Make trustworthy design so data don’t need protection

Aligning eIDAS and GDPR with Trustworthy PKI
- the state-of-the-art data minimization requirements to eID / Identity

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Priway / CitizenKey

Trustworthy Anonymity is the ansvar

- With Trustworthy PKI, Trustworthy Anonymity is state-of-the-art
- Digital Society works (much better) trustworthy anonymous
- The legal requirement is already in place

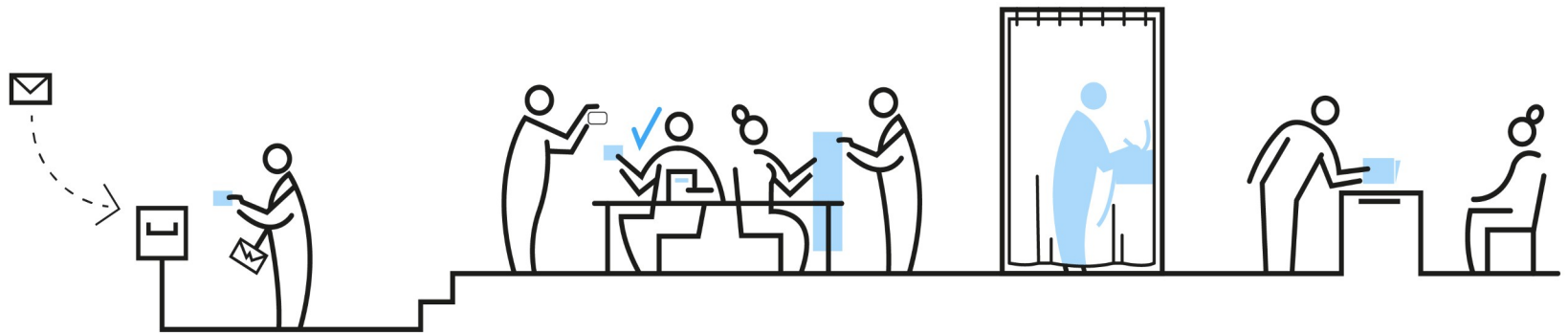
Trustworthy = “when you do not need to trust”

Trustworthy :: Non-interdependence

Trustworthy Anonymity is legally required

GDPR main focus is not “data protection”.
It is “data minimization according to state-of-the-art” *)

Legal obligation to pursue data minimization in design
does not stop until data are Trustworthy Anonymous



In eIDAS, Qualified Pseudonym Signatures are already subset of ”Identification”

*) *GDPR article 5.1.C, 25 and 32, Directive on Law Enforcement Article 20, eIDAS art 5 and 24*

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No need for state or corporate surveillance…

State
eIDAS PKI (Server)
- Trusted Qualified Signatures
- Single Sign-On
- Server-side biometrics

Corporate
Smartphone (BigTech)
- Secure Enclave
- On-phone biometrics
- FIDO (Google Analytics of Id)
- Bad 5G standard (“Trustpid”)

… We need Trustworthy PKI

The essense of Trustworthy PKI:
Citizens create and certify new Trustworthy Anonymous Signatures
inside a Trustworthy QSCD*) and then customize identity to purpose.
No trusted party.

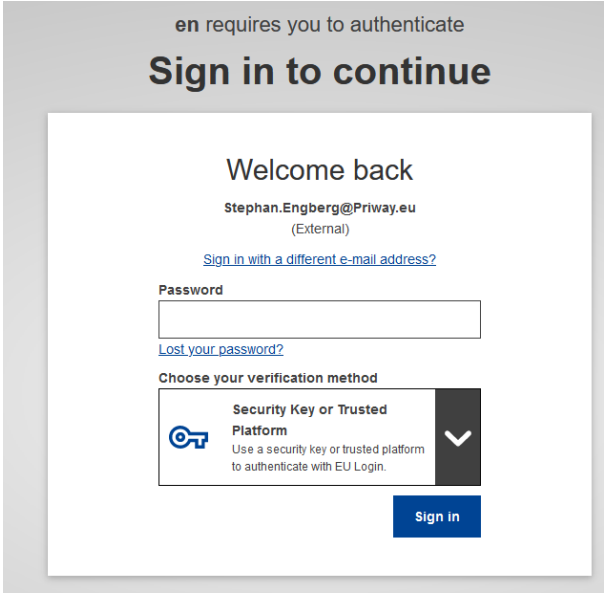
Within existing standards = already state-of-the-art

Trustworthy QSCD

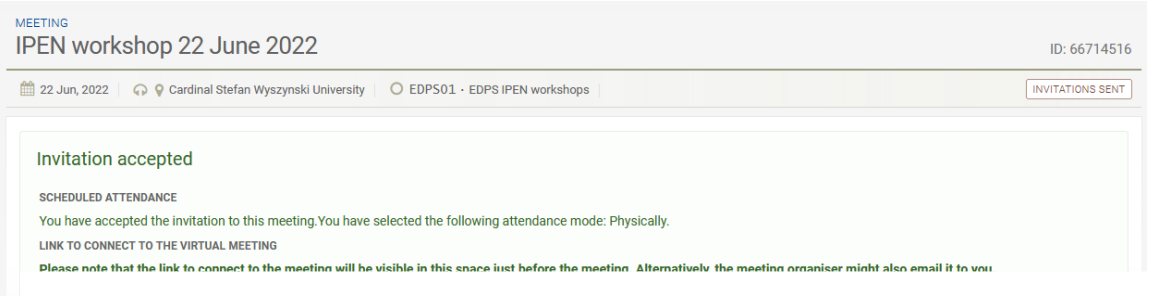
On-card biometrics
On-card display incl. physical verification
On-card authorization
Can support multiple certification keys
Do not leak identifiers – zero reuse

*) QSCD – Qualified Signature Creation Device – standardized part of eIDAS / ETSI PKI and subject to approval

Case: EU-Login to bootstrap eID must carry



Today FIDO2 Biometric



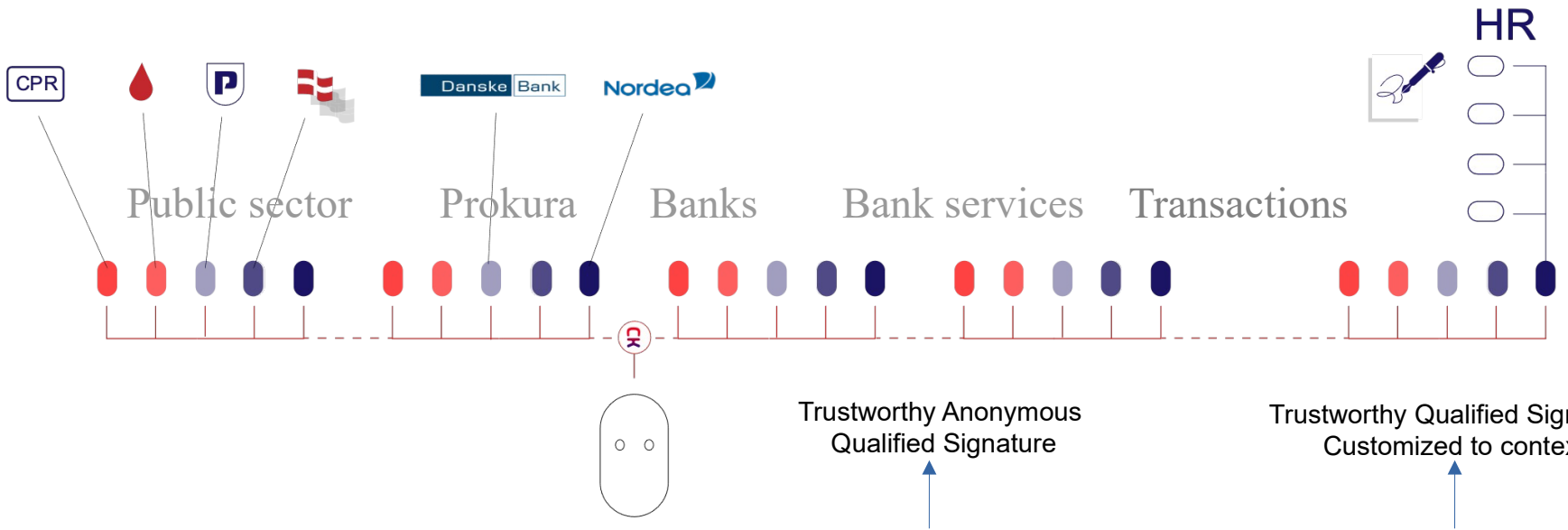
Start as a biometric FIDO-device
This is enrolled as a Trusted Key (as is)

Then you upgrade EU-Login to Trustworthy PKI
Citizen use the EU-Login to create a new identity and verify breeder documents in person. Get a proof e.g. Social Identity.
The QSCD verify social identity (but not biometrics) to EU-Login to upgrade assurance.

Ready for Trustworthy Remote On-boarding

Trustworthy PKI extend and works the same as normal Trusted PKI – except no trusted party or backdoor

Identity bootstrap from available and identity integrity grow over time



Trustworthy Anonymous Qualified Signature

Trustworthy Qualified Signature Customized to context

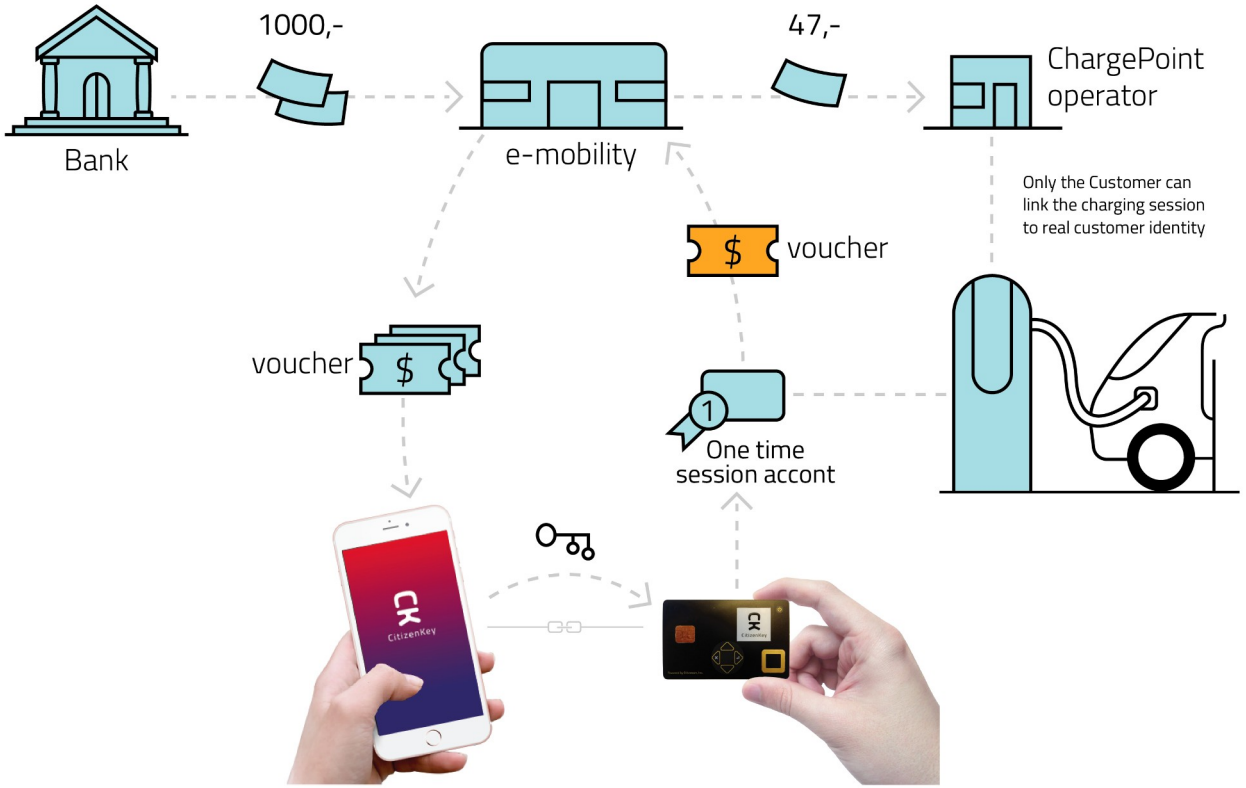
1. Trustworthy QSCD create key pair
Get a Root Digital Signature from CA
You enroll As you would today
Best effort identity – no change

2. CA return Root Signature Certificate and a shortlived CA Certification key to QSCD

3. QSCD create and certify new Trustworthy Signature
QSCD create a non-repudiation proof as cross-signing with Digital Signature

4. Non-repudation Proof is encrypted according to context and shared with other certified data/proofs.
QCSD as witness in signed XML

Case 1: eMobility
(local Trustworthy PKI)



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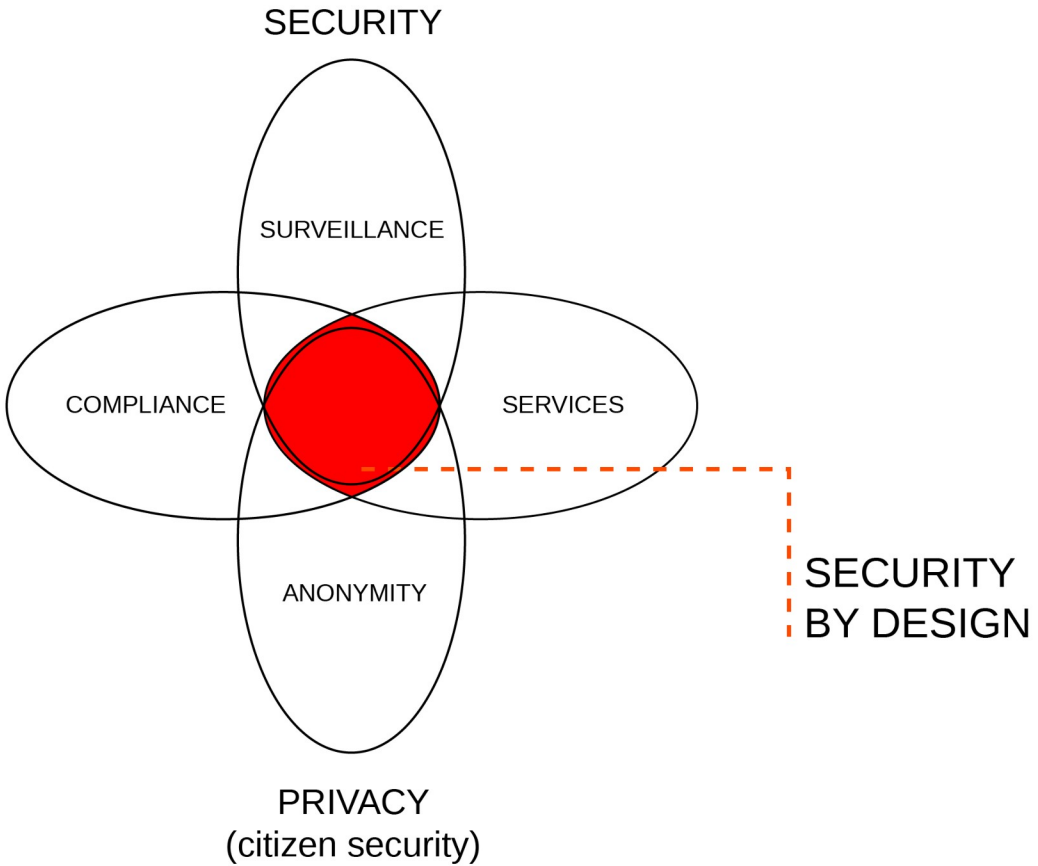
Problems that can be solved with Trustworthy PKI

- ePrivacy/cookies
- Anti-crime / Data Retention – Article 20
- Once Only
- Schrems II
- Anonymous access to political content / legal sentences
- Digital Cash with AML compliance
- Offline identity, credentials and payments.
- Schengen – anonymous check for citizenship/fugitives/asylem
- AML/Privacy in blockchain
- Anonymous data research / AI training



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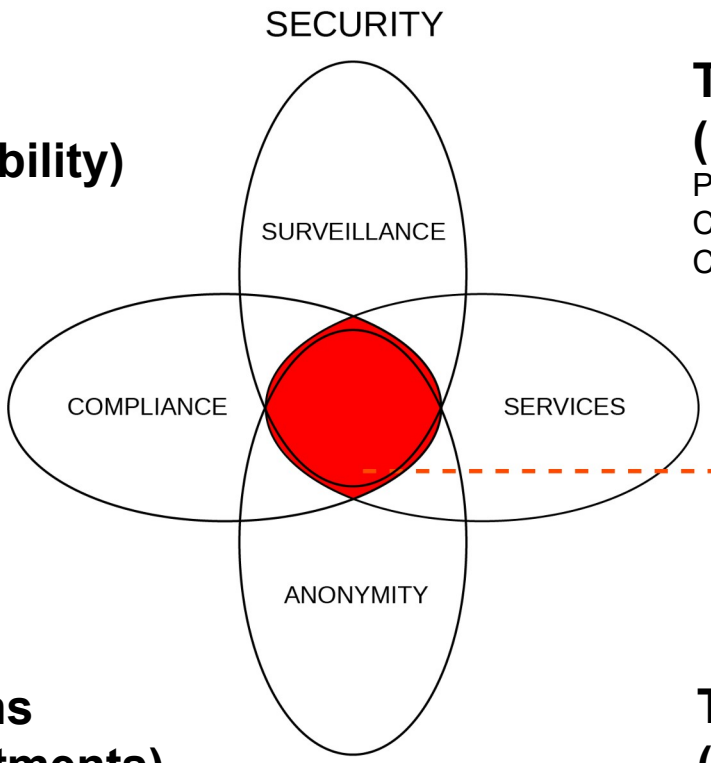
ALLMOST ALL SOCIETY WORK BETTER TRUSTWORTHY



Trustworthy Secure
(Trustworthy Accountability)
Freedom with Accountability

Trustworthy Hybrid
(Intimate sharing with proof)
Patient send datalink to doctor
Citizens share with social group
Citizens share with self / guardian

Trustworthy Restrictions
(Inddirect proof/commitments)
Schengen
Finance KYC/AML
Taxation

Trustworthy Anonymous
(Consentual anonymity)
Elections
Data research/AI training
Searches / access content

eIDAS & GDPR already in place
Trustworthy PKI re-focus to solve the problems

	eIDAS	GDPR
Today	Focus on Trusted or linked identity. Always generate PII	GDPR professionals focus on ”data protection”
Change	eIDAS/EDPB incorporate Trustworthy Anonymity as ”must-carry” in eID and infrastructure	With Trustworthy PKI, Trustworthy Anonymity with/without Accountaiblity become state-of-the-art requirement
Tomorrow	Trustworthy security align and upgrade CyberSecurity, Privacy, Compliance and set data free	DPA / GDPR professionels prioritize ”maintaining anonymity” in applications

GDPR do not say citizen control over data is absolute
But secondary objectives used to justify destructive means

Primary	Secondary
Citizen Security	Law Enforcement
Citizen Choice	Learning & Research
Citizen Rights	Taxation
Market ability to work / competition	Innovation/effectiveness
Democracy	Social cohesion / Environment

Barriers: Complexity, bad standards, commercial greed, bureaucratic command & control

With Trustworthy PKI, you can solve the secondary objectives Trustworthy anonymously
- even if the secondary objective is mandatory and appear to be in conflict

All the is needed for change is one citizen demanding his right for Trustworthy PKI
But EDPB and DPA need to enforce that right if they want GDPR and free movement to survive

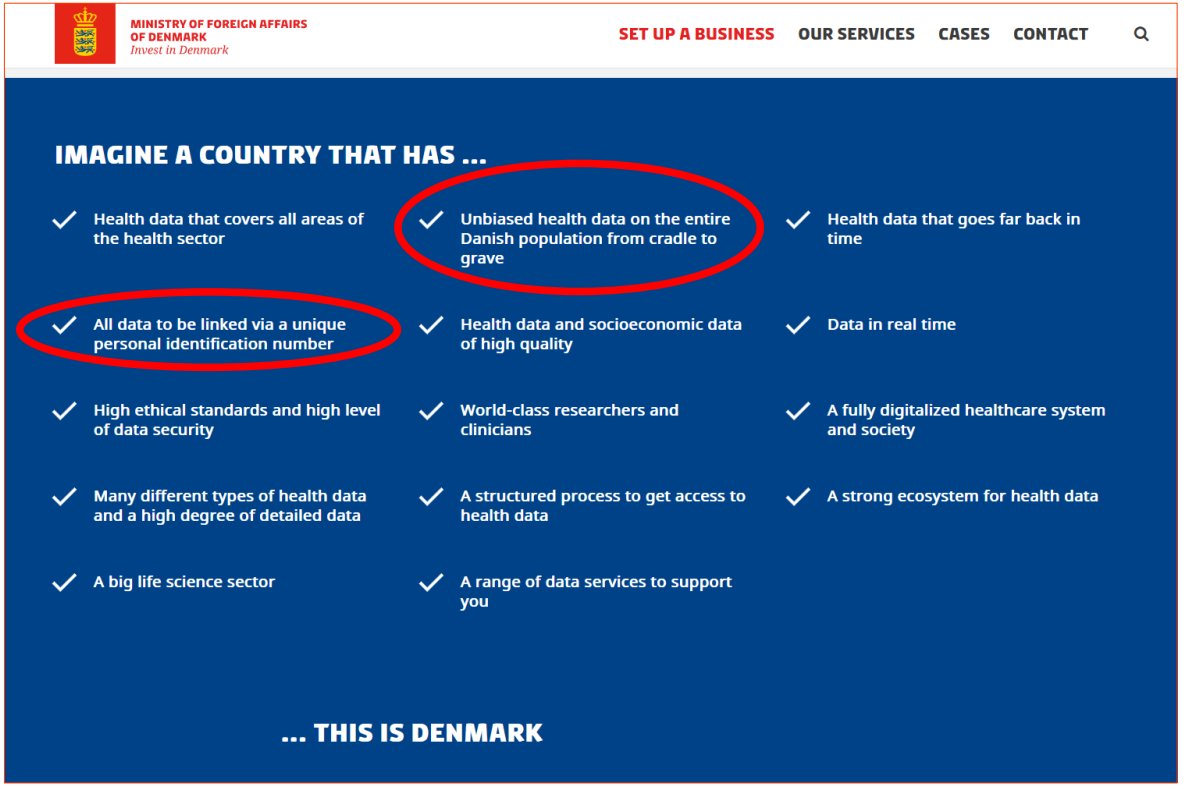
Our own institutions are killing democracy
The case of Denmark

Allways linkable Identified
100% Data Retention & BigData
MitID with serverside face recognition
Telco must force identification

Zero security
Mandatory central profiling
No attention to exponential damages

Secondary agenda drive collapse
Bureaucratic Command & Control
Surveillance Capitalism

.. Trustworthy PKI change that
Better solutions without eID Data Retention
Trustworthy Anonymity INSIDE eGov



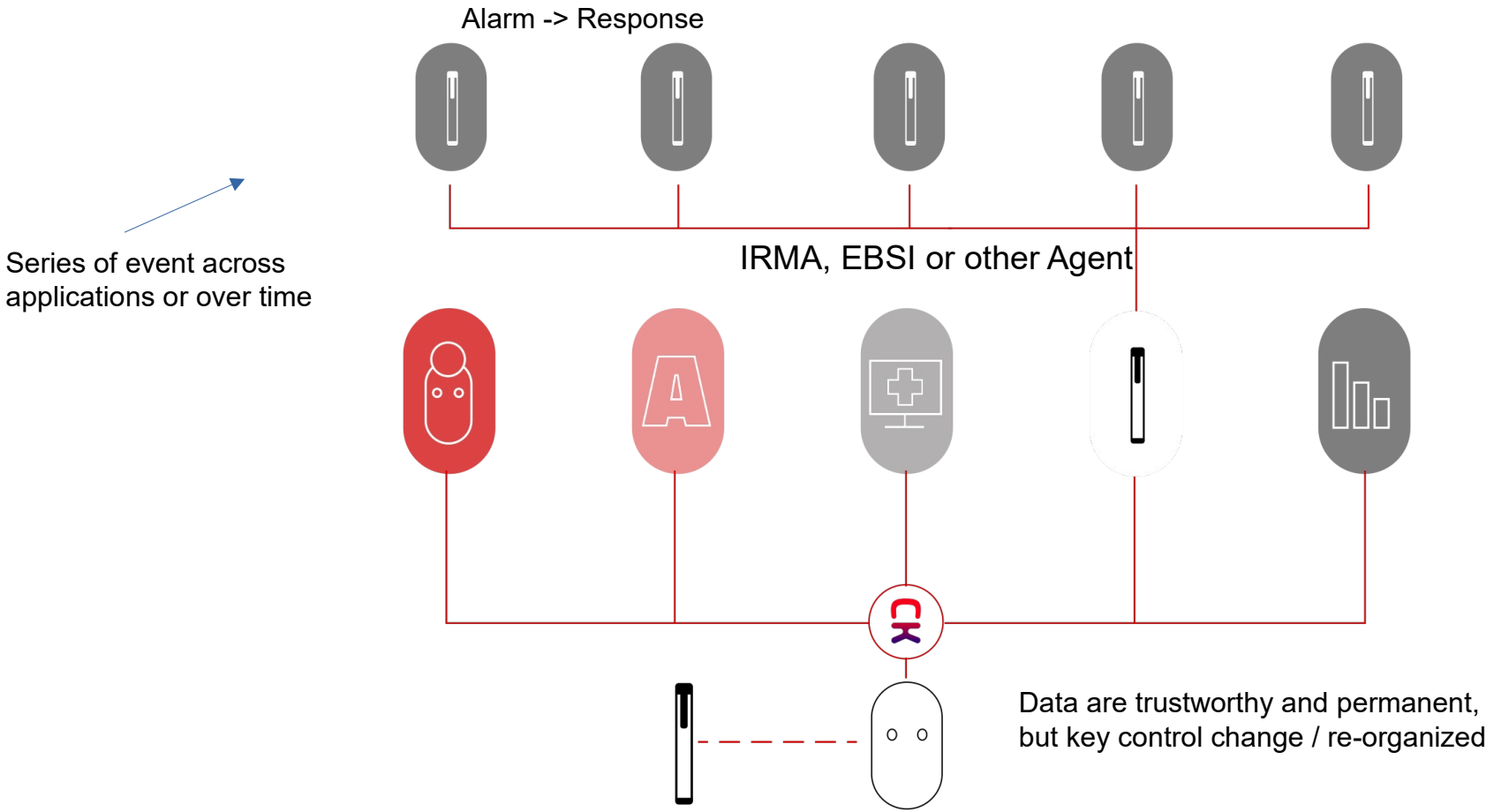
CitizenKey - both a road to recovery and to start trustworthy

- CitizenKey is one implementation of Trustworthy PKI
- Main mission – enable Trustworthy Inclusive interoperability
- Role of CitizenKey – trustworthy security as an add-on

  - Acting as a backbone upgrading eID with Trustworthy QSCD / PKI
  - Workarounds to bad standards to maintain trustworthy anonymity
  - Each memberstate will have its own structure under local jurisdiction
  - Five-Factor Security – cybersecurity and compliance WITH privacy
  - Global Id → National Id interoperability → Market recovery

Case 2: Trustworthy PKI enable secondlevel “Wallet” or Agent

Example: Telemedicine IOT or hospitalization agent



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