

An abstract graphic on the left side of the slide. It features a large, semi-transparent sphere with a grid of white lines. Inside this sphere, there are several smaller, solid white spheres of different sizes. The background is a light blue gradient.

ReUse and collaboration for better eGov services

How can private companies participate in this initiative?

► The ReUse initiative

- ▲ What is it?
- ▲ Why is it important?
- ▲ Some examples & results
- ▲ How can private sector companies join?
 - ▲ Align with public sector strategy
 - ▲ ReUse existing elements
 - ▲ Develop for ReUse

What is it?

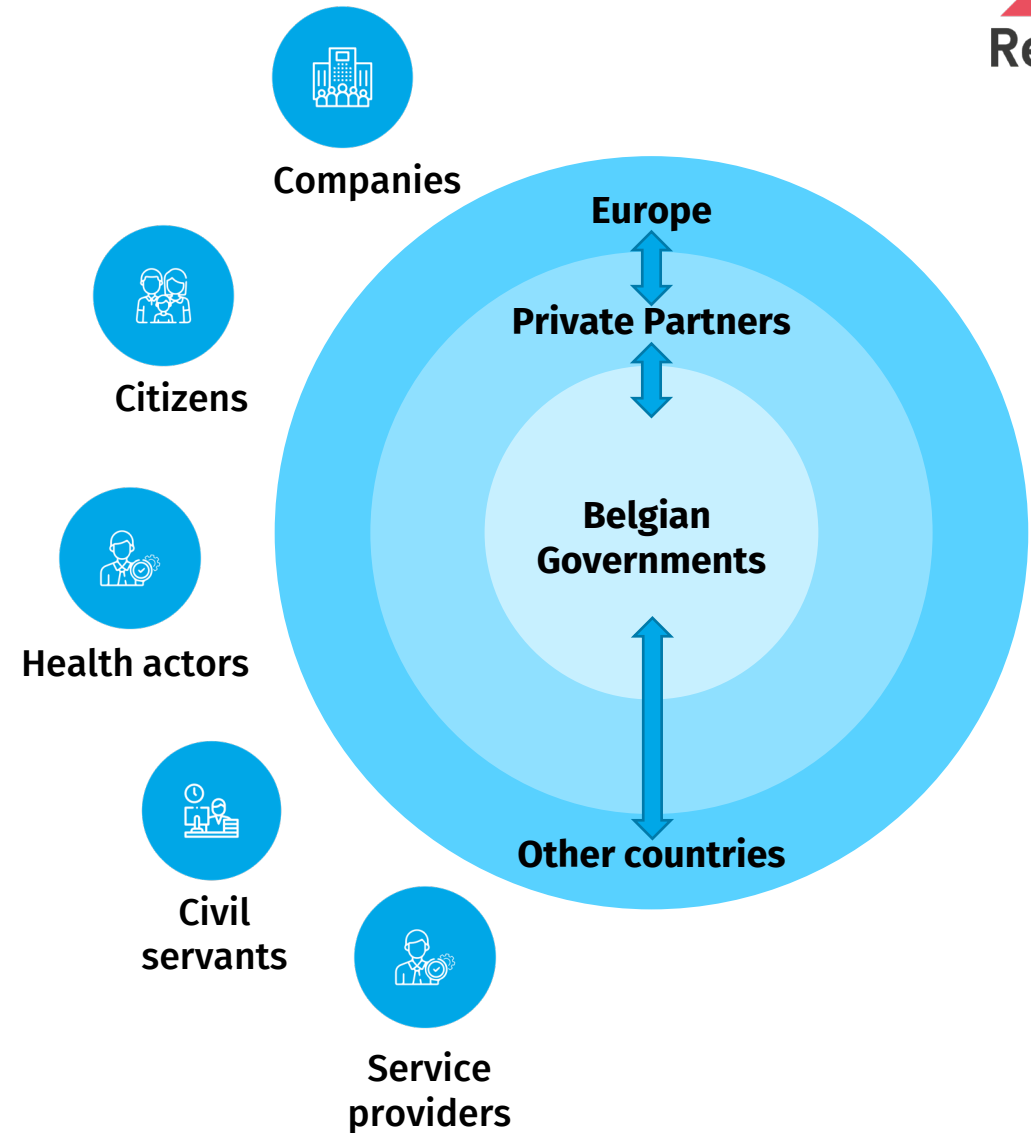


► **What do we want to achieve?**

Goal

To provide better digital services to the public

- ▲ by working together
- ▲ by sharing and reusing what already has proven to be successful

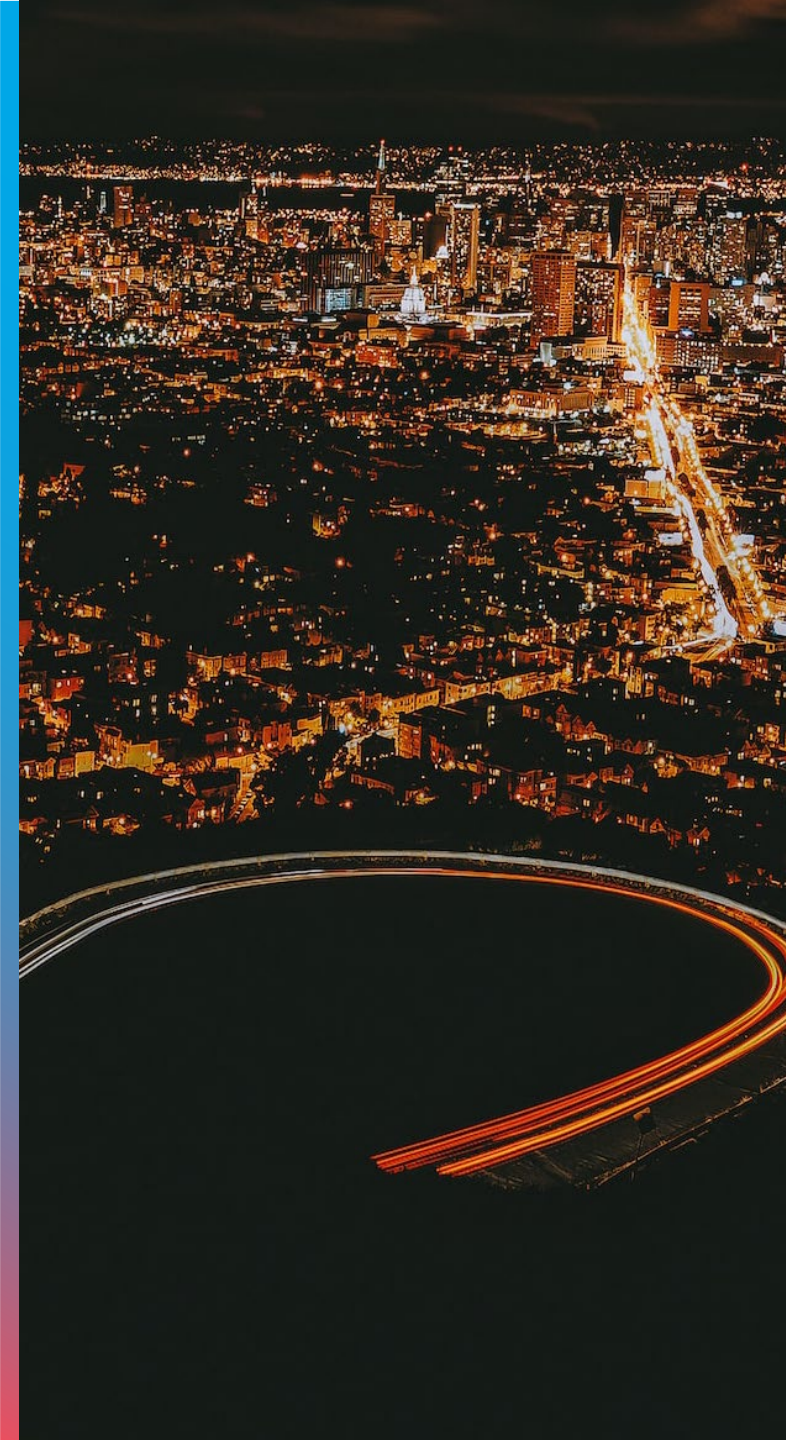




Challenges

The 'government' is a complex ecosystem

- ▲ The experience with the government is not always optimal

An aerial night photograph of a city, likely San Francisco, showing a dense urban landscape with numerous illuminated buildings. A prominent light trail from a vehicle's headlights and taillights curves through the lower portion of the frame, suggesting movement and activity. The overall scene is dark, with the city lights providing a warm, golden glow.

Challenges

The world is changing FAST

- ▲ Societal challenges
- ▲ Technological challenges
- ▲ Ecological challenges ...

Challenges

Budgets are under severe pressure

▲ and skilled people are hard to find

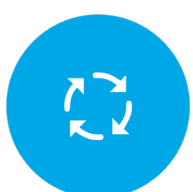
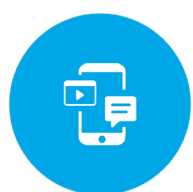
► Expectations of citizens & enterprises

- ▲ **Effective services**
- ▲ **Integrated services**
- ▲ **With a minimum of costs and administrative formalities**
- ▲ **Provided automatically, if possible**
- ▲ **Reliable, safe and permanently available**



► Expectations of citizens & enterprises

- ▲ With active user participation
- ▲ Offered in a performant and user friendly way
- ▲ Using the media of their choice
- ▲ Adjusted to their own processes
- ▲ Respecting their privacy



► Enablers to achieve our goals

Let's NOT reinvent the wheel...

Share and reuse existing assets

- Business processes
- Software components and API's
- Procurement and licences
- Infrastructure
- Other types of **building blocks...**

Let's work together...

Align and collaborate

- Promote and rely on mature business concepts
- Enforce proven standards
- Share knowledge and techniques
- Exchange good practices
- Co-creation with all actors involved

Who is already involved?



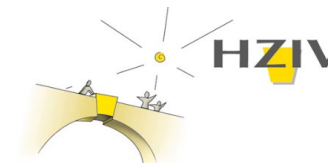
Social Security
Self-employed Entrepreneurs



Smals
ICT for society



sigedis



RSZ
RIJKSDIENST
VOOR SOCIALE
ZEKERHEID

FEDRIS

FEDERAAL AGENTSCHAP VOOR BEROEPSRISICO'S
AGENCE FÉDÉRALE DES RISQUES PROFESSIONNELS



hvw

OPENBARE INSTELLING
VAN SOCIALE ZEKERHEID



Federale Pensioendienst



Federal Public Service
Social Security



INAMI-RIZIV



KSZ
BCSS



ONVA
RJV



RVA.be
ONEM.be



Wallonie



RÉGION DE
BRUXELLES-
CAPITALE



Ostbelgien



eHealth



sciensano

POD
SPP



Maatschappelijke Integratie
Intégration Sociale



BO
SA



service public fédéral
SANTÉ PUBLIQUE,
SECURITE DE LA CHAÎNE ALIMENTAIRE
ET ENVIRONNEMENT



economie



federal agency for medicines and health products



beliris
POUR BRUXELLES
VOOR BRUSSEL



FEDERAL PUBLIC SERVICE
Employment, Labour and
Social Dialogue



Federal
Public Service
FINANCE



FEDERALE OVERHEIDSDIENST
JUSTITIE
SERVICE PUBLIC FÉDÉRAL
JUSTICE

And many more... 14

► How does it work?

Some initiatives

- ▲ **ICT infrastructure: G-Cloud initiative launched in 2015**
 - ▲ Focus on hardware, infrastructure services, platforms...
- ▲ **Software: ReUse program for public institutions accelerated in 2019**
 - ▲ Focus on components, authentic data sources, API's
- ▲ **Full stack: Enterprise Architecture approach across institutions since 2021**
 - ▲ Focus on architectural principles, processes, building blocks, ...
- ▲ **Near future: Public cloud computing ?**
 - ▲ Sufficiently secure, multi-vendor use
 - ▲ Strong governance, avoiding lock-in

► G-Cloud – Sharing ICT infrastructure

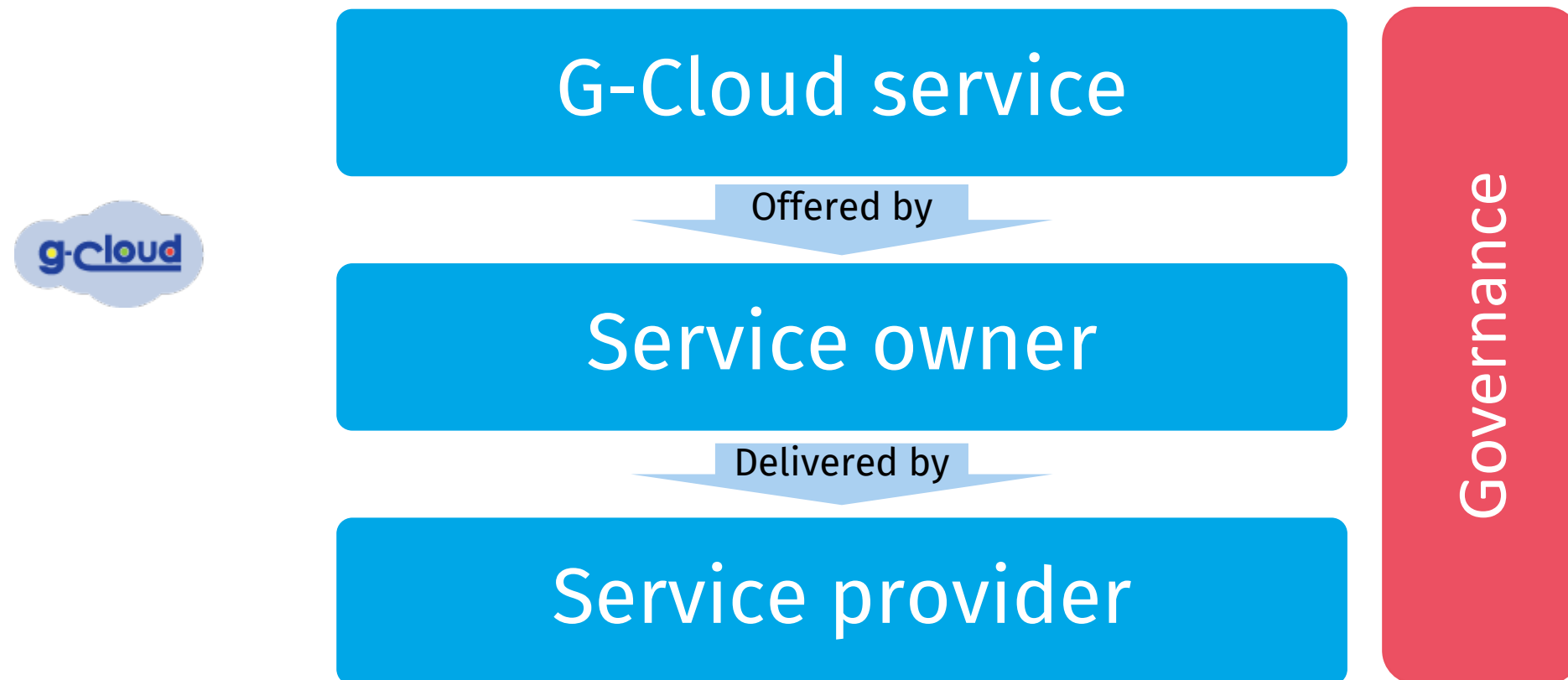


- ▲ **Program of synergy-driven projects**
 - ▲ Strong participation of private sector suppliers
- ▲ **Joint government ICT platform**
 - ▲ Mainly federal
 - ▲ Expandable to other governments if interested
- ▲ **Hybrid community cloud model**
 - ▲ Reliance on public cloud where possible
 - ▲ Partly private community cloud running from government-managed datacenters
 - ▲ Operational implementation with broad reliance on external suppliers

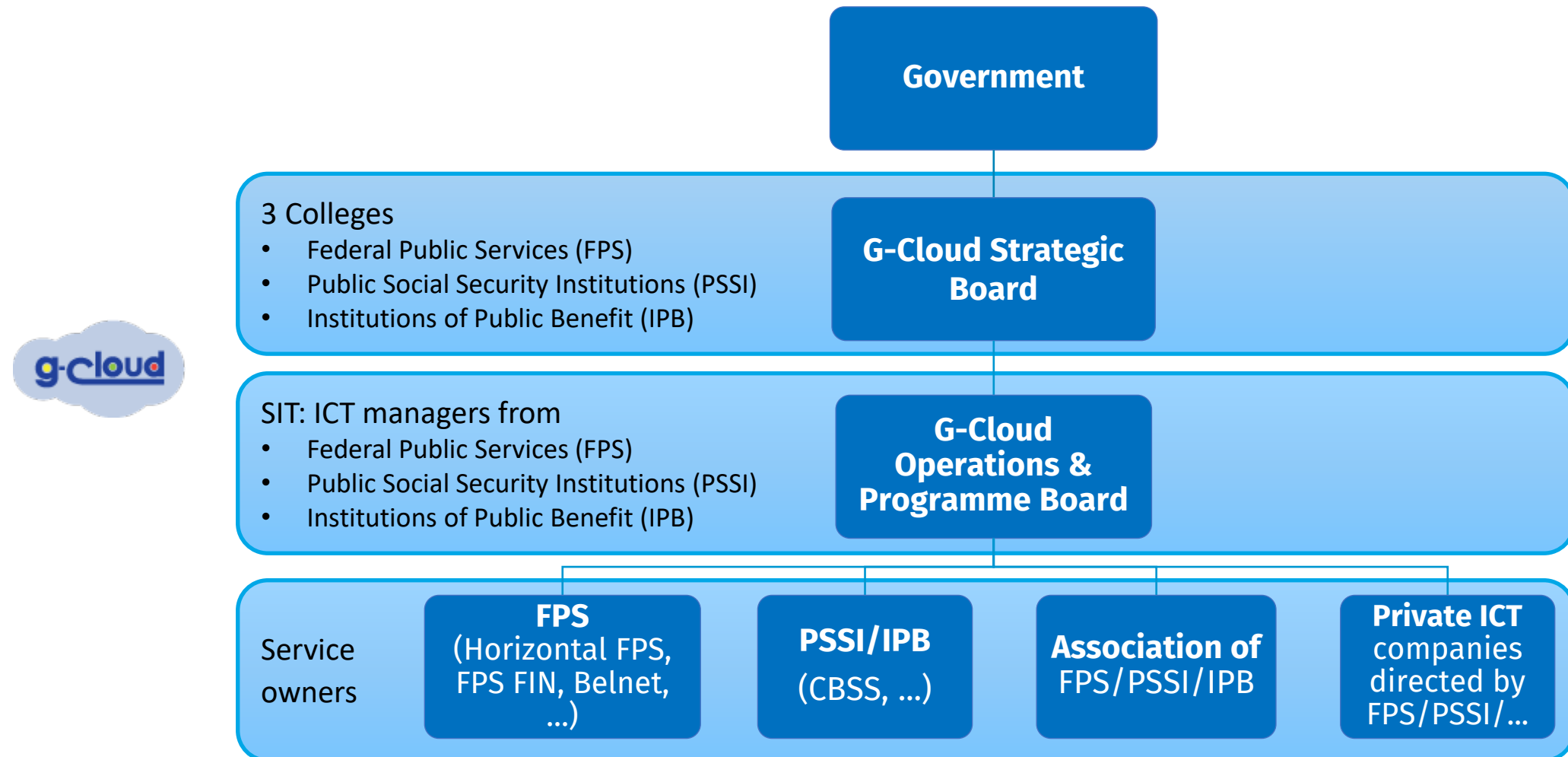
➤ G-Cloud – Sharing ICT infrastructure

▲ G-Cloud = coalition

▲ G-Cloud ≠ central organization



G-Cloud – Sharing ICT infrastructure



► G-Cloud – Sharing ICT infrastructure



Horizontal software (Solutions)

Website - HR - Finance - Access Control - ...

Application platforms

Soft infrastructure

Virtualisation - Security - E-mail - VoIP - ...

Hard infrastructure

Computing - Network - Storage

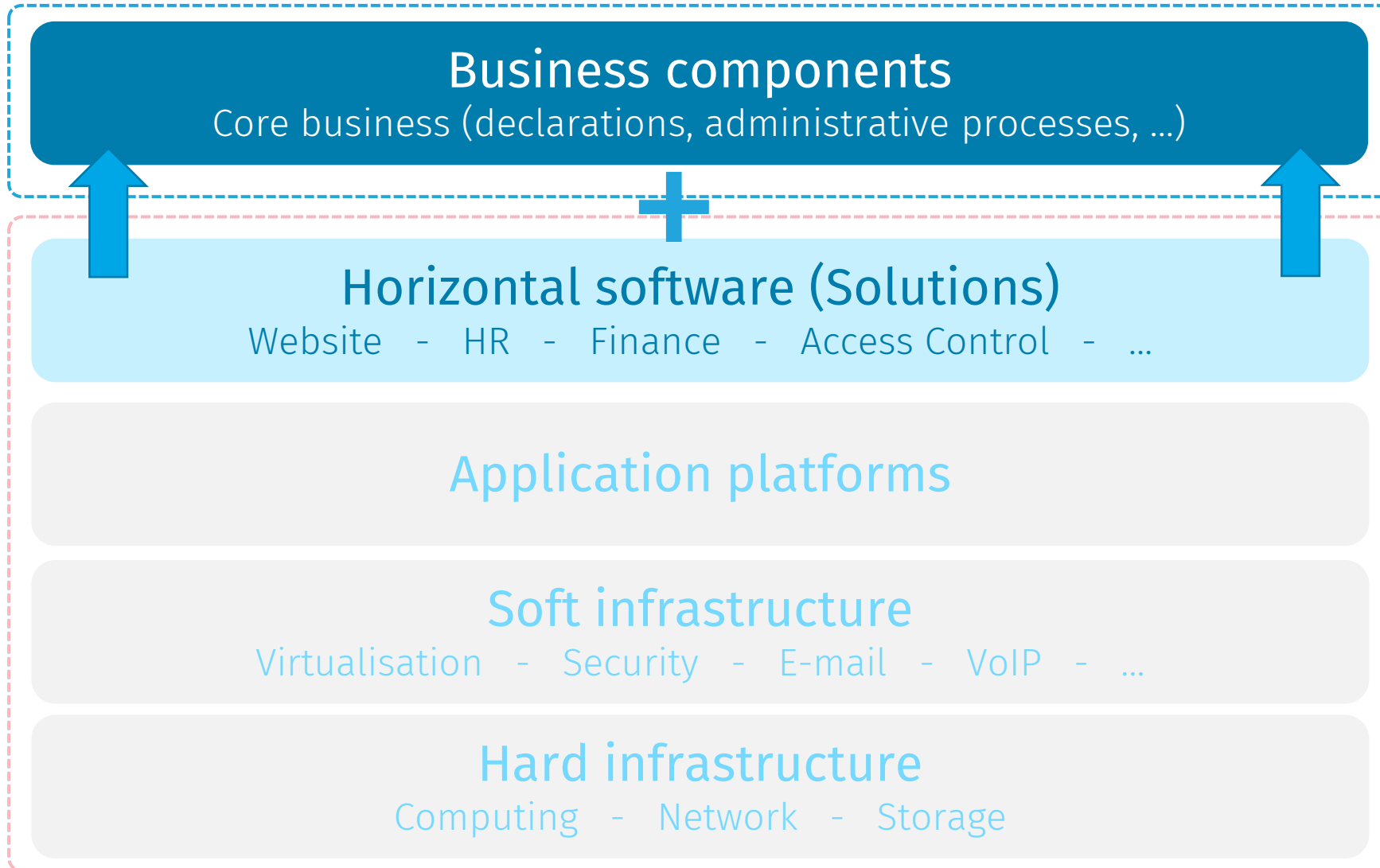
► G-Cloud – Sharing ICT infrastructure



SOFTWARE - STANDARD COMPONENTS AND APPLICATIONS					
BABELFED		UCC SHAREPOINT BASIC O365		REGISTER	
BECONNECTED		GOVSHARE SHAREPOINT PLATFORM		CSAM AANMELDEN, BTB, SSM	
WEB CONTENT MANAGEMENT		WEB - ANALYTICS		WEB - COOKIES	
PLATFORM - DEVELOPMENT AND SPECIALIZED TECHNICAL TOOLS					
GREENSHIFT OPEN SOURCE PAAS		YELLOWSHIFT MICROSOFT PAAS		BLUE STACK DB IBM DB	
SERVICE PLATFORM 					
INFRASTRUCTURE - SERVICES ("SOFT" INFRA)					
UCC VOICE/IM		UCC EXCHANGE ON PREMISE		SHAD SHARED DIRECTORY	
UCC CONTACT CENTER		UCC EXCHANGE O365		INTERNET ACCESS PROTECTION SECURITY AS A SERVICE	
UCC MOBILE DEVICE MANAGEMENT					
INFRASTRUCTURE- FOUNDATION ("HARD" INFRA)					
COMPUTE VIRTUAL MACHINE		HOUSING		FEDWAN	
COMPUTE HYPERVISOR					
				FEDMAN	
STORAGE 					

Sharing infrastructure – software – business components

SHIFT



SHIFT



➤ Reuse of software & business components

▲ Initiative

- ▲ Originated within Belgian public social security institutions & Smals
- ▲ Open to federal public services & other

▲ Purpose

- ▲ Synergy around (technical) business components
- ▲ Save costs by avoiding multiple development of redundant components

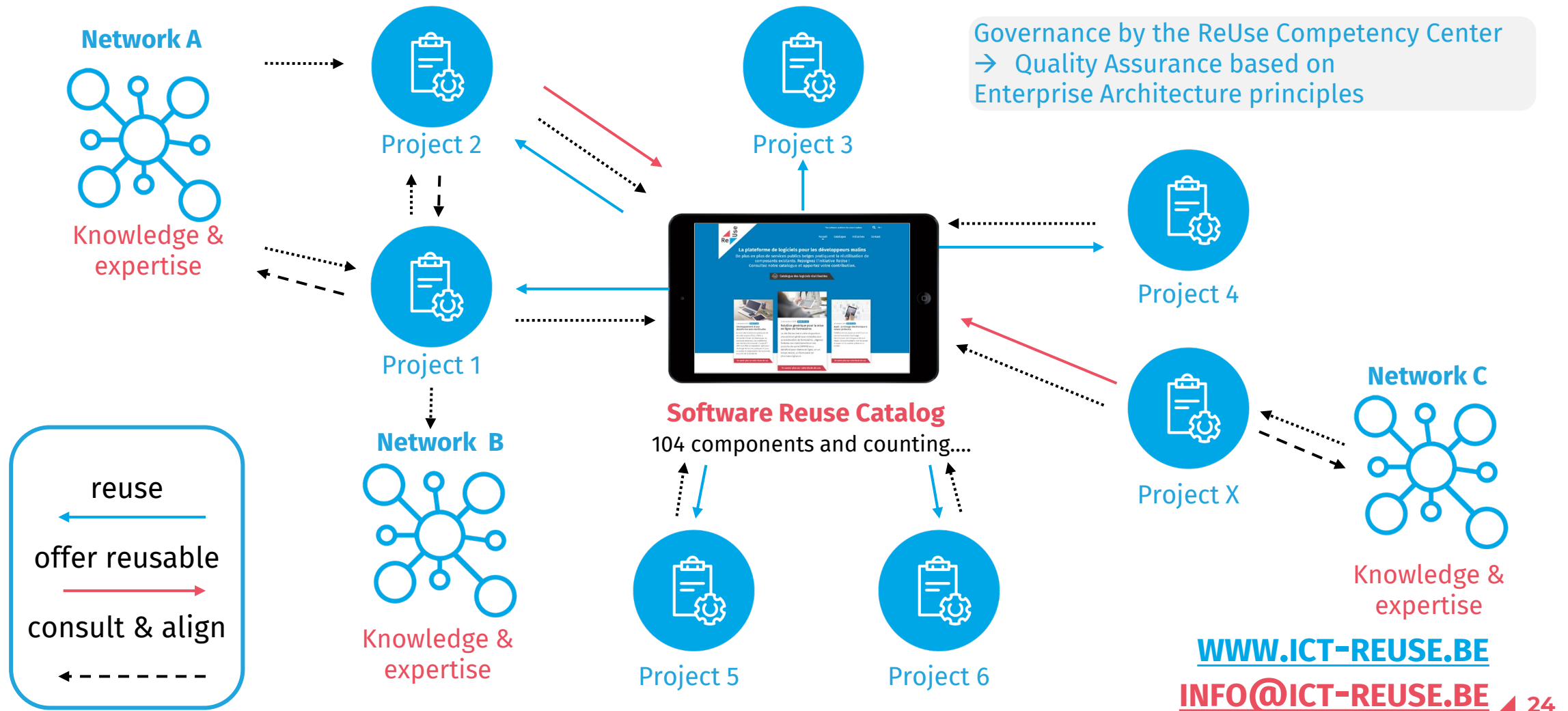
▲ Regardless of whether development takes place by

- ▲ The institution's own ICT department
- ▲ Smals
- ▲ Subcontractors

▲ How ?

- ▲ Consult the catalogue of reusable components and get in contact with networks

Software reuse – how does it work?



Software reuse – how does it work?

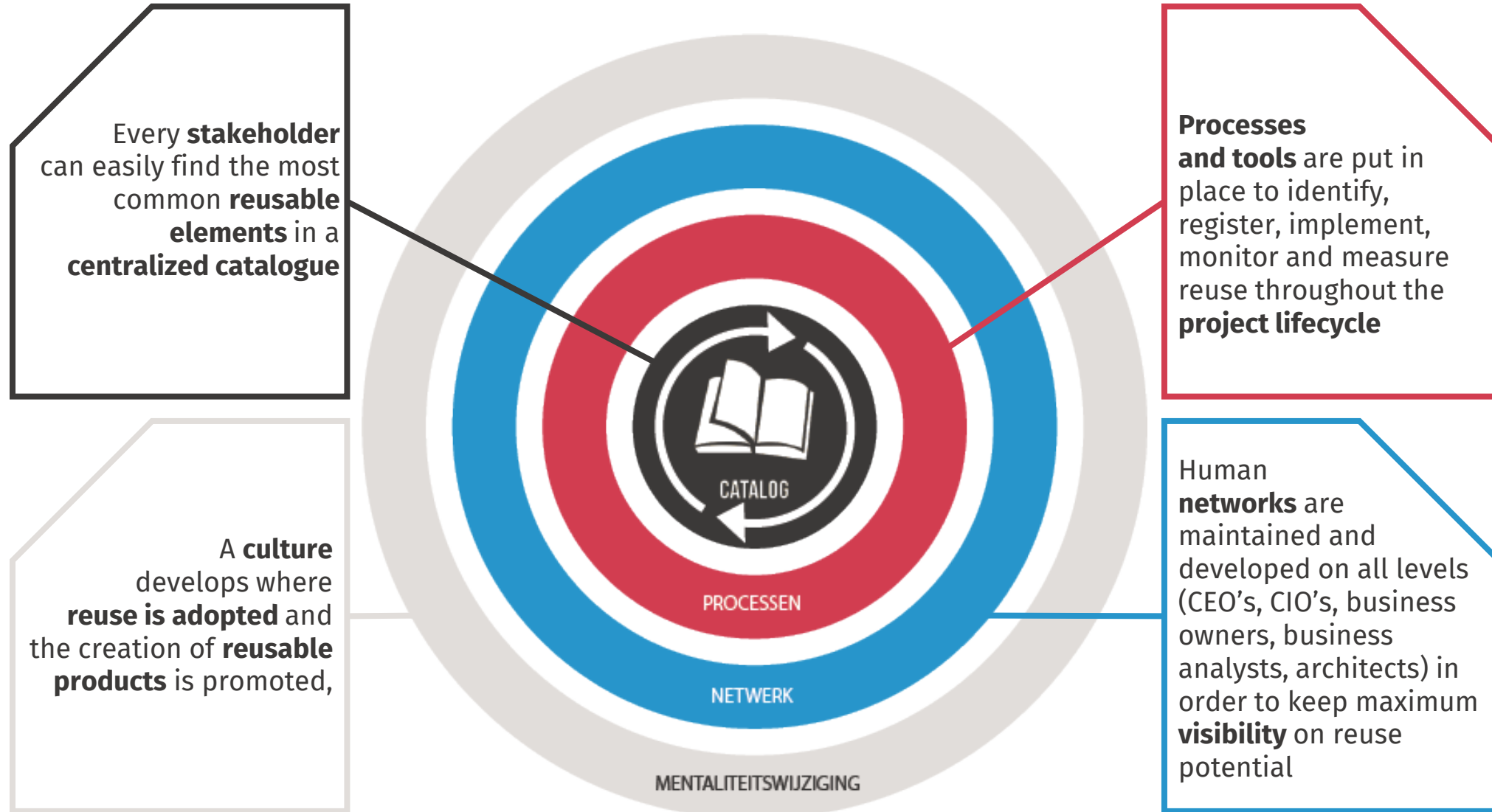
Take aways

- Make visible what already exists
- Integrate reuse in the project life cycle
- Measure the benefits (ROI)
- Use networks to detect missing components or future opportunities
- Provide mature governance around reusable components

And most of all... dare to share!

- Learn fast & adjust (and don't give up too easily)

ReUse – Vision



► Software reuse - possible collaboration models

▲ **Organic model**

- ▲ Component financed by initial requesting party
- ▲ Free to use
- ▲ Improvements financed by a requesting party (of the improvement)
- ▲ Co-financed maintenance

▲ **Sponsorship model**

- ▲ Component financed by a sponsor
- ▲ Made available on a cost-based model (Free or fee)

▲ **Co-financed model**

- ▲ Collaborative financing and maintenance based on a distribution key

Building blocks for a “generic public service” (Partial view)

Request / declaration

[Forms](#)

Data flows

- Incoming / outbound
- Webservices / batch

[Multifunctional declarations](#)
[API Gateway](#)

Communications

[DSP - Document Service Provider](#)
[Document Orchestration Service](#)
[e-Box - Electronic mailbox](#)
[Govapp](#)
[PrintManager](#)

Archiving

[AAAS - Archiving-as-a-Service](#)

Payments received

[Coda reader](#)

Automated data treatments

[Event notifications](#)
[Sepia document signer](#)
[Timestamping](#)
[Data quality tools](#)

Call center



Supporting software

- Office automation
- eMail / telephony
- Basissystemen

[CMS - Web Content Management System](#)
[CSAM – Log on to online public services](#)
[Identity and Access Management](#)
[User Access Management](#)

Payments



Case management

[Process management](#)
[Task management](#)
[Work environment](#)

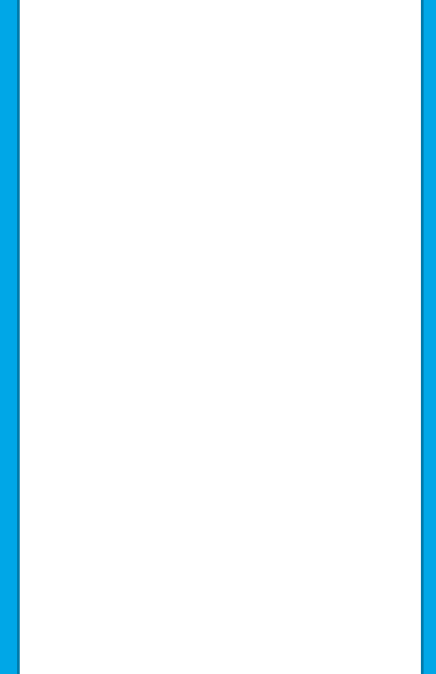
Reporting

[BI Platform](#)

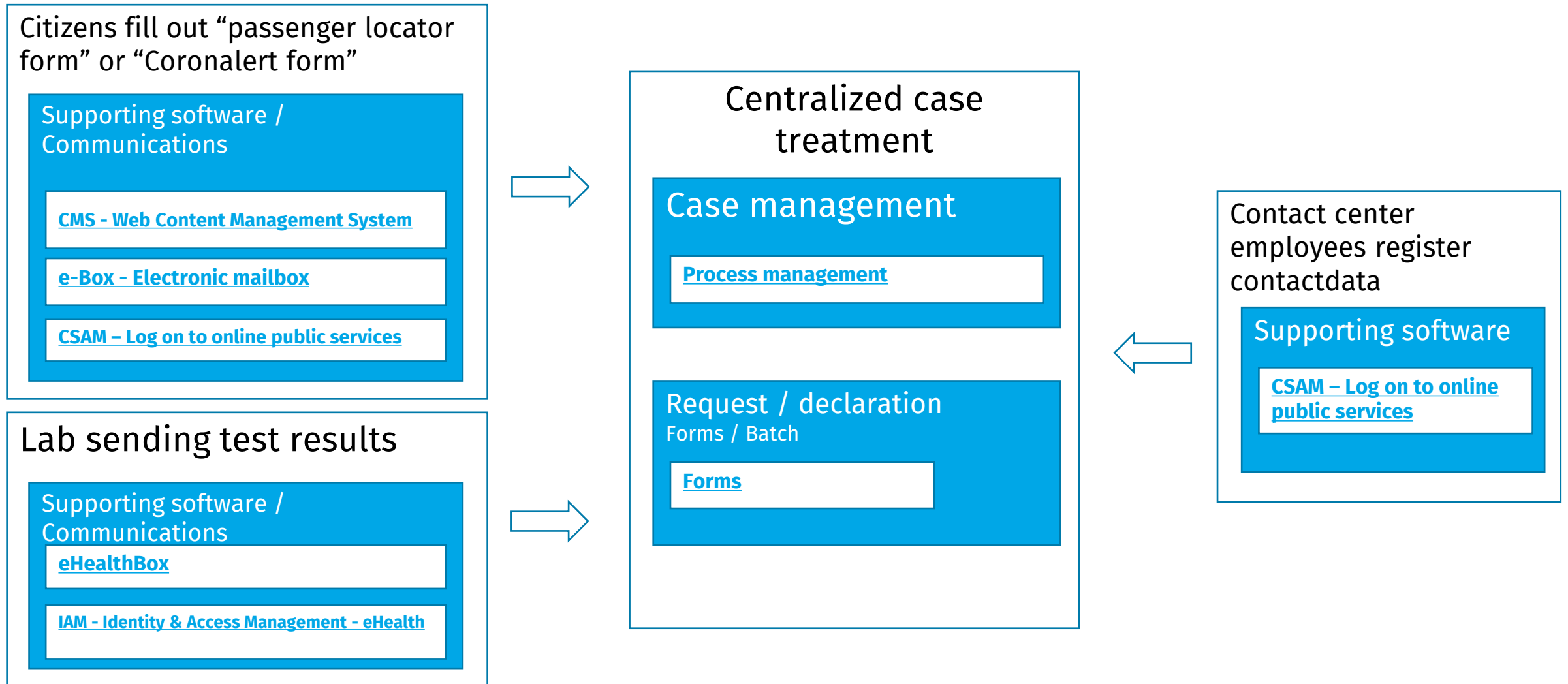
Support services

- Procurement
- Human resources
- Translation services
- Legal
- Logistics
- Communications
- Helpdesk

[eAcademy](#)
[Management of committees](#)



➤ Example: “Re-usable components for contact tracing”





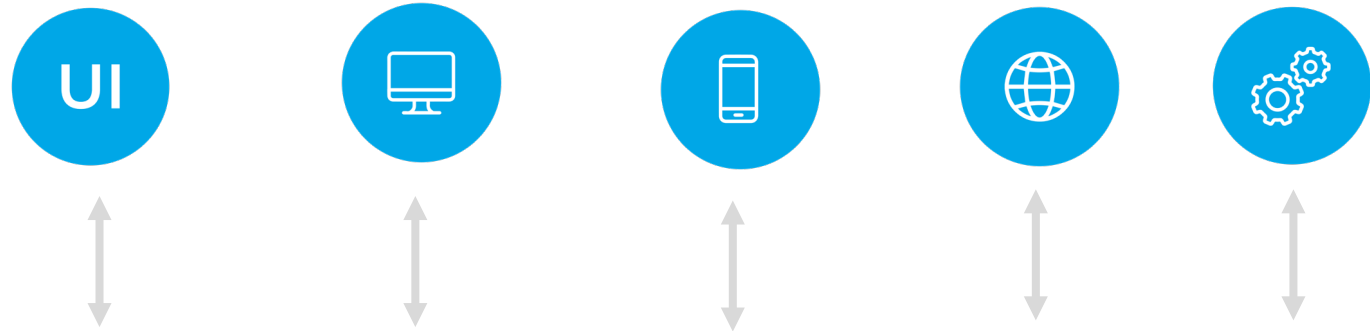
■ The API Economy

- ▲ **> 90% of the reusable components in software reuse catalogue are API's**
- ▲ **How can API's contribute to create added value for all actors that are active in public services?**

The API economy

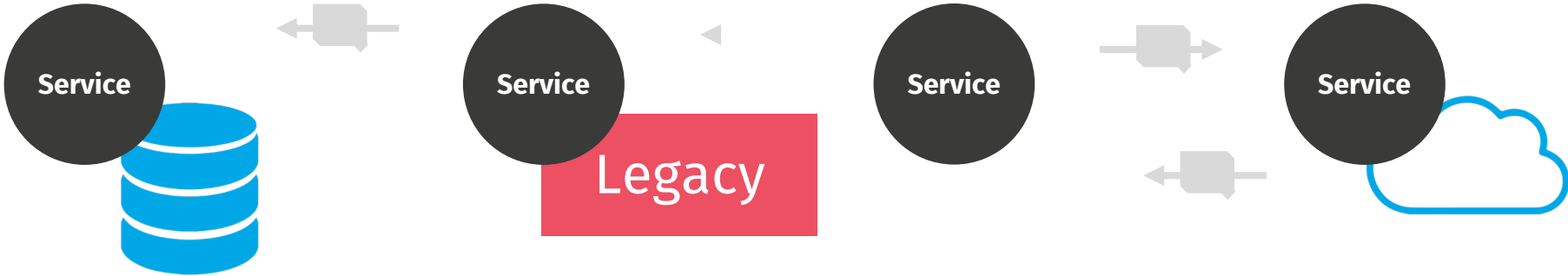
Frontend Systems

Web, mobile, speech, IoT, services, partners



Backend Systems

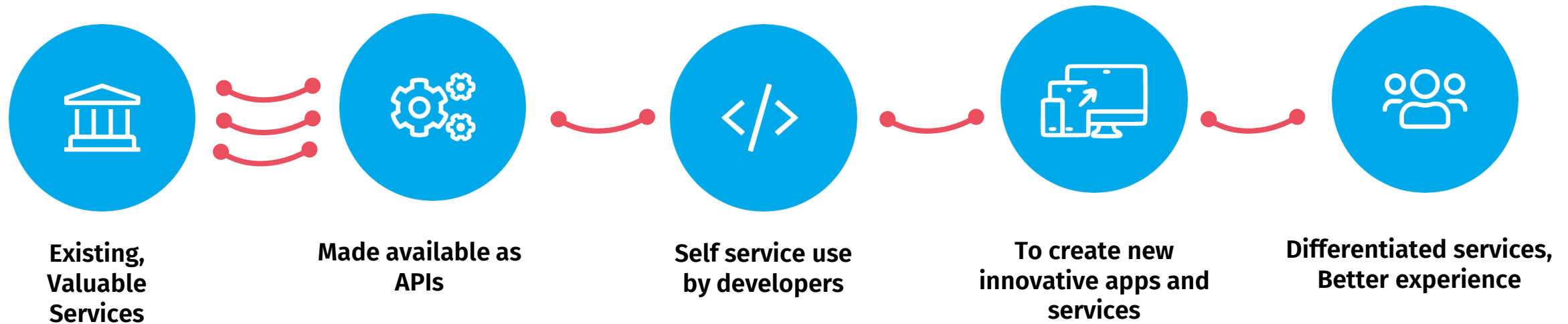
Services with databases



Public & private sector opportunities

- ▲ The government is NOT an island
- ▲ Invitation to private sector parties to get involved

Public & private sector opportunities





Enterprise architecture in the public sector

- ▲ **Enterprise architecture = a holistic approach**
 - ▲ Starting from a common business vision
- ▲ **Covering the 3 layers**
 - ▲ Business – Applications – Infrastructure
- ▲ **Defining good architecture principles that are applicable across institutions & ecosystems**
 - ▲ Only once data collection
 - ▲ Customer centricity
 - ▲ Digital inclusion
 - ▲ Privacy and security concepts
 - ▲ ...



Enterprise Architecture : strategy (1/4)

How can citizens and businesses perceive their governments as a coherent, efficient whole?

By promoting **unity of vision as well as cooperation among public institutions and the private sectors**



Enterprise Architecture : strategy (2/4)

How can we ensure that applications can last for years, yet can be quickly adapted to new needs?

By making the right architecture choices, share common services and respect standards



Enterprise Architecture : strategy (3/4)

How can we provide electronic government services that are less vulnerable to incidents?

By offering guarantees of quality and continuity

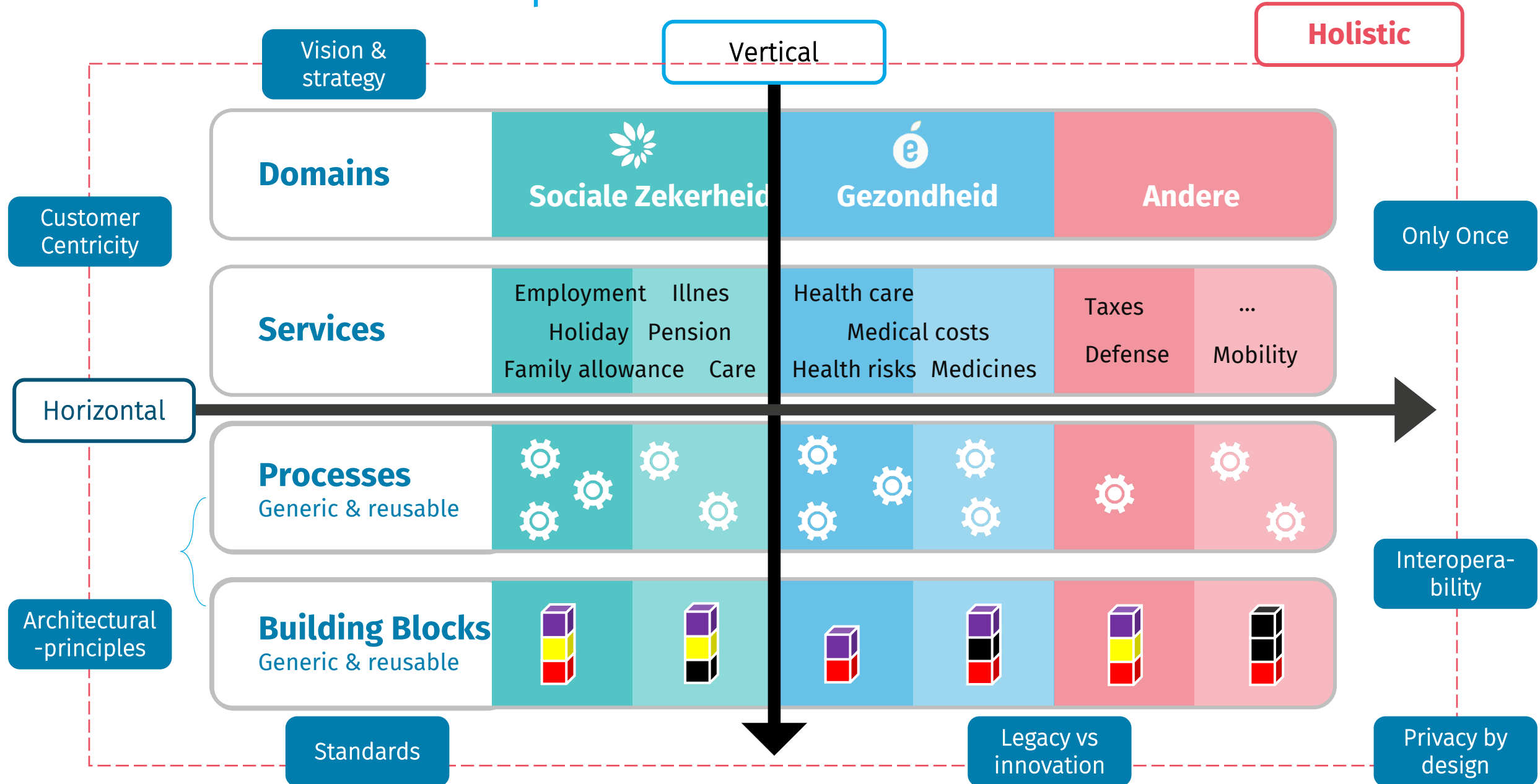


Enterprise Architecture : strategy (4/4)

How can we make ICT a catalyst of change, and not a stumbling block or jammer.

By bringing together policy makers and ICT in making strategic decisions

Enterprise Architecture : framework



► **What are the benefits ?**

What are the benefits of a reuse mindset and more collaboration?



Faster



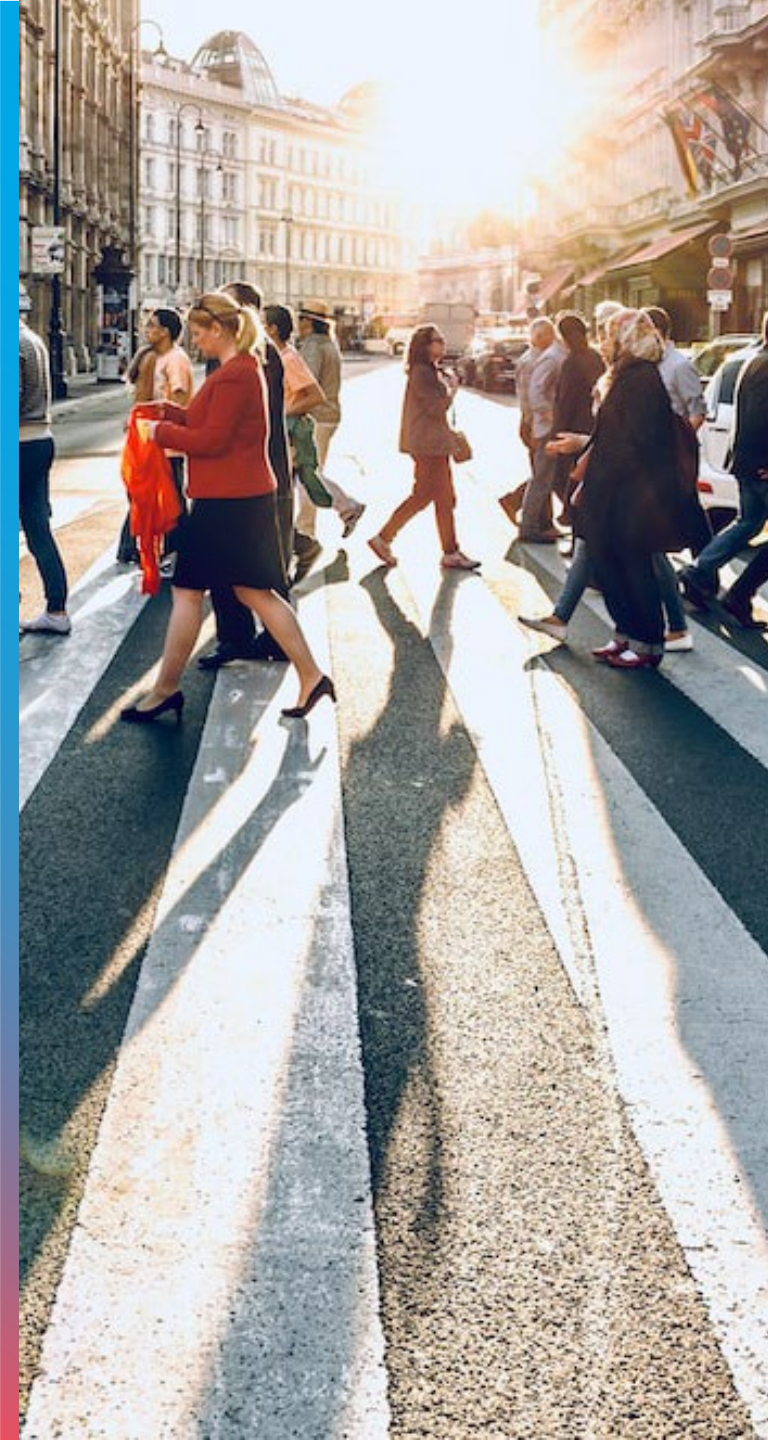
Flexible



Cheaper



Higher maturity



Benefits

Improving quality of life for citizens and enterprises

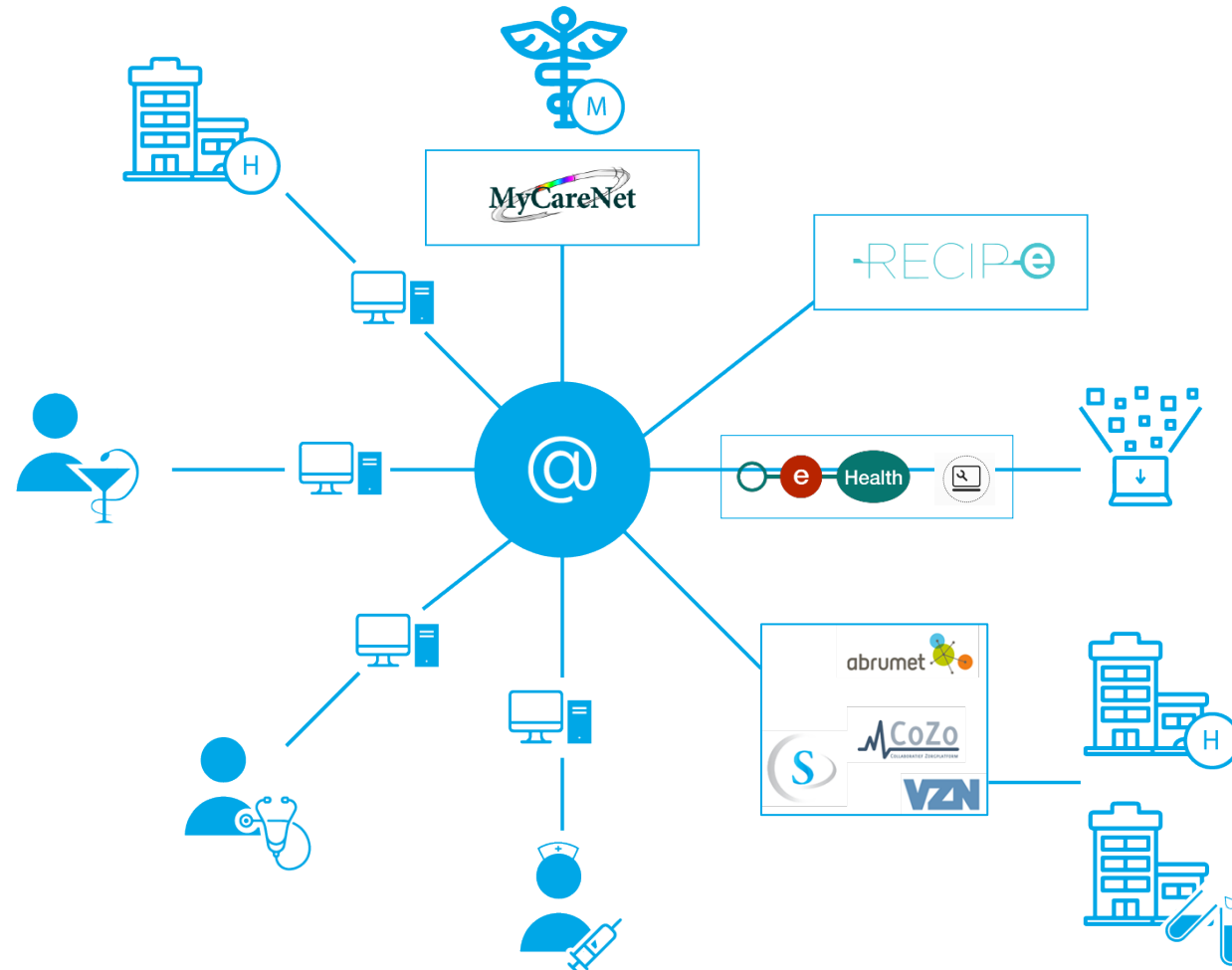
Benefits

Offering excellence in digital services

- ▲ Reliability
- ▲ Performance
- ▲ Added value

► Examples

EXAMPLE: the eHealth ecosystem



>20.000.000.000
digital transactions



> 90 %
of Belgian citizens have given
an informed consent for data sharing

EXAMPLE: eHealth basic services & API's



Coordination of the electronic processes & API gateway



Portal



Integrated user and access management system (IUAM)



Management of logs



System for end-to-end encryption (ETEE)



eHealthBox



Timestamping



Coding and anonymising



Consultation of National register and CBSS registers (ConsultRN)



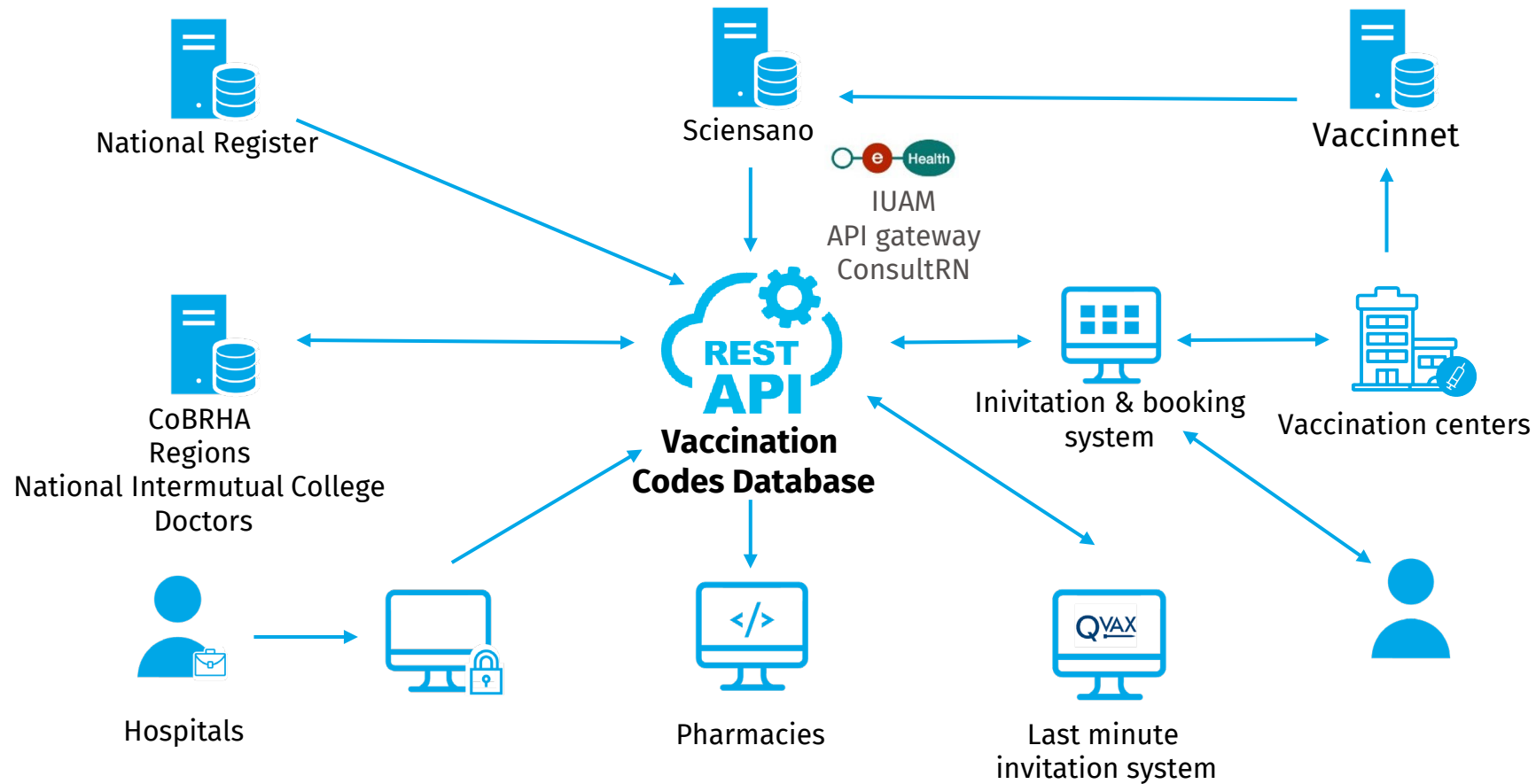
Reference directories (hub-metahub system)

EXAMPLE: Intelligent forms & workflows

- ▲ Covid-19: NSSO offered Belgian employers (semi-) automated delay in social security contributions
- ▲ VERY fast time to market (1 week)
 - ▲ ReUse Forms interface
 - ▲ ReUse BillRetainment webservice
 - ▲ Integrate with existing workflows in WorkEnvironment
- ▲ Online self-service
 - ▲ >100.000 employers concerned
 - ▲ Online self-service crucial to avoid flooding NSSO services



EXAMPLE: COVID-19 Vaccination



EXAMPLE: The Only Once principle

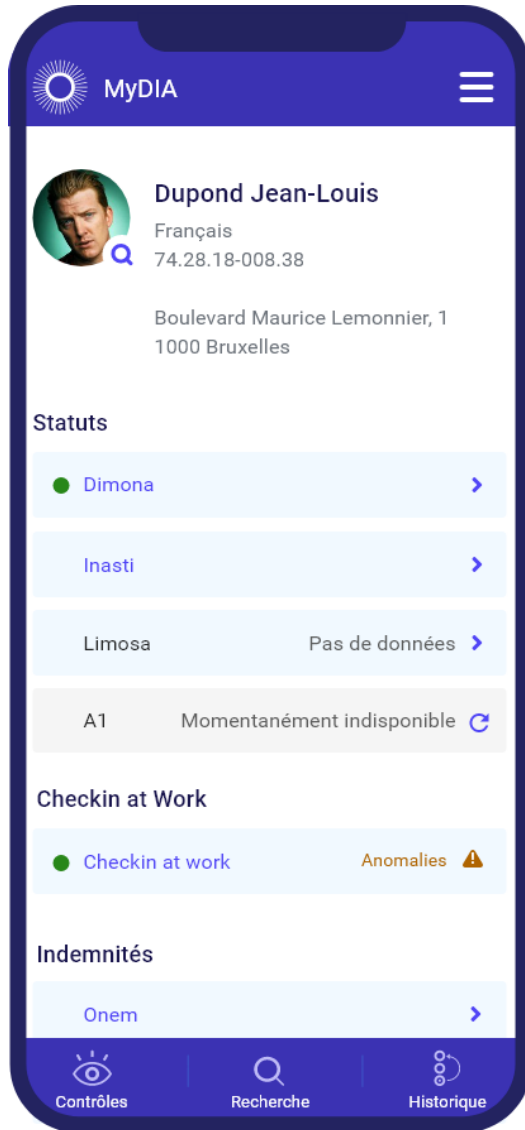
- ▲ **Legal basis: One-time information gathering**
 - ▲ Public services should not request information that is already known by another public institution (5/5/2014)
- ▲ **Authentic data sources**
 - ▲ National Register, Belgian Street Address
 - ▲ Employers Register, Crossroads Bank for Enterprises
 - ▲ Multifunctional Declaration (DmfA)
 - ▲ ...
- ▲ **Public services should integrate, not duplicate existing information flows**
- ▲ **Future developments**
 - ▲ Digital Wallet? SOLID? Blockchain?

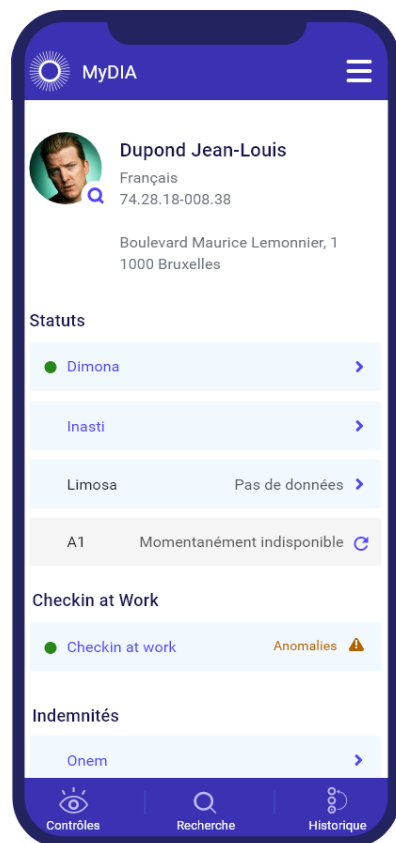
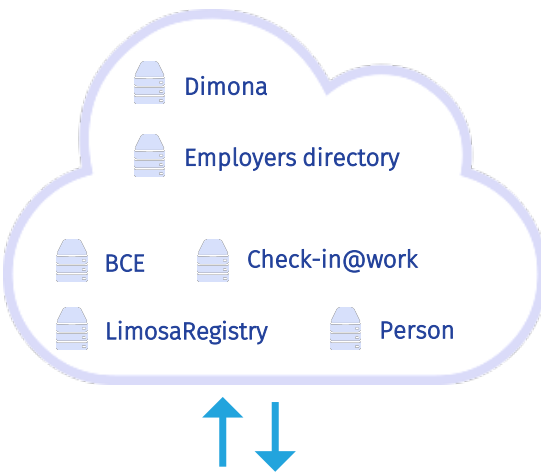
Example

My Digital inspection assistant

My DIA

- Real-time information for Social Inspection services
- Rapid identification of a person's identity
- Sharing information with other inspectors on site





Example

My Digital inspection assistant

How?

- Integrating 11 existing API's
- More time & budget for front-end design

Result

- Faster & more reliable inspections
- Less burden for employers
- Strong results in fighting social fraud & social dumping

Example

Innovative communication channels for citizens & enterprises



▲ eBox Enterprise

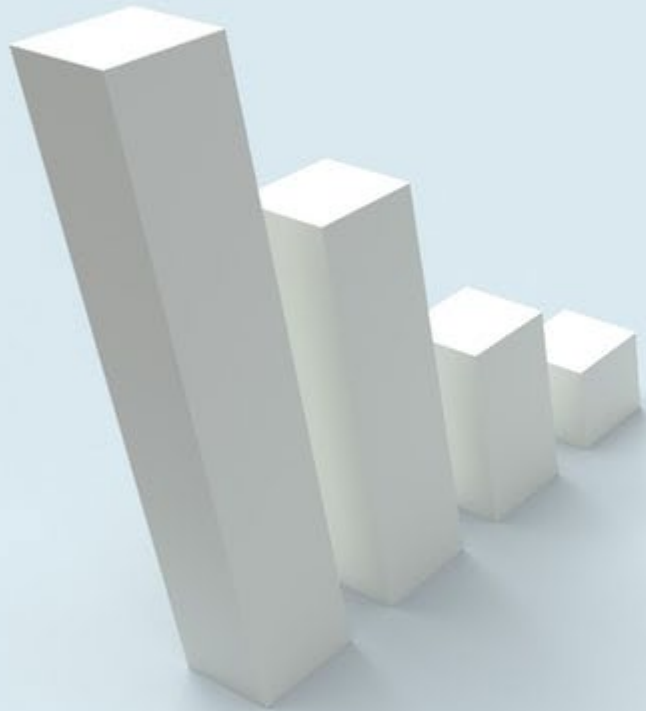
- ▲ Digital alternative for official government communications
- ▲ Delegation of roles within the company
- ▲ Less paper administration – www.totaaldigitaal.be

▲ GovApp

- ▲ Instant messaging based on citizens' mobile number (Opt-in)
- ▲ Cheaper, longer rich media alternative for SMS

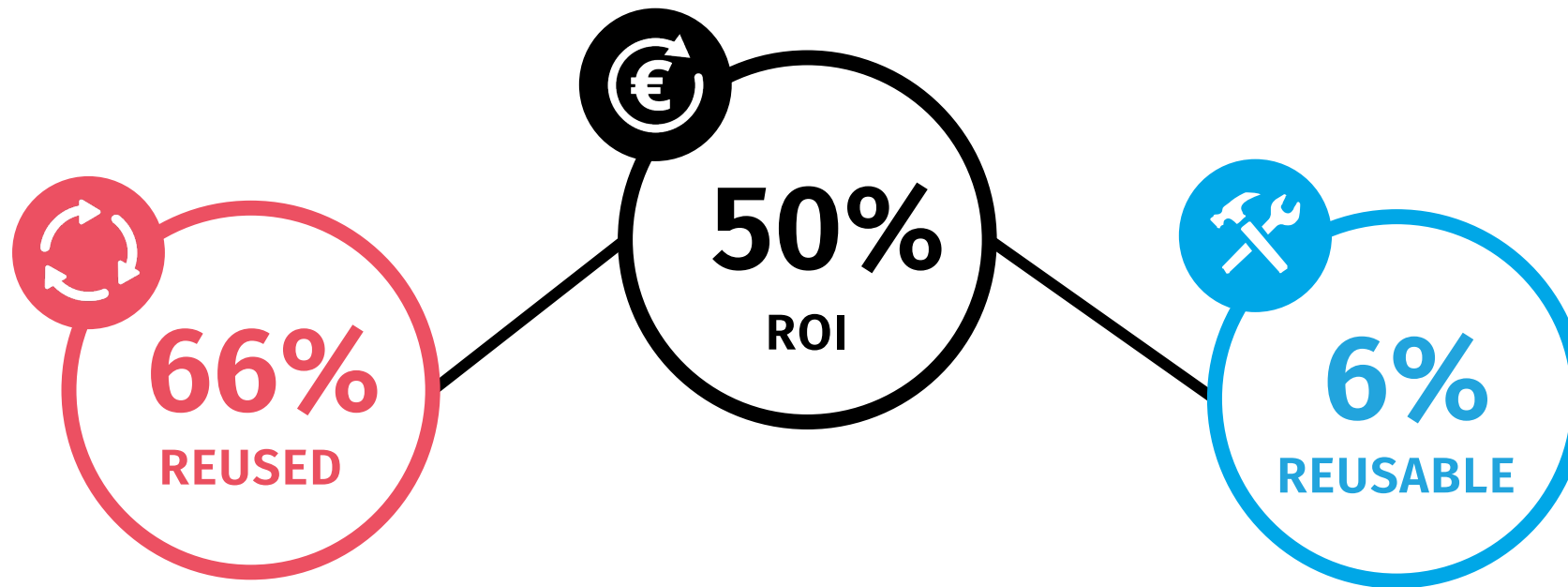
▲ Near future: Digital Identity Wallet

- ▲ ...



Some results

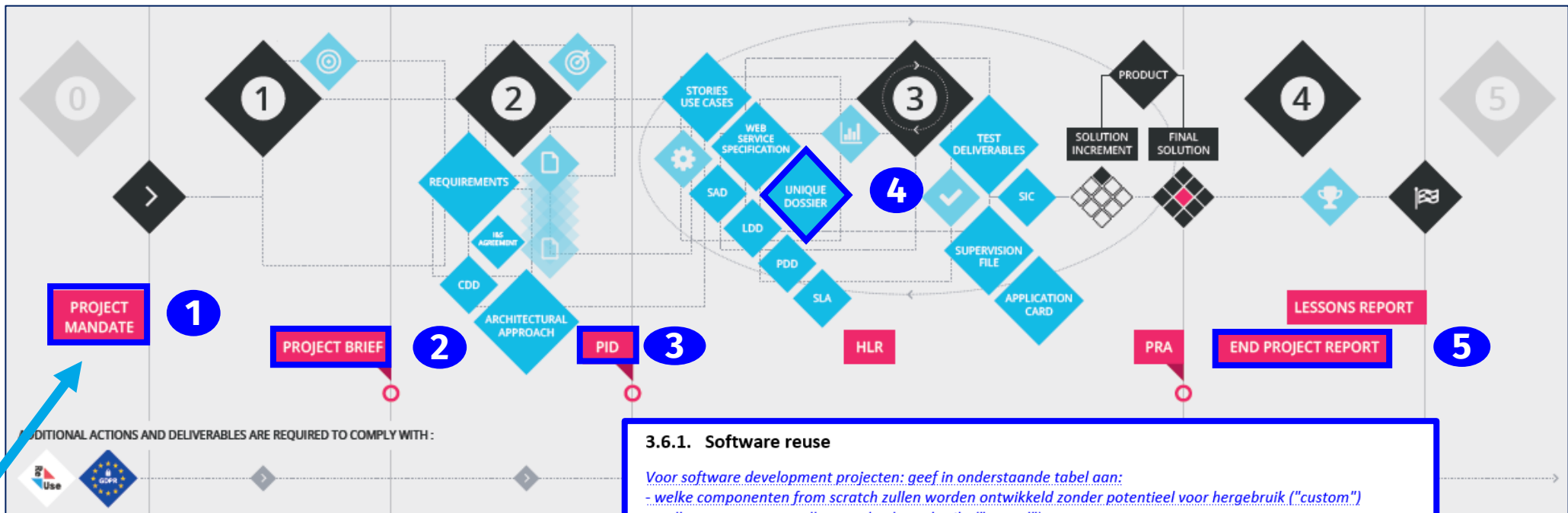
Results



- ▲ Average ROI / ReUsed component (2019) : € 27.000
- ▲ Total ROI 2022 (Projects by Smals, approx.): **€ 32.000.000**

Business
specific
custom
code:
28%

ReUse is part of project lifecycle



Standard project methodology @Smals

- Detect ReUse opportunities as soon as possible
- ReUse embedded in Project Lifecycle

3.6.1. Software reuse

Voor software development projecten; geef in onderstaande tabel aan:

- welke componenten from scratch zullen worden ontwikkeld zonder potentieel voor hergebruik ("custom")
- welke componenten zullen worden hergebruikt ("reused")
- welke componenten from scratch zullen worden ontwikkeld met de bedoeling ze te hergebruiken voor andere projecten ("reusable")
- voor elk van de drie voorgaande categorieën: hun gewicht uitgedrukt in percentages van het geheel.

Category	Components	Percentage
Custom	Click here to enter text.	Click here to enter %.
Reused	Click here to enter text.	Click here to enter %.
Reusable (written for reuse)	Click here to enter text.	Click here to enter %.
Total		100%

EU Sharing & ReUse Award

EU Sharing & ReUse Awards – 2019

-  Shared IT services (commonly developed or shared) with the biggest impact on citizens or businesses
-  Winner: eHealth-platform & Belgian social security





What's next?

A photograph of the European Union flag flying on a tall pole in front of a modern, curved glass building, likely the European Parliament. The sky is blue with some clouds.

European context

▲ Interoperable Europe Act

- ▲ Secure cross-border exchange & interoperability

▲ Open Data Directive

- ▲ High value datasets to be made available for re-use

▲ EU Health Data Space

- ▲ Interoperability & security
- ▲ Strong regulation needed
- ▲ Share best practices – Sumehr, ePrescription...

▲ JoinUp initiative

- ▲ joinup.ec.europa.eu

A low-angle photograph of the European Union flag flying on a tall pole in front of the European Parliament building, which has a distinctive curved glass facade. The sky is blue with some clouds.

European context

▲ eIDAS – v2

- ▲ New: Quality Attributes
- ▲ Still missing: Relationships (ex. Therapeutic)

▲ EU Health Insurance Card

▲ EU Digital Identity Wallet

- ▲ DC4EU Consortium - www.dc4eu.eu

What's in it for you?



Align with strategy

Expectations towards suppliers

- ▲ **External ICT-people working for the government must align with the government's strategy**
 - ▲ Software developed with taxpayers' money should be Re-Usable
 - ▲ Help us fill the [ReUse catalog](#)
 - ▲ ReUse check will be part of recurrent evaluations
- ▲ **Speed up your e-Gov projects and avoid costly development**
 - ▲ Be aware of existing re-usable components, services...
 - ▲ Check out the [ReUse catalog](#)
 - ▲ Use existing API's, services, components...



► Opportunities for suppliers (1/2)

- ▲ **Use best practices, insights and create higher added value to**
 - ▲ society
 - ▲ other clients
 - ▲ other countries
- ▲ **Gain exposure by showing the results**



Share your reusable
components

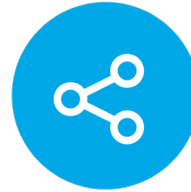
➤ Opportunities for suppliers (2/2)

- ▲ Build generic components
- ▲ Offer them to the ReUse community
- ▲ Inspire others to do the same
- ▲ Become a partner of Belgium's eGovernment ecosystem
- ▲ Help deliver better online services to society!

Join the initiative!



Find reusable components



Share your reusable components



Share on ReUse on events



Stay informed with the newsletter



Share success stories

INFO@ICT-REUSE.BE

Questions on?

- Components
- New initiatives
- Webinars
- Collaboration
- ...

ASK ME...

- Strategic issues
- Roadblocks



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