ITEA Annual Report

2020 Full year report

1 January - 31 December 2020

ITEA 3

eureka
innovation beyond borders

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

Contents

About ITEA

ITEA is a transnational and industry-driven Research, Development and Innovation (R&D&I) programme in the domain of software innovation. ITEA is a Cluster programme of Eureka, an intergovernmental network for R&D&I cooperation involving 45 countries globally. ITEA is the home of software innovation, enabling a large international Community to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.

Our vision

In a rapidly changing society where societal challenges are omnipresent, digitisation is no longer an option but should be regarded as the 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 whereby development must be continuous. The more that digitisation is enabled, the more penetrative the transition becomes and the need for more solutions increases. 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 that 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 to bring society forward. ITEA encourages its global Community to create impact and value through R&D&I projects in the area of software innovation with the knowledge of industry and the support 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 the 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 the complex domains of confidentiality and intellectual property. ITEA is managed by and for industry in close cooperation with the national Public Authorities.
- **Project financing through national public and private funding:** The ITEA programme is publicly funded on a national level. Each ITEA project partner can apply for funding from their own national Public Authority (PA). An early dialogue between project teams and Public Authorities supports alignment with national priorities and the best possible opportunities for funding that lead 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, economy and society. Impact is central during the project lifecycle: in proposal evaluation, monitoring and closure and in communication of the results.
- **Focus on high-quality process 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 the project's impact. Each year, ITEA issues one Call for projects starting with a two-day 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 consortium. Besides these yearly ITEA Calls, ITEA may also participate in thematic Joint Calls with the other Eureka Clusters. During the lifetime of both ITEA Calls and joint Eureka Clusters Calls projects, ITEA provides full-cycle project monitoring and advice via senior expert feedback on progress reports and physical or online review meetings to improve the quality and value creation of projects. The ITEA Office has an ISO 9001 certified Quality Management System (by DEKRA).

Message from our Chairwoman

ITEA has a proven track record of its agility in continuous improvement to create impact in a rapidly changing society while keeping a high quality of service for its stakeholders based on their needs and requirements. The year 2020 will be remembered not only for the societal challenge of COVID-19 but also the birth of a brand-new Eureka instrument: the Eureka Clusters Programme (ECP). In 2020, ITEA managed to achieve a high performance during many challenging changes:

- Preparing and finalising the 'Impact Plan for ITEA *4 the Future*' with a new set of KPIs based on a commitment of economic impact
- Building impact via international collaboration in ITEA projects by publishing five new Impact Stories
- Changing the format of all ITEA events from physical to online while keeping a similar level of customer satisfaction
- Contributing and supporting the development of the ECP with committed and continuous efforts
- Joining the Eureka Clusters AI Call 2020, a new Call format with a strong contribution by our Community

During 2020, the preparations of ITEA 4 and the ECP developed in parallel by supporting each other in order to build a highly promising impact and quality programme for stakeholders through innovation via collaboration. ITEA also supported the ECP in building management bodies and defining new rules and regulations.

While preparing the future, it is always important to value the success of the past and to be aware of the challenges of the present. In 2020, five new Impact stories were developed on the basis of ITEA projects through which it is possible to witness of success of the ITEA Community:

- A worldwide standard – Distributed Co-simulation Protocol (DCP) – which is already creating economic impact for the automotive industry globally (ACOSAR)
- A book – 'Scaling a Software Business' – on a brand-new methodology for the digitalisation of industry, downloaded more than 16,000 times (SCALARE)
- A 3D multimodal pathology demonstrator, the first of its kind in the world, with a lot of impact in hospitals and for patients (3DPathology)

In addition to the innovation level, it is also possible to identify many HR capacity increases in the ITEA Impact stories and Success Stories as a result of ITEA projects.

As an impact of COVID-19, ITEA has proven its agility by changing its events to online while keeping an eye on the quality of these events. The International Customer Workshop has moved to a more distributed online format. The ITEA PO Days 2020 were extended from two to five days while moving from physical to online. Nevertheless, 77 projects ideas were presented in these Online ITEA PO Days. Customer events on Smart City and Cyber Security were changed to online workshops or panels as well.

Moreover, in 2020, a new form of collaboration was tested among Eureka Clusters via a new Joint Call type on AI: the Eureka Clusters AI Call. The ITEA Community reacted to this Call with high ambitions by submitting 27 Project Outlines.

While there are many rapid and radical changes in its environment, ITEA grounds its stability and success by continuously keeping an eye on its KPIs. Similarly, in 2021, ITEA will be agile and adaptive while

- finalising the preparations for ITEA 4 as a part of the ECP
- participating in ECP bodies to shape the future of the ECP
- continuing to open a bottom-up ITEA Call
- preparing the new rules and regulations for Call management in ECP
- continuing customer orientation in ITEA events
- keeping ITEA's high standards on Call size, kick-off time, new countries and new body members

While planning the future, it is critical to have challenging KPIs, as there are in ITEA. And these challenges keep the ITEA Community agile and responsive to any radical changes in its environment.

Building impact is our mission and, in 2021, I am sure that the ITEA Community – with the support of Public Authorities – will show its motivation and dedication to achieving this mission for the benefit of their industries and countries.

Have a good 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 2020, impressive impact on the economy, society 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 28 stories have already been created.

The innovations covered this year enable citizen participation, digital transition by scaling software capabilities, distributed co-simulation (for the automotive domain), a dynamic cyber-physical information ecosystem and same-day diagnosis and much more personalised treatment of cancer.

Discover below the highlights of two projects to inspire you. The other 2020 Impact stories can be found in section **4.1 ITEA Project impact** of this annual report and online via https://itea3.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.

C³PO Impact story

The ITEA project C³PO has found ways for city planners and designers to consult citizens throughout the urban transformation process and thereby give citizens a better say in urban developments. The aim of the project was to set up a common digital platform that connects all the tools for collaborative urban development.

Impact highlights:

- Thanks to the enhanced collaborative capabilities developed by Noesis in the C³PO project, aerospace and automotive engineers from different teams worldwide benefit from the possibility to share engineering workflows, data and knowledge related to common design projects, enabling them to improve product performance by 10% or more and save an average of over 30% in engineering time.
- For Studio Dott, the C³PO project gave access to a new market of citizen's involvement and this is reflected in a projected revenue growth of €1.7 m within 5 years.
- The resulting demonstrator TCAVE helps Barco to sell its 'Group VR' solutions to the market. Barco's annual revenue from this type of product is about €20 m. In addition, it will further help Barco in commercialising other solutions such as PowerWalls and CANVAS, the latter addressing a new market segment - the Architecture, Engineering and Construction (AEC) industry - where Barco expects annual growth of about 10% in the coming three to five years.
- The new solutions developed by Mantis in the C³PO project pushed up their annual revenue by almost 15%. The know-how has also been used in other projects after C³PO.
- Netcad developed Netigma and Netcad Digital Universe, which are marketed and sold in Turkey and the Middle East region, yielding a revenue increase of 30%. Netigma is used extensively by local authorities (1000+ municipalities).
- The project also supported FCG's expansion in three channels of its digital business: solution development, platform economy and SDK sharing. Between 2018-2022, this will result in an annual revenue growth of 5%. During C³PO, a computer scientist was hired who finalised his MSc in support of the project.

SCALARE Impact story

Most product innovations today are enabled through software components, so it is no surprise that software is the primary means of competitive differentiation. Software plays a key role in the digitalisation of many products. The required transformations are often driven by the technological evolution of products, systems or services as well as by how the business and the company are organised. The challenge taken up by SCALARE was how to support and enable organisations in scaling their software capability in a proactive, systematic way.

Impact highlights:

- SCALARE has enabled Husqvarna to make the digital transition, with its team of 4-5 software developers expanding to more than 160 people and enabling a 50% shorter time-to-market compared to 2016.
- For the Swedish consultancy company Addalot, the results of the SCALARE project led to the recruitment of 1 senior consultant working with new consultancy services and an increased revenue of approximately €150 k per year and growing.
- Thanks to SCALARE, Softhouse Consulting found a new way to enter the business arena, having been able to recruit 6 additional senior consultants working with new consultancy services and achieve an increased revenue of over €400 k per year.
- The book 'Scaling a Software Business', published at the end of November 2017 and freely available as open access under a Creative Commons license, had been downloaded 16,000 times by the beginning of 2020.
- Since the research studies conducted as part of the SCALARE project, researchers at the University of Limerick have developed this work further, which led to a prestigious 4-year research grant from Science Foundation Ireland.
- Together with open-source advocate Danese Cooper, who started the InnerSource Commons community, one of the SCALARE researchers co-authored a book on Inner Source, published by O'Reilly and freely available. The InnerSource Commons community has steadily grown since, with over 250 members representing a wide range of companies worldwide.

1.2. ITEA improvement priorities and results 2020

As part of our annual quality process, several important improvement priorities were defined in collaboration with the ITEA Board to keep the ITEA programme strong and aligned with its goals and the innovation landscape. Below, you can find the 2020 improvement priorities along with their current status.

1.2.1. Continue preparations for ITEA 4

The ITEA 3 label is valid until the end of 2021. In order to ensure a fluent continuation into a follow-up programme, the first Call for the new programme should open in the second half of 2021. To achieve this, first preparations started in 2018 and 2019, but preparations still needed to be done in 2020. The 'Impact plan for ITEA 4 the Future' has been set up along with the ITEA 4 KPIs and ambitions for the first four and eight years. The outline of the ITEA Technology Vision has been created and the legal documents are in a close-to-final state.

1.2.2. Participate in InterCluster and Eureka groups on shaping the future of the Eureka Clusters

The Dutch Eureka Chair has proceeded in its activities towards the development of a new Eureka Clusters Programme (ECP) in 2020. During the first half of 2020, all stakeholders collaborated to further develop the ideas on shaping the future of the Clusters. The Dutch Chair also initiated a Taskforce Future Cluster Instrument to transform the ideas about the future model into a concrete concept that will be feasible and match the needs of industry, the Public Authorities and Cluster organisations. This resulted in the concept of a Multi-Annual Plan (MAP) and an Annual Operating Plan (AOP). During the Eureka High Level Group meeting in June 2020, the new Cluster Guidelines and the new Eureka Clusters Programme were approved.

1.2.3. Prepare and execute a Joint Call on AI

One of the first new cooperation activities that took place between the Clusters in 2020 was the Joint Call on Artificial Intelligence (AI), which was executed in June. 41 project proposals were submitted to the Eureka Clusters AI Call. 27 of these 41 opted for ITEA as the (primary) Cluster. One project consortium chose ITEA as the secondary Cluster.

During the AI Consensus meeting on 2 November, the countries and Clusters that participated in the Joint AI Call aligned their positions and labels were subsequently granted by the Clusters' Boards. In total, 16 projects were labelled, of which 12 are ITEA projects. The total amount of budget for which applications have been submitted amounts to €162 m. The labelled projects account for more than 60% of this amount (€102 m). So far, the participating countries have allocated approximately €40 m for the Joint AI Call.

1.2.4. Increase customer orientation through ITEA events

Since 2019, we have linked our project exhibition to bigger and

more customer-oriented events to further increase customer orientation. As the participating ITEA projects were positive about this approach, we decided to participate in the Cyber Security & Cloud Expo 2020, which was planned to take place on 1 and 2 July 2020 in Amsterdam. The Expo was postponed to 25-26 November due to the COVID-19 pandemic and was finally transformed into an online event, reducing ITEA's participation to an online exhibitor profile and shifting our physical presence to next year's edition in November 2021.

The Smart City Expo World Congress (SCEWC) was also transformed into an online event. As this event did not correspond to ITEA's requirements, we did not participate in this year's event.

Next to these customer-oriented fairs in which ITEA will continue to participate, ITEA also organised a thematic Customer and End-User workshop. In 2020, this workshop was held online and was focused on the topic of cyber security. In section **4.2. ITEA Events**, you can discover more about this and other events that ITEA organised or actively participated in.

1.2.5. Continued efforts (including KPIs) on:

- **Impact stream:** We produced five new Impact stories in 2020: SCALARE, M2MGrids, C³PO, ACOSAR and 3DPathology. In addition, we created six new ITEA Success stories in 2020: BENEFIT, ACCELERATE, M2MGrids, SCALARE, ACOSAR and C³PO.
- **Press approach in combination with partners:** In 2020, we developed press releases in cooperation with the partners of the four ITEA award-winning projects. Although press coverage increased strongly, there were no publications in national high-quality newspapers. The ITEA PS-CRIMSON project was covered on Dutch television.
- **Expand the ITEA Board, BSG and STG:** As intended, we extended the ITEA Board by two companies in 2020; Esri Canada and NXP Semiconductors Germany joined the ITEA Board in September and November respectively.
- **Get the overall ITEA programme size back towards €110 m:** Based on concrete successes, we will continue to work with our industry partners and with the Public Authorities to improve the funding possibilities, both in the usual ITEA countries and in new countries. Since the last two Calls, the target for this KPI has been challenging. This may be related to the new and upcoming Eureka Clusters Programme and to national circumstances.
- **Reducing the time between idea and project start:** At the start of ITEA 3, our process has been defined to allow a time-to-project of 10 months from the Call opening (mid-September) via labelling (mid-March) to finalised funding decisions (June-July). Based on the funding programme schedule in countries, we have now set the target for the time-to-project at a still adequate and more realistic 12 months. Shortening and synchronising the decision timelines between countries is one of the ambitions of the new Eureka Clusters Programme.

1.2.6. High-level KPIs

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 ITEA Office meets the requirements of the new standard ISO 9001:2015. As part of this QMS, several high-level KPIs have been defined for ITEA. In 2020, ITEA achieved the following scores for these high-level KPIs:

Strategic Leadership	Target 2020	Realised 2020
Forecast for funded Call size ITEA 3 Call 6	› €110 m	€55-63 m
Time from project idea to project start in ITEA 3 Call 6	12 months	18 months (estimated)
Hit rate for ITEA 3 Call 5	› 75%	65%
Average quality of events (Online PO Days, Customer workshop)	› 3.7	3.8

Table 1: Results of ITEA high-level KPIs 2020.

In this Annual report, the sections **3.1 ITEA programme size, 3.2 ITEA Calls progress** and **4.2 ITEA events** give an explanation and more details on these KPIs and their values in 2020.

1.3 ITEA improvement priorities 2021

To keep ITEA at the forefront of innovation, the following improvement priorities have been defined for ITEA for the upcoming year:

1.3.1. Finalise preparations to launch ITEA 4 as part of the ECP

From July 2021, ITEA will no longer receive an 8-year Eureka label but will be part of the Eureka Clusters Programme, which has been designed to improve the Eureka Cluster performance and collaboration. As mentioned, the 'Impact plan for ITEA 4 the Future' was set up in 2020 along with the ITEA 4 KPIs and ambitions for the first four and eight years. The outline of the ITEA Technology Vision has been created and the legal documents are in a close-to-final state. A set of legal documents still has to be delivered for ITEA to be approved as a programme in the ECP. All documents need to be finalised before June 2021.

1.3.2. Participate in ECP groups that will shape the future of the Clusters

In an open innovation Community, there is a need for new knowledge, new players and new solutions. Active cooperation with other Cluster Communities, e.g. by designing extra thematical Calls based on the national priorities defined by Public Authorities, will engage this need and increase the innovation level and impact of all Clusters involved.
ITEA will strive to be at the heart of the new ECP and ITEA Body representatives will therefore participate in the ECP Clusters Committee (CC) and the CC Support Group.
Furthermore, the ITEA Office also participates in a set of working groups. In order to increase the visibility and awareness of Eureka and the separate Clusters, ITEA works closely together with the other Clusters, the Eureka Secretariat and a set of Public Authorities in several working groups that are preparing and shaping the different elements of the ECP. These consist of a broad range of items, such as Joint Evaluation methodologies, 1 and 2 stage Call processes and Branding & Communications. Joint actions related to the ECP are aligned through these topics. Additionally, ITEA and CELTIC-NEXT are jointly developing a common and integrated ICT system to support ECP-related activities and projects, for example for the Joint Eureka Clusters Calls for projects.

1.3.3. Continuation of ITEA bottom-up Calls in the new ECP

A unique asset of Clusters is the subject-free, bottom-up Call for projects, which allows the ITEA Community to propose innovation topics based on specific needs of their customers. This is an essential feature of the Eureka Clusters and contributes to the success and impact of ITEA projects. ITEA will continue to execute the bottom-up Calls alongside the Joint Eureka Clusters Calls that provide an additional opportunity to respond to national priorities and main industrial trends.

1.3.4. Preparing Joint Call rules and agreements, initiating the next Joint Call(s)

Joint Calls are new and will generate more collaboration between the Clusters as project partners may select multiple Clusters to work with. Clear rules and agreements shall be defined to create smooth processes for all stakeholders.

1.3.5. Continuation of customer orientation through ITEA events

Since 2015, ITEA has had a strong focus on customer orientation to improve the projects, their outcomes and the potential to create impact. We have created our own customer-oriented events and participated in customer-oriented fairs. In 2021, we will continue this customer orientation through our events by organising a Cyber Security Day, a Smart Energy customer workshop and a Smart City Day and by participating in the Cyber Security & Cloud Expo 2021. We will also explore possibilities to participate in the Smart City Expo World Congress 2021 and investigate potential additional events (e.g. on Smart Industry or Smart Engineering).

1.3.6. Continued efforts (including KPIs) on:

- **Achieving an ITEA Call 7 size of €110 m (excluding 2021 Joint Eureka Clusters Calls):**
  We will continue to work with our industry partners and with the Public Authorities to improve the funding possibilities, both in the usual ITEA countries and in new countries. For 2021, we set the target for Call 7 at €110 m.
- **Minimising the time between project idea and 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 project idea and project start has been confirmed by the participating ITAC members. The Eureka Joint Clusters AI Call can be considered a testcase to reduce this timeframe. Although ITEA 3 Call 7 is still effectuated under the ITEA 3 programme, we are already striving for improvements to this Call, 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 from new countries. The Joint Calls, where PAs also have a voice in choosing the subject, are a strong tool for attracting new countries and becoming familiarised 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 and then joined the 2020 ITEA PO Days.
- **Strengthening the press approach in combination with partners:**
  Over the past few years, ITEA has been working in collaboration with (award-winning) project partners to create press releases to promote the ITEA project results. This has resulted in a much higher coverage of articles on the internet. Through our experience in 2020, we saw that big technical universities have an especially broad reach; their articles are published all over the world. We therefore want to expand this approach and include the universities in it to a greater degree. In addition, we want to continue the approach we have now around the ITEA Awards of Excellence by setting up common press releases/news items with the winning project partners.
- **Expanding the ITEA Impact stream:**
  Our goal is to create at least 4 new Impact stories in 2021; in addition, we aim to produce 6 new ITEA Success stories.

2 Strategic activities on a European level

2.1. Positioning of ITEA in Europe

Eureka is an intergovernmental organisation for market-driven industrial R&D. It is a decentralised network facilitating the coordination of national funding on innovation aiming to boost the productivity and competitiveness of European industries. The network includes 45 countries in Europe and beyond. Following a bottom-up approach with projects in any technological area with a civilian purpose, Eureka has been the driving force of innovation in Europe for over 35 years.

As a Eureka Cluster Programme, ITEA was initiated by major industrial companies and a number of Eureka countries to support business-driven innovation in software innovation. Eureka Clusters are truly industry-driven, with Cluster projects defined bottom-up by industry, SMEs, research institutes and academia and financially supported by the national governments. Clusters use industry resources to evaluate and support collaborative projects with full involvement of the national Public Authorities. The Clusters form a dominant component in the Eureka portfolio, representing over half of the innovation supported by Eureka instruments.

Complementarity in the European R&D&I Funding Landscape.

The Eureka Clusters Programme (ECP)

During the Eureka High Level Group meeting in June 2020, the new Cluster Guidelines and the new ECP were approved. This new ECP will enable the Clusters to flexibly accommodate R&D&I cooperation on new and emerging thematic priorities of the countries. Next to the annual, bottom-up single Cluster Calls, there will be opportunities for thematical Joint Calls. These Joint Calls can be relevant to two or more Eureka Clusters. ITEA will cooperate with other Clusters in these Calls and collaborate on the organisation of related events.

Every four years, a Multi-Annual Plan (MAP) will be approved. The MAP sets out the commitment and obligations of the Public Authorities and the Eureka Clusters. The Public Authorities Committee (PAC) and the Clusters Committee (CC) agree on which R&D&I Communities can be integrated in the MAP as Eureka Clusters, what the expected funding level is and what the potential thematic areas for collaboration are. Furthermore, an Annual Operating Plan (AOP), which is based on the MAP, defines the areas in which (Joint) Calls will be organised each year and how much Public Authorities, industry, research organisations and academia want to invest.

The new ECP is scheduled to take off in mid-2021, when the first Multi-Annual Plan will be approved by the HLG.

Complementarity in the European R&D&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 strategic plan of the country within the global economy. 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 Digtial Technologies (KDT)-JU. Next to these initiatives, the Eureka Clusters, including the new Eureka Clusters Programme (ECP), have a unique position as they are an indispensable and agile tool in European industrial development thanks to e.g. the high flexibility in participation from countries beyond the EU and in the integration of new partners. Another strong asset of the Clusters is the market relevance as industry experts evaluate the projects. The individual advice and constructive exchange during the project set-up and evaluation lead to high efficiency, high-quality project applications, less effort and cost investment for all players involved and higher funding prospects. Thanks to the bottom-up approach, Clusters facilitate the realisation of national priorities through direct dialogue with national Public Authorities, while companies can realise long-term and continuous work on the topics that are important to them.

2.2. Eureka activities

ITEA is the Eureka Cluster on software innovation. In total, there are seven Eureka Clusters: apart from ITEA, there are CELTIC-NEXT (telecommunications), EURIPIDES² (smart systems), EUROGIA2020 (energy), Metallurgy Europe (advanced materials and manufacturing), PENTA (nano-electronics) and SMART (advanced manufacturing).

Representation at the Eureka level and cooperation between the Clusters are essential, so InterCluster meetings were organised every two months. In the 2019-2020 Eureka Chairmanship (the Netherlands), CELTIC-NEXT acted as InterCluster spokesperson. Due to the upcoming changes for the new Eureka Clusters Programme, this period was extended and CELTIC-NEXT remained InterCluster spokesperson until that role was distributed to a set of Cluster colleagues during the InterCluster Meeting of 8 December. ITEA has been assigned as the coordinator of the Cluster Committee Support Group until the right person for the Central Coordinating Function (CCF) for industry is found, assigned and ready to take this role in the name of industry.

During the Dutch Eureka Chairmanship, the first steps to shape the new future model for the Eureka Clusters instruments have been taken and this model, including the design of a transition plan, was further defined in 2020 together with all stakeholders.

The Dutch Chairmanship team organised the Eureka stakeholder event in 2019. In 2020, they did not organise a big Eureka event.

Since June 2020, Austria has held the Eureka Chairmanship position.

Austria set the following strategic priorities for 2020/2021:

1. **New Programmes - Advancing Eureka**
   - Increase the visibility and value of Eureka by celebrating its 35th anniversary
   - Ensure the successful launch and promotion of new Programmes and Calls

2. **New global collaborations - Open Eureka**
   Encouraging cooperation worldwide
   - Ensure Eureka's global outreach and encourage worldwide cooperation

3. **New forms of cooperation - Cooperative Eureka**
   Improving networking and services
   - Advance cooperation activities within Eureka's network and shape the future of a NEW Eureka
   - Enhance synergies with national and EU R&D&I instruments
   - Continue the necessary ESE restructuring

The Global Innovation Summit will take place from 18-20 May 2021. ITEA will participate in this event together with the other Eureka Clusters.

To strengthen our position and promote our results, ITEA participated in a few events together with other Eureka Clusters. Of course, due to COVID-19, the number of events was very limited:

- **Korea Eureka Day 2020, 24-25 November**
  Due to COVID-19, the Korea Eureka Day was postponed until 24 and 25 November. The event, which was supposed to take place in Seoul, was transferred to an online event. Most sessions concerned pre-recorded video messages. On behalf of ITEA, Office Director Jan Jonker recorded a video introducing ITEA and providing some numbers on the successful cooperation of Korean partners in ITEA projects. DANGUN project leader Myoungho Sunwoo from Hanyang University and Daesub Yoon from ETRI, partner in multiple ITEA projects, provided strong video testimonials to stress this successful cooperation in ITEA. On behalf of ITEA, Programme Officer Soo-Kyung Shin took part in the B2B matchmaking that was set up by EEN.

- **EFECS, 25-26 November**
  On 25-26 November, the digital European Forum for Electronic Components and Systems (EFECS) 2020 was jointly organised by AENEAS, ARTEMIS-IA, EPoSS, ECSEL Joint Undertaking, the European Commission and the Eureka Network. The event consisted of a conference programme and an online exhibition. ITEA was presented in the virtual Eureka booth (chat box) which was staffed by Nadja Rohrbach and Katie Shaw from the Eureka Secretariat. On behalf of ITEA, Zeynep Sarılar, Jan Jonker and Loes van den Borne participated in the virtual event.

3 Calls overview

3.1. ITEA programme size (status on 31 December 2020)

At the moment, ITEA 3 has 6 Calls running, the Joint Eureka Clusters AI Call 2020 was recently labelled and the 7th ITEA 3 Call is ongoing (submission deadline: 15 February 2021). 34 projects of the ITEA 3 programme have (recently) been completed, 37 projects are running and 11 projects are still waiting for final funding decisions, alongside the 12 projects submitted to ITEA in the Joint Eureka Clusters Call on AI. As for the funded Call sizes, ITEA 3 Call 2 has 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 with €106 m but the size of ITEA 3 Call 4 is back to a better level of €119 m. Due to the funding position of Germany and the delays in the funding decisions in general for Call 5, that Call has developed toward €88 m. The funding decisions for Call 6 are subject to delays and therefore only 6 out of the 20 labelled projects are now running. Due to a lack of funding in the main countries, 5 labelled projects have already been cancelled and a few more projects are likely to be cancelled because of this reason. All this makes it very challenging to give an accurate estimation of the final size for this Call. Taking everything that is now known into consideration, the Call size for ITEA 3 Call 6 is forecasted between €55 m and €63 m. As the Joint AI Call 2020 projects were only labelled in November, it is not possible to give a forecast about the size of this Call yet.

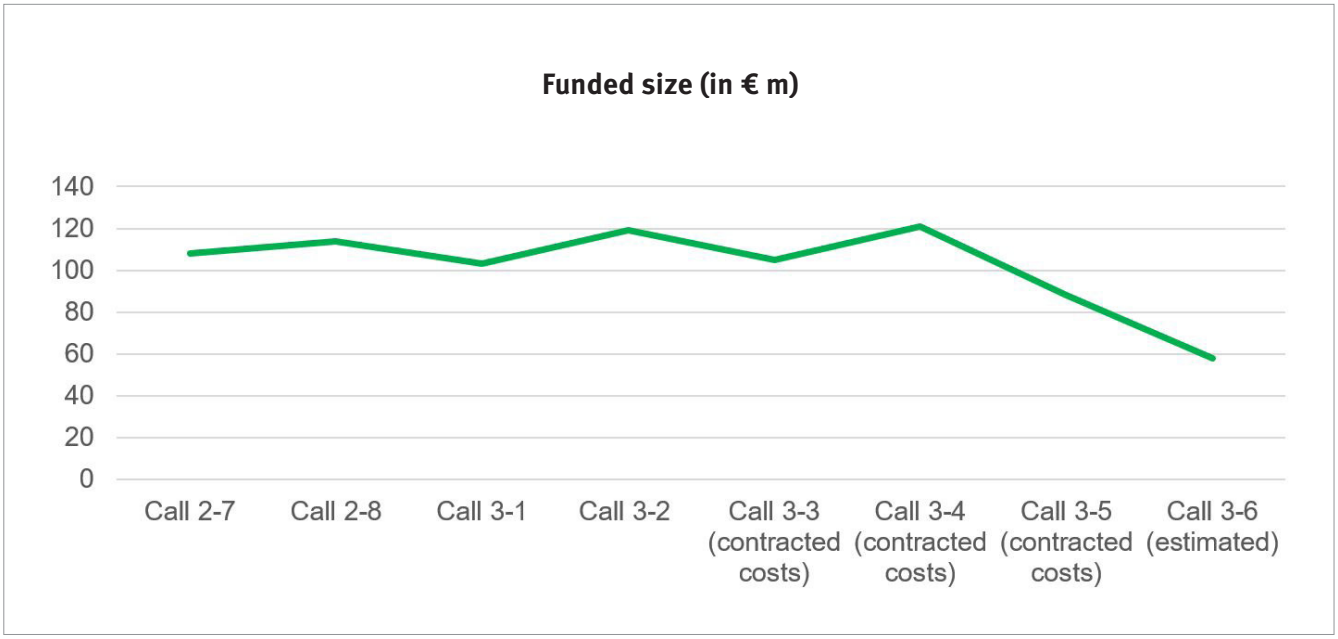


Figure 1: ITEA (estimated) funded Call size in million euros.

Since ITEA 3 Call 3, the funded Call size has been based on the Funding Contracts. These figures exclude the costs of partners that participate in the Call without any funding. For ITEA 3 Call 6, the figures are not clear yet. A good estimation taking several considerations into account is therefore given. More details about Call sizes per country and per year can be found in **Appendix A**.

3.2. ITEA Calls progress

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

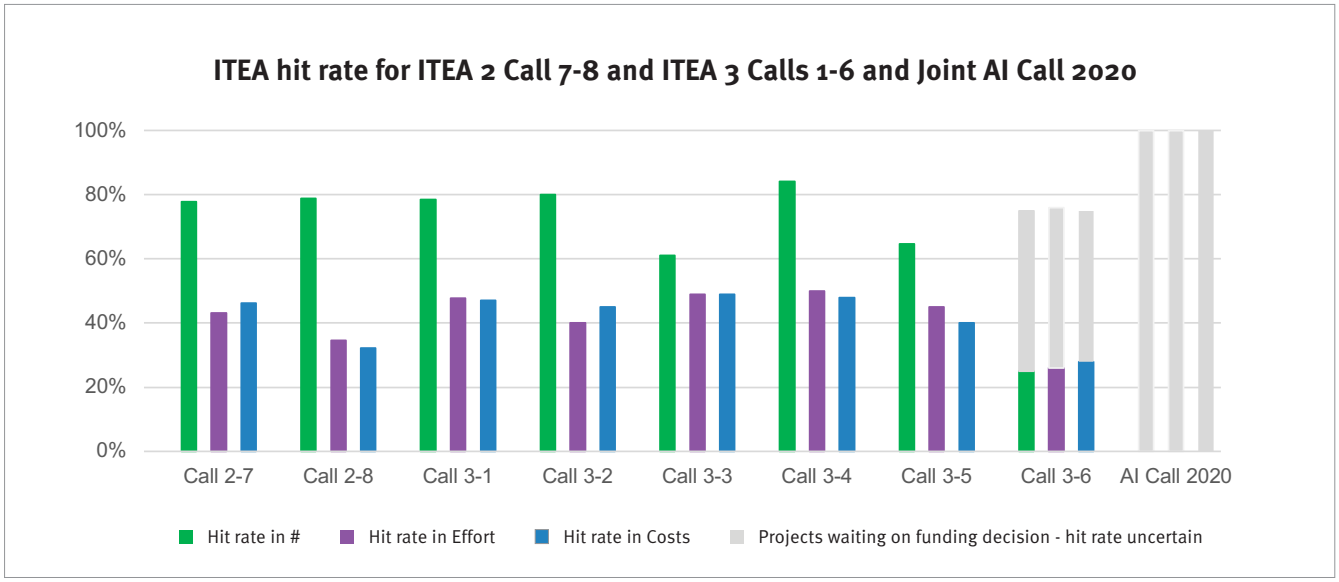


Figure 2: ITEA hit rates for ITEA 2 Call 7 and 8 and ITEA 3 Calls 1-6 and the Joint AI Call 2020 as of 31 December 2020. Figures based on latest FPP.

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 3 to 5 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 are now complete. Two projects from ITEA 3 Call 2 are still running, but they will both be completed in Q1 of 2021. For ITEA 3 Call 6 and the Joint AI Call 2020, there are still a lot of uncertainties. For ITEA 3 Call 6, a hit rate of 50-55% would be more realistic when we take into account everything that is currently known. For the Joint AI Call 2020, which was only labelled in November 2020, funding decisions have been made in most countries except for Finland. A precise hit rate cannot be calculated yet, since the projects are targeting to start around April – May 2021 as most funding contract procedures are still work in progress. Currently, approximately 30% of the project costs and effort has already been secured for projects that have chosen ITEA as primary Cluster thanks to positive national funding decisions. The hit rate will most likely increase considerably once the funding application results from Finland are known.

Two ITEA projects resulting from the Joint AI Call 2020, ESSENSE-AD and SensAI, will not continue due to the lack of funding and changes in the consortium.

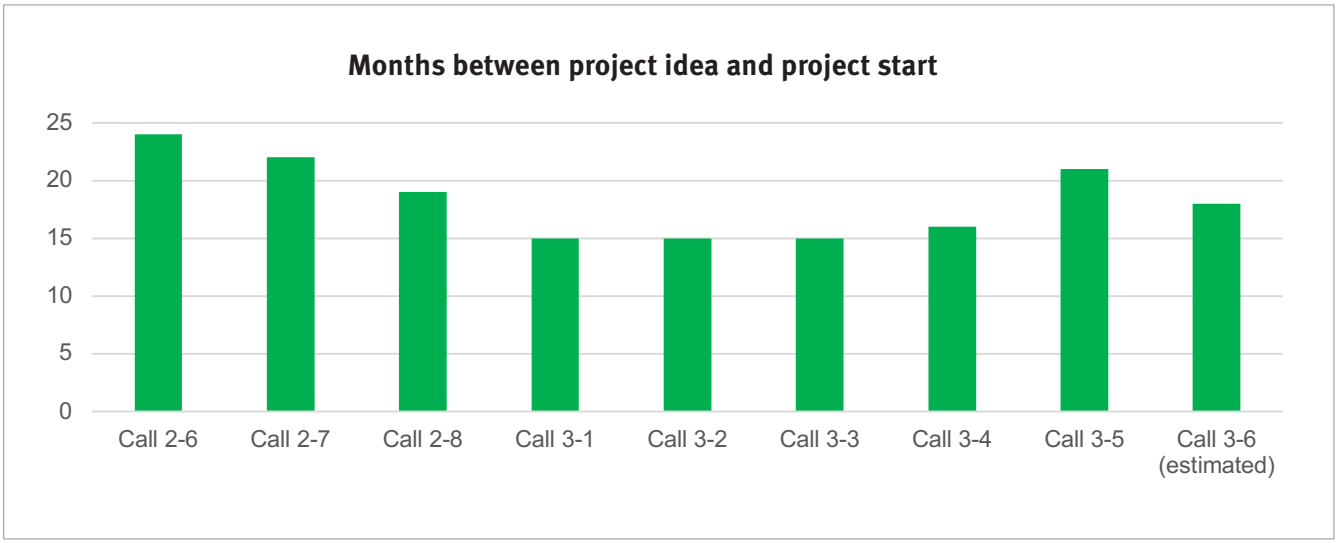


Figure 3: Time from ITEA project idea to project start (when >50% of the projects of the Call have started) from ITEA 2 Call 6 to ITEA 3 Call 6.

A quick start of 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 since ITEA 3 Call 3.

Due to several circumstances, 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 is even more than the previous Calls due to funding decisions in Germany and the changed situation in France. For Call 6, a longer time-to-project than average can be expected as well, possibly due to some changes to the new Eureka Clusters Programme, the extra Joint Eureka Clusters Call and internal reorganisations in some countries. At the end of 2020, less than 50% of the Call 6 projects had started, so it is only possible to give a good estimation of the months between idea and project start.

The current status of the ITEA projects is as follows:

	2020			2019		
	#	Effort in PY	Cost in € 100k	#	Effort in PY	Cost in € 100k
Labelled during the year	33	3350	3605	17	3064	2978
Running at end of the year	37	3943	3555	44	4788	4544
Waiting at end of the year	24	2389	2398	10	1834	1640
Completed during the year	16	1399	1376	13	1177	1213
Cancelled during the year	9	1213	1293	5	458	343

Table 2: Status of ITEA projects in 2020 and 2019 as of 31 December 2020 and 31 December 2019 respectively. Figures are based on labelled and latest FPPs. Note: these figures include the ITEA projects that resulted from the 2020 Joint Eureka Clusters Call on AI as projects become ITEA projects after labelling (once they indicate ITEA the main Cluster).

3.3. ITEA project landscape

To create innovation-driven growth, ITEA needs to focus on future markets and challenges posed by a fast-changing world in which 'smart' is the key concept. At present, there are seven main societal challenges that the ITEA Community addresses. The figure below shows the distribution per Call of the ITEA projects across these challenges.

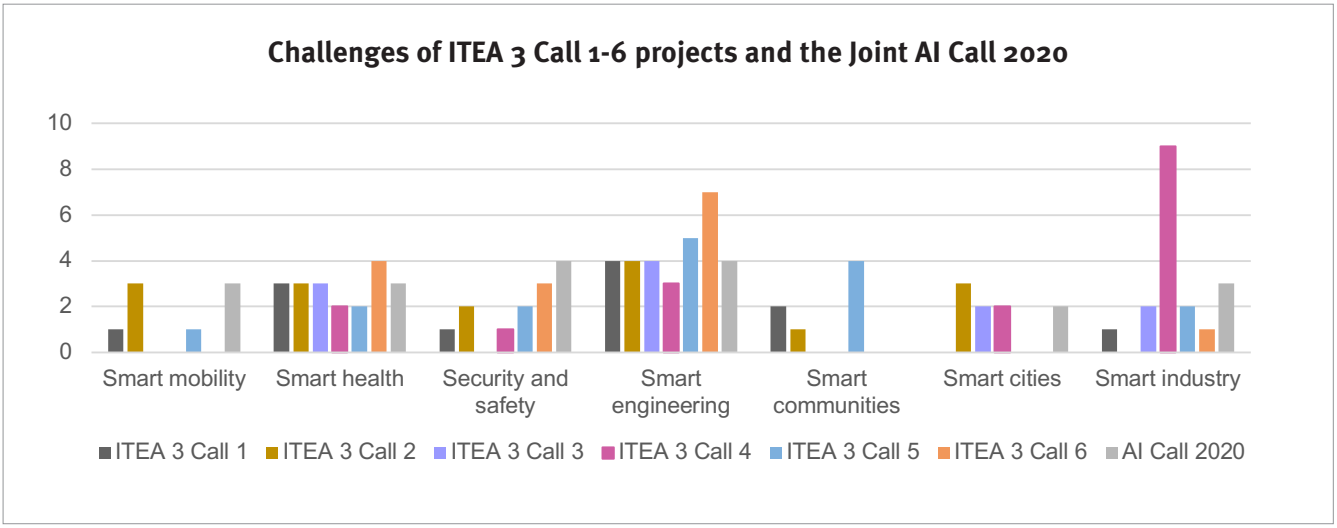


Figure 4: Number of ITEA 3 and the Joint AI Call 2020 projects per ITEA challenge.

3.4. New projects - ITEA 3 Call 6

The sixth Call of ITEA 3 delivered 22 submitted FPPs, ultimately resulting in 20 labelled ITEA projects involving 2708 PY and 19 countries. Once again, SMEs played a crucial role in the ITEA Community with more than 1314 Person Years (PY) in total. The presence of large industrials is also vital to ITEA's ongoing success, having provided 710 PY as well as opportunities to increase the impact of the SMEs in terms of global reach and scaling up for the market.

As mentioned above, due to some delays in the funding decisions, it is expected that the size of several Call 6 projects will be reduced. The labelled projects OMDS, Phoenix, AIDOS, EFICAS and ACASIA were already cancelled during the year due to a lack of funding in the main countries.

The themes arising from this Call are:

Theme	ITEA 3 Call 6 projects
Smart engineering	AIToC, COMPAS, DEFAINE, e-INDEX, Muwo, UPSIM, VMAP analytics
Smart health	D4Health, INNO4HEALTH, HARMONY, LifeStylePre
Safety and Security	EnGRC, Orchestrator, STACK
Smart industry	MIRAI

A short description of each project can be found below:

AIToC – 19027

Artificial Intelligence supported Tool Chain in Manufacturing Engineering

Project leader: Volvo Group Trucks Operations (Sweden)

The goal of AITOC is to develop an integrated toolchain for manufacturing engineering that supports decision-making in early phases. To achieve this, the toolchain will support the formalisation and automated analysis of requirements, the computer-aided generation of process plans, simulation models and instructions and the software-supported generation of layouts. In all these dimensions, Artificial Intelligence will be utilised in expert systems and simulations based on data from existing solutions. The interoperability of engineering tools is also in focus and will be developed using standardised neutral data formats.

https://itea3.org/project/aitoc.html

COMPAS – 19037

Compact modelling of high-tech systems for health management and optimization along the supply chain

Project leader: NXP Semiconductors (the Netherlands)

High-tech systems integrate numerous highly complex components. Simulations are necessary at various stages of their design process to ensure mechanical robustness and reliability. COMPAS aims to develop novel, compact models and ultra-compact digital twins. The compact models capture nonlinear, transient and coupled (i.e. multi-physics) situations. The digital twins can self-sufficiently cast decisions (ultimately in real time) for prognostic health management. COMPAS will develop them using the example of the thermo-mechanical reliability of high-tech systems, such as motor control units for automated factories, smart infrastructures (streetlights, power grids) or autonomous vehicles.

https://itea3.org/project/compas.html

D4Health – 19041

Data-driven decision-making for distributed healthcare

Project leader: TNO (the Netherlands)

The D4Health project will tackle situations in which decision-makers are confronted with complex strategic decisions in the healthcare infrastructure domain. The project aims to gather and bring together datasets that represent the underlying mechanics (demographics, epidemiology, healthcare productivity figures, real estate capacity, ...) and make them interoperable as linked data. Using this data and knowledge rules that are elicited from domain experts, a dashboard can be created that enables decision-makers at various levels to study scenarios.

https://itea3.org/project/d4health.html

DEFAINE – 19009

Design Exploration Framework based on AI for froNt-loaded Engineering

Project leader: ParaPy BV (the Netherlands)

European players are being forced to explore new product development approaches that can drastically reduce lead times. DEFAINE will deliver a Design Exploration Framework to reduce recurring costs in the design of aircraft and wind energy systems and the lead times for design updates. The framework will enable the effective exploitation of the front-loaded product development approach in combination with Artificial Intelligence. Front-loading can significantly reduce the inefficiencies of the current engineering approach by enabling large-scale design exploration at the beginning or even before the start of a project.

https://itea3.org/project/defaine.html

e-INDEX – 19020

Electricity Intelligent Demand-Side- and Energy-Management Exchange

Project leader: RISE Research Institutes of Sweden (Sweden)

Demand-Side Management (DSM) enables the adjustment of loads in the grid to ensure a balanced operation while simultaneously optimising the utilisation of resources in the electrical power system. Today's DSM systems are limited to local energy grids and the load-balancing solutions within the local grid itself. A larger roll-out of the same idea can be achieved by utilising mathematical planning and machine learning methods. e-INDEX proposes a more holistic level of data integration and decision-making spanning a large-scale, inter-regional connection.

https://itea3.org/project/e-index.html

EnGRC – 19044

Development of Cyber Security Maturity Model and GRC Platform for Energy Sector

Project leader: Karya Bilişim Ltd. Şti (Turkey)

Cybersecurity in the energy sector is a big challenge for countries and organisations. The goal of the EnGRC project is to (1) define a relevant cyber security maturity framework, (2) develop a Governance, Risk and Compliance (GRC) platform to apply the defined framework with the contribution of all stakeholders and (3) process IT and OT data from stakeholders and provide cyber security benchmark information to energy sector authorities on a utilisable business intelligence platform.

https://itea3.org/project/engrc.html

HARMONY – 19019

Harmonizing IT-eco-systems providing a seamless workflow while integrating multi-vendor applications

Project leader: Barco (Belgium)

HARMONY will create a harmonised IT ecosystem, providing healthcare professionals with real-time, comprehensive insights into patients' statuses while integrating all relevant information for diagnosis, treatment selection and follow-up. The project's main innovation is the ability to compose disease-centric workflows through the vendor-agnostic, seamless integration and interoperability of all relevant applications along the care path. This can be considered a revolution as the care professional (e.g. doctor) can use a single, easy-to-use IT system when performing his/her work.

https://itea3.org/project/harmony.html

INNO4HEALTH – 19008

Stimulate continuous monitoring in personal and physical health

Project leader: Philips Electronics Nederland BV (the Netherlands)

Incorporating Remote Patient Monitoring (RPM) in chronic disease management can significantly improve an individual's quality of life. INNO4HEALTH aims to stimulate innovation in continuous health and fitness monitoring in order to inform patients and their physician on their readiness regarding surgery and the ability to recover rapidly from invasive treatment. In sports, the same technology will be used to continuously assess fitness and health in order to provide information to athletes and their coaches and to help them optimise their performance during competitions.

8 https://itea3.org/project/inno4health.html

LifeStylePre – 19023

AI-Enabled Solutions for LifeStyle and Health Interventions

Project leader: University of Oulu (Finland)

The WHO reports that non-communicable diseases (e.g. cardiovascular diseases, cancer, chronic respiratory diseases and diabetes) cause 71% of all deaths globally. Up to 40% of NCD deaths could be prevented, so there is a clear need for individual-centric, technology-based and evidence-based approaches to early detection and structured care. LifeStylePre combines insights from preventive health settings and clinical research. The resulting solutions will be designed to enable personalised lifestyle advice and compliance monitoring for at-risk subjects with the aim of preventing or delaying the onset of irreversible disease burdens.

https://itea3.org/project/lifestylepre.html

MIRAI – 19034

Machine Intelligence for smart/sustainable planning/operation of IoT/ Edge computing applications

Project leaders: NOS Inovação (Portugal)

The standard approach of IoT applications when leveraging cloud infrastructure to address constraints at the level of end and edge nodes is no longer viable, especially for applications with hard real-time requirements and increasing AI usage. This project will develop MIRAI Framework Building Blocks (MFBB) based on AI techniques in order to enable the smart and sustainable planning and operation of IoT and edge computing applications. This will supplement the traditional vertical scaling approach to the cloud with the horizontal scaling of IoT and edge computing applications amongst edge devices.

https://itea3.org/project/mirai.html

Muwo – 19022

Multi-method workspace for highly scalable production lines

Project leader: ACD (Turkey)

Muwo aims to create an opportunity to use production systems more effectively through flexible scaling. Scalability is achieved by the development of smart hardware interfaces. This will allow workstations to advance to multi-method workstations that support both manual and automated processes. Additionally, workstations can combine different processes. A transmutable simulation validates the workstation configuration and a process combiner optimises the production configuration using AI/ML methods. Through this, Muwo improves the design and operation of production systems.

https://itea3.org/project/muwo.html

Orchestrator – 19039

Artificial Intelligence Based Network Operation Center Orchestration

Project leader: Cekino Savunma Elektronik ve Bilisim A.S. (Turkey)

Orchestrator aims to develop an AI- and ML-supported network monitoring, management and cyber security platform. The main focus is on the monitoring and management of highly dynamic, large-scale hybrid networks, as well as ensuring the cyber security of such networks by employing AI- and ML-based solutions for acting against emergent attacks at machine speed. The Orchestrator platform will revolutionise the experience for security analysts by providing proactive capabilities via automated remediation actions against cyberattacks based either on Robotic Response or Cognitive Response.

https://itea3.org/project/orchestrator.html

STACK – 19045

Smart, Attack-Resistant Internet of Things Networks

Project leader: RISE - Research institutes of Sweden (Sweden)

The goal of STACK is to let IoT networks maintain their functionality in both benign environments and more challenging situations, such as when IoT networks are under attack or exposed to harsh radio environments and cross-technology interference. Solving these challenges will enable a new class of IoT applications that provide a certain Quality of Service (QoS), even when under attack. Our major innovations towards this goal include more robust IoT communication, attack detection and mitigation by performance and interference monitoring and smart algorithms that leverage a tight integration of IoT devices with a smart edge.

https://itea3.org/project/stack.html

UPSIM – 19006

Unleash Potentials in Simulation

Project leader: Virtual Vehicle Research GmbH (Germany)

Nowadays, simulation is used for design space exploration, virtual testing or predictive maintenance for supporting early-stage product decisions. Most importantly, real testing is ultimately used to assure product quality and certification. The aim of UPSIM is to enable companies to safely collaborate on simulations in a repeatable, reliable and robust manner and to implement simulations in a Credible Digital Twin setting as a strategic capability in order for them to become an important factor in quality, cost, time-to-market and overall competitiveness.

https://itea3.org/project/upsim.html

VMAP analytics – 19007

Smart Analytics for Multi-Scale Material and Manufacturing Modelling

Project leader: Swerim (Sweden)

Many companies have already introduced Digital Twins. However, if producers of advanced materials and complex parts need a more detailed look into the ongoing manufacturing processes and changing material properties, they will not find solutions today. The vision of VMAP analytics is to enable the realisation of smart Digital Twins for materials and manufacturing design tasks. The VMAP interface standard will open the initial VMAP standard for multi-scale models, sensor and measurement data and information from production machines. VMAP analytics will provide an open ontology for engineering processes in materials and manufacturing design.

https://itea3.org/project/vmap-analytics.html

3.5. New projects – Joint Eureka Clusters AI Call 2020

Next to the 'usual' single Cluster Calls, the first Joint Eureka Clusters Call on Artificial Intelligence (AI) was organised in 2020, as the Eureka Clusters CELTIC-NEXT, EUROGIA, PENTA-EURIPIDES and ITEA, perceived a common cross-domain interest in developing, adapting and utilising emerging AI within and across their focus areas. The aim of this Call was to boost the productivity and competitiveness of European industries through the adoption and use of AI systems and services.

The Joint Eureka Clusters AI Call 2020 attracted a lot of interest; at the deadline on 15 June, over 40 project proposals had been received, of which 35 indicated ITEA as the main Cluster and another had ITEA as a secondary Cluster. As 8 proposals were not eligible, 28 were evaluated with a total of 1448 Person Years, resulting in 12 labelled AI projects from 15 different countries with ITEA as the main Cluster and 1 with ITEA as a secondary Cluster. The labelled projects are currently submitting their national funding applications. Due to the lack of funding and changes in the consortium, the projects ESSENSE-AD and SensAI will not continue.

The main themes arising from the ITEA projects in this Joint AI Call 2020 are:

Theme	Eureka Clusters AI Call 2020
Smart engineering	AMPlify, ASIMOV, EFICAS, IML4E
Safety and Security	AIS²afe, IML4E, Spectralligence
Smart health	RoboNimbus, SHERPA, Spectralligence
Smart industry	AISSI, AMPlify
Smart mobility	AIS²afe, SHERPA
Smart cities	AIDEMS, AI4PV (ITEA as secondary Cluster)

Some projects have multiple challenges.

A short description of each project can be found below:

AIDEMS - 20201

AI-Enabled Demand Side Management for Energy Sustainability

Project leader: RISE - Research institutes of Sweden (Sweden)

Renewable electricity networks are strained by the increased demand for high-power charging and the volatility of renewable sources. Demand Side Management (DSM) is a framework that addresses this challenge through information sharing, integrated planning and smarter decision-making across the network. However, DSM implementation suffers from data integration, security and standardisation problems. AIDEMIS' objective is to power DSM platforms with new data models and machine learning algorithms that balance finding optimal solutions (that account for greater parts of the network) with search tractability.

https://itea3.org/project/aidems.html

Secondary Cluster: EUROGIA

AIS²afe - 20214

AI for Safety and Security Assurance of Automated Vehicles

Project leader: RISE - Research institutes of Sweden (Sweden)

Companies are currently investing more in IT cyber security and cyber security management than in cybersecurity software for vehicles. However, regulatory initiatives are driving Europe to become a first mover in these domains. There is a great need to upskill safety engineers, produce (cyber)security talent and improve the knowledge and cooperation between firms as well as safety and security engineers. AIS²afe addresses this through innovative measures for integrating the safety and security disciplines by developing AI technology and methodologies and tools targeting AI technology.

https://itea3.org/project/ais2afe.html

Secondary Cluster: CELTIC-NEXT

AISSI - 20212

Autonomous Integrated Scheduling for Semiconductor Industry

Project leader: Robert Bosch GmbH (Germany)

Digitalisation is driving increased demand for microchips and shortening the product lifecycle and the high variety of customer-specific devices is leading to a growing need for high-mix low-volume (HMLV) semiconductor production. The AISSI project proposes sourcing, developing, integrating and applying novel AI-based approaches. By applying reinforcement learning and knowledge graphs in a continual improvement framework for autonomous, integrated production and maintenance scheduling, competition can be outperformed in terms of efficiency, cost-effectiveness and quality.

https://itea3.org/project/aissi.html

Secondary Cluster: PENTA-EURIPIDES

AMPlify - 20220

AI Modelling Platform

Project leader: Software AG (Germany)

For many years, industrial system builders have been collecting product and process data in different formats and tools, but the full potential benefits are often neither analysed nor correlated and utilised. There is a widespread imbalance in the supply and demand of qualified AI experts in industry, which challenges today's technological development. The AMPlify project will create an AI Knowledge Portal to provide guidance on the application of available AI solutions and platforms and support in finding available experts to make AI tools and algorithms applicable and more end-user friendly.

https://itea3.org/project/amplify.html

ASIMOV - 20216

AI training using Simulated Instruments for Machine Optimization and Verification

Project leader: Thermo Fisher Scientific (the Netherlands)

With the rise of high-tech cyber-physical systems (CPS) in all areas of industry and society, the user-friendliness and up-times of these systems are becoming increasingly important. Keeping the control parameters of CPS in their correct operating window is a particularly large challenge, such as in electron microscopy, unmanned utility vehicles and pulp & paper process control. ASIMOV will increase the autonomy and self-optimisation of CPS by creating physically realistic Digital Twins of these systems and training innovative AI algorithms for CPS control using these Digital Twins.

https://itea3.org/project/asimov.html

Secondary Cluster: PENTA-EURIPIDES

EFICAS - 20229

Energy Efficient Heterogeneous AI-Platform for Smart Mobile and Embedded Systems

Project leader: Siemens AG (Germany)

Essentially all mobile applications are severely power limited, which blocks huge business cases. Increasing functional complexity in mobile and autonomous applications impacts the computational load by increasing the power demands of embedded platforms. EFICAS introduces a generic and scalable software platform supporting the energy-efficient deployment of AI algorithms on the multicore heterogeneous computation technologies. It supports all technology solutions, including localised and distributed computation settings as well as cloud offloading. It addresses resource allocation at runtime and hybrid coherent operation with optimised task allocation at design time.

https://itea3.org/project/eficas.html

IML4E - 20219

Industrial Machine Learning for Enterprises

Project leader: Fraunhofer FOKUS (Germany)

Smart software solutions including AI and machine learning (ML) have shown a great potential to automate processes that were not accessible to automation. Since AI and ML differ from classical software development regarding fundamental activities and processes, it is unclear how AI and ML can be integrated into existing industrial-grade software development processes. Addressing the industrialisation of ML development and operations, the IML4E project will develop the IML4E framework, covering methods, techniques and tools dedicated to delivering and maintaining high-quality smart software in efficient, scalable and manageable processes.

https://itea3.org/project/iml4e.html

RoboNimbus - 20231

Smart Platform for Robot Management and Coordination with AI powered Cloud

Project leader: BYS GRUP Bilişim Sistemleri Danişmanlik Ticaret ve Sanayi (Turkey)

Robots are transforming automation processes across all industries. As robot technologies improve, robots become increasingly capable and cheaper, incentivising their use in ever more sophisticated processes. To capitalise on this trend, the RoboNimbus project envisions an AI-powered, cloud-based, all-in-one robot management platform that will allow the user to connect, monitor, control and maintain robot fleets with ease. RoboNimbus will leverage state-of-the-art technologies including IoT, Cloud Computing, Virtual Reality, Augmented Reality and Predictive Maintenance to create a truly futuristic robot management platform.

https://itea3.org/project/robonimbus.html

SHERPA - 20206

Smart Human Centered Automation for Professional Applications

Project leader: Philips Medical Systems Nederland (the Netherlands)

In various professional and safety critical applications, collaboration between the user and the machine is crucial for the correct and safe execution of tasks, such as in medical imaging equipment and vehicles. The user is part of the closed loop of the system, but information overload and complexity often lead to fatigue, stress or confusion, resulting in errors, safety issues or accidents. The SHERPA project will develop AI-based solutions to assist and automate system operation and make complex Human-Machine Interaction in medical and automotive applications more intuitive.

https://itea3.org/project/sherpa.html

Secondary Cluster: PENTA-EURIPIDES

Spectralligence - 20209

Spectral Analysis in life sciences and materials sciences through Artificial Intelligence

Project leader: Philips (the Netherlands)

Molecular and Atomic Spectroscopy is a well-established set of technologies that use the electromagnetic spectrum to generate unique fingerprints of molecular structures, with a broad set of applications in chemistry, medicine and environmental and safety services. A significant reduction in dependence on human experts is necessary to bring novel technologies to fruition for ever expanding opportunities. The Spectralligence project aims to demonstrate that cross-domain-validated Neural Networks for spectral analysis (leveraging innovations in micro-electronics and component miniaturisation) can significantly accelerate market growth and technology adoption.

https://itea3.org/project/spectralligence.html

In addition, there was one project that chose ITEA as a secondary Cluster:

AI4PV - 20233

Artificial Intelligence for Operation and Maintenance of PV Plants

Project leader: EDP N.E.W. R&D – Centre for New Energy Technologies (Portugal)

The Paris Agreement has defined the targets to limit global warming to 1.5° with a massive contribution by renewable energy. Industry has been working to improve the performance of photovoltaic (PV) systems, but unsolved challenges remain concerning reliability and robustness, hindering a lean integration in the electrical system. In this context, the main goals of the AI4PV project are to reduce LCOE and increase the operational performance of PV plants through the hybrid use of physical models, AI and Digital Twins.

https://itea3.org/project/ai4pv.html

Main Cluster: EUROGIA

4 Operations

To enable the ITEA stakeholders to get the most out of the ITEA programme and to promote the ITEA programme in the best way, there are several operational actions carried out by ITEA. In this section, the details about the main operations achieved in 2020 are reported.

4.1. ITEA Impact stories

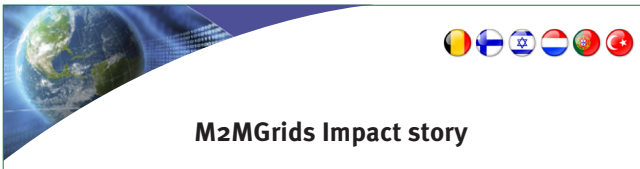
As indicated in section **1.1 ITEA project impact**, one of our main activities was to promote the incredible results of the ITEA projects. Because of this, the Impact stream grew to 28 strong Impact stories in 2020. Two examples, C³PO and SCALARE, were already shown to inspire you. Here, you can continue your journey with 3 additional ITEA Impact story highlights. The full stories can be read online: https://itea3.org/impact-stream.html.

ACOSAR Impact story

The development of vehicles has become increasingly complex, involving over 50 different suppliers who need to ensure that all components, parts and devices work together. Co-simulation methodologies and the interoperability of simulation tools and infrastructure were introduced, but there was no standardised way of integrating distributed simulation and test environments. The ACOSAR project aimed to accelerate development steps with new simulation technologies.

Impact highlights:

- Since July 2018, the main and most sustainable project outcome - the Distributed Co-simulation Protocol (DCP) - has been developed as a Modelica Association Project (MAP) and is available as an open-access international standard.
- International technology leaders such as AVL, Volkswagen and Boeing are already applying this solution.
- Competitors and non-funded partners collaborated in this project because of its importance.
- A prominent German sports car manufacturer reports that over 13,000 developer days could be saved in the next five years thanks to this developed protocol, which corresponds to a value of around five to seven million euros. This prominent German sports car manufacturer represents less than 1% of the market share of car manufacturers, clearly showing the huge impact the ACOSAR project results can have in the automotive domain.
- The international partner network of Virtual Vehicle Research GmbH now consists of 30 national and 50 international industrial partners (OEMs, Tier 1 and Tier 2 suppliers as well as software providers) as well as 18 national and 30 international scientific institutions.



M2MGrids Impact story

The M2MGrids project aimed to create enablers for a dynamic cyber-physical information ecosystem that would interoperate in real time with the business processes of companies and real-life objects, people and things. M2MGrids focused on major disruptions in targeted energy and mobility domains.

Impact highlights:

- The World Wide Streams (WWS) horizontal service platform developed by Nokia Bell Labs can already be considered an enabler of 20-30% higher business growth in application-enabling Digital Value Platform (DVP) projects for these segments worldwide.
- For Tracker, the commercialisation impact estimation of the M2MGrids project including device and related services sales was about €3 m in 2020. The development is essential to Tracker's growth and four persons were employed permanently even after the project, with market share potentially increasing in the future.
- Slimmer AI developed machine learning knowledge on short-term energy consumption, reducing forecasting timeframes from daily to 15-minute horizons (called nowcasting) within M2MGrids. Slimmer AI expects to employ up to 10 colleagues within three years on the basis of this M2MGrids technology.
- LiveU has opened significant market opportunities, having won a tender for the next Olympic games with the Japanese police department and also having collaborated with Associated Press on a new live video exchange newsgathering platform: AP Live Community, an app based on M2M.
- Several new research opportunities were identified during the project and these have led to the preparation of EU-wide research and national co-innovation projects, including INTERRFACE (flexibility markets), TIoCPS (trustworthy communities), iFLEX (end-user perspective for flexibility markets) and OneNet (scaling of flexibility market mechanisms).

3DPathology Impact story

Many years ago, the pathology process was digitalised by capturing glass slides with a scanning device to provide a high-resolution digital image. More recently, these digital images became increasingly accurate in order to render 3D shapes of objects. Organs structures and contents were already revealed with 3D distribution, but this was not yet the case for tissues. 3DPathology created a 3D digital pathology solution for same-day diagnosis and much more personalised treatment of cancer.

Impact highlights:

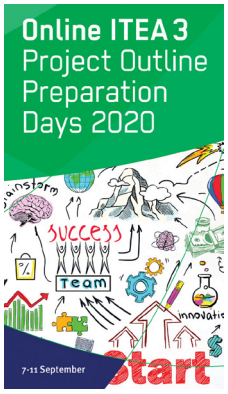
- A 3D multi-modal pathology demonstrator, the first of its kind in the world, enables unique features such as access to the microscopic organisation of tissue sub-structures in 3D, providing complete chemical information and access to unexplored dimensions of histology.
- The Academic Medical Center of the University of Amsterdam reported a 10% reduction of re-occurrences/ readmissions; the cost for a typical re-occurrence/ readmission for bladder cancer diagnostics is €2 to 3k every 6 months.
- Barco has already sold several hundred optimised display systems worldwide that address a variety of pathology lab needs and, in the next few years, Barco is expecting a large increase in sales of display systems for Digital Pathology.
- Slimmer AI combines the AI-based image analysis line with its Natural Language Processing developments to form the PoC version of an innovative data room tool in co-creation with a launching customer. This tool might become Slimmer AI's next product, leading to a 20 FTE spin-out within 5 years.
- Philips has been given FDA clearance in the US to market its IntelliSite Pathology Solution for primary diagnostic use there.

These Impact stories were also covered in long-read ITEA Success stories in the ITEA Magazine and on the ITEA website: https://itea3.org/success-stories.html.

4.2. ITEA events

One of the other main operations was the organisation and attendance of events. In 2020, we (co)organised the following events:

4.2.1. Online ITEA Project Outline Preparation Days 2020 – ITEA 3 Call 7



On 7 September, ITEA 3 Call 7 opened with the Online ITEA PO Days 2020, which was held from 7-11 September 2020. As it was not possible to get together with the ITEA Community, the ITEA PO Days were organised online this year, spread over five days. Over the event, four live webinars were organised covering the established programme elements of the annual PO Days, including the introduction to the Online ITEA PO Days 2020, instructions and a Q&A, the ITEA Awards of Excellence ceremony and the closing final results and conclusions. National priorities and eligibility criteria were presented by Public Authorities in dedicated online information sessions and during each of the five days there was room to discuss project ideas in online workgroup sessions and shape them into initial project proposals.

A total of 77 project ideas were presented via the ITEA Project Idea Tool, online posters and video pitches. The high number of online workgroup sessions gave our Community members the chance to meet online, start shaping a consortium and further develop the ideas towards successful Project Outlines. A record number of 338 participants from over 20 countries joined the online event, with the highest participation coming from Turkey, the Netherlands, Germany and Canada, but countries like Korea showed a strong increase in participation as well this year. In addition to established participants from previous years, the Online ITEA PO Days 2020 were able to attract 51% newcomers, which shows the openness of the Community once again. We were very pleased to welcome Singapore for the first time.

Online ITEA PO Days 2020 in numbers

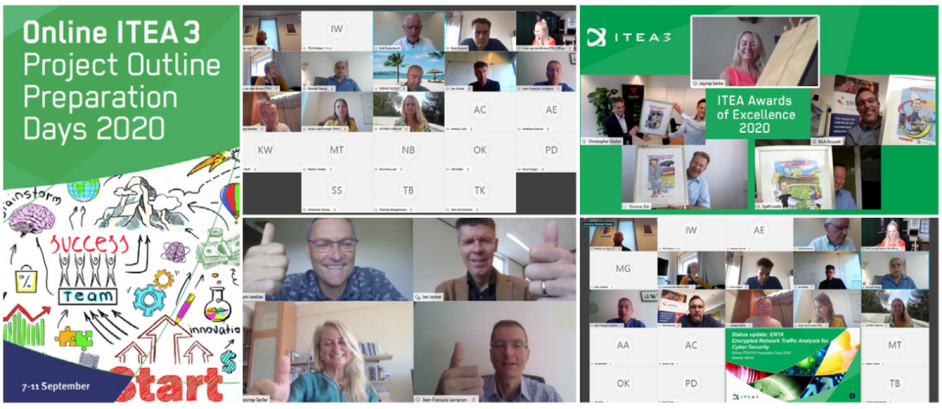
- A record number of 338 participants from 20 countries
- 77 project ideas uploaded in the Project Idea Tool before the event
- 77 project ideas presented in the online poster tool
- 15 video pitches presented in the online pitch tool
- 79 online workgroup sessions held
- 18 final project idea presentations

The project ideas were clustered by 7 societal challenges: Safety and Security, Smart cities, Smart communities, Smart engineering, Smart industry, Smart health and Smart mobility. Although each challenge was well-covered, the number of Safety and Security project ideas was remarkably high (24), showing the impact again of this year's ITEA International Customer Workshop on this topic. As in previous years, Smart health (15), Smart engineering (13) and Smart industry (10) remain important topics for the ITEA Community as well. Although a Joint Eureka Clusters AI Call had already been organised in June earlier this year, AI remains a big topic in ITEA 3 Call 7, covered by 27 out of 77 ideas.

As in the past few years, there was again strong participation from the Public Authorities. Finland, Germany, the Netherlands, Spain, Sweden and Turkey organised an interactive 'country information session'. Furthermore, Austria, Belgium, Canada and Korea recorded a video presentation explaining their national priorities, eligibility criteria and funding outlook. The involvement of all these Public Authorities was highly appreciated by the Online ITEA PO Days 2020 participants.

On 1 September 2020, Jean-François Lavignon became the new ITEA Vice-chairman, succeeding Philippe Letellier, who held the position since 2008. These Online ITEA PO Days 2020 were also an excellent opportunity to welcome and introduce Jean-François to the ITEA Community.

During one of the webinars of the Online ITEA PO Days 2020, best practices were shown by four ITEA projects that received the 2020 ITEA Award of Excellence. They presented their impressive outcomes, impact and advice for future project leaders in an interactive online panel session moderated by departing ITEA Vice-chairman Philippe Letellier. This year's award winners were ENTOC, Flex4Apps, MOS2S and PS-CRIMSON.



Online ITEA PO Days 2020 impression.

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 evaluations and suggestions for improvements and, with a 3.5 score on a 5-point scale (where 3 is good and 4 is very good), the online event was well-appreciated.

The Online ITEA PO Days 2020 created new opportunities in the sense that attendees did not need to travel and be away from the office for multiple days. This resulted in a higher number of participants from both Korea and Canada and a higher number of participating countries in general. The general view expressed by the participants was that the online event was successful, but spontaneous encounters and interactions were sorely missed. Face-to-face meetings make a stronger contribution to shaping a consortium and developing ideas towards a successful project proposal.

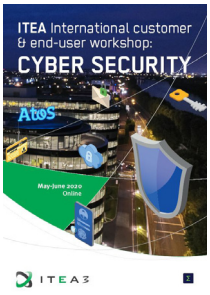
As Greet Bilsen of the Katholieke Universiteit Leuven aptly stated: "Both formulas have their advantage; the online formula makes it easier to prepare and jump into the relevant sessions (losing less time), whilst the physical event allows for 'unexpected' contacts and discussions."

By the deadline of 10 November, 35 Project Outlines had been submitted with a total effort of 3967 Person Years. On 11 December, 25 out of the 35 submitted Project Outlines with a total effort of 3319 PY were invited to submit a Full Project Proposal (deadline: 15 February 2021).

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

4.2.2. ITEA international customer and end-user workshop on Cyber security

For the sixth time, ITEA organised the ITEA international customer workshop, which took place in May and June 2020 and was co-organised with Airbus, Atos, Bosch and KoçSistem. Originally, this event was scheduled for 29-30 June, kindly hosted at the Atos



headquarters in France. However, due to COVID-19, it was not possible to organise a physical meeting and the event was therefore transformed into online sessions in which Atos still provided strong support.

On 28 May, a one-hour kick-off webinar was organised to explain the new set-up and process. This kick-off supported an understanding of the different tools available to brainstorm and push project ideas.

As early as mid-May to mid-June, customers were invited to one or several interactive online panel sessions of 1.5 hours together with a set of other customers who have similar challenges. Videos of these sessions and background information on all participants were made available to all customer workshop participants and in particular to the technology providers.

For this customer workshop on Smart Cyber security, we gathered representatives from:

Customers:	Amadeus, Amsterdam UMC, AVL List, Axens, Eczacıbaş Building Products Group | Vitra, Empower, Ericsson, Ford Otosan, IOC, Koçfinans, Orange, PAL Robotics, Siemens Mobility, Signify, Yapi Kredi Bank
Contributors:	French Ambassador for Digital Affairs of the Ministry of Europe and Foreign Affairs
Industry:	Airbus, Atos, Bitdefender, Bittium, Bosch, ENEA, KoçSistem
SMEs:	CMD, Cosmian, Decknet, Difenso, ERSTE Software Limited, Genode Labs, ICTerra, IOTIQ, iSecurity, Labris Networks, MedVision360, Mondata, PICUS, SecureKey, Starflow, ThinkON

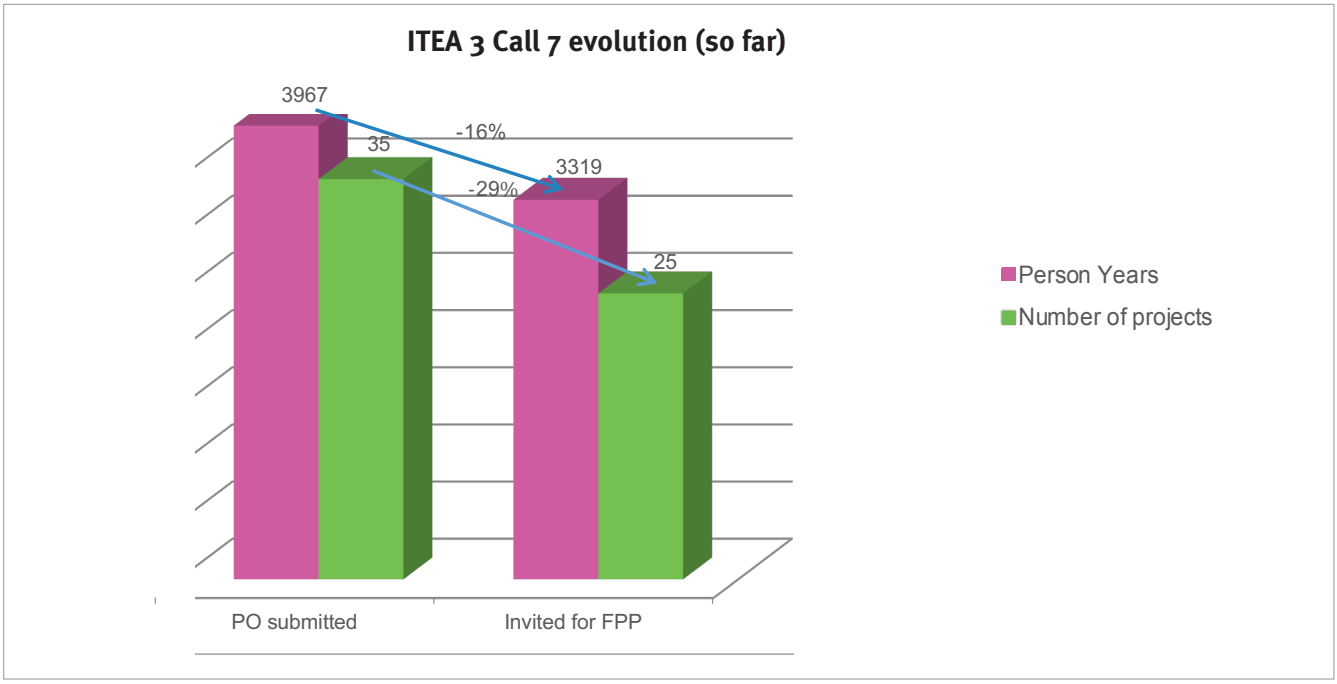


Figure 5: ITEA 3 Call 7 evolution (so far).

The topics/challenges discussed in-depth during the different sessions were:

- Building trust
  - Maturity model to trust a company
  - Cybersecurity quality assurance
  - Risk awareness

- Collaborative security
  - 'Bubble of security'
  - Methodology to define classification of information for protection
  - Cooperation framework even with different security maturity levels

- Digital territories
  - Notion of 'territory to protect' in cyberspace
  - Procurement value chain

A full report of the customer workshop is available at: https://itea3.org/publication/download/itea-cyber-security-customer-workshop-final-report.pdf

At the Online ITEA PO Days in September 2020, 22 project ideas related to cyber security were presented. This ultimately resulted in the submission of six cyber security Project Outlines (some of the project ideas merged into one Project Outline) related to the customer workshop out of 35 in total. Four of these six were invited to submit a Full Project Proposal (FPP).

ITEA international customer and end-user workshop on cyber security 2020 impression.

4.2.3. Smart City Digital Business Event: The Road to Smart City Live

On 2, 9 and 16 November, the Smart City Digital Business Event was organised. This event was The Road to Smart City Live, which was organised as an online equivalent of the Smart City Expo World Congress.

ITEA was very pleased to again team up with the Nordics and the Netherlands to organise this business event that focused on developing the innovation system within Europe and connecting people and organisations in an early stage of developing solutions for city challenges. And with over 900 registrations coming from 65+ countries and over 40 workshops, this online event proved to be a good substitute for the physical event in which ITEA participated last year.

During this event, which was spread over three Mondays, ITEA and its project partners organised five workshops focusing on Safety and Security in the city, ITEA as a Smart City R&D&I platform, the integration of IT developments in a Smart City and the City of the Future. Furthermore, project leaders who are preparing a Smart City-related Project Outline for ITEA 3 Call 7 had the chance to present their project to further strengthen their consortia. Next to the workshops, participants had ample opportunity for online B2B matchmaking.

Next year, we hope to be able to join the Dutch and the Nordics again in the organisation of a physical Smart City Business Event in Barcelona.

4.2.4. Cyber Security & Cloud Expo 2020

In 2020, ITEA intended to participate with 10 R&D projects in the Cyber Security & Cloud Expo that was supposed to take place on 1-2 July. The event was postponed to 25 and 26 November and then transformed into an online event. ITEA was mentioned as one of the platinum sponsors of this event and was offered an exhibitor profile on the online platform, where we promoted a set of short project videos to show the participants which solutions ITEA projects can provide for their challenges. You can find the full video here: https://vimeo.com/482976176

Next to the mostly pre-recorded online sessions, the event also provided an online B2B matchmaking tool to organise online one-to-one meetings.

Our physical participation has shifted to next year's event in November 2021.

4.2.5. External events and activities to promote ITEA

During 2020, the Presidium and the ITEA Office representatives also attended various additional external events and meetings to promote ITEA. Highlights included:

- **HiPEAC interactive workshop on collaboration enhancement - Brussels (16 January)**
  On 16 January, HiPEAC organised the workshop 'CPS Technology Uptake & Innovation'. Charles Robinson, former ITEA MERgE project leader and member of the HiPEAC steering committee, invited ITEA to contribute to this workshop. Jan Jonker participated in this workshop to introduce ITEA.

- **Connecting South Korea and Denmark - video conference (27 March)**
  KIAT and Innovation Fund Denmark (Innofond) hosted a video conference to promote the Danish-Korean collaboration, especially Eureka's Advanced Materials and Green Transition Call (Material Call) and ITEA. The video conference consisted

of a short introduction to the event, where ITEA was also introduced, and multiple parallel pitch sessions.

- **Kids Digital Health Virtual Launch Event - video conference (2 April)**
  Chairwoman Zeynep Sarılar and Vice-chairman Philippe Letellier were invited by Panacea Gaming Platform project leader Robyn Woods to take part in the virtual launch event of the Kids Digital Health™ platform. This virtual event featured speakers from Canada, the USA, Belgium, South Korea, France and Turkey, showcasing the importance of global, collective action when it comes to the future of digital health. Experts brought their global perspectives to topics ranging from research, engagement, technology and data to clinical validation, accessibility, safety and international collaboration. Zeynep Sarılar and Philippe Letellier stressed the importance of international collaboration and R&D incentives and informed the audience about the opportunities the ITEA programme can offer.

- **NRC IRAP Canadian Collaboration Pilot Program Cyber security Workshop - video conference (4-5 June)**
  Vice-chairman Philippe Letellier was one of the keynote speakers at the Canadian Collaboration Pilot Program - Cyber security Workshop, which was held on 4-5 June. This virtual workshop was part of an NRC IRAP pilot programme to promote and facilitate domestic and international R&D collaborations between Canadian SMEs, beginning with the cyber security sector. The main topics were:
  - Key Canadian cyber security technology development
  - Perspectives on cyber security from leading large enterprises and university experts
  - The value of collaborative R&D projects to SMEs
  - Government programme support for collaborative R&D projects
  - Domestic and international collaborative R&D opportunities

- **KIAT - ITEA Meeting - video conference (27 August)**
  The goal of this meeting was to strengthen the participation of Korea in ITEA and increase the opportunities of collaboration between Korea and ITEA. As a result of this meeting, we participated in the Korea Eureka Days on 25 November, during which Jan Jonker presented the ITEA Cluster and the possibilities for organisations to participate. Future developments within the Eureka environment and the impact for ITEA and the Eureka Clusters were also discussed. The new ECP was considered as a beckoning perspective for Korea within ITEA.

- **ANI - ITEA Meeting - video conference (26 November)**
  On 26 November, a meeting took place with Portugal to discuss the opportunities to strengthen the cooperation between ITEA and Portugal. This is especially interesting as Portugal will take over the Eureka Chairmanship from Austria in mid-2021. Portugal aims to select several topics during its chairmanship and keeping in close contact with Portugal could be of importance in order to e.g. anticipate potential Joint Call topics and activities that may be developed for the next Annual Operating Plan under the Portuguese Eureka Chairmanship. A possible topic could be space-based Earth observation, for which GIS and software systems play an important role in innovation.
  Portugal has been a partner of ITEA since the beginning of ITEA 2. The involvement of Portugal in ITEA will be highlighted in the ITEA Magazine to be issued in March 2021.

- **(Re)new(ed) interest from Israel and Singapore**
  Besides the aforementioned meetings, there have been positive meetings with both Israel and Singapore as well. During the last four months of 2020, several online meetings took place to promote ITEA in different countries. Both new and already involved countries showed a (renewed) interest in participation in the ITEA Community. There is a renewed interest from the Israeli Innovation Agency to explore and exploit the opportunities for Israeli companies on topics such as Smart cities, Smart energy and sustainability. We are happy to mention that Israel has joined the ITAC WG for Public Authorities involved in ITEA.
  Furthermore, there has been contact with Singapore, which is considering a partnership with Eureka. Singapore showed a specific interest in Artificial Intelligence and joined the first Joint Eureka Clusters Call that was focused on this topic. Besides this, Singapore also participated in the ITEA PO Days for the first time.

4.3. ITEA stakeholder satisfaction surveys

The different stakeholders of ITEA together create the strong ITEA Community that forms the central axis 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 this information, ITEA conducts several surveys each year.

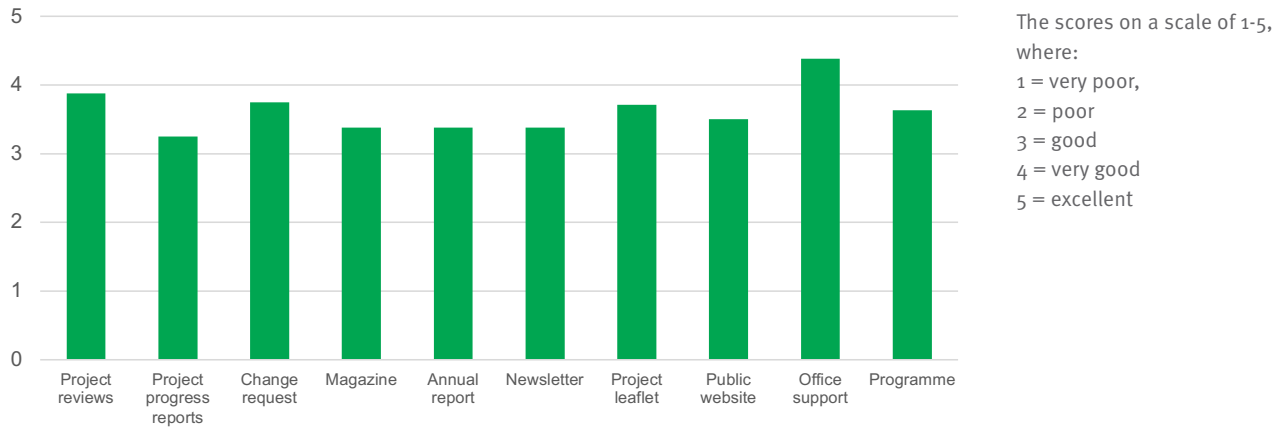


Figure 6: Results Project leader satisfaction survey 2020.

- **Project leader satisfaction survey**, sent to the project leader after completion of the project, covering all the different processes of a project and the different elements of the ITEA programme. The results per topic are shown in the figure above. Based on the feedback received in 2019, the Change request process has been analysed and improvements were implemented in January 2020. This resulted in an increase of the score from 3.2 to 3.8 (where 3 = good and 4 = very good).

- **PO submission survey** (ITEA 3 Call 7), 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 3.86 (compared to 4.11 in 2019). Technical contacts and others gave a score of 3.82 (compared to 3.72 in 2019). The lower satisfaction level of the PO leaders was mostly due to the fact that project partners were not able to meet in person due to the COVID-19 pandemic, which complicated the coordination of the proposal.

- **FPP submission survey** (ITEA 3 Call 6), 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 a record score of 4.25 (out of 5.0) from FPP leaders and 3.88 from the technical contacts.
  Based on the submission process surveys, several improvements have been made:
  - All work package-related chapters have been removed from the PO stage
  - Work package descriptions are now fully online
  - More guidance for online data entry is provided

- **ITEA event surveys**, sent to all participants of an event:
  - *ITEA International Customer Workshop on Cyber Security 2020:*
    After a year of slightly decreased appreciation (3.72 out of 5.0), the 2020 event was well-appreciated again. Although the event was held online, participants were satisfied with the remote sessions and gave the workshop 4.08 out of 5.0. In addition, every respondent could see opportunities resulting from the workshop.
  - *Online ITEA PO Preparation Days 2020:*
    This year, the PO Days scored 3.5 out of 5.0, which was a relatively low score compared to 3.9 in 2019. The ITEA PO Days 2020 needed to be organised online due to the COVID-19 pandemic. The online set-up limited the (one-to-one) networking possibilities, which is an improvement action for 2021 if the PO Days should be held online again. All plenary sessions were valued equally to previous years; an online session is quite similar to a physical plenary session.

- **Eureka Impact Assessment 2020**, sent to all project leaders and technical contacts of projects that finished in 2019. According to this survey, all projects achieved their objectives and 75% contributed to the development of technical standards. On an organisational level, 82% of the respondents indicated that their organisation was able to successfully achieve its intended goals in the project; the remaining 18% indicated that they partially achieved these. In addition, 95% indicated that the project had an R&D&I/technical impact for their organisation in terms of patents, pilots, demonstrators and scientific results. The added value of the international cooperation to their project was rated 81 on a

scale of 100. Finally, improvement suggestions were made to better align funding decisions/budgets, to create shorter Call templates and to create more discussion opportunities around technologies.

Results of each survey are discussed within the ITEA Office and issues are solved 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.

4.4. ITEA press coverage

In 2020, ITEA and its projects were mentioned several times on external websites and in press publications. Thanks to the collaboration with TNO, Sirris, NXP, Daimler and all ITEA project partners of PS-CRIMSON, the coverage strongly increased in 2020. The PS-CRIMSON news item issued by the Technical University of Eindhoven was particularly well picked up. In addition, Elekta Unity (a result of the SoRTS project) is a continued success, appearing in the press on a regular basis.

In total, there were 81 publications written by 69 different bureaus from 14 different countries.

We have excluded announcements of 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 is available at:
https://itea3.org/press-coverage.html

Appendix A

Call statistics per country and per year

Call	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
ITEA 3 Call 1	-	-	47	257	341	312	105	132	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	529	392	35	-	-	**1449**
ITEA 3 Call 5	-	-	-	-	-	-	83	418	495	387	54	-	**1437**
ITEA 3 Call 6	-	-	-	-	-	-	-	241	633	637	409	-	**1920**
Joint AI Call 2020	-	-	-	-	-	-	-	-	253	296	277	17	**843**
Total ITEA 3	**0**	**0**	**47**	**324**	**762**	**1187**	**1319**	**1528**	**1781**	**1355**	**740**	**17**	**9060**

Table 3. Participation in Person Years per Call per year as of 31 December 2020. Effort based on latest FPP.

Call	AUT	BEL	CAN	DEU	ESP	FIN	FRA	KOR	NLD	NOR	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	-	83	136	100	**1140**
ITEA 3 Call 4	7	91	82	222	267	132	5	-	165	-	124	211	144	**1449**
ITEA 3 Call 5	12	21	103	11	209	382	37	23	202	-	97	197	142	**1437**
ITEA 3 Call 6	13	61	103	198	101	221	15	13	348	-	161	455	230	**1920**
Joint AI Call 2020	11	22	31	235	8	113	-	19	145	-	74	147	37	**843**
Total ITEA 3	**92**	**412**	**497**	**1221**	**854**	**973**	**402**	**240**	**1431**	**0**	**636**	**1442**	**860**	**9060**

Table 4. Participation in Person Years per Call per country as of 31 December 2020. Effort based on latest FPP.

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

Appendix B

How to access the online data

The ITEA Community website gives access to restricted information for the ITEA Community.

The restricted ITEA Community website can be accessed at https://itea3.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 e-mail 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; and
- contacts.

Appendix C

Glossary of terms

3D	Three-dimensional
AEC	Architecture, Engineering and Construction
AG	Aktiengesellschaft
AI	Artificial Intelligence
AOP	Annual Operating Plan
B2B	Business-to-Business
BSG	(ITEA) Board Support Group
CC	Clusters Committee
CCF	Central Coordinating Function
CPS	Cyber-Physical Systems
DCP	Distributed Co-simulation Protocol
DSM	Demand Side Management
DVP	Digital Value Platform
e.g.	exempli gratia (for example)
ECP	Eureka Clusters Programme
EEN	Enterprise Europe Network
ESE	Eureka Secretariat
EU	European Union
FDA	Food and Drug Administration
FPP	Full Project Proposal
FTE	Full-Time Equivalent
GIS	Geographic Information System
GRC	Governance, Risk and Compliance
i.e.	id est (that is)
IoT	Internet of Things
IRAP	Industrial Research Assistance Program
IT	Information Technology
ITAC	ITEA Authorities Committee
k	kilo
KPIs	Key Performance Indicators
LCOE	Levelized Cost of Energy
m	million
M2M	Machine-to-Machine
MAP	Multi-Annual Plan and Modelica Association Project
MFBB	MIRAI Framework Building Blocks
ML	Machine Learning
MSc	Master of Science
NCD	Non-Communicable Diseases
NRC	National Research Council Canada
OEM	Original Equipment Manufacturer
OT	Operational Technology
OTH	Others
PA	Public Authority
PO	Project Outline
PoC	Proof of Concept
PV	Photovoltaics
PY	Person Years
Q&A	Question and Answer
QMS	Quality Management System
QoS	Quality of Service
R&D	Research & Development
R&D&I	Research, Development and Innovation
SCEWC	Smart City Expo World Congress
SDK	Software Development Kit
SMEs	Small and medium-sized enterprises
STG	(ITEA) Steering Group
VR	Virtual Reality
WG	Working Group
WHO	World Health Organisation
WWS	World Wide Streams

ISO Country codes

AUT	Austria
BEL	Belgium
CAN	Canada
DEU	Germany
ESP	Spain
FIN	Finland
FRA	France
KOR	Republic of Korea
NLD	Netherlands
NOR	Norway
SWE	Sweden
TUR	Turkey

ITEA Office
High Tech Campus 69-3
5656 AG Eindhoven
The Netherlands

Tel: +31 88 003 6136
info@itea3.org
https://itea3.org

@ITEA_3
Group: ITEA 3