



Integrating
the Healthcare
Enterprise

Internationale Datenstandards und Interoperabilität als Grundlage der Digitalisierung des Gesundheitswesens



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CodeWerk Software Services and Development GmbH

Electronic Health Information Exchange

Electronic Health Records

Digital Imaging

ePrescription

eReferral

eImmunization

etc.

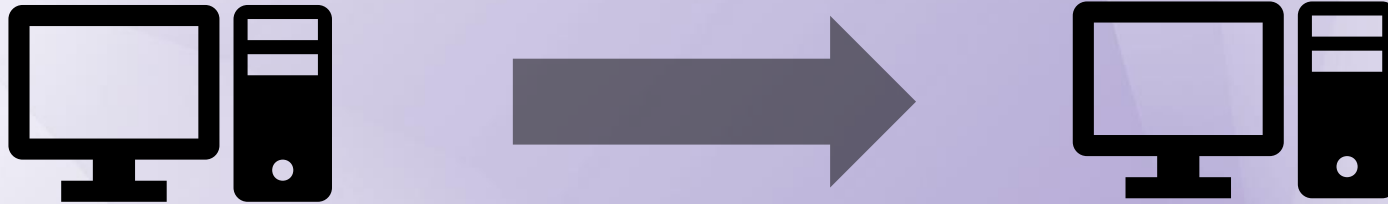


Mobile Health

Devices (IoT)

Appointments

Why standards?



IT Systems of different vendors need to **exchange data** which shall be **semantically understood** to fulfill a certain **use-case**

To accomplish this, we need standards!

How do they communicate (protocol)

What do they communicate (content)

Who is creating standards?

- Standards **Development** Organizations

- Develop „base“ standards
- E.g. **CDA**,  **FHIR**



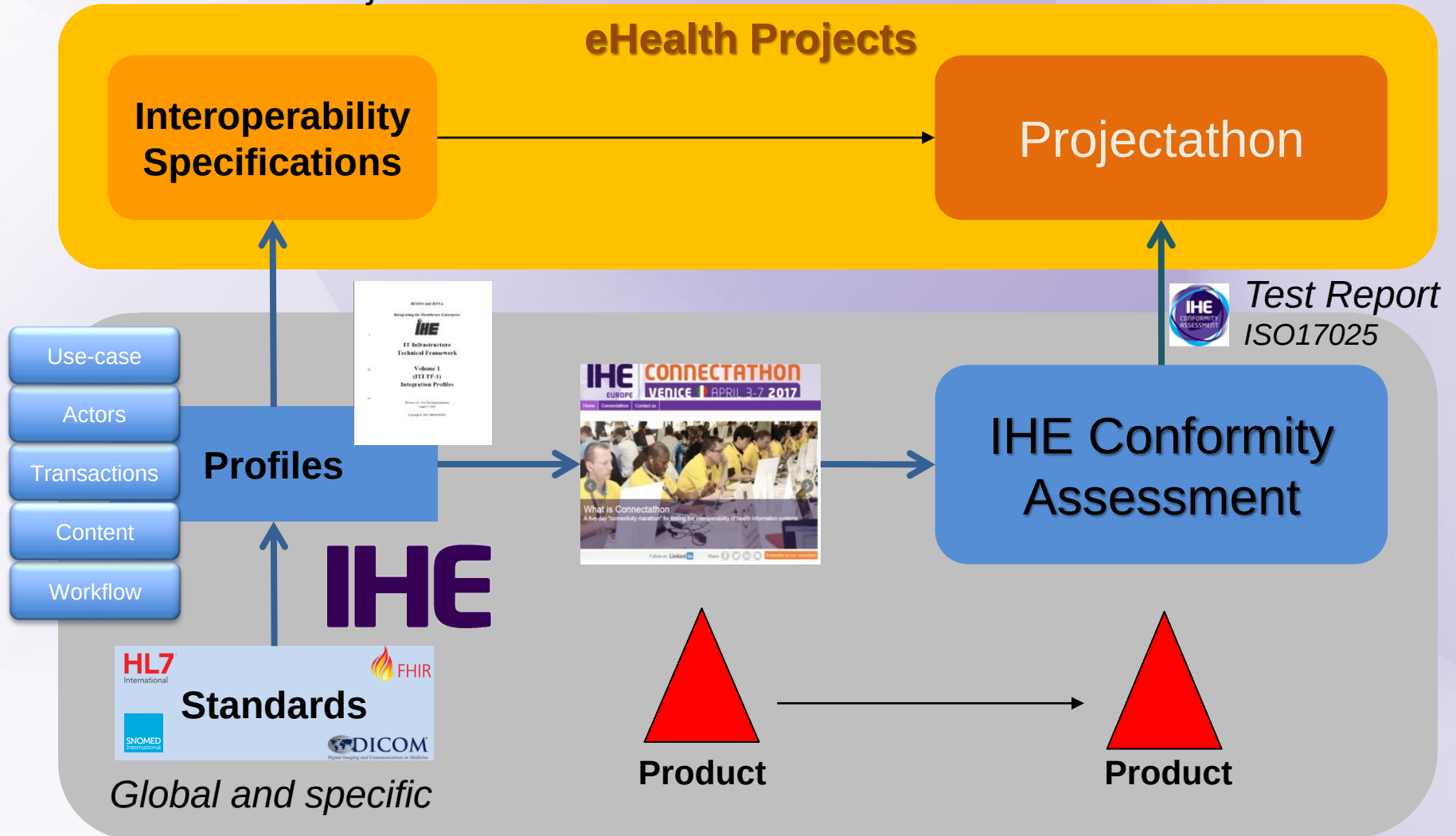
:

- Standards **Profiling** Organizations

- Develop guidelines how to „use“ the base standards



Focused on the Project



- **Verein zur Förderung der Integration der IT- und Medizintechnik im österreichischen Gesundheitswesen**
 - <https://www.ihe-austria.at>
- **IHE National Deployment Committee**
 - Non-for profit
- **Members**
 - Well-known technology providers in the healthcare sector
 - Healthcare institutions / providers
 - Interest groups
 - Hospitals and insurance institutions
 - Research and educational institutions
 - Private individuals and students

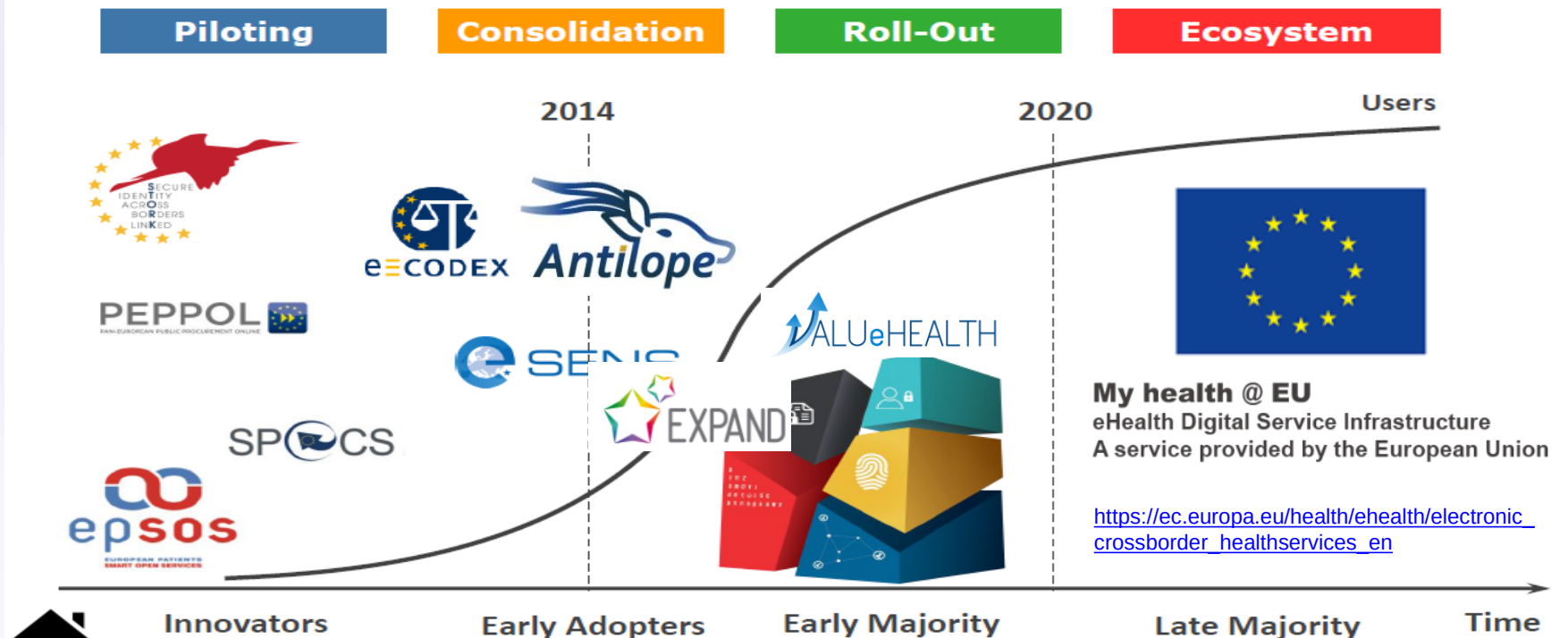
As it started in Europe



First eHealth large scale deployment: European Patient Smart Open Services
2008 – 2014
36,5 Mio € spent
25 European countries

Creating a #DigitalSingleMarket

The building blocks represent a massive investment since their creation by the Large Scale Pilots. As their user base grows, the Commission is already working on their sustainability beyond CEF.



Source: Gerald Cultot, European Commission, Keynote speech at IHE World Summit 2016

Use-case driven
approach!

Use international
standards!



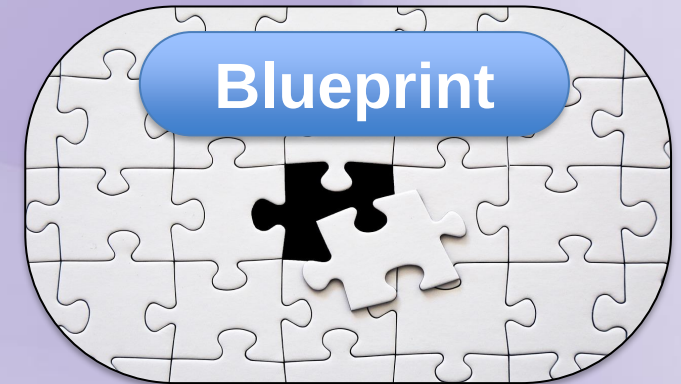
European Commission
recognizes
27 IHE profiles
that should be
referenced in public
procurement

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

CONVERGENCE

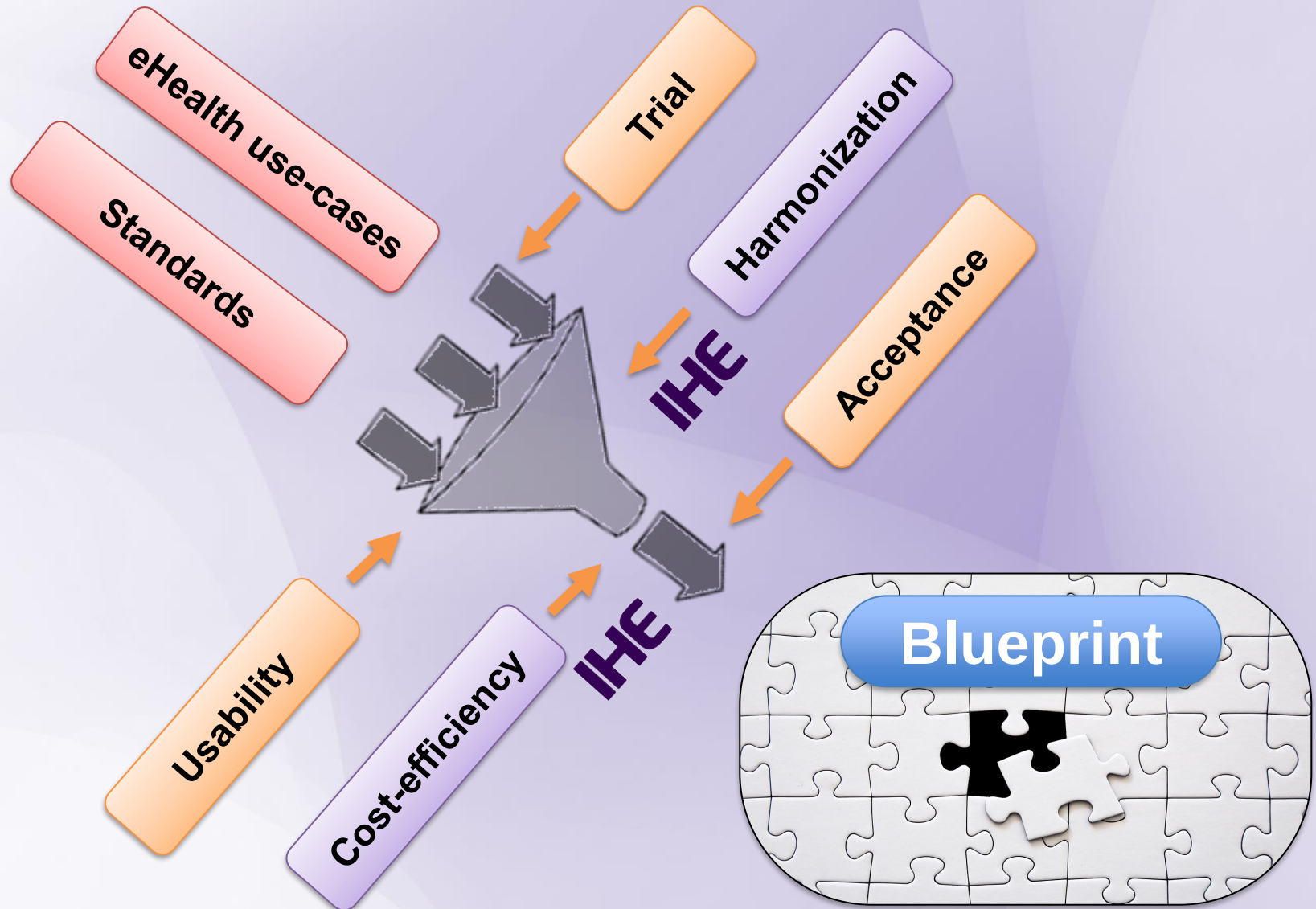
Standards

and



Implementation Guides on **how to** **use them**

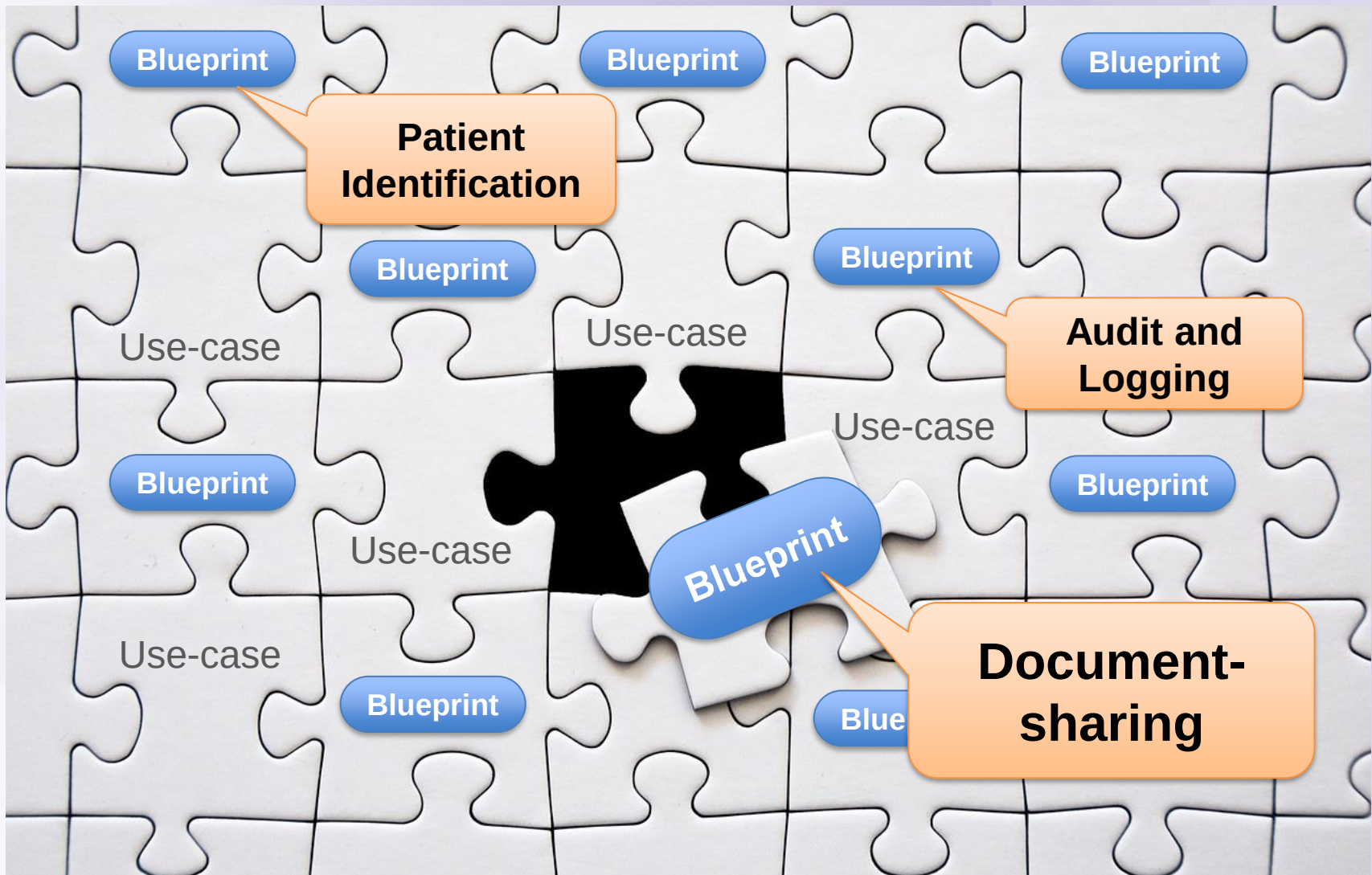
What is a „global“ blueprint?



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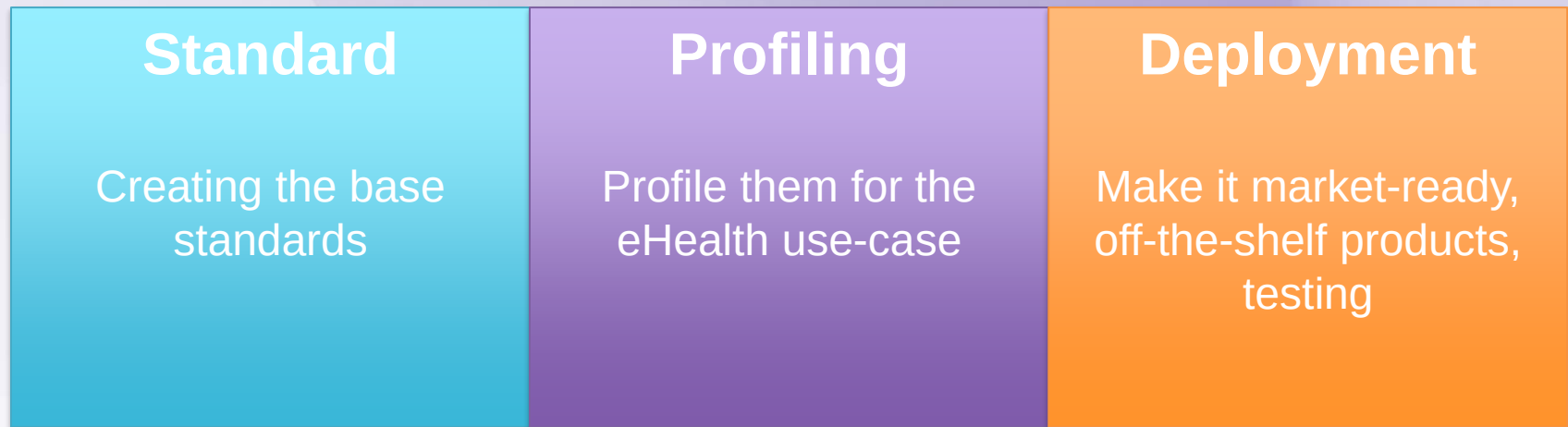


Blueprint
=
Globally accepted
way „how to do it“



Path to Interoperability

„Traditional setting“



Path to Interoperability

„Today's setting“



Gemini

**A Joint Initiative of IHE and HL7
to Advance Use of FHIR for
Interoperability**



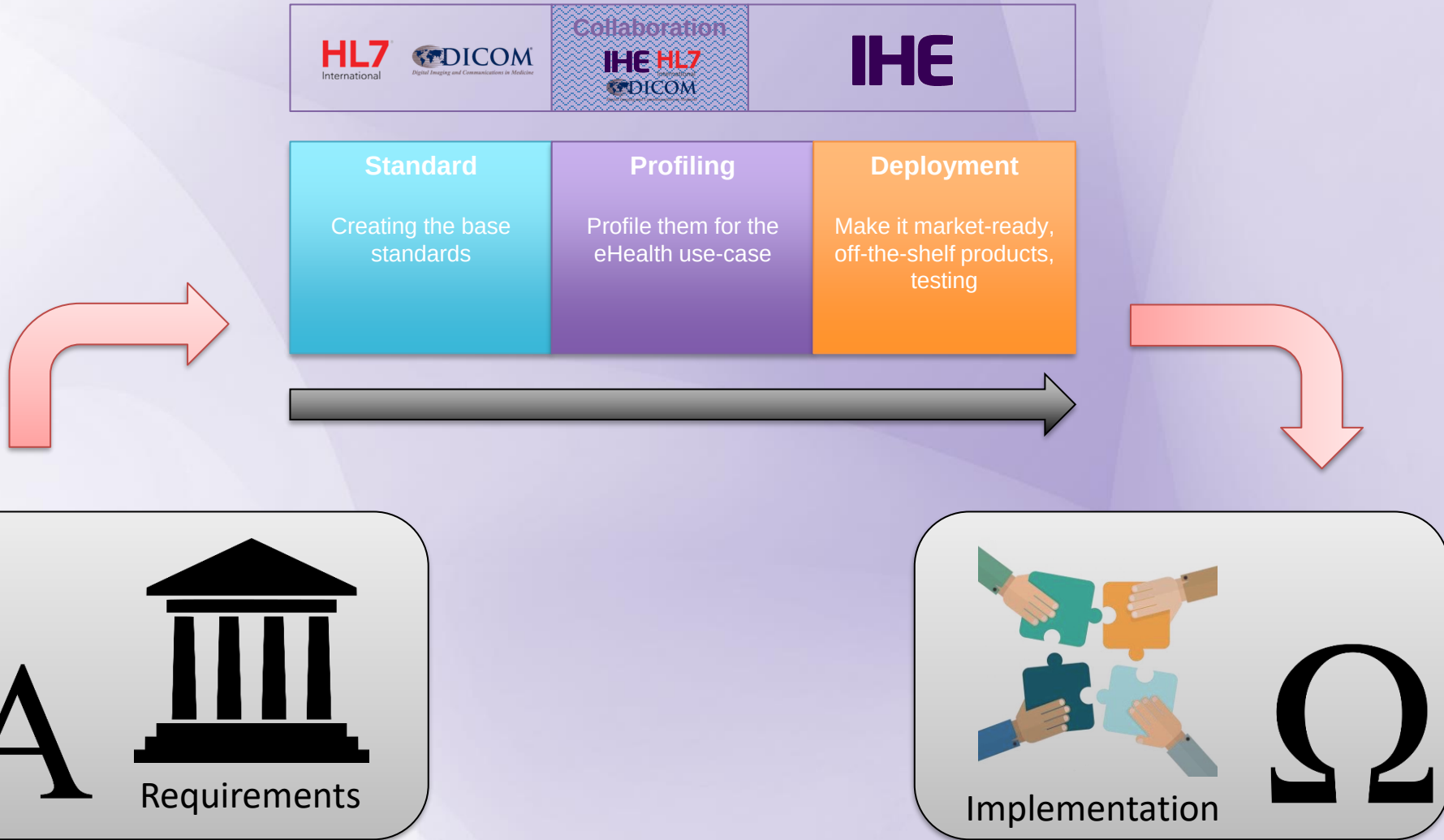


Global Consortium for eHealth Interoperability

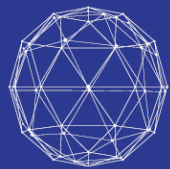
HIMSS | IHE International | HL7 International

<http://globalhealthinterop.org/>

The bigger vision



Potentially ...



GLOBAL DIGITAL HEALTH
PARTNERSHIP

Policy level

Support
Contribution
Funding

Request

Result

Promise Uptake and
Implementation
(„it is used!“)

Requirements for
eHealth use-case

Standards, Best-
Practices, Testing



Global Consortium for eHealth Interoperability

HIMSS | IHE International | HL7 International

HL7

IHE

HIMSS

GCeHI Community

SDO Level

Digitizing eHealth is as serious as building
up ...

Infrastructure

So it must be treated
in that way!

in the minds, in the budgets!



House analogy



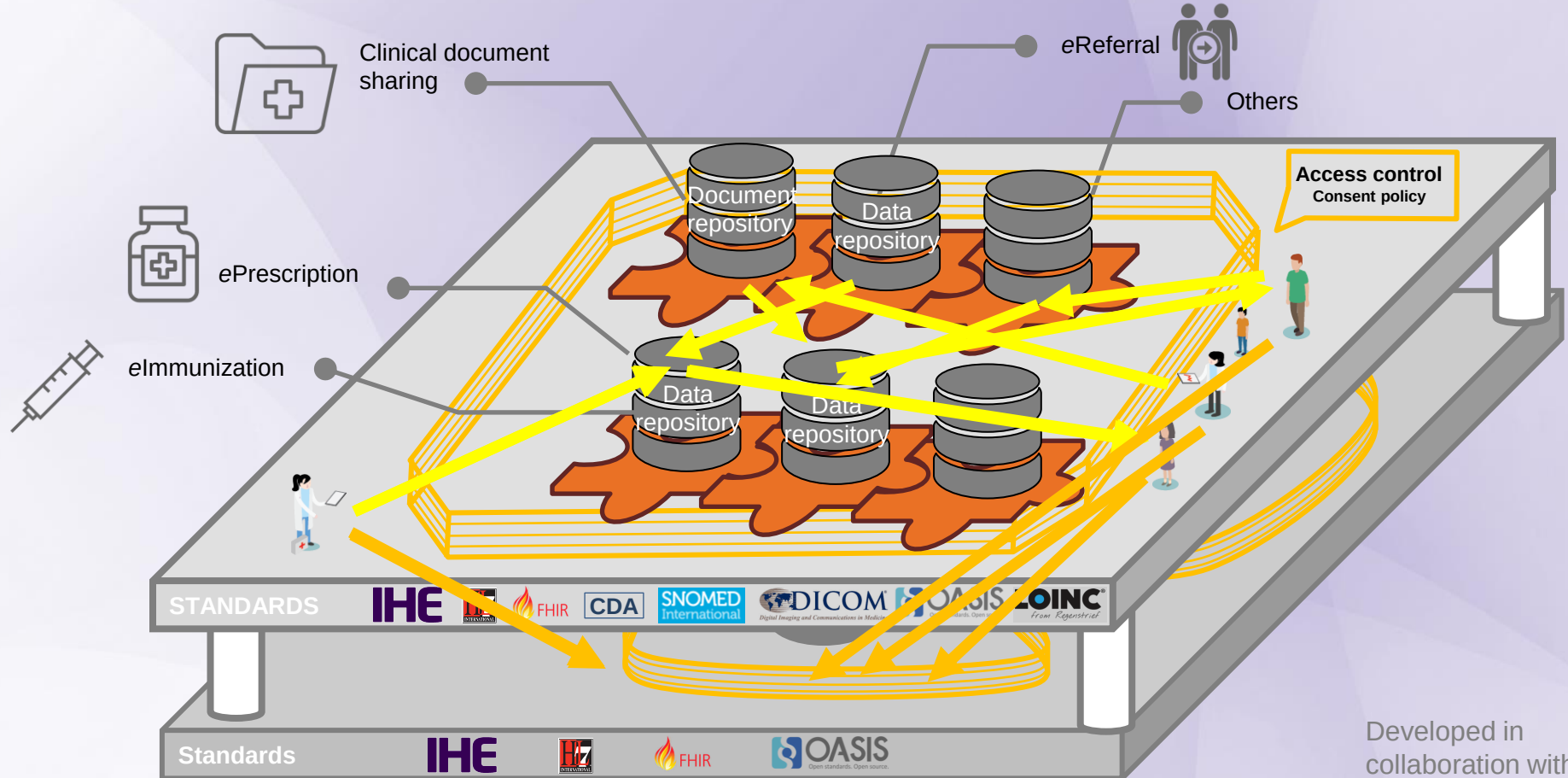
Developed in
collaboration with



Basement: The Groundwork



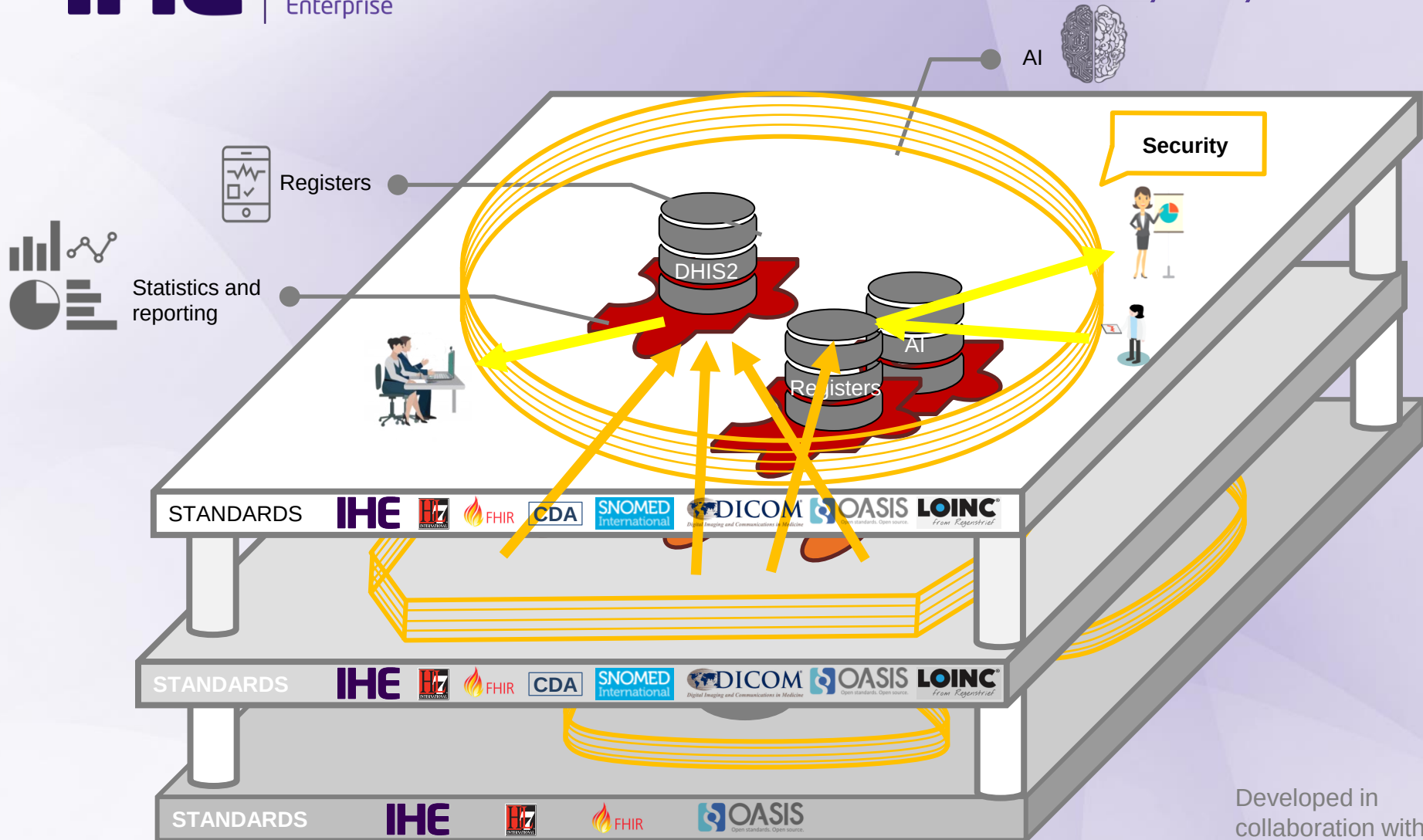
Ground level: e-Health applications



Developed in
collaboration with



1.Floor: Dashboards, AI, etc.



Developed in
collaboration with



- **Is exactly following that principle!**
 - Implementing: Basement + Ground floor
 - Pat Index, HCP Index, AccessControl, Logging
 - eReport, eMedication, eImmunization
 - Supporting: First floor
 - „Green Pass“
- **Based on „international“ and „profiled“ standards**
 - And blueprints
- **Template for others**
 - Switzerland, Greece, Saudi Arabia, ...
- **Internationally renowned(!)**



- **Revealed „gaps“ in eHealth in Austria**
 - Induced „work-arounds“ and „quick-fixes“
 - E.g. ELGA e-Medication as e-Prescription
- **ELGA is key!**
 - Used to less
 - Extend it
 - More functions for citizens
- **Connect to Europe!**
 - Partipate in cross-border exchange
 - Re-establish leading role



**More
Apps!**



- **Links**

- [EU eHealth and COVID-19](#)
- [Digital Green Certificate](#)

- **Types of certificates**

- Vaccination certificates
- Recovery certificates
- Certificates for test results

- **Specifications**

- Architecture, Trust Framework: [Outline Trust Framework](#)
- Minimum datasets: [Vaccination](#), [Recovery](#), [Test](#)
- Detailed technical specifications for Digital Green Certificates:
 - [Volume 1: formats and trust management](#)
 - [Volume 2: Digital Green Certificate Gateway](#)
 - [Volume 3: 2D Barcode Specifications](#)
 - [Volume 4: Digital Green Certificate Applications](#)

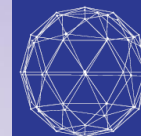
**Comprehensive, fast, collaborative
European members states work!**

No direct involvement of SDOs
But indirectly!

- **Use and extend ELGA**
 - Primary care, COVID crisis
 - Build apps to get the citizen
- **Support standard development**
 - Global public good
 - Investments pay back multiple times
 - Needs **political mindset and support**
- **Collaboration is the future**
 - Convergence happens **internationally!**
 - Austria shall be part of it!



**Global Consortium for eHealth
Interoperability**
HIMSS | IHE International | HL7 International



**GLOBAL DIGITAL HEALTH
PARTNERSHIP**

- **IHE Austria**
 - IHE Austria Homepage: <https://www.ihe-austria.at>
- **IHE Homepage**
 - <http://www.ihe.net/>
 - <http://www.ihe-europe.net/>
- **IHE International Social Media**
 - YouTube channel: <https://www.youtube.com/user/IHEIntl>
 - IHE Webinars: <http://www.ihe.net/Webinars/>
 - Twitter: <https://twitter.com/IHEIntl>
- **IHE Wiki**
 - <http://wiki.ihe.net/>
- **Google groups**
 - <http://groups.google.com/>



- **Gemini**
 - <https://confluence.hl7.org/display/GP/Project+Gemini>
- **Global Consortium for eHealth Interoperability**
 - <http://globalhealthinterop.org/>
- **GDHP, Global Digital Health Partnership**
 - <https://www.gdhp.org>
- **Interesting publications**
 - eHealth Suisse Summary IHE / HL7 / FHIR
 - https://www.e-health-suisse.ch/fileadmin/user_upload/Dokumente/E/overview-ihe-hl7-fhir.pdf
 - The 3 Legs of the Health Informatics Standards Process
 - <http://www.healthintersections.com.au/?p=2921>
 - The 4 aspects that change the game in eHealth Interoperability
 - <https://www.linkedin.com/pulse/4-aspects-change-game-ehealth-interoperability-j%C3%BCrgen-brandst%C3%A4tter>
 - European Commission recognizes 27 IHE profiles that should be referenced in public procurement documents
 - http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:JOL_2015_199_R_0011



Integrating
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Enterprise

Changing the Way Healthcare CONNECTS

<http://www.ihe.net>



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