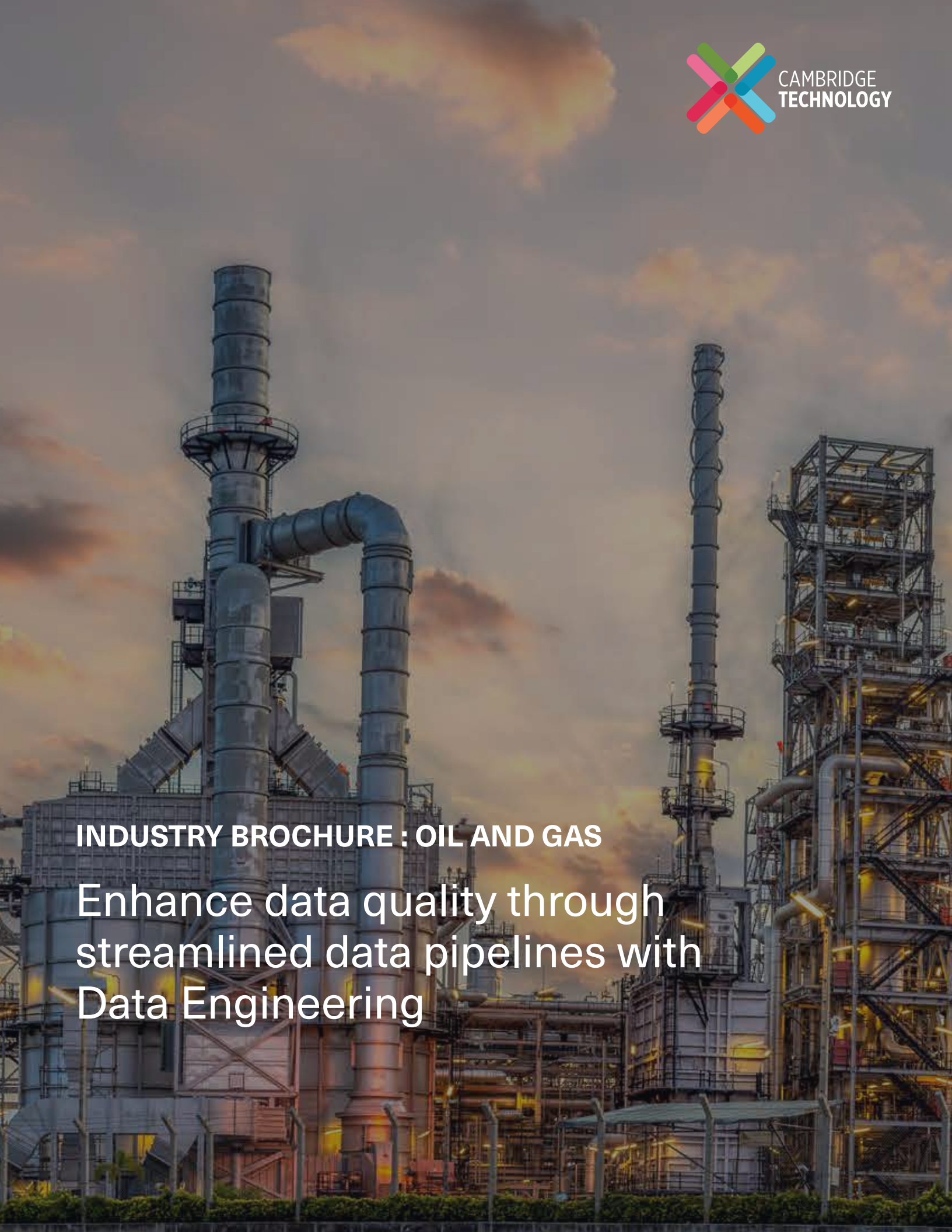


CAMBRIDGE TECHNOLOGY

INDUSTRY BROCHURE : OIL AND GAS

Enhance data quality through streamlined data pipelines with Data Engineering

- The explosion of data continues, rising from a total of 64.2 zettabytes in 2020 to a forecasted reach of 180 zettabytes by 2025

- A recent report stated that data engineering comprises almost 80% of work in AI and analytics projects, and insight generation takes up another 20%

- Over 80% of major oil and gas companies used data engineering to get insights into market trends, enabling better investment decisions.

Oil and gas exploration and production as a sector has a lot of scope for emitting and processing data. Managing, processing, and analyzing this data efficiently can propel data-driven, informed decision-making.

This data also has six critical parameters that need to be considered –

VOLUME • VARIETY • VELOCITY
VERACITY • VALUE • COMPLEXITY

The differentiator for oil and gas operators lies in managing their data well and using it to optimize operational models and to derive actionable insights — all while complying with the six parameters effectively and efficiently.

Want
to understand

- How do businesses make the most of data engineering in a rapidly changing world?
- What use cases should you apply data engineering for?
- How should you go about your data science strategy as an oil and gas operator?

This brochure is a tell-all guide to how we at Cambridge Technology handle these vast volumes of data that come into the system at high velocities and wide varieties.

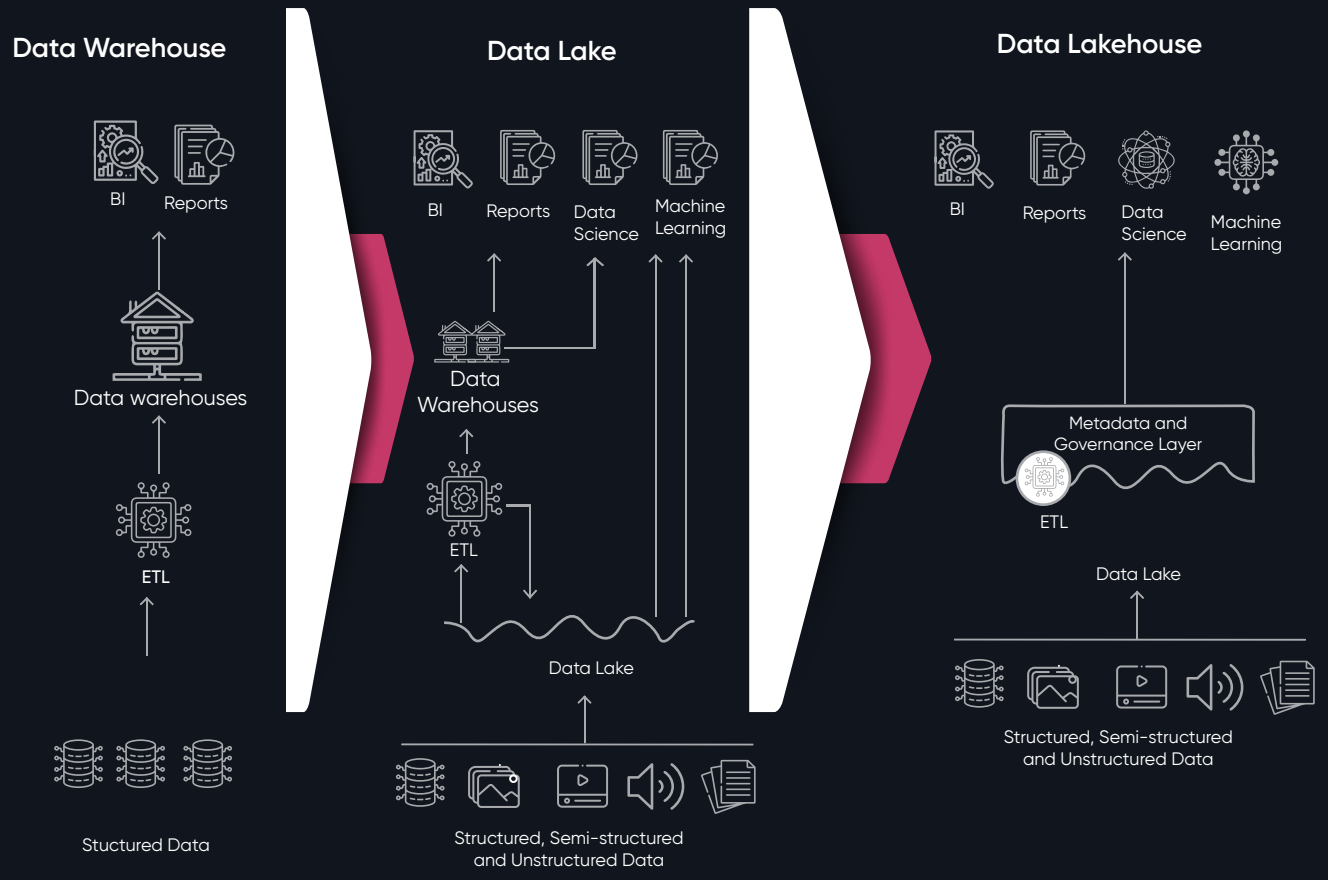
What is Data Engineering?

Data engineering is the practice of designing, building, and maintaining the infrastructure and systems that enable the collection, storage, processing, and retrieval of data for analytical and operational purposes. It involves creating data pipelines, managing databases, and ensuring data quality to support data-driven decision-making within organizations.

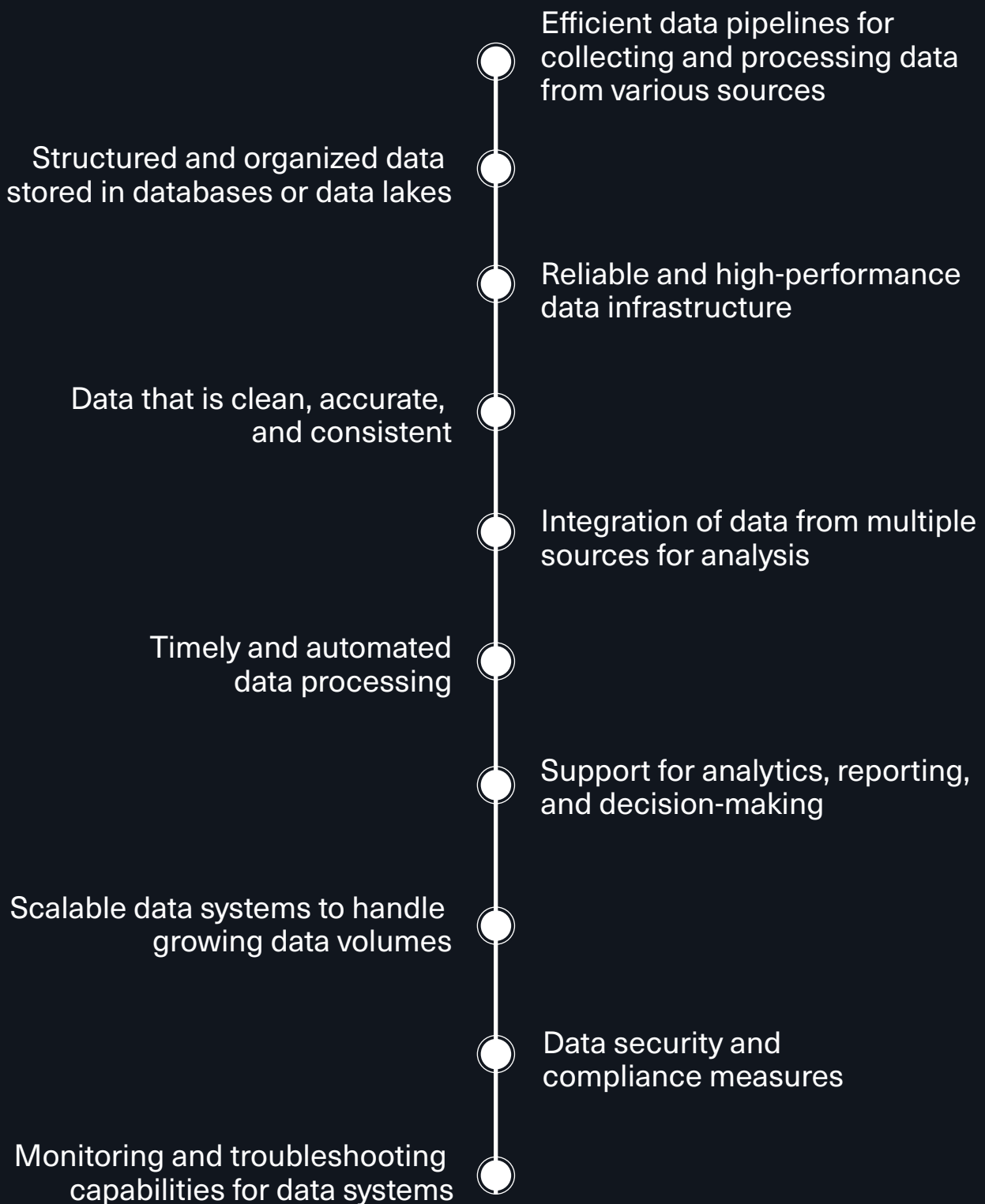
How does Data Engineering work?

Data engineering involves the design and implementation of systems to collect, store, and process data from various sources. It works by creating data pipelines, transforming raw data into usable formats, and optimizing data infrastructure to support analytics, reporting, and other data-related tasks.

The image below explains the process in depth.



What do you get from Data Engineering?



What are some of the data engineering services that Cambridge Technology offers in the Oil and Gas sector?

Production Optimization

From collating real-time data through production facilities, sensors, and drilling operations to helping engineers optimize processes by monitoring equipment health and reservoir conditions, our data engineering services could be a game changer for clients from the oil and gas sector.

Reservoir Modelling

Our services can help collate seismic, historical production, and geological variants of data and leverage advanced data integration techniques to create detailed reservoir models, helping with a reservoir's characterization, reserve estimation, and well placement optimization.

Predictive Maintenance

Enabling IoT sensors on drilling equipment and rigs ensures continuous data about temperature, pressure, and vibration. This data can be processed to identify potential equipment failures and identify abnormal patterns while also helping us generate predictive maintenance alerts.

Environmental Monitoring

Data is aggregated from several sources like environmental sensors, weather stations, and satellite imagery, enabling predictive analytics and real-time monitoring. This helps to detect leaks, track emissions, and ensure compliance with green regulations.

Supply Chain Optimization

Data engineering can seamlessly integrate data from transportation, inventory systems, and suppliers to optimize supply chain operations, reduce transport costs, minimize stockouts, and help create data-driven procurement strategies.

Drilling Efficiency

Data engineering can help collect and process data from drilling sensors, rig telemetry, and historical drilling records, enabling real-time monitoring to help engineers optimize drilling parameters, such as mud weight and drill bit selection.

Health, Safety, and Environment (HSE)

Consolidating data from various safety sensors and incident reports, data engineering practices can help develop predictive models to identify potential safety hazards and help manage, monitor, and improve safety performance.

Energy Management

By collecting data on energy consumption and emissions from equipment, data engineers can enable real-time monitoring to help optimize energy usage, reduce costs, and meet sustainable goals.

Get in touch with us today to schedule a no-cost consultation with our **data science experts.**

CONTACT US

Cambridge Technology Inc.

5051 Peachtree Corners Circle,
Suite 200, Norcross GA 30092

sales@ctepl.com

1-470-447-1627