

SPARK | BEYOND

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About us

Established in 2013 to accelerate AI-powered problem-solving.

Since then we have **delivered \$Bns in tangible ROI** for our customers **across 100s of use cases**.

Mission

Unlock AI-driven **'Always Optimized' KPIs** for any organization



Global Footprint

Presence across Asia, Europe and US with employees spread across **8 countries**



Industry Validated

100s of success stories across within **Fortune 500 companies globally**



Partner first DnA

Partner-first organisation with global reach with GSIs



Enterprise Ecosystem



Azure



aws



Google Cloud



ChatGPT



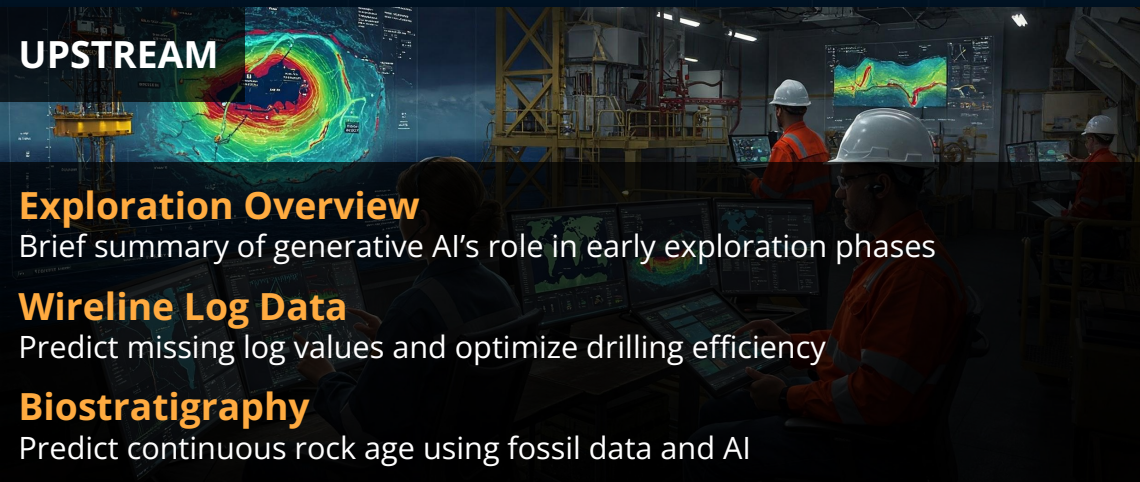
Claude



Gemini

Oil & Gas Use Cases

Applying Generative AI across the full value chain



The background image for the Upstream section shows an offshore oil rig at sea on the left, transitioning into a control room where several operators in hard hats and safety vests are working at multiple computer monitors. The screens display various data visualizations, including a large circular heatmap or seismic scan in the foreground.

UPSTREAM

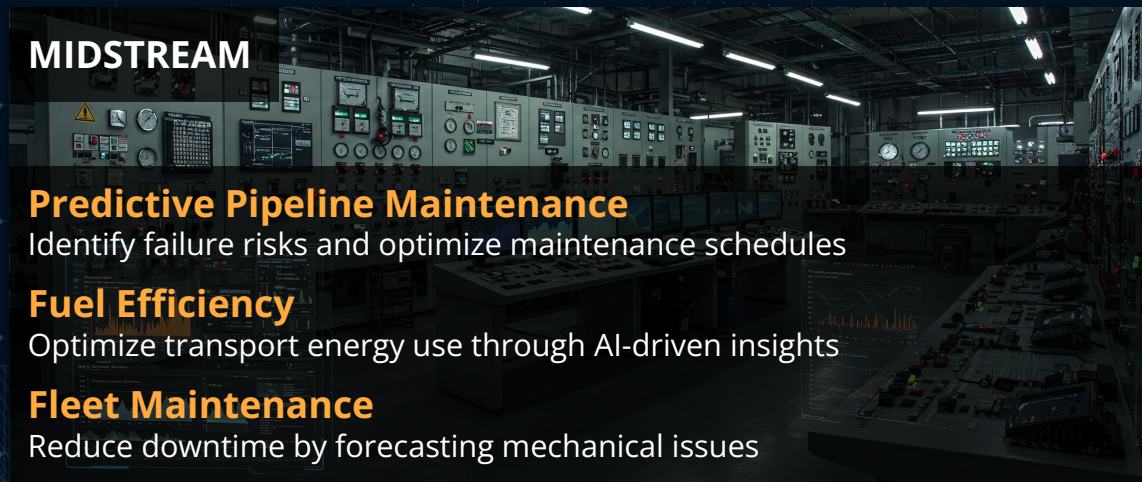
- Exploration Overview**
Brief summary of generative AI's role in early exploration phases
- Wireline Log Data**
Predict missing log values and optimize drilling efficiency
- Biostratigraphy**
Predict continuous rock age using fossil data and AI



The background image for the Downstream section shows a close-up of a person's hands operating a computer mouse in front of several large monitors. The screens display complex financial and operational data, including line graphs, bar charts, and tables of numbers, typical of a trading or logistics control center.

DOWNSTREAM

- Petrol Station Ops Optimization**
Improve stocking and distribution using AI forecasts
- Commodity Trading Optimization**
Forecast demand/prices to support trading decisions
- Energy Demand Modelling**
Model regional energy needs with external variables



The background image for the Midstream section shows a large industrial facility, likely a refinery or gas processing plant. The scene is filled with complex piping, structural steel, and numerous control panels and monitoring screens. Bright industrial lighting illuminates the vast space.

MIDSTREAM

- Predictive Pipeline Maintenance**
Identify failure risks and optimize maintenance schedules
- Fuel Efficiency**
Optimize transport energy use through AI-driven insights
- Fleet Maintenance**
Reduce downtime by forecasting mechanical issues



The background image for the Cross-function section shows three business professionals in a modern office setting. Two women and one man are gathered around a large table, looking at a tablet and other devices. Overlaid on the image are several semi-transparent icons representing sustainability and risk, such as a circular arrow with 'CO2', a leaf, and a warning triangle.

CROSS-FUNCTION

- Decarbonization**
AI to identify emissions reduction opportunities
- Risk**
Predict and mitigate operational and environmental risks
- Procurement and Spend Categorization**
Optimize spend and improve category visibility



Our Technology

Generative AI doesn't understand **YOUR** business.

For KPI optimization, AI must leverage knowledge from operational data

Challenges of LLMs

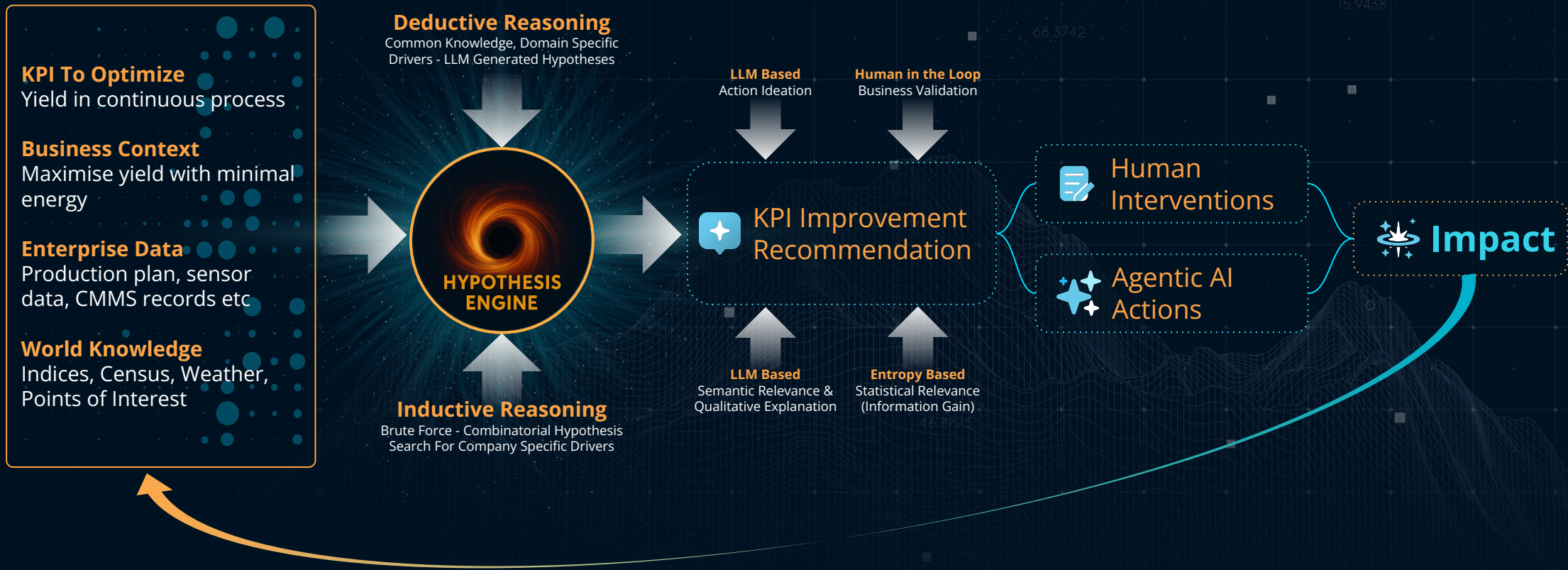
- Limited in understanding patterns hidden in complex operational data
- Unable to ground business reasoning in data.

Unlocking LLM-powered KPI-optimization for solution-builders

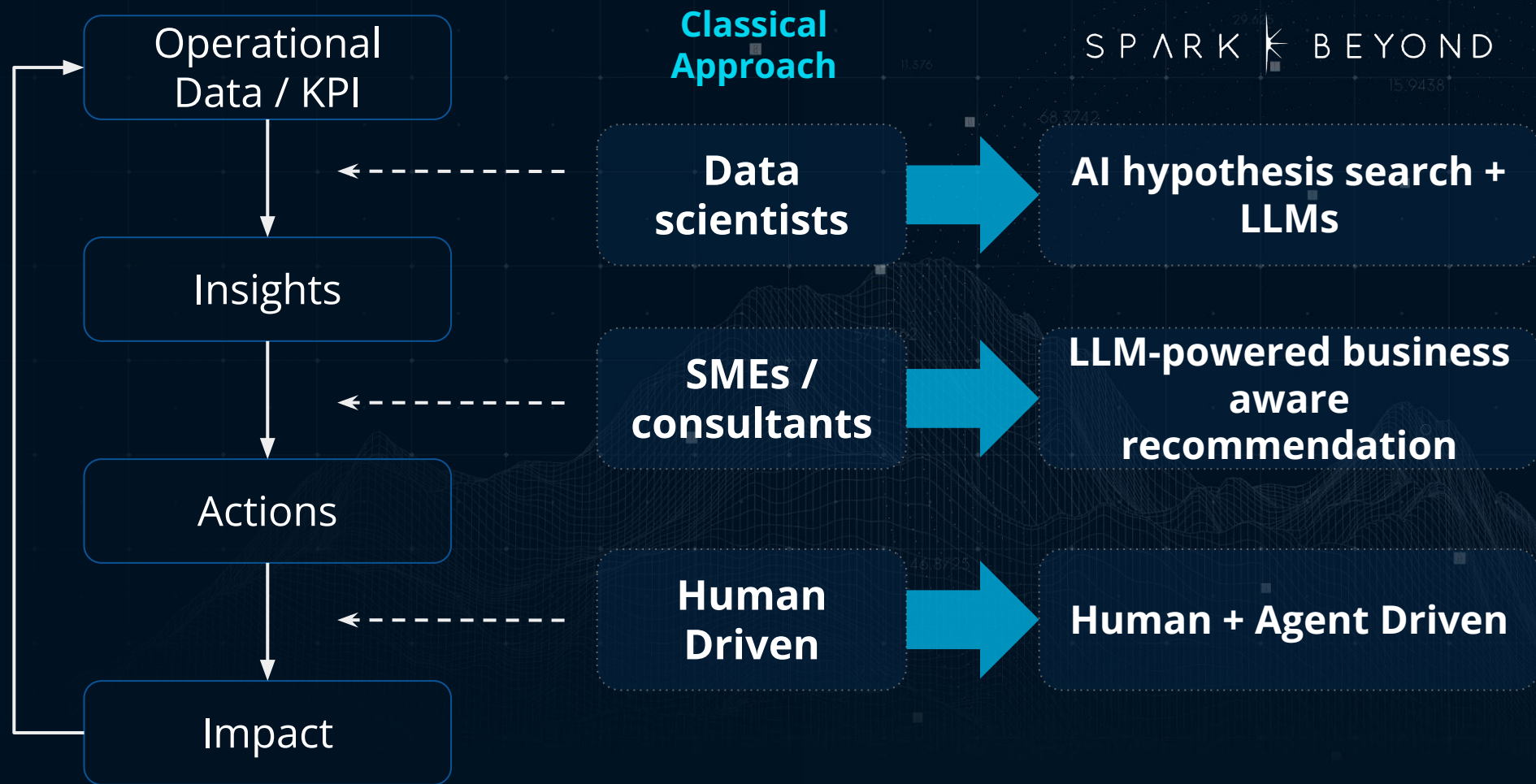


'Always Optimized' KPI Architecture

Continuous feedback loop creating impact from enterprise structured data



Making the paradigm shift to 'Always Optimized' KPI Optimization



AI CoE Platform

Accelerate Results - No Large Data Teams. No Consulting Roadshows.



Discover & Prototype in Weeks

Bypass long discovery cycles. We'll help you rapidly prototype AI solutions that uncover the hidden drivers impacting your KPIs.



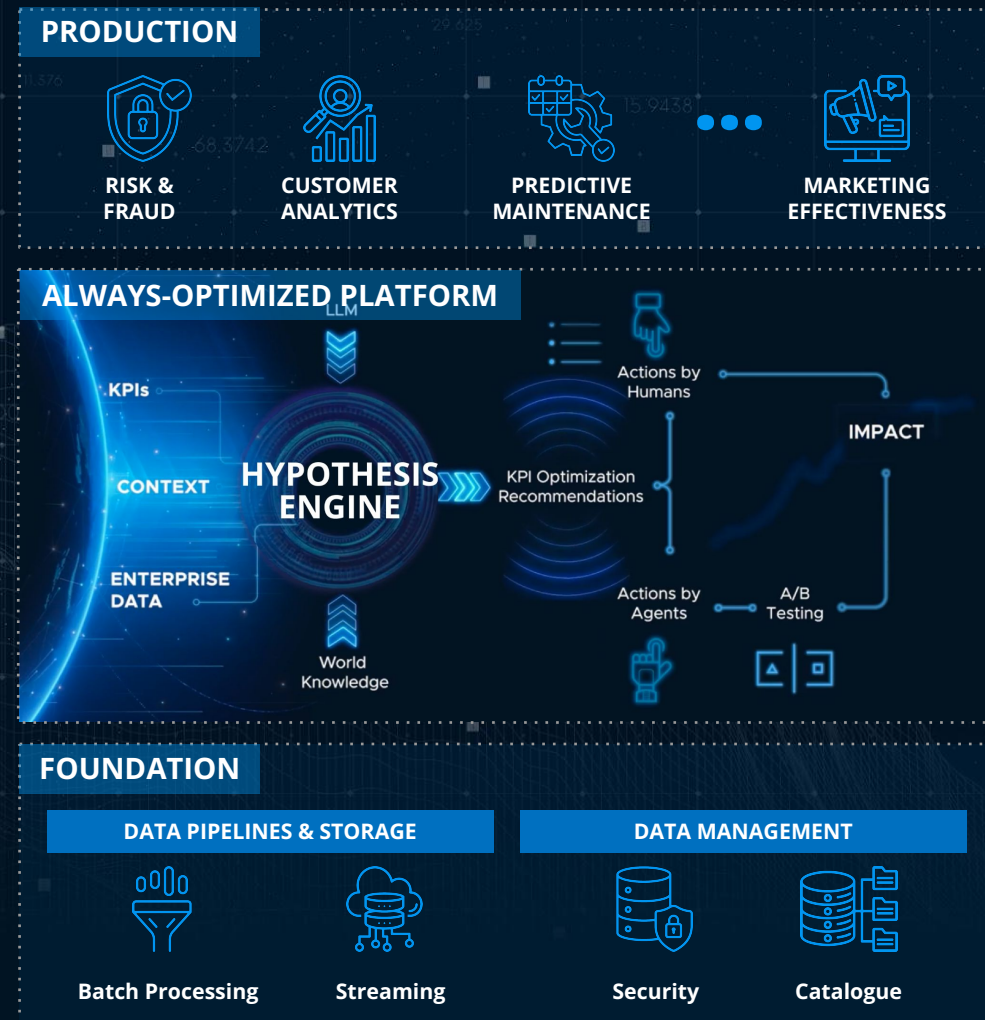
Prove ROI Before You Scale

Validate the P&L impact with a targeted pilot, delivering a concrete business case and tangible value from day one.



Scale to an "Always-Optimized" System

Empower a lean team to deploy and expand use cases, creating a continuous optimization loop for your business.



Why SparkBeyond for Your Modeling

Feature	Impact
Hypothesis Engine	Automatically discover and engineer new features from your operational and business data, surfacing hidden drivers of performance. Generate and test millions of hypotheses to identify true root causes and actionable levers for KPI improvement .
Explainable AI	All insights and recommendations are delivered in clear, natural language—enabling business and operations leaders to understand, trust, and act on AI-driven findings. This transparency is critical for adoption and compliance.
Open Integration	SparkBeyond is cloud-agnostic and integrates seamlessly with Azure, CRMs, ERPs, and LLMs, ensuring flexibility, scalability, and alignment with your tech ecosystem.
Battle Tested @ Scale	The platform is proven across 100+ Fortune 500 deployments , with a track record of rapid time-to-value and measurable ROI.
Unified ML & Gen AI	SparkBeyond is a unique combination of advanced machine learning and LLM-enhanced agent workflows, providing a single foundation for a full spectrum of AI use cases.
Rapid Deployment	Designed for fast implementation and operation in complex, distributed data environments—delivering actionable insights without requiring lengthy data warehouse projects.

Existing approaches to link LLMs to enterprise data are **insufficient to address structured data needs**

Overview of current approaches (not-exhaustive)

Pre-Training & Fine Tuning

What is it?

Pre-training a model on a selected corpus applicable to your enterprise domain
Fine-tuning LLMs to answer domain specific questions

Limitations

- Expensive to re-train
- Does not address structured data sources
- Fine-tuning is better suited to teaching specialized tasks or styles and less reliable for factual recall.

Retrieval Augmented Generation

What is it?

Retrieve data from outside a foundation model and augment your prompts by adding the relevant retrieved data in context

Limitations

- Structured data requires a query for RAG based solution to retrieve
- Retrieved query needs to be LLM compatible
- RAG is largely limited to searchable documents

Code Interpretation & Generation

What is it?

LLM task to translate a query spoken in natural language into SQL/code automatically

Limitations

- User needs to define the intent and insights
- Path to using the insight in an LLM use case is several steps away for a user

In-Context Learning

What is it?

One/few-shot learning example to gain new knowledge (e.g. feeding an existing ppt report about a quantitative analysis)

Limitations

- Context needs to be textual
- Context document can get easily outdated

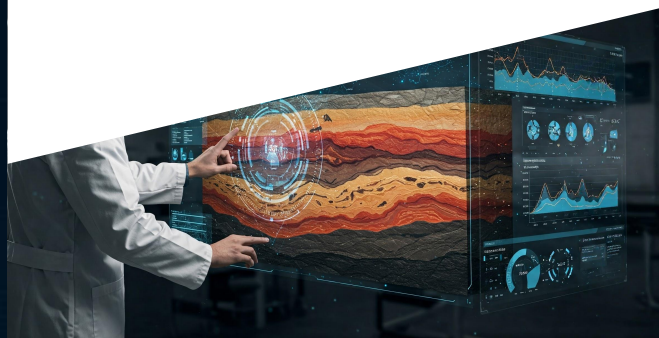


Credentials

Automated Biostratigraphy for Age Prediction

SPARK BEYOND

10x Faster Age Prediction with Minimal Manual Review



CHALLENGE

- Traditional age estimation of rocks by biostratigraphers is **time-consuming** and **subjective**
- Client wanted to **automate the process** using advanced analytics
- Needed a scalable solution to improve consistency and speed in age prediction

RESULTS

- **10x faster** processing speed; 90% of samples **no longer need manual review**
- Age estimated **continuously across depth levels**
- Outputs categorized by confidence level, helping teams prioritize manual verification only where needed

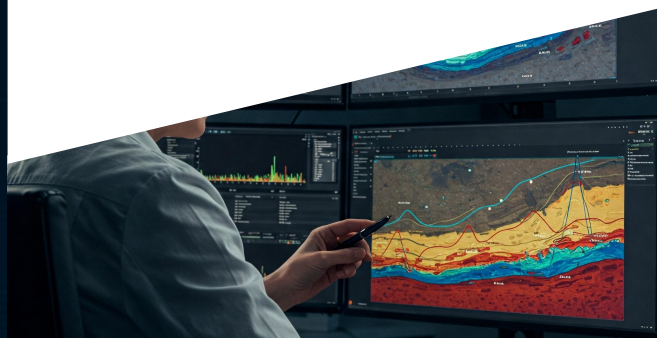
APPROACH

- **Expanded fossil species lookup** from 100s to **60,000** to train the AI model
- Built a **digital twin** of the biostratigraphy process using historical well data (depth + fossil IDs)
- Trained AI engine to learn from historical patterns and **predict age** across depth continuously

Hydrocarbon Saturation Estimation

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**2 FTE Years
Saved + 20%
Accuracy
Improvement**



CHALLENGE

- Estimate hydrocarbon saturation levels across large sedimentary basins with hundreds to thousands of wellbores
- Traditional methods required manual expert analysis, which was time-consuming
- Client wanted to **save time and man hours** by automating the saturation estimation process

APPROACH

- Analyzed **hundreds of wireline logs** (resistivity, porosity, gamma ray) and supporting datasets (casing, formation group, geolocation)
- Used explainable and predictive variables to estimate saturation
- Built a model that **imputes missing values** in wireline logs, reducing need for expert review
- In **12 weeks**, addressed data gaps and predicted missing values for key logs

RESULTS

- 2 FTE years saved through automation of the saturation estimation process
- Enabled client to **effectively scan entire basin** for hydrocarbon signals and **reprioritize Geo-Scientist time** to focus on top-ranked prospects
- Achieved **20% higher accuracy** compared to traditional expert-based methods

Improving Production Forecasts Using Water Cut and GOR Prediction

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**28% Increase in
Model Accuracy
Over Baseline**



CHALLENGE

- Client aimed to increase oil rate by improving forecasts of:
- **Water Cut** (percentage of water in extracted fluid)
- **Gas/Oil Ratio (GOR)** to understand volume of oil vs. gas
- **Allocated Rates** to determine oil per sensor per branch

RESULTS

- **28% higher accuracy** compared to baseline
- RMSE reduced from 9.2 to 6.6
- More precise oil production estimation

APPROACH

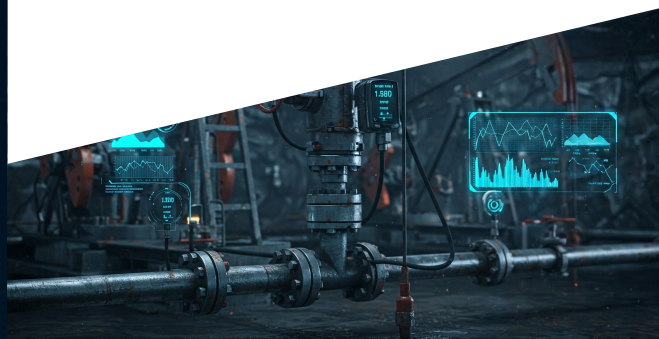
Used historical well test data, sensor readings, and allocated rates. Built a model through:

- Data preprocessing (removing outliers, time alignment, lookups)
- Feature engineering and iterative learning
- Trained prediction model using SparkBeyond platform
- Analyzed 3.9 billion explainable features

Predictive Maintenance of ESPs (Electrical Submersible Pumps)

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**\$2M Impact per
Early Warning
for Key ESP
Failures**



CHALLENGE

- Client needed to anticipate and manage ESP failures to minimize production loss
- Built a model to predict the probability of ESP failure within the next 100 days
- **Data Sets Used:** Past ESP failures, sensor readings, well trajectories, coordinates, completions

RESULTS

- **\$2M impact per early failure alert**
- Enabled proactive maintenance, minimizing downtime and production loss

APPROACH

- Reframed task as remaining uptime prediction due to dataset imbalance
- Identified if an ESP is likely to fail within the next 100 days
- Used Discovery Platform with 8 datasets to uncover failure drivers
- Delivered insights as both code and natural language
- Provided daily SHAP-based predictions and explanations
- Outputs shared with maintenance teams to support preventive action

Forecasting Gas Futures to Maximize Trading Profitability

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**24% More
Accurate
Forecasting of
Gas Futures
Contracts up to
100 Days Ahead**



CHALLENGE

- Predict **daily price changes** of monthly futures up to 100 days before delivery
- Needed to understand **complex price drivers** in European gas markets: demand, supply, weather, geopolitical events, and financial indicators
- Goal: build a forecasting model as a decision support tool for the trading team

RESULTS

- Achieved **24% higher accuracy** than benchmark models
- Enabled better-informed **buy/sell decisions** in futures markets
- Supported traders with **early warning signals** and optimized risk-reward positions

APPROACH

- Analyzed **historical gas prices**, weather, macro indicators, Bloomberg news, forward curves, and more
- Combined structured and unstructured data to train a model predicting the **expected percentage change** in gas futures contracts
- Forecasted **100 days ahead**, supporting traders with high-confidence insights

Predicting gas consumption for industrial clients in two European markets

SPARK  BEYOND

**More Accurate
Forecasts with
6.5% Higher
Accuracy Than
Benchmark**



CHALLENGE

- Predicting **gas demand within-day, 1 and 2 days ahead**
- Consumption by industrial clients often fluctuates unpredictably, causing supply imbalances
- Needed to build a robust forecasting model to support **operations and trading** with better accuracy

RESULTS

- **6.5% higher accuracy** compared to benchmark models
- Forecasts provided more reliable input for trading decisions
- Enabled **proactive planning** and reduced last-minute balancing costs

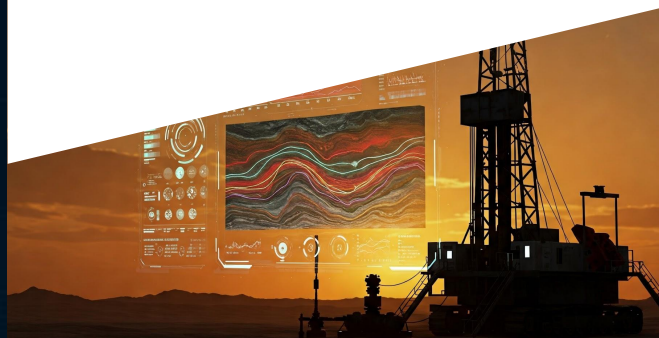
APPROACH

- Used **historical offtake, metering data, weather data** and client metadata
- Developed model to predict actual gas consumption more accurately than clients' nominated submissions
- Model tailored to **two major European markets**

Geosteering by synthetic bulk density and neutron porosity log prediction

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Accurate predictions of subsurface properties while drilling, 24/7



CHALLENGE

- Predicting subsurface rock and fluid characteristics during drilling is difficult and costly, requiring data from multiple sensors located at varying distances behind the drill bit.

RESULTS

- Delivered 24/7 predictions supporting real-time geosteering decisions
- Improved accuracy in determining rock and fluid types, minimizing delay and uncertainty during drilling

APPROACH

- SparkBeyond used gamma, resistivity, and surface logging data to generate synthetic curves for Bulk Density and Neutron Porosity before real readings became available.
- Enabled early identification of rock type (lithology) and fluid type to improve real-time drilling decisions.

Automated Exploration in Oil & Gas

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Significant time savings and more accurate predictions of pay opportunities



CHALLENGE

- A major energy company operating in Norway needed to accelerate exploration decisions and reduce reliance on manual interpretation of drilling and geophysical data.

RESULTS

- Achieved significant time savings by streamlining the exploration data pipeline
- Delivered more accurate predictions of pay opportunities
- Enabled faster and more **consistent decision-making** during exploration

APPROACH

- Used SparkBeyond's platform to automate the **analysis of raw drilling, mud gas, pressure, and wireline log data**
- Calculated key reservoir and TOC (Total Organic Carbon) statistics
- Estimated porosity, HC phase, fluid properties, and burial depth
- Integrated data quality control for pressure metrics

Improving Well Efficiency through Mud Gas Analysis

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Maximized oil recovery and efficiency using advanced mud gas analytics



CHALLENGE

- A major energy company operating in Norway sought to improve oil production efficiency and optimize the exploration of new and existing wells
- Faced difficulty in fully leveraging available mud gas and petrophysical data for ROI-maximizing decisions

APPROACH

- Used SparkBeyond's platform to analyze advanced **mud gas, PVT**, and **petrophysical logs**
- Maximized value from existing mud gas data through automated logging analysis
- Improved accuracy in perforation and well placement

RESULTS

- Delivered **tens of millions in ROI through better-informed** exploration
- Enabled deeper understanding of new wells and untapped oil potential
- Increased efficiency in production by aligning data insights with drilling strategies

A person's hands are shown holding a glowing digital network of nodes and lines. The background is a dark purple grid with various arrows and network patterns. The text "Thank You" is centered in the middle of the image.

Thank You

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