Labelled ITEA Call 2023 projects

Strong focus on healthcare and generative AI

The ITEA Community has actively participated in ITEA Call 2023, submitting very interesting and high-quality proposals. Nineteen of them were labelled by the ITEA Board in March 2024, representing an effort of more than 2,650 person years and involving partners from 22 countries. As usual, we see a good balance between SMEs that have the agility to innovate - representing more than half of the effort - along with large industries, which can quickly bring the outcomes of the projects to the market, and research centres that provide beyond state-of-the-art research.



The level of international cooperation is very high this year, with at least four countries involved in all the projects and at least six countries represented in nine of the 19 projects. Türkiye is involved in 14 projects, and we also see very good participation of organisations coming from Portugal, the Netherlands, Great Britain and Germany, all of whom have partners in at least 10 labelled projects.

Four of the eight ITEA key challenges are well addressed by the ITEA Call 2023 projects. Smart Health is the most important topic in this Call, with six projects, closely followed by Smart Engineering with five projects. Smart Communities and Smart Industry are well addressed with three projects each.

The most noticeable aspect of ITEA call 2023 is the technical focus of the projects on generative AI. This new technology, which took off in 2023 and has since matured, will be researched and used by at least nine of the labelled projects. The ITEA programme has been agile in allowing consortia to address this technology very quickly, helping the ITEA Community to benefit from new innovations based on generative AI. In this Call we see also quite a few projects developing innovations based on remote monitoring of patients or people for healthy living. The other technical topics are Artificial Intelligence (besides generative AI), Internet of Things, Digital Twins and Robotics. Some of the projects also have ambitious objectives to contribute to more sustainable solutions in software engineering and industry.

In summary, the ITEA 2023 Call is composed of very ambitious and international projects. It has shown the ability of ITEA to quickly react to the emergence of generative AI technology. We wish all projects good luck for the national applications and hope to see them kick off soon.

AdOff 23048

Adaptive Office

Project leader: Innova (Türkiye)

In current office environments employees express dissatisfaction with their (shared) office design, which risks harming their health, well-being, productivity and social relations. Current adaptive technologies tend to operate independently, neglect user needs and lack evidence of their combined impact. The AdOff project proposes integrating automated and voluntary data to identify office risks, consider worker preferences and measure impact objectively. New sensing solutions will monitor the office and occupants, while a data platform will collect and analyse data for evidence-based design and management. These innovations will put the user central in office management decision-making.

ADVISOR 23014

Cooperative Missions of Autonomous Vehicle Swarms for Surveillance Tasks

Project leader: DEMCON (the Netherlands)

The ADVISOR project addresses a multifaceted problem in the autonomous vehicle (AV) industry – the lack of seamless interoperability between different classes of AVs: airborne, under- and on- water. The ADVISOR framework enables efficient development, testing and execution of AV/swarm-based inspection systems. It provides capabilities to manage various aspects of intricate processes, workflows and interactions, contributing to the early detection of issues, ensuring the reliable and safe operation of AV/swarms. With solutions that boost efficiency, cut costs, enhance security and reduce environmental impact, the project promises substantial industry impact across sectors.

AIDESL 23042

Fully Automated AI Data Extraction from Scientific Literature

Project leader: DistillerSR Inc. (Canada)

The AIDESL project aims to automate text extraction from scientific literature using AI models, reducing time and errors in systematic literature reviews (SLRs). By leveraging AI and workflow automation, the project seeks to speed up SLRs, improve accuracy and lower reviewer fatigue and burnout. This initiative targets key challenges in healthcare, such as timely data access, safety surveillance and innovation. AIDESL's goal is to establish standards for AI in research and accelerating the accessibility of data to improve the equitable development of new health innovation and knowledge for all.

CHS-Care 23035

Integrated Platform for the Provision of Health and Social Care in the Community

Project leader: HIGOE (United Kingdom)

The CHS-Care project aims to address the challenges posed by the growing elderly population in Europe, focusing on the delivery of efficient health and social care. CHS-Care is focused on developing a patient centred, open and integrated remote monitoring platform to provide health and social care for the elderly. By leveraging digital health tech, wearables, sensors and AI, the platform empowers caregivers, reduces hospitalisations and enhances care outcomes. This patient-centric, AI-driven platform targets seamless collaboration among stakeholders, improving data analysis, optimising workflows and ultimately enhancing patient care while supporting healthcare professionals.

ELFMo 23004

Engineering Large Foundational Models for Enterprise Integration

Project leader: University of Helsinki (Finland)

The integration of Large Foundation Models (LFMs) and Generative AI into business, while expansive, introduces a wide array of risks and challenges due to costs, compliance issues and technical complexities. The ELFMo project aims to address these challenges by providing a framework for effective integration, also enabling enterprises to navigate legal, security and ethical concerns while aligning with European regulations. ELFMo empowers organisations to reliably integrate LFMs and Generative AI into their infrastructures and offerings, allowing them to maintain control over risks, challenges and opportunities.

EngagedUser 23038

Digitalized user engagement evaluation systems using event-based user analytics

Project leader: RNware Co., Ltd. (Republic of Korea)

Traditional methods struggle to capture user experience (UX) in immersive media and online content. This lack of real-world data hinders efforts to improve user satisfaction and the design process. The EngagedUser project tackles this by using a solution to recognise the user experience of digital content created for specific purposes, using high-performance sensors and AI algorithms. The solution can be applied to targeted education and training as well as interactive art installations, and can be scaled to healthcare, counselling and more.

GENIUS 23026

Generative AI for the Software Development Life Cycle

Project leader: Institut für Automation und Kommunikation (IFAK), (Germany)

Generative AI represents a breakthrough in AI and will significantly increase productivity in software development. However the direct implementation of generative AI in software development processes remains experimental, with critical uncertainties surrounding security, data privacy and accuracy. The GENIUS project aims to develop automated solutions and customised tools to enhance the different phases of the software development life cycle, leveraging the advanced capabilities of generative AI and Large Language Models. These innovative methods and tools will support software engineers to enhance efficiency, reduce manual efforts and elevate the overall quality of software products.

GreenCode 23016

AI/ML Driven Software Optimisation to Reduce Cost and Climate Impact

Project leader: Digital Tactics Ltd. (United Kingdom)

The climate and economic impact of sub-optimal software is a high-scale problem, one that poses a further societal risk in times of energy stress. The GreenCode project addresses the problem of software and platform optimisation by leveraging specialised generative AI and Machine Learning to optimise and certify software for energy efficiency, enhancing developer productivity, code longevity and ICT system value. Deployable to new and legacy systems, it performs quality assurance, modernisation, maintainability, documentation and security checks, reducing climate impact while increasing economic value for businesses, public institutions and end users.

HOMEPOT 23022

Homogenous Cyber Management of End-Points and OT

Project leader: ERSTE Software Limited (Türkiye)

In today's tech landscape, where each device comes with unique software and hardware, staying in control is increasingly challenging. The HOMEPOT project aims to develop a single, secure platform that makes managing these diverse devices easy, benefiting both manufacturers and users. The goal is to simplify the management of a wide array of Operational Technology (OT) and Internet of Things (IoT) devices, offering streamlined, secure management, enhanced deployment speed, security, resource management, and advancing smart, connected ecosystems. This could revolutionise device management in home automation, enterprise IT and smart cities.

MedGPT 23020

Medical GPT Revolutionizing Healthcare with Ethical AI

Project leader: ARD GROUP INFORMATION TECHNOLOGIES INC. (Türkiye)

Large Language Models (LLM) tools have made significant advancements in the healthcare industry, but European healthcare faces challenges in complying with new AI regulations while ensuring responsible use of advanced GPT LLM technology. The MedGPT project is addressing privacy and ethical concerns by embedding ethical AI and European GDPR & MDR compliance into its platform, utilising European-based LLM with the aim of setting the standard for medical GPT applications globally. This marks a paradigm shift towards smarter health applications, superior efficiency, accuracy and scalability, potentially disrupting current high-maintenance, rigid healthcare systems.

MONA LISA 23028

Monitoring and Analytics for the whole Lifecycle, on Models, Hardware, and Software

Project leader: KTH (Royal Institute of Technology) (Sweden)

Cyber-physical systems (CPS) are inherently complex due to a tight coupling between software and hardware. Such systems affect our safety, so they must be trustworthy. The fragmentation of tools across the system development lifecycle results in loss of knowledge, prolonged time-to-market and increased costs. The MONA LISA project integrates hardware-software co-design across the lifecycle, connecting and improving existing tools with visual analytics. By integrating systems, it improves safety, diagnostics and validation across different environments. Additionally, it contributes to open-source projects, advancing monitoring solutions not available today.

Narrate 23036

Providing trustful and ethical personalised conversational interfaces on top of news and information

Project leader: VRT (Belgium)

There is a current need to adapt content for conversational interfaces like ChatGPT, ensuring interaction, personalisation and ethical AI responses. The Narrate project will create an innovative AI platform that can adapt to evolving AI technology and domain-specific market demands. It will explore the feasibility of specialised models designed for specific domain contexts and the integration of domain-specific knowledge with large-scale, general-purpose language models. Narrate will employ narrative design to create and evaluate ethical, user-centred multimodal conversational interfaces tailored to various use cases in media, human resources and engineering software services.

PHRESH 23010

Patient Health Response in Emergent and Secure Habitats for Connected Healthcare

Project leader: ARD GROUP INFORMATION TECHNOLOGIES INC. (Türkiye)

Promoting health equity requires overcoming barriers with remote digital health technologies, ensuring secure data exchange and regulatory alignment. The PHRESH project aims to improve health risk assessment, emergency response and treatment by integrating advanced technologies like sensors, real-time analysis, advanced data and network connectivity and quantum-secure encryption, prioritising privacy and precision. This innovative approach holds the potential to unlock infinite possibilities, optimising emergency response and treatment procedures.

PROSPECT 23011

Autonomous Prognostics of Integrated Systems using AI and ultra-Compact Digital Twinning

Project leader: NXP Semiconductors (the Netherlands)

In the rapidly advancing landscape of high-tech systems, the integration of components into systems poses significant reliability challenges. The PROSPECT project aims to address these challenges by developing an innovative method for the co-design of autonomous monitoring software. The project is dedicated to establishing a real-time Prognostics and Health Management (PHM) methodology using digital twinning and AI-based fault recognition. The primary objective is to predict the Remaining Useful Life (RUL) of components or systems, thereby reducing redundancy and enabling proactive maintenance.

REMO 23005

Remote patient-targeted health monitoring to reduce clinical workload

Project leader: Philips Electronics Nederland BV (the Netherlands)

Shortages in healthcare workers and changing demographics require the use of home-based care, which improves monitoring and patient compliance as well as reduces costs and frees up healthcare facilities for critical needs. The REMO project will innovate continuous and unobtrusive monitoring in professional healthcare and provide support to clinicians, patients in their treatment and optimal recovery at home by providing the right information at the right time for the right person. REMO will address three healthcare market segments: the Healthcare market in general, the Remote patient monitoring market and the Healthcare AI market.

ResilientEnterprise 23046

Improving Resilience of Enterprise Workforce and AI to Operational Challenges

Project leader: VTT Technical Research Centre of Finland Ltd. (Finland)

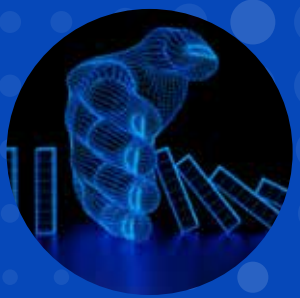
Resilience is the ability to adapt easily to changes. AI can support the human workforce in dynamic operational environments, but it can also impose high cognitive demands on human employees, especially if the AI itself is inflexible. The main challenge addressed by this project is: How can humans and AI adapt to each other and to changes in operational environments in practical ways? Solutions include implementing a "resilience by design" framework in use cases such as perceptive sustainable workplaces, hospital robots and elderly driver assistance.

SIREN 23033

Safety & Incident Response for building Emergency Networks

Project leader: KoçSistem (Türkiye)

To improve the efficiency and effectiveness of humanitarian aid operations and ensure timely assistance for the most vulnerable populations during disaster situations, the SIREN project focuses on enhancing disaster management and humanitarian aid logistics for fire, flood and earthquake scenarios. The project seamlessly integrates Geographic Information Systems (GIS) and an advanced Disaster Management System, including case coordination, resource mapping and AI support for data analysis. Additionally, the project incorporates a robust communication network support system, providing expanded emergency connectivity coverage and quality of service assurance to disaster effected area.



Valid3D 23001

Valid generative design for 3D printing

Project leader: IMA Materialforschung und Anwendungstechnik GmbH (Germany)

Quality assurance is an important issue in bringing 3D-printed components to market. The Valid3D project enables flexible manufacturing processes for the medical and aviation industries. By integrating data across the production chain, including virtual testing and AI-driven feedback, Valid3D streamlines quality assurance and accelerates approval processes. This enhances design flexibility, cost reduction and ensures compliance within industry standards, and has a positive impact on the environment by drastically reducing material and energy use.

VISION 23031

Virtual Integrated Supply-chain Improvement with Optimized Networking

Project leader: Electronic Media Services Ltd. (United Kingdom)

Supply chain management faces challenges like material tracking issues, delays and increased costs. The VISION project focuses on the construction, mining and aerospace sectors, integrating advanced technologies like Digital Twins, Augmented Reality (AR), and Ultra-Wideband (UWB) to establish a connected, intelligent supply chain system. By leveraging innovative technologies and industry-specific insights, the project is well-positioned to transform supply chain management and set new standards in efficiency, traceability, resilience, sustainability and security.