

# Research Administrative Management Datahub

## CANHEIT 2021

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# Agenda

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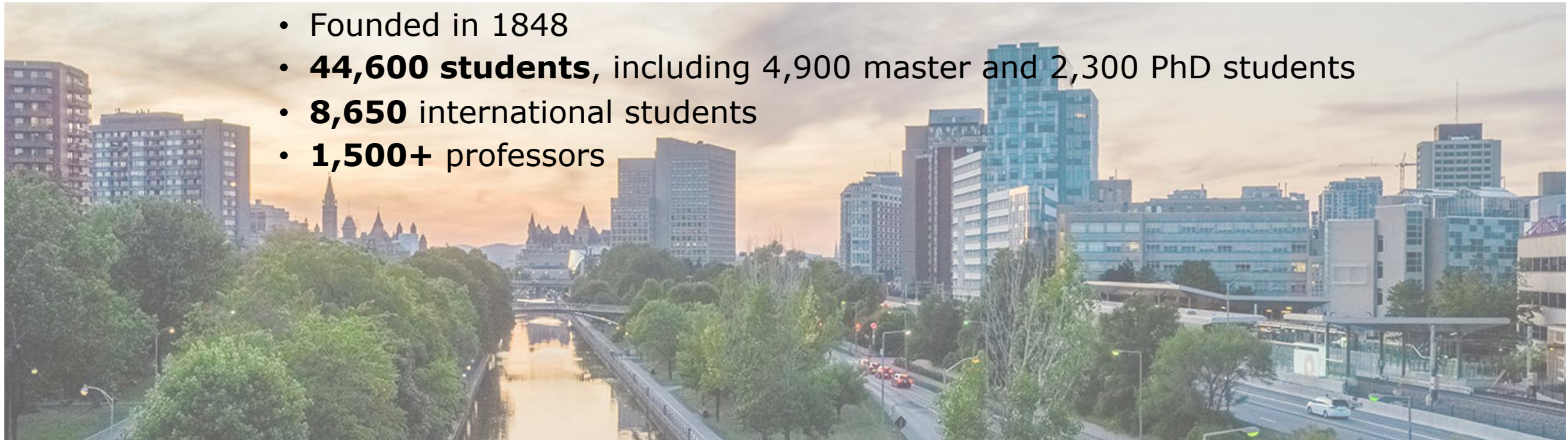
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# University of Ottawa: The largest bilingual university in the world

- Founded in 1848
- **44,600 students**, including 4,900 master and 2,300 PhD students
- **8,650** international students
- **1,500+** professors

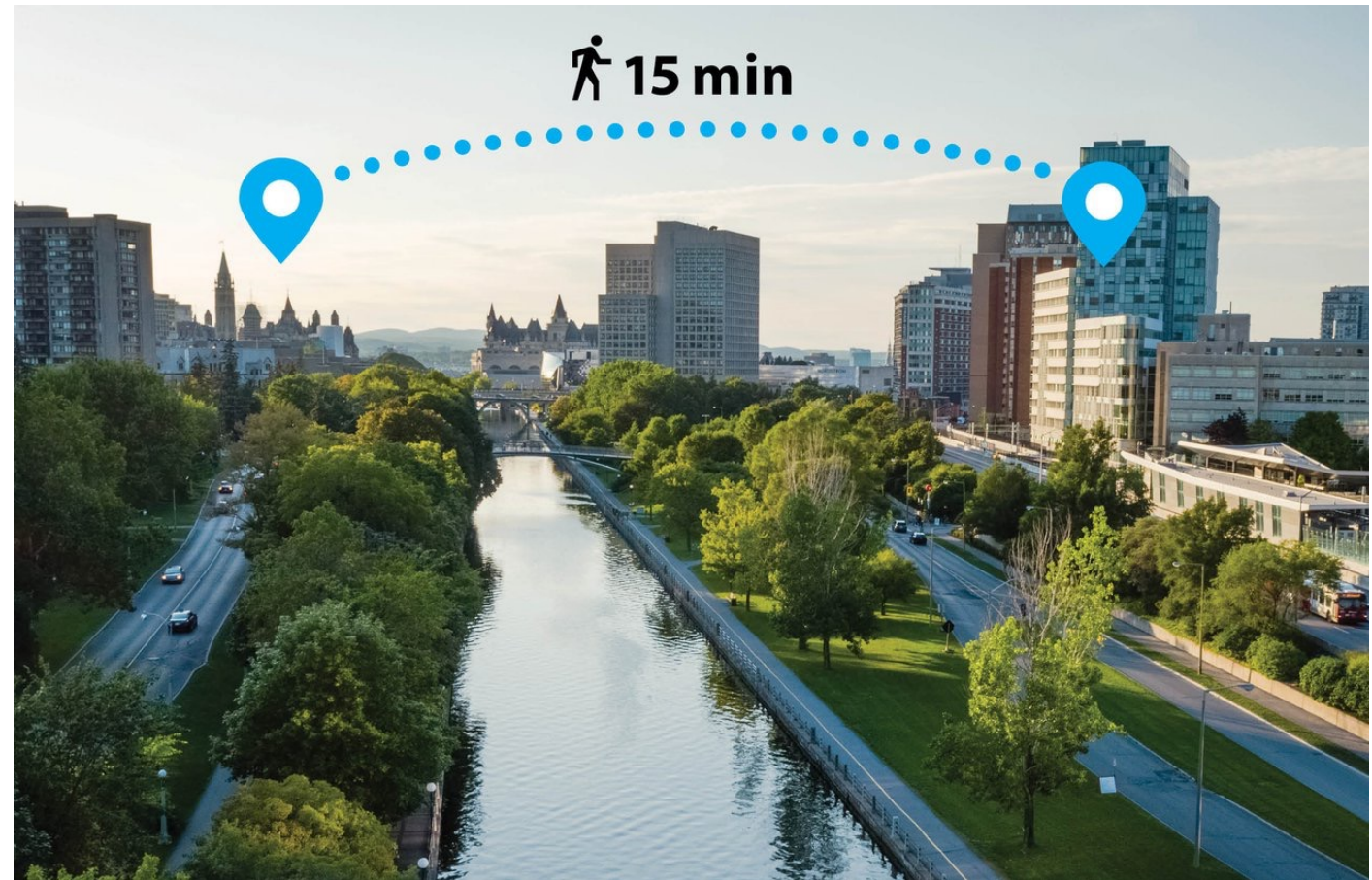


The University is a **member of the group of 15 research-intensive universities (U15)** and several other national and international associations.

## University of Ottawa: The largest bilingual university in the world (*cont'd*)

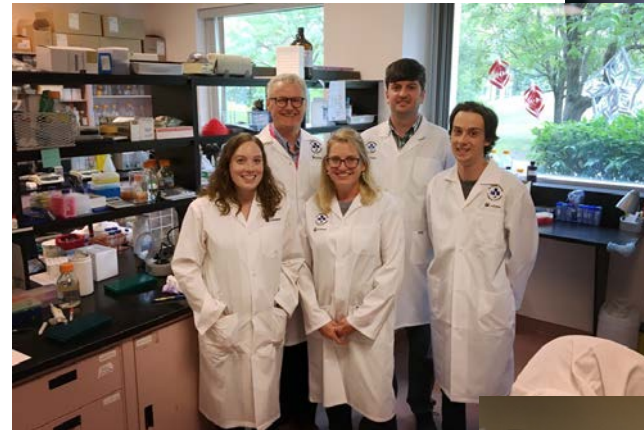
Our campus is a walkable, compact village nestled in the core of vibrant Ottawa. The Byward Market, Parliament Hill, the Supreme Court, the Ottawa Hospital and a vast network of historic canals and hiking trails are at our doorstep.

University of Ottawa contributes close to **\$7 billions per year** to the economy of the greater Ottawa-Gatineau region.  
 (Impact of the University of Ottawa, Conference Board of Canada, Jan 2016)



# University of Ottawa Research

- 2019: \$344 million dollars per year in external funds
- 138 professors – members of national academies
- 208 research chairs (awarded)
- 23 research centres and institutes
- 29 core facilities



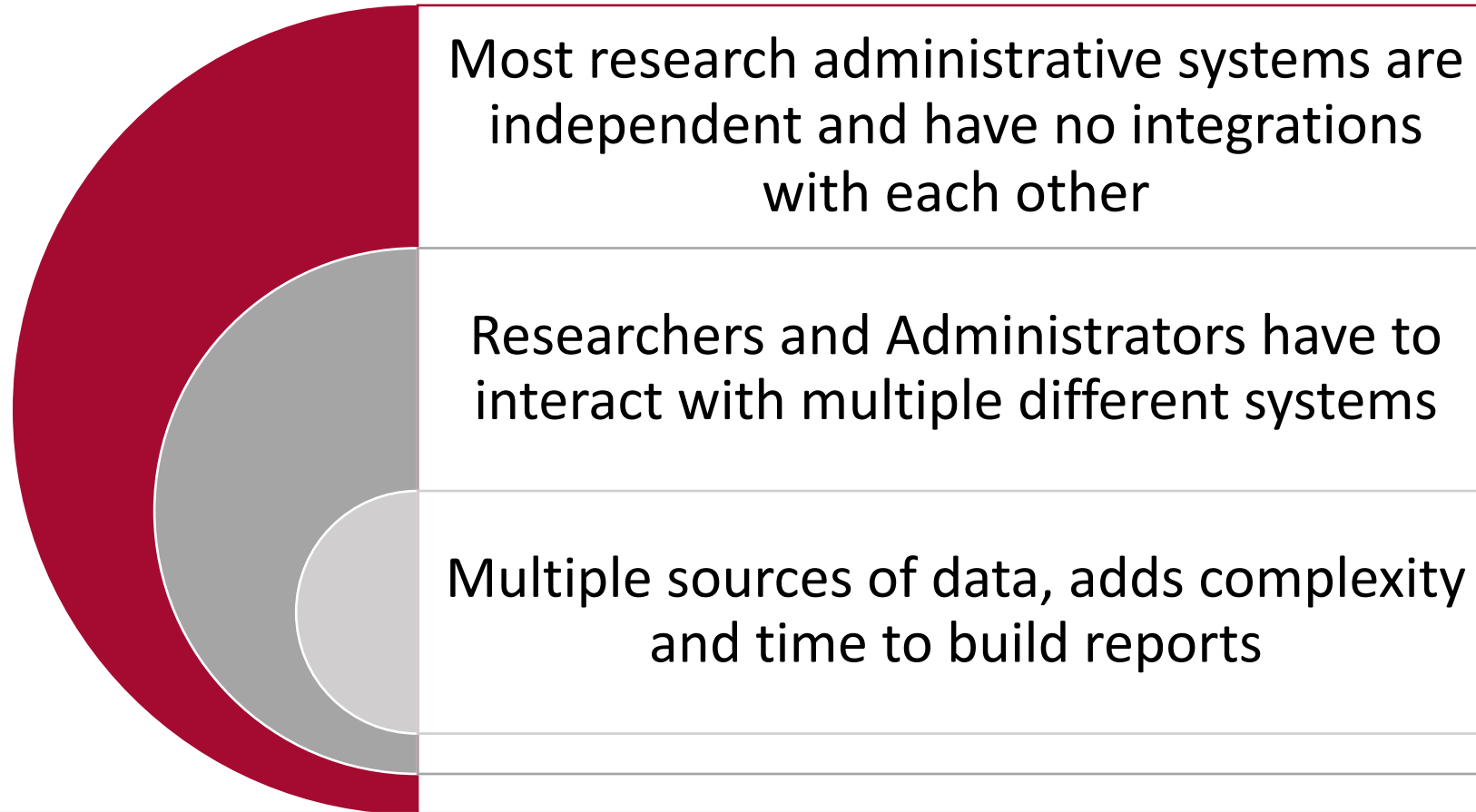
# The Research Administrative Datahub history

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- Back in 2016, uOttawa commissioned an outside audit of Research business processes. The report identified nine areas for improvement, one of which was the lack of integration of research application data. This firm created a roadmap for the University to follow in addressing the gaps in our research support.
- Creating a central datahub would address some of these deficiencies, and also serve as part of the overall goal of increasing operational efficiency for research administration.

**Research Administrative Data ≠ Research Data**

## The Research Administrative Datahub history *(cont'd)*



# Project Overview

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- **Project Purpose:** Reduce administrative burden on researchers and administrators and help in decision making by providing real-time and “one-stop-shop” access to purposeful information.
- **Project Objectives:**
  1. Connecting the Research Management applications to one authoritative Cloud analytics solution
  2. Implementing a flexible and scalable solution with the intent to add more sources of data including student, employee and financial information
  3. Developing Business Intelligence capabilities, including targeted dashboards to services such as Research Management Services as well as faculty administrators for their reports and metrics;
  4. Using this solution as the base for a research gateway, helping researchers to reduce their administrative overhead by giving them a quick view of their research life cycle, including funding opportunities and required actions.
  5. Use this implementation as a foundation to extend the capabilities to other areas than Research.



# Project Overview *(cont'd)*

## What we are building

- Cloud Analytics & Business Intelligence Solution
- Starting with Research Administration but scalable to all data domains: facilities/space, students, HR, finance, student success, etc. (except Research data)
- Secure: role-based access and permissions

## Why we are doing it

Improving uOttawa Research & supporting the university strategic planning (Transformation 2030) of leveraging data for decision making

## How we are doing it

- We consulted other universities
- We brought in a firm (Speridian Technologies) to help design and build a Cloud Data warehousing Solution (Azure Platform), starting with Research Administrative data.
- We created an internal team to build and support the solution.



# Project Overview: Unlocking new data potential

## Research Administration Systems

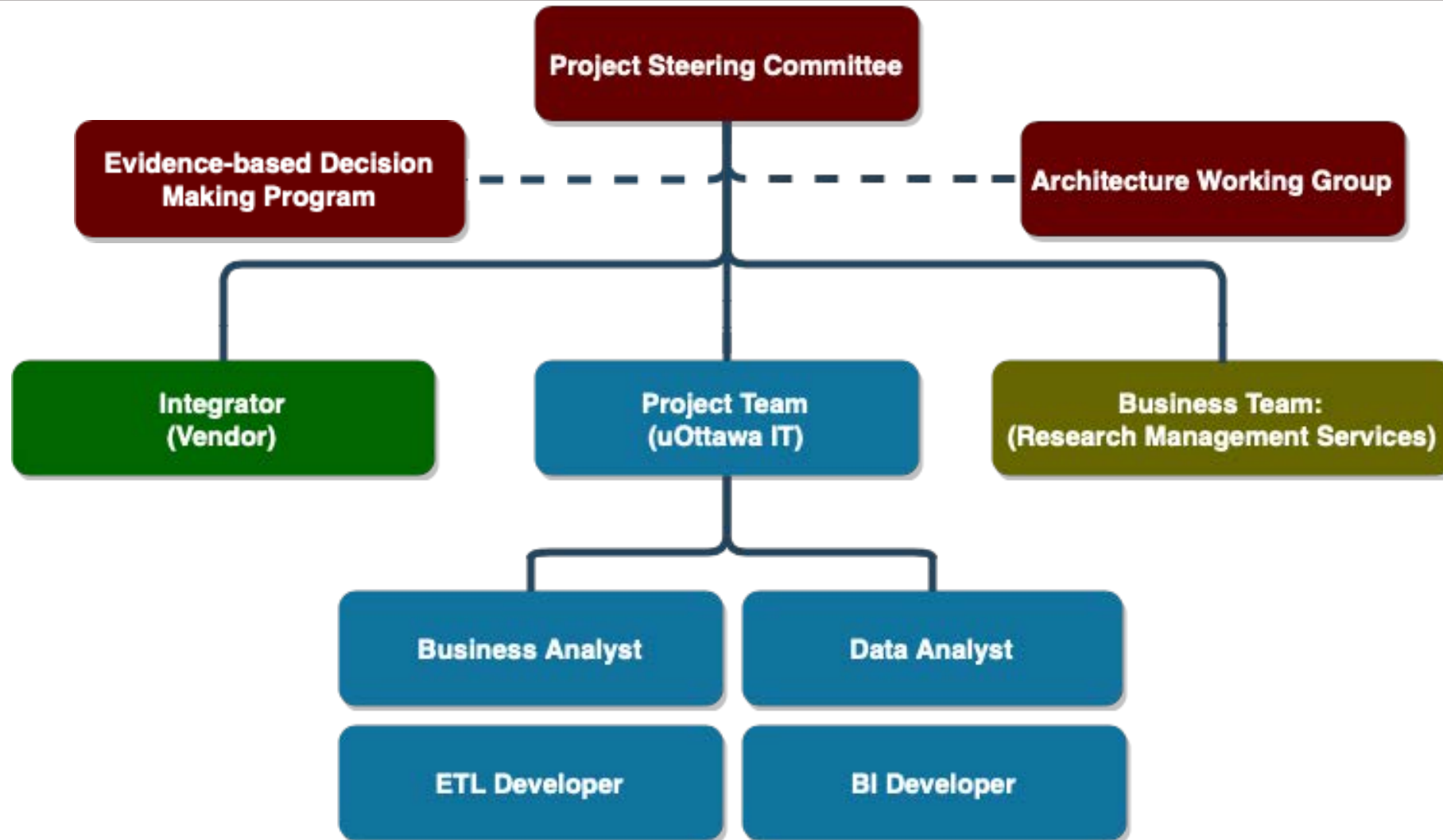
- Grants Management
- Ethics Review
- Academic CV
- Patents & Contracts Management
- External datasets (e.g. Research Infosource)

## uOttawa Systems

- Finance
- Human Resources
- Employee Reimbursement

Connecting these systems will enable access to new KPIs and automated reporting for Research (e.g. overall research performance, spending on grants, research participation...)

# Project Overview: Governance



# Our vision

Two service offers delivered from the same backend platform with a multifunctional support team

## Self-Serve Dashboards

- End users are able to connect to the data platform to build their own dashboards:
  - Model is for Faculties and Services to build their own expertise;
  - The solution provides the curated data;
  - Formal data governance in the back-end to support the process and provide trust in the data and in the way it's used.;
  - PowerBI Front End;
  - Providing support and training to Faculties and Services to help them gain required expertise.

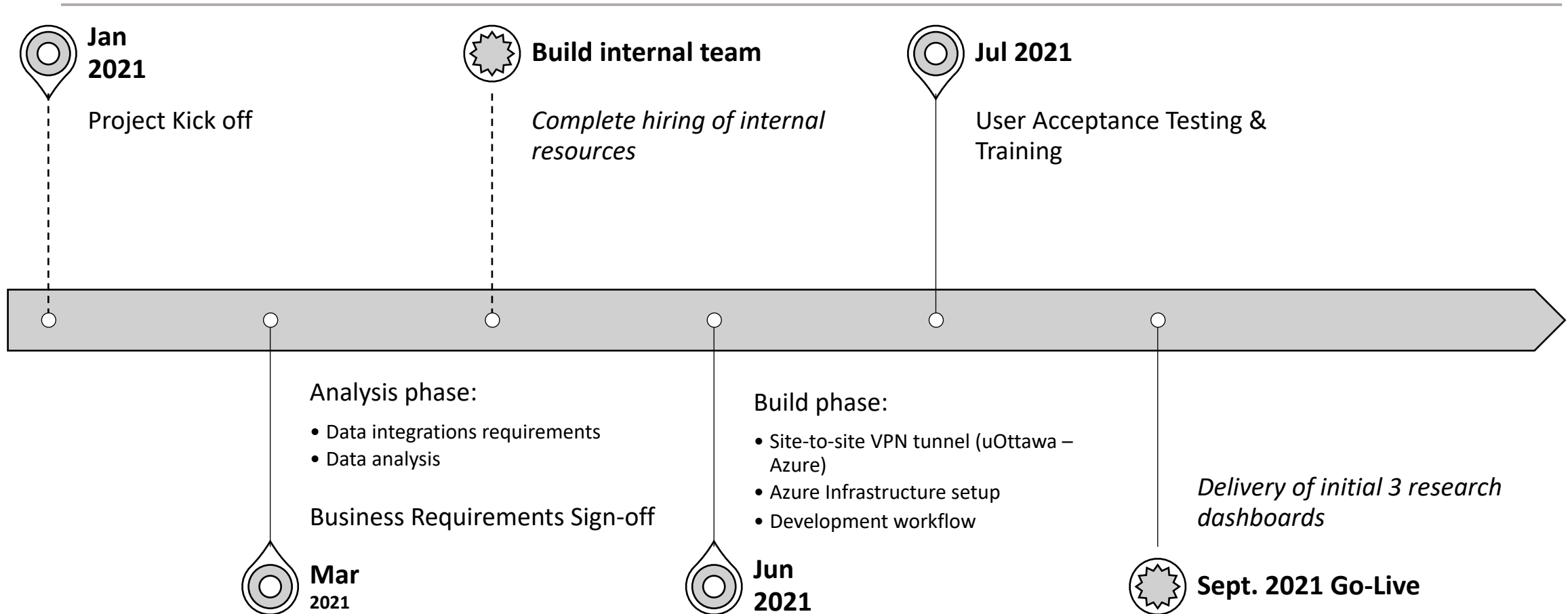
## Corporate Reporting

- Production of formal corporate reports:

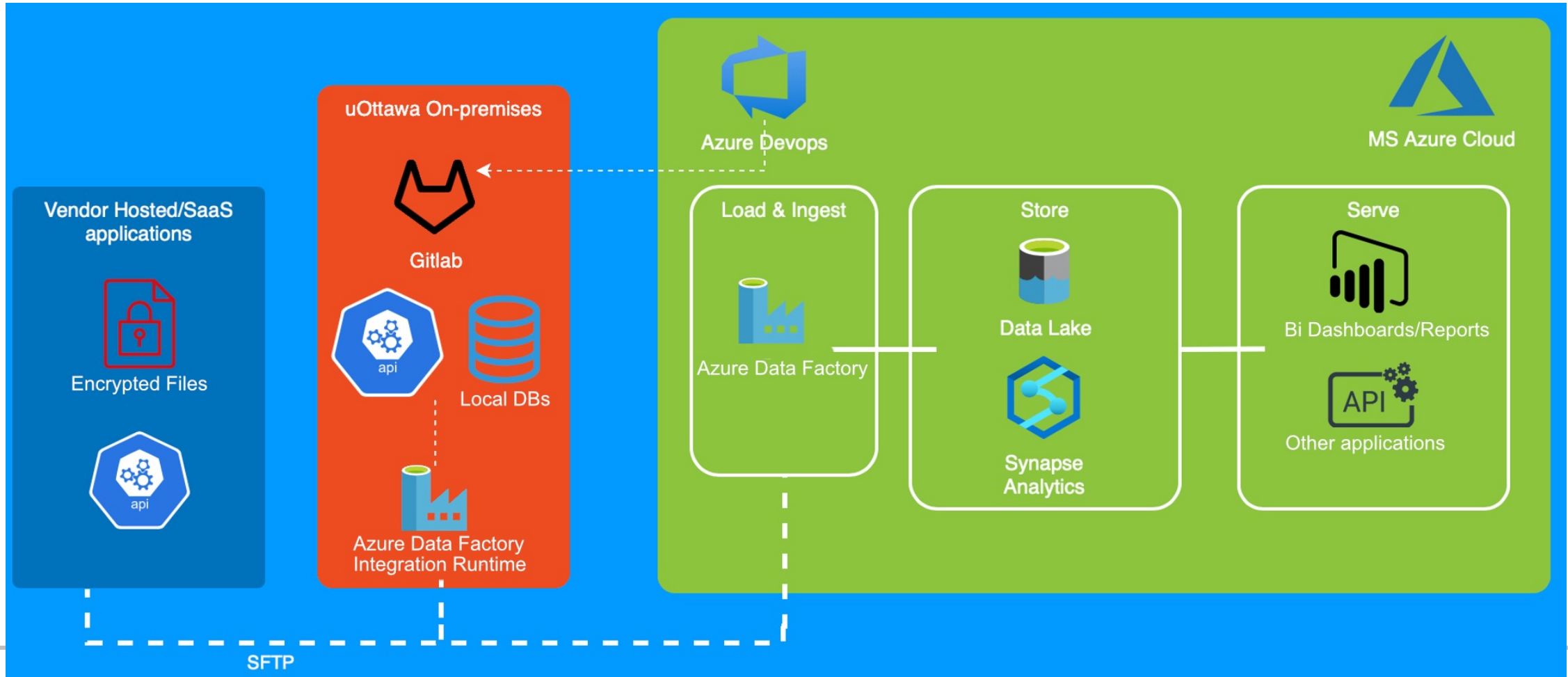
Note: We are starting by putting in the framework and building select dashboards for admin research to learn and prepare the ground to offer self-service.

Supported by a team composed of technical and business experts along with an institutional community of best practice.

# Project Status



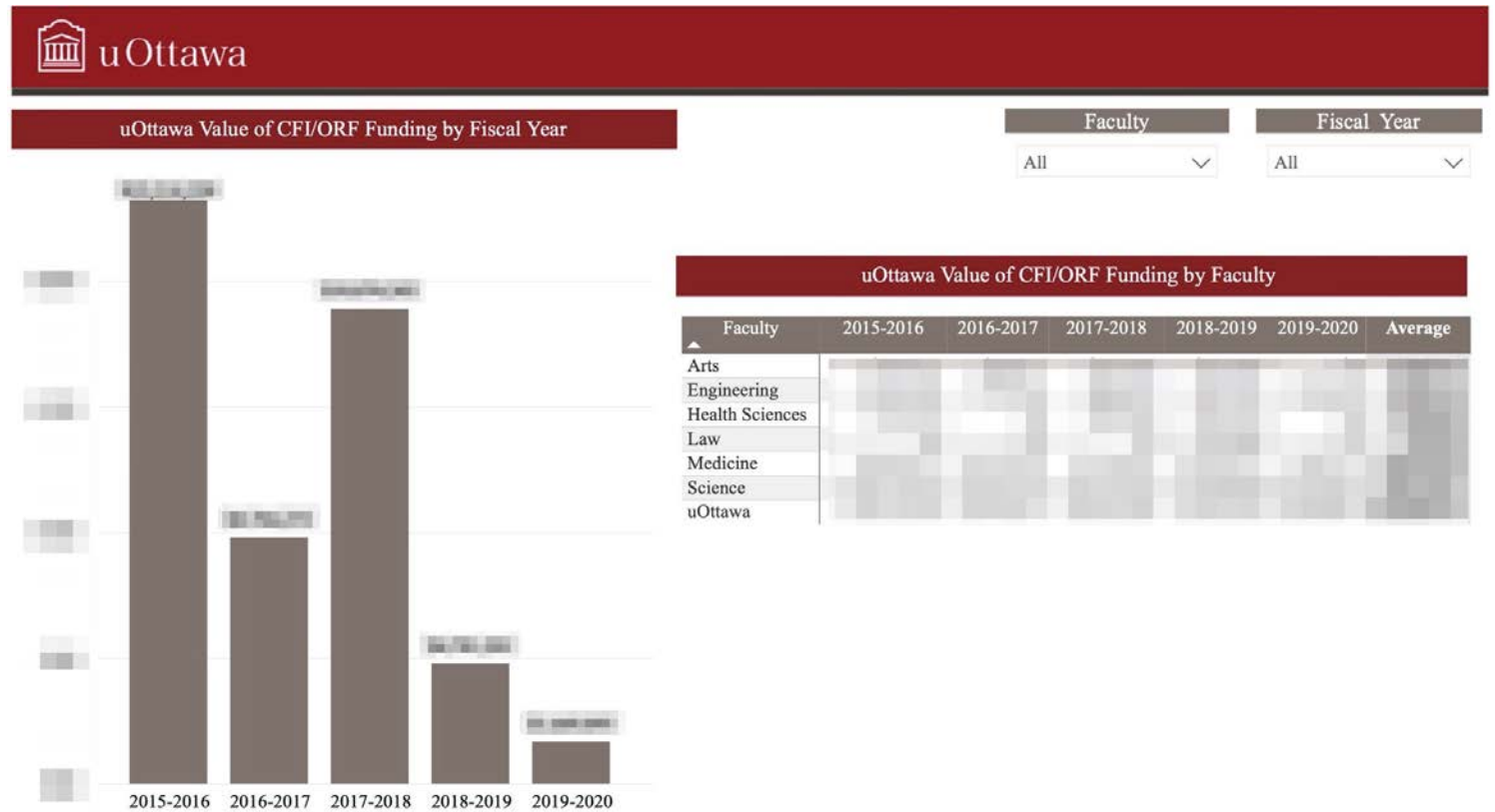
# Architecture Overview: Technical



# Architecture Overview: BI

For the current scope of the project, PowerBI was selected as our standard Business Intelligence platform.

We are trying to build and design the solution so that it is flexible enough to support other BI tools and expose curated data to APIs, if needed in the future.



## Data Governance initiative

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The organization is starting to understand and acknowledge the added value of a data governance model and practice.

The Research Datahub project serves as a good pilot to engage all stakeholders to define the various institutional policies around data governance.

A lot of work ahead: defining data glossary (standard definitions), data quality issues/rules, educating our data producers and data consumers.

We are also looking at data governance tools to help us increase our data governance maturity.



# Challenges/lessons learned

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- Infrastructure setup
  - Network design
  - On-premise server
  - Site-to-site VPN setup
  - Data integrations design
- Solution security
  - Architecture
  - Access
  - Data
- Data integrations with 3<sup>rd</sup> party vendors

## Challenges/lessons learned (*cont'd*)

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- Governance
  - Many stakeholders needs to be involved right from the start
- Data quality
  - Identified early in the project. We know this will be an ongoing challenge
- Negotiating for access to internal data

## Other upcoming uOttawa sessions

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### Today:

- 3:00pm Line Up Virtually Anywhere At uOttawa

### June 2<sup>nd</sup>:

- 12:00pm Secure Software Development Lifecycle (SSDLC)
- 1:15pm Enterprise Architecture Journey At uOttawa

### June 3<sup>rd</sup>:

- 1:15pm Data Quality: Rebuild Your Organization With A Data Mindset
- 3:00pm Birds Of A Feather: ITSM And ITIL Implementations
- 3:00pm Lightning Talk (Room 2): Connecting With Our IT Students: New Student Engagement Coordinator Position

### June 4<sup>th</sup>:

- 1:15pm Better And Stronger Men As Allies
  - 1:15pm How uOttawa Is Using EA For Planning Its ERP Replacement - Collaboration In Practice
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# Q&A