DISRUPT THE STATUS QUO.

FREE YOUR SAP DATA

A step-by-step approach for creating a strategy to gain better business insights from your SAP data.

CATALYST BI
BRINGING PEOPLE AND DATA TOGETHER

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CONTENTS

INTRODUCTION

If you're reading this eBook, you're probably with a company using SAP in a role such as Chief Data Officer (CDO), the person in charge of data and analytics, head of SAP infrastructure, a CIO or possibly even a CEO. If you want to understand how to make better business decisions based on real time data, while preparing your organisation for an AI-enabled future, read on!

In a survey done by Deloitte, 61% of CDOs said that creating, updating or implementing a data strategy was one of their top priorities in 2024. Research from Wavestone in 2023 showed that only 24% of CDOs think their organisation is data driven. Yet data management ranks first in the top technical inhibitors to AI/ML (S&P Research, 2023).

The aim of this eBook is to inspire you to look at your data differently. As an organisation using SAP, we want to give you the assurance that just because you use SAP to run the backbone of your organisation's processes, doesn't mean you can't rethink your data strategy. We will show you how to capitalise on the best cloud-based technologies to get better data insights.

Throughout, we will share the real-life experiences that the data and analytics team at Catalyst's client INEOS Automotive faced as they created a new organisation and market-disrupting vehicles, with step-by-step ideas you can develop to achieve similar outcomes.

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1. THE CHALLENGES

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A TICKING CLOCK

If you use SAP ERP Central Component (ECC), you will be well-aware that from the end of 2027, free maintenance support will no longer be provided.

Extended support - at significant cost - will be available until 2030. Thereafter, all support ends. Your organisation may already have embarked on a SAP modernisation programme, moving to S/4HANA, SAP's latest version of its ERP business suite. But according to Gartner, almost half of SAP ECC customers will not have upgraded to S/4HANA by 2027 (Source).

Whether you have yet to start your transformation, are midway through, or are already on S/4HANA, a key consideration will be what to do with SAP data for analytics - specifically, which data warehouse you should choose.

It can seem logical that if you're using or moving to SAP S/4HANA, you'd choose a SAP data warehouse solution like SAP BW/4HANA or SAP's new Datasphere, which positions itself as a data fabric solution, focusing on the integration and orchestration of data across different SAP and non-SAP data sources and platforms.

However, there are several reasons this isn't necessarily the best approach.

SAP BW/4HANA won't deliver the computational elasticity, variety and compute that cloud-native solutions offer and doesn't connect to data outside of SAP systems. This rigid architecture can negatively impact performance of business-critical analytical workloads.

SAP Data Warehouse Cloud was not natively built for the cloud and is not designed for unstructured data. While SAP Datasphere offers connections to non-SAP data sources, it needs to be used in combination with other SAP products like BW, HANA Cloud and SAP HANA Data Lake. This adds to the complexity, costs and rigidity of the system and the risk of vendor lock in.

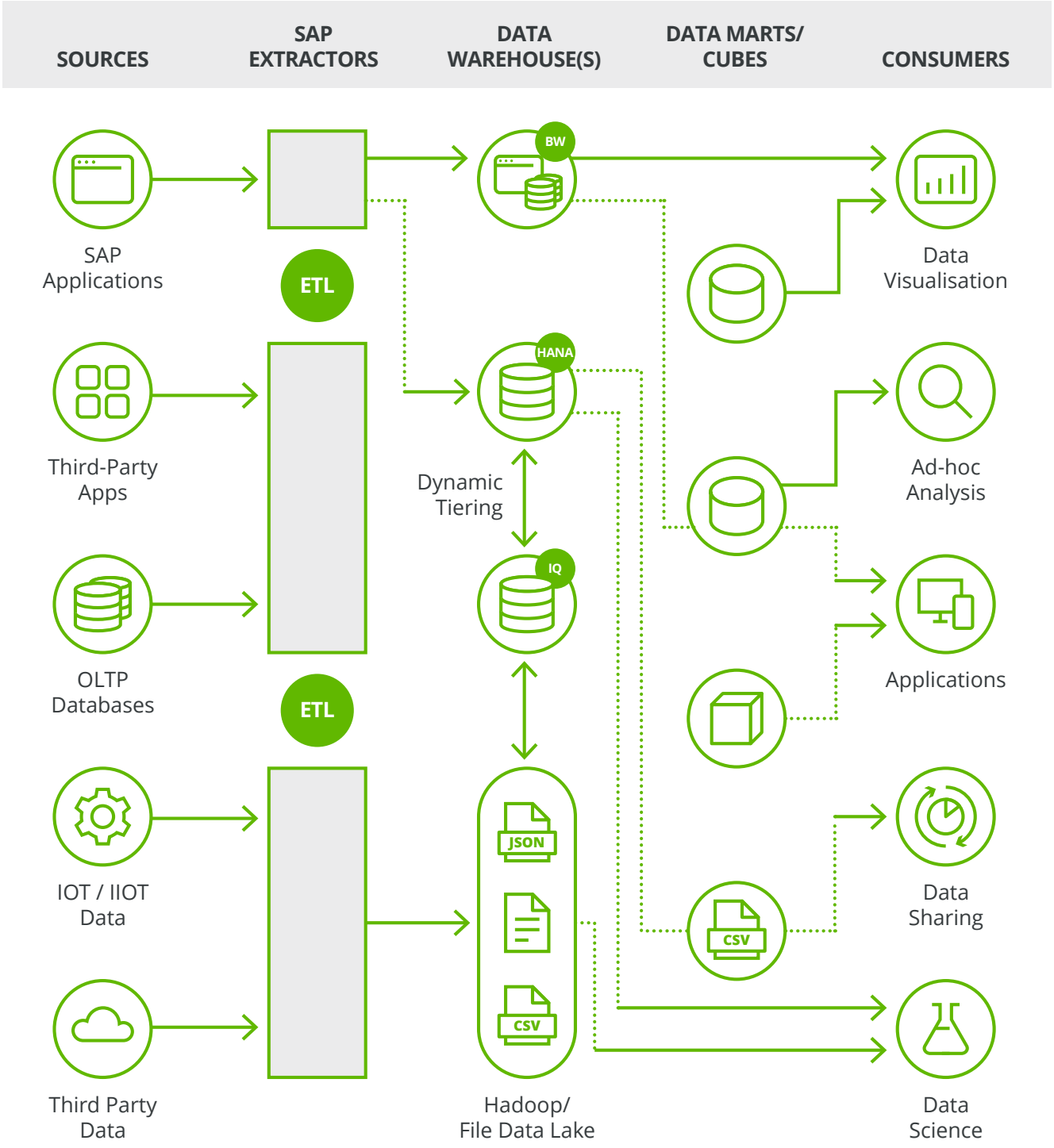
It is challenging to get non-SAP data into a SAP system. And concerns have been raised by some users who add non-SAP data into SAP BW about whether they can export it again due to license restrictions.

SAP has limited self-service capabilities which challenges data discovery and integration, especially with other ERP systems.

SAP is expensive, with hardware, licensing and specialist talent all leading to a higher total cost of ownership.

SAP doesn't have the advanced cloud-based data sharing capabilities pioneered by Snowflake and, more recently, introduced by Databricks and Microsoft Fabric too. Sharing data with external third parties is an important consideration as data becomes increasingly ubiquitous. Sharing large volumes without moving or copying data, or any use of APIs, is a key advantage SAP cannot offer. On top of which is the advanced security, governance, masking, obfuscation and monetisation capabilities that new marketplaces such as Snowflake's offer.

As the ECC switch-off deadline approaches, organisations who have not yet undertaken their SAP transformation project will find it increasingly difficult to find the technical resources needed to do it, increasing cost and risk. Solutions that can save time, custom coding and manpower will influence the choices made.



Typical SAP Data Architecture (Source: Snowflake)

MACRO EVENTS ARE DRIVING THE NEED FOR BETTER DATA SOLUTIONS

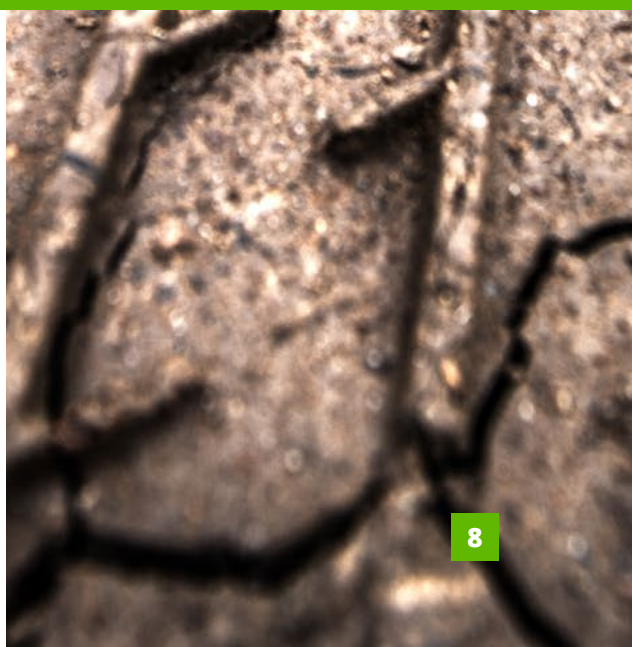
In 2023, nearly 40,000 mergers and acquisitions were completed globally (Source). These newly merged organisations often end up with multiple ERP instances, which makes enterprise-wide data visibility challenging. They need a solution that rapidly combines their data across geographies, business units and teams to start realising the benefits of the M&A investment.

Global supply chain challenges mean there's also an urgent need for organisations to be able to share data and collaborate externally with suppliers, partners and across clouds. SAP systems don't allow this without copying data, which creates delay, compromises data integrity, and increases cost and complexity.

As global competition and economic pressures intensify, the ability to get real-time answers to everyday business questions will separate the leaders from the rest. For example:

- What did I spend last month, globally or with a specific supplier?
- How has predictive maintenance and improved uptime impacted revenue?
- How much did I sell to my top ten global customers each year for the last three years and what was the profit?
- How will the heatwave forecast for next week impact sales? Do our suppliers have enough units in stock? Are we adjusting pricing or running relevant promotions?
- Am I paying the same price for material from my supplier for the last six months across all plants?
- How can I balance inventory levels when I have shortages in one shop and excesses in another?

Your data strategy needs to use real-time business intelligence and data sharing across your organisation - and with partners/suppliers.



SAP WON'T CUT IT FOR UNSTRUCTURED DATA, WHEREAS SNOWFLAKE DOES.

IDC predicted that in 2023, 73 zettabytes of unstructured data would be generated globally. One zettabyte is equal to one trillion gigabytes or 1,000 exabytes. To put that into context, all the words ever spoken by mankind are estimated to be about 5 exabytes. The same IDC report showed that only 58% of unstructured data is reused more than once after initial use, leaving vast reserves of untapped data insights (Source).

Unstructured and semi-structured data now makes up 80% to 90% of all corporate data. Text, image, audio and video files, web pages, social media conversations, customer feedback, open ended surveys, IoT data from sensors - all of these data types have enormous value that can grow sales, improve customer satisfaction and identify new opportunities or risks.

This explosion of data cannot be managed, integrated or analysed the same way as traditional SAP data, which by its nature is numeric, tabular and structured. A better solution is needed to combine all data types into a single system so that relevant business decisions can be made.

Unstructured and semi-structured data now makes up ***80% to 90%*** *of all corporate data.*

IN SUMMARY

There is a ticking time bomb for SAP modernisation projects with fears about vendor lock-in and high costs if a SAP data warehouse solution is chosen as part of this initiative.

Thousands of organisations are already trying to integrate newly merged ERP systems due to M&A activity; global supply chain issues are driving a need for the sharing of data between partners and suppliers; economic and competitive pressures demand better access to information so that real time decisions can be made; and we have an explosion of data in a variety of formats that don't neatly fit into a SAP ERP system.

It's clear that any approach to analytics is going to need to be simple yet capable, fast, scalable and low-risk. We contend there are better choices than simply going with SAP; the truth is, SAP's analytics offerings are not the 'safe' choice they might seem to be.

For the remainder of this ebook, we will be looking at how cloud-based data platform Snowflake is proving to be a more viable solution for many organisations who want to free their data from their SAP system. And how the addition of business intelligence tools like Qlik are democratising data so that leaders across an organisation can make data-driven decisions instead of relying on the data and analytics team.

THE INEOS AUTOMOTIVE CHALLENGE

INEOS

It's not often that a company decides to build a new vehicle and brand from the ground up, to challenge long-established players in the market. But that's just what INEOS Automotive did.

Following a meeting at the Grenadier Pub in London in 2017, founder Jim Ratcliffe decided to create a new off-road, 4x4 vehicle to challenge long standing players. He invested £1billion pounds and set to work creating the Grenadier, a rugged off-roader with excellent reliability and great looks. Every aspect of the company's engineering, manufacturing and commercial information technology was meticulously chosen to meet the needs of a demanding and dynamic business landscape.

From the start, the company chose SAP HANA and SAP Cloud for Customer as its ERP and CRM systems respectively, using the finance, inventory management, order to cash, procure to pay, warehouse management and CRM modules. The question was what to do with the data? While this was a greenfield project, rather than an ECC modernisation, the challenges about which data warehouse solution to use were the same.

2. ROUTE PLANNING

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The scale of the challenge to modernise data can be epic. Before deciding on a solution, CDOs should start their journey with the end goal in mind. This route planning saves time and costs, identifying hazards before implementing a full-scale project. Typical data strategy planning steps should include:

UNDERSTAND WHAT YOU HAVE TODAY AND WHERE YOU WANT TO GO IN THE FUTURE

SAP - particularly legacy SAP systems - are often managed by people who have been doing it for years and are reaching the end of their careers. There can be push-back when it comes to changing how things have always been done. But the deep knowledge that these long-standing employees have should be combined with forward-thinking ideas about where the business is headed.

CONDUCT A GAP ANALYSIS

Once you know what you have today and where you want to be tomorrow, you can identify the features, functionality, and tools you will need to support your business strategy. This is often best done by an outside team who can look objectively at your organisation and pull together the different needs, requirements, and existing capabilities from different departments.

DESIGN A DATA STRATEGY

For some organisations, this can be a multi-million pound exercise in itself. But as the INEOS Automotive story shows, it can be done relatively simply by focusing on core priorities and building the systems to support those. Your strategy should outline next steps, timescales and approaches.

DEFINE A TARGET ARCHITECTURE

Based on your business requirements and future needs, you now shape your data architecture. It's here that the shortcomings of using SAP systems for your data warehouse and data analytics solution may show up and you might want to evaluate alternatives. Price, performance, development and implementation timescales, scalability, governance, data types required, the need for self-serve business intelligence, data sharing with partners and AI projects should all be factored in.

SECURE FUNDING

Your modernisation project will only move ahead with the requisite funding approved by company leaders. Catalyst works with clients to build business cases, identifying where savings can be made and what the expected ROI will be once the strategy is delivered.

DEMONSTRATE THE VALUE WITH A PROOF OF CONCEPT

Once you know what you have today and where you want to be tomorrow, you can identify the features, functionality, and tools you will need to support your business strategy. This is often best done by an outside team who can look objectively at your organisation and pull together the different needs, requirements, and existing capabilities from different departments.

REAFFIRM THE STRATEGY

Feed your learnings from the POC into budget projections for the wider deployment of the strategy. A positive outcome will create stakeholder confidence and help secure buy-in and the additional funding needed to complete the migration process.

DESIGNING A DATA STRATEGY FOR INEOS AUTOMOTIVE

INEOS

Sailash Patel was brought in as a head of data and analytics. As this was a new vehicle, the company had no insights into what sales would be like or what the vehicle could do. He had to design a data strategy for something that didn't yet exist. Added to that, budgets were tight and they did not have a lot of time, with just two years before the car was to be launched.

With a blank piece of paper, he kept his data strategy simple, focusing on four key themes:

1. The outputs of the system
2. The stakeholders of the system
3. The capabilities of the system
4. The total cost of ownership (TCO): implementation, service and support

Using this as a guide, he looked into solutions that were the best fit to deliver on the capabilities needed. At the time, while the car concept was there, the manufacturing hadn't been devised. Multiple decisions were being made concurrently with pressure on the procurement team as the car accelerated towards production. One of the ideas discussed was to have a connected car - potentially with real-time analytics - which would generate masses of unstructured data that would have to be integrated with the structured corporate data in the SAP system.

So, with a SAP infrastructure that had already been provisioned, a lean team, small budget, the need for structured and unstructured data that could scale as the company grew, and fast time to market, Sailash worked with an Enterprise Architect to devise a data analytics solution strategy that would work closely with SAP.

3. THE NAVIGATION POINTS

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Your data strategy planning will have given you the answers and direction to head in as you modernise your SAP systems. In this section, we will explain the step-by-step process of moving your data out of your existing SAP data warehouse and into Snowflake.

STEP 1:
GETTING YOUR DATA OUT OF SAP

Data is extracted from the SAP ERP system, either SAP ECC on premise or S/4HANA in the cloud. We believe this is best done using an ELT approach (Extract, Load, Transform) where raw data is loaded directly into the target data warehouse. Data is moved without any changes made, rapidly increasing the speed with minimal compute time. In contrast, more traditional ETL (Extract, Transform, Load) uses a set of business rules to process data from several sources on a secondary server before centralised integration. This slows the process and uses far more compute resource, throwing away data which may prove useful in the future. The advent of cheap, scalable cloud compute and storage means there's no need to exclude any potentially valuable data from your analytics platform.

Tools like Qlik Cloud Data Integration (QCDI) extract relevant data from SAP, ingest it into Snowflake in real time and transform it to analytics-ready data. As many organisations have complex, customised data sets, we use accelerators - like QCDI's Compose or Replicate with out of the box functionality - or our own purpose-built accelerators to put pre-existing code in place to aid the extraction of customised data sets. This automates the design, implementation and updates of data models while minimising the manual, error-prone design processes of data modelling, ETL coding and scripting. This massively accelerates delivery and the transformation of the complex table structures within SAP.

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STEP 2:
HOUSE YOUR DATA IN SNOWFLAKE

Catalyst can work with you to move your data from SAP into Snowflake, starting with a proof of concept, testing the system with a subset of data.

Snowflake is a fully managed SaaS solution that provides a comprehensive, single platform for data warehousing and analytics, data science, data application development, and secure sharing of real-time data. It runs on all three major hyperscalers - AWS, Azure and Google Cloud (or a combination of all three) - avoiding cloud vendor lock in. And unlike many analytics platforms, it was built from scratch to run in the cloud.

As an elastically scalable data warehouse, it automatically scales up or down compute resources as needed. This means you can run any number of workloads across multiple users at the same time without competing for computing resources, so performance is not affected. Storage is also managed automatically, eliminating the need to build indexes or do housekeeping. It also has virtually zero downtime, unlike standard weekly SAP shutdowns to increase or decrease compute or to run upgrades.

Snowflake can work with data from SAP systems - both on-premises and cloud - as well as third-party systems, and sensor data for machine learning, regardless of whether it's in structured or semi-structured formats or even if the data structure in the files changes. And it offers data security as all data is encrypted as a built-in feature. Snowflake's warehouse is also a lower operational cost than SAP's Warehouse, with efficient internal technology that's continually being improved by Snowflake's own engineers. Snowflake warehouses can be automatically shut down and rapidly restarted as needed, with billing only when they're in use down to the nearest second, significantly helping to reduce costs.

With its ability to draw data from any source, whether structured or unstructured, Snowflake enables you to build 360-degree views of customers, products, and the supply chain. This includes interweaving data sets from business partners and data from the Snowflake Marketplace. The Marketplace is Snowflake's 'shop' for data, providing a wealth of authoritative data to complement your own. Later, you might even prepare your own datasets, masking and obfuscating certain fields, for sale through Snowflake's Marketplace as a way to monetise your organisation's own data.

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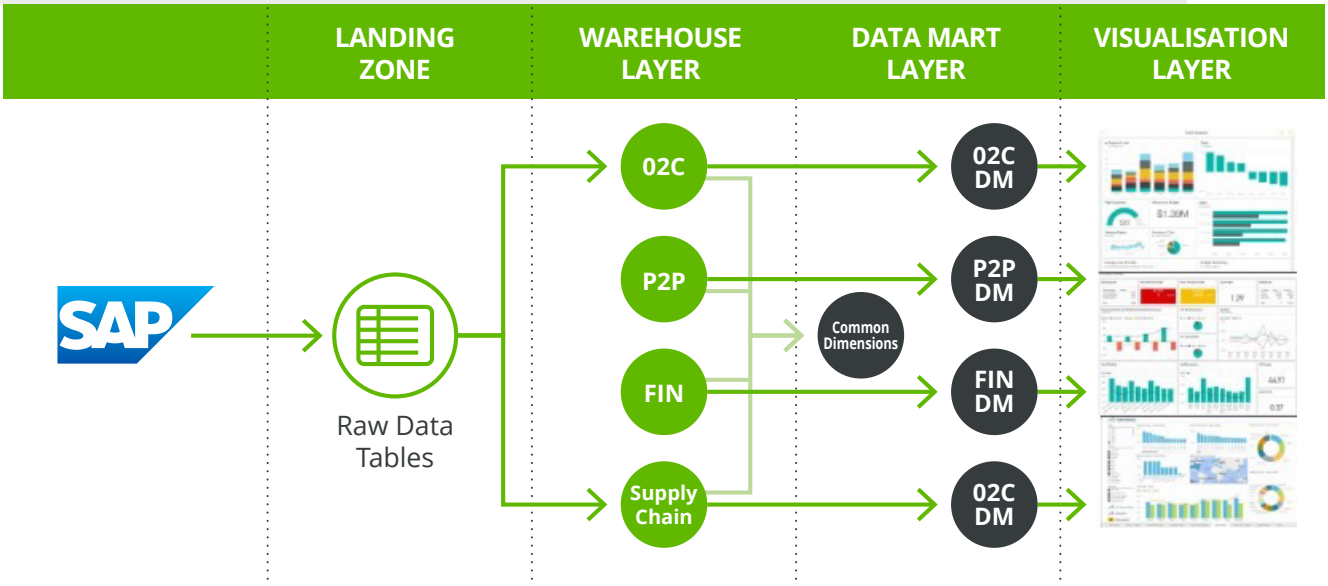
STEP 3:
GET REAL-TIME INSIGHTS TO MAKE BETTER BUSINESS DECISIONS

Once your SAP and non-SAP data has been transformed in Snowflake, use a data visualisation tool like Qlik Sense or Power BI to interrogate, analyse and visually represent your real-time data. This creates meaningful insights so that colleagues across your organisation can make better business decisions.

Catalyst and Qlik offers accelerators for different departments like procurement, finance, sales and after sales, so that they can self-serve, building their own reports. We also have knowledge we can draw on from many specific industry sectors, such as manufacturing, healthcare and legal services, to help make visualisations more relevant and 'in tune' with the way business users work. This relieves the burden on the data team who can focus on more complex, bespoke analytics for key corporate initiatives.

For example, in retail or hospitality, combining sales data direct from tills with external geographic, demographic or weather data can help identify whether outlets are well-placed, and presenting the ideal proposition to consumers. Logistics organisations can track stock levels and customer demand, to help tune production and adjust labour levels at depots. Predictive analytics can indicate issues likely to happen within a fleet of vehicles, production lines, stock levels or even customer churn. Insights can even be shared, without any copying of data, with partners, to facilitate collaboration on, for example, joint marketing exercises.

The possibilities are endless, and it's important to realise that whether you're looking for these insights or not, some of your competitors almost certainly already are.



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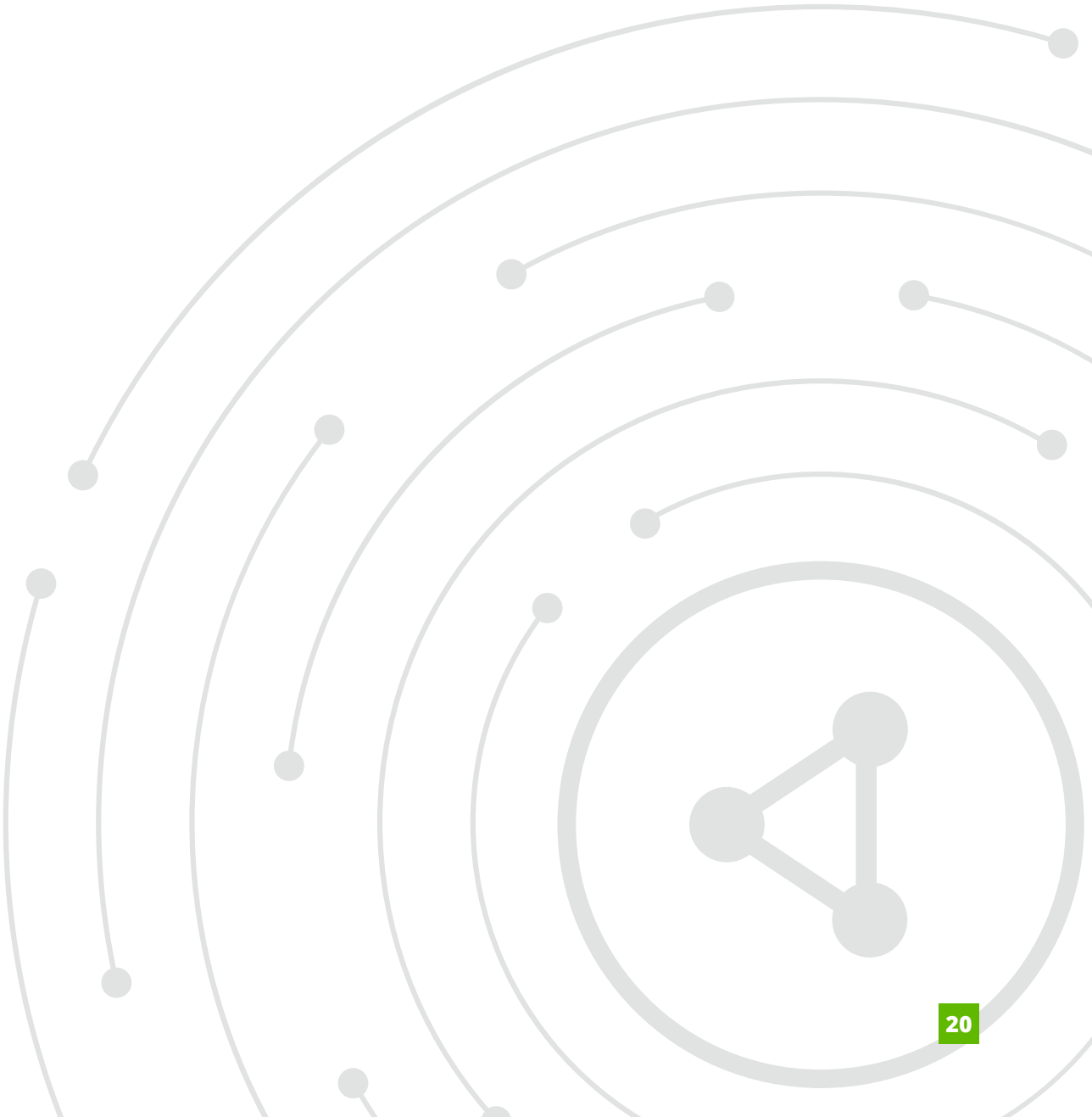
STEP 4:
RETIRE OLD ARCHITECTURE

Reduce spend by shrinking your SAP BW footprint to only what is required, retire your HANA sidecars (secondary databases needed purely to replicate data), and archive any historical ERP data from ECC/S4 to Snowflake to free up storage and enable historical analysis in Snowflake.



IMPLEMENTING THE INEOS AUTOMOTIVE DATA STRATEGY

INEOS

SAP Data Warehouse Cloud (now DataSphere) wasn't considered by INEOS Automotive because it was not natively built for the cloud, is not designed for unstructured data and they wanted to avoid vendor lock-in. After conducting an RFP, a leading consideration was to use Azure Data Factory and Databricks. But this would require a lot of technical resourcing to achieve, taking time and requiring a larger budget than was acceptable.

Sailash discovered Qlik which offered out of the box Extract, Load, Transform (ELT) functionality for procurement, sales, and order to cash SAP accelerators. These offered incredible near real time replication technology. However, as their SAP was already heavily customised, he knew he would need support to customise the accelerators.

Next, where to house the data? Instead of using Databricks, he opted for Snowflake. The elastic cloud compute capabilities of Snowflake and pay as you go service, aligned with his strategy and would enable the company to get the functionality it needed in the early stages, while being able to scale once connected vehicles became a reality and terabytes of IoT data would need to be stored. The fully managed SaaS nature of Snowflake also meant they wouldn't need a host of database administrators to run it, allowing his resources to focus on extracting value from data rather than admin tasks.

With the right technology selected, Sailash needed a partner to make it a reality. Catalyst - as both a Qlik and Snowflake partner, and with SAP consultants with knowledge of the back and front end of SAP on their team - proved the perfect partner for the project.

4. THE DESTINATION

4. THE DESTINATION

The benefits this approach brings are extensive and can be achieved far faster.

BETTER PLANNING

Enhance forecasting with SAP data linked to non-SAP data or external data from partners, suppliers or entities. For example, predict near-term customer demand by combining seasonal factors, weather data and direct customer orders to help set levels of production for new product, eliminating guesswork and confirming / challenging 'intuition'.

REDUCE SUPPLY CHAIN RISK

Combine SAP delivery, inventory and schedule data with supplier and logistics partner data to understand where potential gaps or delays may arise.

CAPITALISE ON MARKET TRENDS

Leverage Machine Learning to improve yield and quality, integrating IoT, shop floor, CRM and SAP data with advanced analytics capabilities.

IMPROVE DELIVERY

Maximise on-time customer fulfilment using SAP delivery, inventory and cost data. Align Warehouse and Transportation Management Systems (WMS and TMS) data to external third-party logistics (3PL) and freight rate data from the Snowflake marketplace.

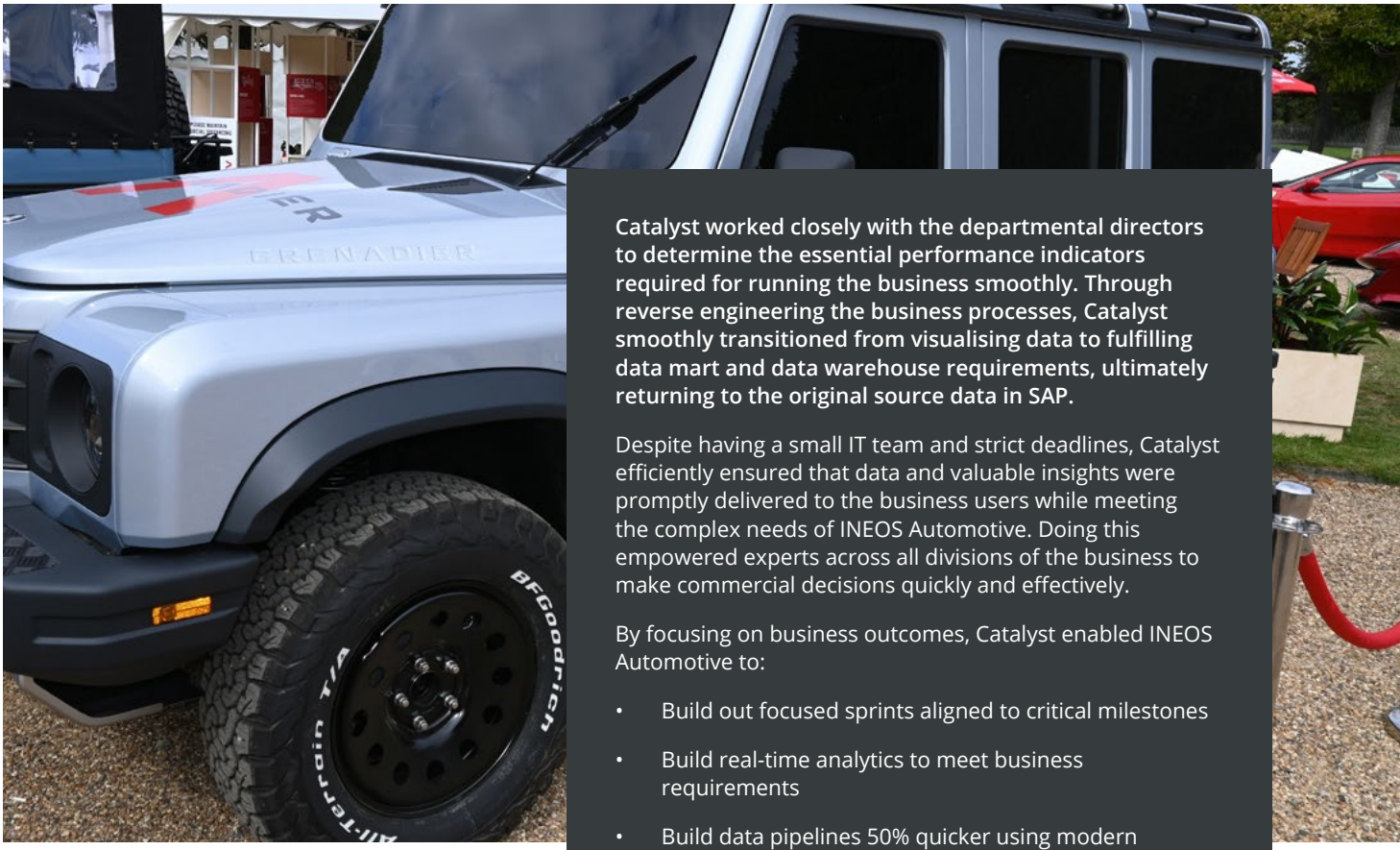
BETTER CUSTOMER SERVICE

Optimise the value and service of field assets with IoT data, combined with SAP supply chain data, layering in context such as weather and geospatial capabilities with ML predictive maintenance.

EMPLOYEE SELF-SERVICE

Instead of being a bottleneck for all data analytics enquiries, this approach means data can be democratised, giving employees the ability to create their own reports and insights, speeding up decision-making to capitalise on opportunities.

Organisations that win in the future will be those who have well organised data to make better business decisions while forming the foundation of AI and machine learning initiatives. They also need to be able to uphold essential data security, governance and regulatory issues. To achieve this, data needs to be unified in a comprehensive repository so that different workgroups can access it easily and securely. The best way to achieve this is by using a cloud data platform like Snowflake that provides strong security and governance for data, as well as the ability to integrate with third party data, while managing an array of data formats.



AN ERA OF SELF-SERVICE: MAKING THE INEOS AUTOMOTIVE DATA MEANINGFUL

INEOS

Catalyst worked closely with the departmental directors to determine the essential performance indicators required for running the business smoothly. Through reverse engineering the business processes, Catalyst smoothly transitioned from visualising data to fulfilling data mart and data warehouse requirements, ultimately returning to the original source data in SAP.

Despite having a small IT team and strict deadlines, Catalyst efficiently ensured that data and valuable insights were promptly delivered to the business users while meeting the complex needs of INEOS Automotive. Doing this empowered experts across all divisions of the business to make commercial decisions quickly and effectively.

By focusing on business outcomes, Catalyst enabled INEOS Automotive to:

- Build out focused sprints aligned to critical milestones
- Build real-time analytics to meet business requirements
- Build data pipelines 50% quicker using modern automation

Within six months, Catalyst delivered a fully integrated cloud data warehouse solution for procurement. It also meant INEOS Automotive could analyse procurement and sales information prior to the launch of the Grenadier across Europe. And it created a repeatable solution implementation approach that could be used across other INEOS business lines that utilise SAP as a data source.

As the company grew, Sailash did not want his department to become a bottleneck for analytics. He wanted to give data analytics capabilities to end users to build their own reports. Using accelerators built by Catalyst and linking to Qlik for procurement, finance, sale and after sales, the teams can now self-serve, building their own reports.

The next priority area is on building a marketing data warehouse with a huge push on marketing and after sales capability. Extracting data from SAP Cloud for Customer will be sped up with a Qlik native connector. However, as there is no out of the box analytics accelerator from Qlik, Catalyst will help INEOS Automotive built a bespoke solution.

Today the company has the Grenadier, the Quartermaster and Fusilier vehicles sold across three continents and the scale of data is growing. The team is looking ahead to the future as the connected vehicle with an app and IoT data become a reality. In addition, they want to provide AI-driven apps, provisioning through Qlik or Snowflake using Copilot and Large Language Models.

5. HOW CATALYST CAN GUIDE YOU THERE

5. HOW CATALYST CAN GUIDE YOU THERE

2,500+
consultancy hours delivered each month

450+
satisfied customers

82,000+
Qlik end users

Since 2014, Catalyst BI has been changing the way businesses make decisions. While we're known for our business intelligence expertise, we have a team of SAP consultants who take your SAP data challenges and rapidly transform them into data analytics solutions that make a real business impact.

With a proven track record of success, we've helped over 450 satisfied customers throughout the UK in both public and private sectors to achieve their business goals and accelerate their transformation objectives. Whether you're looking to make sense of complex data or gain valuable insights into your operations, Catalyst BI has the expertise and solutions you need to take your business to new heights of success.

As Sailash said when asked what his biggest success factors were, it came down to three things: Choosing the right technology solution, at the right price with the right partnership.

"INEOS Automotive has been collaborating closely with Catalyst since 2021. Throughout this period, they have successfully executed various data analytics projects, handling everything from data engineering to data modelling, and meeting the analytical needs of different departments on a case-by-case basis. The collaboration between INEOS Automotive and Catalyst is fantastic. Catalyst have an excellent grasp of the solution architecture and have consistently delivered impressive results. Their exceptional performance has led me to recommend Catalyst to other business lines within the INEOS Group."

Sailash Patel
Head of Data and Analytics
INEOS Automotive

INEOS

WHAT NEXT?

If you need guidance on what to do with your SAP data warehouse:

We create a data integration strategy for organisations to align with their business goals.

We design, build and implement SAP data integration strategies using ETL, data virtualisation and streaming data pipeline automation.

We provide proactive support to monitor data keeping it optimised, secure and resilient.

Contact us to book a Data Strategy Workshop and let us help you to free your SAP and disrupt the status quo.

bi@catalyst-it.co.uk

0330 380 1609

catalyst-bi.co.uk