



OCEAN
health systems

openEHR, FHIR and EHR slices

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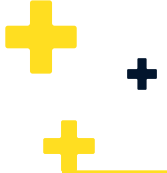


CKM

CLINICAL KNOWLEDGE MANAGER

openEHR

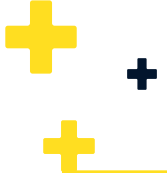




About me

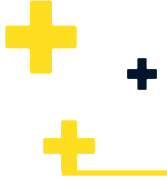
- 29 years in software industry
 - Last 25 in healthcare
 - openEHR, HL7, IHE, DICOM, SNOMED... since 2003
 - Member of openEHR SEC.
 - Active in openEHR - FHIR collaboration
- PhD on openEHR
 - Integration of openEHR with probabilistic AI for clinical decision support. University College London
- Focus and experience on:
 - Platform, API and application development
 - Tooling
 - R&D
- Tech Lead @ Ocean Health Systems





About this presentation

- Focus on:
 - European Health Data Space (EHDS).
 - Primary use (EHDS phase 1)
 - Lowering financial costs via FHIR and openEHR.
 - How standards orgs and communities can and should help EHDS
 - Greenfield and existing openEHR implementations.
- Aiming for:
 - Provocation! (Conversations and discussions)



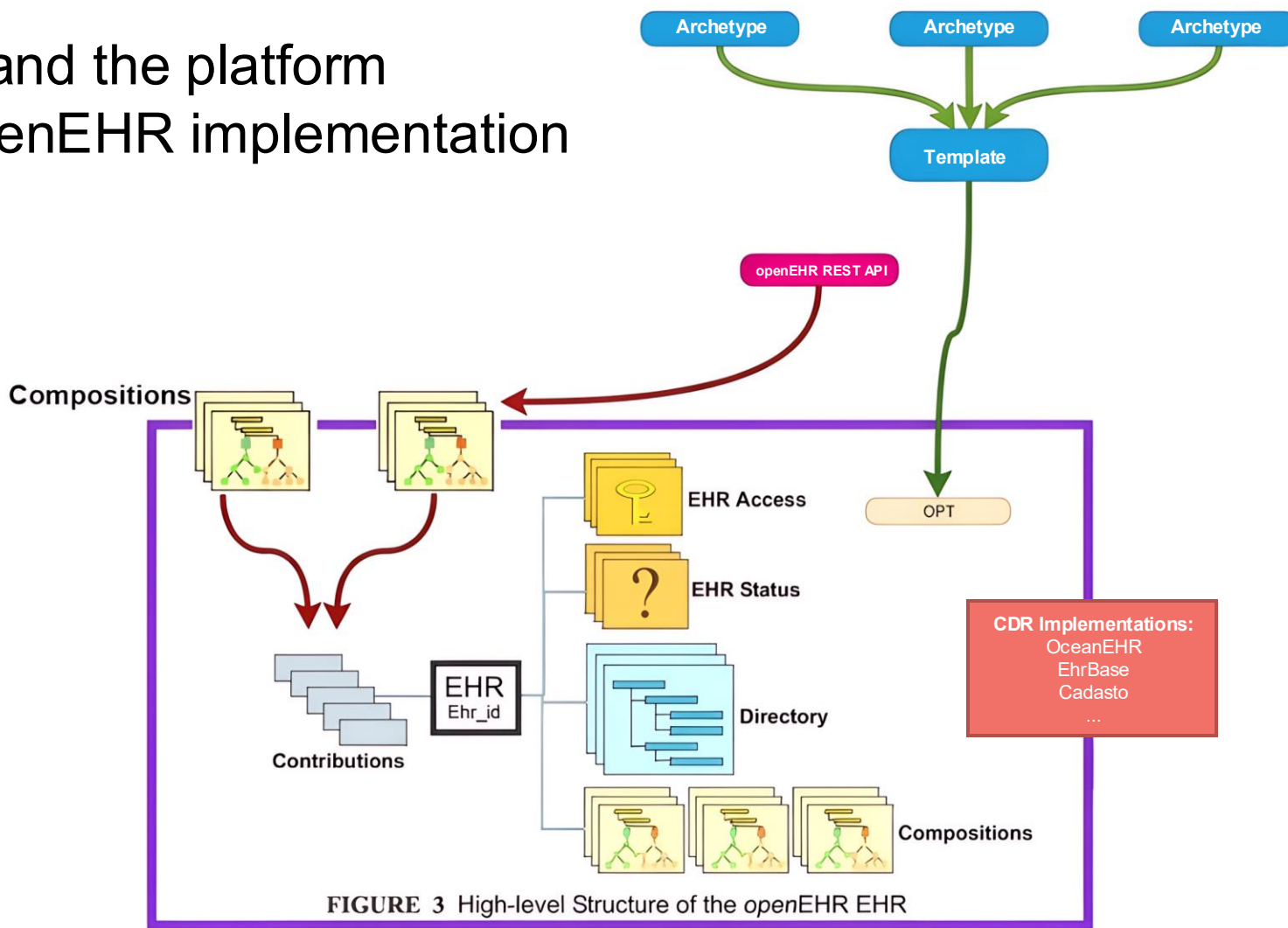
openEHR, FHIR and EHR slices

- **Why** should FHIR and openEHR collaborate **on EHDS**?
 - Better outcomes for all (EHDS) stakeholders
 - Their focus and strengths are complementary
 - A connected (openEHR) ecosystem through **IHE profiles (FHIR IGs)**
- **How** should FHIR and openEHR collaborate ?
 - How does openEHR help?
 - How would FHIR and openEHR leverage each other?



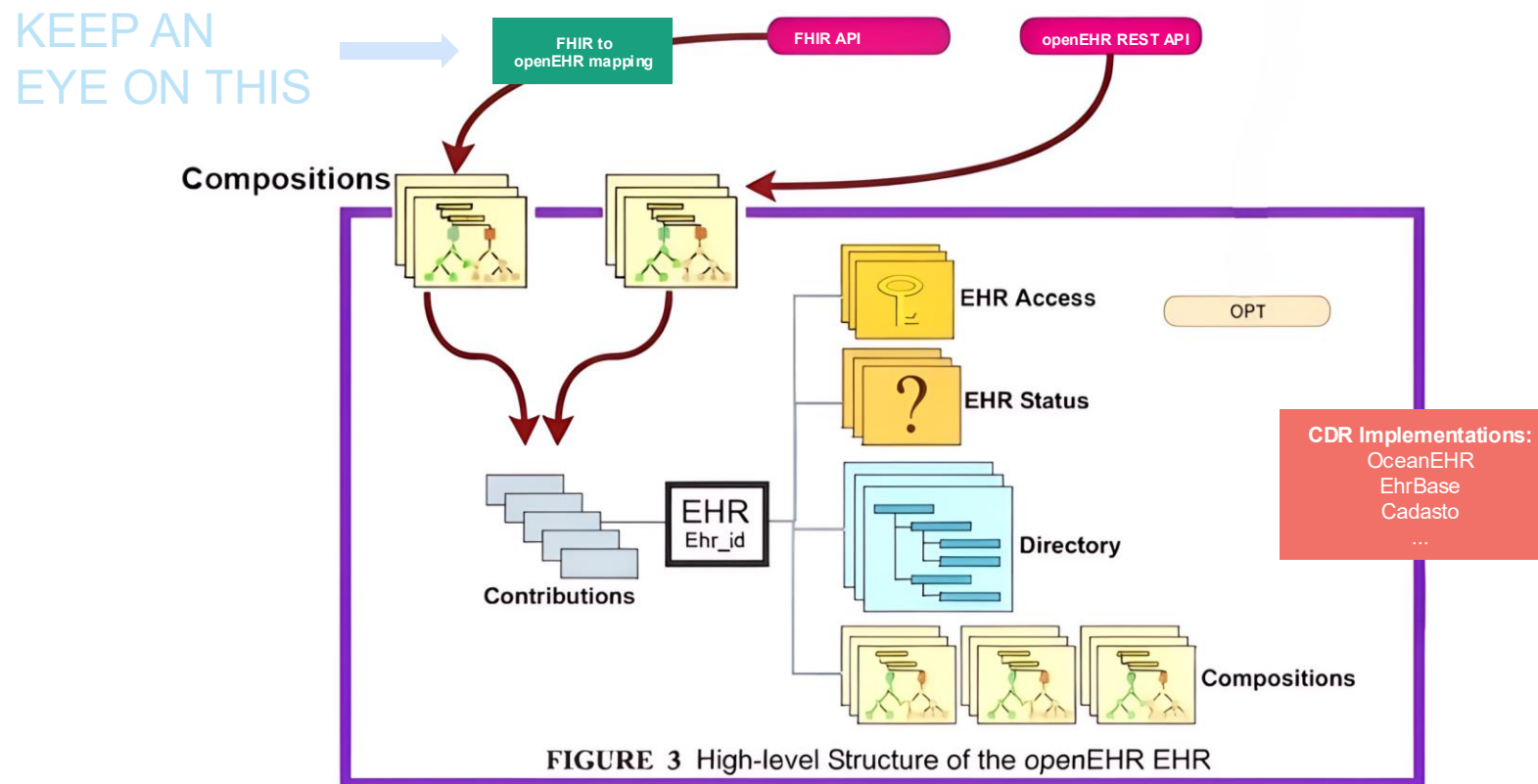
openEHR, FHIR and EHR slices

Clinical models and the platform
This is **every** openEHR implementation



openEHR, FHIR and EHR slices

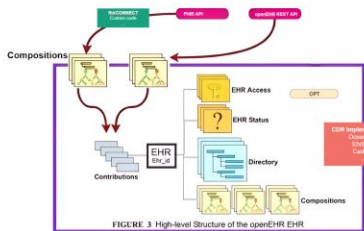
Clinical models, platform **and FHIR APIs**
This is **every** openEHR implementation



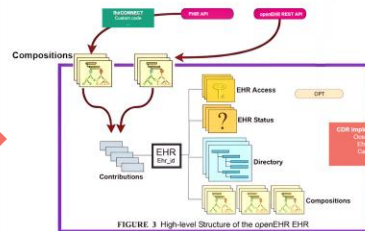
openEHR, FHIR and EHR slices

Clinical models and the platform
This is the openEHR ecosystem

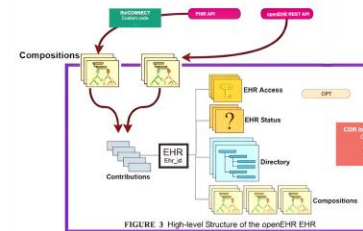
Infection control



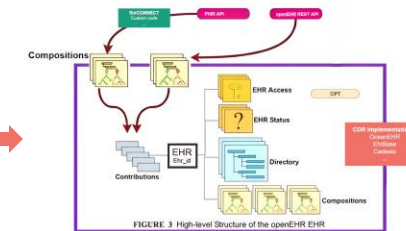
Medications Management



Vaccination Record



Shared Care Records



Dotnet

PHP

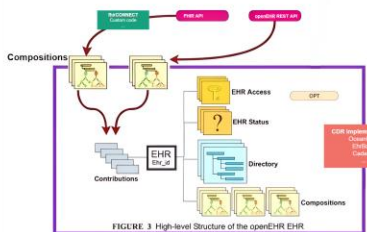
JAVA

GO

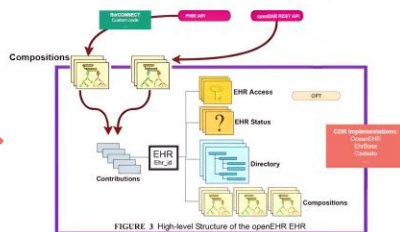
openEHR, FHIR and EHR slices

This is openEHR ecosystem and non-openEHR systems

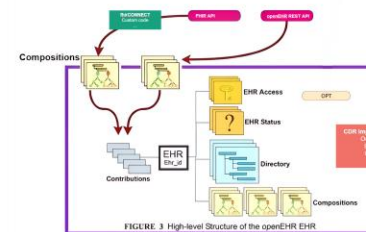
Infection control



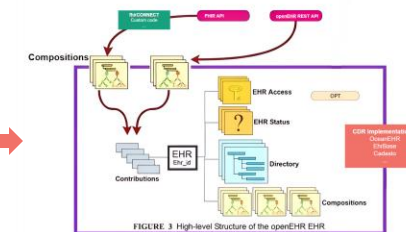
Medications Management



Vaccination Record



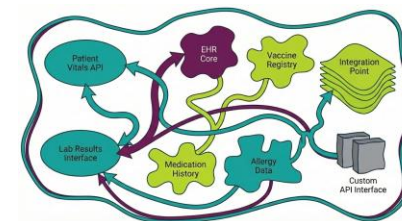
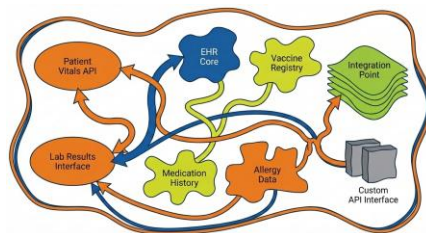
Shared Care Records



FHIR

FHIR

FHIR

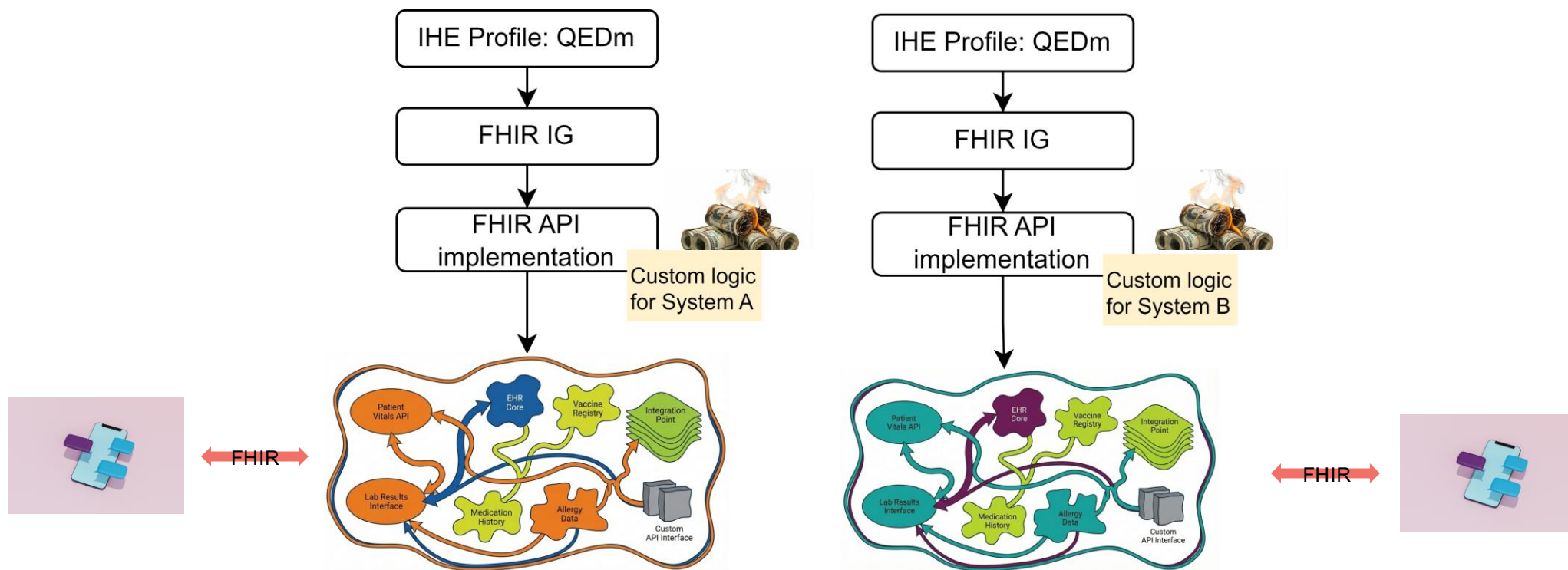


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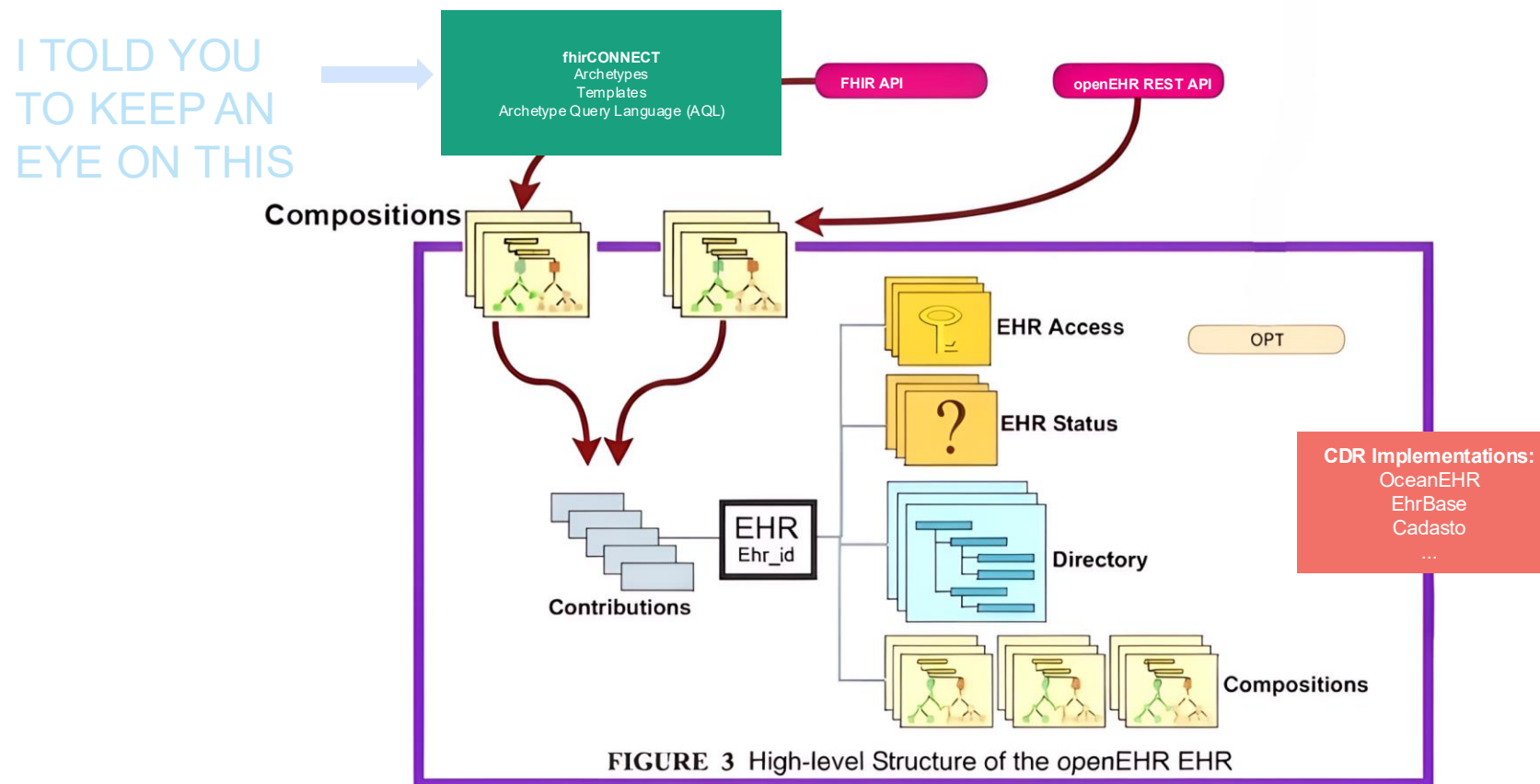
openEHR, FHIR and EHR slices

How IHE profiles would help clinical systems connect (EHDS context)



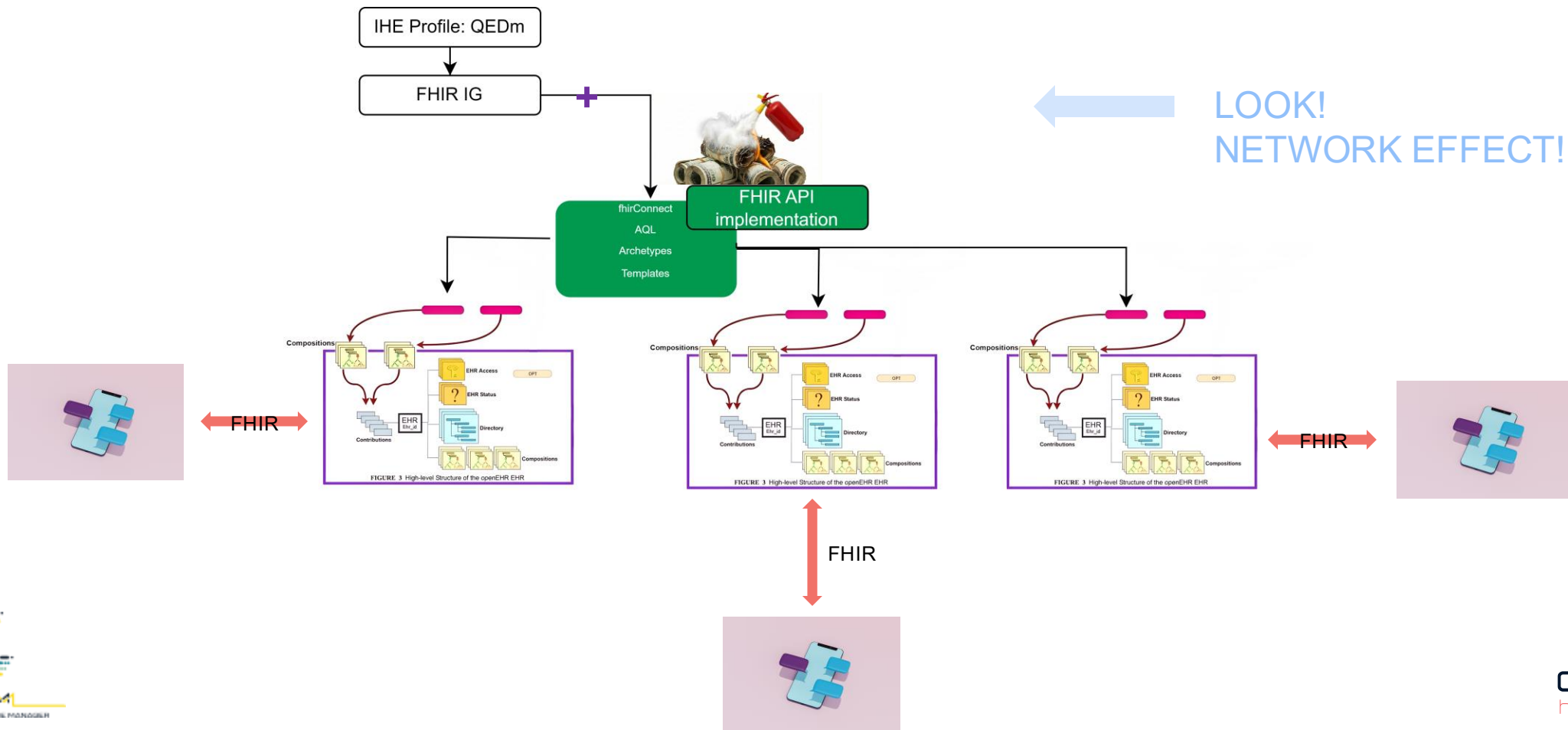
openEHR, FHIR and EHR slices

What if we had FHIR APIs backed by reusable, computable artefacts ?
This is **every** openEHR implementation then:



openEHR, FHIR and EHR slices

How FHIR IGs help **openEHR platforms** communicate
We get **more value** out of a **FHIR IG** when building on **openEHR platforms**



We get **more value** out of a **FHIR IG** when building on **openEHR** platforms



openEHR, FHIR and EHR slices

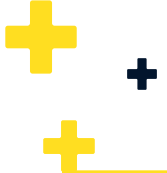
- Why should FHIR and openEHR collaborate?
 - It is not only about CDRs and IGs
 - openEHR methodology supports **direct stakeholder engagement**
 - <https://www.openehr.org/ckm>
 - Ocean is extending the Clinical Knowledge Manager (CKM)
 - FHIR, OMOP mappings
 - We can do more, let's talk!
 - **Faster feedback loop** for FHIR IGs
 - Share IGs on CKM
 - Review, **deploy to systems**, iterate
 - Provide feedback to modelling groups
 - ...



openEHR, FHIR and EHR slices

- Why should FHIR and openEHR collaborate?
 - FHIR IGs (IHE profiles) become more powerful
 - Beyond messaging
 - Out of the box APIs and persistence
 - From messaging specification to system specification
 - **Can we find a balance between the philosophies of openEHR and FHIR ?**
- EHDS compliant green field and existing (openEHR) systems
 - API and Persistence through EHR slices
 - Startups, SMEs.
 - "Just a few years away" ?
 - Software ages in dog years (Faster now due to AI)
- **Don't forget secondary use phase of EHDS**





openEHR, FHIR and EHR slices

- Potential mechanics of collaboration
 - FHIR 6 focuses on stability: fully normative release.
 - Immature and fast changing resources moved out of core
 - Incubator IGs and Additional resources
 - Can we represent openEHR – FHIR mappings as additional resources? (Should we?)
 - Additional resources if we can, custom resources if we must
 - What about templates and archetypes referenced in the mappings?
- We need to talk !



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Summary, thanks, and questions(?)

- FHIR, IHE and openEHR can help deliver EHDS successfully
- They are complementary
 - IHE on FHIR on openEHR
- openEHR enables sharable, **reusable FHIR implementation**
 - FHIRConnect, Archetypes, Templates
- openEHR enables stakeholder engagement
 - Clinical communities through Ocean CKM
 - Technical communities through proprietary and open source CDRs
 - This means fast feedback loop for faster FHIR adoption