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Information Assistant for Import Condition – Proof-of-Concept

Generative AI initiative to improve access to and understanding of biosecurity import conditions managed through the Biosecurity Import Conditions system (BICON). It is designed to support departmental officers by providing accurate, context-aware responses to complex regulatory queries.

Department of Agriculture, Fisheries and Forestry

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Executive Summary

Problem Faced	Solution Overview	Benefits and Impact
Australia's import regulations are complex and highly detailed, requiring a diverse range of users –including border and onshore assessors, importers, permit and regulatory officers, internal staff using BICON, and international exporters–to interpret and apply intricate biosecurity requirements. However, current methods of accessing and navigating this regulatory information are manual, fragmented and sometime difficult to interpret. This leads to a high-risk of misinterpretation, inconsistent application of rules, compliance errors, operational delays, ad in some cases, biosecurity threats. These challenges directly and indirectly impact the APS's ability to implement policy	The **IAIC** is designed to streamline access to regulatory information by leveraging advanced AI-powered summarisation and retrieval-augmented generation (RAG). It extracts key insights from unstructured regulatory texts within the BICON system, ensuring that responses are **grounded in stored data** and allowing users to validate AI-generated summaries against the original source material. With built-in transparency and citations, IAIC enhances **accuracy, trust, and compliance** while reducing the time and effort required for regulatory interpretation. Key features: • Smart search, retrieval and summarisation	**Key Benefits:** **Operational efficiency and time savings –** Reduces manual searches and accelerates access to regulatory information. **Streamlined search and improved accessibility** – Enhances the ease of navigating import conditions from BICON. **Demystifies regulatory content** – Simplifies complex import rules to improve understanding. **Supports compliance and risk mitigation** – Ensures alignment with biosecurity standards and minimises regulatory breaches. **Scalability and integration** – Designed for future expansion and seamless integration into existing systems.

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Problem Faced	Solution Overview	Benefits and Impact
effectively, deliver service efficiently, and manage biosecurity risks in a timely and consistent manner. From a business perspective, this creates inefficiencies across in regulatory workflows, increase the burden on frontline staff and introduce gaps in policy interpretation and service delivery. Existing system and approaches – such as static guidance, or reliance on manual search and interpretation – are no longer sufficient to meet the growing complexity and pace of international trade, the dynamic and evolving nature of biosecurity threats, and the frequent changes to regulatory information required to respond to emerging risks. There is a critical need for an AI-enabled solution that can simplify and streamline access to regulatory	• Personalised user experience • Document embedding and semantic search • Secure and controlled information access • Accurate and contextual response • Continuous learning and feedback integration • Intuitive user interface	**Impact**: Supports diverse user groups to perform their roles more efficiently and effectively.

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Problem Faced	Solution Overview	Benefits and Impact
information, improve user understanding, and support consistent and accurate operational outcomes. Solution like IAIC will strengthen risk management, reduce processing times, and support the APS in delivering high-quality, compliant, and timely services.		

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Target Audience and Stakeholders	Risks and Mitigation Overview	Use Case Status
Key users: Department's internal staff including Permit Assessment Officers, Assessing Officers, BOD Inspectors, Customer Service Officer A broad range of stakeholders were consulted and engaged across various key areas of the department, including Cyber Security, Legals, Data Governance, IT Architecture etc. Business areas were actively involved and consulted at every stage, helping shape the tool's direction and functionality.	1. Managing cross-functional collaboration and competing priorities 2. Cultural resistance to adoption 3. System integration and large data volume require careful performance management To mitigate these risks, early engagement with stakeholders, structured workload planning, incremental testing, and executive support are essential, ensuring smooth integration, balanced resource distribution, and timely delivery.	Pilot **Use case timeline** **June - November 2024:** Initial system setup and infrastructure feasibility assessment **November 2024:** Consultation on key features for the frontend interface (landing page, authentication, feedback features). **November 2024 - present:** UAT and refinement (chat history, data curation, web application launch) in UAT environment.

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Additional Information

The Information Assistant for Import Conditions (IAIC) is an AI-driven tool designed to streamline access to import regulations from BICON. It leverages Retrieval-Augmented Generation (RAG) to provide accurate, citation-backed responses, reducing manual search time. The system integrates with Azure infrastructure for data storage, indexing, and retrieval, ensuring efficiency and compliance with Australia's AI Principles. By enhancing accessibility and operational efficiency, IAIC supports trade compliance while safeguarding national biosecurity.

Lessons Learned

1. **Engaging stakeholders early is critical** to ensure alignment, manage expectations, and build shared understanding from the start
2. **Bringing business areas along the journey** through continuous collaboration helped build trust, drive adoption, and uncover valuable insights.
3. **Understanding the AI project from multiple perspectives** including business needs, data, functionality, and infrastructure—is essential.
4. **Assess data classification and quality early** to avoid downstream challenges and inform realistic planning.

Contact information

Responsible Entity

Department of Agriculture Fisheries and Forestry

Area of Entity

Artificial Intelligence Unit

Use Case Website/s

N/A

Open for Collaboration?

We are open to collaboration with other Commonwealth entities to share insights, align technical standards, and support responsible AI adoption. Working together ensures consistency, compliance, and efficiency in AI-driven solutions across government.

Use Case Contact

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Use Case Owner

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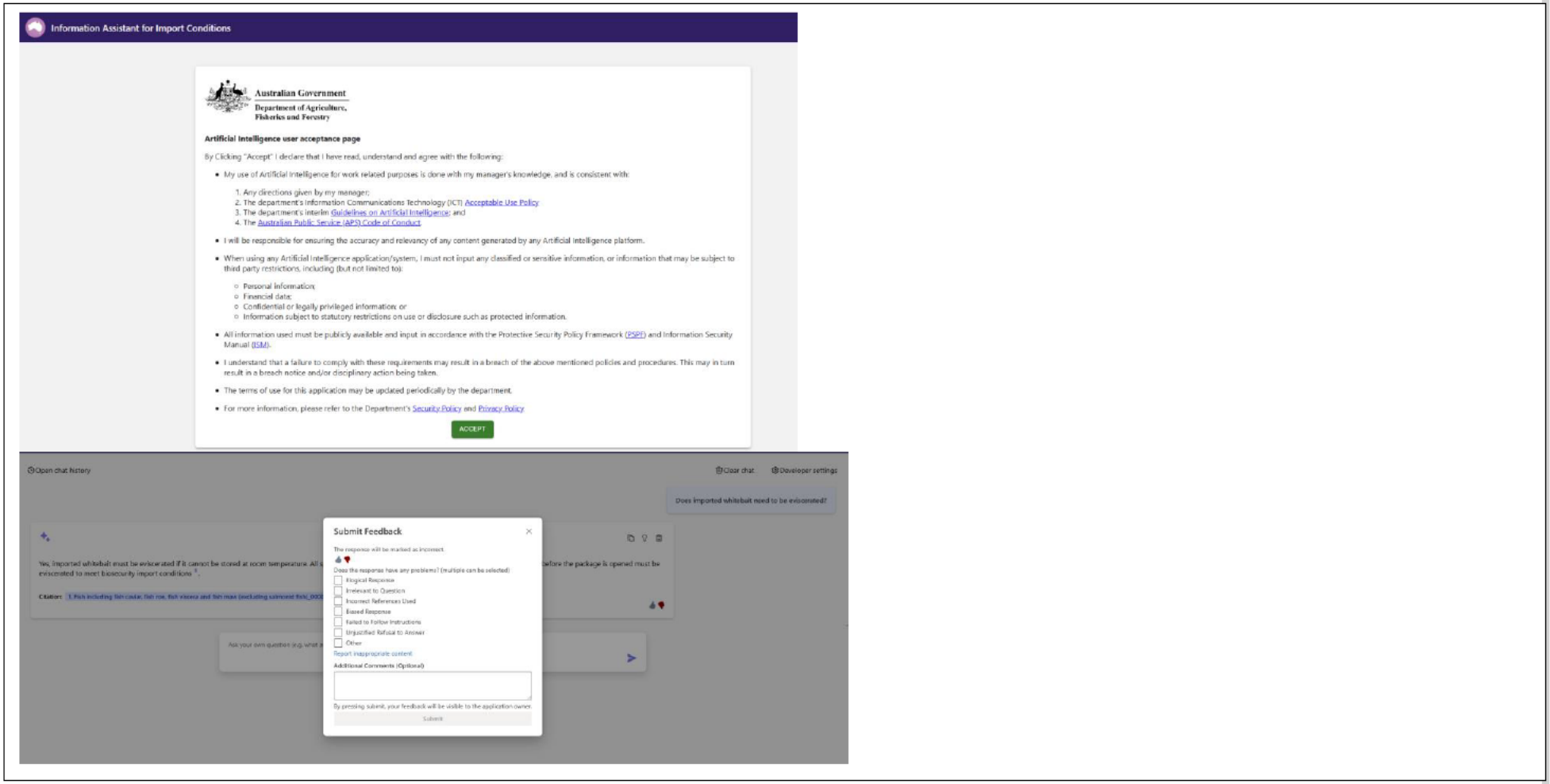
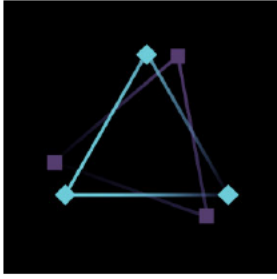
Additional Information	Lessons Learned	Contact information
	5. **Know department's infrastructure/system limits and practices** to ensure AI solution is feasible and sustainable. 6. **Ongoing evaluation and user testing** refine the tool and ensure it meets real user needs.	

Screenshot/s





Detailed Overview

Version Control

Version	Date	Author	Description of Changes
1.0	3 Feb 2025	GovAI	Version 1 created
1.1	17 Mar 2025	GovAI	Modified based on feedback

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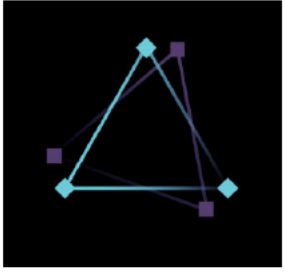
Note: For details about category items in the detailed overview, see *APS AI Use Case Repository Guidance- Guidance for Use Case Owners and Editors*.

Responsible Organisation Category

Select the Classification of the Functions of Government – Australia (COFOG-A) 3-digit category that best identifies the functional area associated with your AI use case.

☒ **01 - General Public Services**	019 - General public services (other)
☐ **02 - Defence**	Choose an item.
☐ **03 - Public Order and Safety**	Choose an item.
☐ **04 - Economic Affairs**	Choose an item.
☐ **05 - Environmental Protection**	Choose an item.
☐ **06 - Housing and Community Amenities**	Choose an item.
☐ **07 - Health**	Choose an item.
☐ **08 - Recreation, Culture, and Religion**	Choose an item.
☐ **09 - Education**	Choose an item.
☐ **10 - Social Protection**	Choose an item.
☐ **11 - Transport**	Choose an item.

Scope of the Use Case



Use the dropdown menus below to identify the scope of your use case.

Geographical focus Choose the region for implementation from the dropdown list	National
Primary type of government interaction Choose the type of government interaction from the dropdown list	Government-to-government (G2G)
Cross-features - Sector Indicate if the use case describes a solution that can be used across sectors or in cross-sector scenarios (Yes/No).	Yes
Cross-features – Jurisdiction Indicate if the use case describes a solution that can be used across State/Federal borders or in cross-border scenarios (Yes/No)	Yes

Ethical Considerations

Accuracy, Fairness, Accessibility, Bias and Discrimination	To ensure the IAIC tool is accurate, fair, accessible, representative, free from bias, and non-discriminatory, we adhere to Australia's AI Ethics Principles, draft AI Technical Standards, and the Pilot Australian Government AI Assurance Framework. The system uses a Retrieval-Augmented Generation (RAG) architecture that responses from a trusted, publicly available database of import conditions, supported by rigorous testing, prompt engineering, and continuous evaluation to maintain accuracy and reliability. Fairness, accessibility, and non-discrimination are embedded through inclusive design, multilingual support, role-based access, and a feedback mechanism that enables users to report issues such as bias or stereotyping, which are then reviewed and addressed to uphold ethical and human rights standards.

Privacy	IAIC tool doesn't use personal data in its training or source datasets, as it relies solely on publicly available import condition information. While user inputs during chat interactions are collected to support system evaluation and improvement, this data is only accessible to individuals with appropriate role-based access to the chat history database. Users are informed via a user acceptance page—developed in alignment with the GenAI Interim Guide—not to provide personal or sensitive information during interactions with the tool.
Rights of Users	Users are informed via the IAIC application interface that they are interacting with this tool and that its outputs are AI-generated. The system includes a feedback mechanism that allows users to rate and comment on responses, with all interactions logged to support transparency and contestability. While the IAIC tool is not used for administrative decision-making, if an AI-generated output is challenged, the recorded interaction can be used as evidence, and legal advice will guide the review and accountability process.

Value of the Use Case

Identify the public value that the solution provides or is expected to provide. Select from the multi-select options.

Improved public service This category refers to solutions that enhance the services provided to end users, whether they are citizens or businesses.	☐ Personalised services ☐ Public (citizen)-centred services ☒ Increased quality of public information and services ☒ More responsive, efficient and cost-effective public services ☐ New services or channels
Improved administrative efficiency This category refers to solutions that increase efficiency, effectiveness, and	☒ Cost reduction ☐ Responsiveness of government operation

quality while reducing costs within administrative processes, systems, and services.	☐ Improved management of public resources ☒ Increased quality of processes and systems ☒ Better collaboration and better communication ☐ Reduced risk of corruption and abuse of the law by public servants ☐ Greater fairness, honesty and equality enabled
Open government capabilities This category refers to solutions that enhance the level of openness, transparency, engagement, and communication within public organisations.	☒ Increased transparency of public sector operations ☐ Increased public participation in government actions and policymaking ☐ Improved public control of and influence on government actions and policies

AI Process Type

Select the types of tasks within government operations that the AI solution is performing or expected to perform

Supporting Decision Making- Tasks that support formal or informal agency decision-making on benefits or rights.	☐ Taking decisions on benefits ☐ Managing copyright and intellectual property rights
Analysis, monitoring and regulatory research – Tasks that collect or analyse information that shapes agency policymaking.	☒ Information analysis processes ☐ Monitoring policy implementation ☐ Innovating public policy ☐ Prediction and planning
Enforcement - Tasks that identify or prioritise targets of agency enforcement action.	☐ Smart recognition processes ☐ Management of auditing and logging ☐ Predictive enforcement processes ☐ Supporting inspection processes ☐ Improving cybersecurity ☐ Registration and data notarisation processes ☐ Certification and validation processes
Internal management -	☐ Internal primary processes ☒ Internal support processes

Tasks that support agency management of resources, including employee management, procurement, and maintenance of technology systems.	☐ Internal management processes ☐ Procurement management ☐ Financial management and support
Public services and engagement – Tasks that support the direct provision of services to the public or facilitate communication with the public for regulatory or other purposes.	☐ Engagement management ☐ Data-sharing management ☐ Governance and voting ☐ Payments and international transactions ☐ Supporting disintermediation ☐ Authentication of self-sovereign digital ID services ☐ Service integration ☐ Service personalisation ☐ Tracking of goods and assets along the supply chain

AI Technologies Utilised

Select the types of AI technologies proposed / utilised to deliver the use case.

Reasoning or Knowledge Representation AI systems that store, structure, and process knowledge to make inferences, derive conclusions, or support decision-making.	☒ Knowledge Representation ☐ Automated Reasoning ☐ Commonsense Reasoning
Planning and Optimisation AI techniques that generate, refine, and optimise action sequences or resource allocation to achieve specific goals efficiently.	☐ Planning and Scheduling ☒ Searching ☐ Optimisation
Learning and Adaptation AI systems that identify patterns, extract insights, and improve performance over time based on data.	☐ Machine Learning ☐ Deep Learning ☒ Generative AI
Communication and Natural Language Processing	☒ Natural Language Processing (NLP) ☒ Text Generation ☒ Text Mining

AI systems that process, interpret, and generate human language for interaction, comprehension, and automation.	☒ Machine Translation
Perception through the Senses AI systems that process and interpret sensory data, such as visual, auditory, or tactile inputs, to understand and respond to their environment.	☐ Computer Vision ☐ Audio Processing
Integration and Interaction with the Environment AI systems that interact with physical or digital environments, including autonomous agents, robotics, and interconnected systems.	☐ Multi-agent Systems ☐ Robotics and Automation ☐ Connected and Automated Vehicles (CAVs)
AI as a Service AI capabilities delivered through cloud-based platforms, offering tools, models, and infrastructure for AI-powered applications.	☐ AI Services (e.g., cognitive computing, machine learning frameworks, bots) ☐ Infrastructure as a Service (IaaS) ☒ Platform as a Service (PaaS) ☐ Software as a Service (SaaS)
Additional Comments or Explanation:	If you have selected any of the subcategories above, feel free to provide more detailed comments or a description of how these elements apply to your specific use case.

Technical Elements

Platform implementation	The IAIC solution is hosted on Department's Microsoft Azure environment leveraging Web Apps, Application Gateway, and Azure Functions, with data stored in Azure SQL, Blob Storage, and CosmosDB. It uses Entra ID and MyIdentity for secure internal access and integrates with the BICON system and internal data analytics platform for real-time data curation. AI services like Azure OpenAI and AI Search power the chat interface to enable natural language interaction, document discovery, and summarisation. This architecture ensures compliance with internal

	IT policies while supporting responsiveness and reliability at scale.	
Model / Algorithm used	The IAIC solution uses a Retrieval-Augmented Generation (RAG) approach powered by Azure OpenAI for chat completions and Azure AI Search for semantic retrieval. Several design alternatives including DataBricks AI App, LLaMA were considered and rejected by designers and stakeholders in the development of this solution architecture.	
Data Sources Select the types of data sources used and provide relevant details.	☐ Internal ☒ Public	☐ Third-party ☐ Synthetic
	Details: BICON - Australian Biosecurity Import Conditions	
Risk Assessment and Mitigation Details	Refer to earlier risk and mitigation section	
Security and Compliance Frameworks Select the security and compliance frameworks and measures implemented. Provide details or additional artifacts if relevant.	☐ Authority to Operate (ATO) ☐ System Security Plan (SSP) ☐ Security Risk Management Plan (SRMP)	☐ Information Security Registered Assessors Program (IRAP) ☐ Penetration Testing
	Details:	
Assurance and Government Frameworks	Pilot Australian Government AI Assurance Framework, Policy for the Responsible Use of AI in Government, and Draft AI Technical Standards	
Record maintenance	IAIC does not make autonomous decisions within this system; rather, it supports users by providing guidance and insights. All testing, including model performance and integration testing, is documented as part of Azure DevOps' pull request to ensure traceability and transparency. Documentation of data assets includes descriptions of source datasets, data transformations, and any	

	limitations or assumptions, and is maintained in department's data warehouse with full traceability on data lineage and transformation stored in metadata. Documentation also captures known limitations, assumptions, and model improvement history to support auditability, assurance reviews, and compliance with internal data governance frameworks.
Disengagement	If the IAIC is down, the BICON website can still be used.
Performance Metrics and Results	Internal evaluation is conducted using the RAGAS evaluation framework to assess AI performance and output quality. A built-in feedback feature–such as thumbs up/down–allows end users to provide real-time input, enabling ongoing monitoring and continuous improvement based on user experience and perceived benefits. Some key performance indicators and metrics: 1. GPT coherence 2. GPT relevance 3. GPT groundedness 4. GPT similarities 5. GPT fluency 6. F1 score