Data is the fuel that powers today’s successful businesses. The global volume of data is skyrocketing, with new sources being added all the time. And it is not just a matter of conventional business applications. Mobile communications, social networks, and machines and sensors are generating data of unprecedented quantity and quality. Against this background, big data analytics has become the focus of attention. Because processing large amounts of complex data (85–90 percent of all bits and bytes are unstructured) from diverse sources – and extracting the relevant information – is the key to turning this raw data into genuine competitive advantage.

Big data can be understood in terms of the four Vs:

- **Volume**: The quantity of data to be captured continues to grow exponentially.
- **Velocity**: Bits and bytes must be up to date and have to be processed at high speed.
- **Variety**: Data comes in many formats, from diverse sources.
- **Value**: Data needs to be converted into meaningful insights.

A firm grasp of big data analytics enables businesses to recognize patterns in structured and unstructured data, and gain in-depth insights. This allows decision makers to understand market developments, trends and business performance.
To gain business-relevant information and achieve end-to-end transparency, you must capture data from diverse sources. This data must then be processed and analyzed. You need solutions capable of managing all types of data, independent of site, user, author, source, format, application and time. This data has to be collected, consolidated, enriched and analyzed by means of sophisticated algorithms, according to your specific needs.

Entering the world of big data analytics can seem daunting. So it makes sense to carefully select areas where you can make rapid progress, and demonstrate rapid gains. A T-Systems Big Data Readiness Assessment enables you to identify the opportunities hidden in your bits and bytes, and to define the steps you need to take to exploit them. The results form the basis for developing a proof of concept. T-Systems’ big data offering comprises modules that can be combined to create a tailor-made solution. And we go above and beyond providing the big data assessment, proof of concept, and advice and assistance relating to big data strategy and architecture. If you require, T-Systems also takes responsibility for design, development, installation, systems and process integration, application management and operation of the entire big data solution. Within the scope of our consulting service, we analyze the specific imperatives of your enterprise, including your current situation, potential gains and security, and take these into account when developing a realistic deployment scenario and business case.

BIG DATA – SOLUTION MODULES.
(ANALYZE, PLAN, BUILD, RUN, OPTIMIZE).

Due to the complex nature of big data projects, T-Systems has created a methodology based on four core modules. This creates streamlined and transparent processes for planning and executing your big data project.

1. ANALYSE. The first phase entails a thorough analysis of how big data can be of benefit to your business. Customer-specific consulting ensures your big data project will make a positive impact on your enterprise.

T-Systems consulting consists of four elements:

Big Data Innovation Workshop: at this half-day workshop, we describe the most important big data methodologies and technologies. We will introduce and discuss possible innovative big data scenarios for your enterprise.

Big Data Assessment: The week-long evaluation highlights the opportunities that implementing big data technology could create for your business. Plus, we assess the maturity of your current architecture and applications via the Big Data Maturity Model. The results will show your current strengths and spotlight areas in need of improvement.

Big Data Proof of Concept: Over the course of six weeks, we will provision a T-Systems Hadoop environment for proof of concept. This allows you to test-drive the most promising scenarios using specialist tests.

Big Data Strategie und Roadmap: T-Systems will develop a strategy tailored specifically to your enterprise’s needs, ensuring you can implement big data analytics to maximum effect. We will then develop a made-to-measure roadmap. This helps you build solid and future-proof foundations for your big data analytics.

2. IMPLEMENTATION & MIGRATION. Our rapid, structured implementation of your tailor-made Big Data Roadmap ensures your system is up and running in the shortest-possible time. As a result, you can reap the rewards of new insights sooner rather than later. Our experienced systems integrators ensure that deployment is completed smoothly and successfully. What’s more, T-Systems has templates for selected big data scenarios – accelerating implementation and migration of applications.

3. DATA ANALYSIS & TRANSFORMATION. Big data is only beneficial to the business once it has been transformed into useful information. Leveraging tried-and-tested analysis methods and tools, experienced data scientists create highly intelligent algorithms that deliver valid, meaningful answers to even the most complex questions. These fresh insights help you to improve your business operations and accurately forecast future trends.

4. OPTIMIZATION AND OPERATION. Where required, big data solutions from T-Systems can be provisioned from the cloud. Our offerings include infrastructure, middleware and software – and we can give you a comprehensive solution in the form of analytics as a service. Our certified data centers offer cast-iron security, reliability and availability. Our services can be delivered around the globe.
**BIG DATA: A PIVOTAL TOOL IN A VARIETY OF INDUSTRIES.**

**BENEFITS.**
- Capture and analyze extremely large volumes of poly-structured data
- Rapid data access and analysis for up-to-the-minute results
- Targeted, in-depth information for accurate decision-making
- Put constraints and assumptions to the test: experiment with a wide variety of parameters
- Data captured from social media (Facebook, Twitter etc.) provides precise, up-to-the-minute visibility into customers; strengthening loyalty and increasing satisfaction in the long term

**SAVINGS AND COMPETITIVE ADVANTAGES.**
- Real-time information enables:
  - Swift, sound decision-making, leading to competitive advantage
  - New business processes and business models
  - Rapid responses to changing market imperatives (time-to-market)
  - Improved, cost-effective storage and analysis of poly-structured data. Information retrieved can be used as the basis for new business models.
- Enhanced understanding of your customers and their preferences; enabling cross- and up-selling
- Strengthen existing customer relationships and generate additional revenue (greater share of wallet)
- Attract new customers, reduce defection and win back lost customers through improved understanding of behavior and preferences
- More efficient processes and information searches

**OPERATING MODELS.**
- Solutions comprise infrastructure, middleware and software: it is possible to provide analytics as a service
- Flexible operation based on on-demand models
- Hardware is best in class; cost and performance optimized for Hadoop
- Available as a cloud solution from T-Systems
- Operation in dedicated T-Systems data centers, in compliance with all security requirements, including back up, disaster recovery and high availability

**INTERNATIONAL AVAILABILITY.**
- Global delivery in accordance with customer needs
- A worldwide network of data centers and big data experts

**ENABLING GROWTH.**
- Identify new customer needs, customer groups and markets through in-depth analysis of customer and market data
- Reporting and analysis on the basis of defined KPIs for monitoring and identifying weaknesses and opportunities
BIG DATA FROM T-SYSTEMS.

END-TO-END. T-systems provides a comprehensive range of big data services, including consulting, analysis, strategy development, and implementation. What’s more, we are your one-stop shop for hosting and ongoing solution optimization. Our extensive industry expertise and experience of infrastructure, development and operation – with diverse data warehouses and Hadoop platforms, for example – ensure reliable implementation of even very sophisticated, tailor-made big data solutions. In addition, we are able to model highly complex processes from end-to-end.

BEST-IN-BREED. T-Systems is a vendor-neutral systems integrator with deep knowledge of big data tools from all leading providers. You can rest assured that we will create a first-rate solution tailored precisely to your requirements. In collaboration with strong, innovative partners, we develop best-in-class solutions. T-Systems currently collaborates with SAP, Oracle, Cloudera, Intel, Splunk, Empolis, MicroStrategy and Microsoft.

HIGHLIGHTS.

- Expertise in the development of an end-to-end big data strategy
- One-stop solution: consult, plan, build, run (cloud, AaaS)
- Support for the entire big data value chain
- Integration of existing BI components into your big data landscape ensures protection of investment
- Vendor-neutral consulting and implementation of big data processes based on leading products
- Excellent use cases in all key industries
- Extensive experience of systems integration for all aspects of big data
- Highly skilled implementation of solutions that meet stringent national and international GRC (governance, risk and compliance) and security requirements
- Effective management of big data solutions across the entire lifecycle

T-Systems offers powerful, comprehensive solutions that address all four Vs. T-Systems takes volume, velocity and variety, and gives you value with a capital V.

References and usage examples.

EFFICIENT FLEET MANAGEMENT.

According to the Boston Consulting Group, the transport industry could cut carbon emissions by 7.9 gigatonnes by the year 2020 by implementing smart ICT solutions. What’s more, fuel prices are on the rise. By continually monitoring fleet parameters and aggregating and analyzing fleet data over long periods, it is possible to significantly improve fleet management – reducing fuel consumption and CO₂.

Solution:

- Intelligent, transparent management of consumption and emission data
- Ongoing capture and analysis of vehicle location and movement data
- Optimization of shipments and routes
- Versatile, inexpensive, simple administration (easy coordination of external service providers)
- Real-time driver information to cut fuel consumption by improving driving behavior

SMARTER PROCUREMENT.

In businesses with large procurement volumes, spikes in cash outflows can lead to issues with liquidity. With visibility into timing of payment and cash flows, these situations can be avoided. What’s more, employees should always have access to up-to-the-minute data, even when working on the move.

Solution:

- Real-time processing of approximately five terabytes of data
- In-memory solution provides accurate forecasts and detailed overviews of all outgoing payments
- Payment deadlines are calculated based on an analysis of data taken from the complete procurement-to-payment process
- By integrating and implementing the Spend Analyzer Cockpit, users are able to display current purchasing and report data on mobile devices such as iPhones or iPads

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