

Turning your project data into predictive intelligence



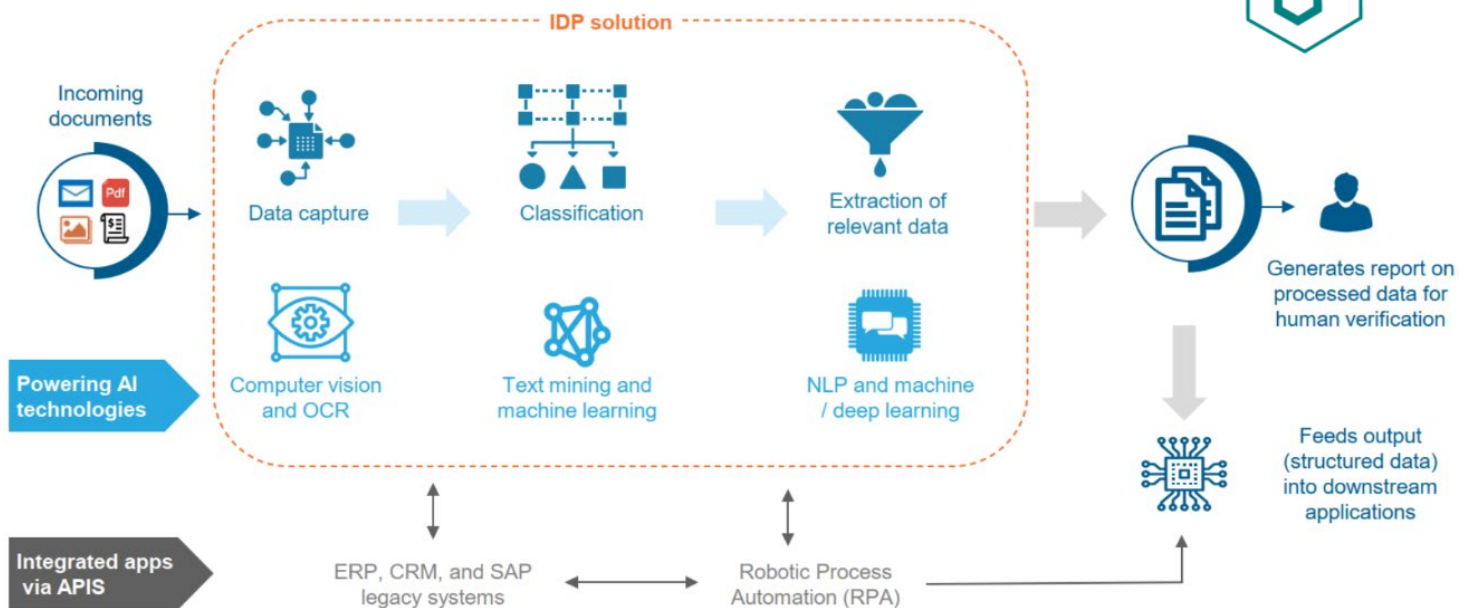
How AI predicts risks to improve healthcare

As an **Oracle Technology Partner**, we have access to new generative AI services for healthcare organisations in the form of a new Oracle Clinical Digital Assistant, enabling providers to leverage the power of generative AI together with voice commands to reduce manual work and place more focus on patient care. Here, companies use both past and present project data on their existing platforms to predict the future – and improve project delivery.

So how can companies start?

AI-powered software development has revolutionised how software is conceptualised, created, tested, and managed. With AI-assisted tools, developers can explore new ideas and receive intelligent suggestions for new, upgraded, or refactored code. Moreover, routine tasks can be automated, making AI tools an integral part of every software development life cycle (SDLC) stage.

Uncover potential future risks, assess their impact, and take proactive actions to improve overall Client outcomes.



Intelligent Document Processing (IDP) solutions use AI technologies to analyse risks from e-mails: Using Natural Language Processing (NLP) AI, just like Alexa, Siri, and Google Home, we can analyse project communications to scan emails, project correspondence to extract text and classify data to identify risks early on. We identify litigation risks in **Aconex Collaboration platform**, by using AI to analyse conversations between stakeholders to plot the trend over time and then look at the distribution across project teams. Also, NLP can plot these risks and how this developed over time and the key words being triggered.

Recognising content in images

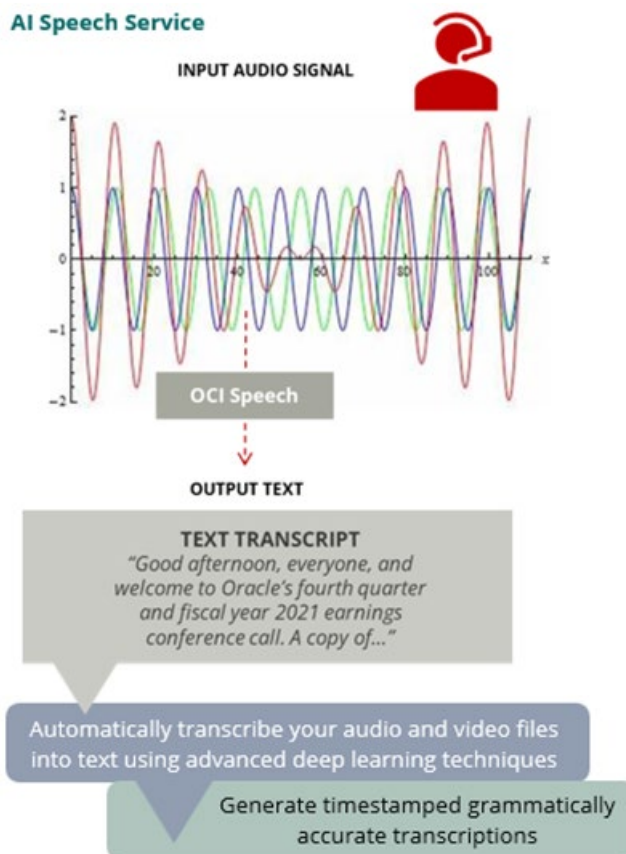
Common use cases

- Digital asset management annotate your documents, images, and videos to make them discoverable and searchable.
- Identify visual anomalies in your data.
- Business process automation – recognise and extract text from your scanned documents or images (invoices, receipts, IDs, tax forms, etc.)
- Detect and classify objects in images.

Challenges

- Genera-purpose models don't work for specific business scenarios.
- Training custom models require data science expertise and significant investment in data labelling.
- Understanding unclear text is difficult – handwritten, tilted, shaded, rotated, etc.

AI Speech Service



Automatically flags critical incidents in asset monitoring, maintenance, and surveillance.



Classify text content into 600+ categories to support data analysis:

Challenges

- Difficulty in labelling a wide variety of data types.
- Inconsistent integration across different AI services and Machine Learning tools.
- Lack of consistent labelling experience for multiple types of model training.
- Most data are unstructured. But accurate Machine Learning requires labelled data sets for training.
- Label images and classify them to create training data for computer vision models.

Practical Applications:

- Provides custom templates and multiple annotation formats. Label data according to the needs of machine learning models. Annotate images, text, or documents in just three steps: Create a dataset by loading data, annotating it, and exporting it.
- Export annotated data record in JSON format to object storage. and integrate them into custom model-building processes without any transformations. Developers and data engineers can label datasets as part of a custom model-training workflow.



Document labelling: Upload documents, including PDF and TIFF formats, and add labels. These labels are helpful for scenarios like training custom document-classification models for classifying support tickets.

Image labelling: Developers can upload raw images, add labels, and highlight areas of images. By adding these labels to images, the resulting datasets can be used to train custom image classification and object-detection models.

Text labelling: Upload text-classification labels to automatically identify key information in text. Effective data modelling requires to label text for identifying entities, topics, sentiments for Natural Language Processing (NLP) models.

Leverage data from past projects and continuous learning to provide predictions that enable fast, proactive decision-making.



You've been collecting data for years. Now, you can put it to work.

Generative AI-powered **Oracle Clinical Digital Assistant** is a multimodal voice and screen-based assistant participates in the appointment using generative AI to automate note taking and to propose context-aware next actions, such as ordering medication or scheduling labs and follow-up appointments. The Oracle Clinical Digital Assistant also responds to conversational voice commands such as 'show me the patient's latest MRI results,' to look up patient's record during an appointment.

Benefits



The generative AI-powered Oracle Clinical Digital Assistant to give their full attention to patients while dramatically simplifying administrative tasks. The multimodal voice and screen-based assistant participates in the appointment using generative AI to automate note taking and to propose context-aware next actions, such as ordering medication or scheduling labs and follow-up appointments.



Providers can also deliver helpful information to patients via web chat embedded in their secure patient portal, such as a reminder to bring required lab results to an upcoming visit.



Data processing ability to access, analyse, manipulate, and store large volumes of data. AI training requires processing high-resolution images and will need to reoccur periodically.



By using artificial intelligence for financial needs and operations, a healthcare organisation can benefit using **AI for healthcare finances** in the following ways:

- Root cause analysis of issues both sudden and gradual.
- Predictive analytics on trends throughout the organisation that impact the bottom line.
- Modelling to optimise processes, resources, and supply chain needs.
- Identifying and automating repetitive tasks to improve process efficiency.

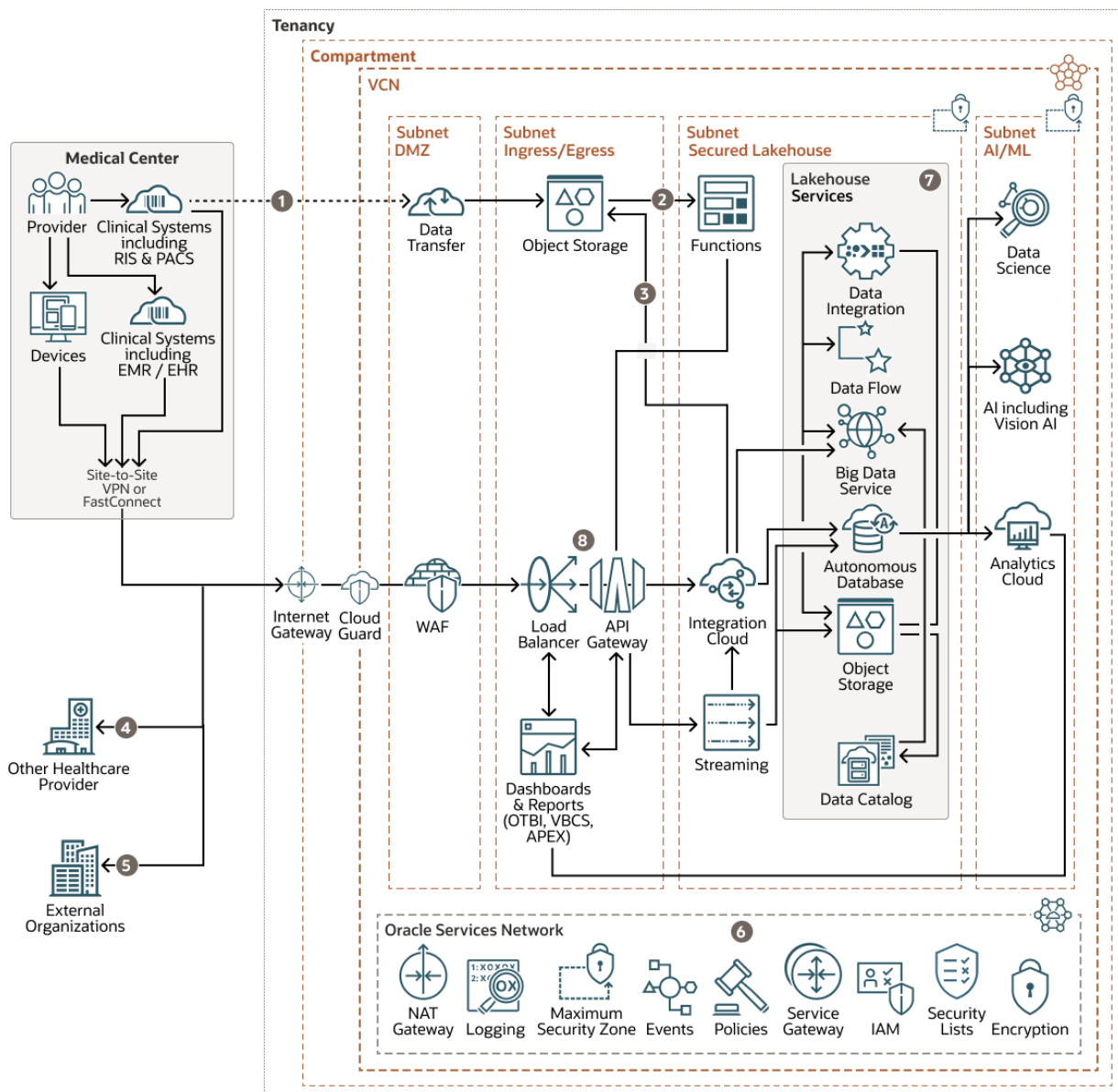


Natural Language Processing (NLP) to not just read but understand project communication to identify risks.

Example Adult Social Care (ASC) & Healthcare AI

Use of Oracle Cloud Infrastructure Lakehouse (Data Lakehouse), to facilitate artificial intelligence (AI) and machine learning (ML) to enhance patient experience.

The setup of a healthcare system, in terms of patient experience, allows the getting accurate patient information to clinicians as quickly as possible, with an ease that removes unnecessary burdens, allowing the clinician to spend as much time on the patient's case as possible.



Example AI architecture showing a medical centre accessing and using an OCI Data

Example Case Study scenario: For example, a General Practitioner (GP) or a Primary Care Provider (PCP) believe their patient is exhibiting signs of pneumonia. They referred the patient to a medical centre (hospital or imaging centre) for a chest x-ray to investigate if pneumonia or something else is causing the patient's symptoms. The first step in this process is to set up an appointment with the medical centre and share the patient's electronic medical record (EMR) or electronic health record (EHR). Ideally, this data would be incorporated in the Data Lakehouse.

The radiology staff at the medical centre would take the x-rays, but from that point forward, the Data Lakehouse and related technologies play an active role in the diagnosis process. The x-ray image is created using the radiology information system (RIS) and stored using either the picture archiving and communication system (PACS) or a newer generation of data storage such as the Vendor Neutral Archive (VNA). The images are likely stored using a medical imaging format such as Digital Imaging and Communications in Medicine (DICOM), that stores a very high-resolution image with its associated metadata, such as details about where and when the image was generated and the type of modality (how the image was captured). This metadata is linked to the correct patient and their records.

Simplify the anomaly detection models by creating customised Machine Learning models, by taking the data uploaded by users.



Experience of Adult Social Care (ASC) & Healthcare AI Solutions

Oracle Health Data Intelligence, formerly HealthIntent, is a modular suite of cloud applications, services, and analytics. The suite is designed to enable a broad range of healthcare and government stakeholders to use data from across the healthcare ecosystem to help advance patient health, improve care delivery and drive operational efficiency.

This is integrated with Oracle's electronic health record (EHR) solutions, the Clinical Digital Assistant makes it easy for patients to take self-service actions such as scheduling appointments or checking clinical information at their convenience using simple voice commands.

The platform integrates, secures, and analyses data from a broad range of sources, including electronic health records, enterprise applications, insurance claims and demographic records, to provide a more comprehensive view of individual patients and overall population health. This EHR-agnostic technology is designed to enable organisations to eliminate the cost and complexity of trying to integrate disparate data and systems on their own, which risks an uncertain ROI and can take years to accomplish.

With artificial intelligence, medical teams can get updates, analysis, and reports automatically generated, saving them time while also highlighting preventative care issues to bring up with patients during their appointments. This enables a more proactive and thorough approach to healthcare while reducing the workload on staff.

New capabilities in the **Oracle Digital Assistant Platform** also enable patients to take more control over their healthcare through **patient self-service capabilities**. Patients can take self-service actions that range from using voice commands to schedule an appointment or pay a bill to getting generative AI-driven answers to questions such as, *'what happens during a colonoscopy?'*



Consultancy at contractor prices



A low risk choice



Consulting as a Subscription



Agile implementation



Flexible Consulting Framework



"Speed to Value" is our USP



Greater control over suppliers



Tracked communication

So, how can you start?

ORACLE PARTNER

Developers can leverage Oracle Code Assist to increase velocity and code consistency to improve the maintenance of applications in a safe, rigorous, and compliant manner.

Oracle Code Assist helps each step in the SDLC by providing code snippets, dependency analysis, error mitigation alternatives, test cases, annotation, summarisation, and documentation. Deployed as a development environment plugin for JetBrains IntelliJ IDEA or Microsoft Visual Studio Code, Oracle Code Assist is planned to be specifically trained to provide expert, opinionated feedback to help developers build, optimise, and upgrade applications wherever they are run.



Code Generation: Provides code suggestions based on learned context and patterns.



Code Annotation: Generates application programming interface (API) documentation.



Faster Code Reviews: Initiates a pull request to merge changes into a repository.



Test Coverage Generation: Creates unit and functional tests based on the context of the code.

Oracle Code Assist is also expected to help developers enhance code consistency and optimisation with:



Tailored Suggestions: Incorporates an organisation's coding frameworks, internal libraries, best practices, and industry-specific standards to generate organisation-specific code. This helps developers with code reviews, updates, and integration into existing codebases.



Code Origination Context: Filters the code it generates to ensure it is not sourced from non-permissive licenses. This helps developers address compliance risks.



Automated Language Upgrades: Converts and updates existing code into the current language version using newer libraries. This helps developers improve an application's performance and quality by leveraging the latest features of the language or framework used.



Code Analysis: Identifies bugs and inefficiencies and produces opinionated code based on an organisation's software development practices. This helps developers deliver more rigorous code that is consistent with their proprietary codebase.



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