omega-x

Orchestrating an interoperable sovereign federated Multi-vector Energy data space built on open standards and ready for GAia-X

Interoperability in data spaces

Ecosystem standards

Antonio Kung

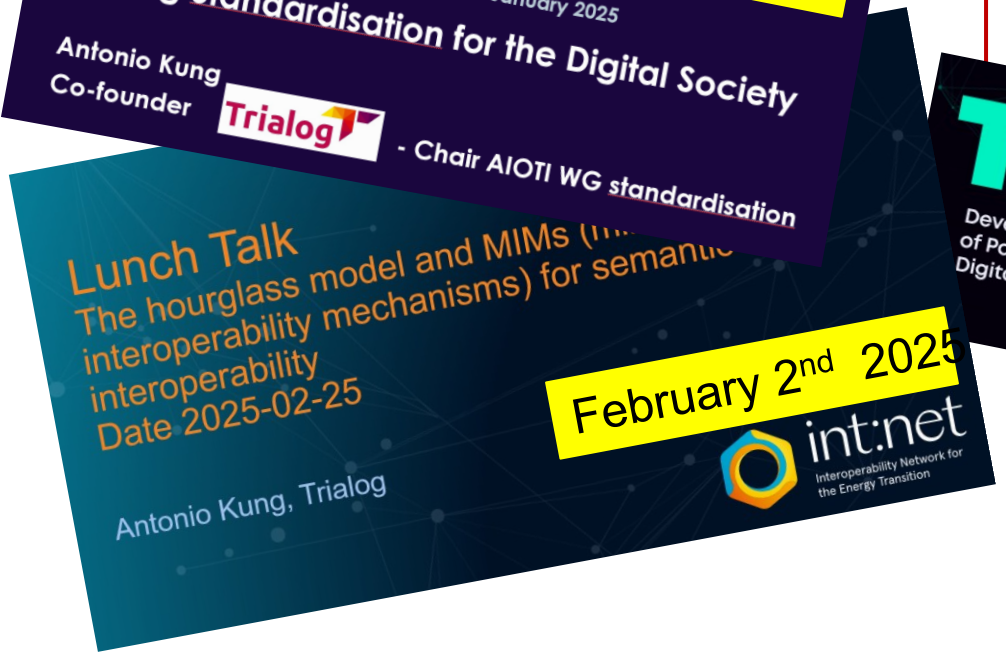
Funded by the European Union

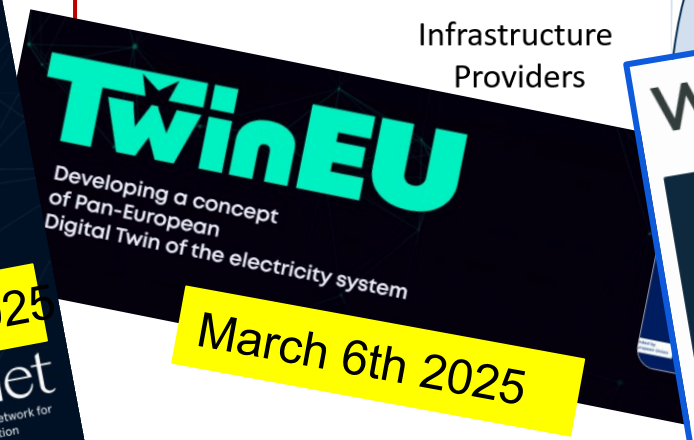
Speaker

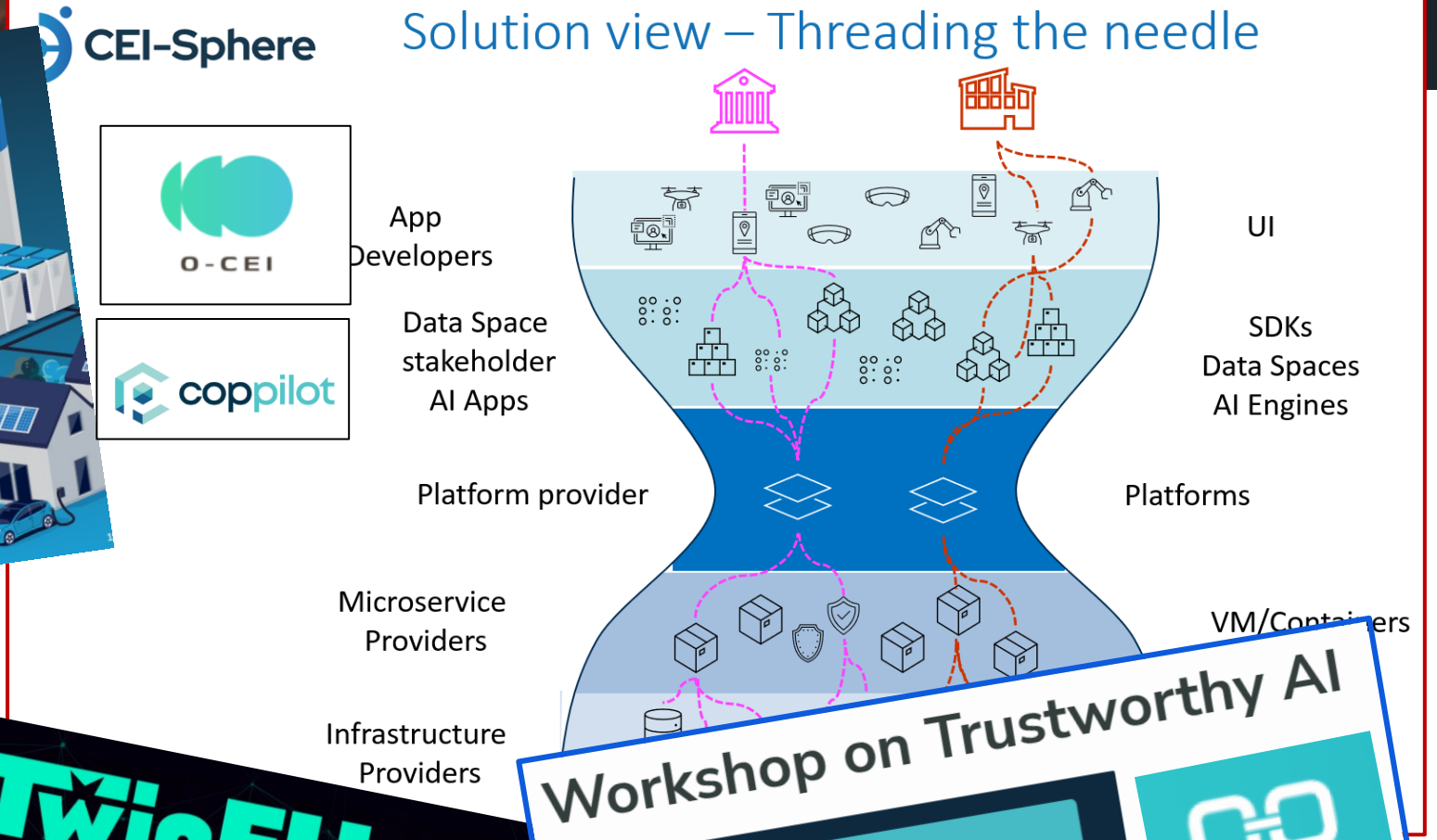
- Standardisation in associations and liaison
  - AIOTI: Chair WG standardisation
    - ISO/IEC JTC1/SC41 IoT and digital twins
    - ITU-T SG20 IoT and SCC
  - BDVA: Leader TF benchmark and standards
    - ISO/IEC JTC1/SC42 Artificial intelligence
- Editors of related standards
  - Data spaces connected to IoT and digital twins
    - 30151 Extraction of data products - 30152 Integration of IoT and digital twin in data spaces
  - Interoperability
    - 21823-1 IoT interoperability framework - 21823-5 IoT behavioral and policy interoperability
  - Digital twins
    - 30188 Reference architecture - 27568 Security and privacy
  - Artificial intelligence
    - 27091 Privacy - CEN CLC JTC21 Trustworthiness framework

Funded by the European Union

Hourglass model

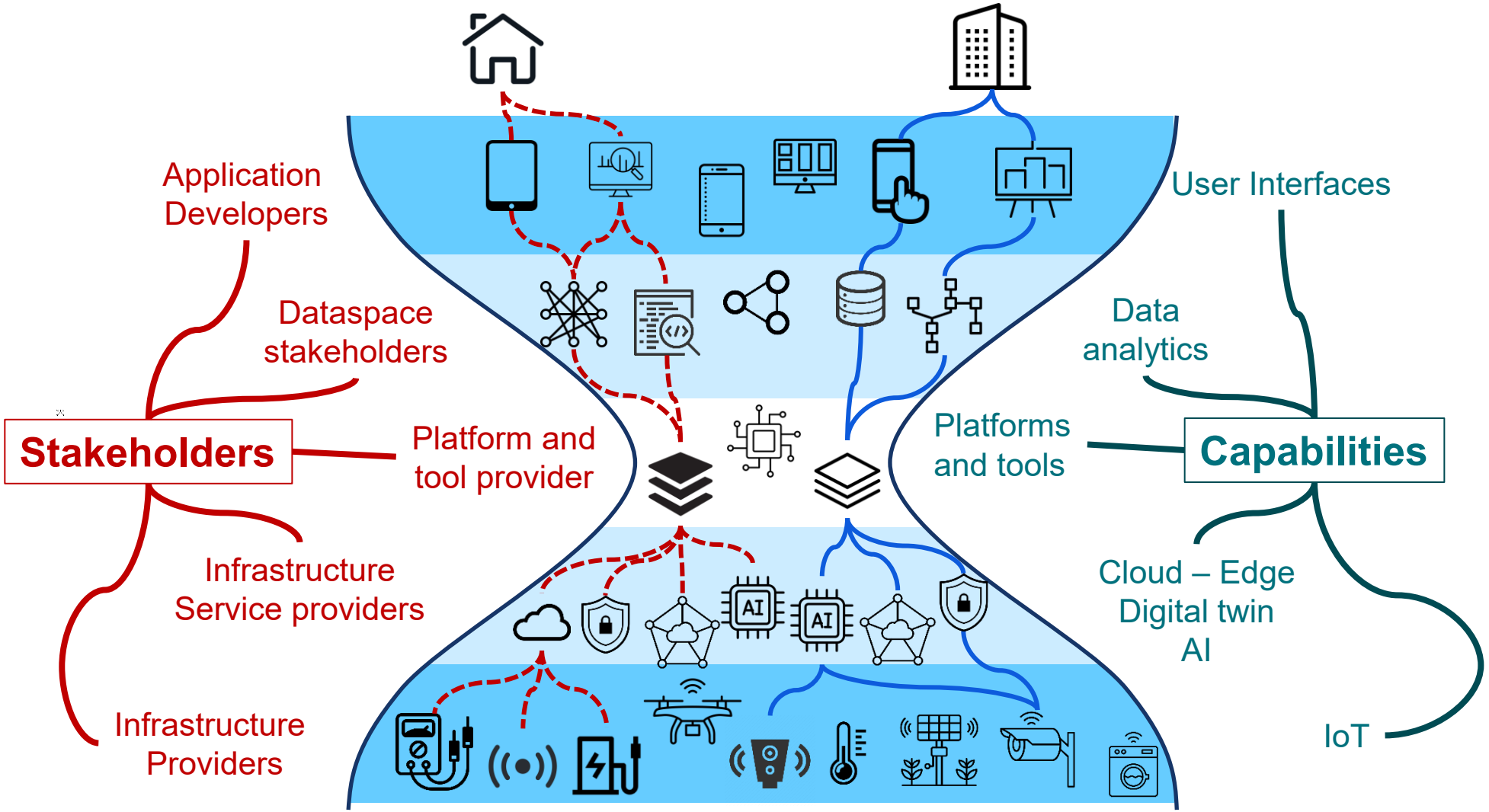






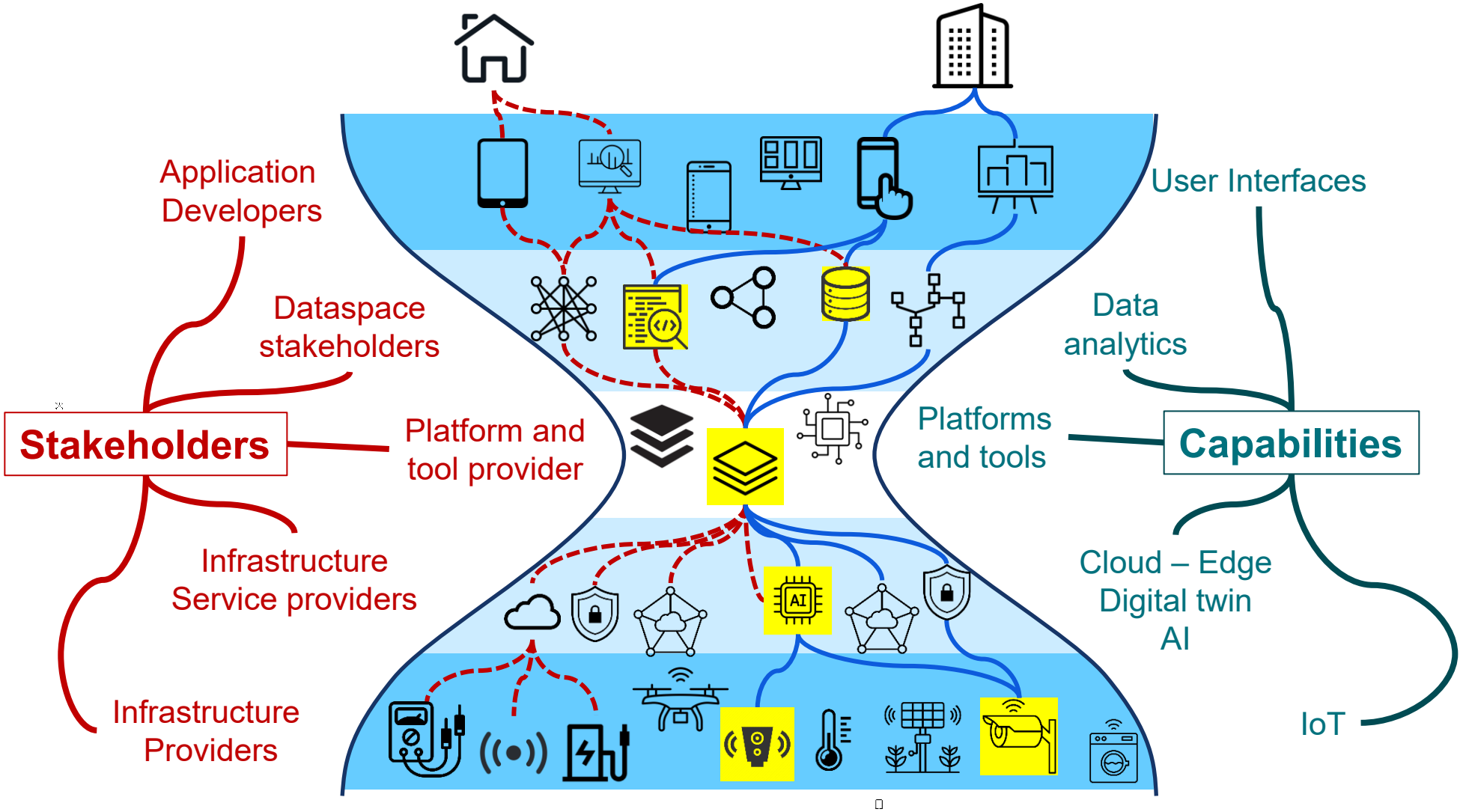
Funded by the European Union

Hourglass Model of the Ecosystem



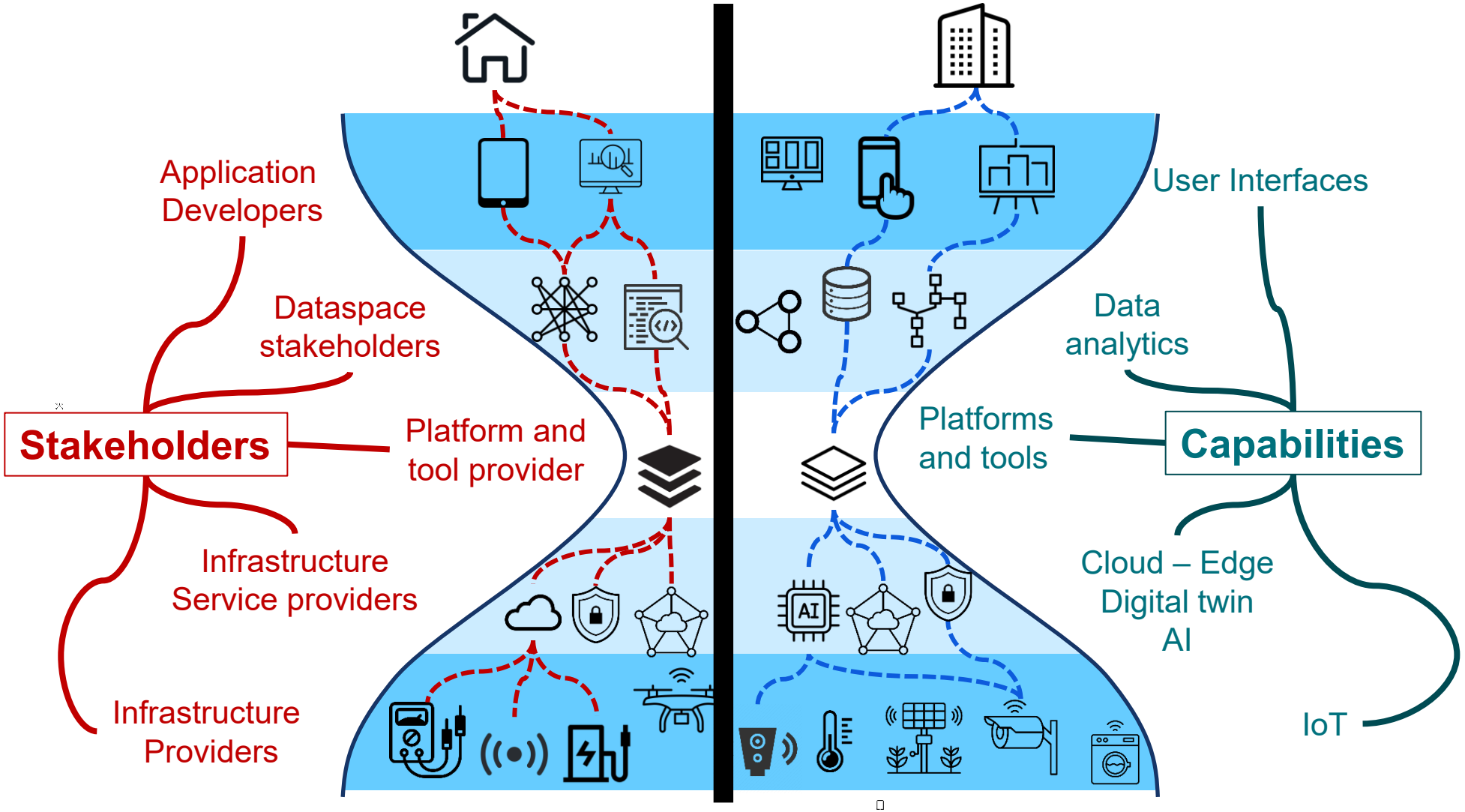
Funded by the European Union

Objective – Fostering reuse



Funded by the European Union

Challenge: Fragmentation

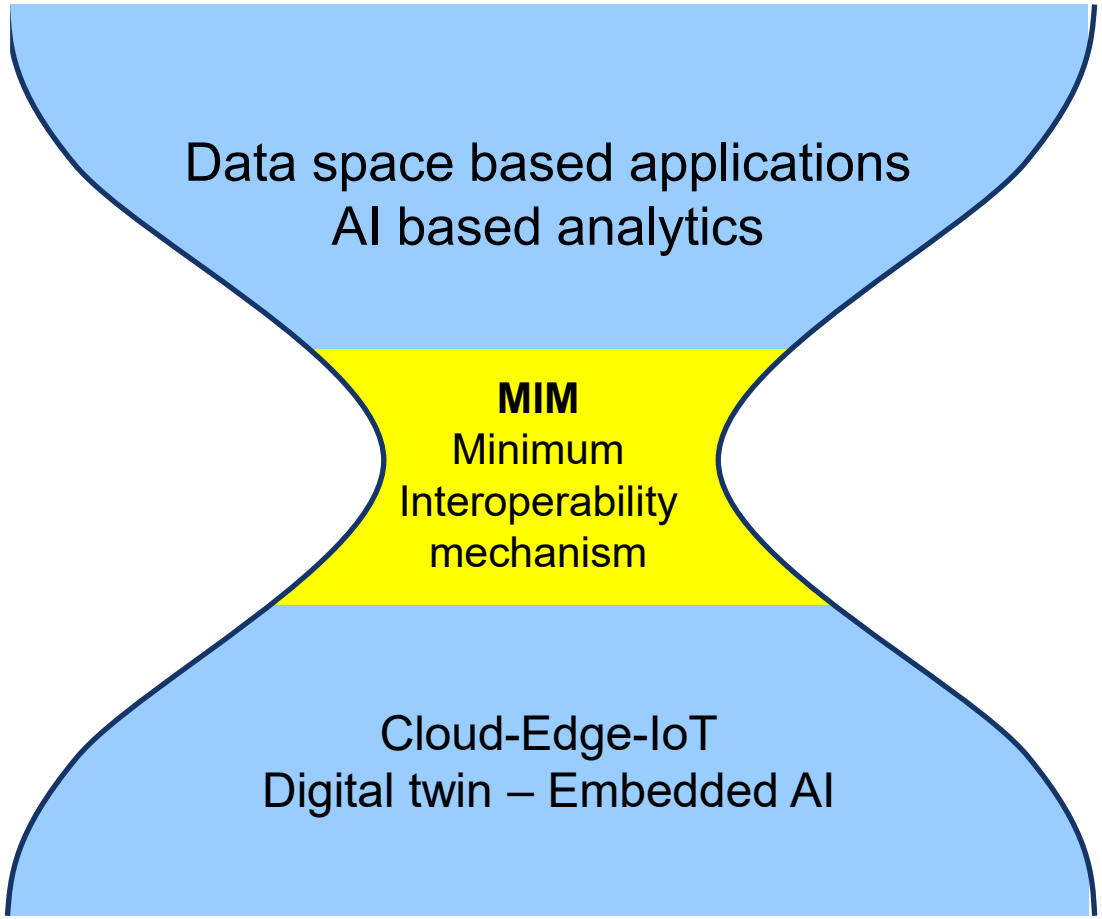


Funded by the European Union

Hourglass Architecture Model: Two layers and one interface

Applications and
data analytics concerns

Infrastructure concerns

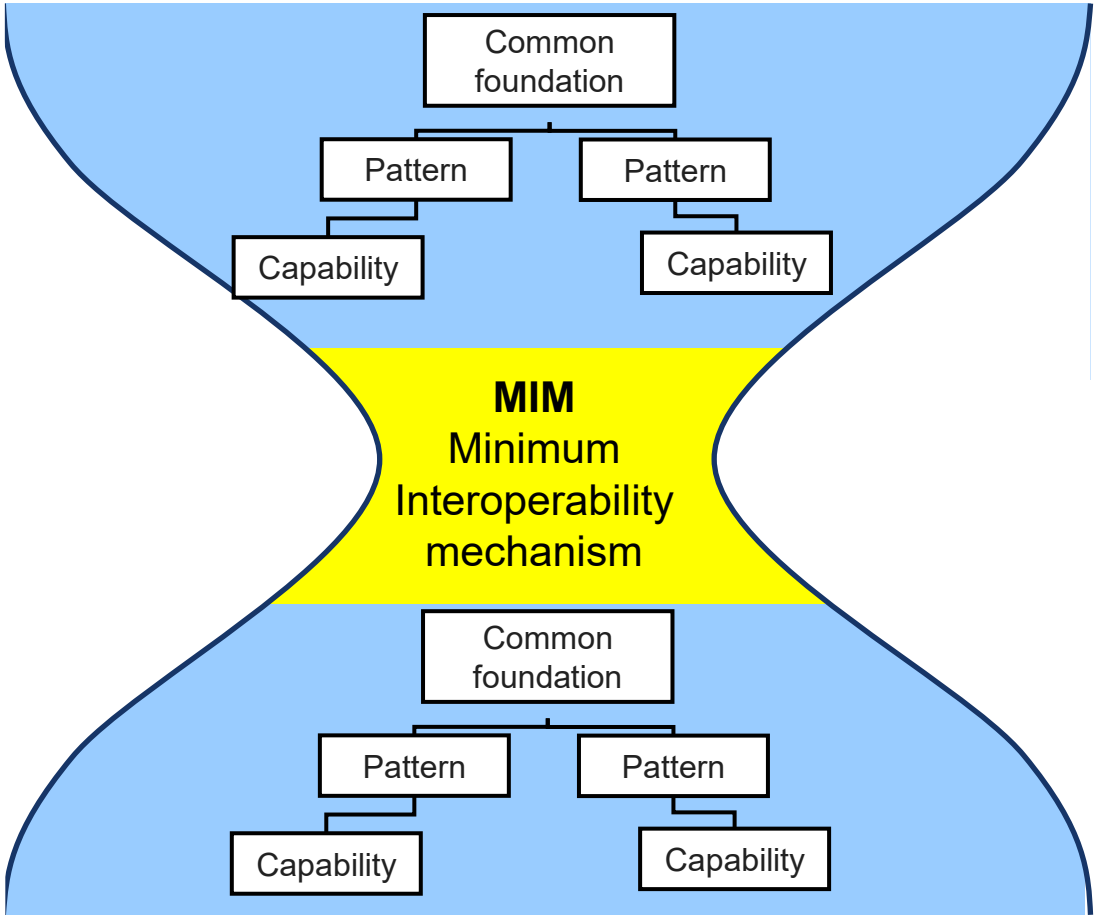


Funded by
the European Union

Hourglass Architecture Model: Architecture Patterns

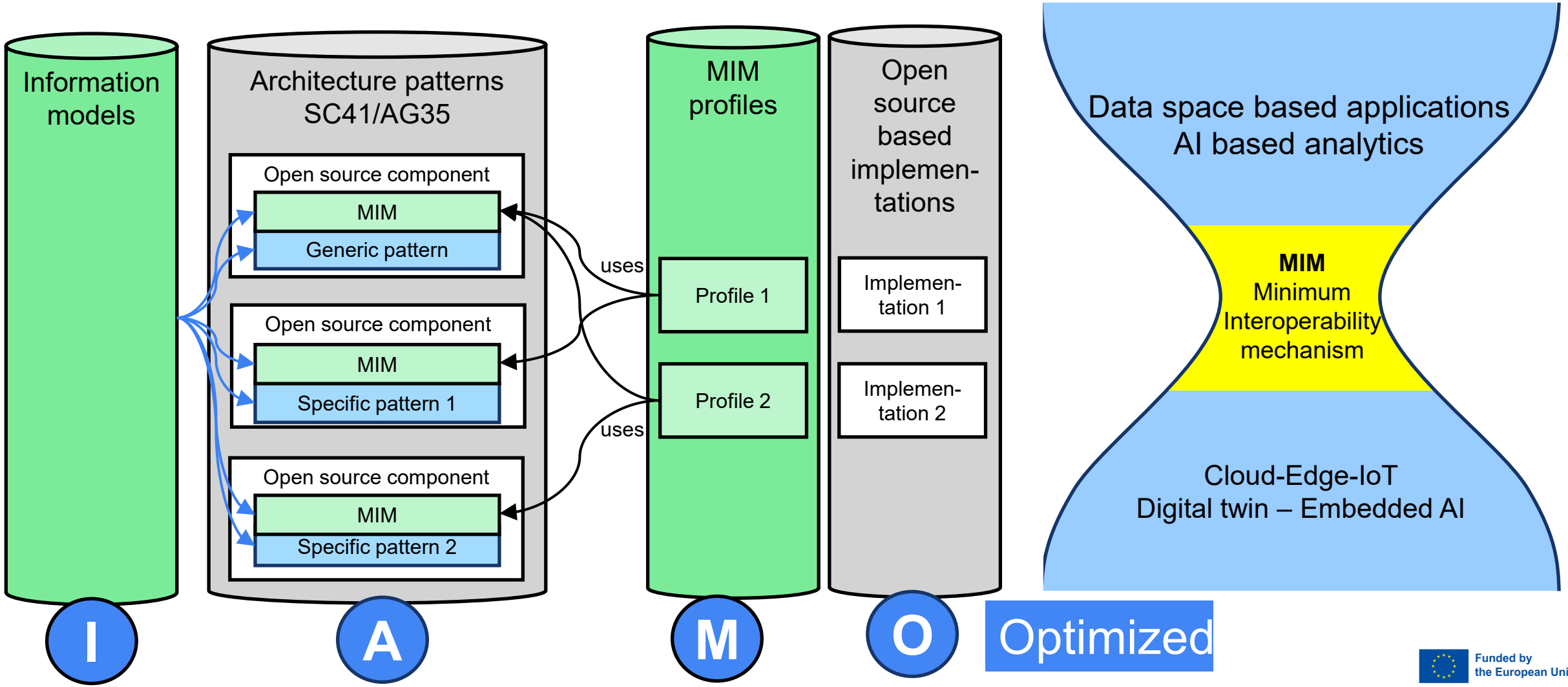
Applications solutions
e.g. data analytics

Infrastructure solutions
e.g. MetaOS, embedded AI
Energy OS, …



Funded by the European Union

Information models – Architecture patterns – Minimum Interoperability Mechanism profiles – Open-source Based Implementations

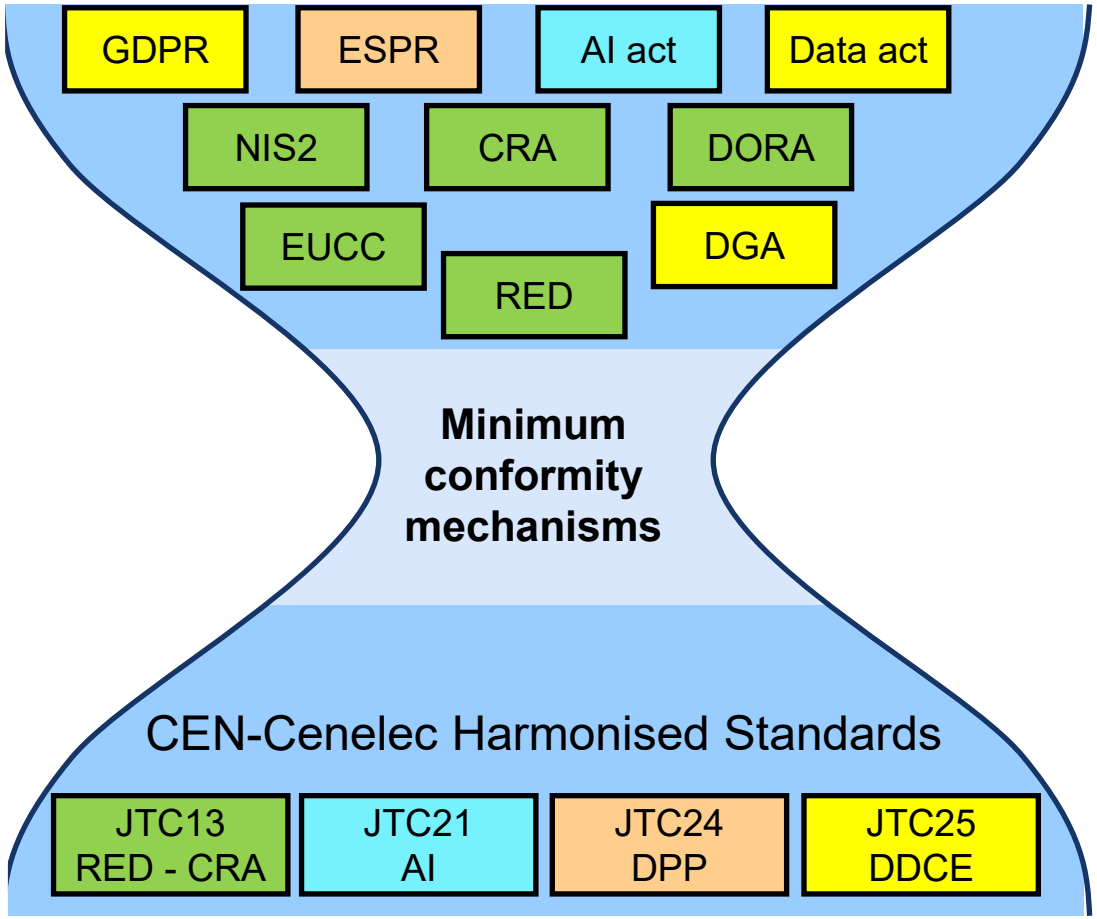


Funded by the European Union

What is at stake

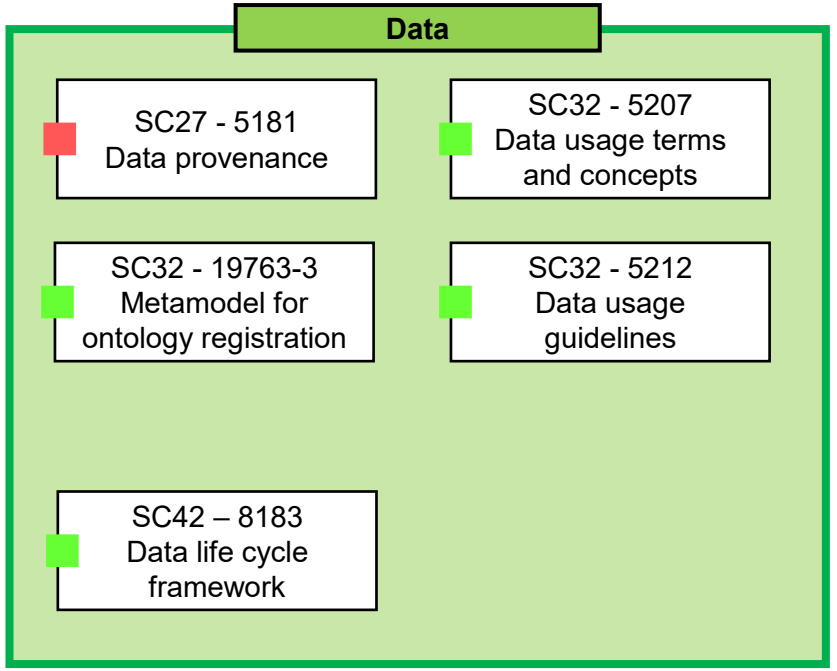
Regulations

Optimised infrastructure
Supporting harmonized standards



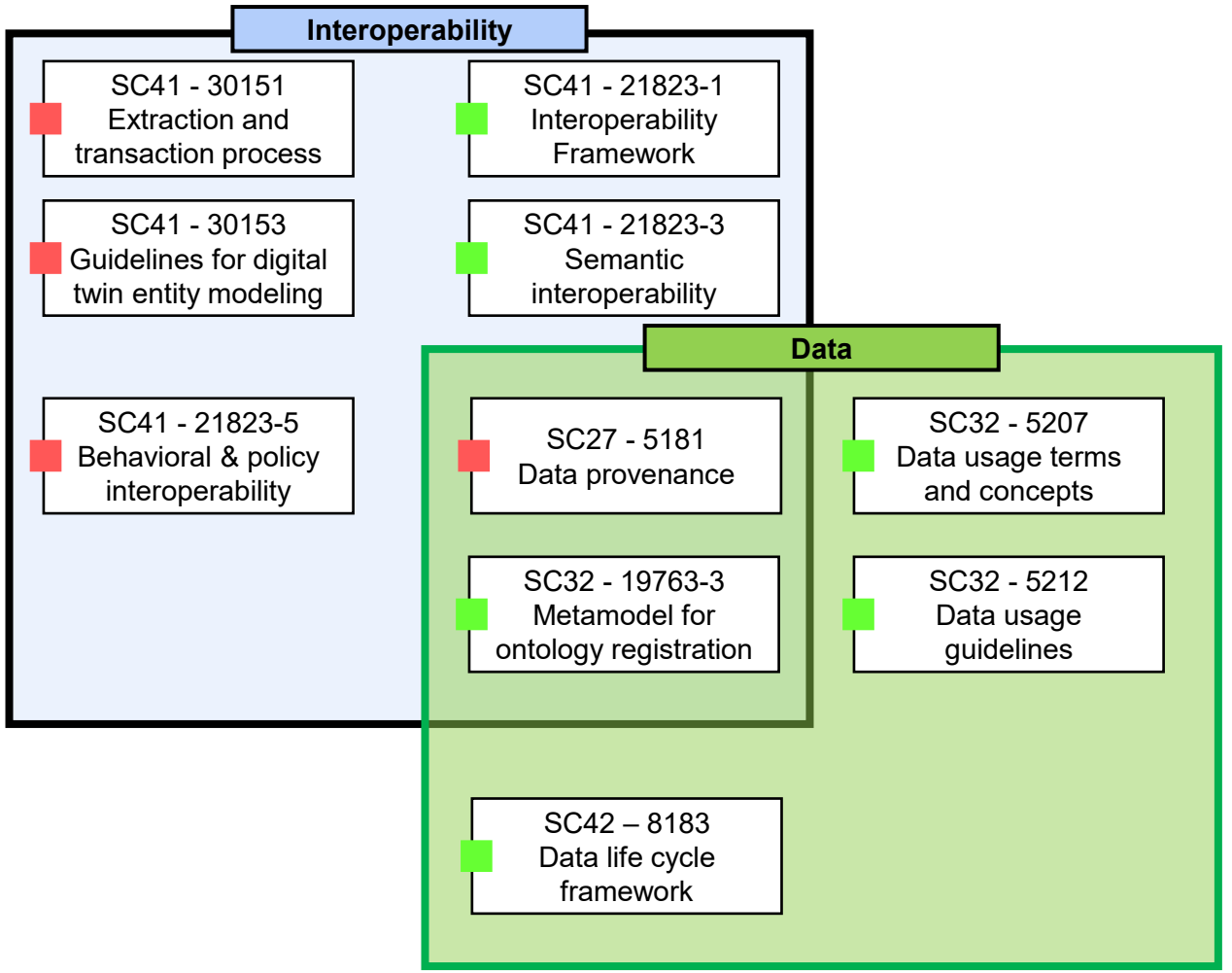
Funded by the European Union

Under development
Final draft or published



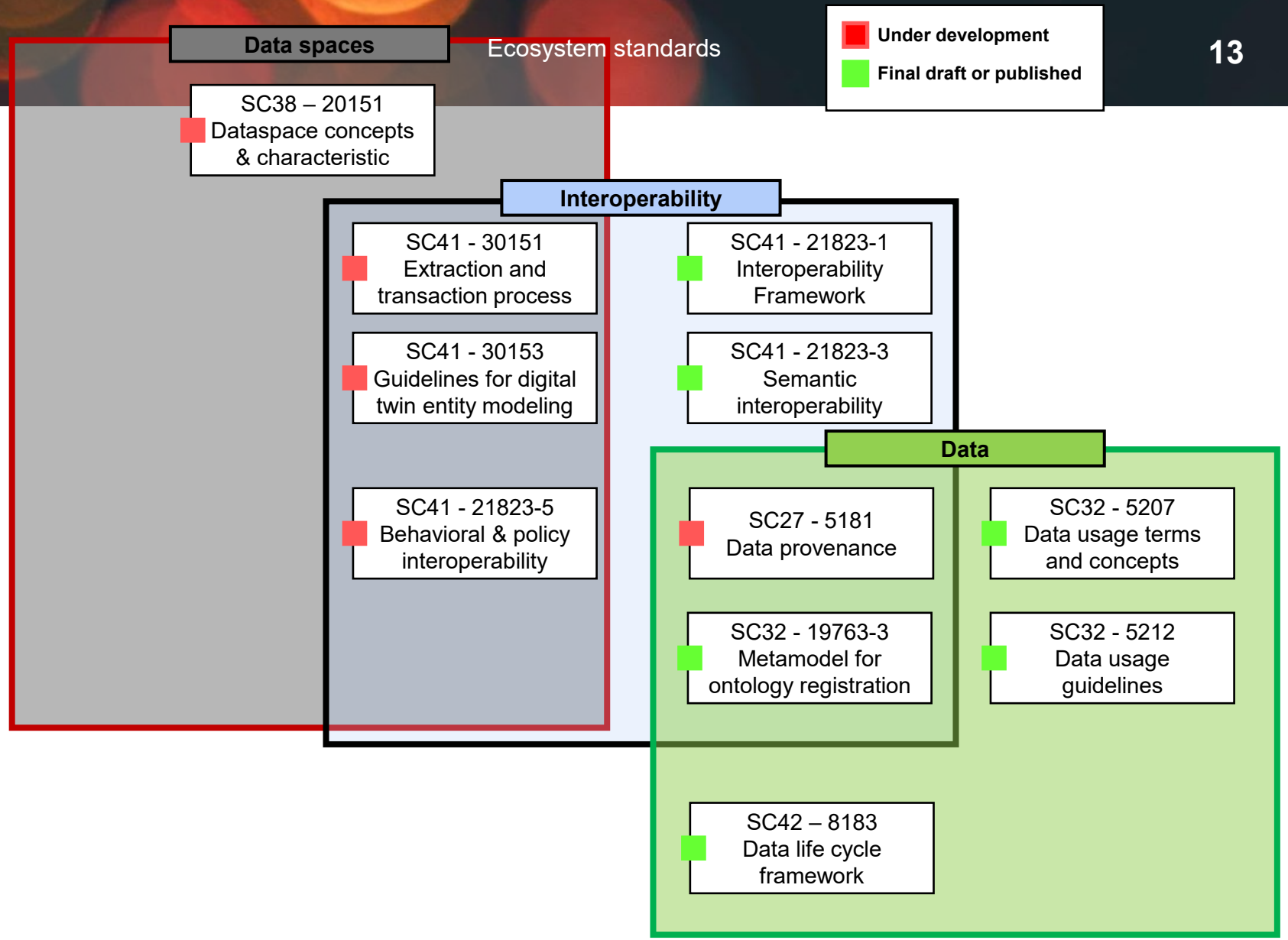
Standardization perspective Data ecosystems

Funded by the European Union



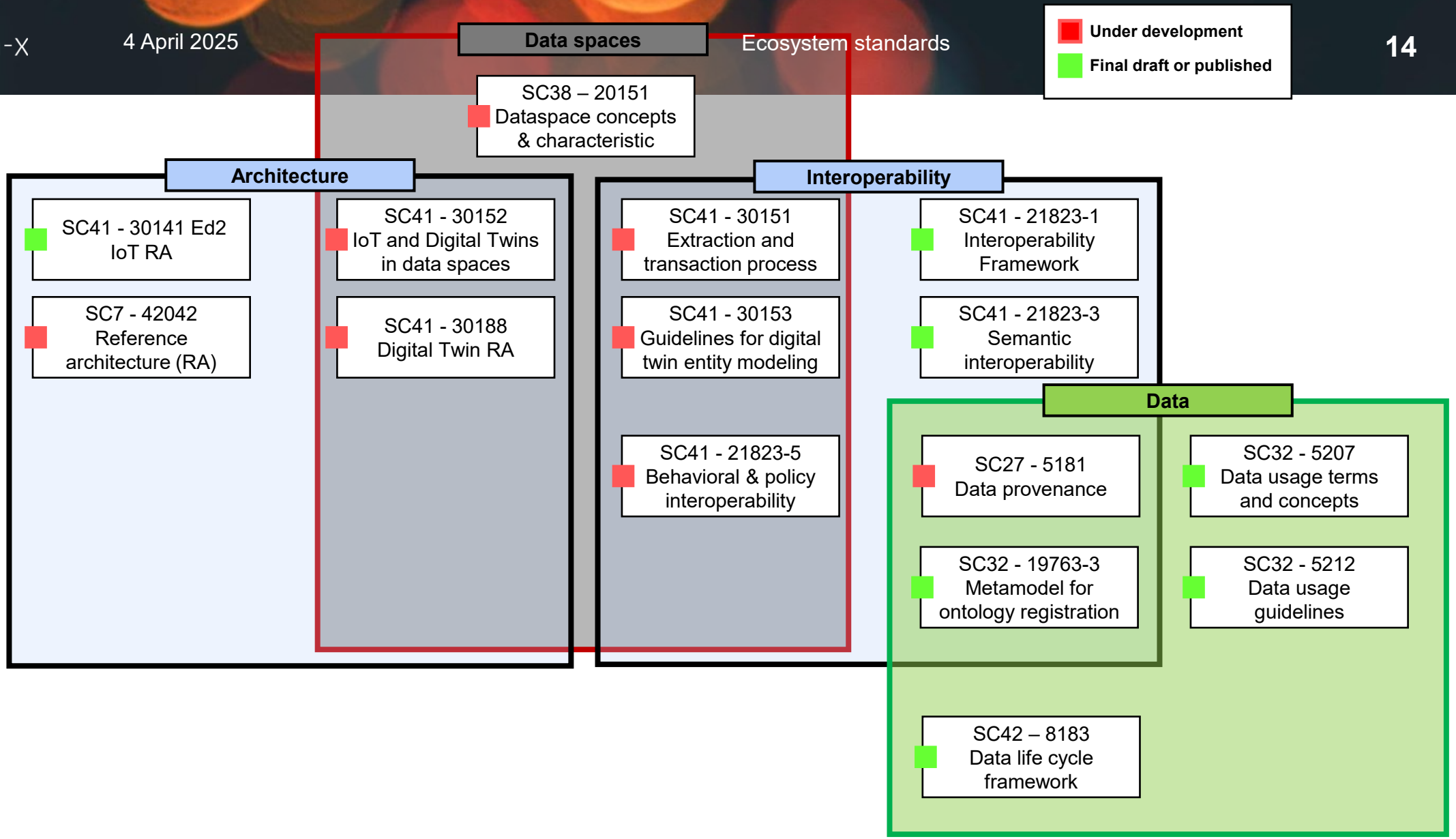
Standardization perspective Data ecosystems

Funded by the European Union



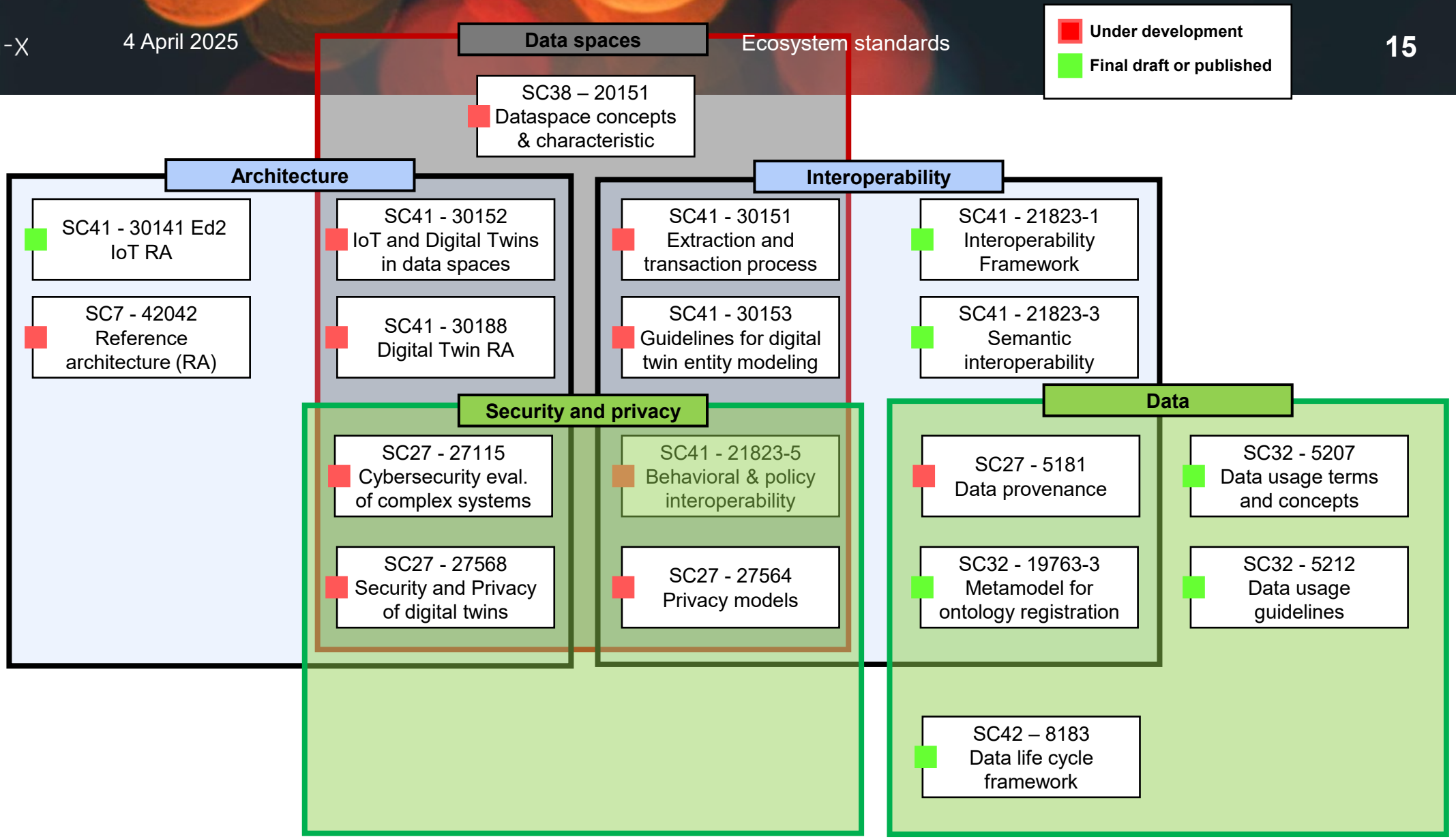
Standardization perspective Data ecosystems

Funded by the European Union



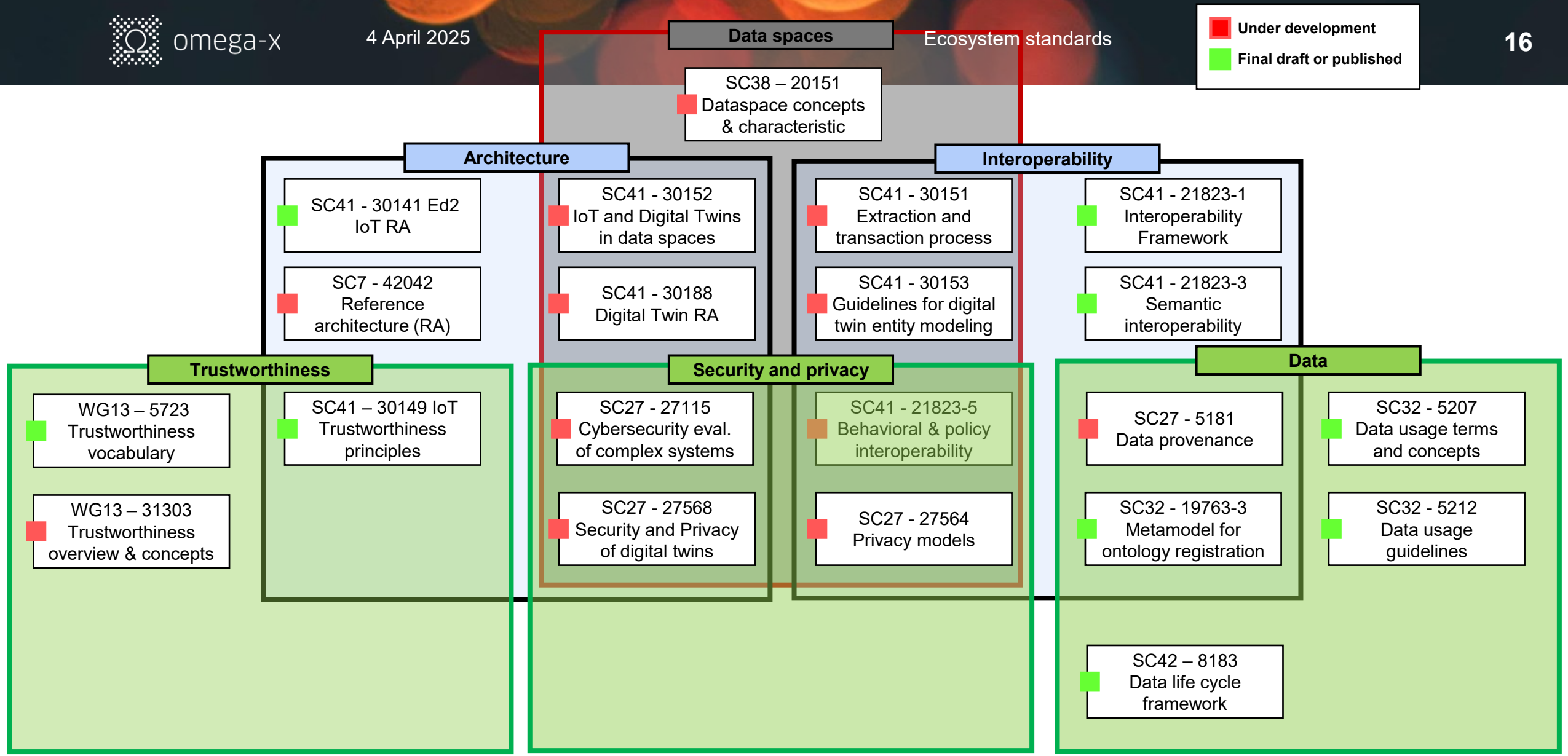
Standardization perspective Data ecosystems

Funded by the European Union



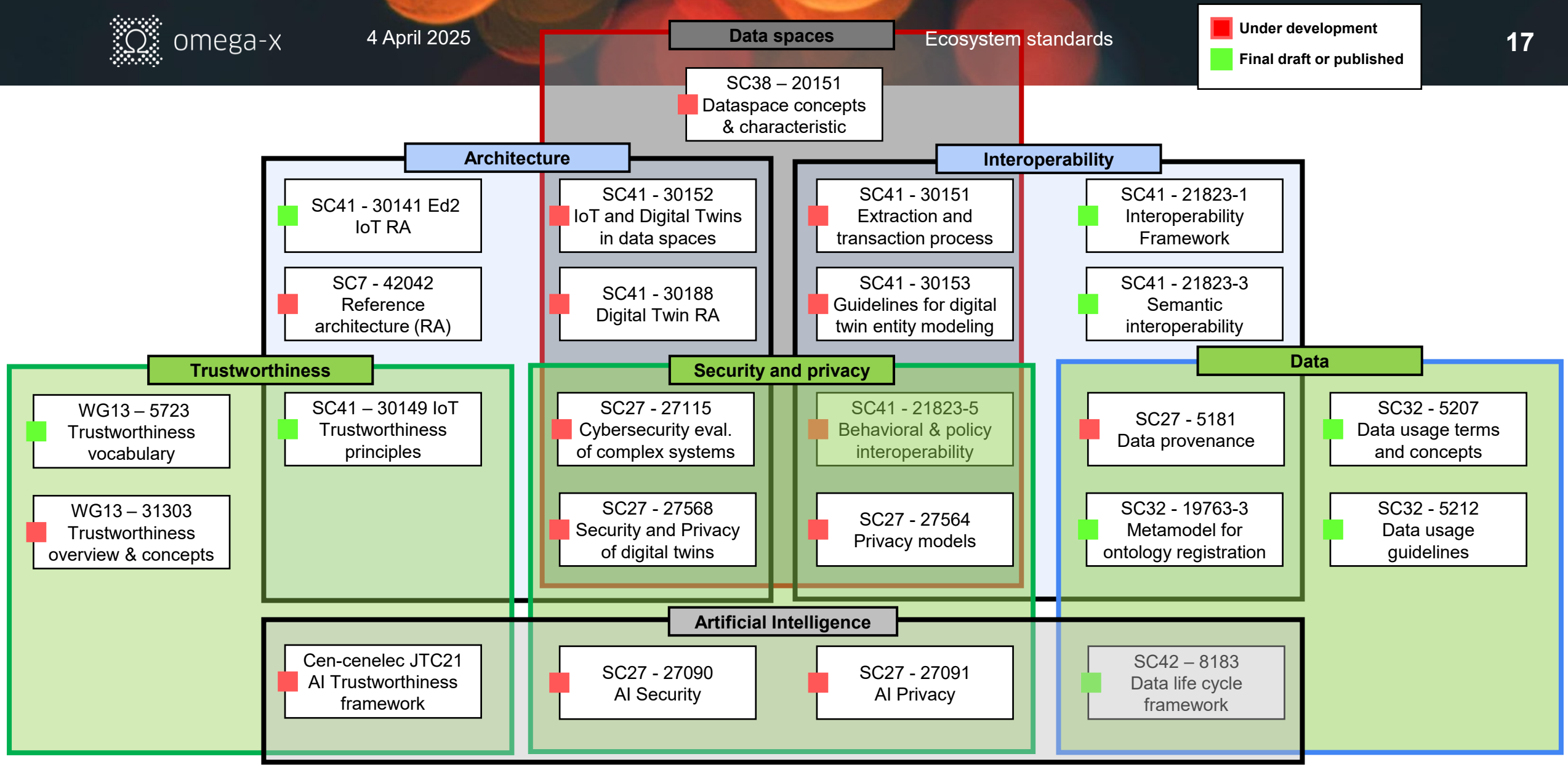
Standardization perspective Data ecosystems

Funded by the European Union



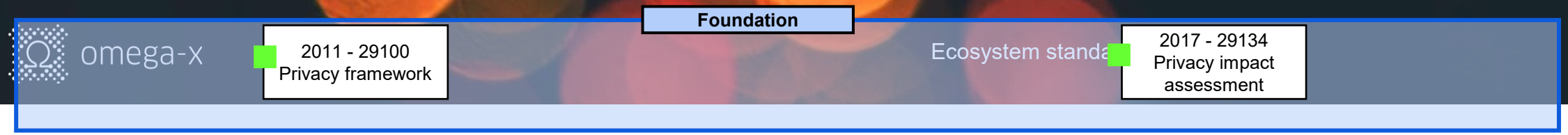
Standardization perspective Data ecosystems

Funded by the European Union



Standardization perspective Data ecosystems

Funded by the European Union



Under development

Final draft or published

Standardization perspective Privacy

Funded by
the European Union

omega-x

Foundation

2011 - 29100
Privacy framework

Ecosystem standa

2017 - 29134
Privacy impact assessment

Practice – architecture - engineering

2019 - 27550
Privacy engineering

2023 - 31700-1,2
Privacy-by-design consumers

2024 - 27561
POMME Privacy operationalization

27564 Privacy models

2017 – 29151
Code of practice PII

2018- 27018
Code of practice privacy cloud

2020 – 29184 Online privacy notices and consent

2022- 27556 privacy preferences management

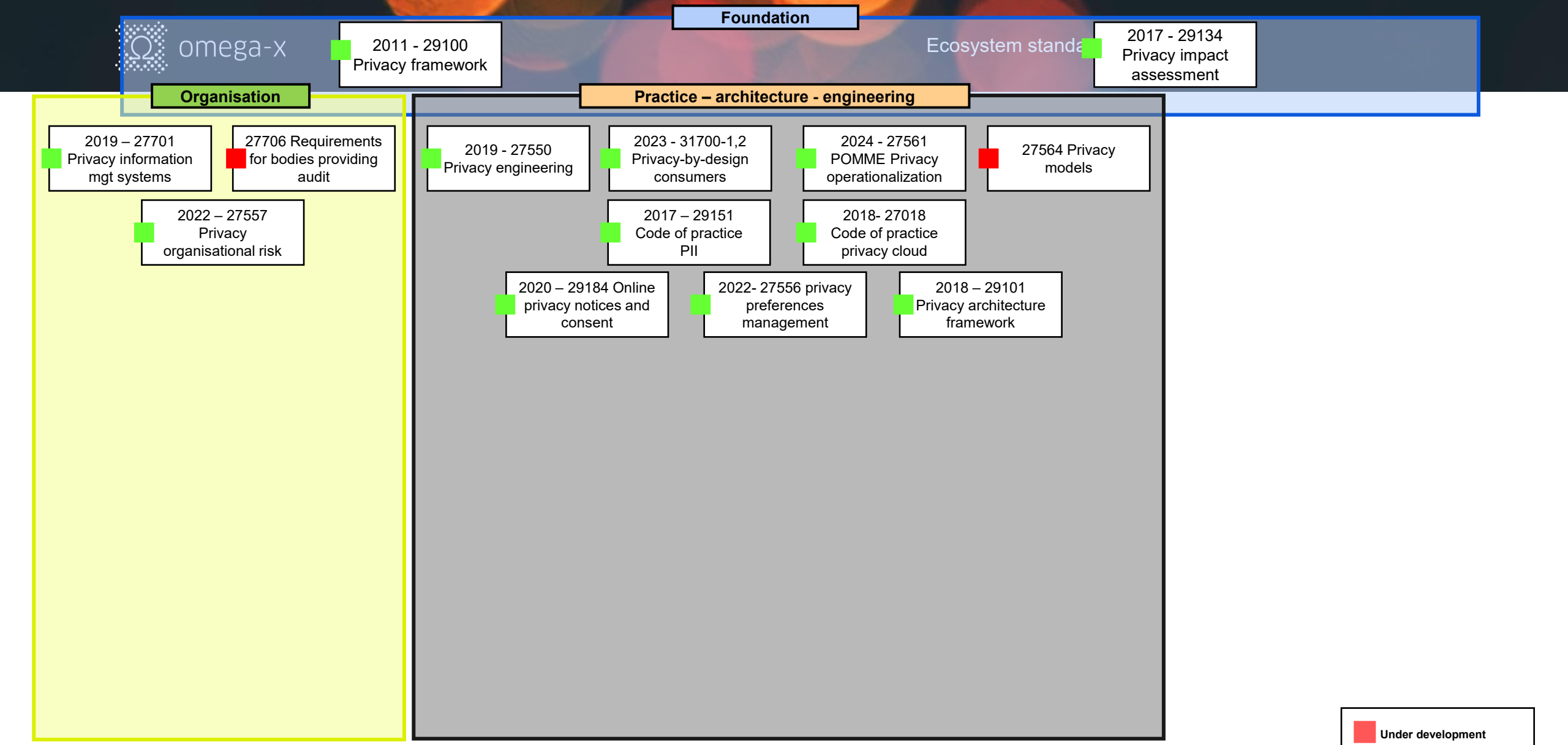
2018 – 29101
Privacy architecture framework

Under development

Final draft or published

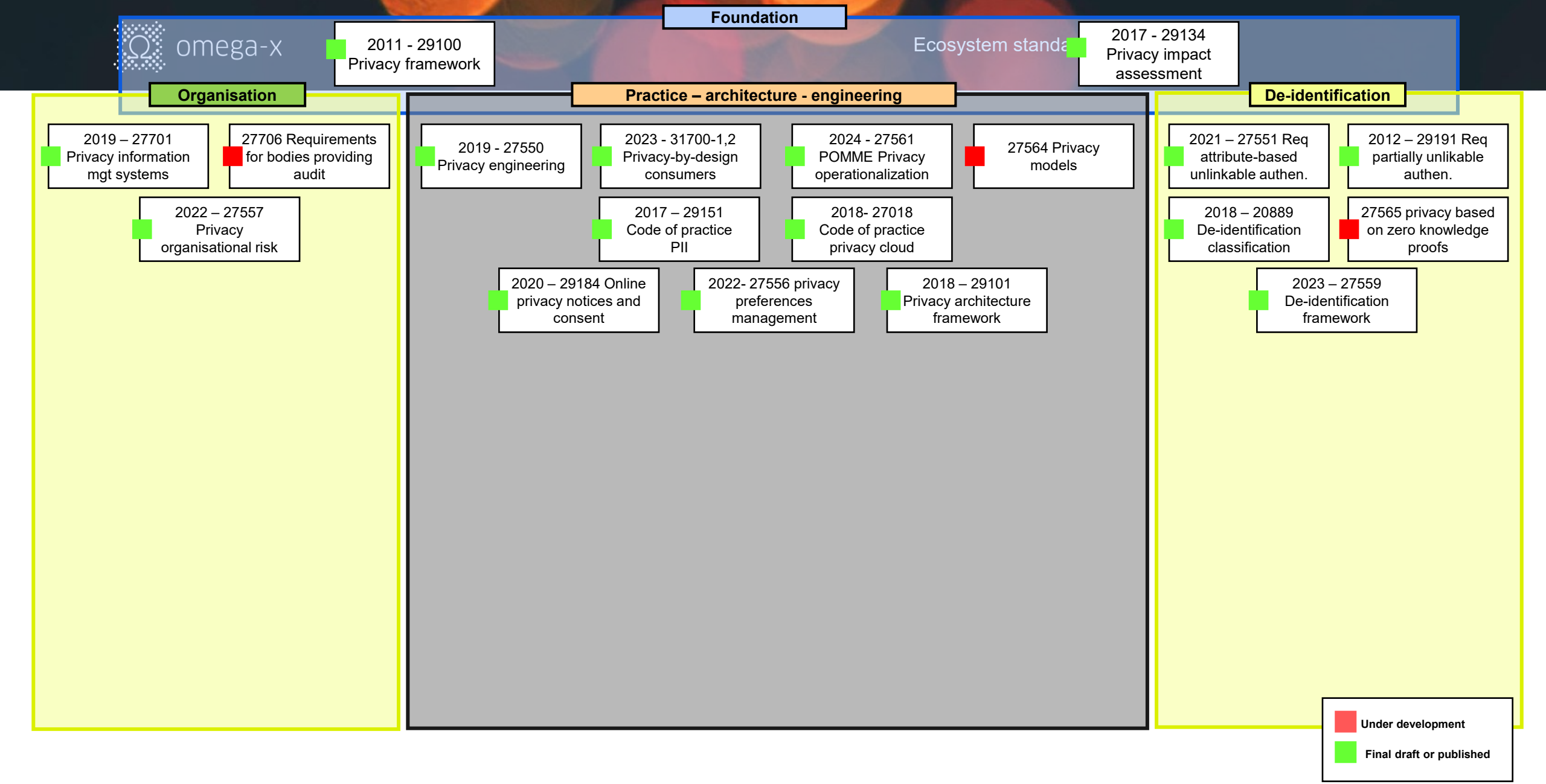
Standardization perspective Privacy

Funded by the European Union



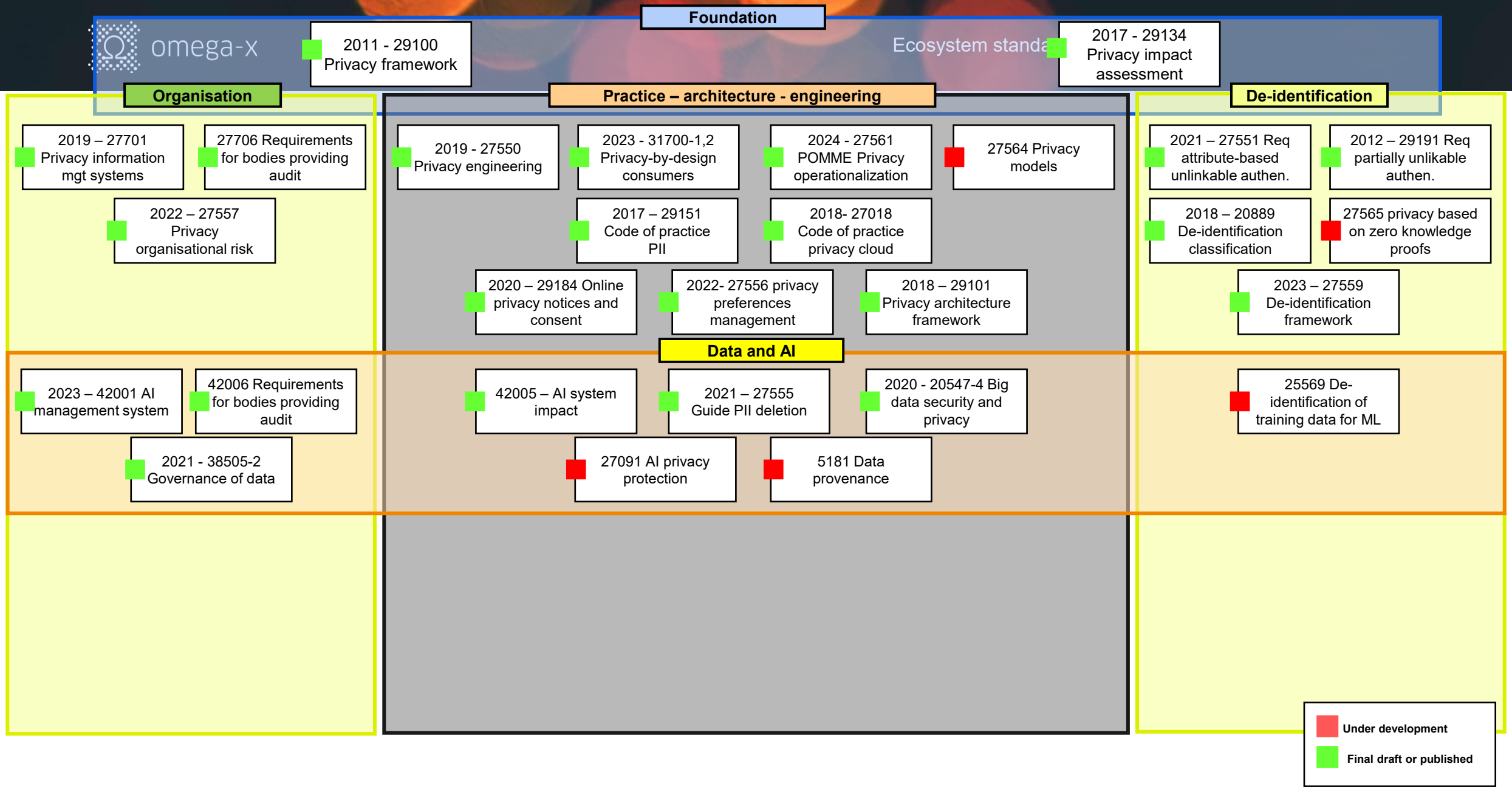
Standardization perspective Privacy

Funded by
the European Union



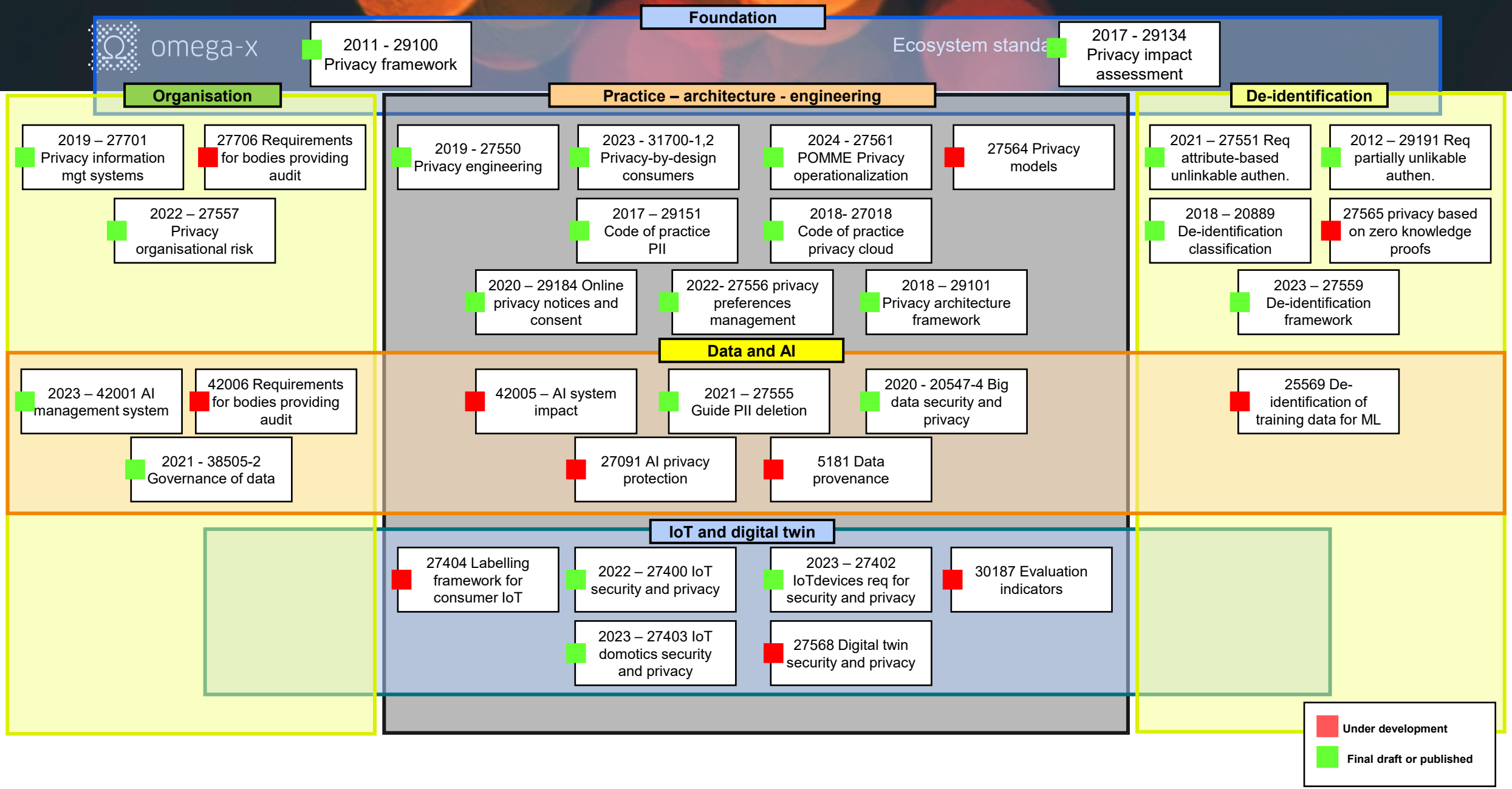
Standardization perspective Privacy

Funded by
the European Union



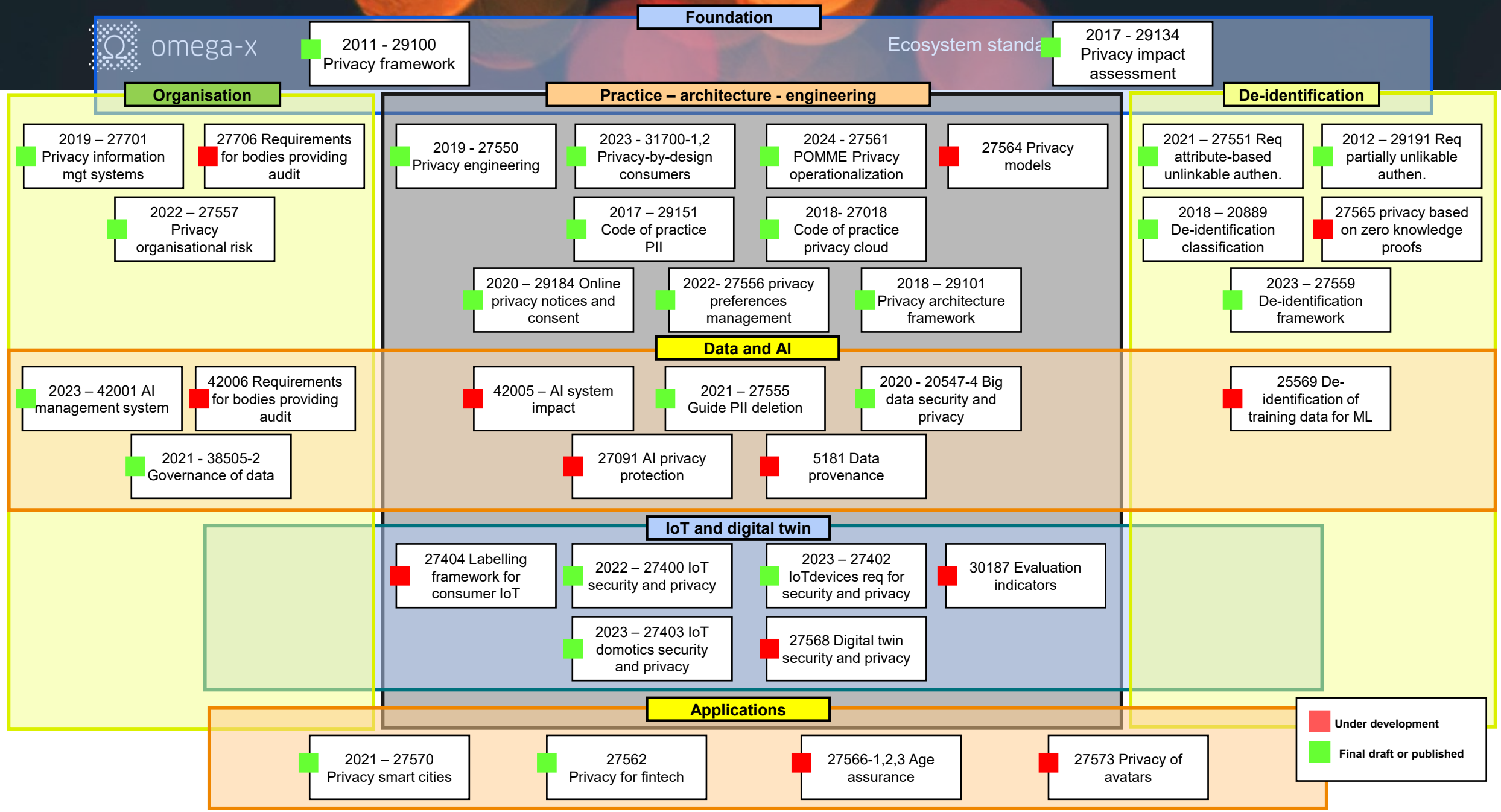
Standardization perspective Privacy

Funded by the European Union



Standardization perspective Privacy

Funded by the European Union



Standardization perspective Privacy

Funded by the European Union

Interest Group: Models for Privacy

Enershare

ECLIPSE FOUNDATION

Established early 2024

Purpose:
- practices for privacy engineering based on **models**
- create synergies to foster development of an **ecosystem of privacy models**
- promote the **creation, use and sharing of privacy models**

https://models4privacy.org/
- join as a member of the interest group
- join mail list
- stay updated on the interest group activities/events

Michelle Chibba - Antonio Kung - Ann Cavoukian

omega-x standardization workshop

Learnings and recommendations for [Energy] Data Spaces

Online | April 4th 9:00 to 11:00

Arturo Medela
Eviden
Omega-X coordinator

Sebastian Steinbuss
Chairman CEN/CLC JTC 25
Data management, dataspaces, cloud and edge.

Martin Brynskov
Co-chair CEN/CLC JTC25
WG 2 Dataspaces

Antonio Kung
Trialog

Javier Valiño
Eclipse DSWG