Overall Concept

The FLEXI-cross project targets the deployment and continuous validation of a toolkit of innovative border-checking solutions in real operational environments. These solutions will deliver increased security and reliability of border checks for people and goods which can be enabled by innovative technologies, aiming at enhancing and improving border management capabilities.

The resulting flexibility and dynamicity of border check planning will offer novel capabilities such as the dynamic deployment of checkpoints and support via mobile applications for border personnel while guaranteeing a high level of security, privacy of personal data and protection of people's fundamental rights. The design and architecture of the implemented solutions will be based on the analysis of the technical and service requirements of the EU border authorities (e.g., Frontex) and will offer seamless integration with existing systems and devices currently utilised by them.

FLEXIcross

Flexible & Improved Border-Crossing Experience

for Passengers & Authorities

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01/09/22
Start Date

31/08/25
Finish Date

36
Months

12
Partners

Background & Motivation

The increasing importance of pan-European passenger and freight transport in terms of financial and societal impact is showcased by the adoption of the EU vision of the Trans-European Transport Network (TEN-T), which will connect and enhance trade and tourism among and between European nations, as well as neighboring countries. Such enhanced mobility will intensify border-crossings of citizens and goods, which in turn will generate a significantly increased load on customs and security procedures, calling for smarter, more effective and cost-efficient solutions for border checks.

Human trafficking, irregular crossings and contraband smuggling are major concerns for the EU, which will only intensify with the realisation of the TEN-T vision. Thus, the need for increased security, privacy and protection at EU borders becomes even more critical under such circumstances. As a response to these challenges, the EU has attempted to strengthen technological support and legal harmonisation. A series of measures have been put into place, consisting of an Entry/Exit System and modifications to the Schengen Borders Code in addition to existing border management systems. The EU has attempted to modernise its border management approach by harnessing technologies, such as Automated Border Control systems and biometrics or automatic borders lands surveillances using digital technologies, delivering tools, such as the Passenger Name Records directive (2016), the European Travel Information Authorisation System (ETIAS) system, and others.

Project Objectives

01 Design and develop mobile, cost effective and efficient solutions that will significantly upgrade the operational capacity of EU Border Check Points and introduce flexible planning and check-point deployment procedures leading to a seamless border crossing experience for travelers, operators and staff of border authorities.

02 Increase security, reliability and privacy during cross-border checks for both passengers and cargo, by providing advanced anti-trafficking and anti-smuggling mechanisms, while securing and protecting people's fundamental rights and personal data, through a comprehensive data governance framework.

03 Set up three state-of-the-art border-crossing facilities based on real operational EU border environments, by upgrading existing infrastructure and legacy systems from consortium partners and previous EU-funded projects to support the thorough testing of the use cases in road, port and rail environments.

04 Validate the FLEXI-cross solutions in real-life EU border-crossing environments using real end-user data that will showcase the maturity and business readiness of the solutions (TRL≥7), demonstrating the superior performance in terms of traffic handling capacity, waiting times, security and privacy.

05 To accelerate the adoption of the proposed dynamic, flexible and mobile technological solutions by the EU border authorities, and to maximize the resulting impact on daily border management and operations, in close liaison with existing projects and initiatives.

Consortium

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