Antilope

Advancing eHealth Interoperability

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Better healthcare through better IT

Nictiz

IHE EUROPE

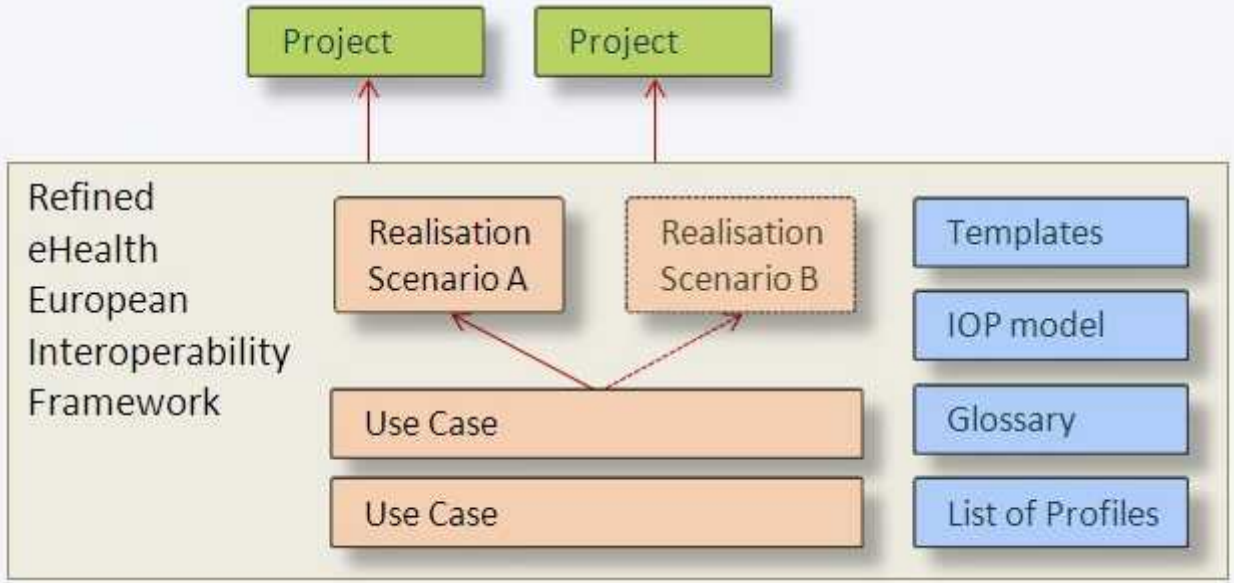
Integrating the Healthcare Enterprise

SEVENTH FRAMEWORK PROGRAMME

Goals

- Refinement of eHealth European Interoperability Framework
  - Provide a comprehensive set of Use Cases that can be used throughout Europe as a basis for national and regional implementations
  - Linking to interoperability Standards and Profiles (through Realisation Scenarios) such as IHE profiles and Continua Alliance guidelines
  - Provide tools and schemas that can assist in a shared understanding of interoperability issues
- Educational material
  - For summits, discussions, collaborations and projects

Refinement of the European Interoperability Framework

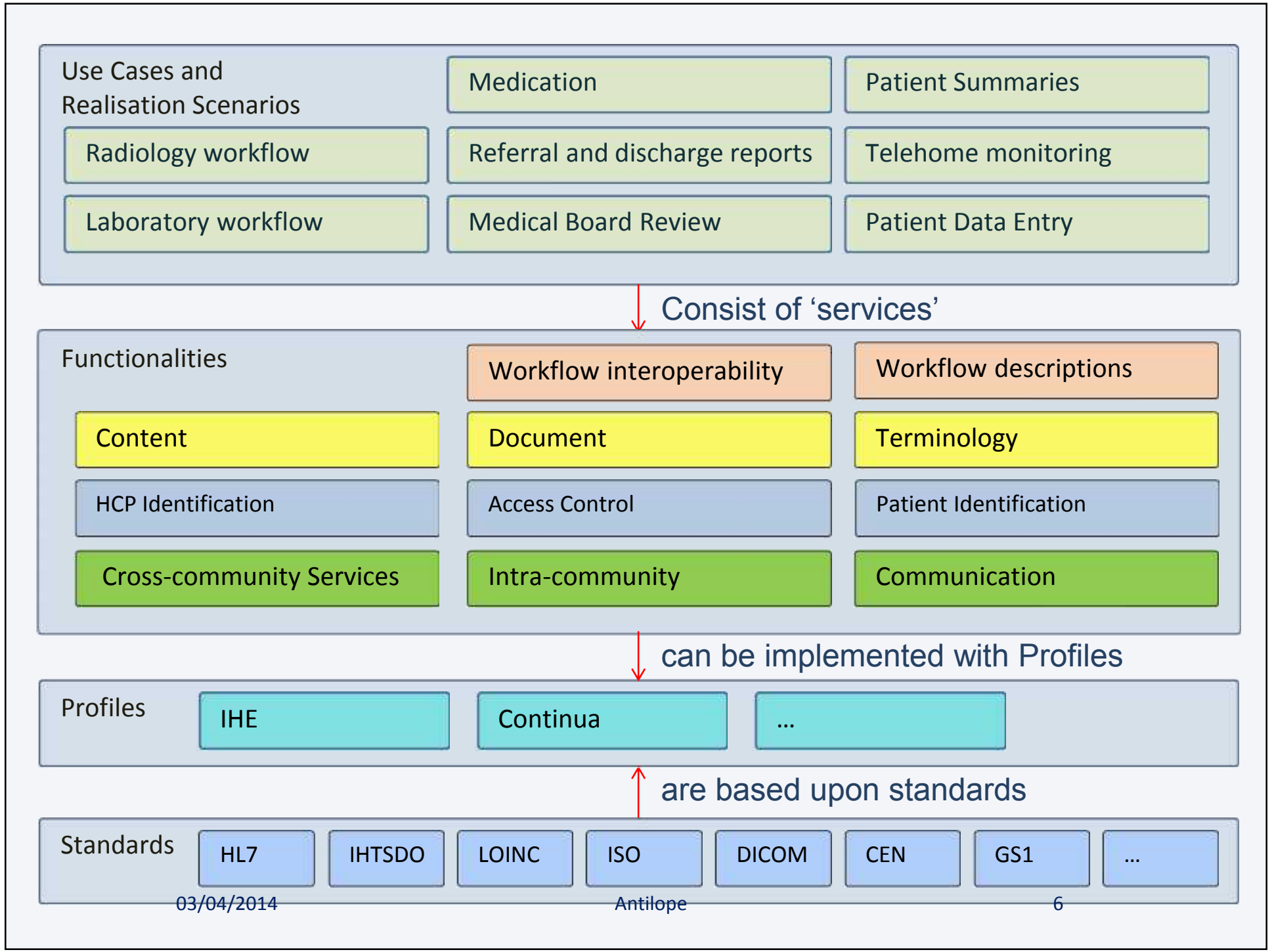


Antilope Use Cases

#	Medical domain	Description	Scale
1	Medication	e-Prescription and e-Dispensing	1a) Cross-border 1b) National/Regional 1c) Intra-hospital 1d) Citizens at home
2	Radiology	Request and results sharing workflow for radiology	2a) National/Regional 2b) Intra-hospital
3	Laboratory	Request and results sharing workflow for laboratory	3a) National/Regional 3b) Intra-Hospital
4	Patient Summary	Patient Summary sharing	4a) Cross-border 4b) National/regional 4c) Citizens at home
5	Referral- and Discharge reporting	Cross-enterprise Referral and Discharge Reporting	National /Regional 5a) Referral of patient from primary to secondary care 5b) Discharge report from secondary care
6	Participatory healthcare	Involvement by chronic patients in electronic documentation of healthcare information	Citizens at home
7	Telemonitoring	Remote monitoring and care of people at home or on the move using sensor devices	Citizens at home
8	Multidisciplinary consultation	Medical Board Review	National/Regional

Linking Use Cases to Profiles

- High-level Use Case
  - Functional description of the interactions between the participants in a process, for a certain purpose.
  - Implementation-agnostic.
- Realisation Scenario
  - High level direction for the realisation of a Use Case
  - Can be linked to interoperability Profiles.


Use Cases and Realisation Scenarios
Medication
Patient Summaries
Radiology workflow
Referral and discharge reports
Telehome monitoring
Laboratory workflow
Medical Board Review
Patient Data Entry
Consist of 'services'
Functionalities
Workflow interoperability
Workflow descriptions
Content
Document
Terminology
HCP Identification
Access Control
Patient Identification
Cross-community Services
Intra-community
Communication
can be implemented with Profiles
Profiles
IHE
Continua
...
are based upon standards
Standards
HL7
IHTSDO
LOINC
ISO
DICOM
CEN
GS1
...

Using Profiles to realise these 'services'

Workflow interoperability

- XDW Document Workflow
- XBeR-WD Basic eReferral
- XTB-WD Medical Board Review

Workflow descriptions

- LTW Laboratory Testing Workflow
- SWF Scheduled Workflow (Radiol.)
- CMPD Commun. Medic. PRE and DIS

Content

- XPHR Exch. of Personal Health Record
- XD-LAB Sharing Laboratory Results
- DIS, PRE
- MS Medical Summaries

Document

- DEN Document Encryption
- DSG Document Signature
- DSUB Document Notification

Terminology

- SVS Shared Value Sets
- RTM Rosetta Terminology Mapping
- LCSD Laboratory Code Sets Distribution

HCP Identification

- HPD Healthcare Provider Discovery

Access Control

- XUA(++) Rights and Authorization
- BPPC Patient Consent

Patient Identification

- PIX/PDQ Patient Discovery
- PAM Patient Administration Mgt
- XCPD Cross-Comm. Patient Discovery

Cross-community

- XCA Cross-Community Access

Intra-community

- XDS, XDR Document Sharing
- ATNA Audit Trailing & NA
- CT Consistent Time

Communication

- HRN Health Record Network
- WAN, LAN, PAN Network protocols
- DEC Device-Enterprise Communic.

Template for the description of a Use Case

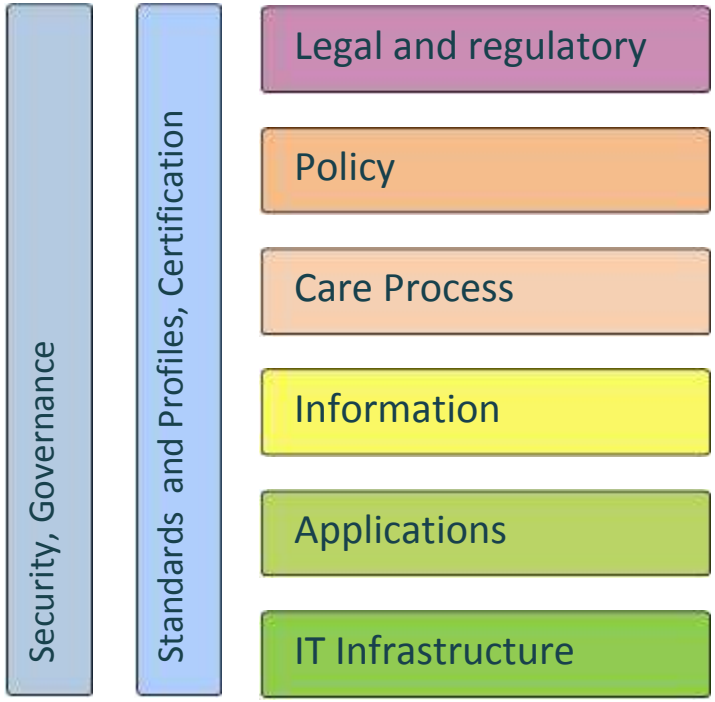
Title	(Number and) Name of the Use Case
Purpose	The Purpose of a Use Case describes the objective that needs to be achieved, the goal of the use case. It also describes the relevance of the Use Case (both from the care process and the economical viewpoint).
Domain	The key functional domain of the Use Case: Medication, Radiology, Laboratory, Patient Summary, Referral and Discharge Reporting, Participatory healthcare, Telemonitoring, Multidisciplinary consultation
Scale	Organisational dimensions of the Use. The following scales have been defined for the Antilope Use Cases: Cross-border, National/regional, Intra-hospital, Citizens at home and on the move
Business Case	The Business Case explains the 'why' of the Use Case. It describes the relevance of the Use Case (both medical and economical). This part can contain a short SWOT analysis.
Context	Describes the current situation, influencing factors
Information	High-level description of what type of information is shared, like 'patient summary' or 'medication prescription'
Participants	List of the main participants in the process. These can be individuals or organisational units. They are real-world parties.
Workflow steps	Real-world, functional description of a sequence of interactions between the participants in the different interaction steps of a process

Template for the description of a Realisation Scenario

Title	(Number and) Name of the Realisation Scenario
Related Use Case	Use Case that this Realisation Scenario is related to
Scenario context	Information and background about the real-world scenario.
Actors	List of the main participating systems, also (confusingly) called Actors, in the process. In this context, an Actor is an ICT system, as opposed to a participant (see above). Actors are involved with each other through transactions.
Transactions	Interoperability workflow steps describing the process steps between systems, including the information that is exchanged.
Process flow	A numbered list of process steps (optionally accompanied by a schematic overview), describing transactions between systems (actors), and the information 'units 'that are exchanged. The process flow describes the interoperability steps, i.e. the steps between the systems, and not the steps within the systems. The process flow can be linked to IHE and/or Continua Profiles. In this part, also swimming lanes and other schemas can be used
Linked Profiles	A list of Profiles that are relevant for the entire process flow, and a numbered list of the Profiles that can be linked to the Process flow steps.
Possible issues	Issues such as legislation and guidelines, social acceptance, language issues, architectural flaws, et cetera, that may affect the realisation of this scenario.

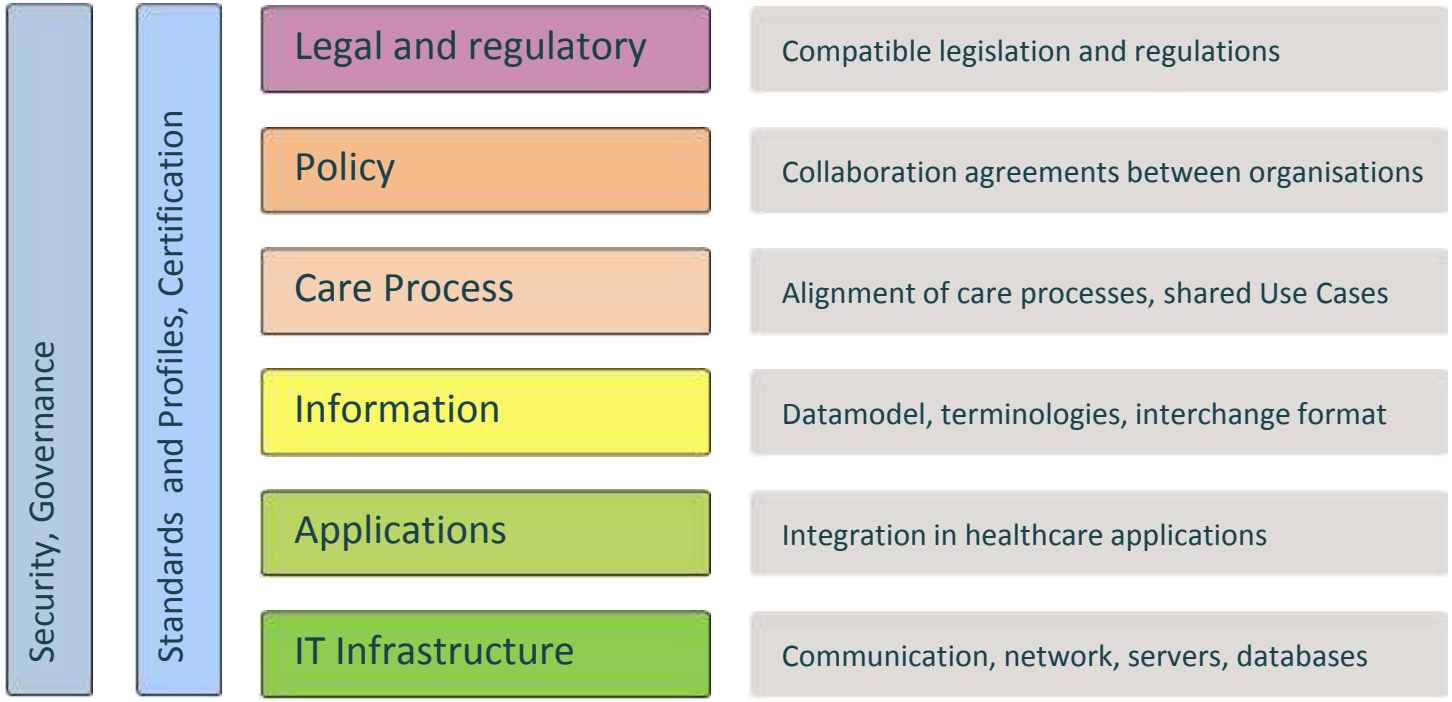
Refined interoperability schema

Antilope interoperability schema



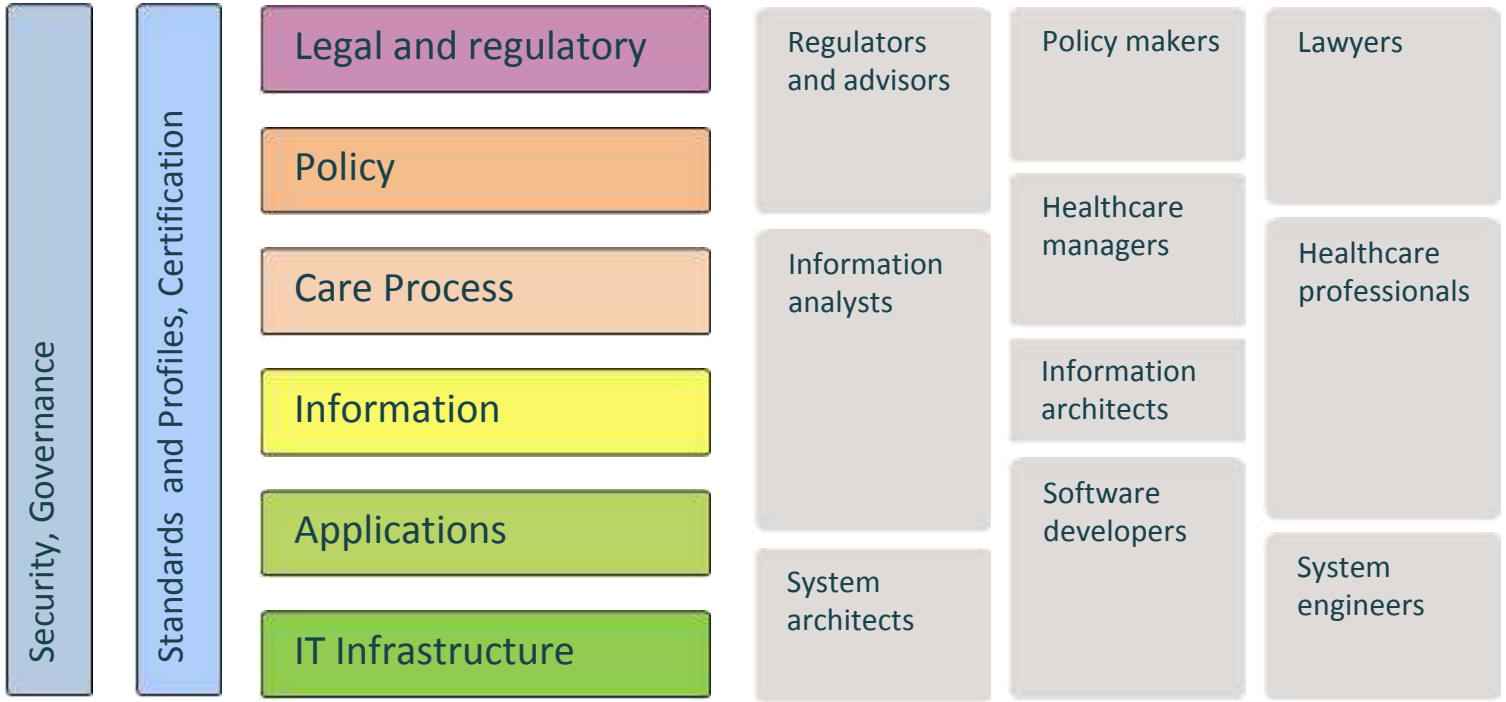
Refined interoperability schema

Activities for reaching interoperability in the different layers



Refined interoperability schema

Stakeholders in the different levels



Three key messages

Interoperability requires a shared definition of interoperability levels, terms and use cases	Antilope offers a set of Use Cases, a glossary of interoperability terms and definitions, a schema for interoperability levels, and a template for the description of use cases.
Use Cases are important building blocks in the realisation of interoperability	The Antilope Use Cases can be used as practical starting points for national/regional eHealth projects.
Using open, international standards and profiles in the implementation of Use Cases is a future-proof investment and facilitates cross-border solutions	The Antilope Use Cases are linked to proven and widely accepted standards and profiles.

For more information,

please refer to document D1.1,

available on the Antilope website

http://www.antilope-project.eu/