

Turn Data into Products

From data scientist
to data business
owner



Agenda/

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Key Findings

- **From data asset to data business** – An increasing number of companies are assigning a business value to their data assets. As a result, the revenue generated through data and analytics-based business models is becoming a key indicator of digital success.
- **Measuring the data economy** – In 2018, data-based business models and analytics-based solutions generated around €225 billion.
- **From IoT to building automation** – Advanced analytics services are making a wide range of digital uses cases and business models conceivable and feasible. The result is a highly attractive market for mid-sized companies, global corporations and innovative startups.
- **Free flows of data** – The EU wants a single European market for the data economy. To this end, it has set ambitious innovation policy goals to promote the data economy in Europe and create positive conditions for its development.
- **Analytics as an integral part of digital products & platforms** – Whether as „embedded analytics“ within a business solution, as a dashboard within an app, or as an integral part of an IoT platform, analytics functionality is one of the most integral and success-relevant components of digital products and platforms today. And it will remain so for the foreseeable future.
- **From data scientist to data business owner** - Specialists traditionally known as data scientists are gradually taking over more responsibility for the economic success of the data business and the selection of the technology that supports it.
- **Make or buy** - From a technology perspective, time-to-market, performance, the analytics experience, as well as the easy integration of as many data sources, APIs and clouds as possible, are shaping the selection of suitable data and analytics platforms.

#01

Intro

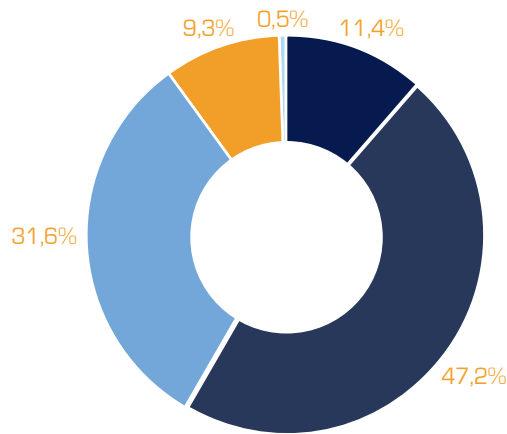
**from data assets to data
business**

#01

Intro - from data assets to data business

Data is the new oil. This slogan is popular among senior managers when they are explaining the relevance of a data-driven digital strategy or corporate culture to board members, investors or employees. The phrase appears simple and clear, and rarely provokes questions. But actually, it's a lot more exciting to answer questions like: How can this oil be extracted? How will it be transported? How and where do you refine it? And what does the business model look like? The same questions apply to data and the opportunities to monetize data assets within a framework of new data-driven business models and analytics solutions.

// In your opinion, how will the value of data be measured in the future?



Brand value
 Data value accounting
 Direct revenue from data-based business models
 Not at all
 Other

n=193

An important starting point is that the majority of CEOs and managers are regarding data as a valuable business asset by now, and not just a driver of cost - thanks to rising data storage requirements. As a result, an increasing number of companies are measuring and evaluating the economic value of their data assets. In addition to assessing the value of the data itself, revenue generated through new, data-based business models will also play a very important role in the future.



These new realities clearly indicate that companies are no longer in the market evangelization and strategy-finding phase, but rather that they consider the „data business“ to be an established element of their product and service portfolios. This is also reflected in the fact that clear milestones and revenue targets for the data business are included within the business plans of these companies and the objectives of their Digitization Managers (Chief Digital Officer & Co). Within many organizations, expectations are already very high. Not only that, there are a variety of successful projects and approaches – across company and industry boundaries – which prove that data-based and analytics-driven business models can make good money.

// To what extent do the following statements reflect how you treat data within your organization?



12,9%

Because of increasing storage requirements, data is primarily a cost driver



31,8%

Data is a potential privacy and compliance problem



39,8%

Data is the foundation of new business models and services



15,5%

Data is a strategic and a core source of competitive advantage for our business

n=264

// Source: © crisp research AG, 2016

The approaches, strategies and opportunities that exist to develop and successfully scale such data-driven businesses are the focus of the rest of this report.

#02

Opportunity

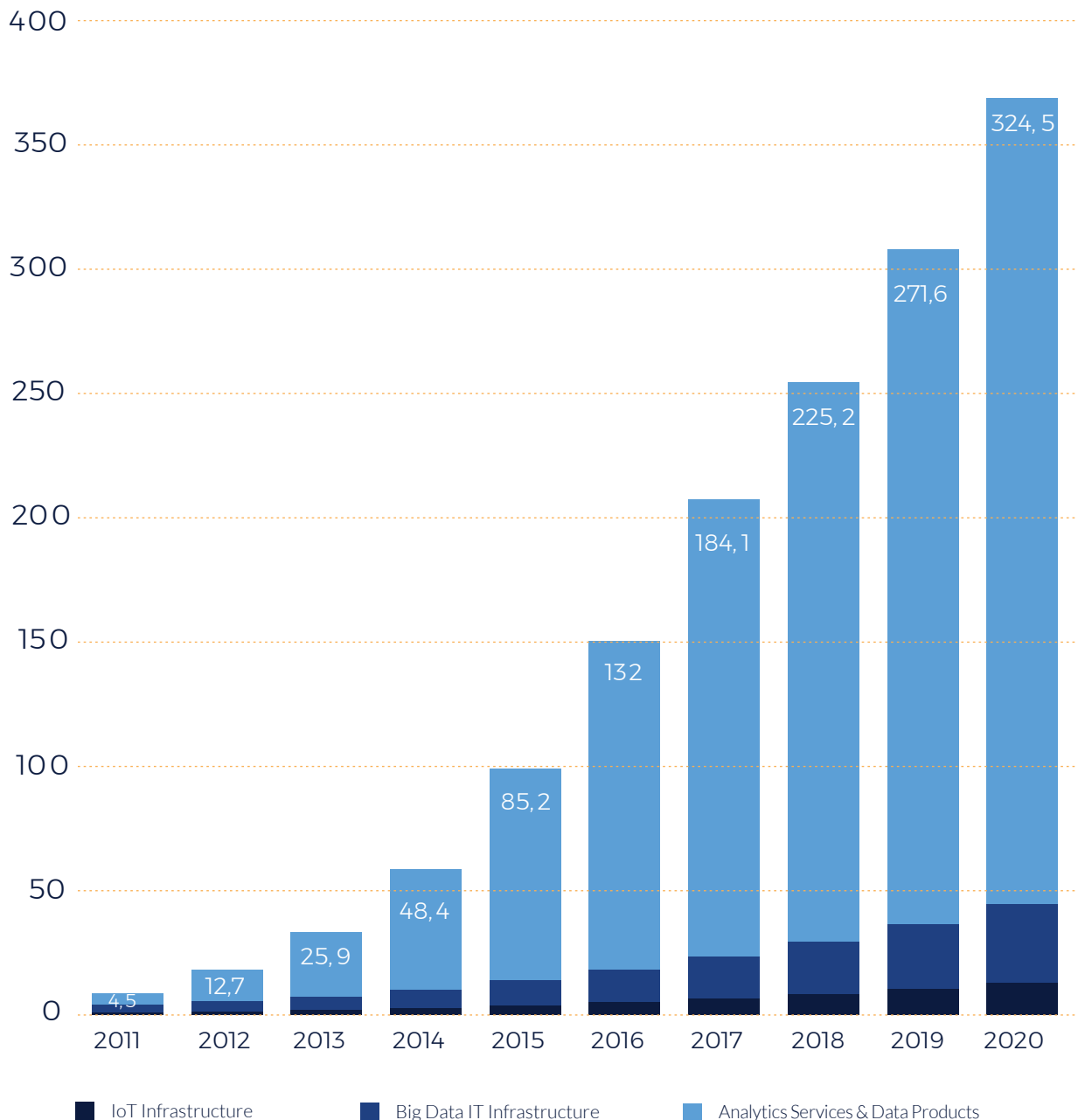
data business possibilities for startups, SMEs and enterprises



#02

A lot has happened since the initial hype around the 'Big Data' topic came to the fore in 2010/2011. Almost all medium-sized and global companies have begun to consolidate their data and prepare it for sophisticated analysis. The networking of production plants and products within the context of IoT is currently creating an enormous diversity of data and opening up completely new analysis and forecasting options. As a result, the task spectrum and breadth of Business Intelligence (BI) use cases within organizations have expanded significantly. Moreover, the potential for optimizing business processes is still immense.

// Global Market for Analytics Services & Data Products (in Mrd. €)



Opportunity - data business possibilities for startups, SMEs and enterprises

// Source: © crisp research AG, 2018



However, the greatest innovation and market potential is no longer in the improvement of internal processes, but in the development and marketing of analytics services and data products, which can be offered as standalone products and services. As part of the digital transformation process, traditional medium-sized companies, global corporations and innovative startups can all establish data-based business models that generate new insights and value from existing datasets.

The spectrum of analytics services and data products in this context is very broad. It ranges from the simple sale of weather or traffic data via data and API marketplaces, to branch or topic-specific analytics-as-a-service offerings in relation to predictive maintenance, price forecasts or social media data monitoring.

// The Data Economy - Global Market for Analytics Services & Data Products

Market Segment	Product, Services, Solutions	Volume 2018
"Analytics Services & Data Products"	Connected Building / Smart Home Industrial Internet / Industry 4.0 Smart Grid / Smart Energy Connected Car Healthcare / Consumer Lifestyle Multi-Channel Retail / Hospitality Public Safety / Security	225,2 bn €
"Big Data IT Infrastructure"	Consulting & Integration Services Software IT Hardware & Infrastructure	7,55 bn €
"Internet of Things"	Networks / Connectivity Sensors / Endpoints	2,56 bn €

// Source: © crisp research AG, 2018

#02

Opportunity - data business possibilities for startups, SMEs and enterprises

According to forecasts by Crisp Research, the aggregated market volume of these data-based services and business models is around €225 billion worldwide. This corresponds to about seven times the expenditure and/or investments in the underlying IT and analytics infrastructure. Even after deducting the marketing and personnel costs, data- and analytics-based business models have a potentially high margin, and the potential to scale worldwide. These are good reasons to invest in these areas.

And that's exactly what many venture capital funds, the big technology and cloud providers, as well as the innovation and digital business units of global corporations are doing. This is why renowned VC company Andreessen Horowitz recently invested in the API marketplace RapidAPI, Tableau Software acquired the AI startup ClearGraph and the lighting manufacturer OSRAM acquired Digital Lumens, a technology provider for IoT and smart building analytics.

This development is being accelerated by the high expectations surrounding the next generation of artificial intelligence and neural networks (deep learning). Because no matter whether it's congestion forecasts, fraud detection or genome analysis, the use of intelligent algorithms and machine learning processes is becoming ever more attractive. Thanks to large volumes of training data (big data), improved algorithms (deep learning) and open source machine learning frameworks, as well as cheaper processing power for data crunching (GPUs, TPUs and Cloud Services), it's becoming easier for companies to get started in AI-supported analytics processes and AI-based product and service development. In addition, modern machine learning procedures do not only understand text and language, but can also now analyze pictures, videos and sensor data efficiently.

Data should be able to flow freely across borders and within a single data space. We need a coordinated and pan-European approach to make the most of data opportunities, building on strong EU rules to protect personal data and privacy.



Andrus Ansip



#dataeconomy



At the European Union level, the emergence of a European data economy is being encouraged and prioritized as an important innovation policy objective. That's why the EU is forecasting a market volume of €739 billion in 2020, representing around a 4% share of total EU output. The main focus is the creation of a free flow of data and the creation of a single market for data-based services and business models¹.

The most attractive application areas include: Building automation (connected building / smart home); networked mobility (the connected car / carsharing / eMobility); and digitized manufacturing (IoT and Industry 4.0). Diverse innovation potential can be seen at both, the global and European level. That's why real estate investors and facility management companies are increasingly investing in the intelligent control and automation of their buildings. The analysis and intelligent management of sensor and usage data (light, energy, entry, etc.) plays an important role here.

But the transformation of the automotive industry and the integration of private and public local and long-distance transport also create room for new, data- and analytics-driven services, apps and business models. From apps that calculate the likelihood of catching the next train, to car sharing and fuel price forecasting, there is a wide range of concepts and ideas out there already. The palette is expanding rapidly to cover dynamic and personalized pricing in stores, to use cases for public safety. It's analytics as far as the eye can see.

1 <https://ec.europa.eu/digital-single-market/en/policies/building-european-data-economy>

#03

Journey

the road to establishing
a data business

#03

Given the multitude of data sources, analysis options and business models, it's easy to lose sight of the big picture. Therefore, it can be helpful to visualize how new data-based business models and services typically emerge, and which basic types of data business models exist.

In the enterprise and startup world, the following data business model innovation journeys can be observed. In practice, they often overlap or influence each other.

Explorative:

Here, experimental areas are created in Digital Labs or Data Labs, to explore the development of data-based products and business models. The clear advantages of this approach are in the creative freedom allowed and the interdisciplinary nature of the teams involved (Data Scientists, Product Managers, Developers, etc.). This is the way to develop new ideas and creative approaches without any restrictions (organization, compliance, etc.). However, it's important to be able to integrate these innovation impulses and MVPs in a professional way into the existing business organization and IT / data landscape, or to make the decision to create a spin-off.

Strategically:

When companies possess large and valuable databases, decisions about the establishment of new data- and analytics-based business models are often strategic. This applies, for example, to the providers of satellite-, weather- or telematics data, but also to publishers, credit bureaus or providers of customer feedback. Here, APIs and analytics functions play a central role in the strategic marketing of large databases, regardless of whether these companies want to monetize their data directly, or through partners and ecosystems.

Entrepreneurial:

One of the most common innovation processes around data-driven business models is entrepreneurial and strongly solution-oriented. The impulse and suggestions are provided by customers within the context of existing business or projects. New ideas for analytics-based solutions are developed jointly according to the co-creation model. If successful in the early project phases, more budget can be made available for the development of a real product. Early market testing is an important success factor in this regard. A negative factor here is often that, while many companies have a good understanding of customer-specific project business, they perform less well when it comes to the professional product and platform development and marketing of analytics services. Because what suits a particular customer well, won't necessarily be the right basis for a generic product.

Evolutionary:

In many cases, innovation treads lightly. This is how successful data business models and analytics platforms can evolve from existing BI projects or dashboards. Especially when users are already familiar with business and data logic and appreciate the value of the existing BI service, new features, an improved user experience, faster performance and more data integration can deliver enhanced customer value. In addition, new business and licensing models can be somewhat easier to establish if a certain level of customer acceptance or a track record already exist.

#04

Typology

**data business models &
strategies**

#04

Different types of data-driven business models and analytics solutions can also be identified, analogous to various innovation processes. Indeed, innovation processes and business model type are often interrelated. This means that analytics-driven business solutions (embedded analytics) are mostly the result of a solution-oriented co-creation process between provider and customer, whereas disruptive analytics startups and data business models usually emerge from a more explorative approach.

Analytics-driven business solutions (embedded analytics)

Analytics-driven business solutions consist of data- and analytics-driven specialist applications and solutions that companies develop out of their existing businesses and process landscapes. They often do this together with key customers (see above). The term „embedded analytics“ suggests that the analytics services are part of a specialist application or a specific business process. This application or process is evaluated and developed through analysis, monitoring and forecasting and complemented by a standalone analytics service.

For the conceptual development, the most relevant factors are the specific functional design and the implementation of the analytics experience (UI, dashboards et al.), and a sound knowledge of the industry or domain. The new analytics solution can only be successful if embedded analytics delivers real value and insight within the context of current and future challenges, and industry conditions.

The realization that embedded analytics will be increasingly important in the perception and evaluation of business and digital solutions is also crucial. That's because most business decision-makers usually spend more time with the analysis and dashboards than with the production backend of many business solutions. Analytics therefore increasingly shapes the perceptions and expectations of users and decision-makers. Performance, functionality and an excellent analytic experience are therefore critical success factors.

In addition, embedded analytics is an important first step towards the monetization of internal datasets for many companies. Within the context of business applications, many of these are already relatively well prepared and structured, which simplifies the relevant ETL processes, the data processing and later the marketing of the data via dashboards or APIs. „Embedded analytics“ is thus a good exercise for companies entering into the data economy. Because here, customer relationships usually already exist, as does an appreciation of the process expertise, which is now being re-packaged and provided as an analytics service.

Examples of „analytics-driven business solutions“ or „embedded analytics“ include:

- Predictive maintenance in mechanical engineering
- Price forecasts in the travel / airline sector
- Demand forecast & replenishment in the trade / food retail sector

The following characteristics are typical of „analytics-driven business solutions“:

- Based on industry or domain knowledge
- Bundled or integrated with existing business solutions
- Monetization of existing data
- Productization as an analytics service with different dashboards
- Marketed/licensed as Software-as-a-Service, or as an analytics platform
- Partial monetization of data assets via APIs
- Usually an initial pragmatic step towards the data economy with manageable risk / investment

Example „Miceview“:

Miceview GmbH from Cologne has used the approach described above not only to expand their existing market intelligence services in the conference hotels industry, but also to make them significantly more user-friendly. As a result, customers now have convenient access to detailed insights about 490 convention hotels in 13 locations via analytics dashboards. According to founder and managing director Daniel Riljic, it marks „a milestone in the provision of key competitive and utilization data“ and represents a significant customer-oriented development of traditional market studies.

<https://www.miceview.de/de/>

#04

Digital platform analytics

To be competitive in the digital world and actively work on disruptive, data-driven business models, many well-known corporations and hidden champions have developed their own digital platforms. Industry leaders want to transform themselves successfully into digital leaders and use their digital platforms and ecosystems to benefit from the networking and scaling effects of the digital environment.

Especially in the export- and technology-oriented countries of the EU, such as Germany, Austria and Switzerland, many industrial and service businesses are investing in the construction and operation of digital platforms. This is especially the case when it comes to networking products and equipment within the context of IoT.

Lufthansa, adidas, OSRAM, Vorwerk, Siemens, Trumpf and many more are enabling their customers, partners and sometimes also their competitors, to access parts of their data and process world via platforms and APIs. The digital platforms always offer a combination of functionality, data, and development and integration opportunities, as well as access to a network of potential users and business partners.

To be able to clearly present the value, as well as to create transparency for users, state-of-the-art analytics features are essential and a key success factor for every digital platform. Because only if the data and features deliver new insights and clear added value (shorter lead times, less waste, lower maintenance costs, more sales per lead etc.), a new digital platform justifies the strategic investment (staff, integration costs, vendor lock-in etc.).

It's important to remember that digital platforms are powered by a continuous and agile innovation process. New features are continuously launched, new data sources are integrated, new API versions are released and completely new platform services are brought to market. This means that the analytics functionality must keep up, too. All of which requires a great deal of foresight and openness when it comes to the design of the analytics and data architecture, as well as the right choice of technology for the tooling. The analytics layer should therefore be properly abstracted in order to enable the rapid integration of new data sources, the addition of new analysis functions and the development of user-friendly dashboards and visualizations (data storytelling). The fact is that a digital platform is only as good as its analytics capabilities. Otherwise, much potential remains untapped and data treasures stay buried in the dark.

Examples of „digital platform analytics“ include:

- Online marketing analytics
- IoT sensor data analysis
- Warehouse logistics & energy consumption optimization

The following characteristics are typical of „digital platform analytics“:

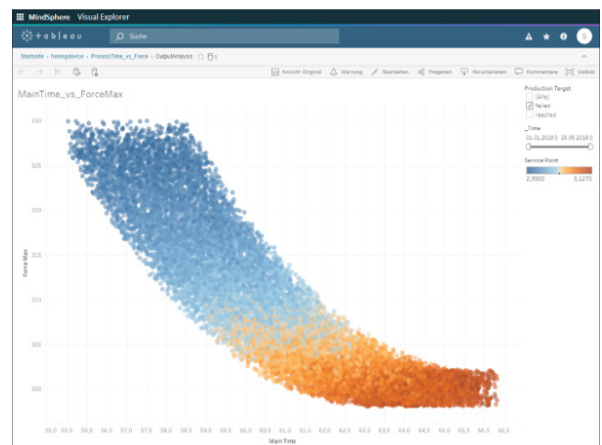
- Open platform architecture (API-driven)
- A combination of functionality, data, and development and integration options, as well as a partner ecosystem
- Monetization of multiple databases (own, customers, partners)
- Analytics service as a standalone platform service / product
- High flexibility and speed of innovation in analytics services required (new features, new data sources, new processing options)
- Multiple methods of data asset monetization via APIs
- Strategic initiative towards the data economy with high risk/investment but a significant opportunity profile (network effect, scaling, etc.)

Example „Siemens“:

MindSphere is a cloud-based, open IoT operating system by Siemens and connects products, plants, systems and machines and enables the use of data via different analysis capabilities. „Visual Explorer“ is based on Tableau and allows for customized visualizations and dashboards, which can be shared afterwards.

According to Sven Selle, product manager at MindSphere, the partnership with Tableau facilitates the visualization and sharing of data for users and, hence, creates new possibilities to understand relations and processes to derive concrete actions and new business models.

www.siemens.com/mindsphere



#04

New data business models & startups

The conception and successful establishment of a new business model that is instrumental in the aggregation, analysis and monetization of data assets is often considered the highest form of data-driven innovation. Data-driven startups in particular are generating a lot of attention at the moment. There is certainly enormous business and growth potential here. Especially as the possibilities are apparently limitless. From the aggregation and analysis of travel and tourism shopping habits, health and vital signs data, to the professional marketing of growth formulas and algorithms in urban farming, the scope is very broad.

Nevertheless, it is important to be aware of certain challenges in advance when it comes to setting up a new data- and analytics-driven business model or establishing a startup. This is why the “chicken and egg” problem is such a big issue for new companies in particular. Because before analyzing and marketing the data, they must first be generated on or integrated from the customer side. A user-friendly program or app, as well as simple data integration are minimum requirements. Only if it is easy for customers to integrate their own data into the analytics service the desired added value can be generated for the customer.

Ideally, the data is collected in the background, aggregated during the use of the service, and then prepared and enhanced for the user via dashboards (for example, mobility apps, Fitness tracker, travel apps etc.). For startups and analytics business models in the enterprise sector (B2B), a fast and secure connection to the customer’s IT and storage systems is critical, as is connection to on-premise databases and applications, as well as those in the cloud.

A strategic success factor for data-driven startups is therefore the generation of marketable, unique data assets, as well as their customer-friendly preparation. Network effects, communities and a state-of-the-art user experience can all help here.

Examples of „new data business models & startups“ include:

- Search engine & analytics for construction sites (<https://buildingradar.com/>)
- Indoor tracking & analytics (<https://www.infsoft.de/>)

The following characteristics are typical of „new data business models & startups“:

- App or cloud service as a product
- Multiple data sourcing strategies (generation via app, Integration of customer data, open data, 3rd-party licensing etc.)
- Monetization possible across different business models
- Analytics as part of the core product or as added value
- Analytics as an integral part of the user experience and the USP
- Easy data integration and data preparation in the B2B context are key
- Data governance & security should be part of the DNA

Example „MedAdvisors“:

MedAdvisors GmbH is a specialist healthcare consulting firm that advises a variety of hospitals and university hospitals through experts from across medicine, economics and law. With „Kavion“ the company has rapidly developed an analysis-driven clinic management tool that merges, links and evaluates the broad range of data generated by a hospital in a multidimensional way. According to CEO Dr. Sebastian Fenger, the Kavion dashboard „significantly reduces the complexity of clinic management and identifies which actions need to be taken, in order to optimize cost structures and processes.“ At last, “there are no more excuses, because the data provides clear information,” and the clinic operators can shape their budgets in the interests of the patients and their needs.

<https://www.kavion.de/>

#04

Data marketplaces & APIs

The establishment of marketplaces for the aggregation and marketing of data assets also offers interesting innovation and growth opportunities. Just as with data-driven startups, the most common challenge here is also finding an intelligent balance between supply and demand and solving the „chicken and egg” problem. In addition, data marketplaces also face the difficulty that all participants must follow the same rules. Only if transparency regarding terms of use, pricing and settlement is achieved can marketplaces expand and operate successfully over the long term.

As a result, aggregation platforms that prepare and consolidate data for their customers and partners via APIs usually act as precursors to fully integrated marketplaces. The sale of individual databases, lists and so on has become obsolete in the cloud age and is also an anachronism within the context of increased automation and more stringent data privacy and compliance requirements. That’s why the operators of data marketplaces and API platforms must document which data flowed to which customers and when.

Above all, the value of data marketplaces and API platforms lies in the standardization and harmonization of data sources, formats and processing. This lowers transaction and integration costs for all market participants.

Examples of data marketplaces & APIs include:

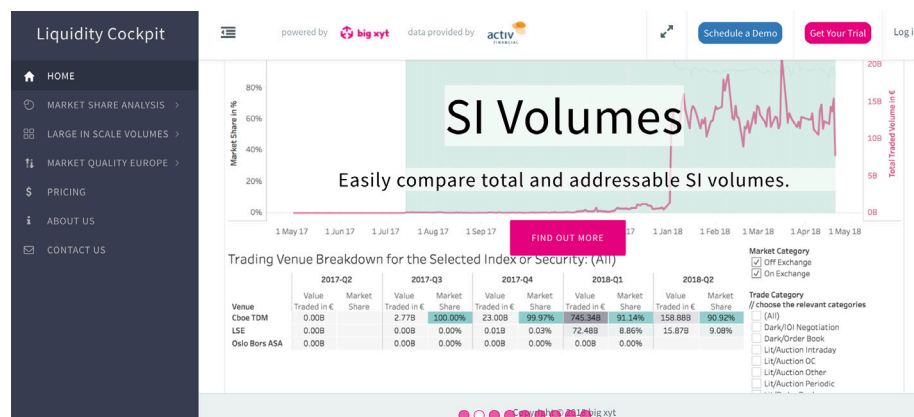
- API marketplace (<https://rapidapi.com/>)
- Marketplace for location data (<https://www.factual.com/>)
- IoT data marketplace (<https://data.iota.org/>)
- VC & Startup data (<https://www.crunchbase.com/>)

The following characteristics are typical of „data marketplaces & APIs“:

- 2-sided business model (chance & challenge)
- Clear, transparent rules for partners / market participants as an essential requirement
- Marketplace operator as trust instance
- API-driven architecture as an important requirement
- Monetization and billing across different models possible (data volume, data value, smart contracts, cryptocurrencies)
- Analytics tends to act as an added value element and monitoring function because the focus is on the sale of data
- Simple data integration and data preparation are foundational elements
- Data governance & security should be part of the DNA

Example „BigXYT“:

BigXYT GmbH from Frankfurt aggregates, transforms and standardizes financial market data for international capital market players on a cloud-based data platform (XYT Hub). The aggregated market data can be queried via APIs and analyzed individually or used via analytics dashboards. In this way, the XYT Liquidity Cockpit for example, provides users with all the relevant information about the liquidity of certain markets.



According to founder and CEO Robin Mess, „customers need information systems and analysis options that can keep pace with the highly automated and ultra-fast-paced nature of financial markets.“

<http://big-xyt.com>

#05

Platform

technology selection and
data architecture



#05

There are many different ways of creating new data- and analytics-based business models and services, as well as different approaches to making money with data and analytics services. It is particularly notable that the original data scientists are now increasingly becoming data business owners. Not only do they have to be able to recognize and extract the value in the data, but in the future they will need to assume more and more responsibility for the success of the data business.

The right technology selection and data architecture plays an important role here. Because the design of the data and analytics platform influences performance, scalability and the user experience, as well as operational costs.

In addition to questions regarding the functional and non-functional requirements for a data and analytics platform, data business owners must also make some strategic decisions, in particular in relation to the fundamental question of whether to „make or buy“. Do you want to program, update and integrate the analytics services and dashboards yourself, based on open source libraries or frameworks? Or do you use an analytics platform that delivers these features „built-in“, so you can concentrate on customers and core competencies?

Today, many analytics platforms offer the possibility of white labeling, so the provider of a new data service uses the platform's full functional and analytical spectrum, but can deploy it in the relevant corporate design. This is a worthwhile approach, especially within the context of embedded analytics.

In addition, in highly innovative market segments, the development and delivery of new analytics features, insights, and predictions provide a clear competitive advantage. That's why technology selection should clearly be oriented towards time-to-market. Because much of the time and resources required within analytics projects and processes are spent on preparing the data, agile and automated data preparation plays an important role here.

Ultimately, modern data and analytics platforms should support a variety of APIs and the integration of different data sources and technologies, in order to enable the further development of the data business or analytics solution, and not to hinder it.

The following additional points should be kept in mind by „data business owners“ and data platform architects within the context of technology selection:

- Easy integration of different data sources and types
- APIs for integrating real-time data from cloud applications
- Varied visualization options and clear overview dashboards
- Outstanding user experience for ease of use (not everyone is a „data scientist“!)
- Cloud-based processing for large volumes of data
- Machine learning and predictive forecasting AI („predictive analytics“)

#06

Use Cases

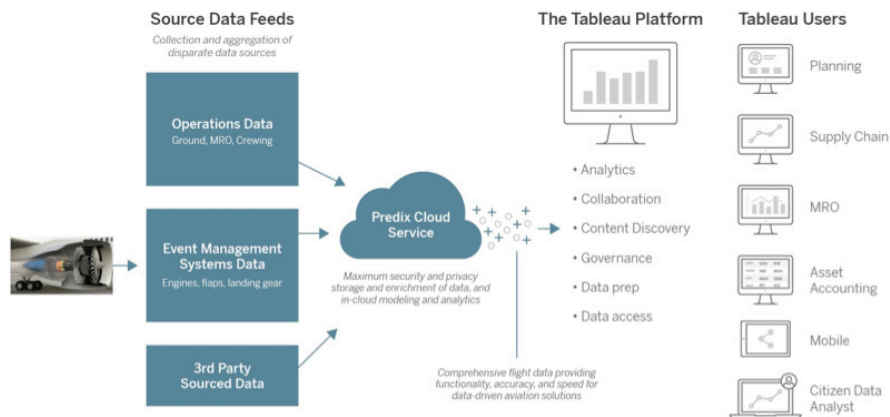
GE Predix meets Tableau



#06

How the enablement of new, data-based business models and embedded analytics solutions looks in practice, can be illustrated by the example of General Electric's use case for Tableau.

The aviation business unit of General Electric (GE) is responsible for the operation and maintenance of a fleet of 35,000 aircraft engines. These produce over 100 million flight logs and generate more than a million terabytes of data per day. From engine diagnostics, to maintenance requirements and consumption data, the set of available data is absolutely huge.



GE Aviation uses Tableau as a data and analytics platform, and integrates this fully into its existing GE Predix environment (Digital Platform Analytics). In this way, airlines (GE's aviation customers) receive fast data access, user-friendly dashboards and reports, as well as detailed forecasts on the relevant operating and maintenance processes. And all this as an integral part of GE's performance Predix platform.

At the same time, customers are also enabled to explore the datasets more deeply and perform drill-downs on sensor data to, for example, run engine fault diagnostics and enable performance optimization. The collaborative approach of the Tableau platform supports the interdisciplinary teamwork required for complex questions and analyzes.

More about the project: <https://www.tableau.com/solutions/ge-aviation>

About Tableau Software/

Tableau (NYSE: DATA) helps people see and understand data and explore with limitless visual analytics. Customers can build dashboards and perform ad hoc analyses in just a few clicks. They can share their work with anyone and make an impact on their business. From global enterprises to early-stage startups and small businesses, more than 78,000 customer accounts around the world use Tableau to turn data into actionable insights, and more than 300,000 people use Tableau Public to share public data in their blogs and websites. See how Tableau can help you by downloading the free trial at

www.tableau.com/trial.

Tableau helps people transform data into actionable insights that make an impact. Easily connect to data stored anywhere, in any format. Quickly perform ad hoc analyses that reveal hidden opportunities. Drag and drop to create interactive dashboards with advanced visual analytics. Then share across your organization and empower teammates to explore their perspective on data. From global enterprises to early-stage startups and small businesses, people everywhere use Tableau's analytics platform to see and understand their data.



About Crisp Research/

Crisp Research is an independent IT research and advisory company headquartered in Kassel, Germany. With a team of experienced analysts, consultants and software developers Crisp Research evaluates and predicts future technology and market trends.

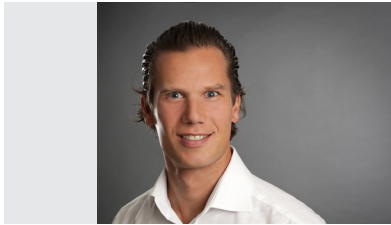
We help IT vendors to strengthen their market position, enable sales teams with cloud-based sales instruments and provide competitive insights.

For CIOs we offer a wide range of research-based advisory and benchmarking services. Our main research focus topics are Cloud Computing, Digital Business Transformation and the Internet of Things.

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Dr. Carlo Velten is founding partner and CEO of IT-research and advisory firm Crisp Research. As senior analyst Carlo oversees the research and advisory initiatives at Crisp Research.

Carlo is a seasoned industry expert with over 15 years of working experience as IT analyst. He helped numerous leading companies to transform their enterprise IT-platforms into agile cloud-based environments.

He also advises large tech vendors regarding strategy, business model transformation and marketing excellence. Before starting Crisp Research he was senior advisor and board member at European IT research firm Experton Group where he co-lead the „Cloud Computing & Innovation Practice“. Prior to that he was the senior analyst at German research firm TechConsult.

Carlo is a well-known speaker and moderator at industry events and contributing editor at Computerwoche and CIO magazine. He is a initiator and judging panel member of the “Digital Leader Awards” and long-term research partner of tech association BITKOM.

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