

November 2024 – Number 49

# ITEA Magazine

Country focus:  
**Canada**

ITEA Success stories:  
**OPTIMUM & BIMy**

SME in the spotlight:  
**D-SIMLAB**



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Canada and Germany 2024/2025 Co-Chairs of the Eureka Network



ITEA is the Eureka Cluster  
on software innovation



## Dear ITEA Community,



Régis and I are very pleased to bring you our first editorial for the ITEA Magazine, which has been sharing news and insights from our programme and projects since 2008.

In this edition, you'll find a wrap-up of the PO Days in Antwerp, a spotlight on our valuable partnership with Canada, and our Community Talk with our 'Coach' Erik Rodenbach.

But most importantly, we are featuring stories about you and your projects. Régis and I are particularly inspired by the paths taken by the technology you develop within the projects to generate impact in the real and virtual worlds. Whether your work leads to new products, standards, IP, or open-source contributions, that is up to you! What drives us is maximising the impact of your efforts! Our entire ITEA Office team, including Régis and myself, are here to support and listen to you. So, please feel free to reach out anytime with your ideas or feedback.



Recently, we all greatly enjoyed the PO Days 2024 in Antwerp! What an inspiring Family gathering; more than 300 creative participants exchanging ideas and planning new projects during these days! Have a look at the details at <https://itea4.org/podays2024>.

The opening speech at the PO Days 2024 was especially meaningful for me. Not only did it mark my first time opening this event, it also took me back to a keynote I gave in Antwerp 18 months ago at the DATE23 conference on the Cyber-Physical Metaverse titled 'Where Digital Twins and Humans Come Together'. You may recall that I briefly talked about this topic at the ITEA PO Days again – not from a lack of fresh topics, but because I genuinely believe we are on the edge of a new industrial revolution that will significantly change how we and machines interact. This revolution will be the result of mixing recent advancements in ICT and AI – and, more specifically, bringing the power and efficiency of cloud computing to any place where a (real or virtual) machine might need it. Reliably and in real time.

This capability will allow people and machines, as well as machine networks, to interact seamlessly between both real and virtual worlds. To help spark new ideas for proposals in the upcoming Call, we'll be organising an in-depth Community exchange on this topic next year. If you're interested in contributing to this event, please let us know!

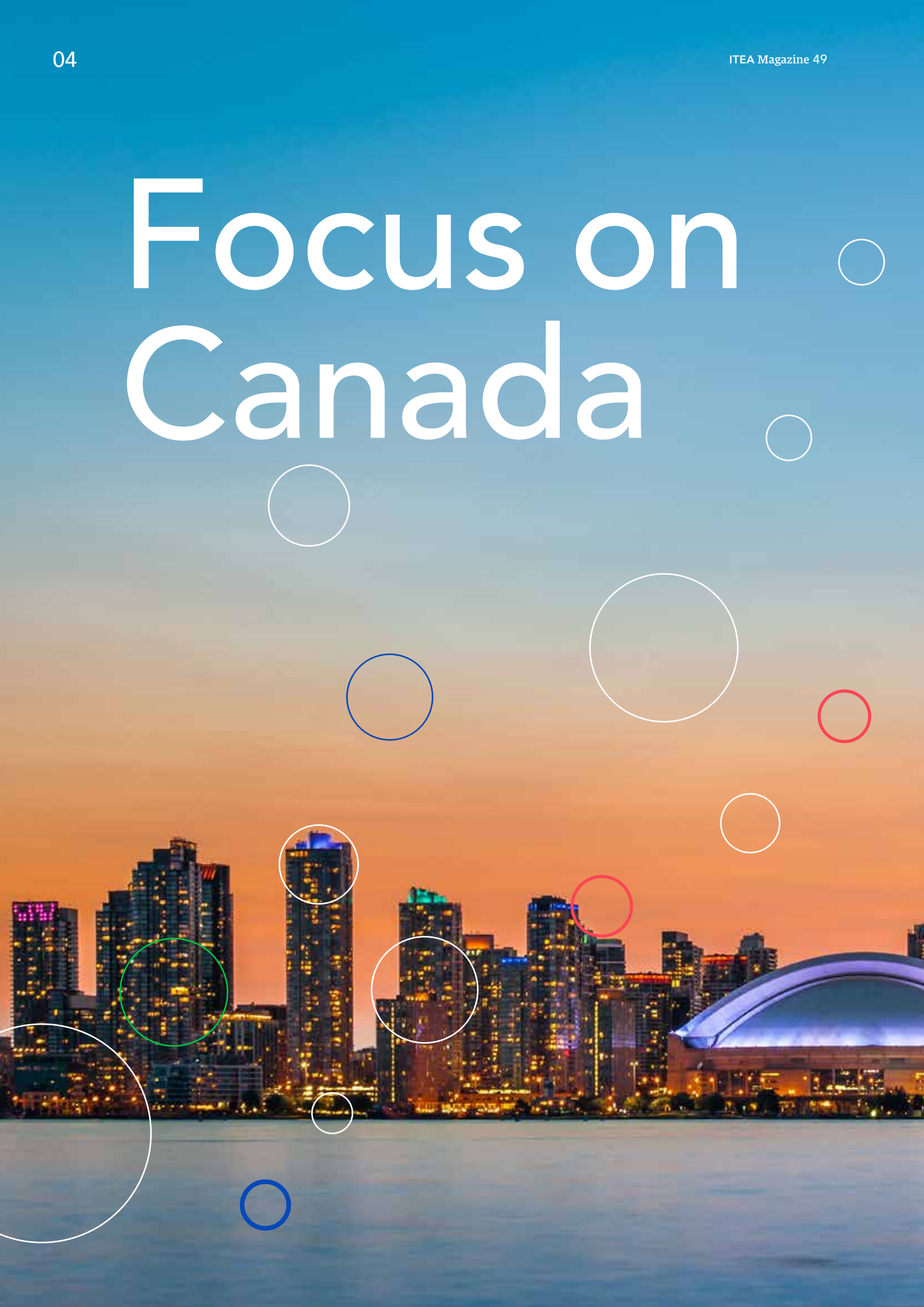
Finally, much has changed over the last 16 years since we first published the ITEA Magazine, both in ITEA and in our (working) environment. We have seen progress in where we work, the way we share and consume information and, of course, the technologies that enable all of this.


With this in mind, we're exploring new and improved ways to share information with you. Since this magazine is created for you, we'd love to hear your thoughts on how we can keep improving. Have a look on page 28 and share your feedback with us.

All the best and enjoy reading!

Dirk Elias & Régis Cazenave

# Focus on Canada





# Ten years of successful collaborations through ITEA

For over 75 years, the National Research Council of Canada Industrial Research Assistance Program (NRC IRAP) has been providing Canadian small and medium-sized enterprises (SMEs) with access to funding, advisory services and connections that help them develop innovative technologies and drive business growth. 2024 also marks the tenth anniversary of Canada's participation in ITEA; in that time, more than 70 Canadian partners have participated in over 30 projects valued at approximately 51.4 million euros of investment. Vance Pan, Industrial Technology Advisor at NRC IRAP, outlines how the software landscape and national priorities of Canada align with ITEA.

*It's important to point out that Canada's participation gives international partners access to world-class software talent in Canada and provides them with an entry point into the North American market.*

### **A great deal to offer**

As the Canadian Program Lead for Eureka ITEA, Vance provides Canadian organisations with a first contact point in ITEA's global network. "From our perspective, Canadian SMEs are the backbone of the economy and the main drivers of our industrial innovations," he begins. "As Canada's leading industrial innovation programme for SMEs, NRC IRAP provides direct support to Canadian innovators with plans to expand internationally. We do this by identifying opportunities for them to grow through international collaboration programmes like ITEA, which provide companies with the funding and services they need to access new markets and global value chains."

In turn, Canadian partners have a great deal to offer: ICT is a top-three industry in Canada and accounts for approximately 7% of GDP. "The software subsector makes up the bulk of the ICT sector," Vance continues. "It accounts for over 90% of the more than 43,000 companies operating in the Canadian ICT sector. Technologies like AI, quantum computing, big data analytics, IoT and cybersecurity anchor growth in this sector and impact the overall economy. The sector is also responsible for employing approximately 1.4 million people, which represents more than 6% of the total workforce. Quite clearly, the ICT sector – and specifically software companies – play a critical role in both the economy and Canadian society today."

### **Transformative technologies**

In addition to SMEs, Canada's software innovation ecosystem consists of large firms, academia, industry-focused research centres, venture capital investors, incubators, accelerators and a broad spectrum of government policies and programmes to support this ecosystem. Among these programmes, the Canadian government funds advanced academic

research, provides training for knowledge workers and offers tax incentives, grants and contributions to help offset the costs of R&D activities.

"The goal of this ecosystem is to advance transformative technologies that will support a technologically advanced economy and accelerate the transition to a more digitally enabled society in Canada," explains Vance. "One example is Canada's role in the advancement of artificial intelligence over the years. For the software industry in Canada, this is probably the most important topic at the moment. Canada was the first in the world to introduce a national AI strategy back in 2017 with the first phase of the Pan-Canadian Artificial Intelligence Strategy. This focused on developing strong industrial research competencies, a talent pipeline and a national ecosystem. Since the implementation of that strategy, we have established three national AI research institutes across the country, more than 50 multinationals have set up AI R&D labs in Canada, and hundreds of AI startups have been launched in the last few years. With a maturing national AI ecosystem in place, we expect both the commercialisation and adoption of AI innovations to increase significantly over the next few years."

### **Time-tested approach**

As Vance notes, Canada's increased focus on AI follows a similar pattern taking place within ITEA. "In the last two years, we've seen a significant rise in ITEA projects that have an AI focus. Some of these are pure AI projects, like the GENIUS project from ITEA Call 2023, which is all about generative AI. If you look back three or five years, AI would have been a smaller component of the overall project. But now, it's basically everywhere. Given that Canada was ahead of the curve on AI, NRC IRAP is encouraging Canadian SMEs to lead ITEA projects and bring more Canadian partners into these types of collaborations.



In doing so, Canadians can drive the vision of projects and showcase Canadian technologies and innovative ideas to the world – not just regarding AI, but across the software spectrum.”

These efforts are bearing fruit. Canadian SME Kelvin Zero is currently leading the Secur-e-Health project, which brings together 30 partners across five countries to take health data out of silos so that healthcare providers can better collaborate. Canadian partners also played key roles in the ITEA projects SMART and INNO4HEALTH, each of which received an ITEA Award of Excellence 2024 at the most recent PO Days for their respective work of addressing urban traffic congestion challenges and chronic disease management.

“The Eureka Clusters programme, including ITEA, applies a time-tested approach to transnational collaborations. The bottom-up projects are led by industry, with participants who are trusted and engaged, with well-defined and effective processes,” says Vance. “We recognise that these projects create valuable long-term partnerships while creating commercial and social impact. While the United States is Canada’s main trading partner and the primary export market, Canada also recognises that other global markets offer significant growth opportunities for Canadian SMEs. NRC IRAP’s international programmes are designed to help them connect with and benefit from markets beyond North America, and Eureka is at the core of this initiative.”

### Continued collaboration

While time zones can provide a challenge – especially when working on a project with partners in Canada, Europe and Asia – Vance believes that Canadian participants consider the benefits of ITEA to far outweigh the costs. “Over the years, more and more Canadian SMEs are starting to see

Canada is celebrating an important milestone this year as co-chair of Eureka with Germany for 2024-2025. This is the first time in Eureka’s almost 40-year history that two countries are sharing the responsibility of leading the network. The National Research Council of Canada (NRC), in collaboration with Germany’s Federal Ministry of Education and Research (BMBF), will help set the strategic direction for Eureka and continue to support efforts to enhance cooperation across the network. Innovators and partners from across the Eureka network will also have the opportunity to visit Canada and experience its vibrant innovation ecosystem of growing companies and world-class research institutions.

For more information, please visit the Co-Chair’s website (<http://www.eureka2024-25.com/>) and check the Eureka news item on page 30.

the value of international collaboration and are taking advantage of ITEA. From the perspective of Canadian partners, the opportunities and benefits of Eureka are not just for Canadians. It’s important to point out that Canada’s participation gives international partners access to world-class software talent in Canada and provides them with an entry point into the North American market. The Eureka ITEA Office is doing excellent work helping to promote the programme and raising awareness, as Canada welcomes continued co-innovation opportunities with partners all over the world.”

### More information:

<https://nrc.canada.ca/en/support-technology-innovation/eureka>

# Kelvin Zero

## Taking health data out of silos with Secur-e-Health

**As a first-time ITEA participant, Canadian SME Kelvin Zero isn't a typical project leader - but, in Secur-e-Health, they drive a larger-than-average consortium towards the integration of new approaches for digital identification and privacy-preserving analysis. This will allow medical institutions of all types to collaborate and leverage data insights, promising big improvements to healthcare. Co-founder and Chief Technical Officer Thierry Gagnon and Project Manager Alexandre Peyrot talk through the experience so far.**

### **An unexpected journey**

With Multi-Pass™, their flagship software for secure biometric authentication, Kelvin Zero is a leader in passwordless solutions for critical domains like healthcare, government and finance. But this wasn't always the case: the company's origins lie in the first cryptocurrency bubble, when co-founder Philippe Desmarais approached Thierry with the concern that his digital assets were insufficiently protected. "The idea was to create a system that would allow organisations to securely offer or manage cryptocurrency and digital assets with more ease than what was then available," Thierry explains. "We went into that journey by creating a cold storage wallet solution and patents around threshold cryptography – how to properly manage cryptocurrency or blockchain transactions into a sub-network approach that would be trusted within the decentralised network."

"Eventually, it hit us that we had solved a problem for cryptocurrency, but also for data in general. A cryptocurrency transaction is really just bits of information being exchanged and

verified; the same as if it was medical information, for instance. So, we turned what we had into a more generic approach to solve cybersecurity or data challenges in general. More recently, we focus much more on passwordless, next-generation multi-factor authentication. But we're still tied to those original ideas: turning something centralised into a decentralised network, but making it safer, securer and easier than the typical solutions out there."

### **Small and large**

When this journey began, Kelvin Zero primarily offered one-off solutions to large organisations, including governmental and financial institutions. Although these contracts were valuable, their customised nature made it challenging to gain visibility and replicate results across different clients. The company therefore recognised the need to shift to companies that require the solutions already developed – a strategic change that opened doors to a wider range of opportunities.

"Every system should have some form of authentication, so everyone is a potential customer," Thierry continues. "We now have a lot of interested


partners, including managed service providers and managed security service providers. We're still working with larger organisations, but we're also trying to get into the small and medium segment, where it's usually a bit more complex to have proper cybersecurity measures in place. It's also more costly; they often don't have an internal cybersecurity team. That's why those managed service providers and managed security service providers are important, as they typically adapt what we have into their stack of solutions that they provide to small and medium organisations."

### **The international scene**

This desire to work with companies of all sizes and domains was part of the appeal of ITEA, for which Kelvin Zero is the originator of Secur-e-Health. The project, which runs until December 2025, has its origins in a national cybersecurity pilot conducted with the National Research Council of Canada (NRC). When the NRC suggested that Kelvin Zero take their work to the international scene, they leapt at the opportunity.

"This is a very big project with a lot of partners," notes Alexandre. "We have 25 companies divided across





*Working with ITEA is kind of like saying, 'Okay, you played in your regional league; you can now go to the Champions League of R&D'.*

Canada, Finland, Germany, Portugal and the Netherlands, so there's a lot of coordination and money involved. Every stakeholder has their own target, especially for the technology. For example, one of our German partners is actually working on a new system to improve the situation around trauma. Each partner is providing a tiny piece of the puzzle and we are facilitating connections between the companies to fit each piece into the big picture."

A significant element of this big picture is the need for better medical research, necessitating more data and patient participation. For years, data sharing has been touted as a solution, yet legal restrictions complicate this process – especially when organisations operate in different countries. Through its efforts to securely unify different healthcare silos, Secur-e-Health will make it easier to conduct and improve medical research, thereby improving the quality of medical predictive models and the efficiency of data-driven treatments.

### **Always expanding**

"One of the great benefits for us personally has definitely been the potential to develop new customer relationships and expand to new markets," says Thierry. "We're attending a few European events now, like ENISE

in León, the largest Spanish-speaking cybersecurity conference in the world. Without ITEA, I don't think we would have had our network expanded enough for us to take on these opportunities abroad at this point in time. It sped up our development in Europe."

"For example, we held Secur-e-Health's annual review in Finland a few weeks ago," Alexandre adds. "This was a major event for us because it was an ideal opportunity to give a clear view of what we have accomplished, where we are right now and what we plan to do until the end of the project."

"And ITEA is not just Europe," continues Thierry. "I've seen companies from Israel, South Korea and Canada. Given that ITEA is growing everywhere, it would be great to see a bit more presence at those organisations – maybe to expand its horizons a bit and have reviews and events in North America, South America or Asia. That would allow better growth from these countries and reinforce the global and commercial prospects of existing or future Europe-based ITEA projects. All parties could really benefit from that."

### **The Champions League of R&D**

The global nature of the initiative is just one of a number of ways that

work with ITEA differs from Kelvin Zero's previous experiences. Having worked on solo R&D projects under the NRC, a major differentiator of Secur-e-Health is the opportunity to go from R&D to commercialisation within one project. "There's nothing worse than R&D that never sees the light of day. But commercialisation alone is not enough," Thierry concludes. "If you want to build something resilient and future-proof, you need both R&D and the opportunity to see it all through. It's a chance that everyone should seize. Then programmes like ITEA will be more successful, but so will all the different organisations involved in them."

"As a small organisation, it's our first time as a participant. Many people doubted that we would be able to manage it properly and see it through. But I've always liked challenges. Working with ITEA is kind of like saying, 'Okay, you played in your regional league; you can now go to the Champions League of R&D'. At this point, we're well on our way to being successful."

### **More information:**

<https://www.kzero.com/>

## OPTIMUM

# Offering greater efficiency, safety and usability in future smart factories

In today's factories, machines such as cranes are typically operated manually using heterogeneous hardware. These are usually not interoperable and diverse control environments are used; static machine configurations also make evolution hard to achieve. In a global market with strong competition, Industry 4.0 concepts like greater software modularity, interoperable frameworks and Industrial Internet of Things (IIoT) must be embraced to enable truly smart factories.

Success story





The ITEA project OPTIMUM, which ran from 2017 to 2021 and gathered 17 partners from Germany, Türkiye, South Korea, Romania, Spain and the United Kingdom, enabled machines of different kinds and from different manufacturers to communicate with each other and their operators, improving the safety of workers and equipment. This was achieved through real-time machine-to-machine and machine-to-human communication utilising a distributed control platform (DCP), localisation awareness and 3D engineering and visualisation for smart factory

applications. This was ground-breaking because previously only machines from the same manufacturer could communicate with each other at a reasonable cost and engineering effort.

#### **Improved safety and reduction in assembly time**

For smart manufacturing processes, this communication needs to be realised at an extremely high speed – in real time – and at an extremely reliable rate. Only then can the safety of operators and equipment be guaranteed. The basis for this is twofold: firstly, the

communication channels need to permit data exchange with high reliability in real time and, secondly, the system needs to be aware of the current positions of all of the actors within it – moving or static, human or machine. This way, the system can gain the necessary context/positioning awareness of all of the actors participating in the material flow.

A great innovation for standard semi-automated applications is the potential for new and cost-efficient assistance functions that revolutionise the

**Project start**

November 2017

**Project end**

June 2021

**Project leader**

Anja Maria Fischer-Kraus  
Demag Cranes & Components GmbH,  
Germany

**More information**

<https://itea4.org/project/optimum.html>

efficiency of processes. The outcomes of OPTIMUM are prerequisites for the implementation of smart processes in real smart factories in the future.

The consortium has implemented and validated the diverse technical results through 15 demonstrators in four countries. Cranes, forklifts and autonomous driving vehicles were equipped with new assistance functions, like 'come to me', 'go-to' and 'follow machine'. This will make machines and processes smarter. These innovative assistance functions will significantly reduce assembly times in semi-autonomous processes, where an 18% reduction was already achieved during a proof of concept. In real industry applications, even larger efficiency increases are expected. This improves resource utilisation and overall sustainability. Users of the software and applications developed in the OPTIMUM project will also enjoy safer and more flexible material handling processes.

In the meantime, the distributed control architecture and the M2M communication approaches developed in OPTIMUM have been continued in several Konecranes and Demag development projects. The result of the Electric 2.0 project will be an innovative, bus-based crane control architecture. The crane control components will be modular and scalable so that they will be suitable for a wide application range, from light lifting to industrial cranes with manual, semi-automatic or fully automatic operational modes. The new crane control solution will consider the EU Cybersecurity Act requirements and will be prepared for security level certification. In addition, OPTIMUM's cybersecurity-related topics have been deepened and continued in the SUSTAIN research project. In this new project, four OPTIMUM partners – Demag, IFAK, IOTIQ and the University of Rostock – are working on the security certification of the OPTIMUM IoT Kernel.

One of the most crucial technologies for the realisation of innovative assistance functions in OPTIMUM was wireless, real-time capable M2M communication, for which the project chose to utilise 5G technology with ultra-reliable,

low-latency (URLL) capabilities. Due to the fact that Release 16 of 5G (URLL) is still not available, further projects have been set up with the aim of finding alternative solutions for reliable wireless, real-time capable communication. Since September 2022, Demag has been working on the EmKol4.0 research project that relates to the development of modern communication technologies for Industry 4.0.

**Strong standardisation and exploitation results**

With the demonstrators, the consortium has proven the scalability of the results. These demonstrators range from small mobile robots to table-top demonstrators, laboratory demonstrators and real factory applications with demo assembly processes. Three out of eight patent ideas are already registered at a national level, building the grounds for future market approaches. Remaining patent ideas are under review or in the process of submission.

The development of a globally standardised Open Platform Communication Unified Architecture (OPC UA) data model for cranes and hoists (OPC 40020-1 companion specification) was actively driven by the project partners and evaluated in the OPTIMUM project. The finalisation of this companion specification makes it possible to create flexible, standardised, interoperable and secure solutions across the entire material handling domain, as well as beyond in mechanical and plant engineering.

The current successes in market exploitation following the finalisation of the OPTIMUM research project are as follows:

1. In August 2023, Demag supplied a crane to the Fraunhofer Institute for Factory Operation and Automation (IFF) in Magdeburg for its new research facility, the Elbfabrik. This crane, known as the OPTIMUM Crane, will feature innovative assistance functions developed as part of the OPTIMUM project. The implementation of these advanced



*The outcomes of OPTIMUM are prerequisites for the implementation of smart processes in real smart factories in the future.*

functionalities is being supported by project consortia partners. The Elbfabrik serves as a research and demonstration space for Industry 4.0 solutions, where the OPTIMUM Crane will play a key role in smart factory scenarios, facilitating collaboration between machines and humans in a shared environment.

2. NXP is developing an integrated hardware solution based on OPTIMUM results to serve as an evaluation kit for the industrial market.
3. Tarakos has extended their software solutions (taraVRbuilder and taraVRcontrol) and has significantly improved the planning of material handling processes with cranes. The

roll-out to the market took place in August 2022 and the extended software is also being sold to the Fraunhofer Institute for the Elbfabrik. In addition, OPTIMUM's results have so far led to the acquisition of two industrial customers from the crane sector for software licenses and services.

4. BEIA has developed its IoT telemetry solution with OPC UA for cranes to be used by NAVROM, the biggest river shipping company in Romania.

Thanks to high levels of collaboration within the consortium and the support of ITEA, OPTIMUM has overachieved in various ways. For technical outputs, a clear highlight is the development and

implementation of five DCPs across 15 machines (versus a target of three devices), including cranes, automated guided vehicles and forklifts. Runtime visualisation has been created, while contextual awareness is another unique, ground-breaking result. Against an initial goal of two market approaches, the consortium has now developed 38 short, mid or long-term exploitation approaches to bring such innovations to market.

OPTIMUM's competitive advantages are clear: the localisation of all actors will increase the safety of manufacturing environments, assistance functions result in a significant reduction in assembly times (thereby improving resource utilisation and overall sustainability), and the closed loop of optimisation can reduce development times and costs. Eighteen tools for third-party exploitation have reached TRL 4 (lab validation) or higher; a notable example is a software tool to support layout-based engineering and the visualisation of overhead travelling cranes.

OPTIMUM has seen further successes in dissemination and human capital, resulting in the hiring of 12 permanent staff and the completion of 43 bachelor's or master's theses and student works related to the project. Students have also played a unique role in the demonstrators, including scaling the German demonstrator down to create two fully functioning 3D printed desktop demonstrators at the University of Rostock and Demag. The University of Rostock has integrated knowledge gained from the project into its courses. Having reached over 30,000 people via newsletters, guided tours and social media, the OPTIMUM consortium is highly committed to further developing the project's results, including transforming eight patent ideas into marketable outputs. This spirit of collaboration is set to increase efficiency, competitiveness, safety and security and reduce manufacturing waste for many years to come.

## Community Talk with Erik Rodenbach

# Running a well-oiled machine

Having started his career as an electronic engineer in the early 1980s, Erik Rodenbach describes himself as “one of the lucky young guys to be turned into a software engineer.” This set him on the path to ITEA, where he would spend almost 24 years as the Programme Coordinator. Following his departure this year, Erik looks back on the changes in ITEA and the positive influence this brought.

### A recommended replacement

Like ITEA, Erik’s career has always been evolving. Initial work in R&D at Philips gave way to a position at Schlumberger on the automation of fuel stations. There, he first started to take on managerial tasks and also came into contact with public funding through national and EU R&D projects.

“At the end of the 90s, I was around 45. That’s the age when you get a bit of a midlife crisis, I suppose,” Erik laughs. “I’d been working all that time for big companies but that’s not really my ambition. So, I started an evening course in business administration just to prepare myself to start my own company.” This was to be ERaQua, an innovation and quality consultancy firm. It was in this context that Erik was introduced to ITEA: a former colleague was serving as the Programme Coordinator and recommended Erik as his replacement. At the start, he devoted roughly 50% of ERaQua’s activities to ITEA, but this gradually increased to 80% over the years.

### Making more noise

“In those early days, it was a really small team,” says Erik. “But I liked it;

the atmosphere was very good. We always had a strong willingness to cooperate, and it was an exciting time because the Office was just like a small startup. The team I started with was completely different to the one in my last years, but that same atmosphere was always there.” One of the first points of attention was the PO Days, the annual event in which the ITEA Community comes together to build up new projects. Erik joined ITEA during its fourth Call but was surprised to find only ten people at his first PO Days.

“One of the things I decided to change – with the support of the Chairman and Vice-chairman – was that we promoted the ITEA PO Days to a larger audience. The next year, we had a small area in a hotel in Brussels and we expected maybe 50 people. Suddenly, 100 showed up! The room was packed, but the atmosphere was fantastic. People were very enthusiastic and creative, eager to share their ideas. That was a great moment for me.”

### The new PO Days

In addition to a higher turnout, that event saw the introduction of companies from beyond the founding

members of ITEA, as well as more SMEs and a wider range of nationalities.

Erik and the team would subsequently build on this success with a new format for the PO Days. “First, we created a marketplace where people could share posters and connect. Then, we allowed them to make five-minute pitches. Finally, we asked them to collaborate throughout the day and come back to us at the end to share what they had achieved. You didn’t need to guide people much. Once you provided the structure, they were motivated and creative enough to drive the process themselves. The PO Days are much more professional now but, over the years, the format has served as the basis for a successful event.”

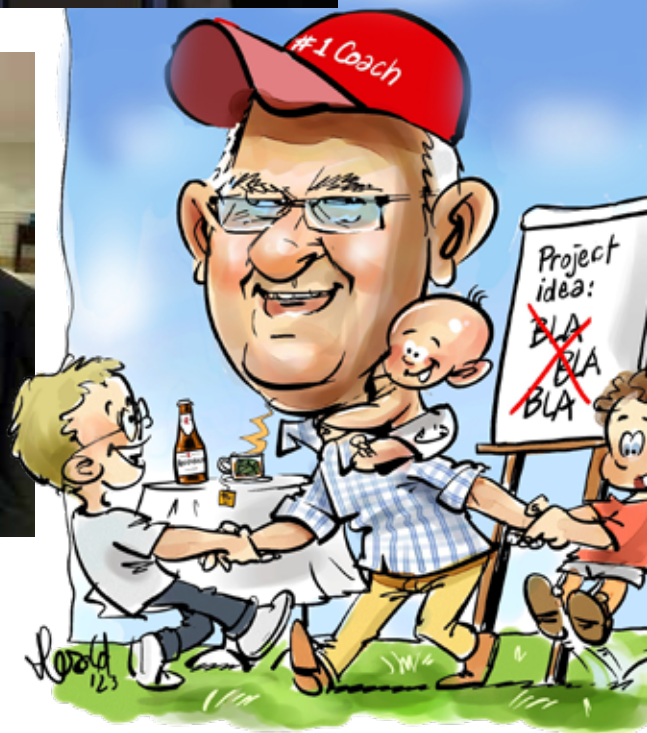
“The most recent PO Days had around 300 participants. I think this is the maximum you should have. I’ve been to EU events with thousands of attendees, and you feel lost in those massive crowds. But with a smaller group, the atmosphere is more creative. About 70% of submitted project proposals were first presented at the PO Days, which is a testament to the success of the format.”

*It's been about contact with so many people who are so enthusiastic.*



### Starting a trend

Today, this Community is ITEA's key asset, providing a well-rounded ecosystem that fosters collaboration between large companies, SMEs, universities and research institutions. However, Erik remembers a time before this was the norm: in the early 2000s, the big automotive OEMs all had their dedicated electronic units and suppliers had to deal with many variants and interfaces. This all changed with the ITEA project East-EEA, in which OEMs and suppliers defined a common language to standardise the interaction with the increasing number of electronic components in cars. Standardisation became essential and later projects continued to develop this. Many functionalities in modern cars are based on these very standards.



This is far from the only seismic shift that Erik has witnessed. 20 years ago, he first saw a demonstration on using a smartphone to make purchases. Nowadays, this technology is taken for granted. Even the current sensation around artificial intelligence has some of its roots in ITEA, which ran early Internet of Things projects that paved the way to the enormous amounts of data needed for AI. "It was fascinating to witness trends emerge at an early stage, when nobody had heard of them, and see them become commonplace," Erik smiles. "ITEA projects are important within the whole innovation landscape because they are already quite close to the market. We provide a playground to use emerging technologies, allowing engineers to see how they can work in real life."

### The human element

Still, when reflecting on the personal meaning that his role brought to him, Erik's mind goes not to a technological innovation but to a human connection. "In the early 2000s, we needed somebody to help us create an IT system. This wasn't a university graduate but a young student from a technical school. His teacher approached me and said he wasn't performing very well. But the young man was exceptionally fast and capable, quickly setting things up and developing tools we could use. After some time, his teacher came back and said he was astonished about the change he saw. And without the IT system he started, we wouldn't be able to work as efficiently as we do today."

"In terms of my happiness, it's been about contact with so many people who are so enthusiastic. For instance, there was the Steering Group, a group of technical experts of the founding companies supporting ITEA, which became a real group of friends. But I really enjoyed simply working with the Office team and I learned a lot from my time in ITEA. We worked very hard together, not just on our own tasks but also on each other's when needed. We constantly improved ourselves. A new Office Director once said, 'I see the Office as a well-oiled machine.' He was right! And I was happy to be part of that."

# D-SIMLAB

## Simulation support for semicon and aerospace

In Singapore, Gan Boon Ping has been involved in simulation technology application and development since 1995. Today, as CEO and co-founder of D-SIMLAB Technologies, he helps lead the way in high-performance simulation-based decision support to enable both aerospace and semiconductor companies to optimise their performance in a sustainable, economic manner. Boon Ping looks back on their journey from research institute to SME and the recent participation in their first ITEA project, AISSI.

### Need for speed

The story of D-SIMLAB began when Boon Ping worked as a researcher for the Singapore Institute of Manufacturing Technology and led a multi-year research project funded by the R&D agency A\*STAR. This focused on parallel and distributed simulation because simulation in general needed to run at a much faster speed to become practical for industry. "Of course, there is not much use for just having a simulation run faster without a use-case," smiles Boon Ping. "So, we found two semiconductor fabrication plants in Singapore - Chartered Semiconductor, now GlobalFoundries, and SSMC, a joint venture of NXP and TSMC - and executed simulation projects for them. This meant applying my skillset in computer science to industrial applications."

"When a research institute develops technology, you typically hand it over to the customer through IP licensing. But the issue is that simulation is not something straightforward that a company will have the core competency to maintain, build and make successful and useful. So, along with my co-founders Dr Peter Lendermann and Dr Nirupam Julka, we came up with the idea of starting a company."

### Two key elements

By chance, the creation of D-SIMLAB coincided with a paradigm shift in the aerospace industry

in which spare parts ownership and inventories were outsourced to third parties instead of being maintained by airlines themselves. The fledgling start-up therefore shifted to solutions for optimising inventory allocation across airports around the world. With the difficulties facing aviation due to COVID-19, they are again putting substantial resources into the semiconductor domain. This dual focus is reflected in two solutions: D-SIMSPAIR and D-SIMCON, each of which comprises a suite of advanced, domain-specific decision-support modules for planning and optimisation.

"Speed is a key thing," remarks Boon Ping. "If you look at our competitors providing similar simulation solutions, their runtime is at least two to three times longer than ours. It usually takes an hour or two to run a simulation forecast, so two or three times longer matters. The second aspect is that if you sell general-purpose solutions, your customer has to build everything from scratch and ensure that the simulation model accurately represents reality, requiring a lot of time and investment. Since our solution is tailor-made, it consolidates a lot of domain knowledge within the software itself. For the customer, it's about feeding data into the system rather than building the model on their own. Deployment time can be reduced from twelve months to six months and the success probability is much



*If you get the government to fund your project, it gives a perception of value behind what you are doing. That is very important for SMEs.*

higher. So far, you could say it's at 100% because all customers continue to use our simulation solution today."

### **Perception of value**

Despite these successes, limited funding for new ideas is an inherent challenge for SMEs. As a result, D-SIMLAB takes part exclusively in publicly funded projects that allow them to collaborate with potential users. "This helps us manage risk," Boon Ping explains. "In AISSI, for example, 50% of our costs were paid by the government. That allowed us to do much more than if we funded the entire project on our own. At the same time, if you get the government to fund your research, it usually carries considerable weight when you talk to potential customers. So, it's not just the dollars and cents that help us; it also gives a perception of value behind what we are doing. That is very important for SMEs."

### **The knowledge exchange**

In the ITEA project AISSI – short for 'Autonomous Integrated Scheduling for Semiconductor Industry' – D-SIMLAB first dipped their toes into the world of artificial intelligence. Between 2021 and 2024, they worked with German partners Bosch, KIT, Nexperia and SYSTEMA to produce a platform and novel AI-based approaches that optimise semiconductor wafer fab throughput and supply chain predictability. "All partners had their day-to-day jobs besides managing the complexity of interactions and the ideas we were working on. In my view, that was one of the bigger challenges: aligning the interests of all parties to move toward a common goal. I think we were very successful with that."

The project's results reflect this achievement. In the semiconductor industry, the trend is moving

towards prescriptive analytics to proactively address anticipated issues in the production line, demanding a lot of effort and experience. Through AISSI, D-SIMLAB was able to exchange knowledge with KIT to gain a much deeper understanding of the benefits and risks of using AI for such an approach. "If we want to commercialise any AI-related solution, we have to address the pitfalls to convince customers of the usefulness," Boon Ping continues. "The AISSI platform helps us open doors to other companies. For example, we can now showcase that our simulation platform works and can integrate with AI for training purposes. With the outcome of this project, we have taken the first step towards using AI."

### **Important guidance**

Compared to previous experiences with projects in which D-SIMLAB only had contact with one company within a large consortium, Boon Ping considers ITEA's strong integration of partners to be a major contributor to success for AISSI. "Also, when you have multiple partners working together, things can get messy very quickly if you do not have formal processes to guide and manage things!" he concludes. "With ITEA, there are a lot of formal processes in place, like the review meetings. This is something that I had not seen in other projects. In Singapore, there are no in-between steps where anybody helps steer the direction or helps us understand where we didn't see clearly. With ITEA, we got a lot of important guidance from the reviews. And the very formal process also 'forced' us to be more disciplined in terms of running the project and submitting milestones. So, my experience with ITEA and the AISSI project was very positive."

### **More information**

[www.d-simlab.com](http://www.d-simlab.com)

# AI-powered detection and tracking of passengers and their luggage



**Each year, numerous pieces of luggage are left behind on trains, leading to delays, security risks, and inconvenience for both passengers and operators. Manual monitoring of passengers and their belongings is not only labour-intensive but also prone to human error, highlighting the need for automated solutions.**

To tackle this challenge, the Belgian railway technology company Televic GSP has partnered with Sarris, an industry-driven research centre, to develop an AI-powered luggage tracking system in the scope of the ITEA project TAPCOP. This innovative system uses AI to automatically detect and track both passengers and their luggage, raising an alert whenever someone disembarks without their belongings. By swiftly identifying and managing left-behind items, the solution enhances both safety and efficiency in railway operations.

To achieve these objectives, several key challenges must be addressed:

- Luggage detection: while there are reliable models for detecting people, identifying luggage remains a challenge. Items like backpacks

and purses often change their visual appearance depending on their position, making detection and tracking more difficult.

- Associating luggage with owners: luggage ownership can be ambiguous, especially for groups like families. For example, the person who initially brings a backpack may not be the one leaving with it. The system must correctly associate luggage with its rightful owner or group of owners to avoid false alerts.
- Tracking in low-quality footage: trains are often equipped with low-resolution fisheye cameras at the ends of carriages, creating additional challenges such as obstructions from other passengers and seats, as well as sudden lighting variations when passing through tunnels.

The proposed solution has shown promising results in real-world tests using data from a variety of train types and locations. It uses multiple AI models, including an object detection model to identify people and luggage, and a segmentation model to refine these detections with precise boundaries. These two models form the system's core. Building on this, a tracking and re-identification system is under development to maintain continuity, even when individuals are temporarily obscured or move between train carriages, enabling train-wide monitoring. Additionally, a relational linking model associates luggage with its rightful owner. Currently, this solution achieves 80% accuracy in tracking and linking passengers with their luggage on moderately full trains. Edge cases - such as groups of passengers with shared luggage and overcrowded trains with significant obstructions in narrow hallways - provide opportunities for further improvement of the system.

Beyond luggage tracking, the TAPCOP project focuses on achieving situational awareness and data-driven visitor flow management by employing AI-based sensors. The system aggregates multiple data sources using AI, offering a more reliable, complete view of the environment and predicting overcrowding. In addition to the Televic use-case, the project also explores other innovative applications aimed at improving traffic and mobility conditions during rare, crowded events, such as festivals, road accidents and sports events.

## More information

<https://itea4.org/project/tapcop.html>

# Deep4Sat43

Satellite technology enhancing forest health



A critical challenge faced by the Netherlands Food and Consumer Product Safety Authority (NVWA) is its efforts to protect the health of pine trees across the country. Traditionally, NVWA inspectors have to conduct time-consuming walks through forests to identify unhealthy trees suffering from various ailments. This labour-intensive process not only takes up valuable time but also limits the number of inspections they can perform.

To tackle this issue, the Eureka Clusters AI Call 2021 project Deep4Sat43 introduced a solution that leverages advanced satellite technology. By using 30 cm multispectral satellite imagery, NVWA can accurately identify and map unhealthy pine trees across vast areas. This innovative approach provides inspectors with detailed GIS maps that highlight specific areas of concern, allowing them to prioritise their visits more effectively. By focusing on locations that need immediate attention, inspectors

can proactively address health issues before they escalate, making the process significantly more efficient.

The benefits of this innovative approach extend beyond just saving time for inspectors: it enhances the overall health management of pine forests. Early identification and intervention lead to more effective treatments, reducing the potential spread of diseases and pests that could threaten entire ecosystems. This proactive strategy not only promotes healthier forests for future generations but also optimises NVWA's resources. Ultimately, the collaboration exemplifies how advanced technology can transform traditional practices, leading to better environmental outcomes and increased societal well-being.

**More information:**

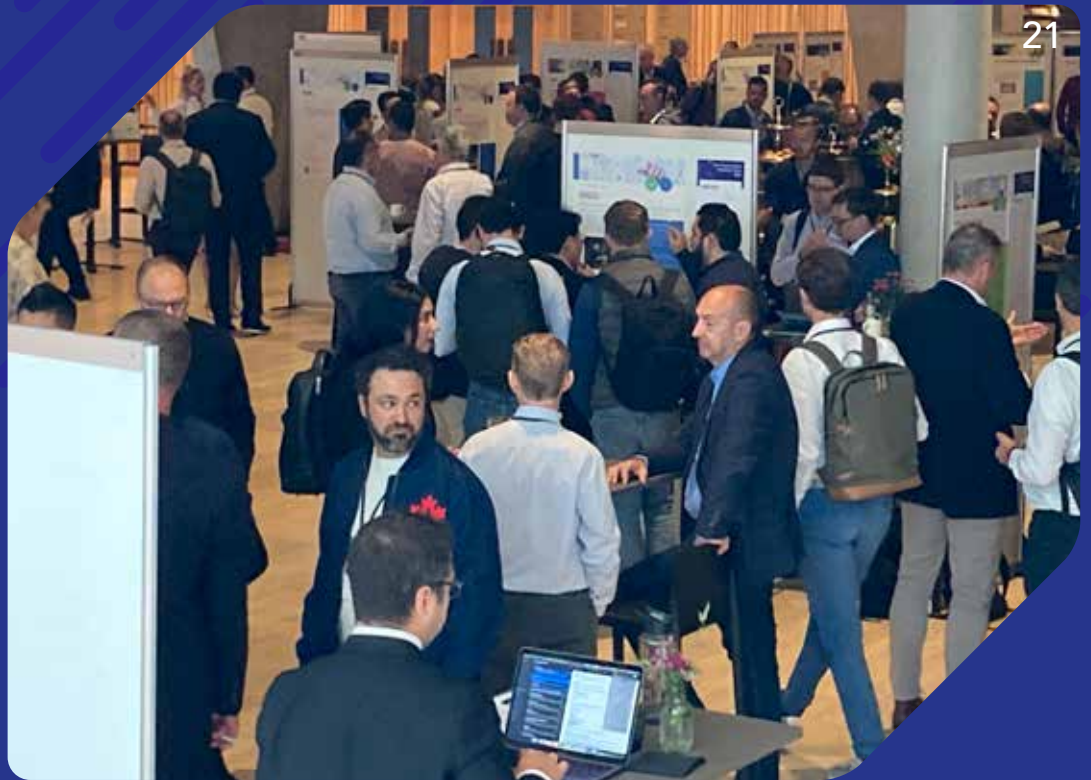
<https://itea4.org/project/deep4sat43.html>

# ITEA PO Days 2024 and exhibition in Antwerp



Active ITEA Community delivers  
a record number of ideas

ITEA Call 2024 for project proposals was launched on 10 September 2024 in parallel with the ITEA Project Outline Preparation Days (ITEA PO Days) in Antwerp on 10-12 September. This dynamic event brought together over 320 participants from organisations across 19 countries, eager to collaborate and spark the next ground-breaking innovations! The PO Days once again proved to be an ideal platform for creativity and partnership as it reached impressive milestones, with a record-breaking 92 project ideas submitted and 65 posters and pitches presented. The ITEA PO Days 2024 were supported by VLAIO, for which we are very grateful.



### Proven concept fuelled with new elements

This year's ITEA PO Days combined familiar programme elements with exciting new opportunities. The introduction of B2B sessions was actively utilised and allowed participants to connect one-on-one with potential future partners and explore collaborations. Additionally, the Newcomers workshop saw strong engagement, providing essential guidance for first-time attendees on key topics like project proposals and the PO submission tool, along with valuable tips from experienced project leaders.

Gary Bauer, Founder & CEO of Mobile Innovations Corporation (Canada) and a first-time participant, shared his positive impressions of the 2024 ITEA PO Days in Antwerp.

*"In a word, our first ITEA PO Days were exceptional. Mobile Innovations' experience in Antwerp exceeded our expectations as we gained a tremendous amount of useful knowledge about funding and growing AI projects like ours. We benefited from the start – seeing the awards for last year's participants, meeting peers and experts, and learning how to work with consortia for successful project funding. We accrued tremendous benefits by meeting many other passionate fellow ITEA Community AI members – researchers, educators, entrepreneurs, and trade experts – in this very well-organised (and picturesque!) setting. I look forward to our next ITEA experience!"*

Marius Arras, CEO of PROCESSA (Estonia), is pleased with his first ITEA PO Days as part of the Estonian delegation.

*"The ITEA PO Days exceeded our expectations! It was a remarkably well-organised event that promoted European innovation and offered outstanding opportunities for SMEs. The B2B sessions were well-organised, providing extremely valuable connections with large industry and research institutions from across the world. I am sure we will work together with many of our new partners beyond the ITEA format. Also, the Newcomers workshop is a must-attend for all ITEA newbies. It provides detailed insights and focuses the attention on what really matters in order to be successful at ITEA. We are excited about the valuable partnerships we've established with industry leaders and research institutions worldwide. As we face the immense challenge of an aging population, we are committed to tackling the issues of social isolation among the elderly and rising care costs through cutting-edge technologies together with our newly formed consortium at ITEA4."*

Olivier Biot from Sirris shares his thoughts, having been to several PO Days over the years. *"I'm always looking forward to the ITEA PO Days. It's a unique place to interact with so many fine and innovation-minded people eager to make the world a better place through meaningful collaborative R&D projects. Witnessing the enthusiasm and*

commitment of so many people to create the next round of ITEA projects really makes me happy. It is no small feat to transform a plethora of seemingly unrelated project ideas into successful innovation projects. Yet every year, this 'magic' takes place thanks to the hard work of the participants and with the relentless support of the ITEA Office."

### Welcoming newcomers and delegations

During this year's ITEA PO Days, the Public Authorities (PAs) demonstrated their dedication once again. PAs from Belgium, Canada, Estonia, Germany, the Netherlands, South Korea, Spain, Türkiye, and the United Kingdom attended the event, highlighting their strong commitment to ITEA. For the first time, we welcomed large, organised delegations from Estonia and South Korea, which opened up even more opportunities for collaboration within ITEA.

Ms. Sandra Kaljumäe, NPC of the Estonian Business and Innovation Agency, shared her reflections on the country's involvement in the event.

"Returning to the ITEA PO Preparation Days for the second time was an exciting opportunity for Estonia. This year, we brought ten carefully selected software companies to evaluate the event's value and the ITEA Cluster programme for our sector. We were delighted to find the event exceptionally well-organised, with participants eager to collaborate and share ideas. Our companies established valuable connections and were warmly embraced as strategic partners. We are hopeful that these new partnerships will soon lead to impactful projects."

Having attended the ITEA PO Days for the first time with a delegation from South Korea, Youngji Tak, Director of the Europe Office at the Korea Institute for Advancement of Technology (KIAT), is pleased with the outcome of his debut participation at the ITEA PO Days. "I recently attended the ITEA PO Days for the first time and I was impressed with how well-organised the event was. It provided a valuable opportunity for our Korean participants to engage with the ITEA Community, have face-to-face meetings with potential R&D partners, present their innovative solutions, and build strong consortia."

### 'Highlights of the ITEA Impact' exhibition

Like last year, the PO Days 2024 not only sparked new innovative ideas but also showcased the remarkable accomplishments of ongoing and recently completed ITEA projects at the 'Highlights of the ITEA Impact' exhibition on 10 September. Guided tours were organised to allow people to explore and be inspired by the featured projects during the exhibition.

*More proposals than ever before were presented and are a sign of how much the Community is engaged in ITEA.*

Yanqing Zhang, PhD, Senior Scientist and User Researcher at Corporate Research, ABB Sweden, was one of the participants showcasing a project at the exhibition. Reflecting on the experience, Dr. Zhang shared:

"The ITEA event was an incredible experience for me, offering a perfect platform to showcase our work in the EXPLAIN project during the 'Highlights of the ITEA Impact' exhibition and exchange ideas with a diverse range of researchers and industry experts. The networking opportunities were invaluable, particularly gaining insights from the ITEA Office regarding our project. I was truly inspired by the technology trends presented by the ITEA Chairman and the bottom-up approach that helps researchers to quickly pitch ideas and find partners in an efficient way. It was a very well-organised event and I enjoyed the whole experience!"

ITEA Chairman Dirk Elias comments: "The 2024 ITEA PO Days in Antwerp have been absolutely incredible and vibrant for me. A gathering of a 'family' with over 300 members to celebrate innovation and future advances in the domain of digitalisation and software. More proposals than ever before were presented and are a sign of how engaged the community is in ITEA. We also saw great results from running and concluded projects that could all demonstrate the impact and the difference that the projects are making. Industry's investments, supported by public funding, really are achieving the desired socio-economic impact, which has been at the heart of ITEA for more than 25 years now. I am therefore very much looking forward to the outcome of this year's ITEA Call!"

### Celebrating excellence

This year, the PO Days also offered the stage to showcase the impressive achievements of recently completed ITEA projects. On Tuesday 10 September, during the ITEA Awards of Excellence ceremony, we celebrated the exceptional outcomes of ITEA's three most outstanding software innovation projects that finished between mid-2023 and mid-2024. This year's award winners are:





› **AItoC – Using AI to improve manufacturing**

Manufacturing engineers face significant challenges in creating digital models for production systems due to the complexity of product variants, the need for customised tools, and the manual efforts required to overcome deficiencies in current product and production definitions. Using advanced AI, the ITEA project AItoC has created a set of tools that overcome these challenges. These tools help with planning processes, the creation of models of factories, and the design of better layouts for assembly stations, all of which make manufacturing more efficient and effective. The AItoC project received the 2024 ITEA Award of Excellence in the category 'Business impact'.

› **Inno4Health - Continuous, unobtrusive monitoring for patients and athletes**

The rise in surgeries among the aging population and the need for precise athletic training both ask for continuous, data-driven monitoring. The ITEA project Inno4Health developed wearable sensors and AI technology to monitor patients' readiness for surgery, to optimise how athletes prepare for competitions, and to help professionals remotely manage patients' health after hospital discharge and identify risks of adverse events. For these achievements, the project was awarded the 2024 ITEA Award of Excellence for Innovation.

› **SMART - Monitoring and reducing congestion in Smart Cities**

Urban congestion affects citizens and the environment, causing pollution and accidents and reducing a city's general liveability. However, real-time traffic awareness, adaptive traffic management, and efficient algorithms and actuators for real-time traffic control have so far proved hard to achieve. By using advanced 4D spatial technology and real-time vehicle

data analysis, the ITEA project SMART, which stands for Spatial Modelling Analytics and Real-time Tracking, enhances traffic efficiency and commuting in cities. These innovations in dynamic traffic control and geospatial visualisation reduce emissions and congestion by up to 15% and enhance urban quality of life. SMART is the winner of the ITEA Award 2024 for Exceptional Excellence as they excelled in Innovation, Business impact and Standardisation.

**The active collaborative spirit of ITEA**

One of the highlights of the PO Days was undoubtedly the collaborative spirit. We once again witnessed a very active ITEA Community, showcasing a record-breaking number of project ideas that reflect their commitment to collaboration and creativity. This active participation highlights the ongoing relevance of ITEA in today's rapidly evolving landscape.

ITEA looks back on yet another successful PO Days. Good luck to all consortia with the submission of their project proposals!

With Antwerp now behind us, the countdown to the next PO Days has already begun! We are already looking forward to the 2025 edition (which will take place in Portugal). Stay tuned for more information in the next edition of the magazine!

**More information and recordings & presentations**

<https://itea4.org/podays2024/podays2024.html>

## BIMy

# An innovation engine for integrated BIM and GIS

Smart city planning involves multiple players and encompasses diverse domains. Building information modelling (BIM) is an important enabler of this task, yet modelling conventions differ and BIM models are often designed independently. A lack of uniform process definitions, a plethora of modelling conventions, the shallow level of BIM serialisation format (IFC) standardisation, immature collaborative model editing and limited access to models designed by different stakeholders have all hindered true exploitation of BIM. Model integration within the natural/built environment (GIS – geographic information systems) and the filtering of BIM models in terms of level of detail and in time are underdeveloped. These roadblocks must be overcome if BIM is to reach its full potential.





The ITEA project BIMy, which ran from 2018 to 2021 and gathered 11 partners from Belgium and Türkiye, demonstrated how BIM can be used and exploited beyond its normal use and how the integration of BIM and GIS can be improved. It created a shared space for digital representations of construction projects in their environments, enabling collaboration between multiple stakeholders within the smart city domain and paving the road for new applications.

### **Enabler of collaboration between existing BIM platforms**

As a generic, open intermediary, BIMy is an enabler of collaboration between existing BIM platforms. Through a unique, standardised API,

it offers BIM model sharing, storing and data filtering among different stakeholders and their integration and visualisation in the built environment. Such interoperability allows multiple designers to exchange information quickly and accurately, regardless of differences in their file formats/workflows. Additionally, BIMy provides a secure working environment and a digital marketplace for storing and sharing BIM models and model data. These enable new applications and facilitate new interactions that increase the usage and value of BIM and thereby develop the smart city domain.

A key technological innovation of BIMy is the filterable integration of BIM with GIS to create previously unanticipated

usage scenarios. The BIMy platform allows BIM/GIS data querying and semantic filtering at various levels of detail and integrates with repositories of surrounding (GIS) environments. A data transformation layer prepares and transforms BIM and GIS data for use in new applications so that architects and city planners can download existing surrounding constructions (BIM) and the environment (GIS) instead of redrawing these. When uploading a BIM model to the BIMy platform, a construction project can be modelled with future repurposing or demolition in mind, paving the road for urban mining and the circular economy. Annotations on (parts of) a shared model can be exchanged across stakeholders in the standardised BIM Collaboration Format (BCF).

**Project start**

April 2018

**Project end**

March 2021

**Project leader**

Osman Kumas  
Netas Telekomunikasyon A.S.,  
Türkiye

**More information**

<https://itea4.org/project/bimy.html>

**Efficiency and safety benefits**

BIMy holds the promise of technical, commercial and societal benefits through its multi-stakeholder use-cases:

- For building permits, it allows guidelines to be modelled and applied to BIM models, gaining lead time by avoiding the need to apply for a permit to know if a building will fit a location and its urban regulations. In addition, fully digital access to building permit data speeds up approval processes. As lead time is highly dependent on the region, the time savings are expected to span from one week to three months for small or medium-sized projects – the strongest beneficiaries of such an innovation. BIMy also facilitates reviews and updates in the building lifecycle thanks to centralised information and documentation for permits processing, automated validation and digital updates during permit processes and public enquiry.
- For fire safety, BIMy allows inspectors to ensure that a building complies with regulations, such as by querying a 3D model for semantic properties or by annotating a 3D model during inspection.

- Similarly, the combined BIM/GIS data (possibly enriched with IoT data) can be used in crisis management to identify evacuation routes and train citizens using virtual or augmented reality, e.g. to learn how to escape safely during an earthquake. Another use is to ensure that the building is tested by simulating earthquakes and other disaster scenarios, akin to the 'digital twin' paradigm.
- For the circular economy and recycling, the project enables the modelling and mining of reusable materials within a building and the option to design buildings with future extraction in mind. Hazardous materials and materials that require special attention during handling can be properly taken care of prior to repurposing, refurbishing or demolishing a building. Quantities and locations can be calculated in advance and appropriate measures can be taken preventively.

Due to the BIMy platform's collaborative nature and high data sensitivity, security is key. Platform access is protected through two-factor authentication and managed user roles while an integrated hardware security module boosts communication security. Platform monitoring provides real-time anomaly detection and threat identification to detect (for instance) impersonation, replay attacks and brute force attacks.

**Internal and external orientation**

For the partners of BIMy, participation in the project has led to a wealth of internal benefits and external opportunities. For example, Belgian project partner GIM developed a system for the automated generation of the urban context (GIS) for easy integration into BIM modelling tools, as well as BIM-GIS data transformers and an integrated BIM-GIS visualisation and annotation tool. These developments are now being exploited in projects related to the implementation of cadastral building inventories – resulting in a considerable timesaving for all stakeholders – and in the construction of geo-digital twins that are applicable to a wide range of thematic domains, thereby broadening the scope of GIM's offering.



Geo-IT, meanwhile, implemented a model checker plugin for Autodesk Revit to validate model compliance with the Belgian Revit Standards (BERS) and contributed to a tool for evaluating minimum daylight salubrity criterion based purely on BIM. This concerns the quality of natural daylight within a building. For designers, the tool can save up to a day of work for the average project; government bodies can also save a few hours per project by removing the need to manually calculate salubrity. Geo-IT has since organised Revit masterclasses on the theme of the Revit model checker, an important element of which is the checkset for the BERS. Geo-IT is now in the process of applying for the checkset to be included in the BERS download and is offering it to Autodesk to be implemented into the model checker as a default checkset, just as the equivalent Dutch checkset is. As a measure of success, the BERS documents had been downloaded 2354 times as of October 2024. Most of these downloaders can benefit from using a checkset to check their models instead of depending on modellers having avoided mistakes when naming elements. Users can also save a lot of time on checking incoming models for compliancy with the BERS.

As for new business collaboration, ASSAR worked with OCMW Kortrijk

to launch its first public construction tender in which coordinated BIM models were shared with the participating contractors. Widespread implementation of this methodology is expected to reduce information loss, make price calculations more efficient and improve the accuracy of offers. Nine contractors participated in the procedure. All submitted offers were valid and met the designers' expectations. In a short questionnaire, the candidates responded positively to the experience. Some even suggested a more integrated use of BIM in future tenders. ASSAR has since made further improvements to the methodology and continues to implement it in projects in which clients are interested in a BIM-based approach. This was a novel approach at the time of the project and, even today, BIM-based tendering gives ASSAR a competitive advantage as it is not yet common practice in the sector due to the lack of a standardised protocol and regulatory framework.

### Paving the road to innovation in BIM and GIS

As BIMy's cloud-based solution lowers entry barriers for new tech adopters, the project will ultimately enable companies to set up new business cases in the European BIM and GIS markets. Seven building blocks for standardisation have also been identified; one notable innovation is a standard on data dictionaries for semantic mapping, which would greatly boost the use and value of BIM data by replacing existing free text annotations with standardised definitions irrespective of the stakeholder's language. Other standardisation work that has taken place since the project's conclusion includes Buildwise's efforts to align the integrated semantic framework with IFC and CityGML to ensure compatibility with local and European standards. All in all, this will allow BIMy to reach an increasingly large share of stakeholders and maximise their use of BIM for many years to come!

Insights and success stories will be shared in an upcoming book 'BIM in the City', which will be published soon.

# Calendar

20-21  
NOV  
2024

## EUROPEAN BUSINESS SUMMIT 2024

Brussels, Belgium  
<https://ebsummit.eu/>

21-22  
NOV  
2024

## Open-i, Swiss Innovation Platform

Zurich, Switzerland  
<https://www.swiss-innovation.com>

3-5  
DEC  
2024

## GENERATIVE AI EUROPE 2024

Amsterdam, the Netherlands  
<https://www.aidataanalytics.network/events-generative-ai-europe>

5-6  
DEC  
2024

## EF ECS 2024

Ghent, Belgium  
<https://efecs.eu/>

17  
FEB  
2025

## Deadline FPP submission ITEA Call 2024

5-6  
FEB  
2025

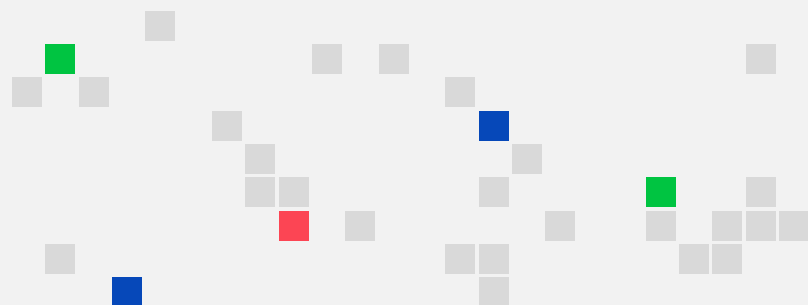
## Cyber Security & Cloud Expo Global

London, United Kingdom  
<https://www.cybersecuritycloudexpo.com/global/>

1-2  
APRIL  
2025

## Global Innovation Summit 2025

Hannover, Germany



# The future of the ITEA Magazine

Since 2008, we have been publishing the (printed) ITEA Magazine three times a year, sharing the latest news on ITEA and its projects while highlighting key countries, organisations and inspiring people in the ITEA Community. Through dedicated project articles, interviews, and success stories, we've aimed to keep you informed and connected.

As we approach the milestone of our 50<sup>th</sup> edition, we're taking this moment to reflect on how we can better serve the ITEA Community. With the increasing shift towards digital media and our commitment to sustainability, we're eager to hear your thoughts. Do you still find value in receiving a printed magazine or would you be interested in receiving information about the ITEA universe in a digital-only format? Rest assured, we will continue to keep you just as well-informed as always, regardless of the format. We create the magazine for you and we want to ensure that it meets your preferences. That's why your feedback is essential in helping us find the best ways to stay connected with you and the entire ITEA Community.

Your input is important. If you strongly prefer the printed version of the ITEA Magazine, we'd love to hear from you. Please visit this [link](#) to share your preference.

Thank you for your input!



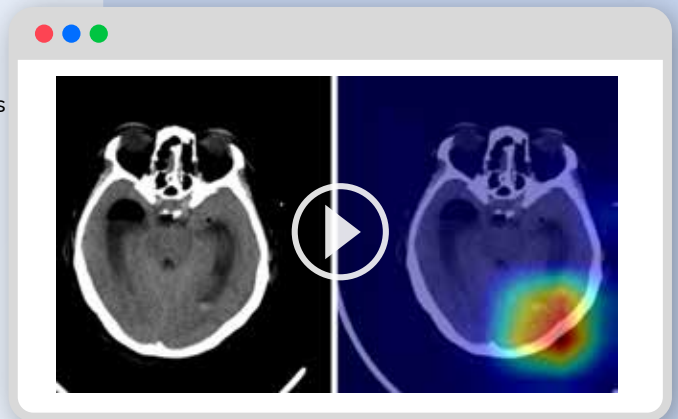
# ASSIST project demonstrates AI's ability to diagnose intracranial haemorrhages

The ITEA project ASSIST integrates AI for precise diagnosis, personalised treatment, intuitive 3D visuals, and robotic assistance with the aim of simplifying procedures, improving health outcomes, lowering costs and enhancing both patient care and staff experiences. The 'Intracranial haemorrhage' use-case, one of five in the ASSIST project, was developed by İnnova from Türkiye and utilises advanced AI systems to improve the identification of intracranial haemorrhages.

Intracranial haemorrhage (ICH) is a potentially life-threatening condition that requires urgent detection, as the critical treatment window is very short from the onset of symptoms. Differentiating ICH from ischemic stroke is essential to minimising neurological deficits and mortality, yet many healthcare facilities lack subspecialty-trained neuroradiologists, especially during nights, weekends, and vacation times. This places non-expert healthcare providers in the challenging position of making critical diagnostic decisions. With a stroke occurring every four minutes and ICH being a leading cause of death worldwide, timely and accurate diagnosis is crucial for effective disease management and improved patient outcomes.

In this video, the ASSIST project showcases how leading university radiology departments across Türkiye are enhancing patient care through advanced AI integration developed by the project. Professor Ahmet Muhteşem Ağıldere, a radiology professor and neuroradiologist, highlights the crucial role of AI systems in swiftly diagnosing vascular emergencies at Baskent University Ankara Hospital, particularly in identifying intracranial haemorrhages. This video reveals how these innovations not only shorten diagnosis times but also ensure that patients receive timely and accurate treatment, ultimately leading to better outcomes in emergency care.

## Clinical Evaluation of the ICH Detection & Classification System



Watch the ASSIST project video to learn more:



More information: <https://itea4.org/project/assist.html>

### Your project video in an upcoming ITEA Magazine?

Would you like to extend the reach of your ITEA project video? Send your videos to [communications@itea4.org](mailto:communications@itea4.org) and we will share it with the full ITEA Community!

# Canada and Germany 2024/2025 Co-Chairs of the Eureka Network



From 1 July 2024 to 30 June 2025, Canada and Germany will co-chair Eureka following the Turkish chairmanship. This marks a significant milestone in Eureka's nearly 40-year history, as it will be the first time that two countries jointly lead the world's largest network for technological innovation.




Based on its European roots, Eureka has developed into a global cooperation platform for technology development and its application. In their Co-Chair programme, Canada and Germany emphasize the need to work together with trusted global partners to enhance innovation collaboration to find solutions that address the challenges of today and tomorrow. The Co-Chair focusses on three priorities: an international initiative to promote R&I policy and funding on circular value creation, increasing the synergies of Eureka with European and international innovation ecosystems, and ensuring a sustainable strategy and governance on the Eureka network.

The Canadian-German Eureka Co-Chair is a collaborative initiative jointly managed by the German Federal Ministry of Education and Research (BMBF) and the National Research Council of Canada (NRC).

In this context the BMBF and the NRC will host three major meetings in December 2024, March 2025, and June 2025. Additionally, the Global Innovation Summit 2025 will take place on 1-2 April at the Hannover Messe in Germany, with participation from companies across Eureka member countries.

**More information**  
[www.eureka2024-25.com](http://www.eureka2024-25.com)

## Eureka Clusters Call dates

	17 Feb 2025	Submission deadline for Full Project Proposals ITEA Call 2024	<a href="https://itea4.org/">https://itea4.org/</a>
	16 Jan 2025	Submission deadline for SMART Project Outlines Call 8	<a href="https://www.smarteureka.com/">https://www.smarteureka.com/</a>
	23 Jan 2025	Submission deadline for Xecs Project Outlines Call 4	<a href="https://eureka-xecs.com/">https://eureka-xecs.com/</a>

# Colophon

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