



EFFECTIVE • INNOVATIVE • INTELLIGENT

# Data platforms

Key to the data-driven future

# The complete solution for capturing, processing, analysing and presenting data generated by the systems, processes and infrastructure of modern companies



„I’m not interested in data for its own sake, but in how it can be used to improve things.“

A statement from Bill Gates about the use of data science. The ability to efficiently manage all of the data and address as many use cases as possible is becoming increasingly important for companies given the constantly increasing amount and variety of data. Data platforms play a central role in the transformation process to becoming a “data-driven company”.



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# 1. What are data platforms?

Simply put, data platforms are comprehensive end-to-end solutions that can collect, store, process and analyse data from various sources for a variety of use cases. You can imagine a data platform as a foundation that provides data-driven companies stable support. Data platforms support all data-related activities – from data collection and data warehousing to data analysis and data visualisation. They are

designed to process all types of data – including structured, unstructured and semi-structured data. These platforms are also scalable so they can flexibly meet the needs of companies and be integrated with other systems in the company.



## 2. What advantages do data platforms offer?

Data platforms give companies a uniform, comprehensive view of the available data and offers opportunities to use this data in a variety of ways. They offer the following specific advantages:



### **DATA INTEGRATION AND CONSOLIDATION**

Data platforms enable companies to integrate and consolidate large amounts of data from different sources such as databases, APIs, IoT devices and web scraping. By bringing this data together, companies can get a unified, holistic view of their operations. This makes it easier to identify patterns, trends and potential areas for improvement. This consolidated data store also simplifies data management and helps maintain data quality across the organisation.



### **SCALABILITY AND PERFORMANCE**

Modern data platforms are designed to handle the growing volume, velocity and diversity of data in organisations. With features such as horizontal scaling, distributed processing and real-time analytics, these platforms can efficiently manage large amounts of data and deliver information at high speed. This scalability and performance also ensures that companies can also integrate new data sources and technologies.



### MODERN DATA ANALYTICS

Data platforms offer advanced analytics capabilities such as machine learning, natural language processing, and graph processing that help companies derive insights from their data. These tools can be used to develop predictive models, identify trends, optimise processes and uncover hidden relationships in the data.



### IMPROVED COLLABORATION AND DATA SHARING

One of the biggest advantages of a data platform is that it makes all company data accessible in a central location. This facilitates collaboration and data exchange between different teams within a company. You can work on projects more efficiently, fostering a data-driven culture while ensuring everyone makes decisions based on the same data.

**3.**

## When do companies need a data platform?

Data platforms help companies from all industries collect and process data from different sources in order to gain a 360-degree view of existing processes and to carry out data analysis. Whether a company is (already) “ready” for a data platform can be determined by various aspects:

### Company size and structure

The more departments and teams a company has, the more important it is that they work together and integrate seamlessly. Data platforms are ideal for facilitating collaboration between different teams, departments and business areas.

### Data strategy and data quality

For companies that want to implement a data strategy, good data quality and consistency are crucial to success. This ensures that the data is reliable and meaningful and can therefore serve as a strong basis for decisions and actions. Data platforms include tools to ensure the consistency and quality of data across different systems.

### Technological progress and employee skill set

The rapid development of new technologies in data processing can mean that existing systems can no longer meet the growing requirements for analysis and integration. Key factors are the required storage capacity, the speed of data processing and compatibility with existing systems. Added to this is the lack of qualified specialists in the field of data management and analysis: It is sometimes difficult for companies to find experts who are familiar with specific

technologies. Data platforms enable storage capacity scaling, faster data processing speeds, and seamless integration with existing systems. In addition, they offer user-friendly interfaces and tools that make it possible to work effectively even without extensive expertise in data management and analysis.

## Type and number of IT systems

For companies that use a variety of applications and services to meet specific needs, integrating these solutions is often difficult. As a result, data sets are created that are not available to other teams. With data platforms, these data silos can be avoided so data can also be used for other purposes within the company.

The more varied the type of data used in a company, the more complex it becomes to harmonise it. A data platform enables the consolidation and provision of data in a uniform format – regardless of whether it is data from classic systems, web services, IoT networks or cloud environments.

## Data volume

Companies whose data volume is very large (>100 million transactions per year) or is growing exponentially can use a data platform to ensure the efficient storage, processing and analysis of their data.



## Types of data consumption

Data platforms are particularly useful when the requirements for data analysis and reporting become more complex and conventional tools are no longer up to the task. For example, if companies rely on real-time data, want to establish self-service BI or want to develop advanced analytics or AI or ML applications, a data platform can provide the required functions and data infrastructure.

## Data regulation / compliance / data protection / data security

Increasing regulatory requirements for data protection, security and compliance require a solid data management strategy. This is particularly true in highly regulated industries

such as healthcare and financial services. Modern data platforms provide functions to meet these requirements easily and efficiently.



## 4. What are typical use cases for a data platform?

### 360° view of customers

The collection of cross-channel data on customer data platforms enables the use of numerous applications that can strengthen customer relationships through better customer understanding and subsequently increase sales. For example, customer-journey analyses help companies better adapt marketing strategies and sales activities. By analysing onsite, engagement and transaction data, future purchasing behaviour and market requirements can be predicted (= predictive analytics), and personalised product recommendations can be generated. Digital intelligence can also be used to determine whether there are any upsell or cross-sell opportunities, and what these would be. Further use cases include customer segmentation and customer service and support.

### Real-time production monitoring

Data platforms create the basic prerequisites for increasing production efficiency. By analysing IoT data, for example, bottlenecks caused by technical malfunctions can be quickly identified and automatically reported to the responsible people by means of appropriate alerting functions. Likewise, measures such as temperature control for a machine can be started automatically when a limit value is exceeded – without employees having to intervene.

### AI-supported predictive maintenance

By evaluating historical and real-time sensor data, companies can predict when a machine failure or safety risk is likely, and proactively

plan maintenance work. For example, based on determined failure rates of individual parts or items depending on factors such as hours of use or kilometres driven, customers can also be proactively notified when their vehicles need maintenance and which parts should be repaired or replaced to avoid a failure or defect.



### Intelligent / Smart Warehouses

By recording and managing important information about the entire warehouse and logistical processes on a data platform, a digital view of all physical processes is created. This gives companies full transparency about inventory levels. Items can be found quickly and easily. Analysing factors such as demand forecasts, lead times, and real-time inventory levels helps determine optimal inventory levels and safety stock requirements. This allows companies to balance their inventories to avoid overstocks or shortages. Compliance with supply chain regulations (chain-of-custody) is also simplified. RFID and RTLS solutions combined with temperature sensors enable warehouse operations to monitor the temperature of sensitive goods in real time.

### Supply chain optimisation

Efficiency improvements in end-to-end supply chain processes arise by integrating and analysing data from various sources, such as from suppliers, manufacturers, distributors, retailers and customers, on a single data platform. Analysing data from these sources allows companies

to gain comprehensive insights into their supply chain processes to identify inefficiencies, bottlenecks and areas for improvement in procurement, production, inventory management, transportation and distribution. For example, the best suppliers can be identified based on factors such as lead time, quality and cost. By analysing factors such as shipping costs, transit times and route efficiency, logistics operations can be optimised.

### Human resources management

Employee-related data on factors such as performance, demographics and engagement can be used within workforce analytics to understand workforce productivity, satisfaction and retention patterns. Important information about talent acquisition strategies can be derived from these patterns. Additionally, the most suitable candidates can be identified based on their skills, qualifications and experience. This improves hiring outcomes, resulting in decreased time and costs spent on talent acquisition.

### Fraud detection

Particularly in the financial and e-commerce sectors, analysing transaction data and user behaviour can identify patterns and anomalies that may indicate fraudulent activity. Modern analytical techniques such as machine learning and artificial intelligence improve the accuracy of fraud detection systems.



# 5.

## What is important when choosing a data platform?

Anyone who has the choice is spoiled for choice... this also applies to data platforms, as the market now offers a variety of solutions. It is all the more important for companies to proceed in a planned manner when selecting a data platform and its components and technology and to take a number of criteria into account:



### Data integration and management

The seamless integration of the platform into existing systems and workflows is crucial for smooth data exchange. The ability of the platform to integrate harmoniously into the existing system landscape and applications is correspondingly important. The platform should be flexible enough to interact with different data, data sources and applications and support the integration of structured and unstructured data formats. Companies should invest in robust data integration tools such as ETL processes, data pipelines and APIs. By using these tools, they can ensure data consistency and accessibility across the organisation. It also makes sense to introduce a comprehensive data governance strategy.



### Scalability, performance and cost-benefit ratio

Lack of platform flexibility can lead to performance bottlenecks and resource limitations. To avoid these problems, companies should choose a data platform with flexible scaling options in terms of data volume and number of users. Scalable systems are essential, especially for real-time analyses or fast data queries. NOTE! Scalability and performance are also the main cost drivers for platform operation. We therefore recommend that companies carefully weigh the costs of implementing and maintaining the data platform in relation to the budget and the expected return on investment (ROI).



### Data quality and integrity

The results of data analysis and data-based decisions can only be as good as the underlying data itself. In this respect, it is important to ensure that the data platform includes mechanisms to ensure data quality and integrity. This ensures that the data provided is consistent and reliable.



### Flexibility and adaptability

Business needs are dynamic. Accordingly, data platforms should be flexibly adaptable to changing requirements and effectively support a variety of data analysis and processing scenarios. User-friendliness also plays an important role in this context: It is a basic requirement that allows as many employees as possible to benefit from the advantages of a data platform – regardless of their IT abilities.



### Future security

In order for companies to benefit in the long term from investing in a data platform, it should be able to support new data formats, implement AI and machine learning functions or integrate IoT devices. Companies should also ensure that the data platform is supported over the long term and is updated regularly to close security gaps, fix errors and provide new features.



### Security and compliance

A suitable data platform must also meet industry standards and security and compliance requirements. This ensures that all regulatory requirements are met and customer trust is gained.

We also recommend that companies develop a data security strategy that includes encryption, access control and audits.



### Support and training

In order for employees to be able to use the platform's capabilities effectively, we recommend ensuring that professional support and training opportunities are available.

## Top ten questions when choosing a data platform

We have identified ten key questions that companies should ask themselves when deciding on a specific type of data platform or combination of platforms:

- 1.** What are your **business goals**?  
List the basic goals for the different use cases. Determine why you need the data platform and what needs the platform meets or should be able to meet.
- 2.** What **type of data** does your company manage? Is it structured data (e.g. in tabular databases), unstructured data (e.g. text, images, videos) or semi-structured data (e.g. JSON, XML)? The type of data influences the choice of platform, as different platforms are optimised for different types of data.
- 3.** **Where** does your data come from? Does it come from internal sources like transaction systems or external sources like social media or IoT devices? The volume of data you need to process is also important here as it affects the scalability requirements of the platform.
- 4.** What **type of data processing** do you need? Do you need simple queries and reports or complex analysis, machine learning or real-time analytics? The type of data processing required influences the choice of platform and technologies.
- 5.** What is your **budget** for the data platform? Can you provide the necessary resources (personnel, hardware, software) to operate the platform effectively?
- 6.** Do you need to **integrate** existing IT systems, applications and workflows? Seamless integration can be crucial to keeping data flowing throughout your organisation.
- 7.** What **security and data protection requirements** apply to your data? If you process sensitive or personal data, you must ensure that the platform offers appropriate security measures and compliance tools.
- 8.** What technical **skills and experience** do your employees have? The platform should be user-friendly and easy to use – regardless of how IT-savvy the employees are.
- 9.** Would you prefer a **cloud-based** platform, an **on-premises** solution or a **hybrid** solution? Whether you should manage your data on-site, through a cloud provider, or a combination of both depends on a variety of factors. These considerations include the need for security and compliance, the price of the different platforms, the responsibilities you want to keep in-house, etc.
- 10.** How might your data needs evolve in the **future**? What growth forecasts do you have for your data management? The platform should be scalable to keep pace with increasing data volumes and demands. You should also ensure that the platform is suitable for a variety of use cases and allows you to adapt the existing platform and expand it with new source systems or functions.

## 6. How is a data platform built?

Building a data platform requires a systematic approach to ensure that the platform meets the needs of the company and can be used effectively. The following guide shows the steps required.

### 1. Needs analysis and goal definition

Understand the specific business needs and goals that the data platform is intended to support – such as improving customer engagement, optimising supply chain operations, or improving product development. Clarify what type of data is needed and what analytics or business processes need to be improved.

#### Analysis workshop

### 2. Definition of data strategy

Develop a clear data strategy that sets out the fundamental principles for managing, analysing and using data in the company. Define data policies, governance practices and security standards.

#### Data strategy concept

### 3. Evaluation of the technologies

Analyse the available technologies and data platforms on the market. Consider aspects such as scalability, flexibility, security and integration. Consider components such as data storage solutions (e.g. relational databases, NoSQL databases, data warehouses, data lake, data lakehouse), data processing frameworks (e.g. Apache Hadoop, Apache Spark, Google Dataflow), and data integration tools (e.g. Apache Nifi, Qlik, Talend, Informatica).

Decide whether a **cloud-based** solution or an **on-premises** solution is more suitable.

#### NOTE!

Since data platform providers have different service and consumption models, direct price comparisons are only possible to a limited extent. We recommend determining and comparing the costs based on specific use cases.

## 4. Data architecture

Design an efficient data architecture and create a data model that meets the needs of the platform. Consider aspects such as data modelling (defining the structure and relationships between data elements), data

storage (determining how and where the data is stored), and data processing (determining how the data is transformed and enriched). Pay particular attention to these points:

### Scalability and flexibility

Data architectures are intended to regulate the flow of data within a company so that each business unit quickly receives the information it needs to achieve its goals. Since business needs, data volumes and sources are constantly changing, the architecture should be scalable and easily adapt to such changes.

### Automation and intelligence

To reliably organise data and get it to its destination, a data architecture should automate data acquisition and distribution as much as possible. Along with automation, a data architecture should leverage machine learning and artificial intelligence techniques to alert users to problems, correct inaccurate data, and continually improve their ability to anticipate user needs.

### Data management and security

All of the aforementioned features must be balanced with security. Every organization, its customers, and its tools need to be secured, so a data security strategy is critical as the architecture scales. Strong data encryption techniques and data lifecycle management can be used to maintain strict security and privacy standards.

### Architecture workshop: Choice of data management concept

### NOTE!

The product owner should work with cross-functional teams, including data engineers, data scientists, and business analysts, to ensure that the architecture meets the diverse needs of

different stakeholders. Particular attention must be paid to the choice of data management concepts (data warehouse, data lake, data lakehouse, data fabric, data mesh, etc.).

### 5. Optional PoC / pilot phase

Run a pilot to test the data platform in a controlled environment. Identify potential issues and optimise the platform accordingly.



### 6. Documentation & training

Through appropriate training, you can ensure that employees in the company are empowered to use the data platform effectively to collect, analyse and interpret data. Create documentation as a reference for employees to familiarise themselves with how the data platform works and refresh their knowledge. Use documentation as the basis for ongoing training and training enhancements to keep up with updates and new features to the platform.



# 7. Gaining a tailor-made data platform with Informattec

Data platforms play a central role for companies seeking data-driven transformation. In order for data platforms to deliver their full impact and be the key data-driven future, companies should carefully select the right data platform for their needs. Aspects such as integration, scalability, cost ratio, data quality and integrity, flexibility and adaptability to new requirements and data consumers, future-proofing, security and com-

pliance as well as support and training play a crucial role.

We recommend that companies build a data platform systematically. This includes needs analysis and goal definition, definition of a data strategy, evaluation of technologies, development of a data architecture, optionally a PoC or pilot phase, documentation and training for employees.



Companies should note that building a data platform is a holistic project that includes the technical, strategic and organisational dimensions of data management. Accordingly, successful long-term implementation of a data platform requires both technical expertise and strategic thinking, as well as the ability to flexibly adapt the platform

as business needs or technologies change. As a modern intelligence expert for holistic end-to-end data intelligence with many years of project experience, we support companies in all process steps – from requirements analysis to architecture design to tool selection and licensing advice to solution implementation and employee training.



Analysis workshop



Architecture workshop



Evaluation

We support you with know-how, expertise and experience on your way to becoming a data-driven company. Let's talk about what we can do for you.



25+

Years of Experience



350+

Satisfied Clients



15.000+

Licensed Users



## Junior mentality. Senior competence.

Convinced that every client is a privilege and every project is a joint development process with the client, Informattec takes on new challenges with curiosity and open-mindedness. This dynamic attitude leads to agility and continuous innovation, which surprise customers with rapid and goal-oriented solution implementations. Thanks to its wealth of experience, Informattec guarantees the professional implementation of projects and convinces through its ability to think deeply into individual customer processes. As a competitive protagonist in the German-Swiss BI environment, Informattec offers substantial added value with a lasting effect for successful corporate management.

„Data platforms are a central component for the transformation of a company into a ‘data-driven company’ because they enable comprehensive data processing from collection to analysis. That’s why it is important for companies put the development of a data platform on their agenda, one that is tailored to their specific current and future needs.“

**Oktay Pamuk,**  
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