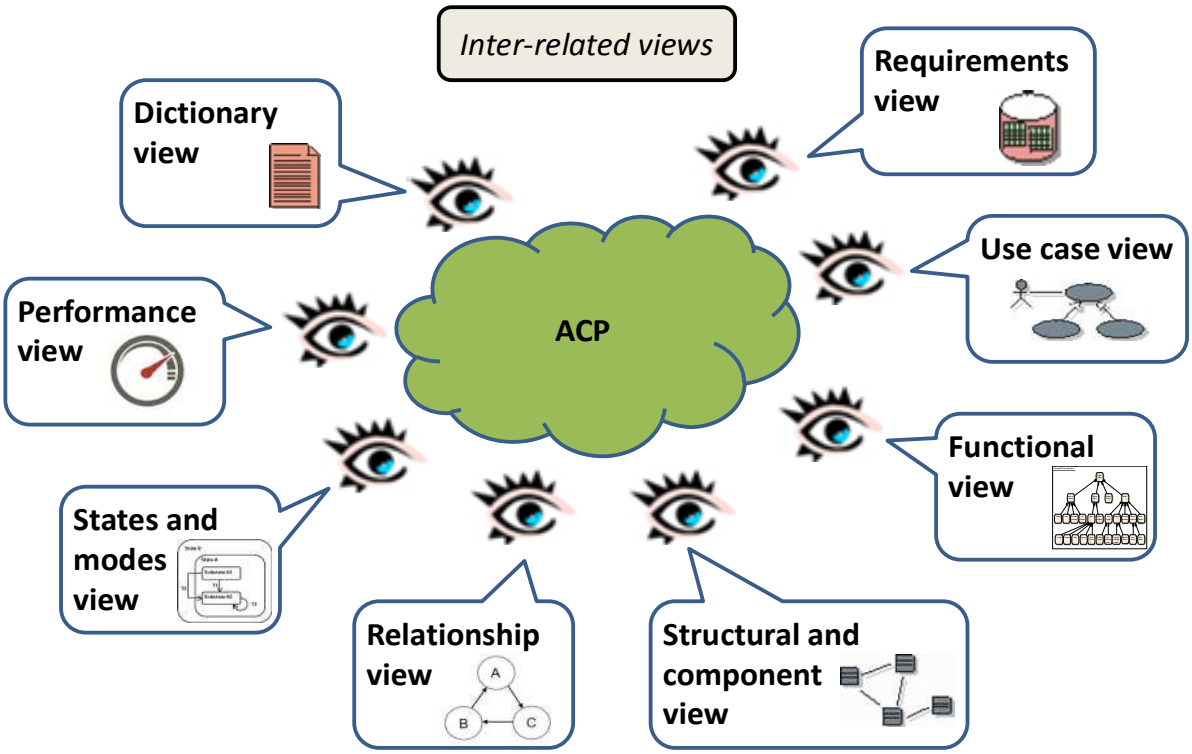
XP-DITE Deliverables Summary
Work Package 1 – Conceptual Model

The aim of the XP-DITE project is to develop, demonstrate and validate a comprehensive, passenger-centred approach to the design and evaluation of integrated security airport checkpoints (ACPs).

The objective of work package 1, 'Airport CP requirements and conceptual modelling', is to enable the development of the design process and design tool and of the shared evaluation platform by compiling overall system level requirements, system level evaluation criteria and by developing an ACP conceptual model.

Deliverable D1.1: Conceptual Model

The conceptual model of the ACP provides a number of inter-related and implementation independent views on the ACP. These views are bridges between the real-world ACP requirements and the XP-DITE design tool and shared evaluation platform. The figure below shows the different views within the conceptual model.



The conceptual model of the ACP is described by the following views:

Requirements view	The requirements view provides a model for ACP system level requirements.
Use case view	This view shows the ACP use cases. A use case describes the interactions between one or more actors and the ACP in order to provide an observable result or value for the actor. The use cases are the starting point for the construction of the functional view.
Functional view	This view provides a functional decomposition of the ACP in terms of activities that it performs. The functional view provides input to the structural and component view.
Structural and component view	This view provides a structural decomposition of the ACP in terms of subsystems and components.
Component/requirement relationship view	This view provides the framework for defining relationships between components and for defining relationships between requirements.
States and modes view	During the operation a system behaves differently according to the actual situation. This operational situation can change due to internal or external events. The different behaviours are called states. This view provides state and modes descriptions of the ACP.
Performance view	This view provides an overview of the ACP performance areas and performance indicators that are considered by XP-DITE, and provides a high level ACP performance model.
Dictionary view	This view provides the definition for the terms used in the conceptual model.

Deliverable D1.2 and D1.3: Component Level Attributes and Requirements

Although XP-DITE aims to design ACPs based on system-level requirements, it is necessary to describes all possible components of an ACP because these components are the building blocks of an ACP.

These deliverables identify the attributes of each ACP component as well as the requirements that are identified at component level (for example in the current security regulations).
The list of relevant security attributes has been derived using the current European Commission aviation security regulations. The operational and other attributes have mostly been compiled from interviews with relevant staff from Amsterdam Airport Schiphol.

Deliverable D1.4 and D1.5: System Level Requirements

These deliverables describe the 'requirement space' which provides the framework for the XP-DITE ACP design and evaluation tools. The requirements space is a set of requirements from which an ACP designer can select the requirements that are mandatory or otherwise relevant for him. Likewise, XP-DITE does not deal with setting regulatory evaluation criteria (standards) as such, but rather provides a set of requirements from which regulators can select those relevant for setting (performance) standards from within their competency. This requirement space comprises the complete range and variety of requirements, their structure and attributes. It will enable the

construction of a design tool and shared evaluation platform which can represent and incorporate all the types of requirements that are important to the defined classes of stakeholders.

The deliverables provide example sets of system level requirements which can be used in the development, test, validation and demonstration of the design tool and shared evaluation platform. These include both current requirements and possible future requirements as found in current and possible future regulations, current and future types of component.

Requirements sets produced can only be examples. In the case of security regulations, it is not presumed to propose any set of future regulations, since it is not the role of XP-DITE to do so. The example future regulatory requirements are considered to be a possible way that regulations could be expressed at the overall system level and are needed in order for the project to have something specific with which to design and test the tools developed in XP-DITE.

Deliverable D1.6: Performance Indicators

This deliverable D1.6 presents the list and description of the performance indicators (PI) and their associated metrics that have been identified to enable the evaluation of ACP designs on system level. The PIs are grouped into three Performance Areas (PAs):

- Customer – customer convenience, satisfaction and ethical factors
- Compliance – compliance with security and other regulations
- Cost – cost and operational factors such as throughput

Deliverable D1.7: Dependencies

This deliverable reports identified dependencies among unclassified system level requirements as well as among components. The framework for the dependencies is included in the conceptual model and the results can be used in ACP modelling in the design method and tool.

Deliverable D1.8: Data Processing and Human Behaviour Analysis

This deliverable explores two areas which are not within the scope of the current XP-DITE design and evaluation tools, but which could become important in the future, depending on the direction of future legislation. The first is the use passenger-specific risk information retrieved from an external system, or derived from information in the Passenger Name Record (PNR) or Advance Passenger Information (API). The second is the use of behavioural analysis, again to derive an individual risk score which could be used in the security screening process. Both areas have a number of ethical implications