



Enterprise Architecture Journey at uOttawa
Presented by MaryAnn Welke Lesage

Why did you choose to attend this session today?

What are you hoping to get out of this session?

Agenda: The uOttawa EA Journey

- Meet the uOttawa EA Team
- Strategic Alignment
- EA Roadmap
- Guiding Principles
- Architecture Review Board
- EA Reference Architectures & Standards
 - Business Capability Model
 - Technology Reference Model & Standards
- Challenges along the way



The uOttawa EA TEAM



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Facilities Portfolio



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Solution Architect
HR& Finance Portfolio



Troy MacFarlane
Solution Architect
Teaching & Learning Portfolio



Martin Dubois
Application Manager
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Senior Business Analyst
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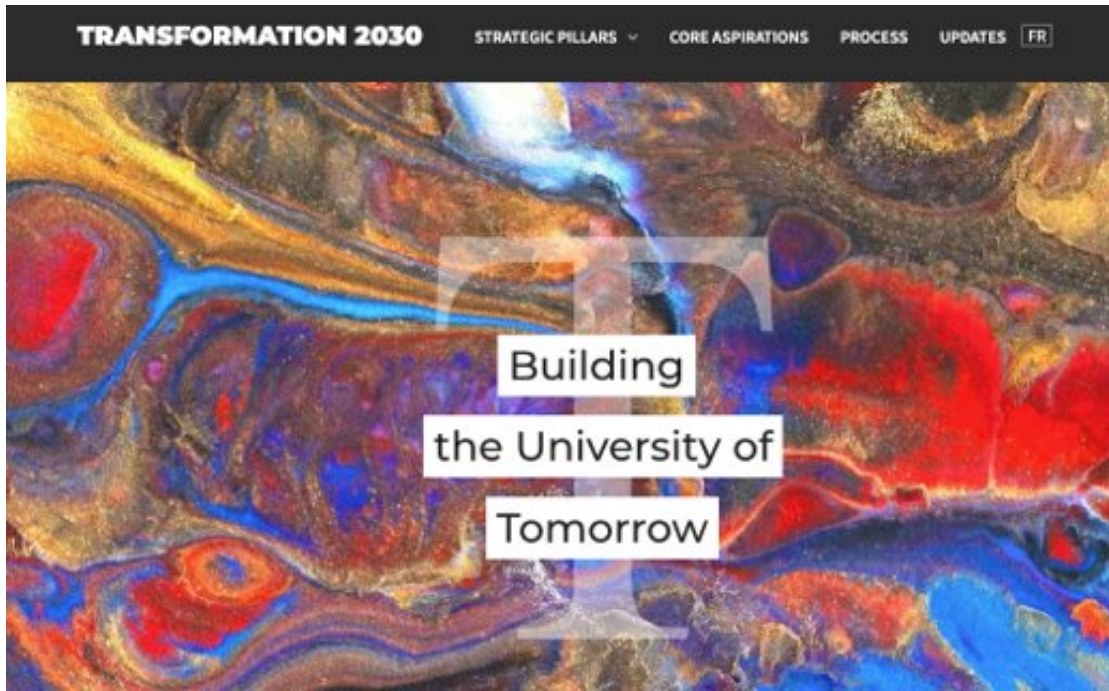
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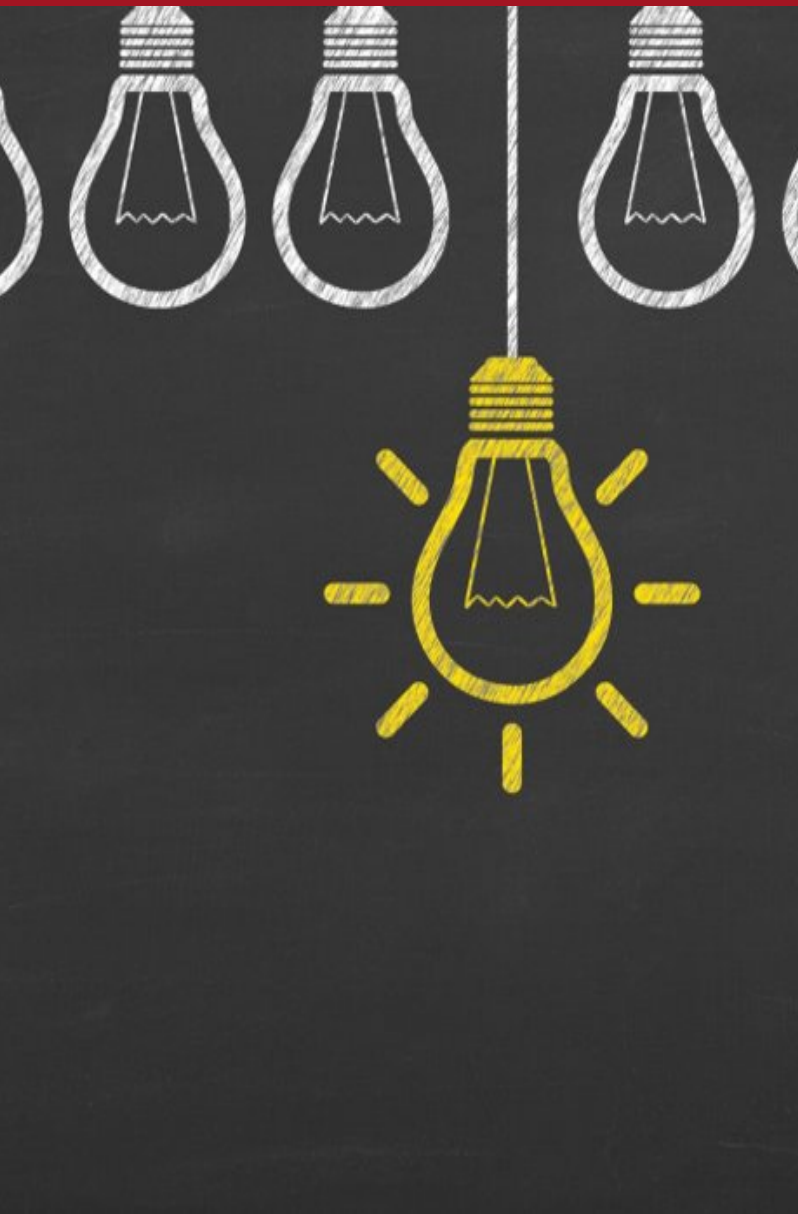


www.uottawa.ca/pop/en

The uOttawa Enterprise Architecture Program supports the delivery of Transformation2030 and the Digital Campus Transformation Plan.



it.uottawa.ca/DigitalPlan



EA Roadmap :Themes

GOVERNANCE

- Integrate security, privacy, accessibility and UX assessments into the architecture governance process
- Leverage new EA Analyst position to streamline the governance process and provide direct support to projects and senior architects

STANDARDS

- Enterprise standards and reference architectures
- Implement standards lifecycle management

CAPABILITY ROADMAPS

- Work with all IT leaders (IT + Faculties/Services) to transform planning process to capability driven roadmaps

UX & PARTNERSHIPS

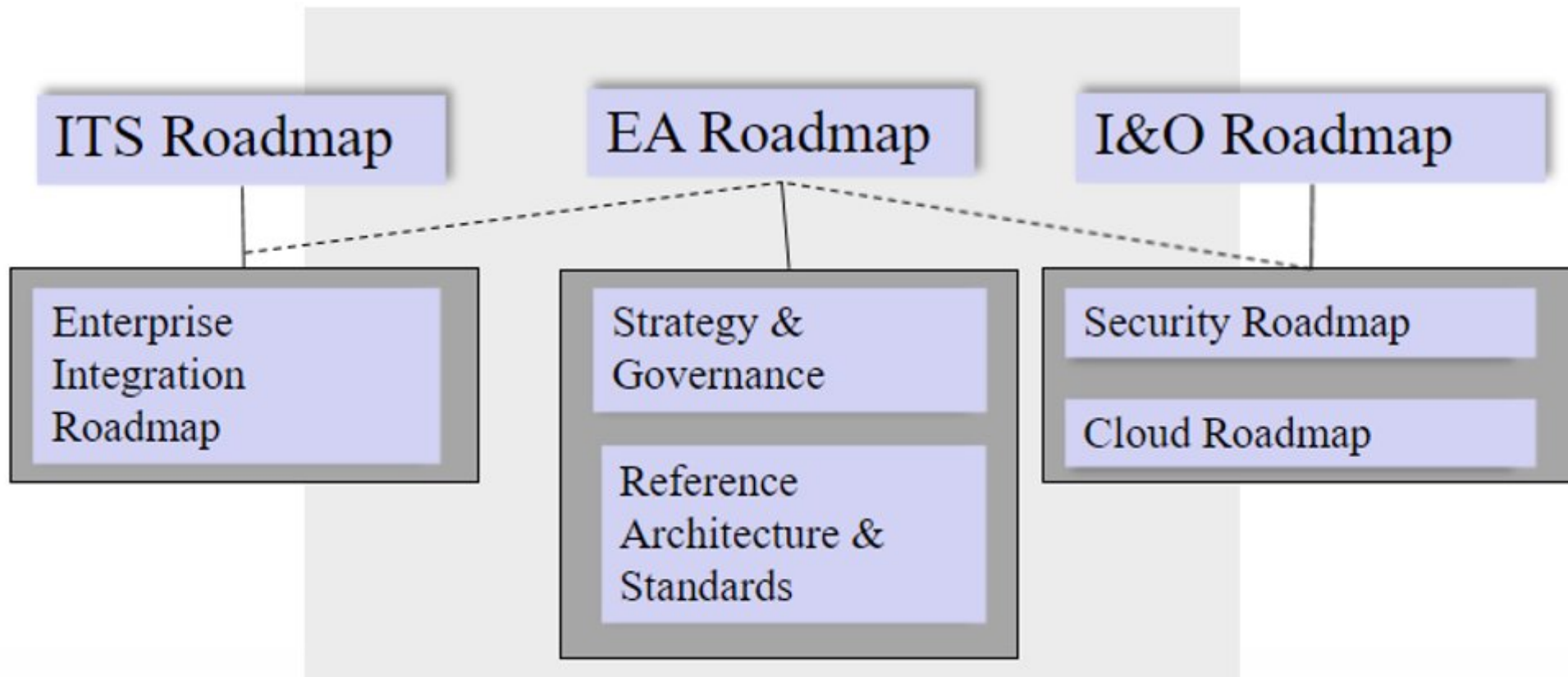
- Deepen partnerships with key stakeholders such as TLSS, Library, Faculties through communities of practice, POCs, direct support for enterprise projects
- Collaborate with Professors and Students: 1) Hire students on an ongoing basis 2) Engage in projects with professors and students (e.g. Chatbot Community of Practice, UX assessments done as student projects, Future of Higher Ed)
- Develop UX architecture capabilities over the next 3 years, in partnership with ITS

EA Roadmap: Focus Areas by Domain

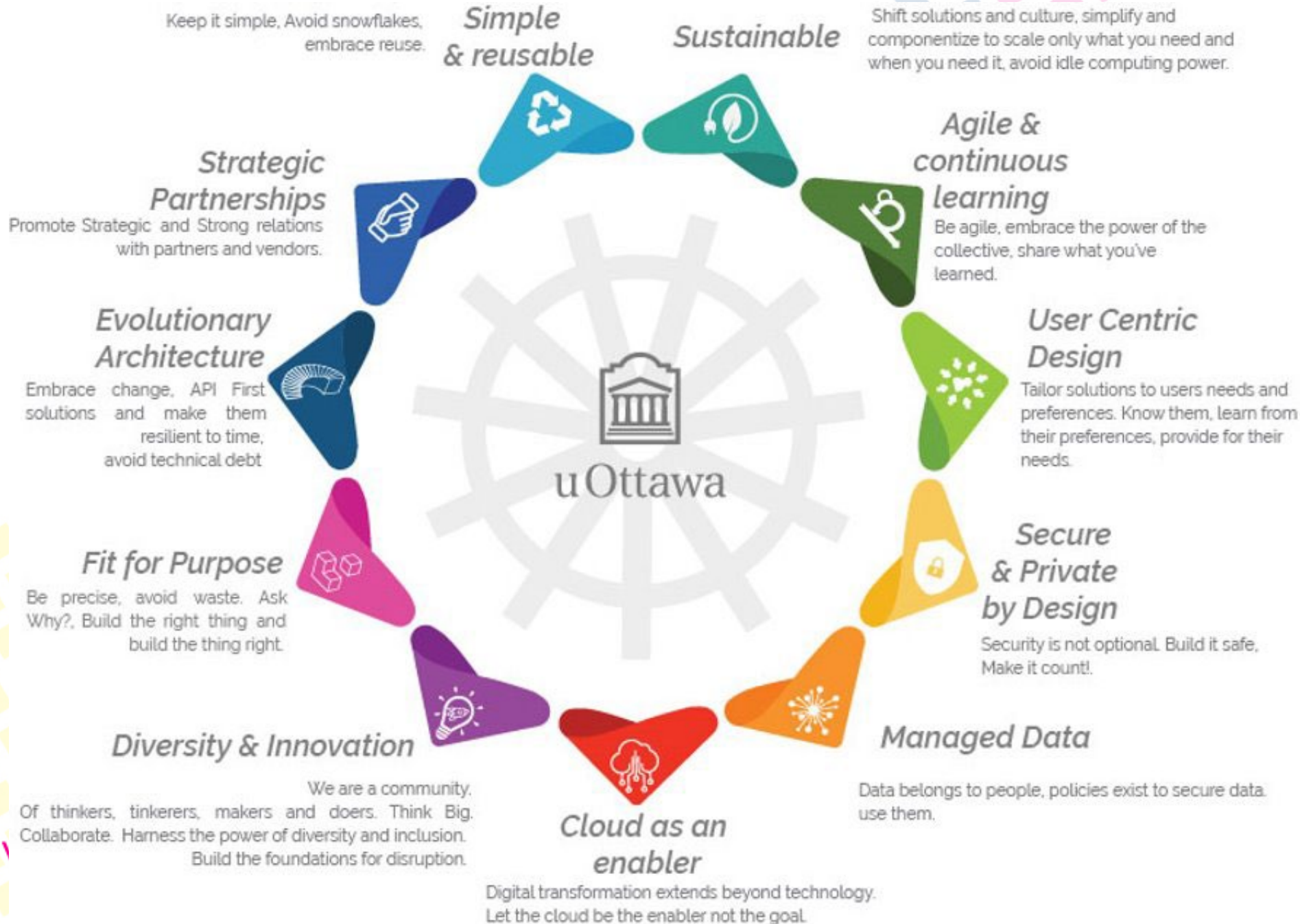


- **Business:** Business Capability Model, Capability-Driven Planning & Roadmaps
- **Data:** Data Governance, Data Reference Architecture
- **Application & Integration:** Systems Rationalization, Enterprise Standards and Reference Architecture
- **Infrastructure:** Cloud Transformation, Enterprise Standards & Reference Architecture
- **Security & Privacy:** Integration of security and privacy assessments into cohesive architecture review process, Security Roadmap, Enterprise Standards & Reference Architecture
- **UX:** Partner with ITS to develop UX skills and capabilities, develop UX architecture function (this includes accessibility)

Links between Roadmaps



Guiding Principles

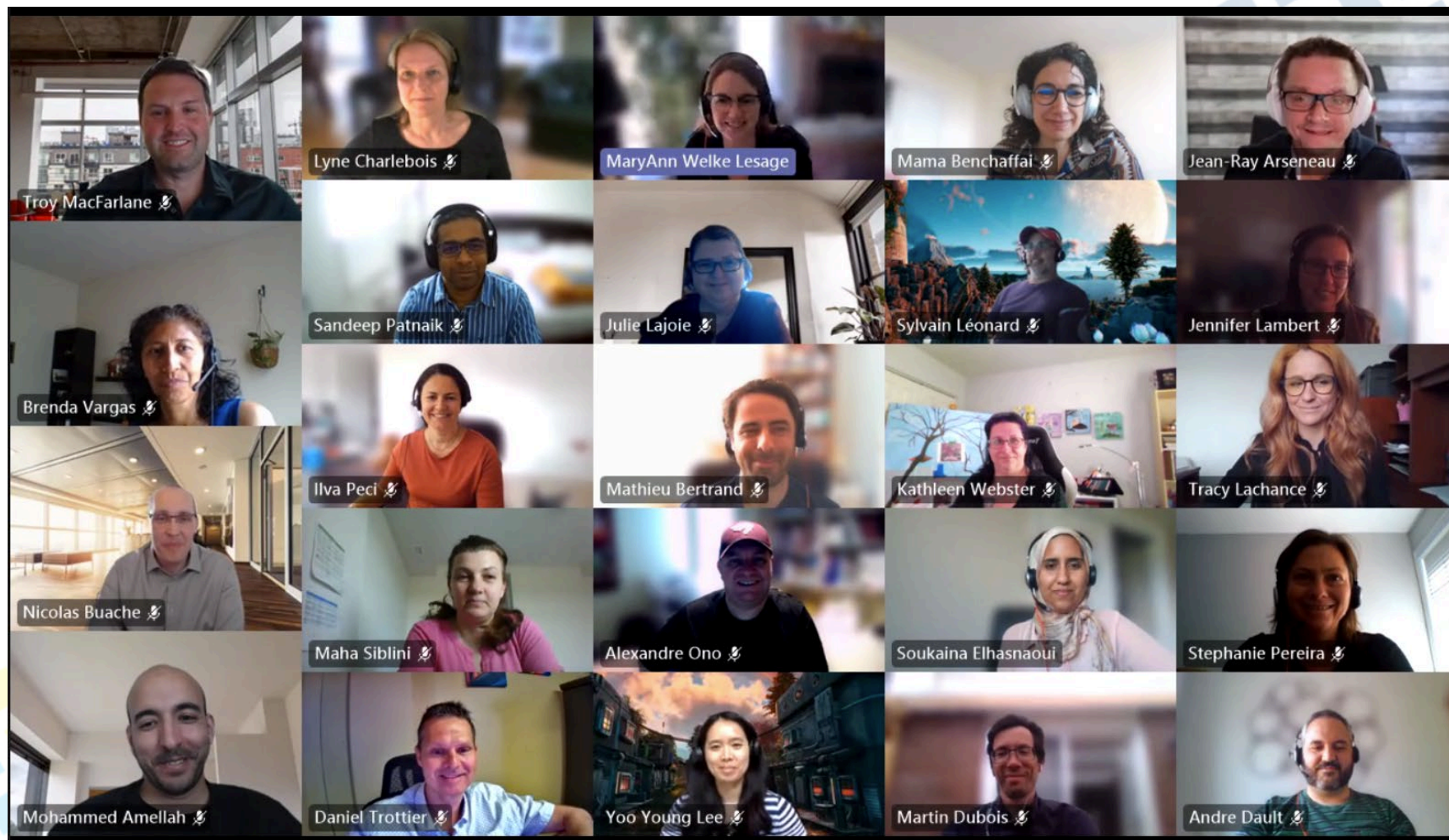


Architecture Review Board

- Formal Architecture Review Board (ARB) that governs the implementation of digital initiatives, ensures alignment with strategies and principles, and governs enterprise standards and guidelines.
- Aligned with overall IM/IT Governance Structure.
- Core membership includes Senior Domain Architects, IM, Privacy, CISO, Senior Directors from Solutions and Infrastructure, Deputy CIO, Faculty/Service Representatives. All IT leaders across the university are invited to attend. 40-50 people attending each meeting.
- Monthly meetings, additional meetings called as required.
- ARB Guests from other universities so far: Carleton University, University of Saskatchewan, University of Manitoba, Algonquin College, University of Fraser Valley.
- See terms of reference here: <https://it.uottawa.ca/comite-examen-architecture>



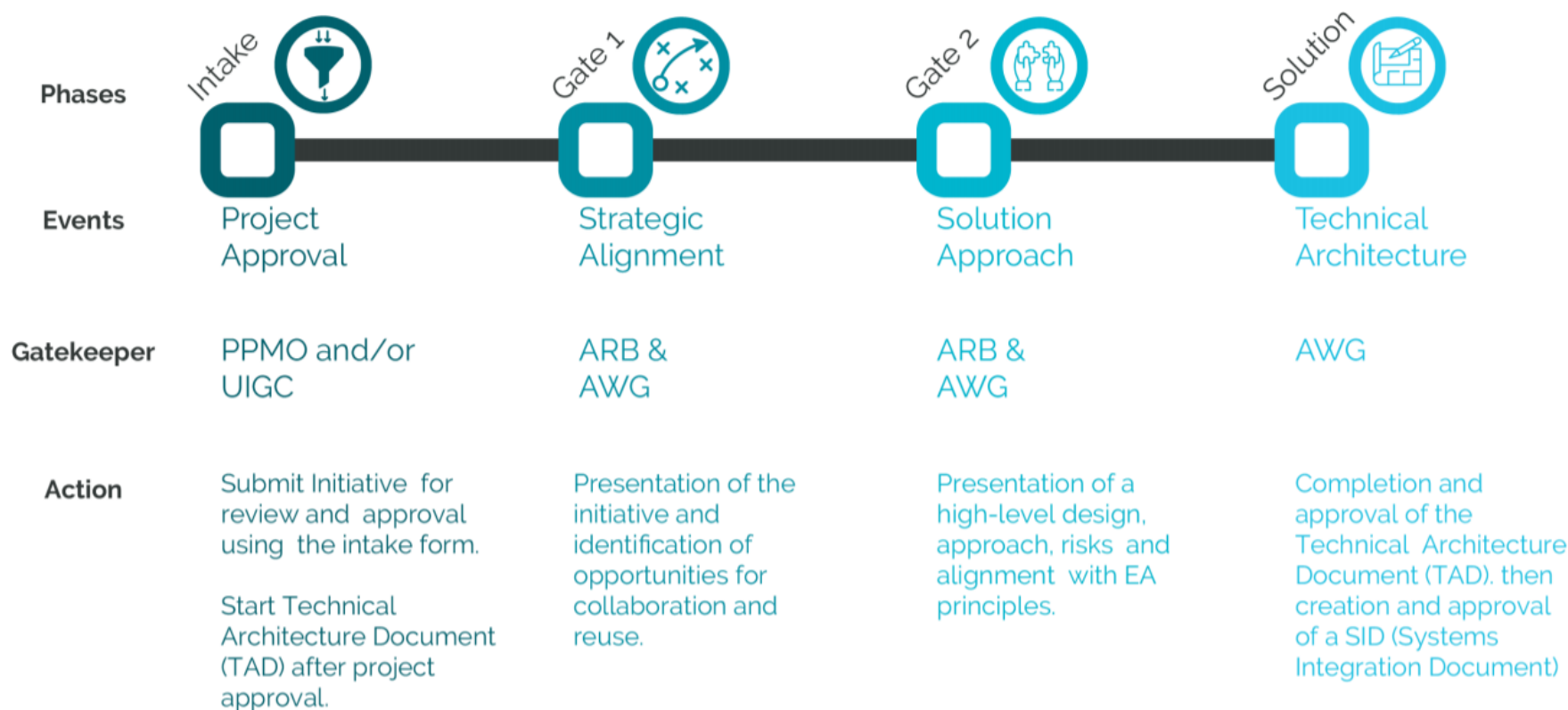
ARB Team



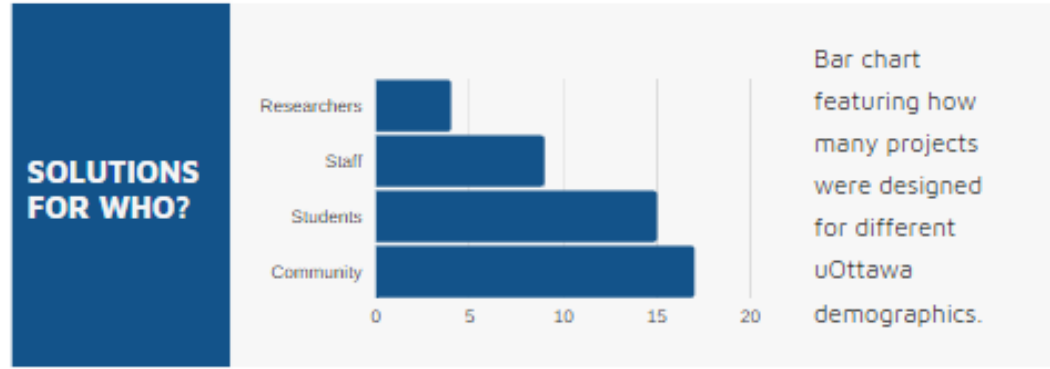
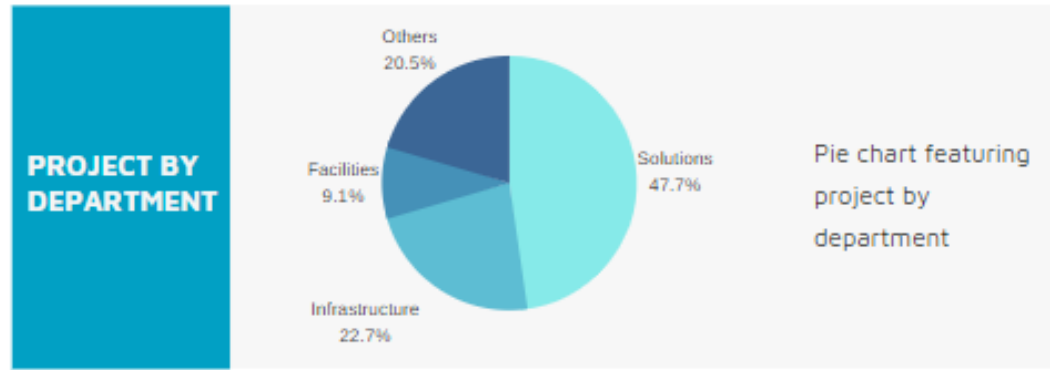
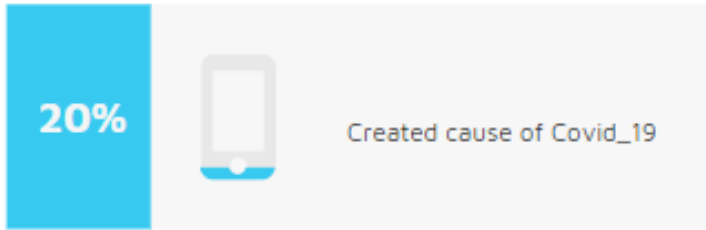
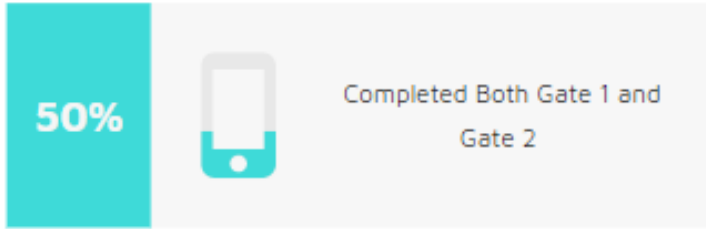
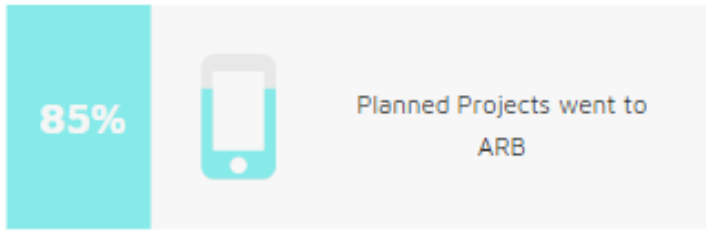
ARB Processes

Architecture Review Board

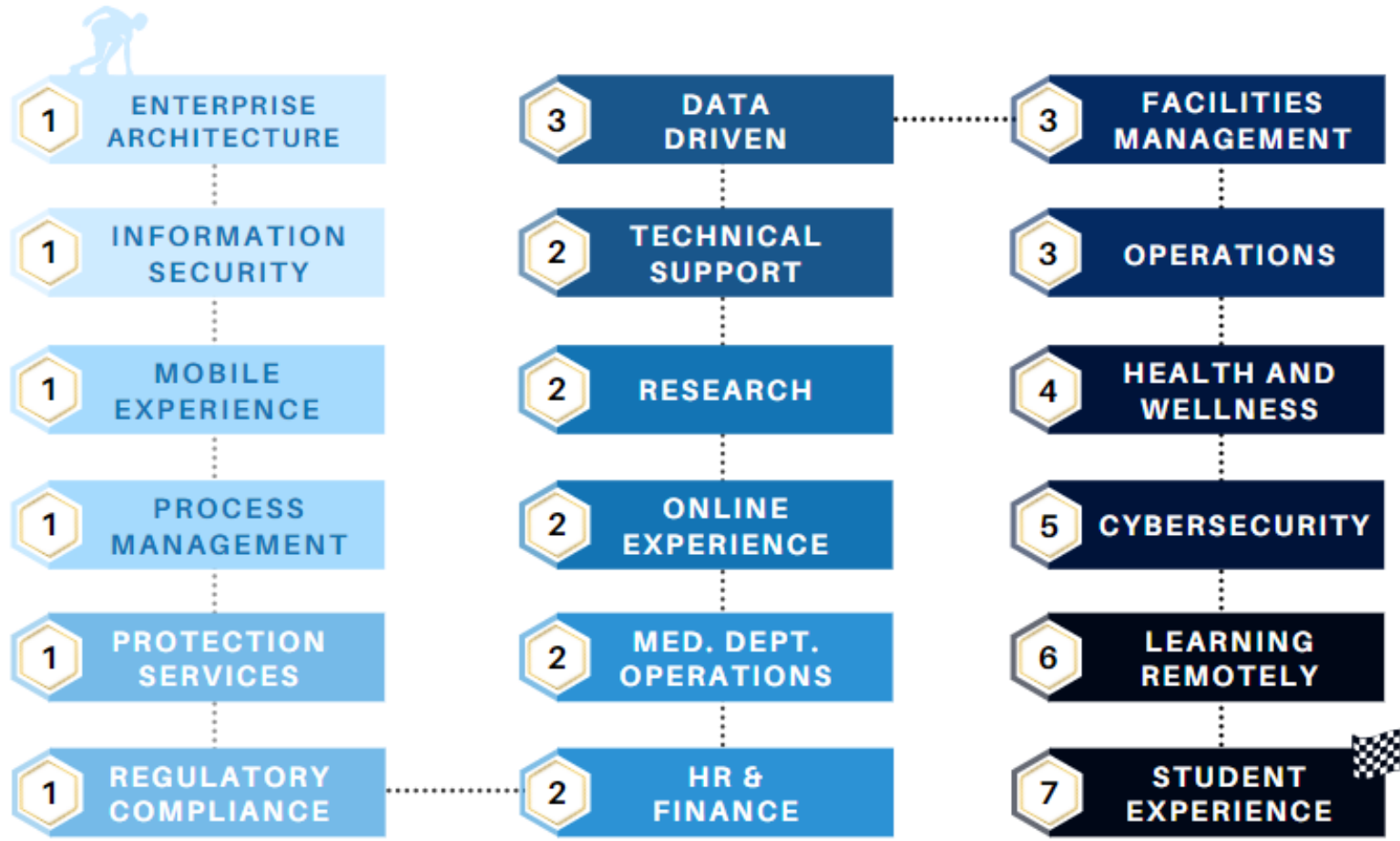
Help to ensure that all IT initiatives and solutions are aligned with the overall University strategy, Digital Campus Transformation Plan, Enterprise Architecture principles, policies and standards.



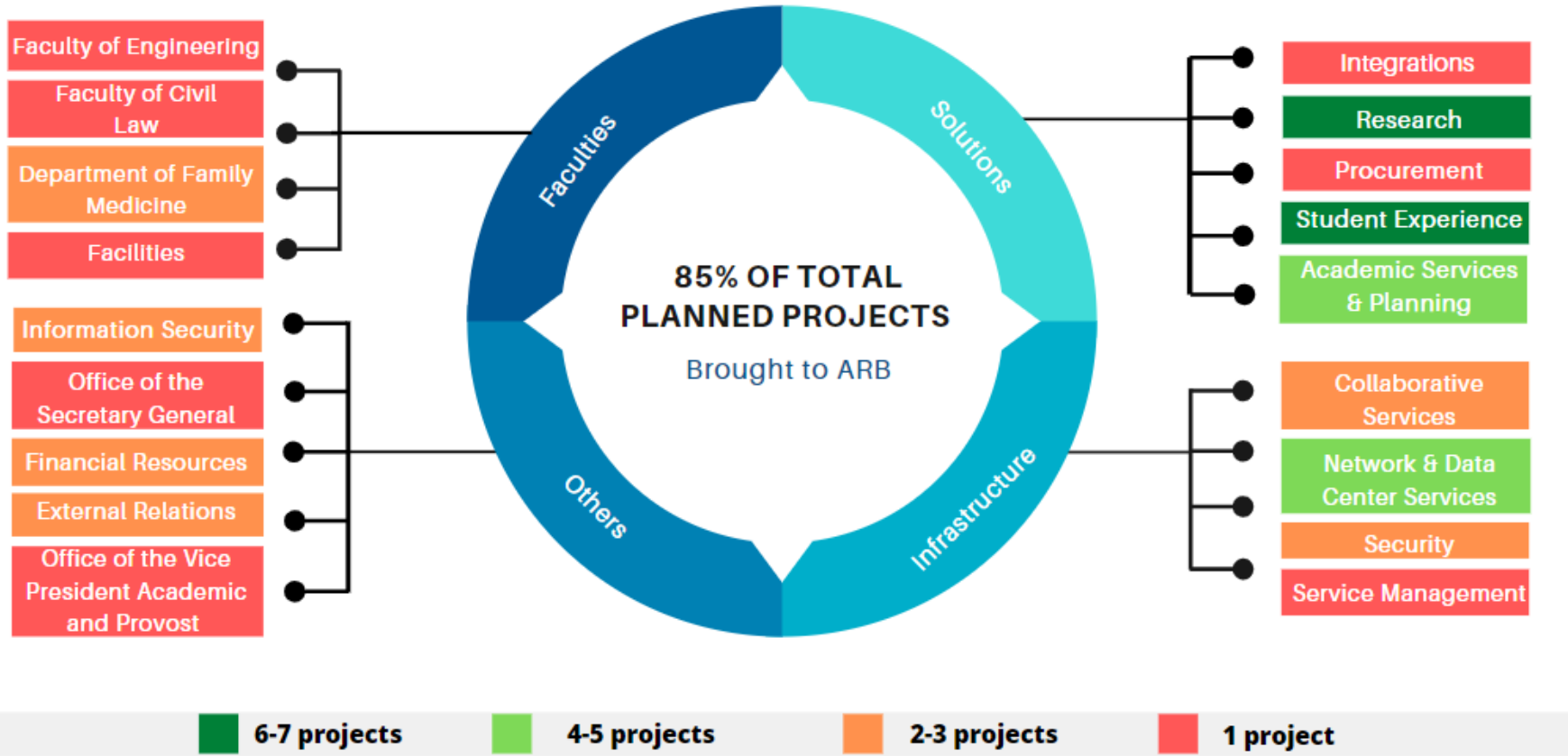
ARB 2020 Highlights



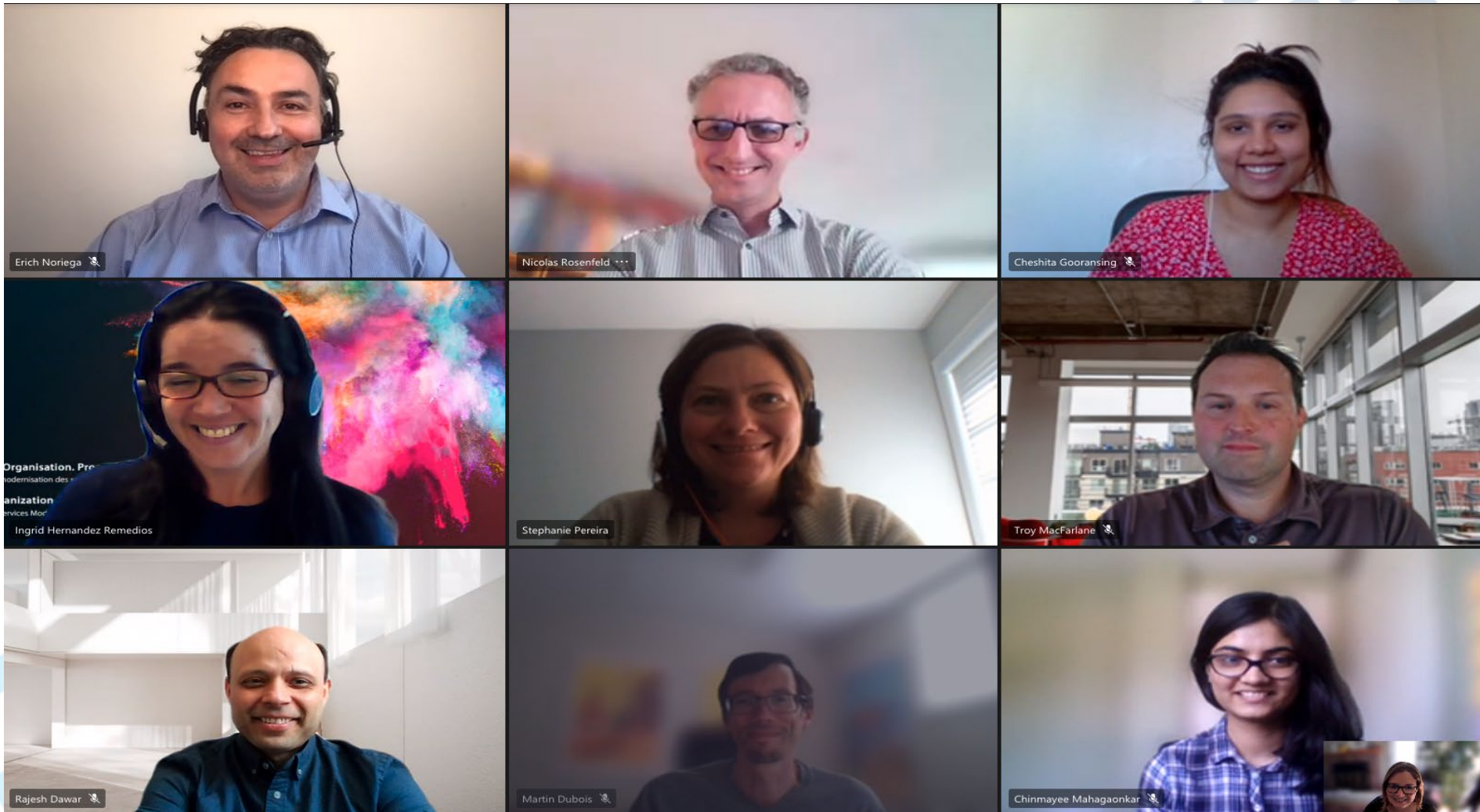
Types of Solutions-Including the number of projects associated with each solution



Projects Reviewed by ARB in 2021



The Architecture Working Group (AWG) working away...

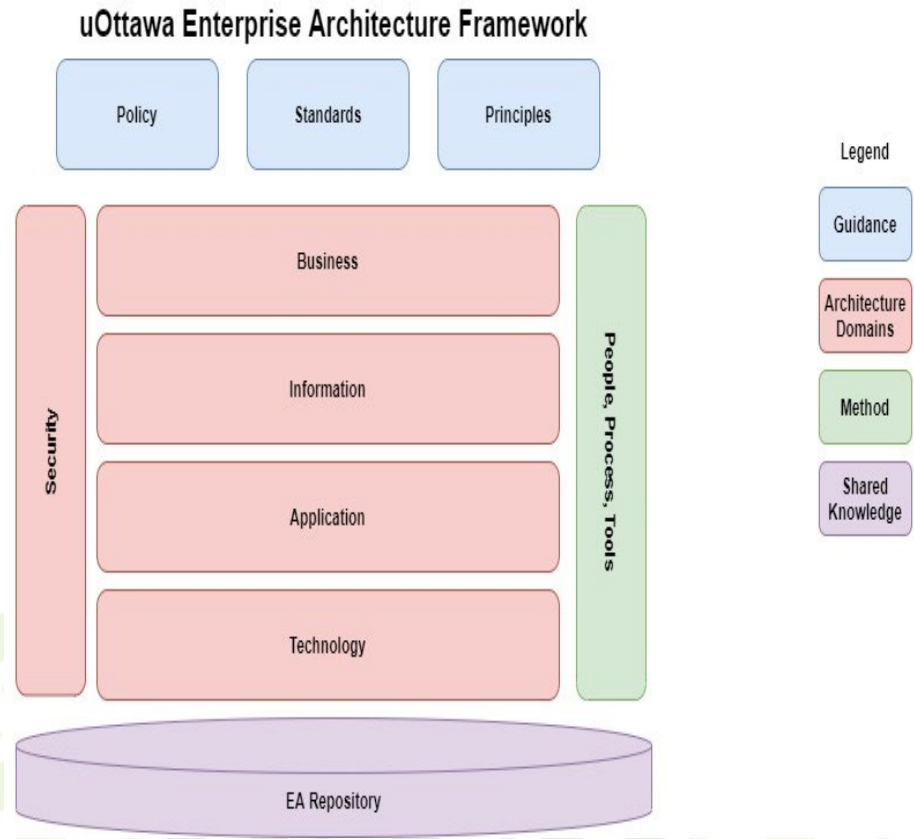


EA Reference Architecture & Standards: Planning the Work

An Enterprise Architecture Framework has the following traits:

- *A common language*
- *An architecture description, or taxonomy, that describes the relationship between architecture elements.*
- *Methods, tools and guidance to do architecture*
- *Governance and communication*

The key principles of the framework are to be **lightweight, relevant, predictable, and easy to maintain.**



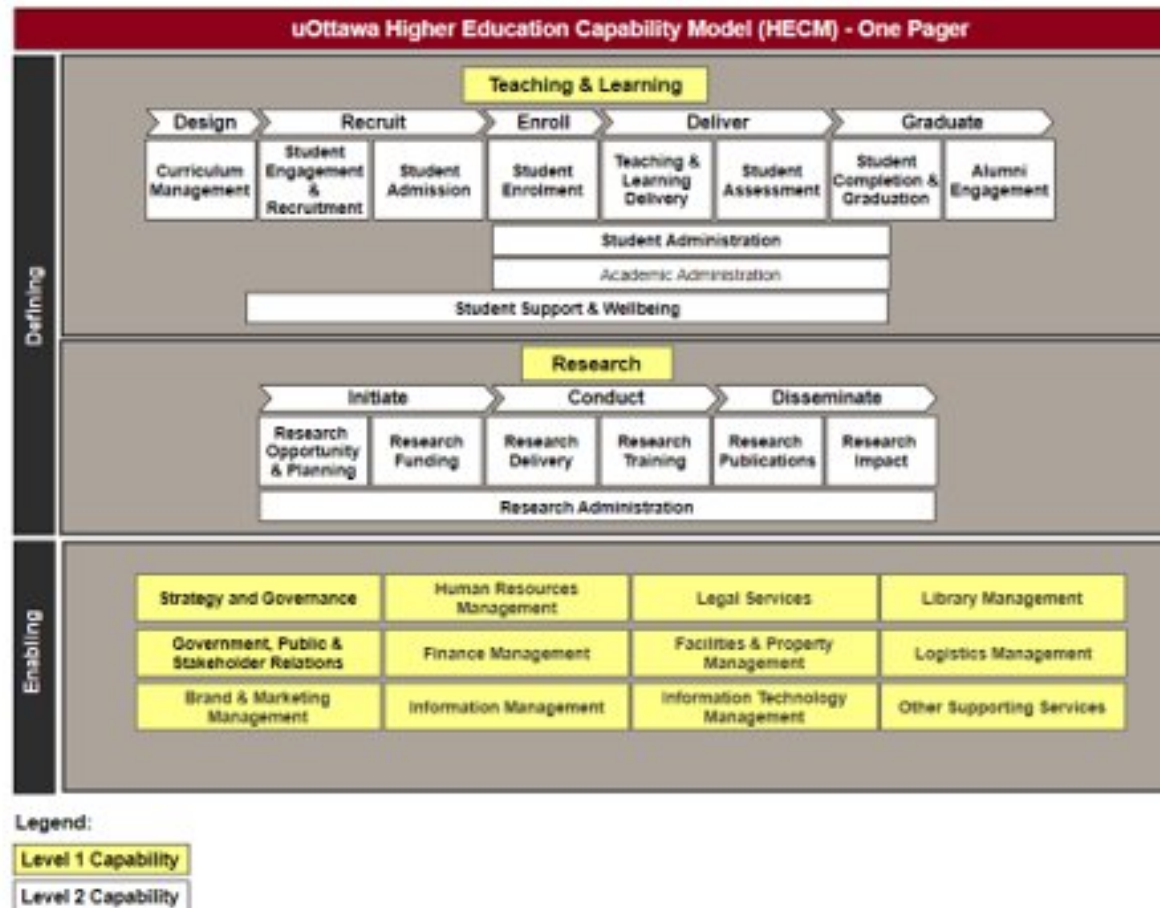
Business Capability Model: Common Language, Shared Vision, Strategic Decision Making

Business Capabilities

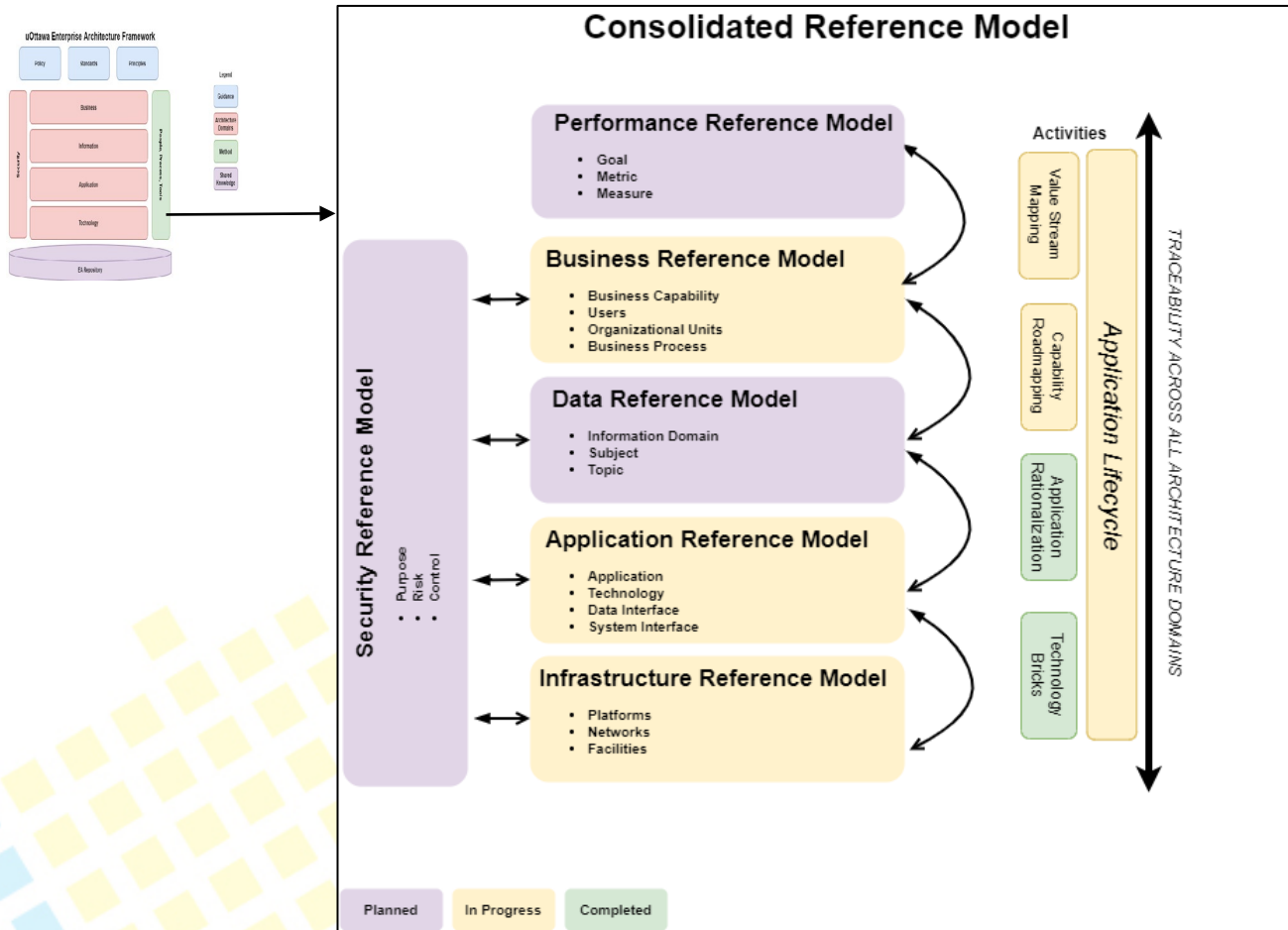
- High-level view of **WHAT** an institution does from a business perspective.
- Relatively stable, unique and long term.
- Structured in a hierarchical manner, but organizationally neutral.
- Establishes a common language and contributes to a shared vision across an organization (↑ strategic dialog between IT & Faculties/Services)
- Delivered through a combination of PEOPLE, PROCESS and TECHNOLOGY, the **HOW**

A Business Capability Model is:

- A visual structured vision of an organizations set of business capabilities
- Essential for a successful Enterprise Architecture practice – better **value** and **business outcomes** by ensuring execution is linked to strategic goals and objectives.



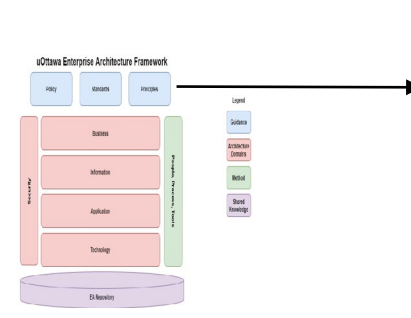
Linking Architecture Data



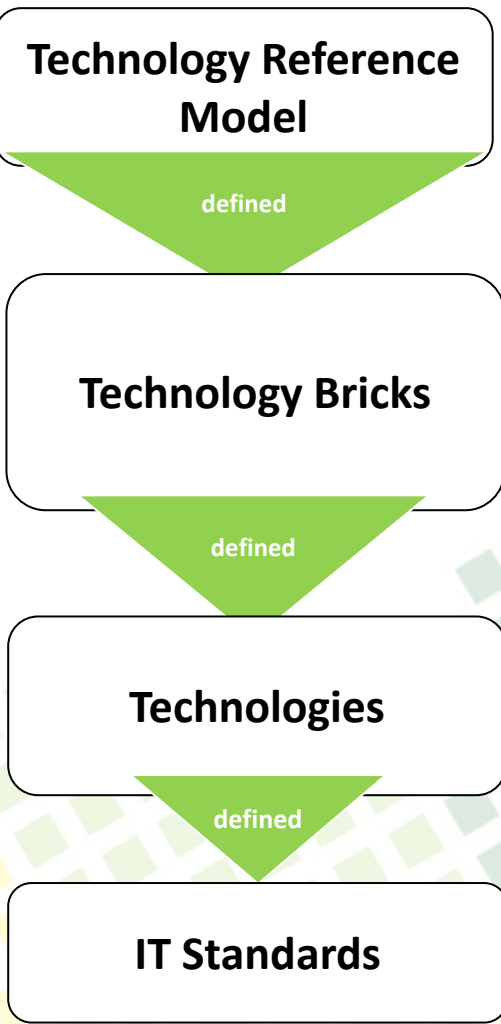
A top-down (business-driven) and bottom-up (technical driven) traceability of uOttawa goals in relation to investment and management of its people, data, and technology.

GOVERNANCE : Increased architecture perspectives

Communicating Investment Guidance



The EA team will maintain the artifacts; however, the lifecycle and usage of a selected technologies must be maintained by the implicated domain architect.



A product and vendor agnostic list of technology domains, technology areas, and technology building blocks that is used to classify current and potential technology investments and uOttawa applications. This is the most abstract view to classify uOttawa technology investments.

An architecture activity used to identify the lifecycle and recommended usage of the technology building blocks that are represented by the list of technology groupings within the Technology Reference Model. Technology Bricks are used to help support the architecture activity of Application Rationalization and can serve as a Technology Roadmap.

A list of vendor, open source, or 3rd party technologies that are associated to a technology brick. The information can be used as the uOttawa Current State Technology Architecture.

The list of technologies belonging to a Technology Brick that have the INVEST lifecycle state and endorsed by ARB and provide Faculties, Services and IT teams investment guidance.

Technology Reference Model (TRM)

8 Technology Domains

27 Technology Areas

150 Building Blocks

	A	B	C
	Technology Domain	Technology Area	Building Blocks
2	Application Technology	Application Platform	
3		Application Testing Software	
4		Development Tools	
5		Integration Software	
6		Software Engines	
7		User Interface	
8	Collaboration and Electronic Workplace	Collaboration Software	
9		Productivity Software	
10	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	
11		Data Integration	
12		Data Management	
13	Network and Telecommunications	Network Infrastructure	
14		Network Management	
15		Networking Services	
16		Physical Network	
17	Platforms and Storage	Compute	
18		End User Devices	
19		Platform	
20		Storage	Backup (Archive)
21			Backup (Business Continuity)
22			Data Clusters
23			Direct Attached Storage (DAS)
24			Network Attached Storage (NAS)
25			Storage Area Network (SAN)
26	Security	Data Security	
27		Identity and Access Management	

A Building Block is a vendor and product agnostic architecture element that is commonly combined with other Building Blocks to describe how a business problem or opportunity will be addressed in respect of uOttawa policies, requirements and supported patterns.

All reference and solution architectures can be decomposed into their enabling Building Blocks.

A Building Block may be represented by one or many technology products.



Sample

Technology Reference Model

Technology Bricks

uOttawa Technology Reference Model				Products	Lifecycle
ID	Technology Domain	Technology Area	Building Blocks	Tools and Technology	2021
96	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Business Intelligence Platforms	Oracle BI EE	Migrate (Improve)
97	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Business Intelligence Platforms	Power BI	Invest (Standard)
98	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Dashboard/Scorecard Tools	Power BI, Tableau, R & Python Lib	Invest (Standard)
99	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Data Analytics (Statistical Analysis, Prediction, and Modeling)	Oracle BI EE	Migrate (Improve)
100	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Data Analytics (Statistical Analysis, Prediction, and Modeling)	Power BI	Invest (Standard)
101	Information Management Technologies	Business Intelligence and Data Warehouse Platforms	Data Analytics (Statistical Analysis, Prediction, and Modeling)	SAS	Tolerate (Contained)

Current: Excel

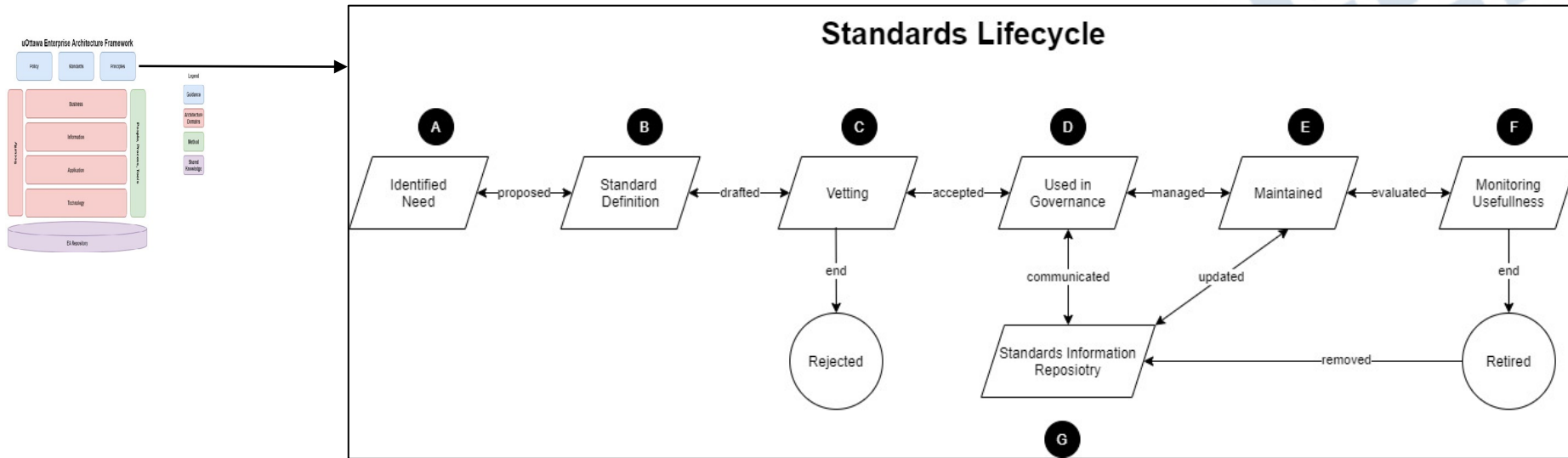
Target: ITSM Tool (TOPdesk), migration underway

Lifecycle Categories (from Gartner TIME model)

- Tolerate
- Invest
- Migrate
- Eliminate



Maintaining IT Standards



Each ARB will seek endorsement of a set of IT Standards.

A proposed IT Standard must be socialized across IT before being presented at ARB

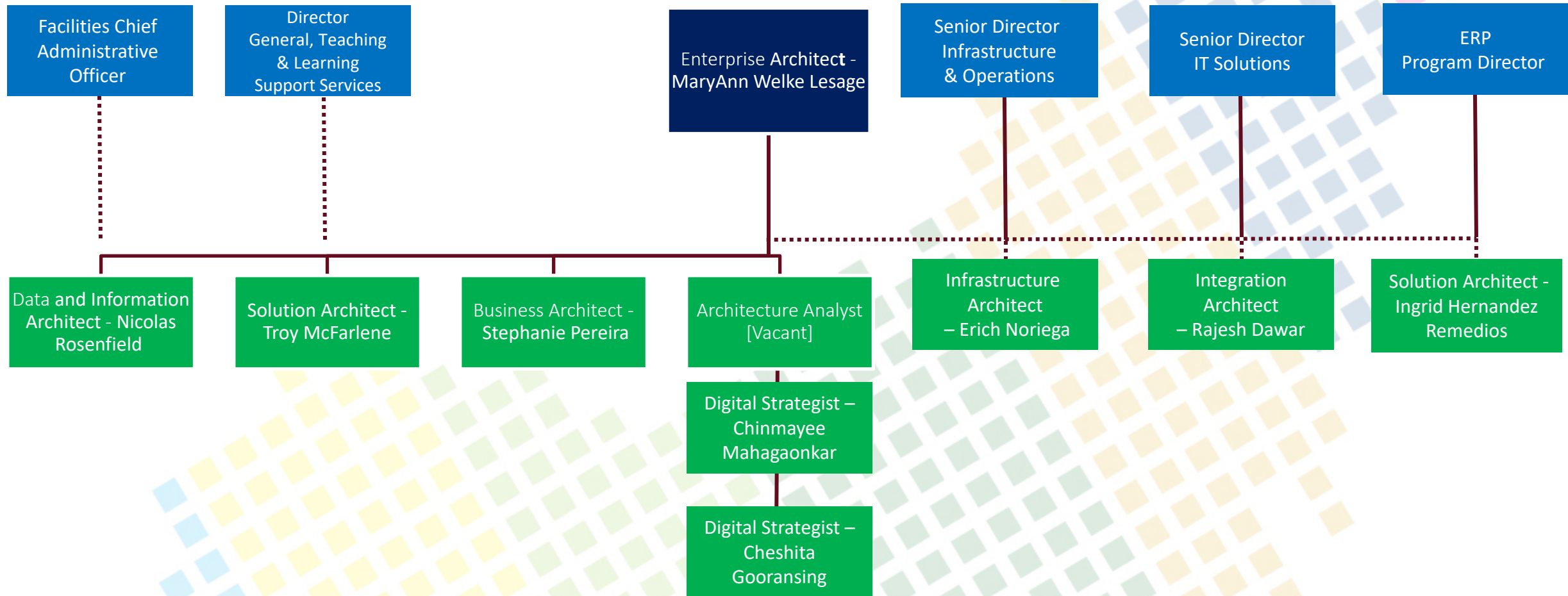
Current focus is only on IT Standards; however, the framework can expand in scope.

The EA team will maintain the IT Standards supported by the AWG.

[The Path to Becoming an IT Standard - Architecture - Confluence \(atlassian.net\)](https://www.atlassian.com/blog/it-standards)

STANDARDS : Publish IT Standards

ORGANIZATION STRUCTURE



CHALLENGES

Change management and communications

Federated environment, lack of visibility and direct oversight

Volume of work, projects to support (exceeds capacity)

Developing architecture knowledge and skills across the organization (just like security, architecture is everyone's responsibility)

Business Capability Model and Business Capability Driven Roadmaps

Many projects accelerated due to COVID and given exemptions from architecture governance (still catching up now)

Integrating with other core processes (project portfolio management, security assessments, vendor and contract management, budget process)

