XP-DITE   Accelerated Checkpoint Design Integration Test and Evaluation

The XP-DITE project brings together 13 organisations across Europe to develop, demonstrate and validate a comprehensive, passenger-centred, outcome-focused, system-level approach to the design and evaluation of airport security checkpoints. XP-DITE will allow airports, checkpoint designers and regulators to incorporate a wide range of requirements and evaluate checkpoint performance against system-level security, cost, throughput, passenger satisfaction and ethical factors. The result will be robust security performance, whilst giving airports the freedom to use innovative procedures and technology to improve passenger convenience and reduce delays.
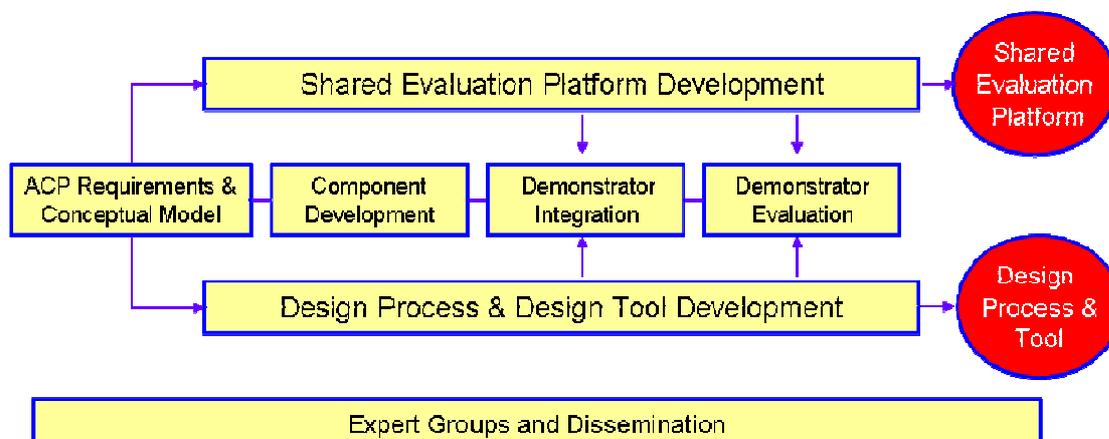
Activities

XP-DITE will develop a suite of design tools and evaluation methods to implement a system-level approach to airport security checkpoint design. These will be validated in trials at two European airports, through the participation of Schiphol Airport and Manchester Airports Group in the project.

Two key elements of the project are the design tool and the evaluation tool. The design tool allows the design of innovative new checkpoints and modification of existing checkpoints to meet combinations of overall system level requirements such as cost, throughput, customer service, security level and regulatory compliance, as well as ethical factors. The evaluation tool, called the Shared Evaluation Platform, comprises a validated set of protocols and tools for evaluating the performance of checkpoint design or operational system, again at the system level. The Shared Evaluation Platform will contain tools and methods for evaluating checkpoint designs on paper as well as tools and methods for evaluating the checkpoint once it has been built and put into operation.

The Design Tool and Shared Evaluation Platform will be built on a conceptual model of an aviation security checkpoint, as well as a repository of checkpoint component specification and performance data. A large requirements catalogue has also been developed, containing a wide range of different stakeholder requirements, current and possible regulations. This will be used to test and evaluate the tools.

XP-DITE will incorporate ethical requirements from the beginning of the design process and a systematic methodology will be developed for the ethical evaluation of checkpoint designs.

Several innovative detection system components will be developed during the project – including two types of combined x-ray and trace explosives detection system and a security scanner capable of stand-off imaging for objects concealed on the person. Biometric identification and tracking technologies are also being developed. Together with other commercially available products, these will be used to help validate the XP-DITE design and evaluation tools and methods.

XP-DITE project activities

Outcomes

For the airport operator and checkpoint designer, XP-DITE will provide a set of tools that will enable aviation security checkpoints to be designed and evaluated, both on paper and in the field. It will enable all aspects of performance to be included. XP-DITE should enable the use of innovative procedures and new technologies to be included in new checkpoints, and to allow airports to optimise checkpoint designs to the individual needs of their business. At the same time, the XP-DITE tools will enable them to provide evidence to the regulator of the level of security that they are achieving.

For the regulator, XP-DITE will explore new system-level approaches for the evaluation of checkpoint performance. The XP-DITE tools will allow regulators to carry out 'what if' experiments to explore the impact of new regulations, as well as the implications of new approaches and technologies developed by the industry.

The tools should also allow the design of checkpoints that can be more easily adapted to respond to new and changing threats.
For aviation security manufacturers, XP-DITE will facilitate the introduction of new technologies and innovative products by enabling their effect on the overall performance of the checkpoint to be predicted and measured.

For the travelling public, XP-DITE should result in fewer delays and improved convenience at the airport, whilst ensuring that they are kept safe.

Industry Engagement

Throughout the project, the XP-DITE team will work closely with airport operators, regulators and other stakeholders, both to gather requirements and to disseminate the results of the work so that the European and international security community can benefit from the project.

XP-DITE is aligned with the objectives of industry initiatives such as the IATA Checkpoint of the Future to improve passenger facilitation whilst maintaining required security levels. It is also aligned with the objectives of governmental activities such as US TSA's Risk-Based Security and the UK DfT's Outcome-Focused Risk-Based (OFRB) regulation initiative. XP-DITE is an enabler for these activities. It will provide the tools and methods needed for the design and evaluation of these new security checkpoint concepts.

The results of XP-DITE will be disseminated to the aviation industry, government regulatory and security agencies, as well as to the wider security community.

Advisory and Expert Groups

The XP-DITE advisory and expert groups are made up of key stakeholders including:

- Airport operators
- European & national regulators
- Airline and airport associations
- Security industry organisations
- International aviation security agencies

These groups act as advisers to the project. They are also a key channel for dissemination of the results of the project through newsletters, participation in project meetings, briefings and workshops.

Funding

XP-DITE Partners

TNO - Netherlands Organisation for Applied Scientific Research (coordinator)	The Netherlands
Alfa Imaging	Spain
Amsterdam Airport Schiphol	The Netherlands
Cascade Technologies	United Kingdom
FOI - Swedish Defence Research Agency	Sweden
Fraunhofer Ernst Mach Institute (EMI)	Germany
Fraunhofer Institute for Chemical Technology (ICT)	Germany
Iconal Technology	United Kingdom
ID Partners	France
ISDEFE - Ingeniera de Sistemas para la Defensa de Espana	Spain
Manchester Airport Group	United Kingdom
Morpho	France
Smiths Detection	Germany
University of Freiburg	Germany

Further Information

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