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Υπουργείο Υγείας
Ministry of Health

DESIGN AND IMPLEMENTATION OF THE NATIONAL EHEALTH INTEROPERABILITY FRAMEWORK (NEHIF)

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Introduction

The objective of this meeting is to briefly present the project. The meeting will help to understand better the expectations and the underlying objectives of the project and to fine-tune the participation of the vendors' community in an open and structured way.

The project organization

- **Country beneficiary: Greece - Ministry of Health**
- **Funding process: Directorate-General for Structural Reform Support** (**DG REFORM**)
  - ❑ Via the DG Reform EU Framework agreement
- **Key government stakeholders (Steering Committee level):**
  - ❑ **Ministry of Digital Governance**
  - ❑ **Presidency of the Government**
  - ❑ **IDIKA SA**
- **Project management and Task leadership (Contractor)**
  - ❑ KPMG Greece
  - ❑ IHE Europe

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The Basics

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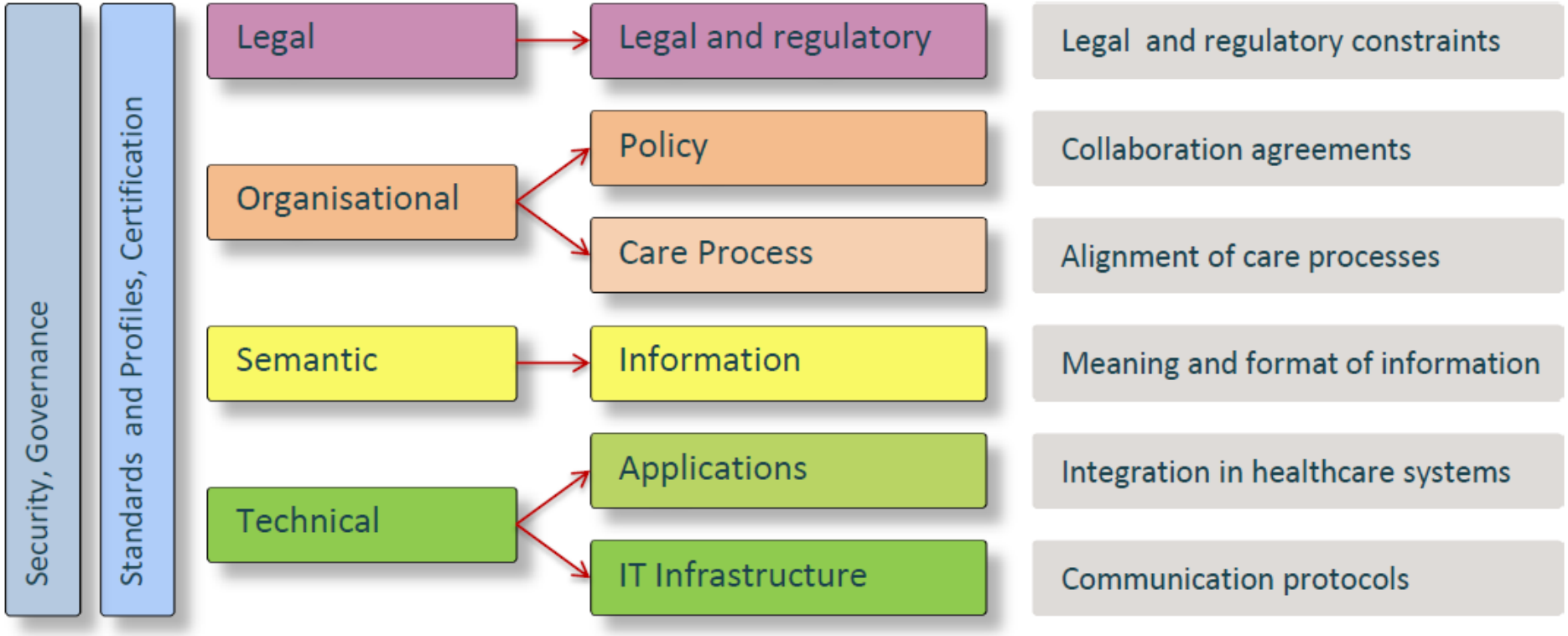
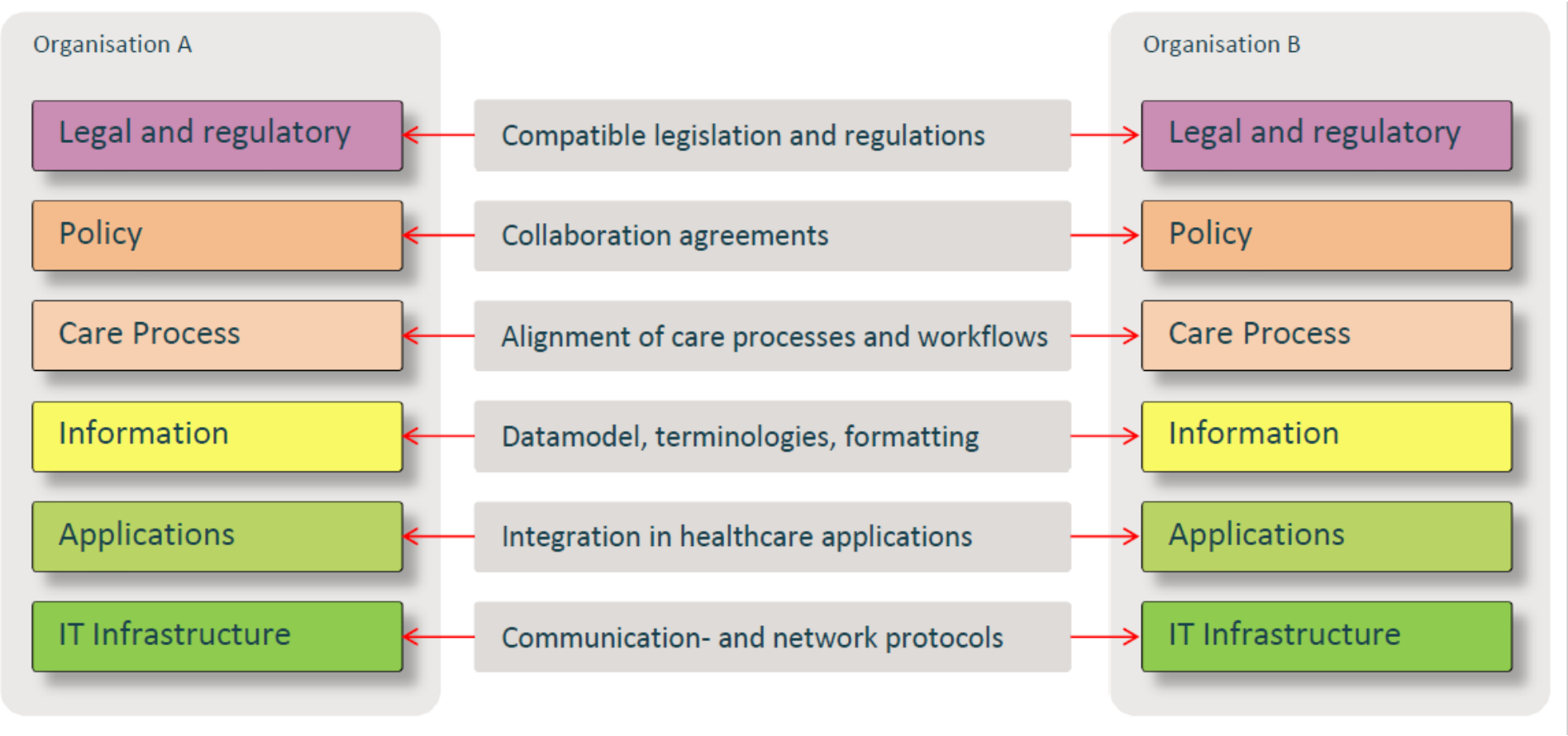
Refined eHealth European Interoperability Framework



https://ec.europa.eu/health/sites/health/files/ehealth/docs/ev_20151123_co03_en.pdf

Interoperability means alignment on different levels

Interoperability between organizations



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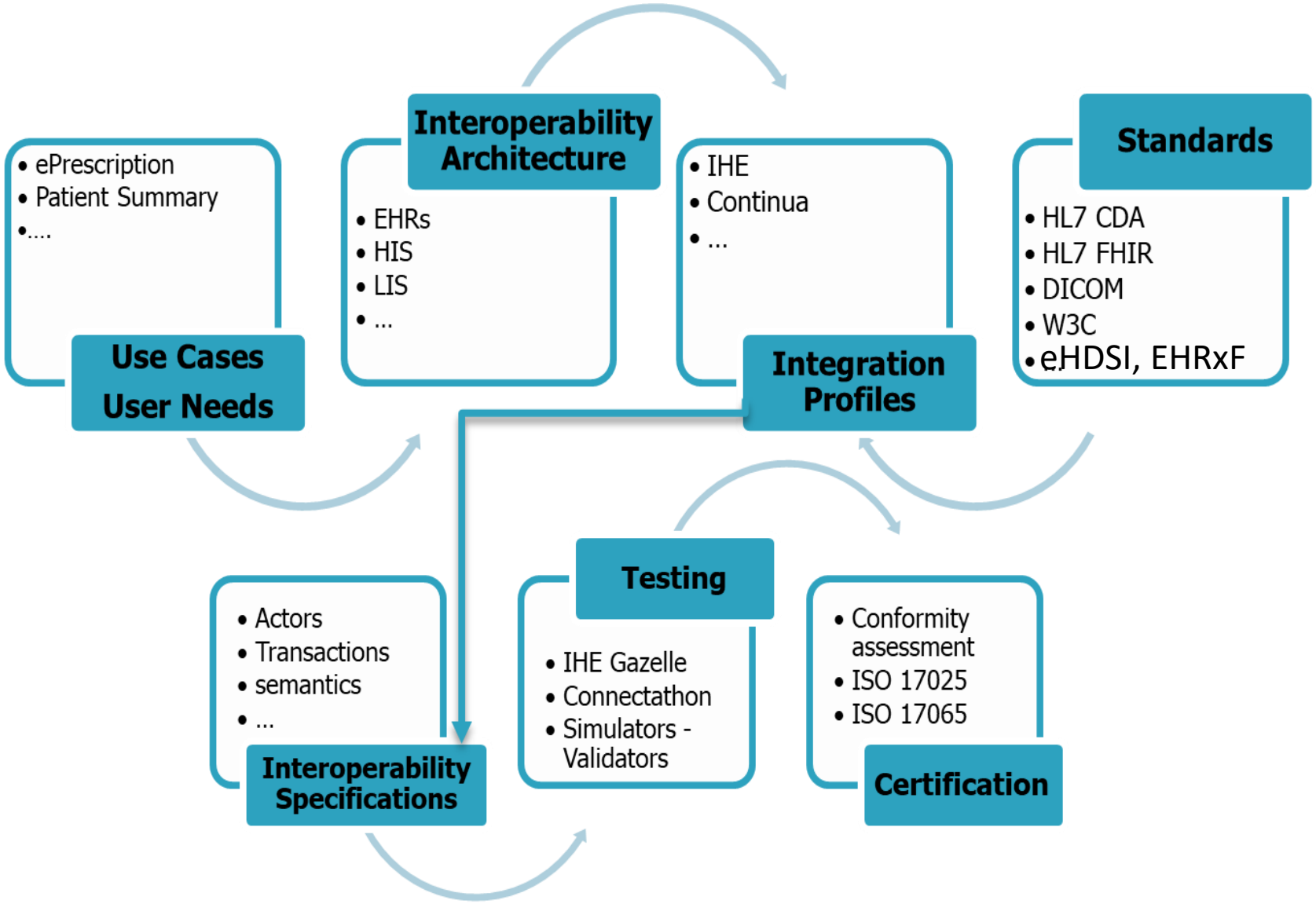
Interoperability Framework Methodological approach



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Project Structure

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Project outcomes

- Outcome 1: NeHIF Design Principles
- Outcome 2: NeHIF governance requirements
- Outcome 3: Use Case (UC) documentation and reference UC analysis
- Outcome 4: Architecture and specification definition for one Use Case
- Outcome 5: Testing and validation of one UC through a “projectathon”
- Outcome 6: Conformity assessment model definition & regulatory framework

Important notes

- Our approach builds on lessons learned and is based on the following 3 pillars:
  - ❑ Ensuring country ownership (and political commitment) of the reforms via:
    - ❖ broad and balanced stakeholder involvement;
    - ❖ careful task sequencing and packaging;
    - ❖ focus on yielding tangible results that are specific, measureable, monitored and communicated.
  - ❑ Tailoring our technical assistance and improving the capacity and quality of public authorities to absorb reforms via:
    - ❖ delivering through teams of experts who have a deep understanding of the politico-economic context, challenges and needs
    - ❖ sound quantitative and qualitative analysis that helps us fully comprehend the status quo of the administrative environment and estimate the reform impacts through modelling techniques;
    - ❖ providing continuous access to tools, trainings and digitalization to improve the skills and capacity of public authorities to absorb and implement reforms.
  - ❑ Leveraging good practices with respect to Beneficiary MS' needs via systematically taking into account good practices developed by international organizations, the EU and its Member States, standards' organisations etc., and this with respect to the needs of the Beneficiary MS.
- The specifications will be created in a co-creation mode, where appointed experts from the Ministry of Health (Technical Task Force) will learn and create the specifications.
- The Vendors will be called to support the specification effort and endorse them via a testing event
- The success of this process is an enabled to EU structural funds for the full deployment of the NeHIF and the related implementations

Work plan

- **Outcome 1: NeHIF Design Principles (M1-M5)**
  - ❑ *NeHIF design principles will be established, following a process of Use Case (UC) prioritisation in conformance with EU eHealth interoperability framework policies*
  - ❑ Assessment of appropriate eHealth interoperability framework models
    - ➢ Site visits (Bern, Veneto, IHE-EU Connectathon Brussels)
    - ➢ Workshops
  - ❑ Prioritize the Use Cases (UC) and select one UC for further interoperability development
    - ➢ Refined eHealth Interoperability Framework (ReEIF)
- **Outcome 2: NeHIF governance requirements defined and agreed (M1-M5)**
  - ❑ *Based on Outcome 1, the governance requirements for building a sustainable NeHIF that ensures consensus among eHealth ecosystem stakeholders (policy makers, health care providers, public funders, education and research, start-ups, SMEs and large companies, associations) are decided and defined by the MoH*
  - ❑ Workshops, Provide recommendation (10 UCs)

Work plan

- **Outcome 3: UC documentation and reference UC analysis finalized (M2-M6)**
  - *The MoH through in depth analysis has defined as National priorities 10Use Cases (UCs), prioritised in Outcome 1*
  - Workshops (UC development training, analysis of Ucs, …)
  - Pick 1 UC (out of the 10)

- **Outcome 4: Architecture and specification definition for one Use Case developed (M6-M12)**
  - *An overall national interoperability architecture will be developed defining the set of common components needed*
  - Interactive technical workshops on the detailed architectural interoperability definitions
  - Training session on the development of interoperability specifications & architecture
  - Provide recommendations on the architecture and the specifications for the selected Use Case
    - Additional foundational IS have to be developed (see Interoperability House / Basement: Patient Identification, Audit and Logging, etc.)

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Work plan

- **Outcome 5: Testing and validation of one UC through a "Projectathon" (M11-M15)**
  - *Implement and test in practice the interoperability specification of Outcome 4*
    - *Refine specification, train stakeholders on testing*
  - Define Testing Strategy
  - Set up TestBed service
  - Training on Testing and Test tools
  - Organize and run a Projectathon
- **Outcome 6: Conformity assessment model definition & regulatory framework (M12-M19)**
  - *Focus on two main regulatory needs to ensure the sustainability of both the NeHIF:*
    - *establishing a national reference centre for testing and certification*
    - *provide the needed recommendation for regulatory and legal needs*
  - National eHealth strategy
  - Provide recommendations on conformity assessment scheme
  - Analyze and identify regulatory and legal issues

Short presentation of the Project Phases/Tasks

0 Management and Project inception

Tasks

- Management and Quality
- Quarterly progress reports
- Final report
- Deliverable preparation (for all Outcomes)
- Identify Stakeholders
- Organise & conduct Kick off meeting
- Prepare Inception Report & PID

Tasks T1.1 – T1.9 of Workplan

Deliverables

- Deliverable 1: Kick-off meeting and Inception Report

1 Outcome 1 NeHIF Design Principles

Tasks

- Arrange study visits in two European countries
- Assess state of play of Greek Interoperability Environment and relevant models in EU countries
- Perform Gap Analysis, Maturity Assessment and Suitability analysis to prioritize 10 Ucs
- Organise Workshop 1 in Greece on suitable interoperability framework models
- Define design principles for Greek NeHIF & recom-mend most suitable UC
- Report & validate with MoH

Tasks 2.1 – 2.3 & 3.1 – 5.8 of Workplan

Deliverables

- Deliverable 2: Report on initial assessment of e-Health interoperability framework models suitable to Greece (study visits and Workshop 1)
- Deliverable 3: Report on recommendations for the Greek National e-Health Interoperability Framework (NeHIF) design principles and Use Case (UC) prioritisation

2 Outcome 2 NeHIF governance requirements

Tasks

- Review eHIF governance models in EU
- Analyse Greek governance mechanisms & regulatory background
- Identify initial needs & issues
- Organise & conduct Workshop 2 to present UCs and governance principles
- Define set of procedures & structure of NeHIF (governance model)
- Organise & conduct Workshop 3 to validate selected UC and proposed Governance Mode
- Elaborate final Report on NeHIF governance model including Action Plan

Tasks 4.1 – 4.4 & 5.1 – 5.8 of Workplan

Deliverables

- Deliverables 4a and 4b: Reports on two workshops (Workshops 2 and 3) on the NeHIF governance requirements/model for Greece
- Deliverable 5: A report on the recommendations and implementation guidelines on the governance requirements/model of the NeHIF to adopt for Greece

3 Outcome 3 "Use Case (UC) documentation and reference UC analysis

Tasks

- Prepare business process workflows for all UC
- Analyse information on interoperability aspects of selected UC
- Develop realization scenarios for endorsed UC based on EU methodologies
- Deliver a training session on the UC development methodology
- Organise two interactive workshops on the analysis of the selected UC for deployment
- Develop analytical UC documentation

Tasks 6.1 – 6.10, 7.1 – 7.4 & 8.1 – 8.6 of Workplan

Deliverables

- Deliverable 6a and 6b: Reports on two interactive workshops (Workshop 4 and Workshop 5) on UC deployment),
- Deliverable 7: A training report on UC development methodology
- Deliverable 8: A report on Use Case documentation

4 Outcome 4 "Architecture and specification definition for one Use Case

Tasks

- Define & Design overall interoperability architecture
- Deliver a training session on the development of inter-operability specifications
- Organise and carry out four interactive technical workshops on the detailed architectural interoperability definitions
- Provide recommendations on the architecture and the specs for the selected UC
- Validate Interoperability specifications
- Deliver final interoperability architecture including implementation action plan & all annexes

Tasks 9.1 – 9.4, 10.1 – 10.4 & 11.1 –11.7 of Workplan

Deliverables

- Deliverables 9a to 9d: Interactive technical workshops reports
- Deliverable 10: Training material and report on the development of inter-operability specifications
- Deliverable 11: A report with the recommendations on the architecture and the specifications for the selected Use Case

5 Outcome 5 "Testing and validation of one UC through a "projectathon".

Tasks

- Define the testing methodology, environment, tools & SUT context
- Set up the testbed service
- Organise one (1) training session for the testing strategy and testing tools
- Organise and run a three-days testing event (Projectathon) on the selected Use Case

Tasks 12.1 – 12.4, 13.1 – 13.5, 14.1 – 14.4 & 15.1 – 15.5 of Workplan

Deliverables

- Deliverable 12: Testing strategy document
- Deliverable 13: Testbed mechanism
- Deliverable 14: Testing training material and report
- Deliverable 15: Projectathon end report

6 Outcome 6 "Conformity assessment model definition & regulatory framework

Tasks

- Provide recommendations on conformity assessment scheme
- Analyse and identify regulatory and legal issues
- Provide report on recommendations of the specifications of regulatory & legislative requirements

Tasks 16.1 – 16.6 & 17.1 –17.3 of Workplan

Deliverables

- Deliverable 16: Report on recommendations on conformity assessment scheme
- Deliverable 17: Report on recommendations on the regulatory documents

Workshops and Executive Interviews throughout the project with key stakeholders and Subject Mater Experts (SMEs)

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19
W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4	W1 W2 W3 W4
	D1		D4a D2	D3 D4b	D5	D7	D6a	D6b D8	D9a	D12 D10	D9b D13	D9c	D14 D9d D11		D15		D16 D17	FR

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Where we are

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Current status

- Presented several best practices
  - Ireland, Austria, France, USA, Veneto Region, Switzerland, other
- Refined the 10 Use cases
  - Selected the use case to be analysed
  - → lab reports/results cross community and intra-hospital
- Established a task force of experts (MoH)
- Invitation process to other stakeholders

Ongoing Work

- Proposing Interoperability Governance Recommendations
- Establishing Stakeholders' engagement
- Reviewing an open interoperability architecture
- Establishing a use case roadmap
- Defining realization scenarios

Future Work

- Create the interoperability specifications for the selected use case
- Define a testing strategy
- Provide educational sessions
- Provide legal support
- Provide recommendations for conformity assessment
- Organise a Projectathon for the selected use case

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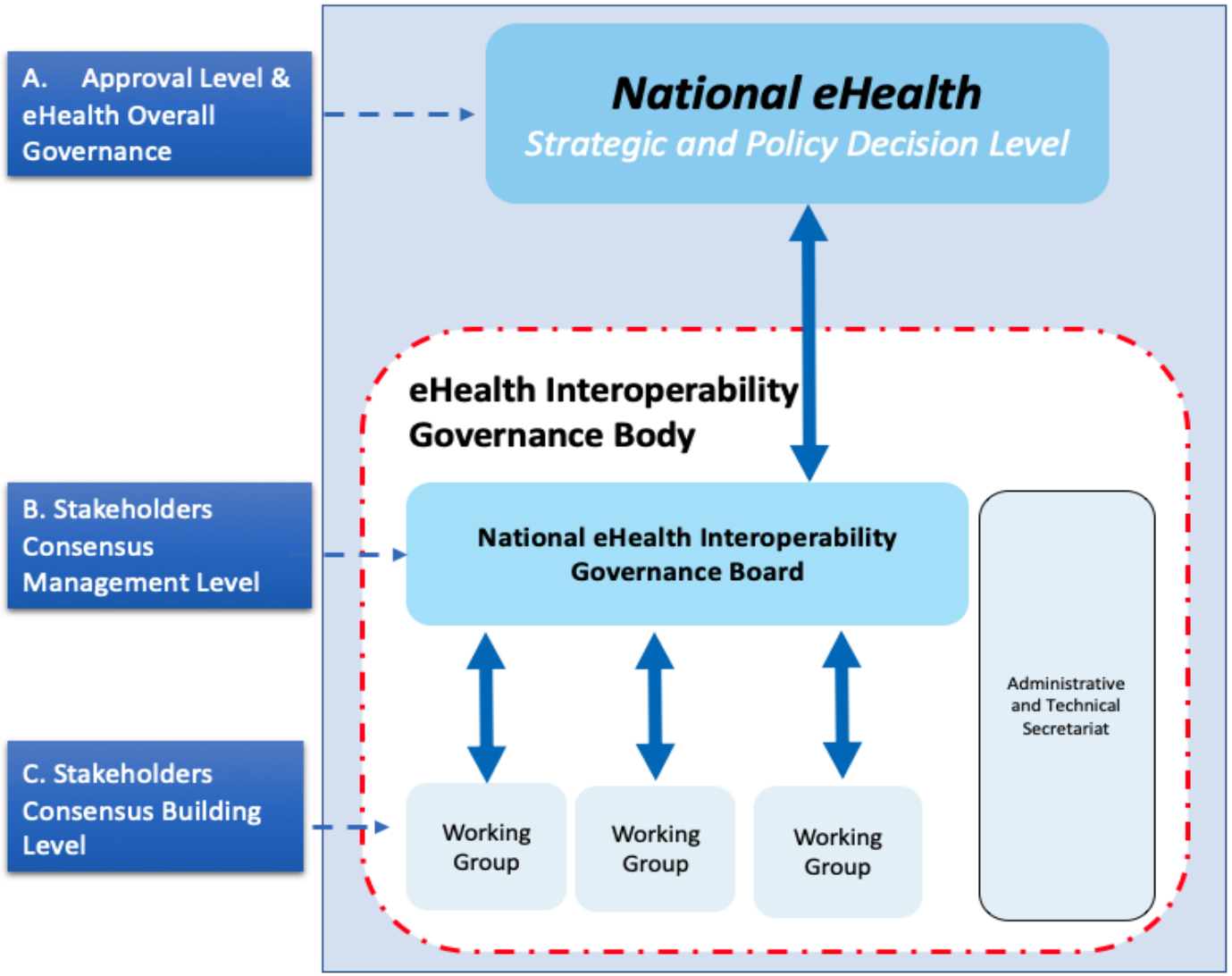
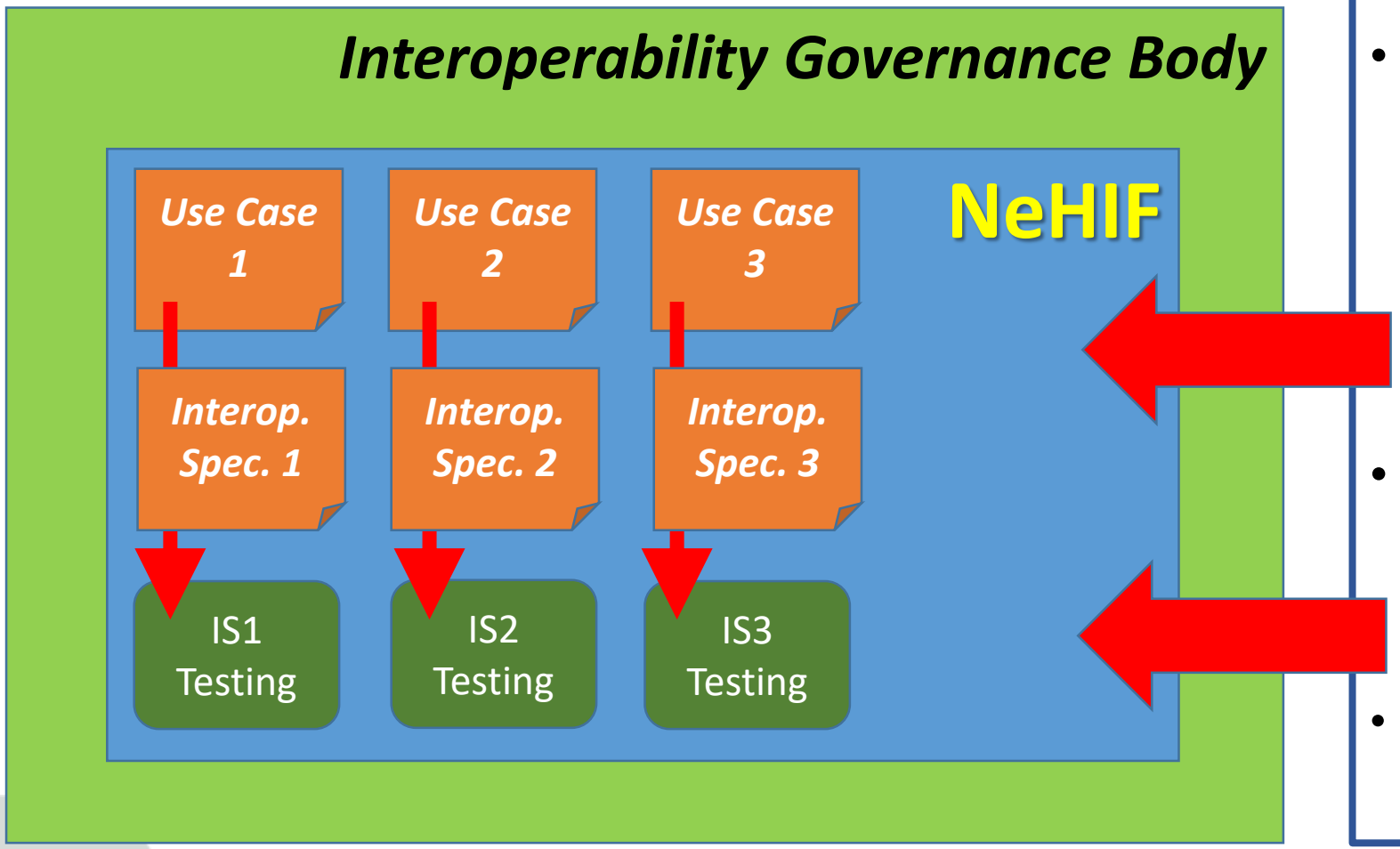
High level IGB Structure.



To be summarized in a law to ensure continuity and sustainability.

The adoption and use of Interoperability (streamline existing procedures)



Regulation YYY or tender XXX

- ….
- Requires <organization, systems, products> to support interoperability for Use Cases 1 & 3 from the NeHIF. to implement the corresponding Interoperability specifications
- Compliance of <organization, systems, products> shall be verified per the NeHIF testing strategy.
- …

10 Use cases… or more?

Scope	#	Domain	
Hospital	UC1b	Laboratory	Intrahospital Test Workflow
	UC2b	Radiology	Intrahospital Radiology Workflow Workflow
Care coordination	UC1a	Laboratory	Share Lab results at the national/regional level
	UC2a	Radiology	Share radiology report at the national/regional level
	UC4	Care coordination	Share Care plan
	UC5	Patient Discharge	Share Discharge letter at the national/regional level
	UC6	e-Referral	e-Referral workflow
	UC7	Appointment	Share HCP agenda
Public Health	UC8	Public Health	Secondary use of medical data
Prevention	UC3	Pharmacy	Share Pharmaeutical advice
	UC10	Prevention	Share Patient prevention information
Financial	UC9	Telemédecine	Reimbursement of telemedecine services

Use Case Prioritisation

Contract SRSS/SC2019/164 implementing framework contract No SRSS/2018/OI/FWC/002-06

DESIGN AND IMPLEMENTATION OF THE NATIONAL EHEALTH INTEROPERABILITY FRAMEWORK (NEHIF)

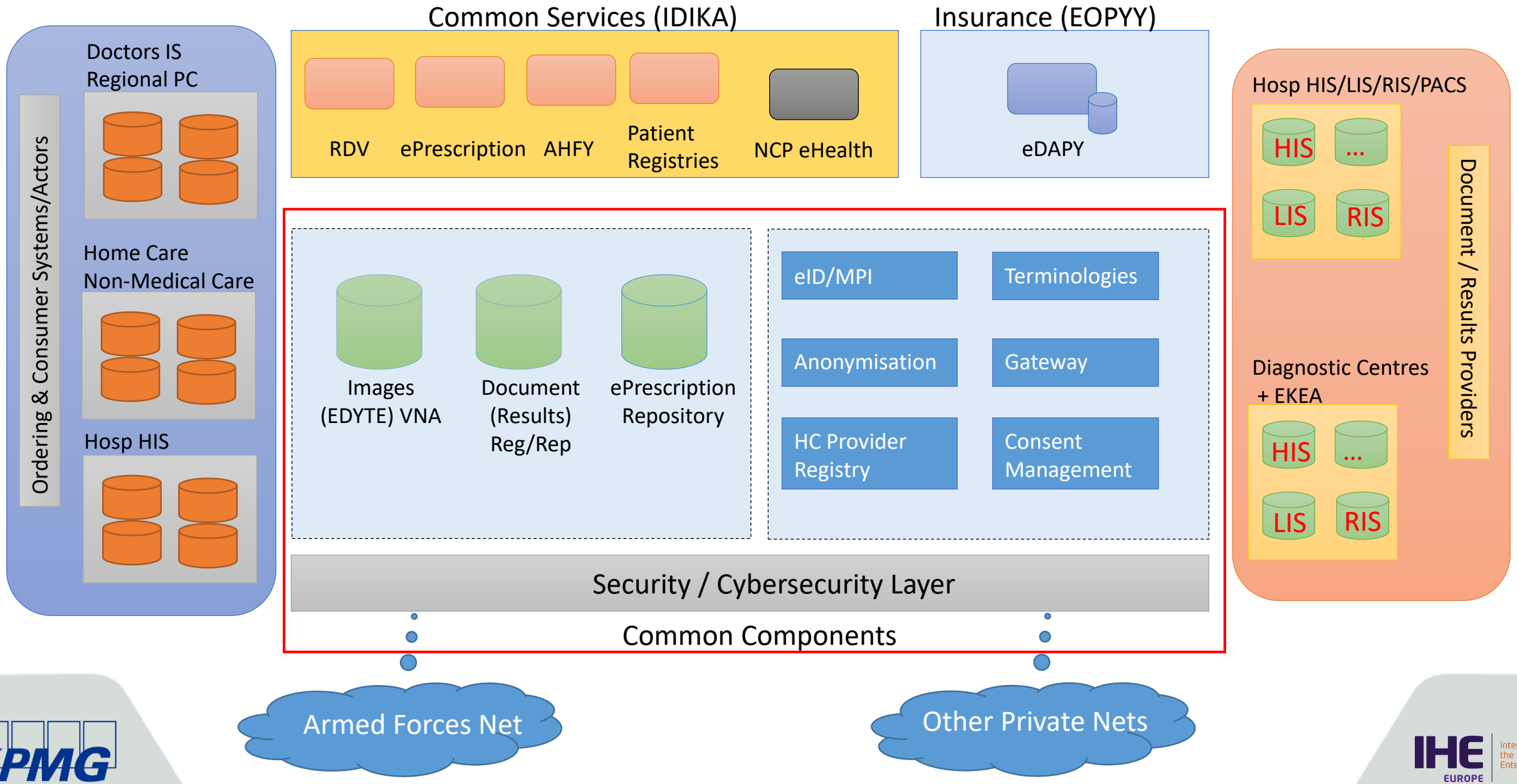
Date: 5 April 2020

DRAFT DOCUMENT

DRAFT

UCs are splitted in three categories: hospitals, care coordination and national (Public health, Prevention and reimbursement)

High level architecture (so far…)



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The Important Role of the Vendors and the Market

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Foreseen involvement

- Contribute actively in the interoperability specification creation (outcome 4) → September 2020
- Participate and validate in practice the specifications in the projectathon (outcome 5) → January 2021
- Endorse conformity assessment recommendations (outcome 6)

  → June 2021
- Participate in public consensus processes for legal reform to establish interoperability governance in practice (outcome 6)
- Structured participation into technical committees
  - ❑ Via Standardization bodies (HL7, IHE)
  - ❑ Via stakeholders representatives (associations) in the IGB (to be simulated during outcome 4 and on)

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