

# Principles for the Operationalisation of Responsible AI in the Research and Public Sector

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# Overview

- 01 The AI as Infrastructure Project

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- 02 Research Software Test Engineering

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- 03 Aotearoa New Zealand Public Service AI Framework

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- 04 HASTRICT Principles

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# 01 THE AI AS INFRASTRUCTURE (AIINFRA) PROJECT

A trans-national project focussed on assessing the value of Retrieval Augmented Generation (RAG) for historical research, using Hansard debates from Australia, New Zealand, United Kingdom as our content baseline.

## Partners

- ANU HASS Digital Research Hub
- ANU Library
- Aotearoa / New Zealand Department of Internal Affairs
- Australian Parliamentary Library
- King's College London
- The National Library of Australia
- UK History of Parliament project
- UK National Archives



- 2024 – 2026, ANU Futures Scheme
- <https://aiinfra.anu.edu.au/>



# 01 THE AI AS INFRASTRUCTURE (AIINFRA) PROJECT

## Goals

- Identify and implement best practices for the design, development, evaluation, and maintenance of historical research tools enabled by Large Language Models (LLMs).
- Develop high-level principles (the HASTRICT principles), an organisational maturity model, and associated evaluation framework to support the responsible implementation of AI tools into the GLAM and academic sector.
- Develop a prototype technical ‘test harness’ for the evaluation of LLM Retrieval Augmented Generation (RAG) systems, and as a test bed for development of the other project outputs, using open-source tools.



## 02 RESEARCH SOFTWARE TEST ENGINEERING (RSTE)

- And in doing so, build capacity and understanding in Research Software Test Engineering (RSTE), an under-appreciated practice within Research Software Engineering (RSE).
- Perhaps the essential skillset in an age of commercial capture of AI & vibe coding?



Courtesy of the Naval Surface Warfare Center, Dahlgren, VA., 1988. - U.S. Naval Historical Center Online Library  
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## 03 AOTEAROA NZ PUBLIC SERVICE AI FRAMEWORK

- Comprises:
  - Vision statement, 5 AI Principles, a section on New Zealand policy context, 6 key pillars and a description of the intended outcome of the framework's introduction.
- Acknowledges existing laws and the Treaty of Waitangi, allowing government agencies to apply Māori Data Sovereignty principles, and the Treaty of Waitangi AI Principals, in concert with the AI framework.
- Emphasises ethics and bias, particularly affecting People of Colour, Indigenous Peoples, females, and the LGBTQ+ community.
- Cautious and human-rights-based approach to AI governance.

New Zealand Government, “Public Service AI Framework”, <https://www.digital.govt.nz/standards-and-guidance/technology-and-architecture/artificial-intelligence/public-service-artificial-intelligence-framework>.

Taiuru & Associates Ltd., “6 Te Tiriti Based Artificial Intelligence Ethical Principles by Karaitiana Taiuru,” Te Kete o Karaitiana Taiuru (blog), October 23, 2023, <https://web.archive.org/web/20250220055923/https://www.taiuru.co.nz/ai-principles/>.



## 03 AOTEAROA NZ PUBLIC SERVICE AI FRAMEWORK

In the case of Aotearoa New Zealand principles of Māori data sovereignty implicit in the Public Service AI Framework will need to be tested against a wide range of scenarios: from teaching and research to library and archival science



## 04 HASTRICT RSTE PRINCIPLES

- **H:** Human
- **A:** Accountability
- **S:** System targets
- **T:** Transparent
- **R:** Reproducible
- **I:** Iterative
- **C:** Contextually Informed Measures & Baselines
- **T:** Tasks, workflows & use cases

James Smithies, Glen Berman, Karaitiana Taiuru, 'Operationalisation of Responsible AI in the Research and Cultural Sectors'. In *Building Digital Humanities*, edited by Simon Burrows et al. Radboud University Press. Under review.

Department of Industry Science and Resources, "Guidance for AI Adoption: Implementation", Department of Industry Science and Resources," **October 21, 2025**, <https://www.industry.gov.au/publications/guidance-for-ai-adoption/guidance-ai-adoption-implementation-practices>.





# 04 HASTRICT RSTE PRINCIPLES

What was discussed about Imperial relations with Britain in 1901?

Based on the parliamentary debates from 1901, several key aspects of Imperial relations with Britain were discussed:

## Colonial Trade and Commercial Unity

A major theme was **commercial integration** within the Empire. Document 4 shows discussions about Imperial unity from a commercial perspective, referencing Colonial Secretary Chamberlain's 1896 statement that Imperial unity must be approached "from the commercial side" through giving preference to colonial trade over foreign trade. However, existing treaties with Belgium (1862) and Germany (1865) were obstacles to this preferential treatment.

## Colonial Customs and Tariff Preferences

There were active discussions about **colonial tariff arrangements** (Document 20). Questions were raised about whether Britain should communicate with Colonial Governments to adopt the UK's customs tariff or establish preferential tariffs for British goods, similar to Canada's approach. Chamberlain responded that such initiatives should come from the colonies themselves rather than being imposed by Britain.

## Colonial Legislative Independence vs Imperial Control

The debates revealed tensions over **colonial autonomy**. Document 3 discusses how the British Government had vetoed colonial legislation, including New South Wales' Immigration Restriction Bill of 1896 and a Queensland Bill regarding "the colour line," despite promises at the 1897 Conference of Premiers that Britain was "eager to do all that was possible to meet the aspirations of the Australian people."

## Imperial Legal Structure

There were discussions about establishing an **Imperial Court of Appeal** (Document 15), with communications between Imperial and Commonwealth Governments regarding this judicial structure.

## Pacific Territories and Defense

Document 18 shows Australian concerns about their **responsibilities in the Pacific**, particularly regarding British New Guinea, Fiji, the Solomon Group, and other Pacific islands, with calls for clearly defined powers and responsibilities in relation to these territories.

These debates reflect the complex balance between maintaining Imperial unity while accommodating growing colonial autonomy and self-governance aspirations.

Thursday, 25 July, 1901    Thursday, 8th August, 1901    Thursday, 26 September, 1901    Wednesday, 12th June, 1901  
Friday, 19th April, 1901    Friday, 15th February, 1901    Thursday, 28th March, 1901    Wednesday, 20th February, 1901  
Friday, 15th March, 1901    Wednesday, 6th March, 1901    Wednesday, 12th June, 1901    Wednesday, 6th March, 1901  
Friday, 19th April, 1901    Wednesday, 20th February, 1901    Friday, 07 June, 1901    Thursday, 8th August, 1901  
Wednesday, 19th June, 1901    Tuesday, 19 November, 1901    Wednesday, 19th June, 1901    Saturday, 22nd March, 1901  
[View all 20 citations](#)

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Privacy Off ⓘ  
Sharing anonymous usage data and feedback

## Test Target

Atlas Version ⓘ  
0.1.8

Composite Target ⓘ  
k20\_claudet\_bert\_1900

LLM Provider ⓘ  
Anthropic

LLM Model ⓘ  
claude-sonnet-4-20250514

System Prompt ⓘ  
You are an assistant answering questions about historical parliamentary debates.  
[View Full Prompt](#)

Vector Store Overview ⓘ  
[View Overview](#)

Embedding Model ⓘ  
Livingwithmachines/bert\_1890\_1900

Algorithm ⓘ  
HNSW

Search Type ⓘ  
Similarity

Retrieval Size Single Corpus ⓘ  
500

Retrieval Size All Corpora ⓘ  
200

Search K ⓘ  
20

Search Score Threshold ⓘ  
0

Chunk Size ⓘ  
1000

Chunk Overlap ⓘ  
200

Pooling ⓘ  
mean+max

## ATLAS: Analysis and Testing of Language Models for Archival Systems

<https://github.com/AI-as-Infrastructure/aiinfra-atlas>

Trace Status

Total Cost

Latency

UNSET

\$0

17.15s

Trace

com.atlas.rag.pipeline 17.15s

com.atlas.guardrails.sensitivity 0.00ms

com.atlas.rag.retrieval 4.15s

com.atlas.rag.generation 367 12.99s

com.atlas.rag.generation.re... 0.80ms

com.atlas.rag.references 2.00ms

com.atlas.rag.generation.response

0.80ms at 7/4/2025 20:00:34 PM

Info

Annotations 6

Attributes

Events 0

name	annotator kind	user	label	score
Clarity	HUMAN	system	clarity	3
Factual Accuracy	HUMAN	system	factual_accuracy	1
Question Difficulty	HUMAN	system	question_difficulty	3
Relevance Rating	HUMAN	system	relevance	3
Source Quality	HUMAN	system	source_quality	3
User Category	HUMAN	system	user_category	1



# THANK YOU

<https://zenodo.org/communities/aiinfra/>



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