Panacea

People-centric cybersecurity in healthcare

PANACEA Project
and its opportunities for collaboration

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Purpose of this presentation

To provide an

"**helicopter view**" of the Panacea Project

- Provide a summary of the key features of the project
- Provide a high level description of "what" the Project has to deliver
- Provide a glimpse on the approach to collaboration with stakeholders

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Project mandate

Topic

Toolkit for assessing and reducing cyber risks in hospitals and care centres to protect privacy/data/infrastructures

Scope

Development and implementation of innovative methods, tools, guidelines or best practices addressing the need for cybersecurity in hospitals including remote care and homecare settings

Expected impact

- **Improved security** of Health and Care services, data and infrastructures;
- **Less risk of data privacy breaches** caused by cyberattacks;
- **Increased patient trust and safety**.

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The Consortium

- 15 Partners from 7 Countries
- 5 M€ budget, including 200 K€ for open call
- 3 year long (Jan 2019-Dec 2020)
- 61 deliverables
- 20+ scientific papers
- 2+ input for standardization on cybersecurity

No.	Participant organisation name	Country	Type
1 (Coord.)	Università Cattolica del Sacro Cuore (UCSC)	IT	University
2	Fondazione Policlinico Universitario Agostino Gemelli (FPG)	IT	End User
3	Rina Consulting S.p.A. (RINA-C)	IT	LE
4	Foundation for Research and Technology Hellas (FORTH)	GR	RTO
5	IDEMIA Identity & Security France (IDEMIA)	FR	LE
6	RHEA System S.A. (RHEA)	BE	SME
7	University of Northumbria at Newcastle (UNAN)	UK	University
8	Aon S.p.A. Insurance & Reinsurance Brokers (AON)	IT	LE
9	Stelar Security Technology Law Research UG (STELAR)	DE	SME
10	Università degli Studi di Roma “La Sapienza” (UROME)	IT	University
11	Trust-IT Services Ltd (Trust-IT)	UK	SME
12	7th Health Region Crete (7HRC)	GR	End User
13	Health Service Executive (HSE)	IE	End User
14	Irish Centre for Emergency Management (ICEM)	IE	SME
15	Innovation Sprint Sprl (iSPRINT)	BE	SME

Output (1/4)

- PANACEA will deliver a **suite of technological and organizational tools** which help users to assess and reduce the vulnerability to cyberattacks of their “system in scope”.
- System in scope include both **technology and people**
- Systems in scope include
  - **Healthcare providers** (single Hospital, Group of Hospitals, Healthcare region)
  - **Medical Device lifecycle**
  - **ICT Systems lifecycle**
- PANACEA delivers two integrated toolkits :
  - the **Solution Toolkit**
  - the **Delivery Toolkit**.

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Output (2/4)
Solution Toolkit

- The **Solution Toolkit** comprises
  - **four technological tools** for

    I-dynamic risk assessment & mitigation,

    II-secure information sharing,

    III-security-by-design & certification,

    IV-identification & authentication
  - **three organisational tools** for

    V-training & education,

    VI-resilience governance,

    VII-secure behaviours nudging

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Output(3/4)
Solution Toolkit in its Ecosystem

Panacea Ecosystem
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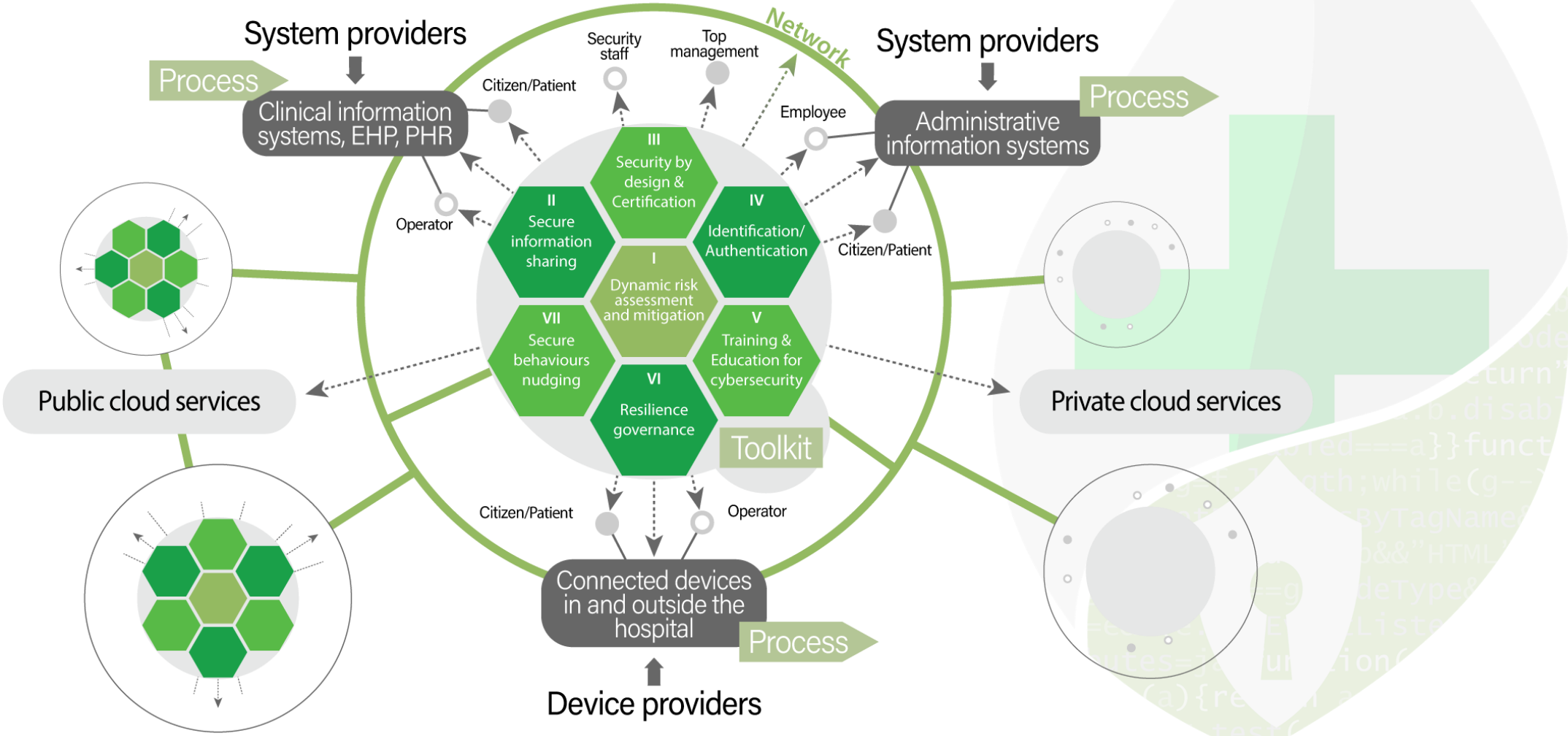
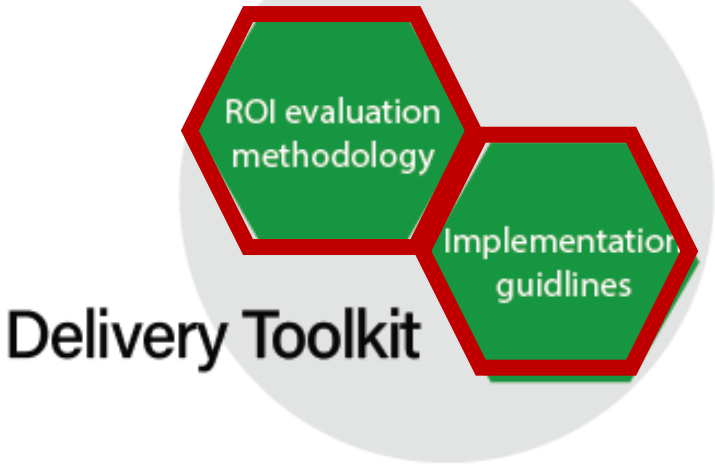


Output (4/4)
Delivery Toolkit

- The **Delivery Toolkit**, specifically supporting the adoption of the solution toolkit, includes **two tools**
  - ROI evaluation methodology to evaluate the ROI of cybersecurity interventions
  - Implementation guidelines to adopt the solution toolkit and implement other ex-ante mitigation actions.

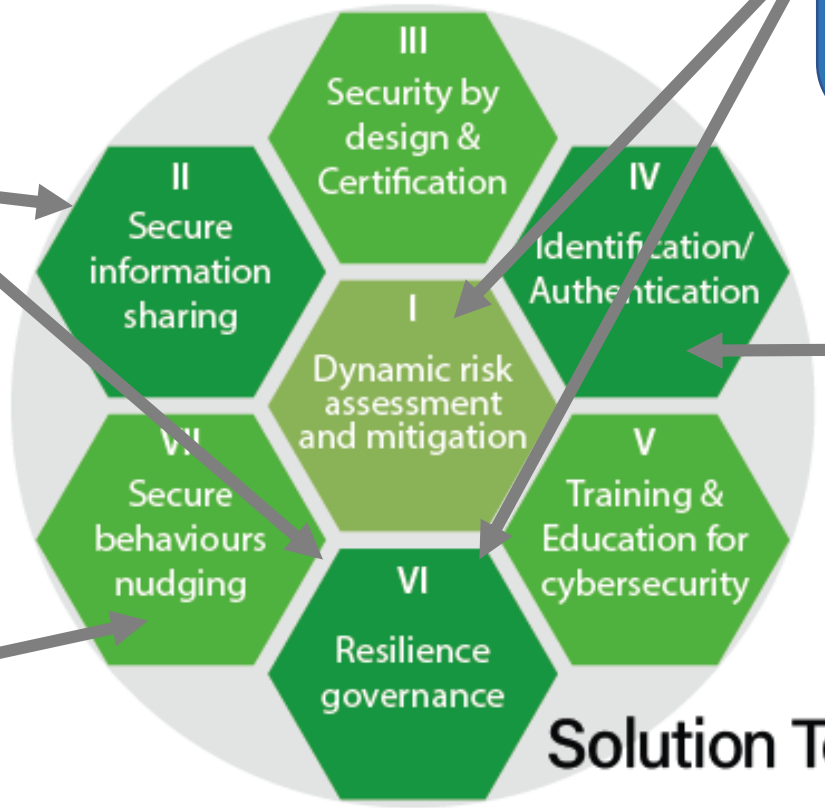


PANACEA Innovation Potential

- The toolkit will benefit from **nine PANACEA research goals**

- Threat modelling
- Attack modelling
- Response management
- Visual analytics

- Models for healthcare data secure information sharing
- Blockchain for secure information sharing



- Biometric recognition/digital identity
- IoMT identification

- Secure behaviours decision models and influencers

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Research goals (2/2)
Innovation potential

At least two novel approaches	
Holistic approach to cybersecurity	Real improvement in the domain of cybersecurity can only come from **actions human behaviour, technology and processes** as part of a holistic solution;
Impact oriented approach	**The Consortium wants to speak to HCC manager**s, as prospect **buyers of PANACEA**, and has decided not only to design effective solutions, but also to make them easy to adopt.

At least least two new types of solutions	
Automatic generation of non-technical mitigation actions	The dynamic risk assessment tool will recommend not only technical mitigation measures, but also non-technical mitigation measures (**Risk Governance, Assurance and Organisational models**);
Interventions for secure behaviours nudging	**Research** on human factors will provide such interventions and **test** them in **three culturally different environments** (FPG-Italy, 7HRE-Geece, HSE-Ireland)

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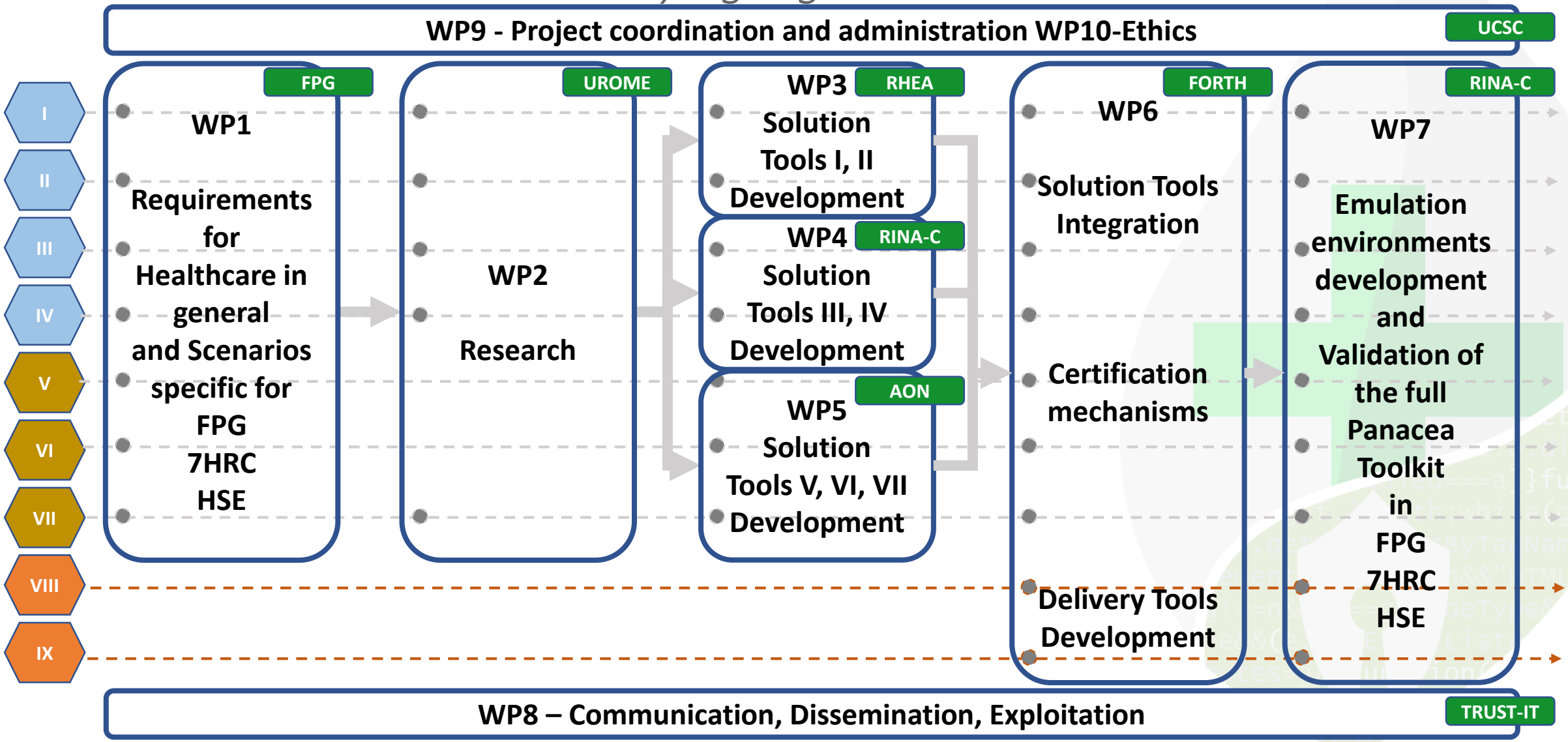
Workplan architecture
Underlying logic



Stakeholder Platform

PANACEA specifically targets a total of **8 stakeholder groups**, divided between **end-users and other relevant stakeholders**, all of them

- benefitting from Panacea result
- willing to provide input to Panacea