

TRANSCEND

Transport resilience against Cyber and Non-Cyber Events to prevent Network Disruption



Funded by
the European Union

Welcome to the TRANSCEND Newsletter!

Welcome to the **first edition** of the TRANSCEND newsletter!

Through this publication, we aim to keep you informed about the project's progress, key milestones, and upcoming activities.

In this issue, you will discover the objectives of TRANSCEND, meet our partners, and learn about the latest developments, including insights from recent events and pilot activities.

We hope this newsletter will serve as a valuable resource for staying connected with the project and its advancements.

Stay tuned
for more updates
in the coming months!



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TRANSCEND project



The transport network is a crucial component of **Critical Infrastructures** (CIs), which are essential for the continuous operation and maintenance of logistics and the single market.

EU policy has facilitated the development of an interconnected and easily accessible TEN-T transport network, which, however, also increases the risk of disruptions or damage.

MISSION

The overarching objective of TRANSCEND is to **provide freight transport critical infrastructure operators with an integrated set of advanced tools, guidelines and technological solutions** to reduce risk, and enhance the protection and resilience of their critical infrastructure and interrelated critical infrastructures **against physical, cyber and hybrid threats.**

SOLUTION

The contributions will be integrated into a **Control Tower**, a digital platform with embedded business intelligence giving stakeholders a shared and continuous visibility of threats and risks by breaking down silos within and between organizations.

To demonstrate the effectiveness of the approach, five diverse CIs will experiment with methodological and technological solutions as pilots: three leaders and two followers.

TRANSCEND project

Expected results

IDENTIFIED VULNERABILITIES AND RISKS

- To define mitigation strategies and improve capacity to prevent, resist, absorb and recover from disruptive incidents;
- threat landscape reference document;
- vulnerability assessment;
- resilience assessment;
- process mining analysis;
- strengthened cooperation.

POLICIES AND PROCEDURES

- Guidelines for a resilience plan;
- Resilience plan for each pilot;
- Security operational procedures;
- Inputs for a national risk assessment and resilience strategy.

TECHNOLOGICAL SOLUTIONS

- To support the implementation of policies and plans for cost-effective risk reduction and resilience;
- machine-readable threat modelling for large-scale simulations;
- state-of-the-art analysis of physical and cyber detection technologies;
- ML/AI-based predictive models and algorithms to detect early signs of disruption;
- Experimentation of detection technologies;
- TRANSCEND Control Tower.

Discover the partners

Academic



The **Luxembourg Institute of Science and Technology (LIST)** is a Research and Technology Organization active in the fields of information technology, materials, space resources and the environment. LIST develops competitive and market-oriented product/service prototypes for public and private stakeholders. It works across the entire innovation chain: fundamental/applied research, incubation, technology transfer.



Luxembourg Centre
for Logistics and Supply
Chain Management (LCL)

The **Luxembourg Centre for Logistics and Supply Chain Management (LCL)** is a hub for research, education, and outreach in the logistics sector. The LCL engages in cutting-edge research which aims to deliver meaningful and practical innovation to industry. Founded as part of a partnership with the Massachusetts Institute of Technology (MIT), the LCL is a member of the Global Supply Chain and Logistics Excellence (SCALE) Network.



The **Institute for Transport and Logistics (ITL)** is a no profit body founded on 17th December 2003. Its purpose is to contribute to the development and promotion of logistics and transport systems in the Region Emilia-Romagna through research, consultancy and training.



Zaragoza Logistics Center (ZLC) is an international center of excellence for research and education in logistics and Supply Chain Management affiliated to the Massachusetts Institute of Technology and the University of Zaragoza. ZLC actively engages with industry and the public sector to develop and disseminate knowledge, enhancing economic growth and business competitiveness through innovation.

Discover the partners

Freight Industry



Cargolux Airlines is Europe's leading all-cargo airline. Based in Luxembourg, Cargolux has over 50 years of experience in the air cargo industry and an extensive product portfolio, providing tailored transport solutions for all types of shipments. Cargolux joins the TRANSCEND project together with its subsidiary **Luxcargo Handling**, specialized in air cargo.



Interporto Bologna SpA manages rail services, logistics real estate and facility management in one of the largest freight villages in Europe. The infrastructure is positioned at the crossroads of 5 important road and rail traffic routes and 3 corridors of the TEN-T core network, making it an ideal gateway connecting northern and southern Europe.



Founded in 1936, **Gruber Logistics** has had a great evolution over the years from a transport company to a digital lead logistics provider. Gruber Logistics directly owns 2350 vehicles (trucks & trailers) and manages constant relations with more than 7.000 carriers acting as freight forwarders. Digital innovation and sustainability are key aspects of the company's development.



Fundación Valenciaport is an Applied Research, Innovation & Training centre providing services to the port and logistics cluster. This initiative of the Port Authority of Valencia has enjoyed the collaboration of notable businesses, universities and institutions from the port community. Since its establishment, it has developed more than 300 projects in 60 countries, primarily Mediterranean nations, as well as from the rest of Europe, Asia and Latin America.

Discover the partners



CSP Iberian Valencia Terminal S.A.U.

COSCO SHIPPING Ports (Spain) Terminals is an outstanding sea and intermodal port operator in Spain with two maritime terminals in Valencia and Bilbao, two railway terminals in Zaragoza and Madrid (Conterail), a Rail Operator. It joins the project together with its container operator CSP logitren and the CSP Valencia port Terminal.



DBA is a group of companies providing architecture, engineering, IT services, and software applications across multiple sectors, including Telecommunications, Transport & Logistics. In the Ports sector, DBA has delivered services and software products in over 35 ports across Italy, Malta, the Balkans, the Caspian Sea, and other regions.



Egnatia Odos S.A. is a Greek state company, responsible for the design, construction, operation and maintenance of a motorway network nearly 1.000km long in northern Greece, part of the Pan-European Corridors, linked with 4 ports and 6 airports.



Mahart Container Center is a trimodal terminal located in Budapest. The terminal connects rail, road and river (barge) transport, able to handle any kind of unaccompanied. The terminal is located near to Budapest centre and also near to M0 motorway connecting the terminal to all motorways in Hungary from M1 to M7.

IT Provider

Netcompany

NETCOMPANY-INTRASOFT is a leading European IT Solutions and Services company with proven expertise in conceptual system architecture and system design, advanced application development and integration/communication services, information portal management, and project management.

Discover the partners

Authorities/ public agencies



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Haut-Commissariat
à la protection nationale

The High Commission for National Protection (Haut-commissariat à la Protection nationale, HCPN) is a body that falls under the responsibility of the Prime Minister and Minister of State. Its main mission is to ensure that the nation is always and, in all circumstances, protected against threats that could seriously infringe upon the country's sovereignty and independence, the free functioning of its institutions, the safeguarding of its national interests and the safety of the population.



LHC
Luxembourg House
of Cybersecurity

The Luxembourg House of Cybersecurity (LHC) is the gateway to cyber resilience in Luxembourg. Its mission is to support the Luxembourg ecosystem in building cybersecurity competence and capacity in a way that contributes to the development of the cybersecurity industrial base in the country and strengthens the strategic autonomy of the European Union.



INSTITUT LUXEMBOURGEOIS
DE RÉGULATION

The ILR (Luxembourg Regulatory Institute) is the regulator in Luxembourg for electronic communications, energy, postal services, railway and aviation and is in charge of the spectrum management in Luxembourg.



CNPIC
CENTRO NACIONAL DE PROTECCIÓN
DE INFRAESTRUCTURAS CRÍTICAS

The National Center for Critical Infrastructure Protection (CNPIC) is the body of the Ministry of the Interior of Spain responsible for the promotion, coordination and supervision of all the activities entrusted to the Secretary of State for Security in relation to the Protection of Critical Infrastructures in the national territory.

Discover the partners

Valorisation



Inlecom Commercial Pathways (ICP) is a specialist not for profit consultancy based in Ireland, focusing on fostering innovation and business growth through EU-funded research and development projects. With a focus on technology, sustainability, and infrastructure, the company aids in transforming research outputs into valuable market solutions.



Open ENLoCC (European Network of Logistics Competence Centers) is an open network of regional logistics competence centres in the field of logistics, run by public authorities or similar bodies. The main task of the network is the international exchange of experience and knowledge between its participants and the promotion of a higher level of cooperation with European institutions.

Visit the TRANSCEND project website to learn more about our partners!

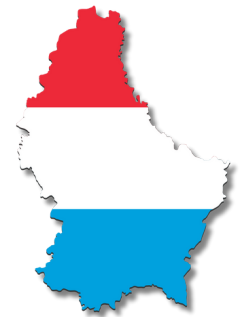


The pilots

In the framework of the TRANSCEND project, **three real-world pilot tests will be implemented by the project consortium in three different countries**: the airport pilot in Luxembourg, the rail-road terminal pilot in Bologna, Italy and the trimodal port pilot implementation in Spain; and **2 transferability demonstrators**: the fluvial port of Budapest and the Egnatia's highways in Greece.

AIRPORT PILOT IMPLEMENTATION - LUXEMBOURG

As part of the Luxembourgish pilot, **Cargolux** will develop an operational procedure based on industry standards, best practices and possible regulations relating to anti-crime programmes that would foster the implementation of security checks on people, belongings and vehicles exiting cargo centres.



Main activities

- Investigate and test physical / cyber threat detection technologies
- Identify best practices and/or regulatory requirements deployed in the intermodal supply chain that is used today to implement security checks for people, belongings and vehicles entering and leaving a Cargo Center (or the airside of an airport)
- Explore technical solutions that are being used or could be used to passively mark or identify high-value goods so that they could be detected when leaving a Cargo Center through non-normal exit paths (passive tags, geofencing...)
- Conduct an analysis that would allow the improved control of movements of these goods into, out of or even within the Cargo Center, which is cost-effective and could bring additional operational benefits
- Perform a number of trials to ensure the effectiveness of the solutions in a complex environment like a very busy Cargo Center during peak times/periods
- Identify the best and most promising solutions, integrating technologies that are in development
- Implement a Control Tower for high risk/high value goods integrity monitoring
- Test emergency plan and behaviour attitude (Exercise in Room #42)

The pilots

RAIL-ROAD TERMINAL PILOT IMPLEMENTATION - ITALY



The pilot in **Bologna** will evaluate existing technological solutions that could improve the management efficiency of the freight village. With the support of DBA, the objective of this task is to analyse existing software solutions that could also resolve the actual problems of the intermodal node.

Furthermore, the Bologna pilot will evaluate integration solutions to allow the data integration of both Interporto Bologna and Gruber Logistics within the Control Tower.

Main activities

- Investigate and potentially test physical/cyber threat detection technologies
- Together with DBA, Interporto Bologna will develop a cybersecurity procedure common to all operators working on the rail terminal and in the warehouses (then including Gruber)
- Analyse the existing security procedures of Gruber and Interporto Bologna
- Create a joint document that includes the security procedures of Gruber and Interporto Bologna to harmonise the operational security activities within the freight village area
- Implement a Control Tower for a regional orchestration between operators
- Test emergency plan and behaviour attitude (Exercise in Room #42)

The pilots

TRIMODAL PORT PILOT IMPLEMENTATION - SPAIN



In order to improve the resilience of the multimodal transport between **Valencia** and **Zaragoza**, the innovative technologies identified and developed during the project related to physical/cyber threat detection will be analysed to be used by the different companies participating in the supply chain.

Main activities

- Investigate and potentially test physical/cyber threat detection technologies
- Create a joint document that includes the security procedures to harmonise the operational physical and cyber security activities across the multimodal transport supply chain
- Implement a Control Tower to monitor security incidents in multimodal transport
- Test emergency plan and behaviour attitude (Exercise in Room #42)

TRANSFERABILITY DEMONSTRATORS

Mahart Container Center offers the inland port of **Budapest, Hungary**, as location where best practices and innovations in the field of cyber and non-cyber attacks can be shared and tested, and experiment whether the use cases enable the targeted improvements.



Egnatia will become a follower for the implementation of components tested in other pilots, particularly to protect the IoT equipment installed along the **657 km-long motorway network in Northern Greece** against malicious actions by hackers aiming to disrupt normal operations.



Kick-off meeting in Bologna



On **2-3 October 2024**, the kick-off meeting of the TRANSCEND project took place in **Bologna**. Institute for Transport and Logistics hosted this first meeting that laid the foundations for a brilliant collaboration that aims to revolutionize the resilience of critical infrastructures in Europe.

During the meeting, the representatives of the project consortium had the opportunity to participate in a **study visit to Interporto Bologna SpA and GRUBER Logistics' warehouse**, both partners in the project involved in the Italian pilot together with DBA Pro and ITL.



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Latest news

LUXEMBOURG INTERNET DAYS

The TRANSCEND project proudly participated in the **Luxembourg Internet Days** on 9-10 November, a key event for cybersecurity and critical infrastructure stakeholders.

The Luxembourgish partners including the **Luxembourg Institute of Science and Technology**, **Luxembourg Regulatory Institute**, the **High Commission for National Protection**, and the **Luxembourg House of Cybersecurity** shared their insights through talks and discussions, particularly in the context of NIS2 and critical in-frastructure resilience.

Among the many insightful discussions, **process mining** stood out as a major topic of interest.

“

The Luxembourg Internet Days is always a great opportunity to meet with experts and make new connections. It is a perfect way to exchange on projects and to establish new collaborations.

Sheila Becker from the Luxembourg Regulatory Institute

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Latest news

TRANSCEND PRESS CONFERENCE IN LUXEMBOURG

On 14 January 2025, the **Luxembourg Institute of Science and Technology** held a press conference to present the TRANSCEND project. This event served as an excellent platform to showcase the work being carried out through our partnership.

The event gathered prominent stakeholders from Luxembourg and European Union institutions.

Cindy Guerlain from LIST and **Bernard Stoll**, CEO of LuxCargo Handling, presented the TRANSCEND project and the Luxembourg pilot, respectively. Additionally, **Stéphanie Obertin**, Luxembourg's Minister of Research and Higher Education, and **Anne Calteux**, the European Commission's Representative in Luxembourg, delivered speeches during the conference.



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Latest news

TRANSCEND PRESS CONFERENCE IN LUXEMBOURG

“The European Commission is proud to support the TRANSCEND project, a key initiative to strengthen the resilience of Europe’s freight transport networks to cyber and non-cyber events. In an increasingly interconnected world, ensuring the security of critical infrastructures is essential to protect our supply chains and support the competitiveness of the European economy.

Through Horizon Europe, the Commission is committed to fostering innovation and collaboration, bringing together public and private actors to tackle complex challenges and improve the security and sustainability of Europe’s transport ecosystem.”

Anne Calteux
The European Commission’s
Representative in Luxembourg



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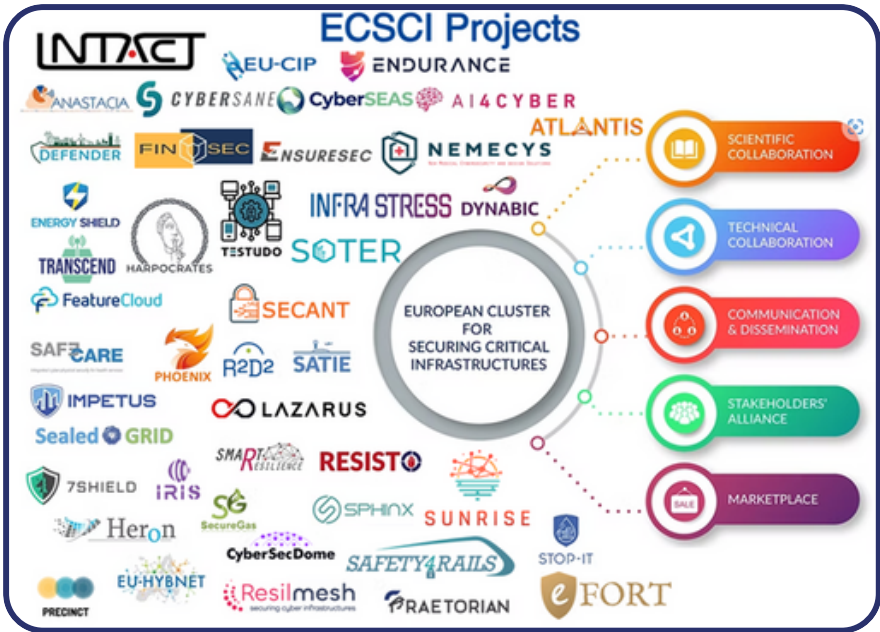
Latest news

TRANSCEND JOINS THE ECSCI CLUSTER

The TRANSCEND project is honored to join the **European Cluster for Securing Critical Infrastructures (ECSCI)**. The ECSCI cluster, formed by a **community of 44 EU-funded projects**, aims to create synergies and foster emerging disruptive solutions to security issues via cross-projects collaboration and innovation.

By joining ECSCI cluster, the TRANSCEND project paves the way to create new synergies with other European projects to exchange knowledge and information about the critical infrastructure's protection and management in crisis.

At the same time, TRANSCEND will contribute to provide insights on the application by logistics and CIs operators of the CER and NIS-2 directives, and provide new innovative solutions to allow logistics CIs (e.g.: airport freight cargo terminals) to improve their resilience and readiness to cyber and non-cyber threats.



Upcoming activities

The TRANSCEND project partnership is currently working on the task related to the **WP3 - Scenario design and framework specification**, which has the primary objective to devise pertinent scenarios that will serve as essential inputs for conducting a comprehensive assessment of protection and resilience.

In doing so, the partnership is currently working on the **development of a common framework for the ecosystem analysis of critical infra-structure operators**, as well as the identification of risk scenarios in the freight transport sector in terms of cyber and non-cyber threats.

The project consortium has taken the first steps in developing the **TRANSCEND Control Tower**, identifying the functional and technical requirements for its implementation in each pilot and defining its architectural design.

The results of the current work will be discussed further when the TRANSCEND project partners will soon meet again in person for the **Second General Assembly**, which will be hosted by LIST in Luxembourg in the mid of June 2025.

Stay tuned!



Contacts

Visit our website



www.transcend-logistics.eu



Reach us on our social channels



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