIn
AI for Transport & Smart Mobility	AI FORSchung
New AI Capabilities	ATTENTION!, AI FORSchung, FAMILIAR, AI-Power-Prod

Blue means ITEA was indicated as the secondary Cluster for this project.

A short description of each project can be found below. The first 10 projects have indicated ITEA as their main Cluster and the final 4, with green headers, have indicated ITEA as a secondary Cluster:

AI FORSchung

AI2021-065

AI for fiber-optic remote sensing

Project leader: Philips (Netherlands)

The overall objective of AI FORSchung is to accelerate innovation and the growth of fiber-optic sensing by augmenting innovations in large-scale signal and data analysis with cross-domain validated AI methods. These industrial-grade embedded AI technologies are necessary enablers of advanced, robust and widely accessible fiber-optic sensing applications in the biomedical, construction, environmental and utilities sectors. Resulting implementations will advance the adoption of fiber-optic sensing across the spectrum of applications and open up new fields through cost-effective and easy-to-use products that extract rich, important information from fiber-optic data.

https://itea4.org/project/ai-forschung.html (will be available soon)

AiECHOES

AI2021-089

AI supported Early-risk prediCtion and intervention of Health cOnditions with pErsonalized Sensors

Project leader: VESTEL Savunma Sanayi A.Ş. (Turkey)

Every day, thousands of people need continuous monitoring of their health. AiECHOES envisions an innovative solution in the field of telemedicine which applies Early Warning Scoring & Emotional Recognition to clinical deterioration for patients beyond the hospital through a complete sensor network for remote patient monitoring and data analysis-based computing. This will prevent severe clinical deterioration for risk patients through early detection. As an added value, the healthcare system will also benefit by reducing the number of expensive intensive treatment periods, which implies huge savings.

https://itea4.org/project/aiechoes.html *(will be available soon)*

ATTENTION!

AI2021-023

Artificial Intelligence for Trade-based Money Laundering Detection

Project leader: RisikoTek Pte Ltd (Singapore)

We are facing a new type of 'pandemic' in which $450 billion of illegally gained revenue is entering the genuine economy per year. Globally, we are lacking a science-based understanding of how illicit transactions can be detected and what patterns they follow. The ATTENTION! project will analyse the largest trade database of imports and exports available globally and will use AI/ML models to derive patterns of illicit trade activity. The ATTENTION! application will enable end-users to check transactions for potential smuggling, fraud and tax evasion.

https://itea4.org/project/attention.html *(will be available soon)*

Deep4sat43

AI2021-098

Geo-AI Ecosystem for tree (43) health inspection and early warning

Project leader: Spectro-AG (Netherlands)

Changes to the climate and regulations requires orchard farmers and forest managers to take actions using timely, strategic innovation tools. Conventional disease monitoring and control is often based on the human factor and is therefore limited by small spatial coverage and inevitable subjectivity. Deep4sat43 will test and utilise deep learning algorithms in scenarios with different sizes/geographic locations/soil types/plant types/access to data/legal requirements in Spain, Portugal, Turkey, the Netherlands and Denmark. As a result, we will deliver a UX-friendly SaaS service for automatic early monitoring and early warning of crop diseases.

https://itea4.org/project/deep4sat43.html *(will be available soon)*

EXPLAIN

AI2021-086

EXPLanatory interactive Artificial intelligence for INdustry

Project leader: ABB AG Forschungszentrum Deutschland (Germany)

In industrial settings, AI holds the potential for significant improvements, such as energy-efficient operations, increasing throughput and more sustainable operations. To realise the possible benefits of AI in industrial applications, close collaboration is needed between AI use-case providers, AI providers and research actors with backgrounds in machine learning, XAI, software engineering, user experience and human factors. The EXPLAIN project seeks to realise an end-to-end ML lifecycle which is interactive and explainable for industrial domain experts and will consider a representative set of industrial AI cases to develop generally applicable solutions.

https://itea4.org/project/explain.html *(will be available soon)*

FAMILIAR

AI2021-112

Holistic Federated AI Development for Mixed-Reality Applications in Europe

Project leader: consider it GmbH (Germany)

The term 'federated machine learning' (FedML) is popular in the context of publicly funded R&D projects. Still, it is rarely used in industry, least of all in combination with other leading technologies such as XR and AM. FAMILIAR wants to create FedML solutions using head-mounted displays (HMDs). The solution shall be embedded and tested in real-life applications, such as automotive engineering, maintenance & training, welding and human-robot collaboration. To establish the use-cases, sophisticated data mining techniques will be combined with deep learning.

https://itea4.org/project/familiar.html *(will be available soon)*

IWISH

AI2021-066

Intelligent Workflow optimization and Intuitive System interaction in Healthcare

Project leader: Philips (Netherlands)

Clinical procedure scheduling in operating rooms and image-guided therapy in labs is challenging because these spaces are complex, dynamic and often time and resource-constrained. Their unpredictability often leads to inefficient usage of scarce healthcare resources. The IWISH project will develop new technologies and introduce novel applications to simplify workflows and predict procedure duration in such environments with the main goal of streamlining physicians' work. IWISH will focus on room and hospital level solutions, addressing data and AI-enabled solutions for clinical procedure optimisation and operational efficiency in particular.

https://itea4.org/project/iwish.html *(will be available soon)*

SAIP

AI2021-083

AI For AgriFood Supply Chain

Project leader: Smartmind Veri Yonetimi Teknoloji Hizmetleri Anonim Sirketi (Turkey)

A resilient supply chain is essential, especially in agrifood, and this can only be achieved with true visibility, transparency, collaboration and trust. The SAIP project helps suppliers to avoid problems by offering AI machine learning capabilities to empower them with an advanced warning infrastructure for delayed orders. In addition, the solution offers cycle time estimates that provide predictions on the probability of events that may occur. This creates a secure, shared and singular version of the truth for B2B transactions using blockchain technology.

https://itea4.org/project/saip.html *(will be available soon)*

SentioCura

AI2021-085

AI for geriatric and pediatric users at risk of cognitive impairment and learning disability

Project leader: Symptoma (Austria)

With an ever growing world population aged 60 or above, there is a pressing need to keep the elderly mentally healthy and cognitively fit enough to participate independently in daily life. At the same time, we are obliged to ensure that children are equipped to face and solve the issues of tomorrow. SentioCura will provide an AI-powered health assistant which enables screening, early recognition and intervention, engages children and the elderly through gamified cognitive training, monitors cognitive wellbeing and provides an overview to caregivers and health professionals.

https://itea4.org/project/sentiocura.html *(will be available soon)*

AI-Power-Prod

AI2021-055

AI Powered Production

Project leader: TeknoTAM Teknoloji ArGe Ltd. (Turkey)

Mass production is improving via machines, but industrial test machines (quality control, testing and automation systems) are at different levels of technology development. Usage of AI is limited. There is a need to collaborate by joining forces to benefit from synergies between extensive manufacturing processes and empower them with AI solutions. The AI-Power-Prod project aims to have a self-learning AI system for mass production that can detect and define production anomalies via a quality inspector AI and AI-powered production system that simultaneously reconfigures the production.

Primary Cluster: SMART

NexGenAI

AI2021-031

Next Generation AI Framework for Advanced and Digital Manufacturing

Project leader: GraphicsVision.AI GmbH (Germany)

Increased market and cost pressures, rising product complexity and challenges with digital transformation are the 3 major obstacles for the massification of the digitisation of the manufacturing industry. The core mission of the NexGenAI project is to facilitate the adoption and application of AI in any manufacturing industry. The NexGenAI project will develop, assess, demonstrate and commercially exploit a lean and lightweight next-generation AI framework and platform for Smart Manufacturing at TRL7 which is specifically designed for easy adoption and operation by smaller manufacturers (typically SMEs) that are independent from the manufacturing sector.

Primary Cluster: SMART

ReTrAIn

AI2021-059

AI-driven & Modular eHealth Training Platform

Project leader: Linnaeus University (Sweden)

The medical sector is in great need of a connection with the population in order to distribute personalised health-related guidance and medical attention to those at risk and those that want to stay active while ageing. The ReTrAIn project aims to build a training platform which uses AI technology to model therapy training and progress review processes. The project prototype implementation will be an AI-driven platform to remotely guide the medical expert through recorded material and processed sensing information and to monitor the evolution of the adult in care.

Primary Cluster: CELTIC-NEXT

TSMA

AI2021-029

AI Enhanced Digital Twin for Smart Manufacturing

Project leader: KTH Royal Institute of Technology (Sweden)

To improve or guarantee the performance of digital twins (DT) and improve competitiveness (particularly in critical manufacturing), the development and application of emerging DT technologies are urgently needed in European industries. The TSMA project aims to develop and implement distributed AI (e.g., edge AI), new image processing, high-performance & low-latency IoT and networking for distributed DT in several specific use-cases: sawmills, automotive and high-precision processing for display screen parts.

Primary Cluster: SMART

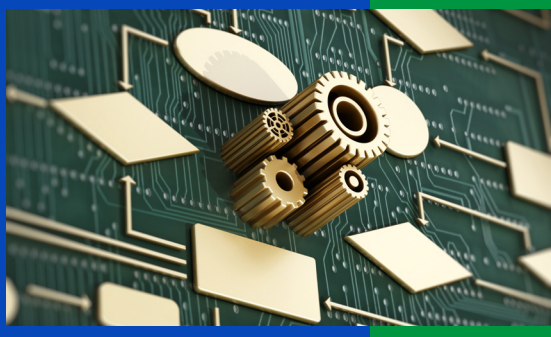
4/ Operations

To enable all ITEA stakeholders to get the most out of the ITEA programme and to promote the ITEA programme in the best way, several operational actions are carried out by ITEA. In this section, the details about the main operations achieved in 2021 are reported.

4.1 ITEA Impact stories

As indicated in **section 1.1 ITEA project impact**, one of our main activities was to promote the incredible results of the ITEA projects. Because of this, the Impact stream grew to 32 strong Impact stories in 2021. Two examples, Reflexion and FUSE-IT, were already shown to inspire you. Here, you can continue your journey with two additional ITEA Impact story highlights. The full stories can be read online: https://itea4.org/impact-stream.html.

ASSUME Impact story



The ITEA project ASSUME (Affordable Safe & Secure Mobility Evolution) dealt with the demands of multi-core technologies in highly automated systems. It assures safety-relevant, performance-critical functionality and is traceable throughout the development process via the efficient verification of large systems.

Impact highlights:

- ASSUME has enabled the use of results between different tools, including:
  - A 50% increase in the (run-time) performance of analysis tools.
  - A 60% reduction of spurious warnings in analysis tools for single cores.
  - An almost 100% reduction of error classes in single-core analysis.
  - An 80% or more success rate of traceability of run-time errors back to the model level.
  - A 40% cut in efforts to inspect runtime errors in a typical industrial setting.

- In Bosch, the methods developed in ASSUME are now routinely used for large software products with more than 2 million lines of code. Furthermore, the methods and tools are being applied in several other business units of Bosch, which can now use formal methods efficiently in real projects.
- FindOut was able to hire 2 consultants for 3 years to develop a suite of visualisations for electrical systems, message passing structures and software structures which has now been integrated into tools for system architects at Scania.
- Sorbonne Université and École Normale Supérieure's results were integrated by AbsInt into their Astrée industrial analysis tool and their partnerships with Airbus and AbsInt were strengthened. As a result, AbsInt was able to develop the first ever sound static analysis for embedded automotive software targeting the novel multicore AUTOSAR standard.
- EXPLEO has extended its software code quality assessment and model quality assessment while continuous customer projects in both fields have resulted in a growth of 3 highly qualified employees.

Flex4Apps Impact story

Software providers increasingly need to focus on the optimisation of their services, including the ability to react to customer preferences. Through its flexible framework and algorithms, the ITEA project Flex4Apps created a full loop that allows companies to offer more complex services while advancing the digital transition.

Impact highlights:

- Nokia brought down the monthly costs of fixing bugs detected in both early and late development from over 16,000 euros to 1,900 euros – a yearly saving of 180,000 euros.
- In 2021, the success of this project led Unifiedpost to create a dedicated data warehouse and machine learning project team of 15 persons, expanding on the original ideas and assisting in the rapid growth of the company.
- Flex4Apps enabled the SME DataStories to grow from 6 to 18 employees.
- Evermind, which has connected Flex4Apps to the home automation platform Eigenheim Manager, has increased sales by 50-100,000 euros per white-label customer.
- Genode predicts a 200% growth in licence revenue within 2 years, with the smart home market expected to be worth 19 billion euros in Germany alone by 2025.
- The SaaS tool Survey Anyplace has increased their conversion rate by 33% and their activation by 54%.

4.2 ITEA customer orientation

In 2021, ITEA established the Cyber Security Advisory Board (CySAB), which now contains 11 members, and expanded the Smart City Advisory Board (SCAB), now containing nine members. These advisory boards have the goal of creating a continuous dialogue between the customers of a certain domain and the ITEA RD&I Community. Two meetings per advisory board took place in 2021, with the first meeting focused on sharing challenges and the second on connecting with the related RD&I projects of ITEA. A CySAB challenge report and a SCAB challenge report have been issued as a result of the meetings and as input for the ITEA Project Outline (PO) Preparation Days 2021.

4.3 ITEA events

One of the other main operations was the organisation of and attendance at events. In 2021, we (co)organised the following events.

4.3.1 Cyber Security Day (15 January 2021)

The ITEA Cyber Security Day 2021 gathered customers and cybersecurity-relevant project (partner)s to share challenges, innovative ideas and experiences to improve cybersecurity and overcome challenges in the industry. The aim was to learn from each other, identify new challenges, steer cybersecurity RD&I projects and share innovative results in ongoing and (nearly) completed ITEA projects. Furthermore, this webinar was the perfect opportunity to introduce the ITEA Cyber Security Advisory Board. This online webinar gathered 100 participations from 16 countries. Among the panellists were 5 cybersecurity customers, 5 ITEA cybersecurity projects and 4 ITEA cybersecurity project proposals.

4.3.2 AI Call 2020 – project leader briefing webinar (11 February 2021)

In order to support project leaders and technical contacts of the labelled AI Call 2020 projects in the smooth start of their projects, the ITEA Office organised a Project leader briefing webinar on 11 February. During this webinar, participants got an introduction to ITEA and its processes, including tips and tricks for a smooth project start. Furthermore, the ITEA project portal was explained as not all PLs and TCs were familiar with it. Next, they learned how to prepare a Change Request and how to prepare a project progress report or project review. At the end of the session, there was also time for a Q&A.

4.3.3 Smart City Day (16 March 2021)

The ITEA Smart City Day 2021 brought cities that want to be at the forefront of innovation together with Smart city-relevant ITEA project partners. The aim was to learn from each other, identify new challenges, steer Smart city RD&I projects and share innovative results in ongoing and (nearly) completed ITEA projects.

This online webinar gathered 173 participations from 27 countries. Among the panellists were 10 city representatives and 7 ITEA projects.

4.3.4 Online ITEA PO Preparation Days 2021 – ITEA Call 2021 (13-16 September 2021)

2021 marked the start of ITEA 4, the new programme on software innovation under the umbrella of the Eureka Clusters Programme (ECP). The first Call of ITEA 4, ITEA Call 2021 for project proposals, was launched on 13 September in conjunction with the Online ITEA Project Outline (PO) Preparation Days 2021, which were held from 13-16 September. Like in 2020, it was not yet possible to get together physically with the ITEA Community, so the PO Days were again held online. These second online ITEA PO Days combined four days of informative sessions on ITEA, its upcoming Call and the submission process with the most important element of all: the (work group) discussions on new innovative project ideas. New features this year were the live online pitch sessions and the interactive chat functionality. Also, a record number of Public Authorities were involved in the ITEA PO Days and 9 country information sessions were scheduled.

Although the event attracted fewer participants and generated less ideas than in previous years, the ITEA Community again proved its agility and made the online ITEA PO Days 2021 a success. 287 participants from 17 countries joined the online event. As in previous years, Turkey, the Netherlands and Germany represented the top 3 countries in terms of participation. Thanks to renewed funding opportunities, France again saw a substantial increase in registrations compared to previous years. In addition, participation from Portugal was substantially increased this year. With 60% returning participants and 40% newcomers, the Online ITEA PO Days 2021 confirmed that the ITEA Community keeps on growing and attracting new members while retaining the experienced project partners that can guide them.

Online ITEA PO Days 2021 in numbers

- 287 participants from 19 countries
- 53 project ideas uploaded in the Project idea tool before the event
- 35 project ideas presented during the online project pitch sessions
- 44 project ideas presented in the online poster tool
- 37 online workgroup session held
- 10 final project idea presentations

As Smart energy has recently been added, ITEA now covers eight key challenges, the others being Smart cities, Smart communities, Smart industry, Smart health, Smart mobility, Smart engineering and Safety and Security. With 8 project ideas out of 53 covering Smart energy, this new challenge immediately showed its relevance and the impact of this year's ITEA Customer workshop on this topic. Safety and Security was also addressed in eight project ideas, while the other ideas were equally divided across the other key challenges.

As for the technology landscape, AI remains a big topic in ITEA Call 2021, covered by 35 of the 53 ideas, even though a Joint Eureka Clusters AI Call was organised earlier this year. Other technologies strongly represented in this Call are digital twins, natural language, IoT sensors, UI, robotics and blockchain.

During one of the webinars of the Online ITEA PO Days 2021, best practices were shown by four ITEA projects that received the 2021 ITEA Award of Excellence. They presented their impressive outcomes, impacts and recommendations for future project leaders in an interactive online panel session moderated by ITEA Vice-Chairman Jean-François Lavignon. This year’s award winners were BIMy, EMPHYSIS, PARTNER and VMAP.

Turning a physical event into an online event is a challenge, with expectations aligned to a ‘normal’ physical event. We asked all participants to share their evaluation and suggestions for improvements. With a score of 3.4 on a 5-point scale (where 3 is good and 4 is very good), the online event was still quite well-appreciated. The 2020 Online PO Days showed that it is more difficult to provide networking opportunities when hosting a virtual event. What is missing is the (spontaneous) networking experience and social interaction. Although the focus on networking was prioritised this year by introducing a new chat and messaging system and although an online event has several advantages too, a high number of participants indicated that they really missed the opportunity to interact and meet people face to face and would prefer a physical event next year.

ITEA will look to blend the best of both worlds to ensure that next year’s event will be optimally valuable for all participants and will improve the creation of connections between the large international Community of industry, SMEs, start-ups, academia and customer organisations in order to build strong consortia.

By the deadline of 16 November, 23 Project Outlines had been submitted with a total effort of 2571 Person Years. On 20 December, 16 out of the 23 submitted Project Outlines with a total effort of 2227 PY were invited to submit a Full Project Proposal At the FPP submission deadline of 15 February 2022, 15 FPPs were submitted with a total effort of 2286 Person Years. On 28 March 2022, it will be announced which FPPs will be labelled.

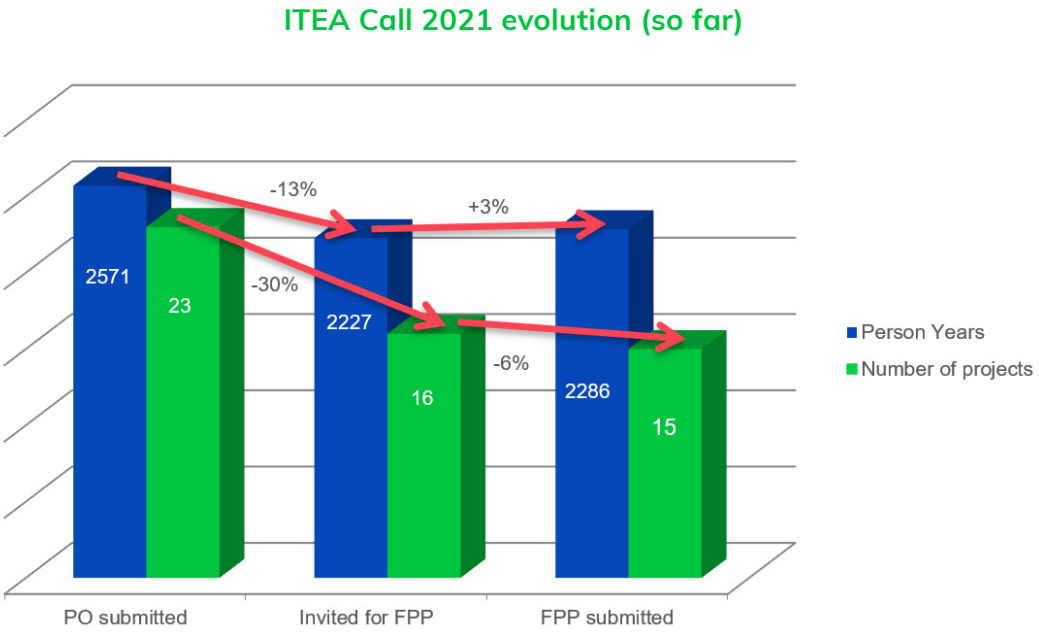


Figure 5: ITEA Call 2021 evolution (so far).

A detailed description of the ITEA Call progress and figures can be found in section **3.2 ITEA Calls progress** of this report.

4.3.5 ITEA International customer and end-user workshop - Smart energy (June 2021)

The 2021 international customer workshop attracted a high level of interest as the first ITEA event aimed at bringing together several energy stakeholders – some new to ITEA – and discussing how the new ITEA challenge on Smart energy could be impacted by potential ITEA projects. This event gathered around 20 major players representing the energy value chain – energy providers, Transmission System Operators (TSO), Distribution System Operators (DSO) and large energy users – and around 20 solution providers (large companies and SMEs) in the energy sector.

The event was organised over three weeks with a kick-off session, four 'challenges sessions' dedicated to the presentation of the needs and pain points of the energy sector players and some brainstorming (sessions) to generate ideas for potential collaborative research projects that could solve some of the challenges expressed during the previous phase. Finally, the customer workshop was concluded with a closing session that presented the summary of the exchanges and a keynote on how to address the energy challenges together. This format was designed to allow for the flexible participation of the attendees and to maximise interactions despite the absence of physical meetings.

The four sessions on the challenges were organised around a central topic that was of common interest for all of the participants of the session. The subjects covered were:

- 'New usages' to discuss how to benefit from the energy sector transformations – more flexible grids, the development of electric vehicles, the development of simulation – in order to create new business.
- 'Flexibility' to address the relationship between the electricity market players, congestion management, new businesses, new forecasting tools and trends for IT systems to support the electricity grid.
- 'Optimisation of energy usage' to share experiences on the best practices to optimise the usage of energy and to discuss how to improve energy efficiency in industrial sectors such as automotive, the forging industry, manufacturing plants, telecom and cloud.
- 'Multi-energy' to analyse the impact of renewable energy sources – wind energy and photovoltaic energy – and the evolution towards a more complex and distributed energy system.

After all of these sessions, the workshop produced several interesting ideas that may give birth to future ITEA research projects. Some of the ideas were focused on new opportunities generated by the availability of data, the control and simulation of complex and heterogenous systems and the facilitation of transactions between the energy value chain partners.

In addition to the emergence of these solid ideas and some collaborations, the workshop has helped to establish progress towards a shared vision of the research priorities to address the important transformation underway in the energy sector. The participants have developed new connections that will be important as no single player can tackle the current energy challenges alone. In conclusion, this workshop was very valuable in initiating ITEA's activity in this new Smart energy challenge.

4.3.6 Smart City Business Event and Smart City Advisory Board meeting (15 November 2021)

On 15 November, ITEA participated in the Smart City Business Event that was co-organised by the Netherlands Enterprise Agency (RVO) and the Nordics. ITEA has partnered with this event since 2019 as innovation is the key driver for Smart cities, as well as international collaboration between the government, private sectors and academia: the Triple Helix. This year, the discussions focused on how to create climate-neutral cities and the (urgent) actions and investments needed for that. ITEA participated in several workshops addressing the themes of green mobility, sustainable buildings & energy, circularity and digital infrastructure. In addition, this forum provided a great chance to meet with new cities that could be interested in joining the ITEA Smart City Advisory Board (SCAB).

As many of the ITEA SCAB members were present in Barcelona, we also took the opportunity to have a hybrid SCAB meeting with the representatives of seven cities, during which the results of five ITEA smart city-related projects were presented. The interested city representatives and project partners will be brought into contact with each other to further explore how the project results can be used in each specific city.

4.3.7 Cyber Security & Cloud Expo 2021 and Cyber Security Advisory Board meeting (23-24 November 2021)

As customer orientation is one of the main ambitions in ITEA, ITEA targets attendance at several commercial events. This year, we participated in the Cyber Security & Cloud Expo taking place on 23-24 November 2021 in the RAI Amsterdam. This event provided a perfect opportunity for our project partners to present their results to potential customers and for other attendees to discover the latest trends and developments in the security solutions domain. Six ongoing or recently completed ITEA projects (CyberFactory#1, DEFRAUDify, PARFAIT, SCRATCh, TESTOMAT Project and XIVT) showcased their (intermediate) results. The ITEA Office was also present to promote ITEA in general and the ITEA Cyber Security Advisory Board in particular. In the afternoon of 23 November, the second Cyber Security Advisory Board (CySAB) meeting was also held in a hybrid way.

The hybrid CySAB meeting gathered seven CySAB members and seven ITEA projects and was the first occasion to show the outcomes of the ITEA cybersecurity-related projects to the members. This meeting went the same as the SCAB meeting: the interested CySAB members and project partners were brought into contact with each other to further explore how the project results can be used.

4.3.8 External events and activities to promote ITEA

During 2021, the Presidium and the ITEA Office representatives also attended various additional external events and meetings to promote ITEA. Highlights included:

- **Online Eureka Clusters AI Call 2021 Brokerage event** (22 April 2021)
  More information on this event can be found in section **2.3 Eureka and ECP activities**.
- **B2B Software Days – Eureka webinar** (12 May 2021)
  The B2B Software Days are organised in Austria on a yearly basis. ITEA was invited to present the Eureka Clusters and AI Call 2021 at this event. ITEA Chairwoman Zeynep Sarılar presented the common presentation on Eureka Clusters and the AI Call 2021.
- **Global Innovation Summit Austria** (18-20 May 2021)
  More information on this event can be found in section **2.3 Eureka and ECP activities**.

- **Meeting with DLR** (18 June 2021)
  On 18 June, ITEA Chairwoman Zeynep Sarılar and ITEA Office Director Jan Jonker had an online meeting with Irene Gerharz, Maren Dietrich and Holger Stegemann from DLR. Andrea Seifert has moved from DLR to BMBF and has been replaced by Irene Gerharz. Meanwhile, Maren Dietrich has been assigned the responsibility for ITEA projects in DLR. With a managerial role, Holger Stegemann is responsible for ITEA in DLR. This meeting was prepared to introduce ITEA 4 and discuss any potential needs for better collaboration between ITEA and DLR.
- **Meeting with Singapore** (17 August 2021)
  On 17 August, ITEA Office Director Jan Jonker had an online meeting with Jan Rubiano and Shen Ye from Singapore. The meeting was mostly dedicated to the introduction of ITEA and the Eureka Clusters, as Jan Rubiano recently started working for the Singaporean government. Jan expressed great interest in ITEA, specifically the involvement of large industry combined with SMEs and content topics such as AI.

4.4 ITEA stakeholder satisfaction surveys

Together, the different stakeholders of ITEA create the strong ITEA Community that forms the central point of the ITEA programme. As quality is of paramount importance to ITEA, the opinions, ideas and experiences of the ITEA Community are highly valued as they allow ITEA to keep improving. To collect all of this information, ITEA conducts several surveys yearly:

- **Project leader satisfaction survey**, sent to project leaders after the completion of a project, covering all of the different processes of a project and the different elements of the ITEA programme. The 2021 results per topic are shown in comparison with 2020 in the figure above (where 3 = good and 4 = very good). All processes or communications are well-appreciated, especially the project reviews and Office support.

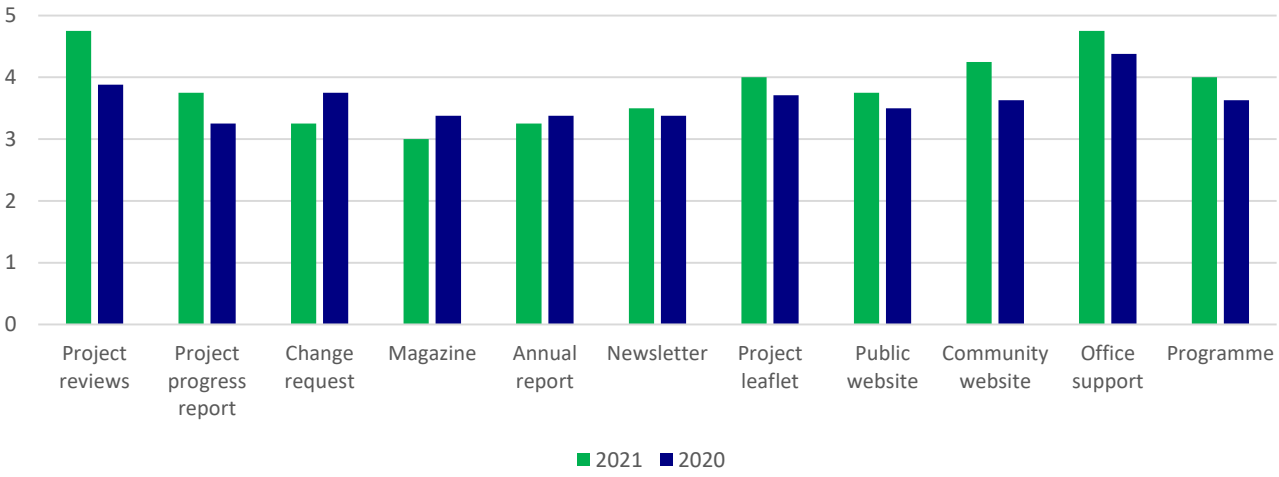


Figure 6: Results of the project leader satisfaction survey, 2021 vs 2020.

- **PO submission survey** (ITEA Call 2021), sent to all Project Outline (PO) leaders, technical contacts and country coordinators, covering all topics of the PO stage. Overall, the PO submission process was well-appreciated, as usual. PO leaders gave a score of 4.19 (compared to 3.86 in 2020). Technical contacts and others gave a score of 3.86 (compared to 3.82 in 2020). The coordination between (new) partners seemed to be the biggest challenge for both PO leaders and technical contacts.

- **FPP submission survey** (ITEA 3 Call 7), sent to all Full Project Proposal (FPP) leaders, technical contacts, work package leaders and country coordinators, covering all topics of the FPP stage. The FPP submission process was well-appreciated with another very high score of 4.03 (out of 5.0) from FPP leaders and 3.87 from the technical contacts.

Based on the submission process surveys, several improvements have been or will be made:

- A simplified online signature of the DoA has been introduced.
- The tasks and partner contributions will be moved back to the Work Package description.
- The solution concept will be analysed with ITEA STG experts.

- **ITEA event surveys**, sent to all participants of an event:
  - *ITEA International customer workshop on Smart energy 2021.* This year's customer workshop took place online again and was evaluated with a score of 3.7 out of 5.0. 82% of the respondents could see opportunities for their organisation resulting from the workshop. An important takeaway for the next edition is that a little bit more time should be reserved for brainstorming new ideas, should this take place online again.
  - *Online ITEA PO Preparation Days 2021.* This year, the PO Days scored 3.4 out of 5.0, which was close to the 3.5 score of 2020. The ITEA PO Days 2021 needed to be organised online again due to the COVID-19 pandemic and, although we improved the (one-to-one) networking possibilities based on the feedback from 2020, it was still considered difficult to interact with the other participants; there is a real desire to have physical PO Days again and we really hope that this is feasible in 2022.

- **Eureka Impact Assessment 2021**, sent to all project leaders and technical contacts of projects that finished in 2019 and 2020. According to these surveys, all projects achieved their objectives (or partially for two out of 25 responses) and 64% contributed to the development of technical standards. At an organisational level, 87% of respondents indicated that their organisation was able to successfully achieve its intended goals in the project; the remaining 13% indicated that they partially achieved these. In addition, 92% indicated that the project had an RD&I/technical impact for their organisation in terms of patents, pilots, demonstrators and scientific results and 93% confirmed that the project resulted in collaborative results and future partnerships. The added value of the international cooperation for their project was rated 75 on a scale of 100. Finally, improvement suggestions were made, e.g. to better align funding decisions/budgets/processes, shorten the time from the project idea to project start and create post-project introductions to B2B partners or funders for scaling.

Results of each survey are discussed within the ITEA Office and issues are resolved or further investigated. In this digital era in which you may receive surveys for (too) many interactions you are involved in, ITEA promises that this is not only an administrative step but truly a way to make your voice heard in order to further improve the ITEA programme and facilitate your participation in successful projects.

4.5 ITEA press coverage

In 2021, ITEA and its projects were mentioned several times on external websites and in press publications. Thanks to the collaboration with the project leaders and partners of the award-winning projects BIMy, EMPHYSIS, PARTNER and VMAP and the valuable advice of Bosch, the awards were well-covered and the press was invited to a special media Q&A. Improvements still have to be made as no national newspaper covered a news item on ITEA (projects), but this approach was already a next step in the right direction. The news item issued by the ESI Group was especially well-covered on many websites. In addition to the award-winning projects, the I2PANEMA project achieved good coverage for their news item on active noise control in harbours, for which project partner Fraunhofer was awarded the CNA innovation prize 'Intelligence for Transport and Logistics'.

In total, there were 64 publications from 52 bureaus and 12 countries.

We have excluded event announcements for the Eureka events, the ITEA customer workshop and the PO Days from this overview. The same goes for news messages about these events on our partner websites.

A full press coverage overview can be found at: https://itea4.org/press-coverage.html

Appendix A.
Call statistics per year and per country

Call	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
ITEA 3 Call 1	47	257	341	312	105	11	-	-	-	-	1073
ITEA 3 Call 2	-	67	316	428	320	64	2	-	-	-	1198
ITEA 3 Call 3	-	-	105	364	400	264	6	1	-	-	1140
ITEA 3 Call 4	-	-	-	83	411	528	392	43	-	-	1456
ITEA 3 Call 5	-	-	-	-	40	288	366	309	71	-	1074
ITEA 3 Call 6	-	-	-	-	-	62	222	245	158	0	687
ITEA 3 Call 7	-	-	-	-	-	-	119	503	543	415	1579
AI Call 2020	-	-	-	-	-	-	75	122	113	31	341
Grand total	47	324	762	1188	1276	1217	1182	1222	885	446	8549

Table 3: Participation in Person Years per Call per year as of 31 December 2021. Effort based on latest FPP.

Call	AUT	BEL	CAN	DEU	ESP	FIN	FRA	KOR	NLD	POR	SWE	TUR	OTH	Total
ITEA 3 Call 1	20	53	12	146	67	3	177	85	222	-	40	138	108	1073
ITEA 3 Call 2	-	92	64	200	106	52	119	71	181	-	56	158	99	1198
ITEA 3 Call 3	29	72	102	208	98	69	49	28	168	37	83	136	63	1140
ITEA 3 Call 4	7	91	84	225	258	132	5	-	170	95	125	215	49	1456
ITEA 3 Call 5	12	21	67	11	107	307	5	23	203	65	64	139	50	1074
ITEA 3 Call 6	2	26	29	101	29	27	-	13	150	53	72	123	62	687
ITEA 3 Call 7	37	66	85	99	193	173	-	16	222	96	152	349	92	1579
AI Call 2020	-	-	-	70	8	98	-	13	55	10	-	72	16	341
Total ITEA 3	108	421	444	1060	864	861	354	249	1371	355	593	1330	539	8549

Table 4: Participation in Person Years per Call per country as of 31 December 2021. Effort based on latest FPP.

OTH (others) = Czech Republic, Cyprus, Denmark, Estonia, Great Britain, Hungary, Israel, Italy, Lithuania, Norway, Portugal, Romania, Singapore, Slovenia, Switzerland and Taiwan. NB: countries differ per Call.

Appendix B.
How to access the online data

The ITEA Community website (https://itea4.org/community) gives access to restricted information for the ITEA Community.

How to log in

The restricted ITEA Community website can be accessed at https://itea4.org/community. Your credentials for your ITEA account on the ITEA website – event registration, etc. – can also be used to access this restricted part of the website. An ITEA account can be created by clicking on 'Log in' and 'Create new account' in the top navigation bar. Your company email address is used as a unique identification.

Specific access rights determine what is visible on these Community pages for each person. Depending on these rights, the following data can be accessed:

- Project management and project documents – e.g. PO, FPP, progress reports and Change Requests.
- Evaluation and reviewing and all necessary documents – e.g. evaluation forms and review presentations.
- Meetings and binders.
- The ITEA calendar.
- General ITEA information – e.g. guidelines, templates and corporate identity.
- Contacts.

Glossary of terms

AI	Artificial Intelligence
AOP	Annual Operational Plan
B2B	Business to Business
BMBF	Bundesministerium für Bildung und Forschung
CC	Clusters Committee
CC SG	CC Support Group
CySAB	Cyber Security Advisory Board
DLR	Deutsches Zentrum für Luft- und Raumfahrt
DoA	Declaration of Acceptance
DSO	Distribution System Operators
DT	Digital Twin
e.g.	exempli gratia/for example
ECP	Eureka Clusters Programme
FedML	Federated Machine Learning
FPP	Full Project Proposal
FTE	Full-Time Equivalent
GIS	Global Innovation Summit
HLG	High-Level Group
HMDs	Head-Mounted Displays
ICT	Information and Communication Technology
ISO	International Organization for Standardization
ITAC	ITEA Authorities Committee
ITAC-WG	ITEA Authorities Committee Workgroup
JU	Joint Undertaking
KDT	Key Digital Technologies
KPI	Key Point Indicator
m	million
MAP	Multi-Annual Plan
ML	Machine Learning
MTTR	Mean Time To Repair
PA	Public Authority
PL	Project Leader
PO	Project Outline
PY	Person Years
Q&A	Questions & Answers
QMS	Quality Management System
RD&I	Research, Development and Innovation
SaaS	Software as a Service
SCAB	Smart City Advisory Board
SME	Small and Medium-sized Enterprise
STG	(ITEA) Steering Group
TC	Technical Contact
TRL	Technology Readiness Level
TSO	Transmission System Operators
UI	User Interface
UX	User Experience

ITEA 4

https://itea4.org

eureka

ITEA is the Eureka Cluster
on software innovation