# Sirris leading in AI-powered context analysis and decentralised, trustworthy data sharing

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## Innovative take on visual context analysis and privacy protection

MIRAI, TAPCOP and SINTRA - three ITEA projects involving Sirris and ten Belgian companies - will be presented at the ITEA Project Exhibition 2024 on 10 September 2024. These projects showcase Sirris's unique and innovative blend of expertise on multi-modal dynamic sensing, AI-powered context analysis, (visual) privacy protection and zero-trust architectures.

ITEA, the Eureka Cluster programme on software innovation, will open its annual ITEA Call 2024 for project proposals in conjunction with the **ITEA Project Outline Preparation Days** **in Antwerp, on 10-12 September 2024**.

Since 2006, Sirris has been an active partner in ITEA with over twenty projects supporting Belgian companies in innovative R&D. Four of these projects have received an ITEA Award of Excellence and Innovation: C3PO, Flex4Apps, BIMy and SAMUEL.

**MIRAI, TAPCOP and SINTRA** - the three projects that will be presented at this year's exhibition - showcase Sirris's unique and innovative blend of expertise on multi-modal dynamic sensing, AI-powered context analysis, (visual) privacy protection, and zero trust. The projects allow us to **support ten industrial partners in Belgium** in quite diverse application domains, such as **road safety and mobility, surveillance of critical infrastructure, sustainable water and energy management**.

## Insights into MIRAI, TAPCOP and SINTRA

### MIRAI

From 2020 to 2023, MIRAI – 'Machine intelligence techniques for smart and sustainable planning and operation of IoT and Edge computing applications' - explored a comprehensive framework for distributed intelligent devices and smart, sustainable and privacy-sensitive solutions. This as a viable alternative to the standard approach for IoT applications of leveraging cloud infrastructure to overcome constraints on the level of end and edge nodes.

The project leveraged distributed AI techniques to optimise data usage at edge nodes, reducing reliance on cloud infrastructure and addressing issues such as low bandwidth and high latency. By deploying AI modules across distributed nodes, MIRAI enhanced real-time processing and security for critical applications. Sirris focused on three use cases with Brussels-based companies in the areas of renewable energy (3E), traffic management (Macq), and water management (Shayp).

### TAPCOP

Authorities continuously struggle with managing and controlling traffic and crowds to prevent safety incidents and discomfort. They lack efficient solutions to prevent these problems. The project TAPCOP (2023-2025) – 'AI Prediction of Common Operational Picture - realises situational awareness and data-driven management of visitor flows, provides AI-based sensors and aggregates multiple data sources using AI to create a more reliable and complete view of the situation and predict overcrowding.

TAPCOP offers a one-stop solution for multi-modal mobility management and prevention of overcrowding by personally advising visitors pre-trip, on-trip and on-site through social media, navigation systems and other mobile phone apps. In Belgium, TAPCOP involves collaboration between Macq (mobility management via smart cameras and sensors), Televic GSP (passenger load and flow measurement on trains) and xyzt.ai (actionable insights from spatio-temporal data). Currently, the project is exploring the impact of various music events on several main roads and cities, and locations: crowd and mobility in cities, such as Ghent, or even whole regions, such as the Walloon region.

### SINTRA

SINTRA (2024-2026) – 'Security of Critical Infrastructure by Multi-Modal Dynamic Sensing and AI' - aims to improve the resilience and protection of critical infrastructure through an open data-streaming AI platform that enables interoperability, information sharing, and (visual) privacy protection. This platform aims to provide comprehensive safety and security monitoring by integrating multi-modal sensing technologies and advanced AI analysis. SINTRA facilitates cross-organisational coordination, ensures privacy and trustworthiness and enhances situational awareness. One of the key features of SINTRA is its commitment to GDPR compliance and the

integration of secure data practices through a zero-trust approach.

The project emphasizes privacy preservation through the use of advanced AI-based techniques, which are carefully designed to protect privacy-sensitive data while maintaining the performance of anomaly detection algorithms. By addressing the detection of complex safety threats and compliance with EU data privacy laws, the project seeks to improve the resilience of infrastructures such as airports, ports and road networks. The consortium includes partners from six countries, aiming for significant technological and economic impact. In Belgium, Sirris is joining forces with AIRobot, Macq, Skyebase, C-Site, Citymesh and Sensolus.

### ITEA Call 2024

The ITEA Project Outline Preparation Days, from 10 to 12 September 2024, provide the opportunity to present, discuss and get involved in upcoming R&D project proposals for the new ITEA project call 2024. Sirris will be present at that event, following up on project ideas relevant for the Belgian technology landscape. Interested? Be sure to contact us and join us in the next ITEA Call!

The ITEA projects MIRAI, TAPCOP and SINTRA are supported by Innoviris and VLAIO.


## Authors

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