ITEA Magazine

July 2022 – Number 42

Country focus:
Belgium

ITEA Success stories:
ENTOC & MOS2S

ITEA PO Days 2022
& Family reunion

ITEA 4

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ITEA 4

ITEA is the Eureka Cluster on software innovation

eureka

Dear ITEA Community,

What is the main ingredient of innovation?

While walking through the pages of this magazine, reading inspiring success stories of the projects MOS2S and ENTOC, impressive growth of an SME FEops, or the Community Talk with Olivier Biot, the same question continued to echo: What makes these journeys impactful?

There are many hints in each page such as international collaboration with innovative partners, trustful support from Public Authorities, open-minded customers sharing urgent needs of their industry and ambitious industrial researchers taking courageous steps into the unknown.

The common denominator of all these journeys is the human factor. The magic of innovation needs people with a high level of knowledge, devoted to finding the best solutions possible (beyond the state of art), with a creative mind to tackle any challenge with an optimum solution, and with a warm and trustful heart that is ready to collaborate. I would like to thank each ITEA project leader and project partner of for their initiative.

Also, I would like to thank each Public Authority that supports ITEA projects. Without their support and their belief in ITEA projects, these projects would not be able to fly and the impact of these projects would not become real.

Because ITEA focuses on impactful and innovative results, it is practically critical to have a notion of the market while preparing and managing projects. This is the reason we emphasise customer orientation for project ideas and having a market value chain in a consortium. It is also highly recommended to have exploitation strategies and market research during ITEA projects. Therefore, I want to share my gratitude to the end-users that join ITEA projects. Without their guidance, projects results would not be as ready as they are for the market.

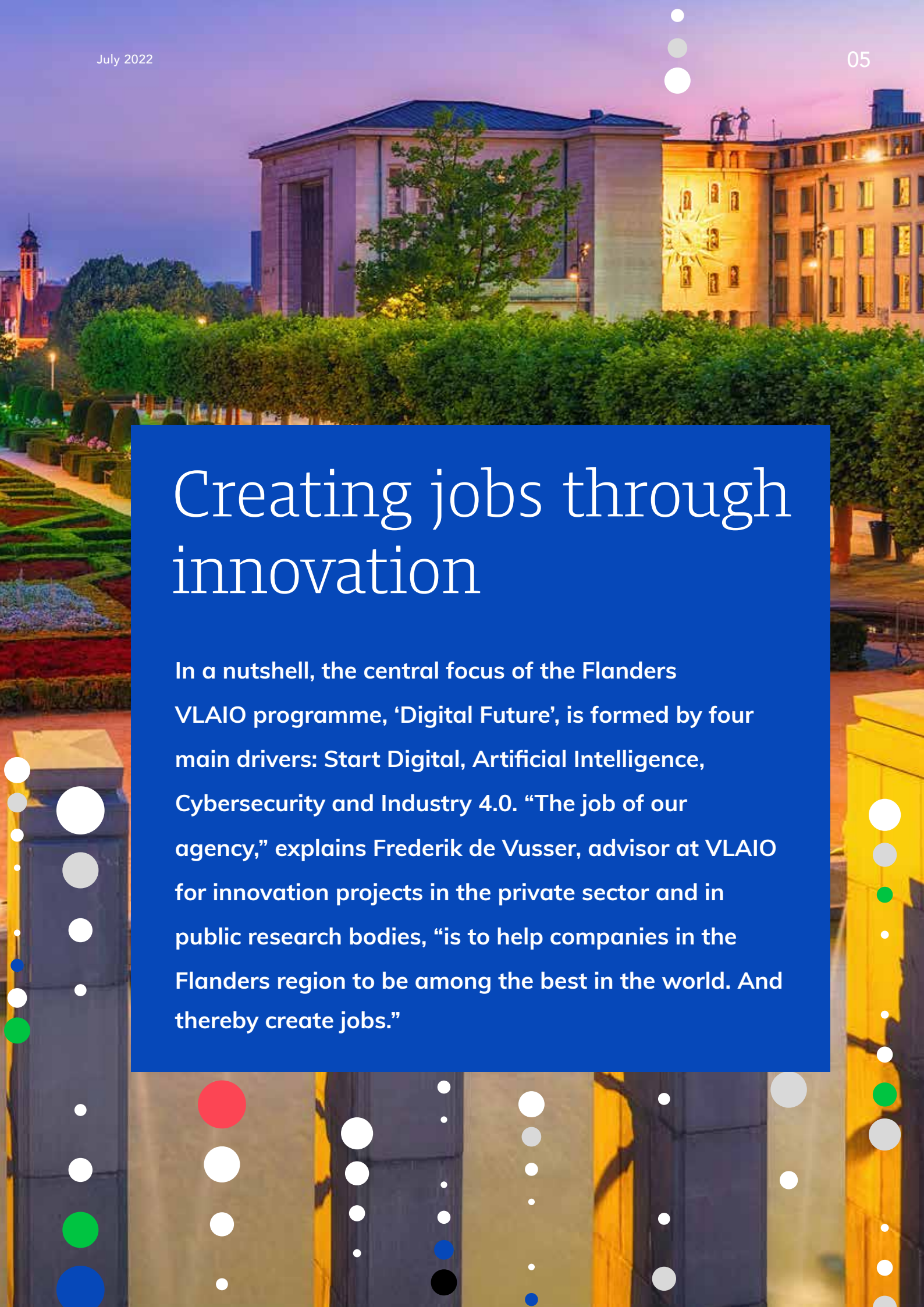
Curiosity and inspiration are necessary for research; and being open-minded and flexible are needed for international collaboration; inspiring each other and learning from each other are roots for innovation; courage and devotion are indispensable for impact. This is what I learn and experience as a member of ITEA Family.

The last, but not the least, ingredient of the magic of innovation is the joy of being together. I am very excited for the ITEA PO Days 2022 in Helsinki as it is also extended with an ITEA Family reunion to reunite and celebrate ITEA 4 together.

I wish you pleasant reading and I am looking forward to meeting you all in Helsinki.

Zeynep Sarilar

Focus on Belgium



Creating jobs through innovation

In a nutshell, the central focus of the Flanders VLAIO programme, 'Digital Future', is formed by four main drivers: Start Digital, Artificial Intelligence, Cybersecurity and Industry 4.0. "The job of our agency," explains Frederik de Vusser, advisor at VLAIO for innovation projects in the private sector and in public research bodies, "is to help companies in the Flanders region to be among the best in the world. And thereby create jobs."

It's good to see that our spearheads in Flanders and those of ITEA are on the same page in many ways – Smart energy, Smart mobility, Smart health and so on.

Strategic spearheads

VLAIO is the Flanders Innovation & Entrepreneurship Agency, and was the subject of the Country Focus article in 2019 (https://itea4.org/article/itea-magazine-32-country-focus-belgium.html). To recap, VLAIO still focuses on the strategic spearheads of stimulating growth and innovation through grants to business, promoting entrepreneurship, working with strong partners that assist SMEs, providing cluster support to help companies galvanise cooperation and dynamics within a group of enterprises and knowledge institutions, and improving environmental factors through enabling the development of industrial areas. From a funding perspective policy little has changed, although the bottom-up based funding has increased quite substantially, amounting to 270 million euros in 2021.

An essential part of VLAIO's support efforts lies in the cooperation with strategic research centres, or SOCs. De Vusser: "Like the world-class imec research centre in the field of nanoelectronics. It is here that ICT, software, hardware and nanotech find their expression in an integrated approach towards industry. Add to this initiatives such as Flanders Make (industry 4.0), Flux50 (smart energy), Blauwe Cluster (sustainable blue economy), Catalisti (chemistry), SIM (materials), Flanders' Food (nutrition) and flanders.healthTech (health), you can get an idea of the spread of efforts being made to support our companies in their markets."

From problem to opportunity

"Of course," says De Vusser, "a lot has happened between 2019 and today. The corona crisis threw a spanner in the works of a lot of companies but, on the other hand, the need for far-reaching digitalisation became very evident. You only have to look at the rapid advancements made by ICT in video and online conferencing, for instance, to see just how vital software and the digitalisation process have become in this new world. Some companies embraced the problem and turned it into an opportunity, so much so that at the exit of the crisis they have come out stronger, more innovative and prosperous. If we look at software innovation, I think that the major trend over the past couple of pandemic years has been in XR (virtual and augmented reality). We've seen a lot of successful start-ups by students coming out of academia. And these are not only in games but also education (e-learning). Blue (water-based) technologies is another significant development that demands software innovation. But even established strong

technologies that have been around in Belgium for some time, like logistics, mobility and health, are becoming increasingly 'smarter', and so also in need of software innovation. This has simply underscored the centrality of the role played by software and ICT in finding solutions."

Brainstorming innovation

But the virtual solutions do have their limits, De Vusser feels. "Within organisations, this kind of communication seems to work effectively and efficiently. However, when it comes to collaboration, particularly on an international level, you realise that screens cannot compensate for the informal coffee-break moments that help forge relationships. Despite all the innovation in bits and bytes, you can't beat beverages and bites to make things happen. Real innovation occurs when you brainstorm. Someone presents an idea, others chip in with contributions and something new materialises. That's the essence of collaboration."

Elbow-bumping

While the focus of VLAIO is firmly fixed on the local situation, ITEA plays a prominent role in the collaboration mechanism that is so important for Flemish companies in the international playing field. "After two years of being online, it will be really good to get back offline and literally meet face-to-face, handshake or elbow-bump. With 'real' physical meetings due in Brussels in a couple of weeks *[at the time of writing]*, I think it will be interesting to see how people manage physical contact again. They say that old habits die hard but what about new habits?"

Keep coming back

"I'm really hoping that the forthcoming PO Days will generate plenty of collaboration and new projects. After all, there are plenty of topics in the area of sustainability where we need innovation in the coming years. Joint Eureka Clusters Calls in sustainability and AI are key areas that are aligned with our local targets and we have quite a significant budget to allocate to those topics where we are very keen to focus our efforts. It's good to see that our spearheads in Flanders and those of ITEA are on the same page in many ways – Smart energy, Smart mobility, Smart health and so on. There is still plenty of enthusiasm among Flemish companies and organisations to be part of ITEA projects, and larger companies like Siemens and Barco keep coming back, always trying to bring other, small companies along with them to be part of the ITEA ecosystem."

Innovation for sustainable employment

An essential rationale of VLAIO is to help create jobs through innovation. "Innovation is a means to create sustainable employment," De Vusser states. "So when we look at the collaboration projects, we are keen to assess the impact on employment as well as on society and the sustainability targets. In measuring the impact, we first evaluate the feasibility of the project goals and then look at how much employment is generated by participation. So, we have a start and end moment. Of course, sometimes innovation is required to sustain employment at the same level. It can be as much of a challenge to prevent decline, let alone boost jobs. But what is indisputable is that innovation is indispensable."

More information

https://www.vlaio.be/eureka

Brussels-Capital region

For project partners located in the Brussels-Capital region, funding application are handled by Innoviris. Innoviris is the Brussels Institute for the encouragement of scientific research and innovation set out to create an active, competitive, innovative Brussels-Capital Region supported by knowledge.

Innoviris' funding criteria for ITEA project partners:

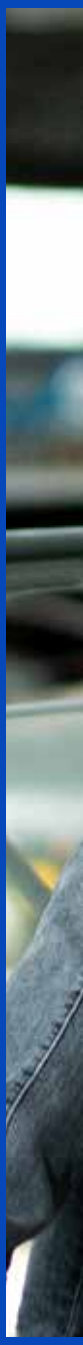
- Develop all or some of its activities within the territory covered by the Brussels-Capital region.
- Present an innovative RD&I project likely to have a favourable impact on employment and sustainable (environmental and societal) development of the Brussels-Capital region.
- Show one's ability to finance one's share in the project and not being in difficulty, in accordance with the European legislation.
- Have fulfilled its obligations in the context of previous support initiatives allocated by the region.

More information

https://innoviris.brussels/eureka-clusters

FEops

Becoming a truly global player



Four years ago, Matthieu de Beule, CEO and co-founder of FEops was interviewed as the ITEA magazine put the spotlight on his SME (https://itea4.org/magazine/29-March-2018.pdf). Now FEops is back in the spotlight as part of the country focus on Belgium. Here, Matthieu not only brings us up to date on how things have been going since 2018 but also explains how his company benefits from the initiatives of the Flemish funding agency, VLAIO, and the ITEA Cluster, and how the 'favours' are returned in kind.

Implementing the vision

Matthieu kicks off by explaining that "since 2018 we have doubled in terms of personnel and our operation has really begun to scale up. One of the reasons for this is that we have been able to attract some very talented people and that we have turned our focus more towards cloud-based technology, which is where we see our future. We are automating much of the work we had been doing manually by making more and more use of AI. Also, we are concentrating on pushing our vision that the right people get the right treatment at the right time. This vision is close to our heart, if you'll excuse the pun. In terms of our business model – that remains unchanged. We work closely with medical device companies and end users – the physicians. Being a software-as-a-service company, we were able to roll out our technology on a global scale and as an example in more than a hundred hospitals in China, despite the pandemic issues, from our home base in Ghent. As for the regulatory field, we are compliant with the very strict requirements both in Europe, where we are CE marked under the MDR, and in the US where our novel technology received De Novo authorisation from the US Food and Drug Administration (FDA). That is a real milestone because we now have a foothold in the European, American and Asian continents."

Mix of private and public funding

It is true to say that FEops has come a long way over the past four years. Equally, such progress could not have been achieved without support, from both a financial and technological perspective. "It's not an easy or quick trajectory," Matthieu explains. "You need access to resources to achieve your goals and hit your targets. On the one hand, we have managed to get the financial resources from venture capitalists and, on the other hand, we have been able to double this through public funding, such as the ITEA projects IMPACT and BENEFIT, and this has enabled us to do research and bring it to the market, which we would not have been able to do without this support. It has been important for us to be part of project consortia where we can interact with different stakeholders, build networks and understand how our technology could integrate with other technologies.

In addition, we have done research projects that focus fully on FEops technology, and we were fortunate in getting a substantial sum from the EIC (European Innovation Council) whose funding aims at enhancing the business goals of companies that are very close to commercialisation. We were one of the 75 out of 1850 applicants that were selected for funding. It generated the impetus to help get us to where we are today. Our growth has not gone unnoticed by VLAIO which has recognised our leading position as a global player in this ecosystem. We have had several grants awarded and have a number of applications in the pipeline. The system works very well, not only for us but for Flanders as a whole. Not only does VLAIO give a boost to the research and development efforts but also facilitates companies in attracting good people, retaining them and, of course, providing new employment possibilities, which is one of their main goals. As for us, the road to commercialising novel medical technology is a long one. So, getting support from agencies like VLAIO is essential. Ultimately, the mix of venture capital and public funding has been key to our growth."

Collaboration achieves impact

So much for the funding landscape; support in the technology terrain takes various forms, one of which is a collaborative framework. "Collaboration on an international level sometimes seems to sell a great joint story but, in reality, the ending is not always what was envisaged. With ITEA that is different because the projects are built on specific needs, use cases and involve different players. ITEA steers the whole process towards concrete results. For example, we might work with Philips to demonstrate a specific innovation, which is a demonstration in itself of collaboration that achieves impact. ITEA gives partners the freedom to do this. As for other programmes, we have worked within the Horizon 2020 Framework through Marie Curie funding for early-stage researchers and the EIC funding grant I mentioned before. It is extremely competitive so it is a matter of picking your moment in time when applying, but we nailed it from the first attempt."

On the verge of transformation

So, where does FEops expect to be in another four years? "I hope or expect the technology we are developing right now will be in use in hospitals worldwide allowing physicians to treat structural heart disease patients with the right technology at the right time. I think we are on the verge of transforming the way things are being done. I get the sense that the market is getting ready for large-scale implementation of novel digital tools such as FEops HEARTguide. So, I'm pretty positive, which I must admit I am by nature, that I will be able to confirm this in 2026."

More information

https://feops.com/

MOS2S

New forms of engagement in entertainment and society

Success story

Traditional media is losing ground to personalised experiences. Children of today, for example, don't even know what it's like to have a set of TV channels with fixed broadcasting timeslots for your favourite shows; they choose what to watch at the time they want. And they even produce thousands of pieces of content on their own each day. This trend in the entertainment business can also be seen in society, where city representatives no longer make decisions on their own. Everybody wants to be involved, or at least can be.

With many different innovations and high-level sensor applications, the MOS2S (Media Orchestration — Sensor to Screen) project took the outdated broadcasting concept to the next level, adding a completely different dimension with features such as instant live broadcasting. The aim of the project was to capture as much sensor data as possible and use this data in various applications in order to eventually enhance the experiences of people.

Citizen and audience engagement

To bring this engagement to a higher level, 17 partners from four countries (led by TNO in the Netherlands) came together in the ITEA project MOS2S and have created world-first ways to engage with citizens and audiences of live events. MOS2S was centred around two use-cases: crowdsourced journalism and (sports) entertainment. The project focused on technologies that allow data and media streams to be orchestrated into an all-encompassing experience on various types of end-user devices. The common denominator in MOS2S is the media processing platform, which combines multimedia streams from different domains.

e-Democracy enhanced with AI

For e-Democracy, four components were developed by the MOS2S project in which each partner provided another step of the value chain:

- Babbelbox
- Online Debate
- Online Debate Replay
- Hangouts

VRT's Babbelbox is a mobile interaction booth which is set up at crowded locations and lets citizens give feedback on societal

Project start
October 2016

Project end
Juy 2020

Project leader
Gjalt Loots
TNO, the Netherlands

issues. In April 2019, reporter and photographer Yassine Atari and Belgian journalist Rudi Vranckx travelled for four weeks through Europe in search of the voice of citizens. They set up a Babbelbox in Palermo, Vienna, Budapest, Warsaw, Berlin, Brussels and Paris. Opinions of passers-by were gathered through various questions about, for example, inclusivity and climate change – all made available to people to answer in their native language. Since then, Babbelbox's technologies have been used in multiple media campaigns like 'De Warmste Week' ('The Warmest Week'), one of the biggest charity programmes in Belgium. The Babbelbox technologies brought more personal stories to professional media creators, enabling them to create more impactful broadcasts on radio, television and digital channels. Selected content has also been used in live debates. In the ITEA project CityStory, the Babbelbox technology has been upgraded and extended with video-based questionnaires in order to provide users with a more personal and inclusive interaction.

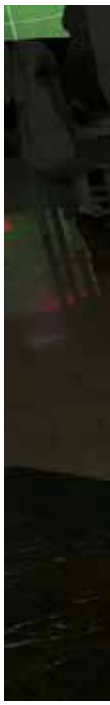
Gerade Software's Online Debate is a tool with an integrated moderator role and editorial dashboard to set up online debates. Online Debate Replay allows editors to put the results of these debates into a media format that can be broadcast, incorporating a number of innovations, and this has already been implemented in Turkey. After the project, these tools were integrated into an existing solution, which attracted an investor who bought it.

Hangouts is a video chat system, co-developed by VRT and Kiswe, which is fully integrated into the editorial and productional flow of a programme. It was used by radio brand Studio Brussels during their yearly charity event 'Music for Life', an initiative to raise money during 'The Warmest Week', but also during the Football World Cup 2018 broadcasts from the television brand Sporza. Thanks to Hangouts, listeners and absent campaigners were able to dial in live and bring their story to air from anywhere in the world. The workflow ran completely automatically, saving the editorial team time and manpower. Consequently, they were able to welcome more campaigners for a personal interview. As such, Studio Brussel and Sporza were able to increase listener and viewer interactions. The Hangouts technology has been integrated into the flagship product offering, Kiswe Studio, in order to create more immersive live broadcasts. In 2021, Kiswe was named one of the World's Most Innovative Companies by Fast Company and the company has grown by more than 70 FTE worldwide since their participation in the MOS2S project.

Unique, world-first sports and events experience

In the sports domain, several unique innovations were also developed.

Since the MOS2S project, Kiswe has been working with multiple sports leagues and entertainment and media companies worldwide, like K-pop group BTS, NBA, Universal Music Group and the Tour of Flanders to name a few. In close collaboration with OBS, the Hangouts technology was used at the Olympic Games in Tokyo 2020 (2021) and the Winter Olympic Games in Beijing 2022 through the novel media format 'Athlete Moment'. Immediately after their performance, athletes were able to connect with family and friends, even before they were approached by the press. It provided beautiful and emotional video footage.



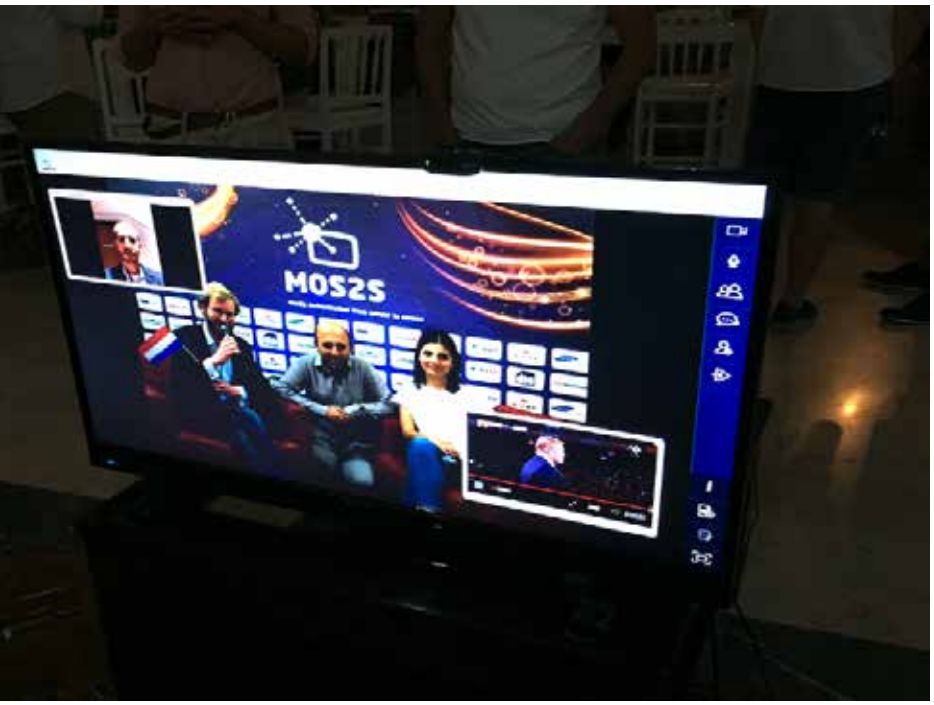
Through an exceptional SME collaboration, GameOn and Inmotio have implemented their video and sensor technologies in the Johan Cruijff ArenA. Thanks to this, visitors can get even closer to the spectacle, even from a distance. The live images can be streamed on a mobile device where you can watch live, replay, search for highlights, zoom in, draw, switch between cameras and play parts in slow motion. In addition, the technology is interesting for coaches because player movements can be easily analysed for training purposes. GameOn's video technology has been licensed to 25 European clubs with a revenue of almost EUR 700 thousand for GameOn in 2019 (versus roughly EUR 80 thousand in 2016). The Inmotio Performance Centre is being rolled out for all 18 teams of the Dutch Eredivisie, potentially leading to millions of users following completion. As the first stadium in the world to adopt such technologies, the Johan Cruijff ArenA is boosting its reputation for innovation and opening up a new consultancy market, in turn making the technology accessible to

new and existing sports hubs.

This innovative reputation was underlined in September 2018 when, for the first time in the world, a football match in the Johan Cruijff ArenA was broadcast in real time with only a 0.3-second delay from the pitch in Amsterdam to a viewing area in South Korea. Combining new Ultra-Wide Vision technology with a super-fast data connection enabled a crowd of South Koreans to experience the live event in an unmatched way; the entire stadium was displayed to them in panoramic high resolution, down to the tiniest drop of sweat and quivering blade of grass. This new technology makes it possible for people on the other side of the world to experience live events in real time as if they are at the event itself in person. Conducted by TNO, the Johan Cruijff ArenA, the Korean Electronics and Telecommunications Research Institute (ETRI) and SURFnet, the test broadcast was designed to demonstrate, amongst other things, whether European Championship matches can be experienced live worldwide as full stadium experiences.

In addition, MOS2S's technology was selected, out of 209 applications from 39 countries, to be demonstrated during the Eurovision Song Contest of 2020, which was unfortunately cancelled afterwards due to COVID-19. In the preparation phase for this event, organisations that had a solution to enhance the online experience of viewers and fans or a solution that supports or enhances the production of online content before and during the Eurovision Song Contest were invited to participate in this competition. The innovation challenge around the Eurovision Song Contest led to an overwhelming response from the international tech world. The entries varied enormously in terms of services and technology: from URL shorteners and hashtag generators to 8K virtual reality and AI. Eventually, three finalists were selected to actually implement their solution at the Eurovision Song Contest and two of these three solutions were derived from the MOS2S project:

- Ultra-Wide Vision, providing viewers all over the world with a live experience.
- Live Hangouts, which has been integrated into Kiswe's Studio product and enables a large number of customised streams aimed at different target groups with the choice of different commentators, such as social media influencers who are seeking interaction with the public and can show the results on the stream.



During the match between the Netherlands and Peru, Dutch people in Ankara were directly connected to the Johan Cruijf Arena while watching the live match.

Strong international cooperation and social impact

One of the key successes of MOS2S was the ability to create strong international cooperation. They had national demonstrations led by the Netherlands, South Korea and Belgium in 2017, 2018 and 2019 respectively. However, in those demonstrations, almost all of project partners worked together to reach the ambitious targets of the project. The results of the demonstrations led to multiple commercial products and services.

For the crowdsourcing technologies, success is measured by audience. As younger people are increasingly unengaged with traditional media, the social impact of getting their unbiased views is high: it encourages participation in the democratic process and provides a new form of journalism that can combat fake news and help fight polarisation. Now that MOS2S's applications have been tested in a Smart City Playground, the next step is to implement them on a wider scale to further revolutionise the role of citizens in both politics and entertainment.

ITEA PO Preparation Days 2022 & ITEA Family reunion

The ITEA Community is coming together again!

Call 2022 for project proposals will open on 13 September 2022 in conjunction with the ITEA Project Outline Preparation Days (ITEA PO Days) in Helsinki on 13 and 14 September. And as we are finally able to come back together again with the ITEA Community, an ITEA Family reunion is being organised back-to-back to this event, starting in the afternoon of 14 September until lunch on 15 September.

PO Days 2022: The perfect combination of online and physical components

Building new projects and partnerships can best be done in a physical environment. That is what we have learned over the past two years, during which it was unfortunately not possible to come together physically. Nevertheless, the online events that were organised instead brought us some new insights as well. The ITEA PO Days 2022 event will combine the best practices of both online and physical events of the past, in order for you to get the most out of your event participation!

Be prepared!

From experience we know that the ITEA PO Days are fully-packed days, and therefore it is highly recommended to be well prepared well before the start of the event. That is the reason why a few sessions related to the ITEA PO Days will already take place online before the physical event in Helsinki on 13-14 (and 15) September. This will optimise the time for networking and consortium building during the event. The event in itself will not be hybrid.

ITEA PO Days 2022 Preparation session

On Monday 27 June ITEA set up an online ITEA PO Days 2022 Preparation session to explain the process and online networking tools for ITEA Call 2022 and the ITEA PO Days 2022, like the Project idea tool and the Partner search tool. The recording of this session is available on https://itea4.org/podays2022/preparation-session-itea-po-days-2022.html.

Country information sessions

On Monday 5 and Friday 9 September different online Country information sessions will be scheduled ahead of the ITEA PO Days. During these days, a set of online information sessions will be co-organised with the Public Authorities, to inform the participants about their national priorities, eligibility criteria and funding outlook.

Project idea pitch session

In order to enable participants to learn about the project ideas upfront and optimise the time in Helsinki for fruitful discussions and consortia building, an online Project idea pitch session will be organised on Thursday 8 September 2022, 13:00 - 15:00 CEST, in the week before the physical event. During this session, Project idea proposers will be able to pitch their idea and, via the Project idea tool, first contacts can already be made with interested partners. This will jump-start the discussions in Helsinki.

ITEA Family reunion

During the past two and a half years we found new ways to connect as a Community, coming together virtually for conferences and meetings to keep building and strengthening the connections that lead to successful innovation projects. We have all adapted to new ways of working, but real connections are best made when meeting personally. And so an ITEA Family reunion is being organised on the back of this event. A day that will be a combination of good old-fashioned networking and fun starting in the afternoon of 14 September until lunch on 15 September.

We will be hosting inspiring and lively sessions with SMEs in the spotlight and well-respected ITEA Family members followed by the opportunity to reunite for drinks, a dinner and a long-awaited chance to socialise. We are looking forward to meeting you there.

In short, the ITEA PO Days 2022, including the ITEA Family reunion, will enable you to:

- Present your project idea(s) and/or learn about other project ideas
- Discuss and work on your project ideas in physical workgroup sessions
- Meet companies and potential partners from all over Europe and beyond
- Learn more about the specific funding rules in your country well in advance
- See how the ITEA Office can support you during the full project lifetime
- Get inspired by successful SMEs, an engaging keynote speaker and ITEA's 'sparks'
- Learn from the best during the ITEA Award of Excellence ceremony

ITEA Award of Excellence 2022

During the ITEA Family reunion, on Thursday 15 September, the ITEA Awards of Excellence 2022 will be presented. Project leaders from this year's outstanding ITEA projects will share their success stories as well as their recommendations on managing a project successfully. This time, these awards will focus on the key achievements for ITEA: Innovation, Business impact and Standardisation. Four projects were selected for the 2022 ITEA Award of Excellence:

- **OPTIMUM** is the winner of the I**TEA Award 2022 for Exceptional Excellence**, as it excelled in innovation, business impact and standardisation: OPTIMUM has been very successful to develop innovations for 3D engineering and visualisation, IIoT and distributed control platform or cybersecurity. It has generated 6 patent ideas. It has also strong achievements in standardisation as well as contribution to human capital development with more than 40 people trained and 30. Overall, the project is a full success to develop a more secure workspace for workers and the competitiveness of the industry.

- **IMPACT** will receive the **ITEA Award of Excellence 2022 for Innovation**:
  The IMPACT project has developed several technological innovations in the fields of image processing, control of robotic operations and dashboards for patient data integration and presentation. It makes progress in data intelligence, 3D planning of surgery and workflow optimisation. Integrated demonstrations of the new technologies have been developed for the 3 use cases.

- **CyberFactory#1** is the winner of the **ITEA Award of Excellence 2022 for Business impact:**
  For 10 use cases, ranging from textile industry to aeronautic factory, the CyberFactory#1 project has developed demonstrators. Most of them will lead to fast exploitation such a new cybersecure solution for device life cycle management or new process for aircraft structural components assembly. The impacts is expected to reach around 150 M€ additional revenues for the project partners in 2025.

- **PANORAMA** will receive the **Award of Excellence 2022 for Standardisation:**
  PANORAMA has strongly contributed to Functional Mock-Up Interface 3.0, Open Dependability Exchange (ODE), metadata exchange (ASAM-MDX) and Best Trace Format (BTF) standards. It has also developed open-source implementations to accelerate the adoption of these standards.

Important dates in the ITEA Call 2022

- **5 & 9 September**
  National priorities and eligibility criteria presented by Public Authorities

- **8 September**
  Online project idea pitch session

- **13-15 September**
  ITEA PO Days & ITEA Family reunion

- **15 November**
  Submission deadline for Project Outlines for the ITEA Call 2022

Join us and register now!

Join us at the ITEA PO Preparation Days 2022 & ITEA Family reunion. The participation fee for the ITEA PO Days is EUR 150, VAT excluded (non-refundable). This fee also enables you to join the ITEA Family reunion. If you are only interested in attending the ITEA Family reunion, the participation fee is EUR 50, VAT excluded (non-refundable). And for those that wish to fully benefit from the opportunity to come together, a networking dinner will be organised in Helsinki in the evening of Wednesday 14 September. A dinner fee of EUR 50 VAT excluded (non-refundable) is applicable.

Don't miss this great networking opportunity and register now! Availability is limited and each year this brokerage event is fully booked.

For more information and registration, visit: https://itea4.org/podays2022/index.html

We are looking forward to meeting you in Helsinki!

Community Talk with **Olivier Biot**

An internationalist in in body and soul

Born in Belgium but brought up in Brazil in his formative childhood years, Olivier Biot took a while to readjust when returning to his homeland … and even today he still cherishes the vibrant international environment that is so dear to him. This 'internationalist' feels very much at home in the ITEA Community.

California dreaming

Olivier's fascination with engineering and technology came at an early age; it shaped his education and career path. His international background determined the context. He cites a highlight that came early on in his career after joining Siemens in the telecoms field. "I got the opportunity to go to Silicon Valley during the 'birth' of the high-tech Internet explosion. To say it opened my eyes would be an understatement. An initially week-long visit eventually turned into a two-month stay. Exciting things were happening in telecommunications and I was involved in standardisation activities in the early days of the mobile Internet (WAP/OMA, IETF), transforming market requirements into requirements specifications, and selecting and evaluating relevant technologies for future products. I also contributed to the open-source network protocol analyser 'Wireshark' where I developed and extended protocol analysis for mobile Internet standards." Today, Olivier is senior project manager at SIRRIS (Belgium), focusing on innovation for technology in general and software & ICT in particular, providing solutions to highly specific technology-related issues and guiding companies through to the ideation, development, implementation and coaching of long-term innovation projects.

Driver for change

Specialising in identifying innovation opportunities and bottlenecks, Olivier focuses on developing (international) industry-driven research projects with a multidisciplinary and multi-technology perspective. "Innovation is the key theme that keeps me busy nowadays. I have a very broad technology interest area, but software engineering and ICT are the domains in which I am most active. Hence my connection with ITEA, which I first became familiar with during the ITEA TWINS project (2006) that developed new techniques to improve the co-design of products in which hardware and software are closely integrated. I pitched in with contributions, you could say. From there on I became more directly involved, and in the ITEA 2 Call 2 came the ITEI project aimed at improving the innovation capabilities of European software-intensive product builders through the realisation of a cyber space for product innovation and innovative software development. I remember that the then ITEA Vice-Chairman, Philippe Letellier, was very enthusiastic about our efforts to enable the industry to manage company-specific innovation strategies better during software-intensive product development. He saw the bigger picture and, in fact, this project laid a foundation for

The essence of ITEA is to create the scope and environment for people to collaborate and seek new limits

the software innovation track that is a prominent feature of the ITEA programme today."

Novel paradigms

The most recent ITEA project in which Olivier has played a leading role is the recently completed BIMy project to create an open collaborative platform for sharing, storing and filtering BIM (Building Information Modelling) among different BIM owners/users, and integrating and visualising them in their built and natural environment. This open, generic and secure intermediary vehicle enables interactions between existing and new applications through a standardised open API platform. Recipient of the ITEA Award of Excellence 2021 for Innovation, Olivier explains that "digital transformation is fundamentally changing the way we work and live our lives. Digital technologies are paving the road for novel paradigms across industry sectors. The ITEA 3 project BIMy pushed the limits of using and exploiting Building Information Modelling (BIM) and explored novel opportunities offered by integrating BIM and Geographic Information Systems (GIS). BIMy proposed ways to overcome limitations of current tools and standards, and explored ways to query and filter BIM and GIS data to create a new digital service offering. We hope that the soon to be published 'BIM in the City' book will inspire others in their digital transformation."

Open eyes and ears

Justifiably proud of this and previous projects, Olivier sees his involvement with ITEA continuing. It's an environment that he appreciates not only from the perspective of innovation opportunities but also by the chance the ITEA Community offers to interact with like-minded souls from all over Europe and beyond. "Of course, over the past two years where we have been restricted to screen-to-screen contact; this interaction has not been as fulfilling as face-to-face, of which I am a big proponent. You get far more from the body language and coffee-machine chats, things that can help relationships develop and grow. This also affects the projects. Not that they have been any less successful in terms of achieving their goals, but the lack of the human 'touch', almost literally, is something we all felt. For the BIMy project, we were fortunate in being able to have a couple of plenary sessions just before the pandemic struck, after which we had to find a different modus operandi to focus on the project success and to resolve any remaining issues. But by keeping our eyes and ears open, and through regular digital contact, we still managed to deliver valuable results."

The more you have, the more you want

Olivier has seen a number of changes at ITEA over the years, especially in the role of software. As he suggests above, there has been a shift in emphasis from software for engineering to software for innovation. He also feels that the level of ambition is much higher and more mature nowadays. With impact and success. "This is very much down to the people and the collaborative spirit," he says. "The essence of ITEA is to create the scope and environment for people to collaborate and seek new limits. If I look at the companies and people we have helped to introduce to ITEA projects, I see that ITEA becomes 'moreish' for them. They are keen for further involvement. That gives me a great sense of satisfaction." When asked whether he sees any room for improvement, Olivier says that "ITEA is always improving, always trying to be better than before. And is very successful at this. Even when situations arise that are out of ITEA's control, for example funding or lockdown, it still tries to come up with solutions. That's part of the happiness that makes the ITEA Community so engaging."

ENTOC

The next stage in virtual engineering and commissioning

Engineering is the most time-consuming aspect of innovation and products are increasing in complexity, yet there has not been a corresponding growth in the number of people involved in production facility planning. Due to the reduction in cycle times needed to remain competitive, combined with highly individualised products and the fact that one changed parameter can affect many other areas, problems in the line can have serious time and cost consequences for businesses.

Success story

The 2020 award-winning project ENTOC, gathering 11 partners from Germany and Sweden, minimises the time and effort involved in engineering without compromising on reliability or integrity by formalising specification requirements for production equipment and establishing standardised mechatronic component models. This project is a follow-up of the ITEA project AVANTI, also led by Daimler, which had already received an award in 2017 for its outstanding results.

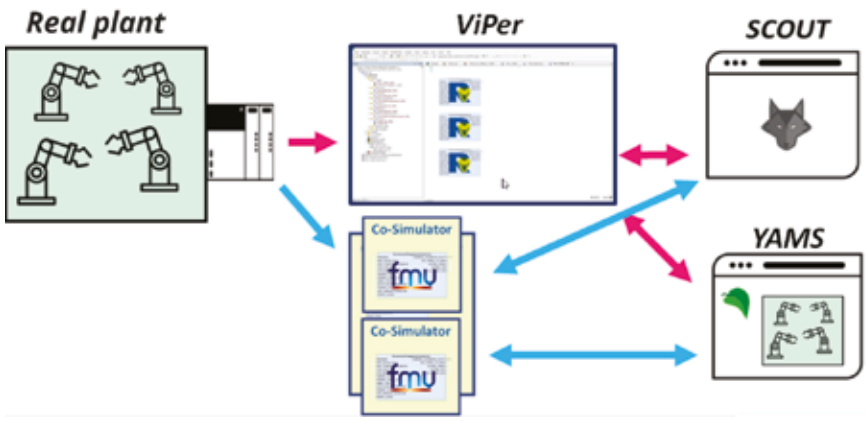


Figure 1: Integration of FMI standard in RF::SUITE of EKS

Reducing engineering time and effort

Production equipment creation currently begins with the specification of requirements, which engineers bring together manually in different types of text documents for suppliers. The main goals of the project were to develop standardised modelling strategies and to optimise the engineering tool chain used for complex production plants. ENTOC improved the information flow for new production equipment by sharing information and improving the workflow.

One of ENTOC's primary innovations is the generation of a formalised specification of requirements that

ENTOC's success lies in the fact that it opens doors, changing the face of manufacturing as its innovations are picked up in the wider market.

Project start
September 2016

Project end
August 2019

Project leader
Thomas Bär
Daimler Buses - EvoBus GmbH, Germany

More information
https://itea4.org/project/entoc.html

enables the automatic creation of proposals for car/truck manufacturing and machine building.

In a joint effort to cover and formalise large parts of requirements specifications, each partner covered different types of requirements, which were combined by means of a common data model exchanged in the AutomationML data format. Production resource planning was covered by tarakos, process-driven production planning by Daimler, product variability by Chalmers, project planning by ifak, and requirements expressed in natural language by TWT. Whereas the current state-of-the-art is completely manual, ENTOC has achieved a 30% requirements formalisation rate. Using the concept of formalised requirements, the time for the creation of production equipment specifications can be reduced up to 20%, improving the quality in parallel.

In addition, ENTOC has shown that component behaviour can also be standardised. The results used the standard FMI, which is currently under discussion in the production context and is being investigated/adapted by automation software vendors and multiple OEMs for production. Thus, it was also integrated in the international standard for exchanging engineering information (AutomationML modelling concept – WP Part 6 AutomationML component including referenced FMUs.

Component manufacturers, e.g. Festo, provide Functional Mock-up Units (FMUs) as added value to their production components. These behaviour models may be exchanged directly (as files) or integrated/provisioned via a digital store, e.g. provided by vendors like CADENAS. Currently, direct exchange is the most common method.

Whereas simulation models were previously used solely in virtual commissioning (the practice of using technology to create a simulation model to enable testing of the proposed changes and upgrades before they are implemented), these models can be reused and maintained across different production phases, providing feedback for the requirements definition stage and generating a full digital loop.

Changing the face of manufacturing

ENTOC's success lies in the fact that it opens doors, changing the face of manufacturing as its innovations are picked up in the wider market. Efficiency is key.

Standardised component behavioural descriptions and models can be easily exchanged between companies, reducing the need to re-engineer existing know-how and thus reducing overhead. Across all manufacturing domains, engineering process chain duration can thus be reduced by up to 10% for the creation time of virtual production models, leading to greater competitiveness.

Commercialisation is ongoing for most partners and two tools are already available on the market. As software and engineering companies, EDAG and EKS have benefited enormously from the development results of the ENTOC project.

EKS is using the rfCSPy FMI co-simulator – one result of the ENTOC project – in combination with their RF::SUITE for virtual commissioning and digital twins (see Figure 1). This

serves as basis for the virtual plant and corresponding analytic tools of EKS (focusing on e.g. cycle times, collisions, etc.) and creates competitive advantages for the adopters of the standard FMI. The FMI standard allows not only the inclusion of component behaviour but also other aspects such as the analysis of energy consumption.

Hybrid virtual commissioning is now possible – the mix of black box FMU behaviour models from component vendors and traditional white box behaviour models which require significant effort for creation. This is supported within the EKS tools but, as one impact of ENTOC and the first market pressure, other software tools like SIMIT and WinMOD are now supporting FMUs too.

Based on the ENTOC results, the company in2sight launched the product game4automation. The game4automation tool is a digital twin framework based on game technology. It enables simulation and virtual commissioning, including an FMU interface.

In addition to integrating FMUs in engineering and simulations platforms, PLCConnect (see Figure 2) and its post-ENTOC results developed master co-simulation which has enabled the user-friendly incorporation of FMUs into NX Mechatronics Concept Designer and as Co-Simulation with TwinCAT, SIMIT and WinMOD. The wide usage of FMUs in conjunction with digital twins and virtual commissioning was made possible with the introduction of PLCConnect's master co-simulation.

EDAG has already sold this solution to Small and Medium-Sized Enterprises (SMEs) and large industrial customers; this allowed EDAG to take on at least two additional employees for further development and consulting. Through consulting, several of EDAG's customers have integrated FMUs as part of their virtual commissioning tool chain. EDAG is in regular contact with ENTOC partner Festo in order to continuously integrate their FMU components in joint customer projects.

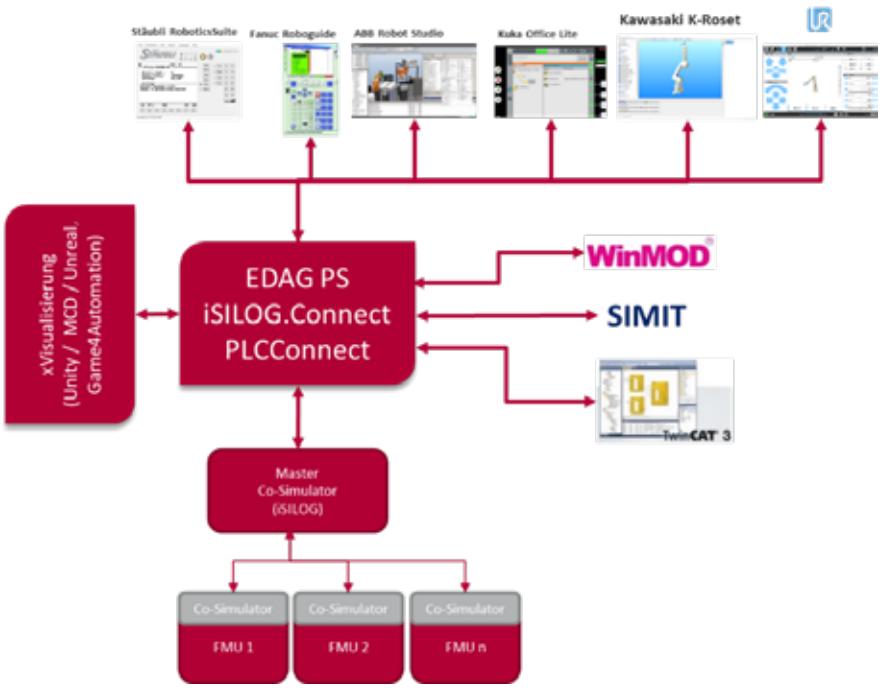


Figure 2: PLCConnect Master Co-Simulator of EDAG PS

EKS has a platform where new approaches can be realised as prototypes (such as in ITEA projects like SPEAR, TESTOMAT and XIVT) and virtual commissioning pilot projects can be started using FMUs. There are two main benefits:

- The behaviour models are closer to reality. The more precise models (provided by component manufacturers because of their knowledge about the component) increase the quality of the simulation results, e.g. a more accurate process analysis, including process time prognosis during virtual commissioning.
- The effort for the creation of simulation models decreases by several hours up to several days depending on the complexity of the component. This was a market opener, especially for small and medium-sized companies which do not possess the necessary resources. For a typical mid-sized virtual production station, the effort for creating the virtual commissioning model can be reduced from 20 days to 12 days, additionally improving the effort needed for quality checks.

For all providers, ENTOC also safeguards intellectual property while boosting reputation: formalised descriptions are made for components, providing a quality guarantee for end-users, and a black box set-up prevents the underlying functions from becoming public knowledge. Based on formalised descriptions of component models and various tools that support them, virtual commissioning is now also affordable for SMEs.

To lay the foundations for future innovations, ENTOC is now pursuing IEC standardisation. Within the project, OEMs, tool providers and component manufacturers agree that this is the next stage in virtual engineering and commissioning. In recognition of this, most ENTOC partners are still working on the topics in the ongoing ITEA project AIToC, which combines requirements engineering and Artificial Intelligence in the tool chain to further extend the efficiency, quality and adaptability of manufacturing. A new success story in the making?

SME in the spotlight

INCHRON

A passion for finding the right timing

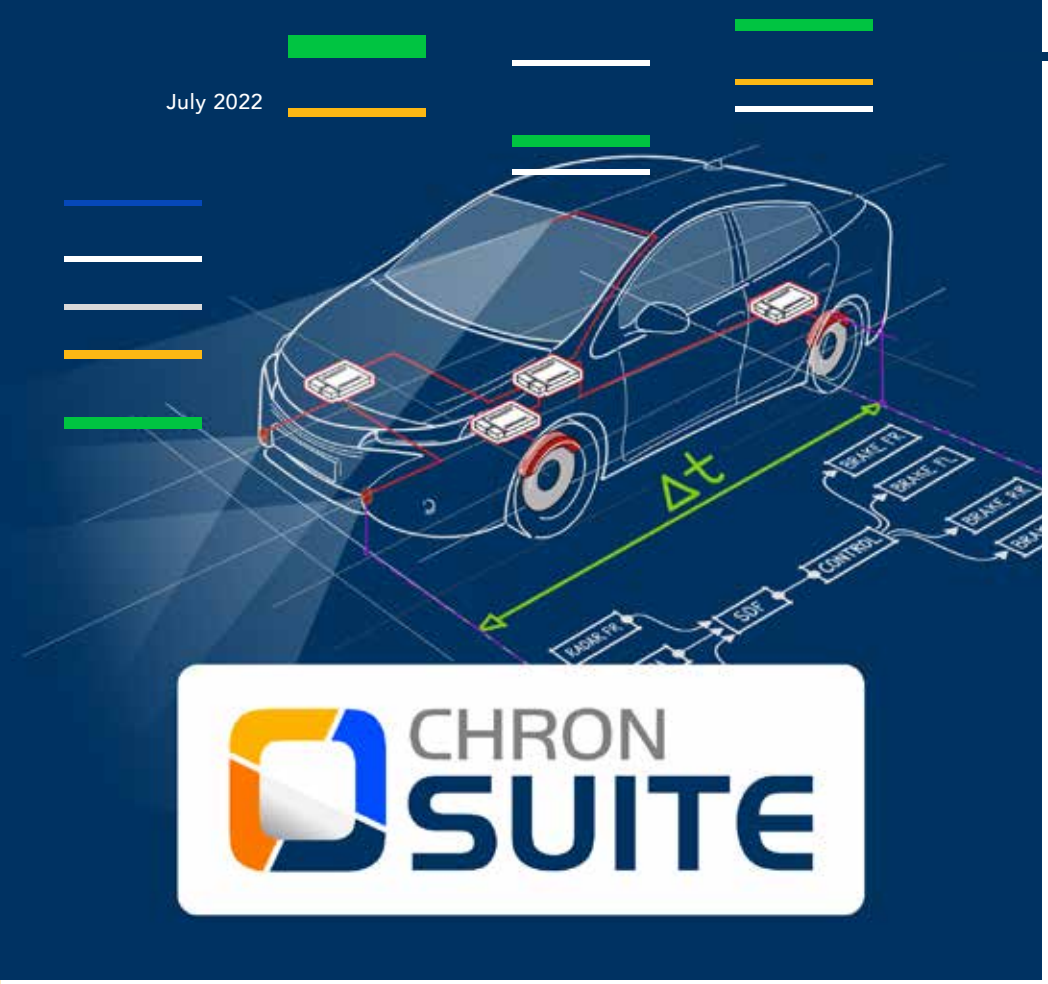
Dr. Ralf Münzenberger is CEO and one of the three co-founders of INCHRON, a German SME that originated as a university spin-off in 2003, when the customer value of the research became clear and the foundation for success was laid. "The name of the company is not incidental," Ralf explains. "It derives from the Greek God of Time, Chronos, so INCHRON means to be in time. Our purpose is therefore embedded in our name."

Mastering system runtime performance

Initially, the customer base was automotive – OEMs and tier-1 and tier-2 suppliers. With more than 190 successful customer projects and many research projects in the locker, INCHRON has been inundated with offers of use cases and other insights from automotive industry experts and teams. Today, INCHRON is working intensively with a range of industry partners to understand how they can best benefit from the new methodologies and tools being explored. Along with Manager for Research Projects, Dr. Karsten Albers, Ralf provides an insightful look at the state-of-the-art methods and tools that enable system architects, developers and testers to fully master system runtime performance aspects over the entire real-time systems development life cycle as well as the role research projects play in the company's ongoing development.

Superior results

"Our vision at the time we founded the company was that the increasing centrality of software in embedded systems – whether cars, trucks or aeroplanes – was not only here to stay but the needs for real-time analysis would become really dominant," Ralf notes. "You just have to think about a car braking system. It's an embedded system in which the electronic control unit has to respond to braking within a few milliseconds. What we provide is analysis of the timing behaviour of such systems, with methodologies that analyse the interaction between the various sensors, actuators and complex series of dataflows. Our solutions are



geared towards enabling solid real-time design, paired with early proactive anticipation of real-time issues. This approach almost always delivers far superior results than just trying to fix real-time issues discovered by chance in later phases of the development life cycle."

chronSUITE

INCHRON's key product is the toolkit chronSUITE. The contained Simulation tool chronSIM supports embedded software development teams by ensuring that timing requirements are defined and then fulfilled, from the definition of the architecture through to system testing, finding and resolving timing issues long before final testing. Another product of INCRON's toolkit, chronVAL, allows the analysis of the real-time capability of safety-critical embedded systems using formal verification methods to calculate best- and worst-case response times, pre-emption times, end-to-end latencies, and resource utilisation. Sensitivity analysis detects timing bottlenecks and sporadic violations, reducing the overhead of time-consuming implementations, integrations and testing. This makes chronVAL a critical tool for engineers and architects to assess and optimise design robustness and scalability. In general, timing analysis with chronSUITE is so important for flawless systems because timing failures often disguise themselves as functional issues.

Happy customers

"And for me," Ralf adds, "all this means happy customers. We want to bring benefits to our customers. That's also why research projects are important for us. There's a lot of change happening in our industry at the moment. Competition is becoming fiercer, and the amount of software is increasing exponentially. In the near future cars will be software-defined vehicles. So, if we are to remain relevant and bring value to our customers, we must be innovative, and generate innovations." Apart from the toolkit chronSUITE offered by INCHRON, the company provides consulting and training. Since innovative products are quicker to market than the higher education system is able to put such developments into their studies, it is part of INCHRON's remit to provide such training to its customers. "An essential part of this whole innovation process is the role of research projects like those in ITEA. This is why we participate."

INCHRON
THINK REAL-TIME

Research supports business strategy

INCHRON is active in various publicly funded research projects, both on a domestic German level and on an international level. Indeed, research projects are central to the INCHRON business strategy as an SME to go forward, and Karsten explains why. "Research projects bring many open minds to the table. The diversity of participants and opportunity to exchange ideas and knowledge benefits everyone. For example, in the ITEA TIMMO-2-USE project, which finished in 2012, we were able to work together with users of our methodology – partners from around Europe – to increase reliability, safety, robustness and fault tolerance by a much higher degree, thereby enhancing and adapting real-time modelling and verification. This is simply not possible to do alone. It comes from different experts in different domains and application areas. Different problems are looked at from different angles and in this process innovation happens. Of course, you can't do this without the funding. The funding provides the opportunity, you could say, for innovation to take place."

Positive going forward

Another recently completed ITEA project in which INCHRON has been involved is PANORAMA, aimed at extending the scope and interoperability of current system level analysis approaches, particularly by enhancing the existing abstract meta-model AMALTHEA. "We have had a very positive experience of this collaboration, and we will no doubt be looking forward to future ITEA projects in which we can bring our expertise to bear and benefit from the knowledge of others. In line with our strategy, we will continue to be involved in such research projects."

More information

https://www.inchron.com/

Smart health

Improving quality of life for patients and professionals alike

As one of the major ITEA challenges, a large number of RD&I projects have been devoted to Smart health: technologies which can improve diagnosis, treatment and quality of life for patients while reducing healthcare costs and the burden on practitioners. How can projects in areas like personalised care, optimised patient journeys and minimally invasive surgery help meet end-user concerns in this complex field? Henk Marquering of Amsterdam's Academic Medical Center (AMC) and Jouke Dijkstra of Leiden University Medical Center (LUMC) share their successes so far.

What goes unseen

In his role at the LUMC, Associate Professor Jouke Dijkstra is working in the Department of Radiology, Division of Image Processing. Here, attention is being devoted to minimally invasive surgery, which requires the unlocking of different data sources and the meaningful presentation of such data to clinical users. "In hospitals, a lot of data is generated by imaging systems, for example, but this data does not automatically end up with the doctor," begins Jouke. "In ITEA projects, we looked at the bottlenecks during the diagnostic phase, treatment planning and the minimally invasive procedure itself. By combining data from different sources and acquisition phases, more complete datasets can be presented during the diagnostic phase and the treatment planning phase, such as with 3D models and image fusion."

With the trend from more 'open' surgery procedures to minimally invasive procedures, some work will be performed using robotic assistance. For Jouke, a cornerstone of ITEA and the LUMC's collaboration is ensuring that a good balance is struck between the benefits and possible shortcomings of these procedures. "A disadvantage is that the doctor loses direct visual feedback," he explains. "This is being compensated by technical solutions in which images recorded before the procedure are processed into 3D models during the surgery. It's important to get a good alignment between the actual position of an organ and the images which have been acquired before the procedure."

A link to industry

For the LUMC, the added value of ITEA participation is twofold. First and foremost, projects allow for improvements to patient care and reductions in the time needed for treatment planning and procedures. Secondly, international RD&I projects bring together multidisciplinary teams with a clear link between the technical input from the different industrial and research partners and the requirements of the clinical partners. "For hospitals themselves, it is difficult to transform concepts into products, especially with all the regulations – but demonstrators can be used by participating companies to do this," continues Jouke. "Another added value for an academic research hospital is that we have access to the latest developments (for instance, the use of AI in medical applications), can participate in innovative research and can teach this to new students."

As a success story, Jouke looks to an application developed in the ITEA project BENEFIT, in which several images are combined to perform liver, tumour and blood vessel segmentation for liver cancer treatment. By combining the different images, more accurate segmentation is possible, resulting in better 3D models. Likewise, a software tool created in the ITEA projects IMPACT and ASSIST can be used during both the interventional procedure to 'burn' away small tumour regions (ablation) and give surgeons an overview of anatomical structures in relation to tumour regions.

Jouke Dijkstra
Leiden University Medical Center

Henk Marquering
Amsterdam Academic Medical Center

"In procedures, it is not only important to remove tumours as well as possible but also to avoid damaging other tissue, like major blood vessels. A nice example was a patient with multiple tumours which had to be treated with both ablation and resection. The 3D model with tumours allowed much better communication between the doctors to indicate who was going to treat which tumour. Overall, minimally invasive surgery is beneficial for the patient as the recovery time will be reduced. And for the health system, it reduces costs, it involves fewer personnel and the hospital stay is shorter."

The quest for valuable data

Similar work is ongoing at the AMC, where Henk Marquering, Professor Radiology, in particular Translational AI, brings AI functionalities and methodologies to clinical practice to improve care for both patients and professionals. This is part of a wider transition towards data-driven or data-informed healthcare, which has proven challenging due to the former proprietary status of data in hospitals. "Data only becomes valuable if a number of conditions are met," says Henk. "For example, data needs to be combined with other data, has to become widely available and needs to be standardised. Moreover, the amount of medical (imaging) data is constantly increasing. Data harmonisation and availability was (and sometimes is) one of the main needs in current healthcare that has been addressed in ITEA projects."

As part of the Amsterdam University Medical Centers, the AMC has been involved in various pioneering ITEA projects, from SIGNET on image-guided treatment workflows to Medolution on long-term monitoring and real-time decision support in smart environments. Participation in such projects grants the UMC a role in the co-development of novel IT-based solutions that improve care and diagnosis logistics, in turn allowing them to choose the right approach to novel opportunities. Data-driven healthcare is now a major part of their strategy and a variety of achievements have been realised across various collaborations.

"In MEDUSA, we worked together with Philips and other industrial partners to develop cloud-based radiological image analysis for the fast processing of large amounts of image data years before this became a generally accepted solution," Henk notes. "Similarly, for the 3DPathology project, we've implemented Deep Learning analysis of pathology images in the current workflow. And in PARTNER, diagnostic and prognostic supporting models have been developed based on 'heterogeneous' data which come from different data sources, such as disease history, radiology data and lab tests. In this project, we've also developed models based on data from multiple centres without sharing data. This has a huge benefit in reducing privacy-related risks, a topic that is currently being further addressed in the Secur-e-Health project."

Taking the next steps

The solutions developed in such projects initially benefit healthcare professionals by improving their capacity to work in an efficient manner. As a knock-on effect, diagnosis and treatment decisions can be made faster and more accurately for patients. One clear example is the cloud-based AI diagnosis of stroke patients, which uses a methodology and concepts developed in MEDUSA and has since been spun-out to form the company Nicolab. Their solution is now used in many hospitals and has resulted in much quicker stroke recognition and earlier treatment of patients.

"With previous and current ITEA projects, we have shown that patient journey-based technology is possible and beneficial for patients," Henk concludes. "Required tests that provide the needed information can be planned on one day and this information can be assessed in multidisciplinary team meetings on the same or next day. The next steps will be to develop, evaluate and implement data-driven healthcare. This will also be a huge step forward in the preparation of value-based healthcare, which focuses on the effects of treatment relative to the costs. The introduction of value-based healthcare will undoubtedly result in a large change in healthcare as we know it."

Smart health new challenges ahead

Insights into the 2022 Smart health customer workshop

On 15 June and 16 June 2022, ITEA organised its 8th international customer workshop in Eindhoven and this year it focused on Smart health, an important challenge of ITEA. The workshop was co-organised with Atos, Barco, Esri Canada, NXP and Philips and luckily it was possible again to organise it as a physical workshop, with some of the customers joining remotely. The event gathered 16 end users of Smart health solutions representing the point of view of the customers and around 20 solutions providers - large companies, SMEs and research organisations – of the Smart health sector.

Customer	Industry	SME/Research institute
Academic Medical Center of the University of Amsterdam (NLD)	Atos (ESP)	BeWell Innovations (BEL)
Az Damiaan (BEL)	Barco (BEL)	imec (BEL)
AZ Groeninge (BEL)	Demcon (NLD)	KnowL solutions group (NLD)
Charité - Universitätsmedizin Berlin (GER)	Esri Canada (CAN)	Macadamian Technologies ULC (CAN)
Inspire2Live (NLD)	Materialise (BEL)	Medirex Systems Inc. (CAN)
Kempenhaeghe (NLD)	NXP (BEL)	My Viva Inc. (CAN)
Lapland University of Applied Sciences (FIN)	Philips (NLD)	NewCompliance IT (NLD)
Leiden University Medical Center (NLD)	Televic Healthcare (BEL)	Noldus Information Technology (NLD)
Maastricht University - (NLD)	Thermo Fisher (NLD)	Rehabtronics Inc. (CAN)
Maxima Medical Center (NLD)		Sirris (BEL)
National eHealth Living Lab (NLD)		Sopheon (NLD)
Radboudumc (NLD)		Thunderbyte.AI (NLD)
Tampere University (FIN)		
University of Castilla-La Mancha (ESP)		
University Medical Center Groningen - University of Groningen (NLD)		
UMC Utrecht (NLD)		

Smart health, a key challenge for ITEA

This event was the second Smart health customer workshop organised by ITEA, the first one being held in Berlin in June 2016. We decided to address the Smart Health challenge once more for several reasons.

First, the health sector is a very important economic sector for Western countries. It represents close to 10% of GDP and its share in the economy is increasing. Compared to 50 years ago, when it represented around 5% of GDP, this is a tremendous growth and we hope that our economies will continue to produce enough wealth to sustain this rising trend.

Second, everyone is interested in the progress in the healthcare sector. We and our relatives are potential beneficiaries of any improvements that can be developed to provide better healthcare. There is a strong aspiration for new solutions that will be widely accessible.

Third, it is the right time to discuss how some technological evolutions can impact healthcare. We see that more and more new sensors are available and we have also progressed strongly in communication and endpoint devices with the development of smartphones and the related networks. This offers new opportunities for healthcare solutions. Artificial Intelligence is also an impactful technology for Smart health and has already been involved in this for several years, so we can assess the first lessons learnt from the use of AI in healthcare. The COVID-19 pandemic has also been a challenge for the healthcare industry and we can learn from this difficult experience to prepare future solutions.

For these different reasons, the choice of Smart health for the annual customer workshop was natural to ITEA. The Organisation Committee put in place to prepare the event (with the participation of Atos, Barco, Esri Canada, NXP and Philips) decided to select five topics to focus on in the workshop. This selection was made knowing that a two-day workshop would be unable to address the whole field of Smart health and that other topics such as new business models or drug discovery would require a different panel of participants. However, the selected topics already covered a large spectrum of research challenges for which software innovation can be a game changer.

The workshop focused on:

- **Telehealth, remote interaction with patients/healthcare staff, patient monitoring at home, virtual care:** How to benefit from new means of communication, sensors and virtual reality to interact with patients remotely? What are the challenges of delivering good care without the patient having to come to the hospital?
- **Hospital optimisation: capacity monitoring, resource management, more patient-centric:** What are the needs in hospitals and how can IT contribute to increasing the quality and productivity of caregivers at the hospital?
- **Systems for digital pathology:** How can pathology be improved thanks to new IT systems? In which areas could these technologies (data processing, robotics, advanced reality) better support current human activities? How to introduce these technologies to the benefit of patients and medical staff?
- **Moving from care to prevention and more personalised healthcare:** How can personal data (genomics, sensor data) help to prevent potential diseases and how to adapt care to each individual? What are the current barriers and challenges when moving in this direction?
- **Data exploitation (with a good balance of ethical and privacy concerns):** How to exploit the new data sources related to healthcare? What are the opportunities (for care, for research and for economical optimisation) and the challenges? How to limit the security and privacy risks?

The first two topics cover the different places where care is provided to patients. In both cases, software innovations can provide a means to either optimise existing processes or support new solutions. The third topic focuses on helping caregivers with their diagnostics. The fourth targets new solutions to develop a healthy lifestyle to prevent diseases. The last one is more transversal as data is everywhere and is therefore already central to the first four topics. It was selected to enable a discussion on generic problems related to data exploitation, such as data quality, data selection, privacy or upscaling.

Smart health customer workshop

The first day of the workshop started with a keynote speech on Smart health trends and challenges by Henk Marquering, Prof. Radiology, ip Translational AI at Amsterdam UMC, and a video message by Olivier Vanovermeire, CMO Barco and Radiologist at AZ Groeninge.

Afterwards, the sessions were dedicated to listening to the end-users and to building a common vision of the most important and interesting challenges in Smart health. For each of the five selected topics, a roundtable was organised with panellists from hospitals or research organisations linked to hospitals or national health initiatives. During these sessions, the speakers had the opportunity to present experiences, their views on the challenges and the problems that they would like to see solved. These presentations were followed by a

discussion between the panellists and all of the other participants. This resulted in some very lively discussions, enabling each participant to better see what the problems are in moving forward in the development of Smart Health.

At the end of the day, all of the participants had the opportunity to visit the Philips Customer Experience Center. This centre showcases many technologies developed by Philips that are currently used in hospitals or at home or that will soon be available. Some of them are related to ITEA projects and one of the participating SMEs provided one of the demonstrated solutions in this centre and explained more about it to the workshop participants, including how they managed to become a partner of Philips.

The second day focused on the emergence of new ideas for collaborative research projects that can address the challenges highlighted during the first day. Four parallel brainstorming sessions were set up with around ten participants in each group. The discussions were again very lively with a lot of interaction between end-users and technology providers. To conclude the workshop, a plenary session allowed each group to provide a report and all of the participants gained a global vision of all of the exchanges and the opportunity to comment on the proposed ideas and indicate their potential interest in involvement in the next steps.

After all of these sessions, the workshop produced 15 interesting ideas that may give birth to future ITEA research projects. The levels of maturity of all of the ideas are not yet equal but we expect that the upcoming ITEA Project Outline Preparation Days, taking place on 13-14 September in Helsinki, will help each of them to be further developed to become ITEA projects.

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

"Very nice workshop and I think everyone agreed that it is time to move to the next level of using advanced IT tools in hospitals. Patient-centric diagnostics but also improved hospital efficiency calls for tools which can convert the huge amount of data into insightful information using smart tools. It is time for hospital 4.0."

Jouke Dijkstra - Associate Professor at Leiden University Medical Center - the Netherlands

"From a user point of view, it was enlightening and inspiring to have discussions with technology providers about new approaches to deal with current problems in healthcare."

Henk Marquering - Prof. Radiology, ip Translational AI at Amsterdam UMC - the Netherlands

"It was a pleasure to be a part of the Smart health meeting in Eindhoven. Being able to bring customers, healthcare providers, industry leaders in technology and innovators from various countries together to discuss and strategise how technology can help solve issues within healthcare was invigorating! We have the talent across the globe to solve the issues we face in healthcare and it's through collaborations such as ITEA that breakthroughs will happen."

Loreen Wales - CEO at My Viva Inc - Canada

A full report on the Smart health customer workshop can be downloaded from mid-July via the ITEA Call 2022 project idea tool.

ITEA Call 2021 projects

A promising start!

For ITEA Call 2021, the first ITEA 4 Call, 14 projects have been labelled involving 16 countries and representing an effort of more than 2,150 person years. When thinking about this Call, the word that comes first to mind is 'quality'. After their evaluation, both industry experts and Public Authorities agree that this year's projects are of high quality. The project's objectives in terms of technological innovations and business impact are well defined, and the consortia are very relevant to tackle the projects' challenges. There is a good balance between SMEs that have the agility to innovate, large industries that can quickly bring the outcomes of the projects to the market and research centres that provide beyond State-of-the-Art research. We all look forward to seeing these projects kick off.

In this Call we see a clear focus on two ITEA smart challenges, engineering and health, with three projects for each challenge. The engineering community is very active and this year there is a focus on three important different technologies: one proposes automation (using AI) to generate surrogate models that can more easily and quickly design complex systems; a second wants to increase the productivity in the development of IoT based applications; the last plans to take advantage of the cloudification of IT infrastructure to exchange information along the engineering value chain in a more secure way. The Smart health projects are also quite diverse and focus on remote monitoring, patient data management and new solutions for mental diseases.

Besides these two strong sectors, two other ITEA smart challenges are also well represented with two projects each: Smart industry and Smart cities. The four remaining ITEA challenges - Smart mobility, Safety and Security, Smart communities and Smart energy - are the focus of one project. So, overall, all the ITEA challenges are covered in this Call.

Regarding the technology focus of the projects, AI continues to be the main driver to sustain the innovation. Different areas of AI will be researched such as the development of digital twins, the use of domain knowledge represented with ontologies, the exploitation of natural language recognition or the ability to explain AI system outputs. As often, most of the projects have defined use cases that will help to focus the research and to prepare fast exploitations. We can expect impact in various economic sectors such as automotive, traffic control, electric vehicle charging, aviation, e-commerce, retail, agriculture, telecommunication, manufacturing and health, as mentioned above.

In summary, the ITEA 2021 Call is a very good start to achieving the ambitious objectives of this programme in terms of innovation and growth through software innovation.

AIMOB SmartCity 21029

Modelling and optimisation of biofuel production and advanced monitoring systems for Smart Cities

Project leader: Inovasyon Muhendislik (Turkey)

Renewable energy (bioenergy) is one of the key factors for ensuring the sustainable development of smart cities and beyond. The aim of AIMOB SmartCity is to produce biofuels from microalgal biomass by using artificial intelligence (AI) in modelling and optimisation and to develop advanced monitoring system for Smart Cities. Simulation-based production planning of biofuel from microalgal biomass gives rise to the reduction in the operational cost and makes biofuel competitive with fossil fuels. The developed model will enable new services for local trading (Energy-as-a-Service).

BENTRADE 21003

Blockchain Based Energy Trading Platform

Project leader: KoçSistem (Turkey)

Demand for electricity is set to grow and cost-effective solutions are emerging to optimise and effectively manage the transitioning electrical grid. BENTRADE aims to provide an innovative software platform with services and tools for rapid development and deployment of Demand-side Flexibility Management (DSFM) and energy trading solutions. The BENTRADE platform will help to overcome some of the key challenges in the energy sector, most notably intermittency, sectoral silos, balancing distribution-connected generation, managing consumer self-generation, aging grids, and coping with increasing system complexity.

DAIsy 21016

Developing AI ecosystems improving diagnosis and care of mental diseases

Project leader: ARD GROUP (Turkey)

Major depressive disorder (MDD) is a common psychiatric disorder, ranking as the second leading contributor of years lived with disability. Finding the right approach for individual patients remains challenging. DAIsy will develop and bring to the market AI-supported solutions for improved diagnosis, treatment selection, monitoring with diet and activity tracking, support in behavior adjustments, and treatment response assessment. Novel AI techniques will jointly be developed to advance the AI applicability for these fragile patients by advancing techniques for large data points / patient ratios, improving explainability and uncertainty quantification.

EARS 21017

Environment Adaptive Recommendation System

Project leader: ARD GROUP (Turkey)

The main problem of many domains is the lack of information and guidance, as potential customers cannot be reached because there is not enough information and guidance towards the right products. The EARS project aims to bring together all parties in the value chain, creating an ecosystem, providing a new platform that fits the purposes of all parties, and enabling them to collaborate. Entities such as businesses, algorithm developers, solution providers, service providers and Recommendation Systems are brought together to enhance their/others' capabilities, monetising the artifacts through utilising them as a service.

EXPAI SmartIndustry 21028

Integrating AI into smart control systems, and increasing productivity for industrial areas

Project leader: Acd Bilgi Islem ltd.sti. (Turkey)

Smart technologies are becoming increasingly important while supporting Artificial Intelligence technologies that we use in our life. The main goal of this project is to provide a flexible, controllable digital environment supported by an Explainable Artificial Intelligence digital smart platform that will collect and analyse sensor data from various resources for different domains and these will be combined in a common framework in industrial areas and Retail Market. The project will present novel methods and solutions the industrial market and real-life use cases for exploitable solutions.

RM4HEALTH 21022

Remote Monitoring in Health and Sports

Project leader: Philips (the Netherlands)

Wearable health monitoring systems are very promising in allowing individuals to closely monitor changes in their vital signs and provide feedback to regain or maintain an optimal health status. The RM4Health project will accelerate innovation in electronic wearable devices. RM4HEALTH will focus on the development of open technology platforms for vital sign monitoring for these emerging fields to help them bridge “the Valley of Death” in shorter time and at lower cost. RM4HEALTH aims to stimulate innovation in continuous monitoring in healthcare and sports.

GenerIoT 21014

Generating and Deploying Lightweight, Secure and Zero-overhead Software for Multipurpose IoT Devices

Project leader: Infineon Technologies (Germany)

Distributed hardware/software systems, often interconnected via the Internet, which gather information via sensors and influence the environment via actors must be up-to-date, especially with regard to security. Additionally, the connectivity offers the opportunity to adjust in-field systems to user needs. This requires an efficient development flow enabling short development cycles. GenerIoT will provide new technologies and processing steps in order to simplify and speed up the handling of IoT software over the complete DevOps cycle. The approach proposed by GenerIoT will open new business opportunities: IoT apps.

SOCFAI 21020

Secure Open Collaboration Framework powered by Artificial Intelligence

Project leader: TAV Technologies (Turkey)

The SOCFAI project focuses on airports and addresses the problems caused by the collaborative and multi-stakeholder nature of their operations. It is providing new ways of managing the operations cycle, the ability to have a real-time common situational awareness of all aspects of the airport operation, optimising different core processes, enabling predictive and fully integrated operations management, facilitating customer service management and orientation; meanwhile trying to improve the overall customer satisfaction levels by introducing an open-source framework equipped with technologies such as AI, Computer Vision, VR, IoT, LIDAR, etc.

LimitLess 21001

Using Surrogate Engineering Models without Limits

Project leader: Fraunhofer SCAI (Germany)

Reuse, exchange, and integration of computational models into larger system-level digital twins or for subsequent designs is still limited. The combination of models from different providers often is still a mostly manual task with many limitations in the functionality. Inspired by the idea of app-stores and their commercial eco-systems, LimitLess will realise solutions for reusable and transferable engineering models, offered through open or community model stores. AI-assisted methods will help to create and attribute surrogate models from heterogeneous data sources and support their combination with each other or classical models.

SYMPHONY 21026

Eco-system for disease specific clinical workflow and data integration

Project leader: Philips (the Netherlands)

Healthcare today faces many challenges like improving patient outcome, working cost-effectively while balancing with growing demand, declining staff capacity and new clinical/technological developments. COVID-19 has clearly shown the urgency for healthcare IT to ensure efficient decision-making, cooperation and reduce the strain on the sector. The most effective way to achieve this is to unlock the full potential of the knowledge hidden within the enormous quantity of medical data that is generated. The objective of SYMPHONY is to create an open healthcare IT-ecosystem, providing care professionals with real-time, comprehensive insights into the patient's status, integrating all relevant information for diagnosis, treatment selection as well as follow-up.

TAPCOP 21032

Traffic AI Prediction of Common Operational Picture

Project leader: ViNotion BV (the Netherlands)

Authorities continuously struggle with managing and controlling traffic and crowds to prevent safety incidents and discomfort. They lack efficient solutions to prevent these problems. TAPCOP realises situational awareness & data-driven management of visitor flows and provides AI-based sensors and aggregate multiple data sources using AI to create a more reliable and complete view on the situation and predict overcrowding. TAPCOP offers a one-shop solution for multi-modal mobility management and prevention of overcrowding by personally advising visitors pre-trip, on-trip and on-site via social media, navigation systems and other mobile phone apps.

TiDiT 21023

Timeline-Driven Digital Twin

Project leader: BITES (Turkey)

The current digital twin services in the market do not completely fulfil the customer's needs and are unable to prevent unexpected breakdowns and provide cost-effective models. Moreover, end-users have to set up every simulation using different software, which results in high cost, time, and effort. By bringing together different software capabilities while fulfilling customer needs with the implementation of the innovative technologies, TiDiT aims to create an "as a service" model timeline-driven digital twin platform to enable a better decision-making process and increase situational awareness.

VESTA 21011

Proactive protection against phishing-based ransomware

Project leader: VisionWare - Sistemas de Informação, S.A. (Portugal)

Every year, millions of users fall victim to malware threats in various ways. VESTA project aims to develop a European cybersecurity system to proactively protect systems against ransomware attacks. It combines multiple techniques such as AI/ML, data and knowledge extraction, anti-phishing, human behaviour analysis and sandboxing, to build a multilayer ransomware attack mitigation platform capable of preventing, defending and remediating from such attacks. Moreover, VESTA may also tackle the challenges related to the multi-language nature of phishing emails via collaboration between partners from different countries.

ZEE 21015

Zero-Data Exchange for Engineering

Project leader: SETLabs Research GmbH (Germany)

There is a high need to process privacy and intellectual property-related digital artefacts, such as data sets, models, or algorithms. The vision of ZEE is that for processing these artefacts no copies must be created. Technical issues of security and privacy can be addressed with novel approaches. However, current IT infrastructures represent major barriers. Much sought-after applications like controlled data sharing, distributed computing, or distributed tool chains are effectively prevented. The ZEE project aims to exploit edge/network/cloud computing-based mechanisms to circumvent these issues, to enable new business opportunities through a more generous attitude towards sharing in industry.

FMI 3.0 - a major milestone for interoperability in system modelling and simulation

The creation of the Functional Mock-up Interface (FMI) Standard developed in the in ITEA MODELISAR project and the extension towards embedded systems, eFMI, developed in the EMPHYSIS project, were highly successful outcomes of ITEA projects. The FMI has proven itself as the most widely adopted format for system simulation model exchange and the de facto industry standard for model exchange and co-simulation. FMI version 3.0, now released by the Modelica Association, is a major milestone for interoperability in system modeling and simulation.

FMI 2.0 has established itself as the most widely adopted format for model exchange and co-simulation since its creation as the result from the publicly funded MODELISAR project. Ten years after the end of the project and funding, FMI is used more than ever and the FMI-project is still active through voluntary contributions of the participating companies and organisations. The royalty-free nature of Modelica Association standards and availability of open-source and commercial solutions right from the first publication have contributed to its rapid and wide adoption across many industries: automotive, aerospace, industrial equipment, buildings, energy, manufacturing, and others. More than 170 tools officially support FMI, and many more in-house solutions are built on top of FMI. Its adoption is still increasing at a healthy pace.

The development of FMI 3.0 has been guided by the experience from current end users and tool developers. The rapid digitalisation of the engineering development process, and the growing needs for collaboration between suppliers and OEMs require technical advances to FMI in order to continue the success story over the next decades.

FMI version 3.0, now released by the Modelica Association, is a major milestone for the standard with new features that enable the use of FMI in important new use cases: advanced co-simulation, virtual Electronic Control Units (vECUs), the next generation of digital twins, artificial intelligence, and autonomous driving applications.

For more information please read the complete press release from the Modelica Association.

More information

https://modelica.org/
https://fmi-standard.org/

Calendar

23-29 JULY 2022
31th International Joint Conference on Artificial Intelligence
Vienna, Austria
https://ijcai-22.org/

31 AUG - 1 SEPT 2022
15th Graz Symposium Virtual Vehicle
Graz, Austria
https://www.gsvf.at

7-8 SEPT 2022
Intelligent Health 2022
Basel, Switzerland
https://intelligenthealth.ai/

13-15 SEPT 2022
ITEA PO Days 2022 & ITEA Family reunion (ITEA Call 2022)
https://itea4.org/podays2022/ index.html

20-22 SEPT 2022
Urbis Smart City Fair
Brno, Czech Republic
https://www.bvv.cz/en/urbis/

20-21 SEPT 2022
Cyber Security & Cloud Expo
Amsterdam, the Netherlands
https://cybersecuritycloudexpo.com/europe

27-28 SEPT 2022
International Cyber Expo
London, UK
https://www.internationalcyberexpo.com/

27 SEPT 2022
ESI symposium
Veldhoven, the Netherlands
https://esi.nl/events/symposium

4-7 OCT 2022
Motek 2022
Stuttgart, Germany
https://www.motek-messe.de/en/

12-13 OCT 2022
World Summit AI 2022
Amsterdam. the Netherlands
https://worldsummit.ai/

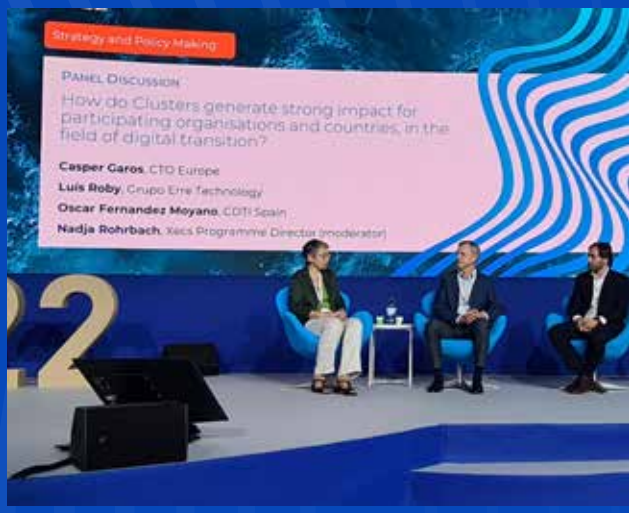
17-20 OCT 2022
IECON 2022
Brussels, Belgium
https://iecon2022.org/

15 2022
ITEA Call 2022
Deadline submission of Project Outlines
https://itea4.org/

Eureka Global Innovation Summit 2022

Good to meet again, in-person and online

On 22-23 June, the Portuguese Eureka Chairmanship team organised the Global Innovation Summit 2022 (GIS 2022) at the Estoril Convention Center in Portugal. This year, the event was inspired by the Atlantic, its innovations and how collaboration across the region can foster a more sustainable future. The event brought back the in-person component that we all greatly missed, with a hybrid event offering both in-person and virtual attendance options, expanding the event's reach to a larger scale and engaging the audience through an interactive event app with livestreaming. The event hosted over 1,700 attendees (in-person and online).



Panellists of the Clusters sessions at the Global Innovation Summit clearly explained the Clusters' benefits

Canada and South Korea gain full membership of Eureka

The Eureka Global Innovation Summit was also the place for a special official announcement. On 22 June, the Eureka network announced that the Republic of Korea and Canada have become Eureka full-member countries, which strengthens the international character of Eureka and underlines the value of global collaboration. Both countries were previously associated partners of Eureka. Furthermore, Chile was reassociated to the network. Eureka ministers decided that non-European countries can now also become full members of the Eureka network in order to promote innovation.

The Eureka Clusters at GIS2022

All Eureka Clusters, including ITEA, contributed to this year's event as well. During the entire event, attendees could visit the joint Clusters booth and several country booths. Representatives from all Clusters and other Eureka instruments were present to advise on the international funding landscape and the tools and opportunities available to businesses, as well as to exchange ideas on how

organisations could best benefit from participating in Eureka.

Eureka Clusters were also part of the Eureka Academy session that took place in the afternoon of day one of the event. This session allowed participants to learn more about the range of support and services offered by the Eureka network, the procedures to follow and how to best prepare your possible project participation.

On 23 June, the Eureka Clusters jointly organised a session called 'How do Clusters generate strong impact for participating organisations and countries in the field of digital transition?' In this session, attendees learned about the strong outcomes and impact of collaborative projects, both from industry and from the side of policymakers.

- **Best product and service innovation – IMPACT project**
  The ITEA project IMPACT was a finalist thanks to its results focusing on personalised diagnosis and treatment planning, minimally-invasive and robotic-assisted surgery, workflow optimisation and data intelligence. IMPACT has made healthcare more efficient, accurate and cost-effective..

- **Best Woman in Leadership – Sigrid Eldh from the TESTOMATproject**
  The nomination of Sigrid Eldh recognises her strong and important role as the project leader of the ITEA TESTOMATproject that managed to push the state of the art in test automation towards agile development, allowing companies to identify their own 'next level' through a Test Automation Improvement Model while optimising their testing with dozens of open-source tools.

sufficient energy is available. This plays a significant role in the use of renewable energy such as wind power or solar energy. A central innovation of SPEAR is the mirroring of the energy consumption of the production plant by simulating extended behavioural models on low-cost hardware. This allows highly flexible and cost-effective approaches to be explored and implemented and the planning and execution of the production system to be optimised through accurate simulation of the production processes. This supports efforts such as Industry 4.0 and Smart industry.

We would like to congratulate IMPACT, Sigrid Eldh (TESTOMATproject) and SPEAR on their impressive achievements!

Recognition of ITEA projects and Community members

During the GIS, the Eureka Innovation Awards were presented in five categories. The Eureka Innovation awards, a competition launched by the Portuguese Chair of Eureka in collaboration with the national funding agencies of the Eureka network, recognised and celebrated projects and innovations that stand out because of their outreach, impact and value for business and society. We are very proud of the ITEA projects and Community members, which were very well-represented in this competition:

- **Best sustainability innovation – SPEAR project**
  The ITEA SPEAR project was the winner in the sustainability category, which was one of the main focus areas of the event. Project leader Anton Strahilov was present to receive the award and addressed his words to the full project consortium for the great work that has been achieved together. One focus of the project was on the energy optimisation of production processes, production lines and buildings. Energy-intensive processes, for example, can be shifted to time windows where cheaper and

A closing with new opportunities

In the closing session, Eureka Chairperson and CEO Miguel Bello Mora, together with President of ANI Joana Mendonça and Minister of Science, Technology and Higher Education Elvira Fortunato, closed the Eureka Global Innovation Summit 2022 by celebrating the successes of the event and the Portuguese Chairmanship. Their number one goal was to increase the global outreach of the Eureka network and they certainly managed that. We look forward to the new opportunities that this will bring to the Clusters and ITEA!

Eureka Clusters

First Annual Operational Plan approved

We are very pleased to announce that the first Annual Operational Plan (AOP) of the ECP was approved by the Eureka High Level Group during the NP/HLG Days in Estoril on 20-21 June. The AOP is part of the four years Multi-Annual Plan (MAP) of the ECP, providing a detailed overview of the Calls, including support by countries, planned for the upcoming 12 months.

The Annual Operating Plan (AOP) defines the areas for which (Joint) Calls will be organised each year and, in addition to the funding, Public Authorities, industry, research organisations and academia are willing to invest in. This AOP will run from July 2022 to June 2023. For all joint Eureka Clusters Calls, the ECP processes detailed in the MAP are followed.

This year's AOP includes an overview and schedule of the single Cluster bottom-up Calls per Eureka Cluster that are planned, including the budget commitments per Eureka country. Furthermore, an exploration of potential joint Call areas is included. The plan does not include any decisions regarding the organisation of a second Joint Call, following the Eureka Clusters Sustainability Call 2022. However, the AOP offers the flexibility to open any new Joint Call during its execution period.

Eureka Clusters Call dates

CELTIC-NEXT, EUROGIA, ITEA, SMART and Xecs	30 Sept 2022	Submission deadline FPP Eureka Clusters Sustainability Call 2022	https://eureka-clusters.eu/sustainability.html
ITEA 4	13 – 15 Sept 2022	ITEA PO Days 2022 & ITEA Family reunion	https://itea4.org/podays2022/index.html
	15 Nov 2022	Deadline for submission of Project Outlines for ITEA Call 2022	https://itea4.org/

Colophon

An online version is available at https://itea4.org/magazine.html

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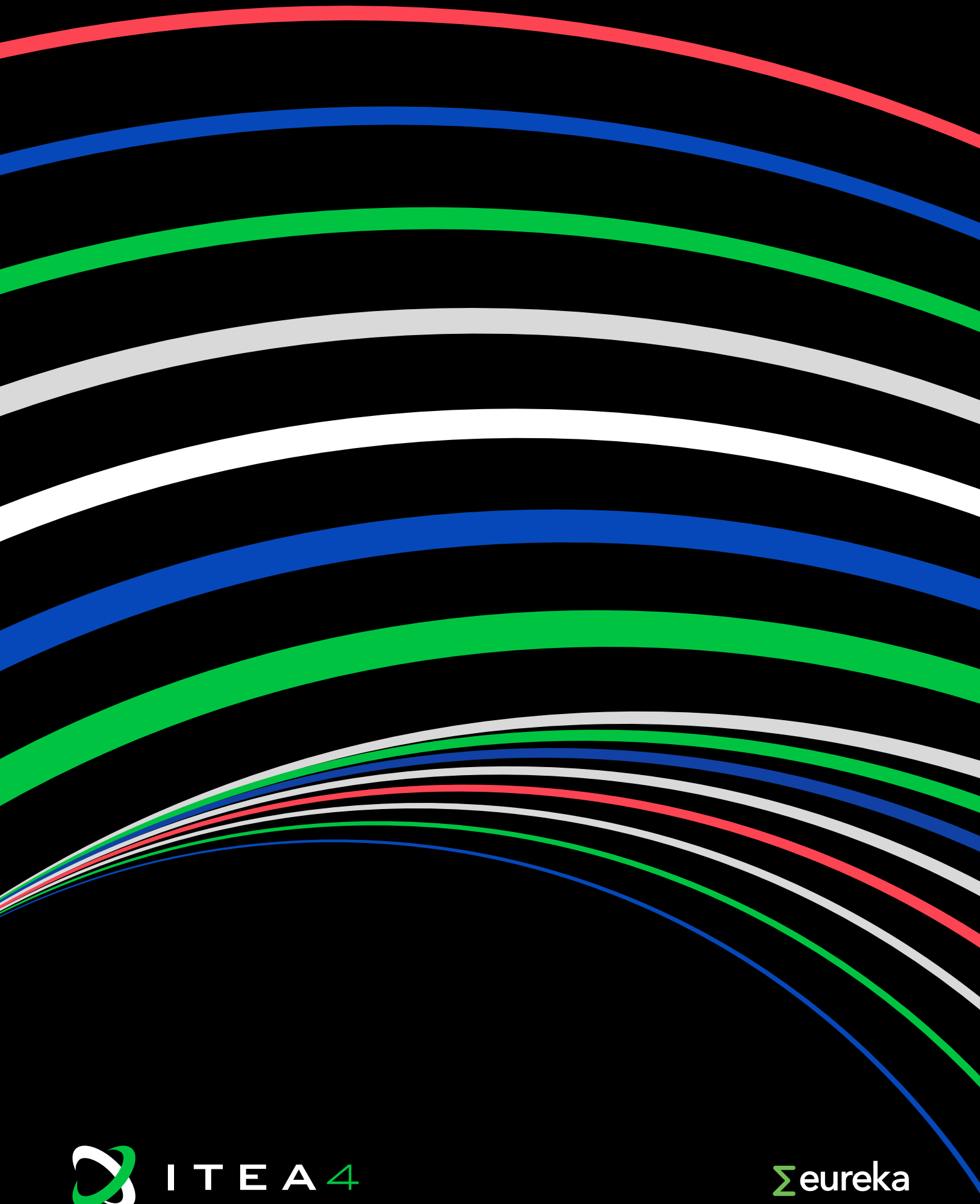
Submissions:
The ITEA Office is interested in receiving news or events linked to the ITEA programme, its projects or in general: R&D in the software innovation and Digital Transition domain.
Please submit your information to communications@itea4.org.

Subscription:
communications@itea4.org



ITEA 4

https://itea4.org

Σeureka

ITEA is the Eureka Cluster
on software innovation