Digital Problem Solvers in Oil & Gas

We specialise in conceptualizing and delivering digital solutions that create value for our clients.
Hi, welcome to Eigen. I’m Murray Callander, co-founder and CEO. We specialise in delivering digital solutions that help our customers run their oil and gas operations more safely and efficiently by discovering the insights hidden in their multiple data streams.

Founded in 2007, we have over 100 years of combined experience in Industrial Automation and the Digitalization of Operations. We provide software and expert services to connect, untangle, analyse, and visualise data and information.

Murray Callander
Our Solutions

Increase Efficiency
Our digital technologies eliminate clutter, duplication, and confusion to drive efficiencies in meetings, periodic reporting, planning and execution. Efficient morning meetings and reporting, automating information capture and distribution. Dashboards that deliver reliable, up to date data integrated around key use cases. Custom domain-specific portals and applications to drive workflow efficiencies.

Digitalise Operations
Solutions to visualise your remote field performance against objectives, spot production and injector well performance deviations at-a-glance, access well documentation, drag-and-drop to create a new activity. Automate asset verifications: blowdown performance, shut-in events verifications, valve travel-time and other safety compliance conditions. Visualise People On Board names, roles, faces and contact details by integrating data from various sources, flight schedules, weather, production performance, team news and notifications via intuitive dashboards.

Risk Management and Compliance
Eigen’s Safety Barrier Health Monitoring empowers users to perform effective Barrier Management by capturing all the information necessary to assess the status of all barriers and deliver real-time monitoring of barrier impairment and the overall, or per area, risk posture. The Major Accident Risk Indicator web app represents the use of a cloud-native knowledge graph to determine the cumulative risk from multiple sources.

Improve Decision Making
Make the right decisions based on the priority and context provided by Eigen’s Knowledge Graph technology. Eigen’s digital twin knowledge graph technology provides the focus required to make resource-constrained decisions in the context of live, interconnected assets. Decisions related to safety, maintenance and inspections can be taken with the confidence that they will have the biggest impact.

Learn more about our Use Cases
How our customers have derived significant value from Eigen delivered solutions
Remote access and connectivity

PI System, PI AF and PI Vision design, configuration and deployment services

Interface to plant systems (SCADA, DCS, PLC, ICSS)

Time series historians, open source or proprietary OSIsoft (Aveva) PI, Aspentech, Cognite CDF, InfluxDB, OPC UA)

Bespoke data connectors – weather monitoring, People On Board, work orders, etc.

User configurable alerting and notifications

We have experts in a wide range of areas including automation and control systems, alarm management, networks, software design, data storage, virtualization, web and cloud technologies.

Our capabilities also include:

- Remote access and connectivity
- PI System, PI AF and PI Vision design, configuration and deployment services
- Interface to plant systems (SCADA, DCS, PLC, ICSS)
- Time series historians, open source or proprietary OSIsoft (Aveva) PI, Aspentech, Cognite CDF, InfluxDB, OPC UA)
- Bespoke data connectors – weather monitoring, People On Board, work orders, etc.
- User configurable alerting and notifications

Based on our strong technical credentials, Eigen is the only approved OSIsoft (now part of Aveva) PI System Integrator Partner in Azerbaijan. From our local Baku office, we can offer cost effective PI, PI AF and PI Vision deployment services in Europe, Middle East, and the Caspian region.

Our customer list covers over 100 projects and includes world-class companies like AMEC, AIOC, Baker Hughes, BG, BP, BTC/SCP, ConocoPhillips, ENI Norge, GE, Halliburton, KBR, KCA Deutag, Kuwait Oil Company, Lundin Energy, Wintershall Dea, Vår Energi and others.
Eigen Ingenuity

The Low Code Digitalization Platform for Oil & Gas Operations

Eigen Ingenuity is the next generation platform for the digitalisation of operations that connects on top of existing systems to link information together, provide context and a home for building new capabilities. Eigen Ingenuity fuses information together from disparate systems to reveal new insights and speed up decision making.

Eigen Ingenuity combines a Knowledge Graph Digital Twin to link all your information, a Search functionality like Google, powerful visualisation capabilities that are better than PI Vision and the ease of doing engineering analysis of Excel.

Eigen Ingenuity is for Engineers and Managers who need to understand the status and opportunities for improvement and need access to all the relevant information to make key operational decisions in asset-heavy industries, such as the Oil & Gas Industry.

Eigen Ingenuity enables data from many different sources to be combined in a single portal to get a clear understanding of what is going on and enables a new connected way of working. Ever since we started, Eigen has been developing ways to help companies work more efficiently.

Eigen Ingenuity = Digital Twin + Visualisation + Search + Wiki

That’s Eigen Ingenuity.
A new, integrated way of working
Eigen Analytics Platform

Get your digital projects delivering value faster

We think of it as a platform, but the EAP is really a layer that sits on top of your existing functional systems and data sources and enables the delivery of integrated analytics and business logic across system silos.

It can quickly start delivering cost-savings and adding value by putting you in control – without the manual intervention overheads.

>40
Number of data connectors available in the EAP

290,000 +
Number of nodes in a typical Eigen knowledge graph

2 million +
Number of data points passing through the EAP each day

5
Number of ways to access EAP
1. Maximising value from your existing systems investment faster.

The Eigen Analytics Platform recognizes the investment you have made into digital technologies and helps you extract more value from what you have – so it’s cheaper, much easier to deploy and delivers value much faster.

2. Connects your existing systems and data

The EAP connects to 40+ oil and gas data sources you already use, enabling you to build automated reports, perform calculations or generate automated alerts combining data from multiple sources.

   ABB • AspenTech IP21 • Aveva Workmate • Cognite CDF • Collabor8 • CSV imports • DNV Synergi • Dreamfactory • ElasticSearch • Emails • Eurolandir • Heliport • Honeywell Alarms & Events • Honeywell Dynamo • Influx DB • IQX • Metoffice • Neo4j • OSI PI • Peloton WellView • ProArc • Quandl • RigHour • SAP XML • Tieto DaWinci • yr.no

3. Builds knowledge through context applied to data

Knowledge graph technology is built into the EAP, enabling you to not only surface more context with your data, but build a foundation to increase and share your knowledge – for both human and computer application.
Five ways to leverage the power of the Eigen Analytics Platform

1. **Ingenuity** - 100% user-configurable layer for analytics visualisation.
3. **Custom Apps** - Anything you want.
4. **Low code Apps** - Python library for users.
5. **Excel** - The Engineers’ favourite.

Deploy only the components that you need or customise them!

1. **Eigen Ingenuity** - 100% user-configurable layer for analytics visualisation.
2. **Eigen Ingenuity and Eigen Search mobile apps** - Configurable templates and mobile access to reports, events and alerts.
3. **Custom Applications** - Developed in Python accessing the EAP via the Python library.
4. **Low-Code Applications** - Call the EAP via open APIs to access common analytics, contextualisation, and data access functions.
5. **Excel Plug-Ins** - Use the engineers’ favourite to extract data and manipulate in Excel.
Automatically capture, classify and organise reports sent via email (PDF, MS Word, MS Excel, etc.) into a searchable repository.

The Eigen Drilling Portal provides easy access to current information on drilling operations across multiple rigs.

Understand the status of your drilling operation

The Eigen Drilling Portal is your one place to understand the state of your entire drilling operations: overall summary of status, productivity and rig-specific information.

Automatically capture, classify and organise reports sent via email (PDF, MS Word, MS Excel, etc.) into a searchable repository.

The Eigen Drilling Portal provides easy access to current information on drilling operations across multiple rigs.

eigen⁺
See overall drilling operation metrics, rig location, overall productivity (PT, NPT, UNPT and WOW), lessons learned, links and other interesting summaries.
For each Rig, visualise and get easy access to the drilling supervisors, latest reports, well status summary including days v. AFE, productivity, Time-Depth curves (actual and planned) and operational summary reports. Jump directly to all your drilling support applications (jump menu). Link to operation performance and real time data views.
### Lessons Learned

**Rig** | **Well** | **Date** | **Title** | **Description**
--- | --- | --- | --- | ---
WEST BOLISTA | 8442/11-1 | 2020-12-20 | Preservation of pulled casing | Planned to re-use pulled 9 5/8” casing from Polmak on Bisk. It was 9 5/8”...
WEST BOLISTA | 9532/5-1 | 2020-12-14 | Racked 12-1/4” BHA internal clock expiration | The 12-1/4” BHA was racked back in the derrick after use on Polmak and...
WEST BOLISTA | 9532/5-1 | 2020-11-30 | Surface plug strategy | Set a plug in open hole which ended up 25 m inside the 20” casing shoe. ...
WEST BOLISTA | 9532/5-1 | 2020-11-29 | Sponge balls | We spend a lot of time to get the sponge balls into the pipe at drill floor. ...
WEST BOLISTA | 9532/5-1 | 2020-11-29 | Overpull to get RTTS free | Experienced some overpull 40 MT when releasing the RTTS on the second...
WEST BOLISTA | 9532/5-1 | 2020-11-27 | Swivel stand for shallow cement plugs | Time consuming rigging up and laying out the cement swivel on shallow ...
WEST BOLISTA | 9532/5-1 | 2020-11-27 | Swarf drilling cement inside 20” casing | When drilling out cement plug inside 20” casing with PDC bit [TK69] the...
WEST BOLISTA | 9633/5-1 | 2020-11-26 | Scraper assembly | Had the TDR 1700 nozzles to clean the casing for gelated mud prior to...
WEST BOLISTA | 9632/5-1 | 2020-11-26 | Vortex tool string setup | The Vortex tool string came out in one piece. Distance between the upper...
WEST BOLISTA | 9632/5-1 | 2020-11-23 | Wrong information from Vendor | Incorrect information from Vendor on third party operated equipment. We...
WEST BOLISTA | 9632/5-1 | 2020-11-22 | Handling pulls on DQ tools | Still missing handling pulls for the DHIQuap tools. Spending hours extra w...

Search and visualise all the lessons learned from the operation.
Reports are automatically processed by our email processor robot, assigned meta-data such as rig, report type, data and licence. Easily search for latest reports, last week’s reports or any report from the past.

Eliminate the need to search through thousands of emails; improve your efficiency in finding the information you need.
Weather and Logistic

Marinogram data and flight schedules for each rig.
Keep all documentation at hand.

Related documents and presentations
Information on drilling activities on each rig on hire is held in multiple different systems and shared mostly via meetings and email attachments as pdfs and spreadsheets. Inbox clutter was a problem with up to 18 different reports being emailed each day.

The Eigen Drilling Portal is a cloud-based web portal that displays current information from drilling systems, including productivity (NPT) analysis, Time-Depth curves, well status, supervisors, reports and other related information. The intelligent email processor automatically processes the multiple emailed reports and categorises and stores them, and adds metadata. Reports are published to a new mobile app as well as being made available in the portal with intuitive search functionality.

The time needed to understand what is currently happening on each rig and the progress against plan has been reduced to around 1 minute. The awareness across the organisation has been increased which has helped foster a feeling of being “one team”. Email inbox clutter is much reduced with makes work more enjoyable and efficient.

Technical Specifications

- The drilling portal is a web application accessible from any browser.
- Hosting
  - Linux-based host, Cloud-native

Data Source Connectors

- Email (Reports Email processor)
- IQx (TD curve)
- WellView (Well Data)
- Collabor8 (Well data)
- Heliport (Flights)*
- MetOffice (weather)*
- Marinetraf c (rig locations)*
- Schlumberger (performance data)
- RightHour (realtime data)
- Dreamfactory (facilitates connections to several data sources)
- ProArc (static document library)
- Eurolandir (share price)*
- Quandl (oil price)*

Licensing Model

Software as a Service (SaaS), paid monthly includes installation and set-up, software licensing and support.
Eigen
Safety Barrier
Health Monitoring

Visualise cumulative risk
and barrier health in realtime
What can Eigen Safety Barrier Health Monitoring do for you?

- Deliver real time barrier management and overall risk posture
- Help you to demonstrate effective barrier management to regulators
- Place powerful dashboards at your fingertips to help you understand any emerging threats

Features

- Online connectivity to data sources
- Real time operational risk assessment
- Interactive displays to drill down to detail to visualise risk
- Slice the data to drive corrective actions
- Powered by Digital Twin Technology
This graphic shows the detail of the barrier panel summary page. Every component is interactive and can be clicked to drill down into details.

- Instantly see which Barrier Impairments need to be risk assessed and which have already been reviewed. Click on any element to drill down into detail.

- See history of barrier status over time.

- At a glance view of area scores and status. Click on a segment to drill into details.

- Aggregated barrier status by protected area.

- New Barrier Impairments in the last 24 hours.

- A sortable summary of all impairments.

Eigen’s Safety Barrier Health Monitoring empowers users to perform effective Barrier Management, by capturing all the information necessary to assess the status of all barriers and deliver real-time monitoring of barrier health and the overall risk posture.

Physical protection in heavy industry is essential, but confidence in that protection allows you to get on with the job. With Safety Barrier Health Monitoring from Eigen, you can see the real-time effectiveness of your safeguards at a glance, wherever you are.

Safety Barrier Health Monitoring puts a powerful and intuitive digital dashboard at your fingertips, giving you an instant overview of barrier health and operational risk. Integrating seamlessly with your existing systems, your ability to monitor, predict and solve problems increases exponentially.

Slice the data however you want, to give you the clarity you need. Safety Barrier Health Monitoring from Eigen delivers transparency, insight and assurance for everyone from frontline engineers to boardroom overseers.
An intuitive way to easily understand cumulative risk and drill down into the details.

Safety barrier health monitoring from Eigen connects to existing systems and updates in realtime to show you the current health of your Safety Barriers.

Everything is interactive. Clicking on an object brings up Eigen’s unique Common Menu showing the reason for the status and provides a link to the source data in other systems.

Other tabs in the Common Menu give instant access to related data in other systems (if they are connected) such as data historians, document stores, maintenance systems etc.
The application is built around a data model (or Digital Twin) of the barriers and other related information. The model can be viewed or “cut” in different ways to present relevant views for different people.

- By Asset (Overview)
- By Area
- By System
- By Major Accident Hazard
- By Performance Standard
- For Work Planning

Status is derived from information across multiple different systems in real-time using a Digital Twin.
Safety barrier health monitoring from Eigen supports all typical forms of data connectors including REST APIs, RDBMS, Text files and manual entry for connecting to systems such as Maximo, SAP, Aveva Workmate, Synergi, Well Integrity systems, Excel and Control Systems.
How to get started

Eigen Ingenuity and Eigen Analytics Platform trial licences are available.

You can test drive Eigen Ingenuity and the Eigen Analytics Platform to experience the power of user-configurable analytics - or we can work with you to solve a pain point starting with a Discovery Phase.

Get in touch!

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