

IACA 2023

The Importance of Interoperability and Data Exchange between Registries

Foster Moore - Thought Leadership Series

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Enabling Digital Government: Interoperability and Data Exchange Between Registries

The benefits of a connected landscape

Interoperability - can be defined as either the ability to share information and services, or the ability of systems or components to exchange and use information or provide and receive services from other systems

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Challenges Around Interoperability

Interoperability is a multifaceted and complex issue, requiring support from policy makers, regulatory bodies and adoption from governmental and private sector actors to become truly successful.

OECD, dating back to the mid 2000's, have noted numerous issues and barriers being faced by governments developing interoperability solutions. This included:

- problems integrating legacy systems;
- applications and data that is structured as “domain specific”, organized in a siloed, bottom-up fashion;
- lack of shared standards and infrastructure; and
- slow adoption of technological improvements.

In the past 2 years during the global pandemic the need for better digital services, interoperability across government systems and data sharing has never been more apparent.

Interoperability is essential for a “Connected Government”

Interoperability, even that focused directly on **base registries**, covers a wide area and it is not realistic to expect that a single methodology or set of specific steps can be used to solve registry interoperability problems in general.

At its simplest construct, **technical interoperability** describes the ability of two systems, here we are focused on statutory registries, and their *ability to exchange data with one another, to understand this data, and how to use it effectively.*

We need to ensure we have foundations and frameworks that support **interoperability as a core requirement**. And we need direct procurement and development efforts to align with *these fundamental principles*.

Common attributes of a Register



Purpose –
registration
of entities



Services –
collection and providing register data
to users, exchanging data with other
registers and information systems



Legal –
registers are established
and function following
the legal acts



Systems –
registers are managed with information
technology



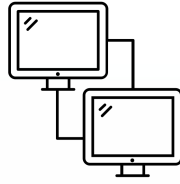
Custodian –
registers require a custodian and can
include an organisation with a structure

Characteristics of a Register

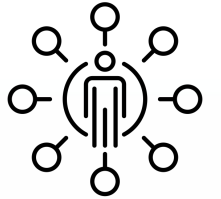
- > Canonical and a clear reason for their existence
- > Minimum viable dataset
- > 'Living' never just published data
- > Standard name conventions
- > Immutable – prove integrity of the record
- > Contain raw not derived data
- > Have a custodian - governance

Why Registers should exchange information

> External register entity dependencies



> Demand for customer centric services



> Trade Agreements/Cooperation



> Joined Up Government



> Principle of canonical registers

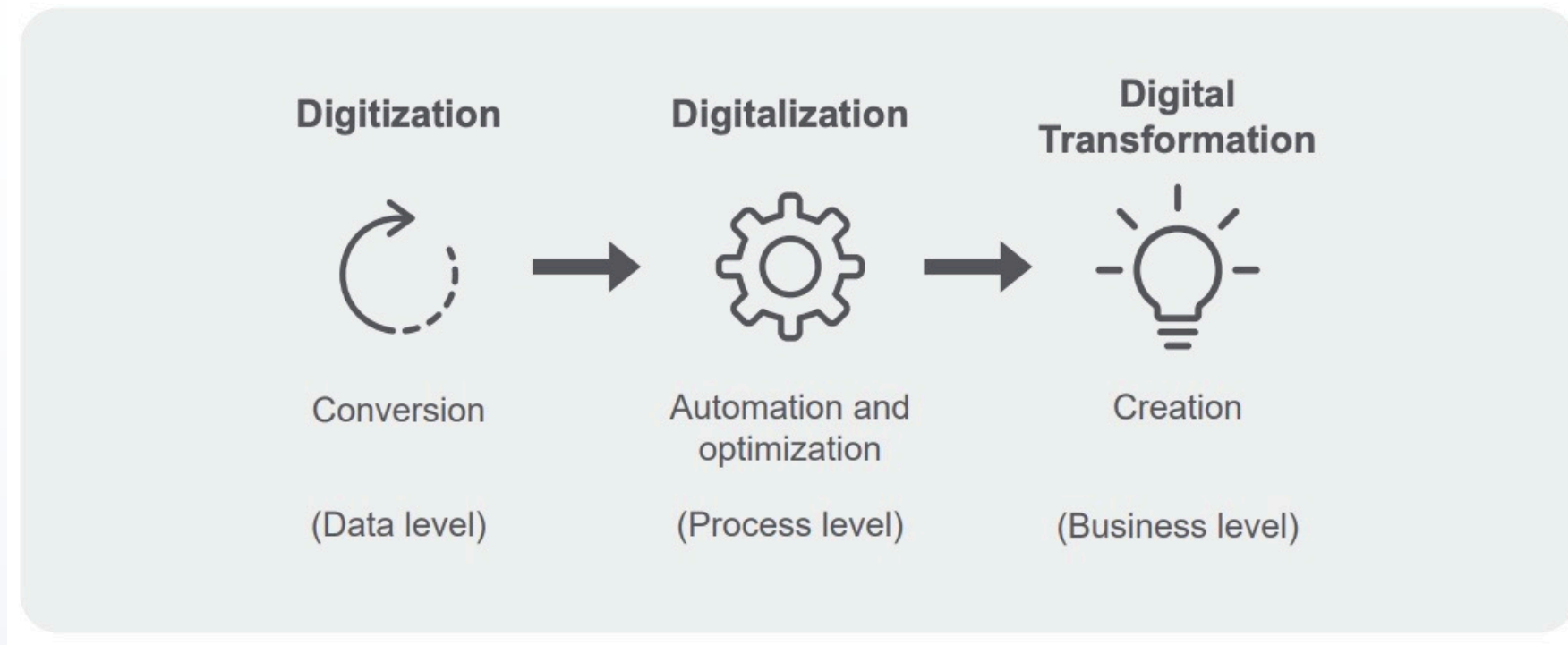


> Identity Validation/ Identity Federation

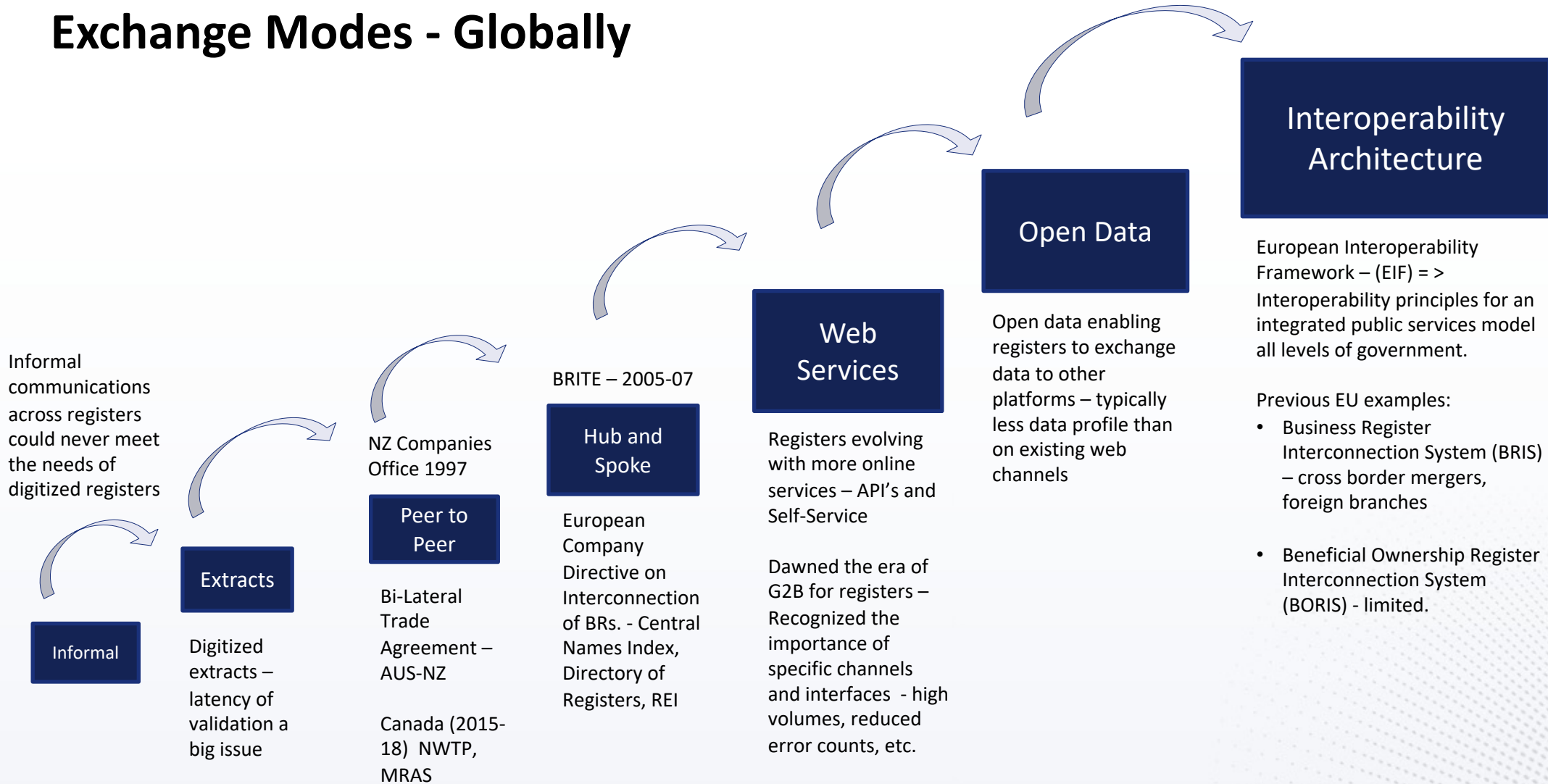


Register Transformation Paradigms

Registers have historically always communicated with other registers, other data sources and other regulatory organizations in order to triangulate the data being filed on their register. Registers over the last three decades have moved through three distinct paradigms: Digitization; Digitalization; and lately, Digital Transformation.



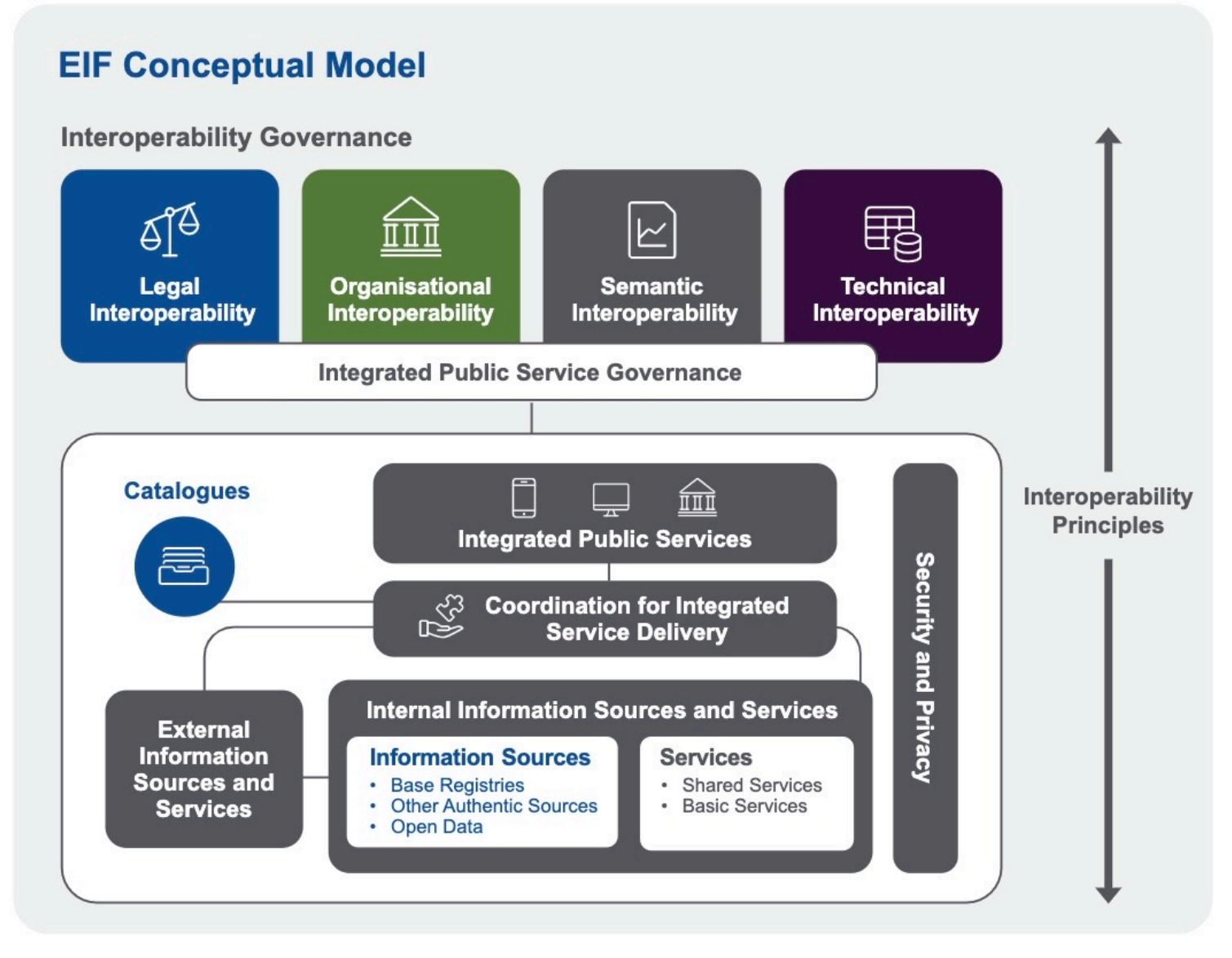
The Evolution of Registry Data Exchange Modes - Globally



The Revised EIF2 (2021)

The EIF2 is a key instrument for establishing interoperable digital public services at regional, national and EU level.

It offers public administrations 47 concrete recommendations on how to improve governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services

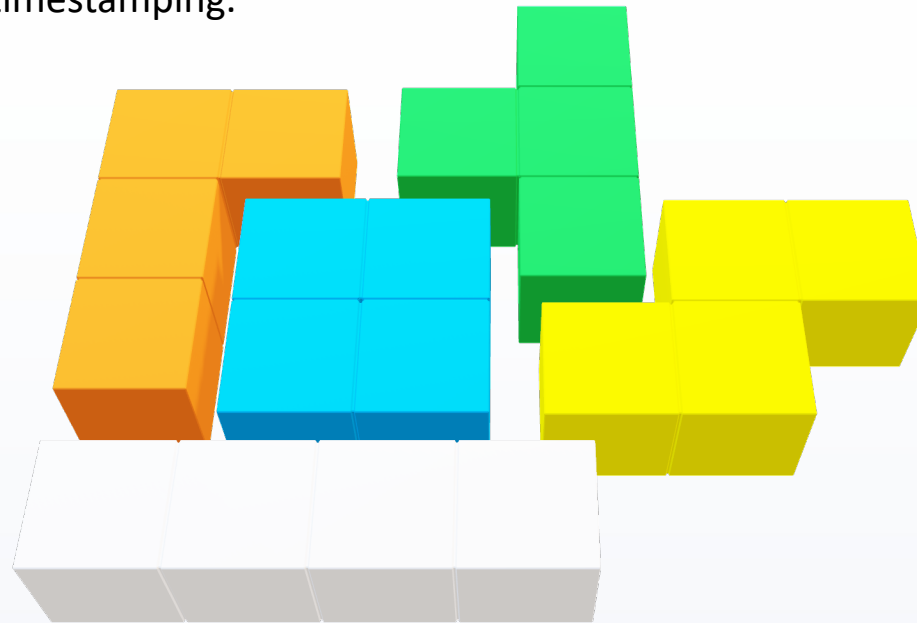


<https://joinup.ec.europa.eu/collection/european-interoperability-reference-architecture-eira/solution>

Commonly Occurring Themes within Interoperability and Data Exchange Platforms

Trust: refers to electronic services that help parties make binding decisions – includes the building blocks of PKI and timestamping.

Secure Data Exchange: includes API management and refers to the ability to exchange data in a way that maintains privacy and security, and ensures data integrity



Identity Verification: components or services that allow for user authentication. Enables traceability on access and use.

Data Management: base registries refer to a trusted and authentic source of truth. Data on persons, companies, land, vehicles, etc. that seen as authentic. Open Data frameworks becoming predominant requirements.

Towards Register Interoperability

When investing in or continue the journey towards fully enabling digital government, our recommendations are targeted across key principles at both the **Register and Interoperability Layers**.

Register Layer

- a) Canonical
- b) API 1st
- c) Extensible and Configurable
- d) Cascading Data Capability
- e) Shared Common Services
- f) Security Infrastructure

Interoperability Layer

- a) Domain Agnostic
- b) Centralized Architecture
- c) Provision of Technical Artefacts
- d) Integration/Compliance Standards
- e) Governance Model
- f) Semantics

Register Interoperability in support of Digitally Connected Government

By leveraging new digitally enabled technologies and registry aware platforms we will be better positioned towards **achieving the outcomes and benefits of an efficient and effective digital government:**

- **Better and More Effective Integrated Public Services** – TOOP project as an example
- **Increased Administrative Efficiencies** – regulatory bodies, registration authorities and across government as a whole
- **Data Driven Policy Making** – improved decisions from government
- **Enhanced Security, Data Protection and Data Privacy** – triangulated data with increased scrutiny
- **Improved Transparency and Compliance** - across all registry data
- **Reduce Fraud, Waste and Abuse** – improved data validation and data integrity

Conclusions

- Achieving interoperability at a government wide level is difficult, but not impossible.
- Interoperability is particularly important as a core principle for connected government.
- Ensure we have foundations and frameworks that support interoperability as a key requirement across procurements and they are allocated the appropriate budgets.
- The capability to connect governments across boundaries to share information and integrate service delivery is considered an advanced stage in e-government maturity.



Looking Ahead on our Thought Leadership Series

(Published and in the Hopper)



Registers The New Frontier

A proposal for the development
of a new target operating model
for registers.



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Paper Outline and Thesis

The registry domain has undergone significant changes in recent years, driven by the need for new operating structures. Some key influences include:

- National and international regulatory directives around transparency, AML and ID verification
- Numerous environmental factors reshaping how registries are "created, managed, and used"
- The need for interoperability, leveraging new technologies and adaptive digital processes
- Increased need to data protection/integrity across the domain
- Ongoing improvements around citizen-centric services
- Data driven government and the direct focus on evolving digital agendas

The **Current Operating Model (COM)** for registries has not been updated in decades and the drivers of change are critical to the new vision of operating registers for governments – the “**Target Operating Model (TOM)**”.

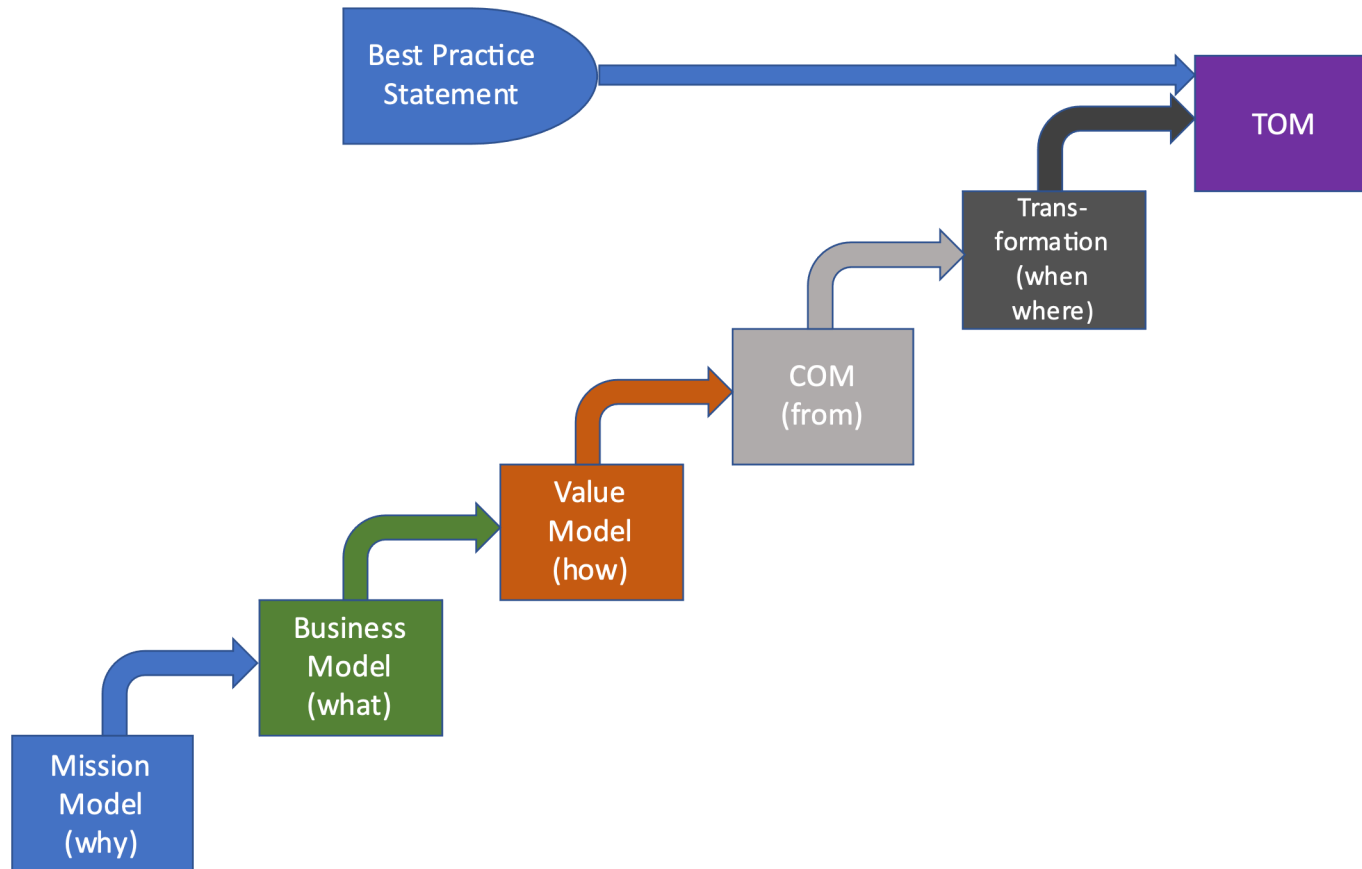
Encourage industry collaboration on a definitive **Best Practice Statement (BPS)** that supports a **TOM** and will benefit and shape how we; leverage technology to manage, access and process information, govern our future operations, deliver on our strategic directives, adjust our policy and regulatory frameworks, and become more adaptive, efficient and effective as progressive digital governments.

Best Practice Statement

NOTE: The following are what we consider the characteristics of best practices within register operations. This list is not exhaustive and requires further validation by register operators across a wide range of register types (i.e., legislation)

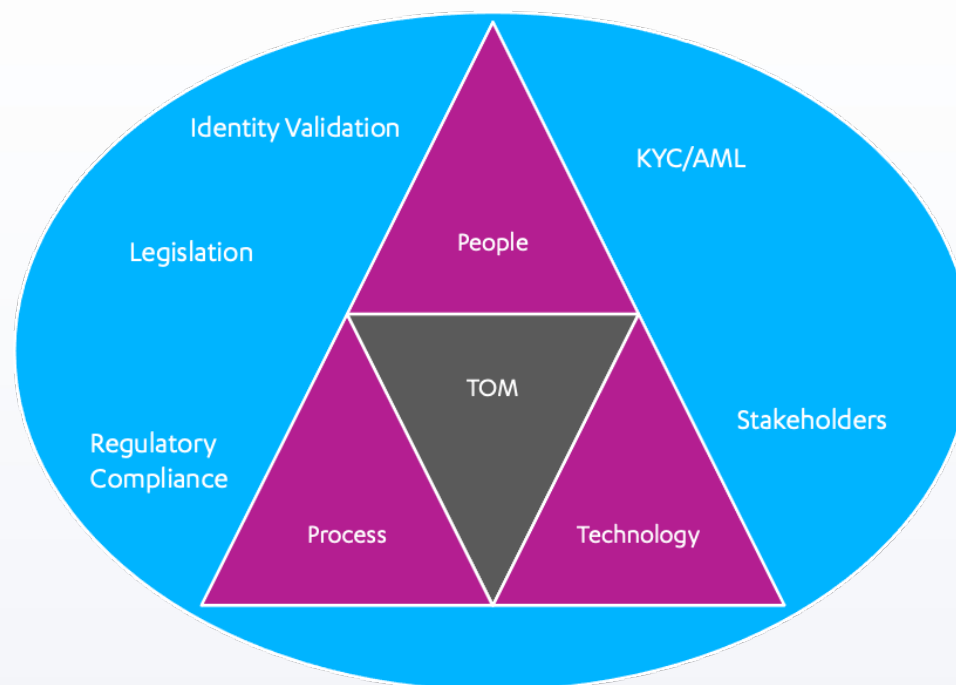
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- | | |
|---|---|
| <ul style="list-style-type: none">• Customer centric approach• Support all registers• Self Service• Fully electronic registers• Registry process automation• Extensible• Cloud Hosted• Flexible/Configurable• Business Intelligence / Reporting• Benchmarking Performance Monitored/Reported• Continuous Improvements• Absence of technical or functional obsolescence• Standardisation (Data and identity) – TOOP• Published vision of public service• Public Service Design incorporates the views of citizens and businesses• Focus on the processes rather than the digitization• Know Your Customer (KYC) | <ul style="list-style-type: none">• Support SMEs by the creation of new value-add products• Targeted promotion and marketing effort to motivate and increase use and the correct use• Represents the operational view of the register to promote legislative improvements• Reduction or absolute removal of paper/public offices in a post-Covid world• Identity Validation Services• Enforcement /Regulatory• Interoperability• Primacy – Single source of truth• Transparency• Security• Data Integrity• Compliance to Standards• Protects Citizens’ identity with respect to overarching privacy legislation or principles• Transformation of the Registers as part of wider e-Government initiatives |
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Deriving the Target Operating Model (TOM)

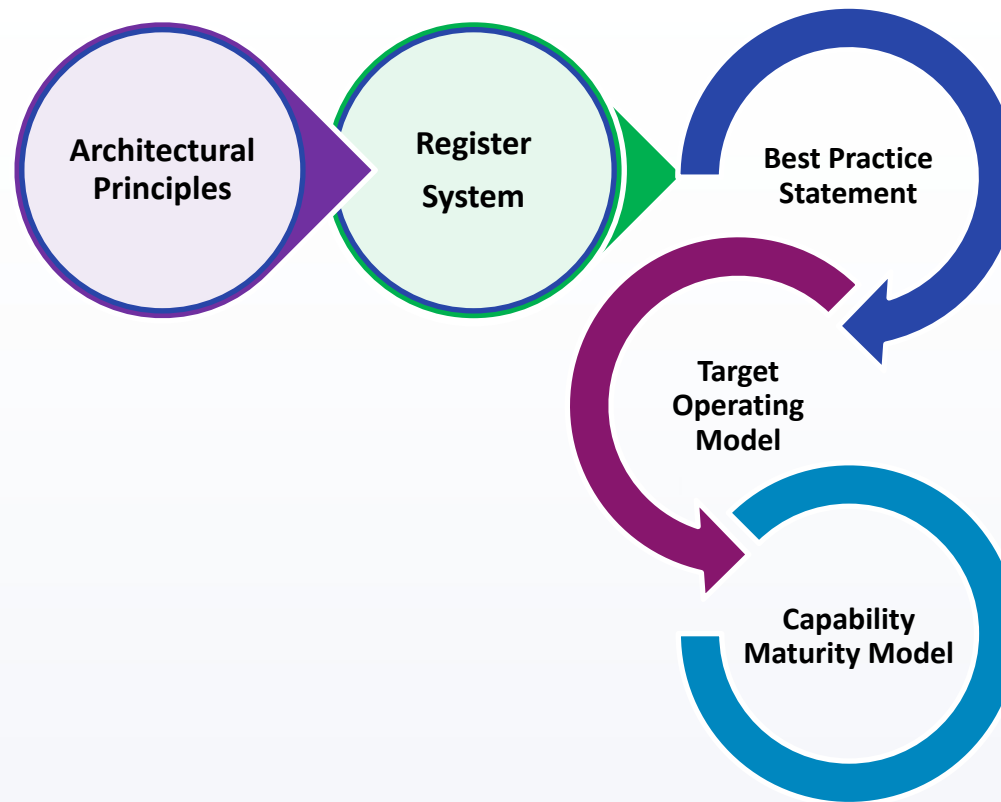


The Register Target Operating Model (TOM) Environment

A TOM allows the Register to be more adaptive and retain a resilient operating model concerning future changes within their domains and across the People/Process/Technology (PPT) framework. It is the destination of where the transformation efforts of a register should lead to. The authors note that a TOM is mainly absent from many register transformation projects.



Plans for our Best Practice Statement/TOM => the “Capability Maturity Model”



Conclusions – Supporting the Best Practice Statement

The benefits of a statement of best practice for registers:

1. Provide significant support to registries to comply with international standards.
2. Would promote cooperation and interoperability between registers that would improve public service design.
3. Help smaller registers to define how best to operate that do not have the resources of larger registers.
4. Would promote standardisation across the register domains.
5. Help policymakers seek change and appropriately define the business case for transformation projects and funding.
6. Would inform operational policy and the drafting of legislation to reflect the realities for registers better.
7. Would promote better services that are demanded in a context for registers.
8. Improve the enforcement of economic transparency to prevent fraud and abuse of registers.
9. Would help promote innovation by providing guidance on adopting new technologies, emerging trends, approaches and methodologies.
10. Can help to promote international harmonisation, which can help facilitate cross-border transactions and cooperation supporting economic growth and development.
11. Would improve accountability by establishing clear guidelines and standards.
12. Would drive efficiency enabling registries to streamline operations, reduce redundancies and minimise costs.

Architecting Innovative Registers of the Future

A systemic view for the operation of registers from a technical perspective

Releasing in July

Thank You.

