



Integrate. Analyse. Discover. Take Action.

# AI Platform for the Public Sector

by **wild**  **ouse**

*Enterprise AI backbone  
Intelligent, learning document processing and search.  
Find everything.  
Automated intelligent decisions.*

# Turning Government Data into Gold

To fulfil their respective missions, public sector agencies commonly need to call on two forms of knowledge- the life cycle or history of citizens or clients; and the complex and varied clusters of factors influencing the lives of citizens or clients. Instead, public sector knowledge is fragmented both internally across generations of unconnected data bases; and externally between agencies.

## Big Public Data and Innovation

In economic terms, that there is enormous value in public sector datasets where it can be mined. The value of shared datasets and information, in both economic and social terms, has fostered considerable innovation. In the public health sector, the integration of large client data sets has spawned new public health discoveries – new drugs, diagnoses and therapies. Similarly, leverage of once scattered large-scale environmental data is giving us better, real time understanding of the dynamics of climate change and of disasters.

Instead, the focus of debate in the public sector about big data has been on the issue of openness or access to public data sets. While important, the more profound innovations emanate from internal transformation – using intelligent tools to work across organizational silos; across disciplines and jurisdictions; and professions.

Previous attempts to collate, store and “mine” expert knowledge through knowledge management taxonomies and standards have proven expensive, time consuming and difficult to enforce. Likewise attempts to encourage knowledge sharing through collaboration platforms across organizational boundaries and silos have fallen well short of aspirations. Sharing may not be a natural act!



# Time for a new Paradigm: *Unearth Value Mining*

Developed in Australia, Unearth is a complete AI platform, delivering a set of capabilities that drive productivity, automate processes and enhance regulation. Unearth uses a unique approach that is based on using a series of AI processes integrate many sources of information together, to extract meaning and context from that information, to allow discovery of patterns and relationships between items and ultimately, automated AI-powered tools to automatically take action as the information changes.

The essence of Artificial Intelligence (AI) is the ability to train intelligent tools to recognize types of objects, to identify patterns and over time, chains of cause and effect. AI is used at multiple points in the Unearth process of ingesting, understanding, storing and searching for documents

## Unearth: the first adopters and lessons learned

At each stage of implementation, Unearth will deliver direct savings and value to your bottom line. Unearth “mines” your enterprise knowledge through four stages:

1. Bringing all information (CAD files, maps, hand drawing, legal contracts; briefs, project plans; planning certificates) on a project, topic, or tender to a single point, and ingesting that data in a common searchable format

*Unearth is being used by a public health body to transfer and collate files and data on cancer clients (which is presently distributed among health providers) to a single commonly searchable digital point, increasing the coordination and cost of care*

2. Analysing and storing that data by location, client type, problems; sources (subject experts etc)

*A global engineering firm is using Unearth to ingest all information related to projects enabling its engineers and project teams to save time (estimated 15% for knowledge workers) and reduce risk because the right versions of project and contract documents are always being used.*

3. Creating a “virtual” centre to monitor bids and projects to avoid duplication of resources and to conduct historical or time series search of past projects to find common threads, past lessons, and hidden gems to drive innovations.

*An Australian mining giant used Unearth to “prospect” from HQ for precious metals using historical records and data to work out where to drill by putting together a detailed and accurate picture of geology*

*A national science agency is reducing the duplication of research effort by improving the ability to search across the whole organisation and across terminology.*

4. Manage and monitor all communications and transmissions on a project for accuracy, completeness and consistency to identify emerging trends in client expectations and their decision-making processes.

*A national health insurer is using Unearth to process and automatically monitor and detect fraud across millions of medical claims.*

AI is just like trained graduates doing tasks ...

Thousands of trained graduates ...

That work instantly ...



## Integrate

## Analyse

## Discover

## Take Action

At each stage of implementation, Uearth will deliver direct savings and value to your bottom line.

Uearth “mines” your enterprise knowledge through four stages.



## Value mining

### Integrate

Uearth can bring together data from over 200 sources, including repositories on-premises and in the cloud, data from various business systems like CRM, HRIS and finance systems, documents that have been scanned and information from the web and from social media.

Uearth can consume data from and virtually any kind of file:

- It can turn old, physical or scanned documents into searchable and valuable data through a unique process
- It can extract spoken words from video or audio files
- It can deal with documents in virtually any format
- It can extract data from CAD files and diagrams

### Analyse

As Uearth ingests documents it analyses them and works out what to do based on the type of document it identifies and where it came from. Uearth contains an extensible trained AI model that it uses to perform this additional processing.

Uearth performs a set of complex AI-powered tasks on all content that is ingested to extract the *meaning* from documents to create an organisational Knowledge Store that brings information together within and across silos.

Information contained in images, diagrams, maps, video and audio is extracted and analysed. The meaning of sentences, paragraphs and documents is understood. Documents are categorised as contracts, agreements, findings and so on.

The location and timeframe that each piece of content relates to is extracted. Technical terms and acronyms are all brought to a common understanding.



Unearth extracts data from documents, so it understands the timeframe that documents refer to. It also extracts locations that documents relate to. This allows documents to be searched, displayed and filtered by time and by geography. Unearth can also be trained to understand other data such as part numbers and other ways of identifying items of specific interest from ingested documents. This includes from CAD files, from images in documents and from maps in documents, as well as from databases.

Once documents have been processed, they are stored into the Knowledge Store or any other repository applicable for the type of document.

## Discover

As well as processing documents itself, Unearth provides the optimal experience to allow people within organisations to make informed decisions by providing access to a range of correct and up-to-date information.

The Knowledge Store is organised into subjects, allowing content to be categorised into one or more areas, with the methods used to categorise and find content able to be tuned from one subject to another.

The Unearth Knowledge Store can be searched with natural language or special search syntaxes developed especially for organisational scenarios. The search UI is configurable, and an API allows searching from other systems. Feedback is gathered from the search experience explicitly and implicitly, helping Unearth's AI to provide more accurate results over time.

Results are ordered by the importance of document based on configuration. Results can be mapped, and selected by location, as well as by time from a timeline. Filtering and facets allow documents to be isolated within results. Each document is shown as an extract from each positive search result. Documents can be opened to the page where the result was found, the minute in the video where the words were spoken and so on. Files are opened from their original location.

# 1touch™

Unearth can include the patented 1touch software, also developed by Wild Mouse. 1touch uses AI to extract data from transactional documents such as receipts in a highly accurate manner despite changing formats of ingested documents. It can deal with missing information and is able to cross-check to rate the accuracy of its processing itself. By using this, the processing of many types of paper documents such as claims, and associated receipts can be automated and accelerated, providing an effective check and reducing fraud.



It also respects security so that users can't see search results from documents or data that they wouldn't otherwise be able to open.

All-in-all the result is the ability to find things easily, without the need to match words or search the right location. Uneath doesn't just digitise warehouses of documents – it makes documents accessible, usable and actionable.

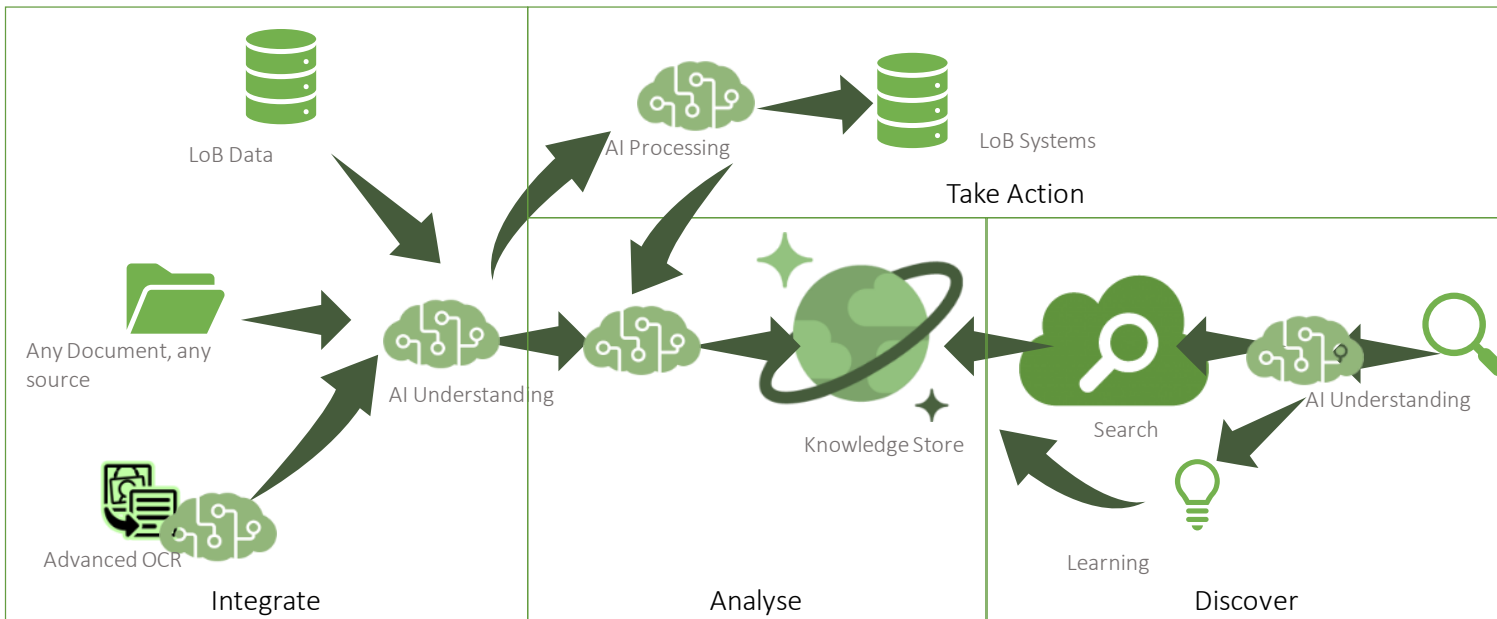
The tender process can be accelerated and simplified by analysis of tender documentation, fast location required information and reuse of past successful tender documentation.

### Take Action

The real power of Uneath comes from its ability to make use of the knowledge it gathers, even as it ingests more information. As each piece is ingested, Uneath can understand it and decide if it should perform some kind of action on it. Some examples of this process include:

- Emails received can be assessed, routed appropriately, replied to and archived
- Documents can be checked for appropriate format, content and metadata and saved to a repository when correct
- Monitor and report non-compliance of business processes
- Scans of documents that include maps or images might receive special OCR processing
- Documents identified as receipts, purchase orders and so on might be verified and processed and checked to correctness and against potential for fraud

## The Technology



Uneath is hosted on the Microsoft Azure platform and uses numerous cognitive services tools provided by Microsoft. This provides scalability, reliability, security and hosting in your preferred location. On premises hosting is possible. It can be hosted in your Azure own instance or Data Centre or provided as a SaaS solution. The use of AI building blocks developed by Microsoft allows the product to make use of the continual improvement of the Azure platform.



# Implementation

Uneath is implemented in phases, guided by Wild Mouse, with each phase adding further capabilities. Given that all information such as documents and data stay where they are stored and Uneath creates metadata from them there is little risk in an implantation and it is light touch.



Wild Mouse is the inventor and developer of Uneath. It is home to top Australian data scientists and information specialists to ensure an effective implementation and integration. Grounded in the complexity of architecture and engineering, Wild Mouse has experience with large project delivery (\$30m+), experience in government (\$10m+). A truly innovative local business, Wild Mouse are local leaders in Artificial Intelligence and have an excellent relationship with Microsoft.

After an initial design of the Corpora, or knowledge structure, connection of Uneath to the organisation's security infrastructure and setup of admin users, Microsoft Flow is configured to connect the data sources to Uneath and an initial ingestion occurs. The initial ingestion will take some time and will create a better search experience than any other product in most cases, even without customisation.

The real value comes from a design process though that will configure the Corpora for the organisation and its industry, allowing Uneath to complete its full contextual understanding and provide maximum value. Wild Mouse staff will help with this design, planning and configuration process. At this point

additional, specialised AI tools may be implemented, such as specialised image recognition or 1touch.

At a later point in the process Wild Mouse can configure Veriluma to add decision making to complete the AI platform and maximise the value provided by Uneath.

## Next Steps

For a demonstration of the product and to discuss the technology and how it might work for your organisation contact Kevin Francis on +61 438 307 080 or at [letschat@wildmouse.com](mailto:letschat@wildmouse.com).





 [www.unearth.ai](http://www.unearth.ai)



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