

IBM



# AUDI AG accelerates its path to new business insights

Automaker increases innovation,  
speed and agility

IBM Power Systems  
8-minute read

**D**rivers around the world know Audi for its beautiful, high-quality premium cars—which in the past were mostly built around the internal combustion engine. Yet consumers, legislators and the company increasingly favor electric cars. How can premium car manufacturer Audi pivot to increase the share of plug-in hybrids and battery electric vehicles within its lineup?

To address these momentous market changes, Audi is focusing on electrification and hybridization but also on digitization, including cutting-edge areas such as connected cars and autonomous driving. From 2021 to 2025, the automaker plans to spend EUR 35 billion on research and development and on investments in fixed assets. It will allocate almost EUR 17 billion to future technologies in order to newly energize the brand promise of “Vorsprung durch Technik,” which translates to “progress through technology.” Audi aims to build on its stellar reputation and long experience to create innovative customer experiences that shape the new era of electric and connected premium mobility.

A representative for Audi explains: “At this period of intense and very rapid change when business models need to be adjusted and reinvented, we want to enable agile, real-time processes. As a forward-looking company, we rely on our IT services to accelerate our digital transformation. To provide the capabilities for the business to succeed, we depend on flexible systems that can handle rapid data growth, even as we modernize and harmonize our operations. We were challenged to achieve this, and at the same time reduce operational costs and increase productivity.”

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“With IBM Power Systems, we’re building on proven technology. To maximize continuous manufacturing output, a stable platform is crucial for our business.”



# Driving digital transformation together



Working closely with IBM for more than ten years, Audi has experienced the benefits of robust computing platforms combined with outstanding customer service. In fact, [IBM® Power® Systems](#) servers consistently rank first in every major reliability category, according to the [2020 ITIC Global Server Hardware, Server OS Reliability Report](#).

“With IBM Power Systems, we’re building on proven technology,” the Audi representative says. “To maximize continuous manufacturing output, a stable platform is crucial for our business, and we maintain a focus on high availability. IBM Services has consistently shown the flexibility and willingness to go beyond the ordinary to ensure that we can modernize our IT and successfully deliver the digital transformation to business users and customers.”

Motivated by the opportunities of real-time insights, an improved user experience and new customer services, Audi’s business departments are eager to extend the boundaries of what is possible by implementing SAP® S/4HANA® software, the next-generation business suite. Audi already relies on SAP S/4HANA for financial accounting on Power Systems servers, and is working to simplify controlling, consolidation and data management with SAP S/4HANA to optimize business operations by shaking up legacy processes.

[IBM Services®](#) supports Audi in its large-scale project to transform mission-critical manufacturing logistics with SAP S/4HANA. Together with other consulting partners, IBM Services provides project management and quality assurance expertise to streamline the implementation.

“Even before we began to move to SAP S/4HANA, we have been an early adopter of SAP HANA on IBM Power Systems,” says the Audi representative. “When we started our transformation journey with SAP HANA, we teamed up with IBM and SAP to develop best practices for the IBM Power Systems platform and facilitate the certification of this solution architecture. From our first proof of concept until today, we have benefited enormously from the optimized and fine-tuned configuration of SUSE Linux Enterprise Server for SAP Applications. Using IBM Power Systems and SUSE software as a solid foundation, the move towards in-memory computing using SAP HANA has been super-smooth. The dedicated SUSE Linux Enterprise Server for SAP Applications update channel, where patches are rigorously tested by SAP before being rolled out to customers, has minimized the risk of failures and increased application availability.”





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Today, IBM Services manages and runs six [IBM Power System E980](#) servers with the latest [IBM POWER9™](#) processors, providing Audi with top performance and room for future growth. IBM Platinum Business Partner SVA System Vertrieb Alexander provides the systems infrastructure as a service to Audi for increased flexibility. Rainer Maiwald, Senior Account Manager Automotive at SVA, comments: “In close collaboration with IBM Systems and IBM Services, we designed a tailored offering for Audi to provide maximum performance with improved cost-efficiency. This approach allows Audi to benefit from the latest IBM POWER technology innovations even more quickly, to meet dynamically changing business needs.”

Additionally, Audi has deployed IBM Power System E880, [IBM Power System S824](#) and IBM Power System E850 servers in two data centers. Using the advanced virtualization capabilities of [IBM PowerVM® technology](#), the company runs more than 250 SAP instances and management systems on the Power

Systems platform. To meet demanding high-availability requirements, IBM Services has implemented [IBM PowerHA®](#) clusters for mission-critical SAP applications. Features such as IBM Power VM Live Partition Mobility help ensure business continuity during maintenance tasks and optimized balancing of SAP workloads across all physical servers.

SAP solutions are deeply woven into the business fabric at Audi and the wider Volkswagen Group. The company relies on a broad range of software including the SAP S/4HANA suite, the SAP HANA platform, SAP Fiori® apps, SAP ERP applications for procurement, finance, controlling, management of technical specifications and logistics, as well as SAP Business Warehouse, SAP ERP Human Capital Management, SAP E-Recruiting and [SAP Process Integration](#). Some plants manage time-critical logistics workflows in SAP ERP, where even short interruptions can quickly lead to reduced output, squeezing the company’s profit margins and causing longer waiting times for aspiring Audi customers.

Audi innovates continuously, enhancing operations with hybrid cloud integration that enables seamless interaction between on-premises infrastructure and public cloud offerings. For example, using the cloud connector, which is part of [SAP Cloud Platform Connectivity](#), the company supports optimized workforce management procedures with the fully cloud-based SAP SuccessFactors® solutions.

Using this highly efficient and flexible IT platform also allows Audi to provide IT services such as SAP ERP applications for finance and controlling to other brands within the Volkswagen Group. In addition, Audi operates its own custom-developed, mission-critical manufacturing management systems that ensure that highly individualized cars are built efficiently to meet precise customer specifications. These solutions run in the [IBM AIX®](#) environment on Power Systems servers, supported by [IBM WebSphere® Application Server](#), [IBM MQ](#) and [IBM Db2® software](#).

“Thanks to IBM Power Systems with SUSE Linux Enterprise Server for SAP Applications, we enable and drive digital transformation using SAP S/4HANA across the whole company.”



# Streamlined processes, 66% fewer servers



Audi is building on its successful relationship with IBM and SVA, working as a team to unite two previously separate Power Systems environments under a single service contract. “As a strategic decision to streamline IT procurement and make IT management easier, we can now take advantage of consolidated managed services by IBM with additional infrastructure provided by SVA as a service based on our actual demand,” says the Audi representative. “Standardization of IT operations will unlock new synergies and increase IT efficiency further to support our digital transformation initiatives.”

The representative adds: “The unmatched scalability and flexibility of IBM Power Systems is a key benefit for us. We

can dynamically adjust our resource allocations and prioritizations on the hypervisor level to ensure our applications can always meet our business needs. From my experience, IBM solutions deliver superior business agility, ensuring we have the freedom and capability to innovate, and lead the industry.”

Business users are already experiencing the advantages of SAP HANA in-memory computing. For example, to provide data analytics and operational insight, Audi runs SAP Business Warehouse. The application now runs on the SAP HANA database with some 6 TB of data available for analysis, hosted on a Power Systems server with 12 TB of main memory.

“Moving our SAP Business Warehouse application from a traditional architecture to SAP HANA has reduced the database size by 50%,” says the Audi representative. “Thanks to the performance of IBM POWER9 processors together with the in-memory technology of SAP HANA, business users can access complex reports faster than ever before. By accelerating loading of operational data into our data warehouse by a factor of 100x, we can gain new insights from the latest data more rapidly and optimize decision-making at all levels.”

By moving to servers based on POWER9 processors, Audi reduced the number of physical systems for core SAP workloads, including SAP S/4HANA, by 66%. “On other platforms, we would require many more servers, processor cores and resources to provide the same, stable IT services for the business. By deploying IBM POWER9 processor-based servers together with SVA and IBM, we have cut power consumption, improved energy efficiency and enhanced sustainability for our IT operations,” says the Audi representative.



# Charting the route for continuous transformation



Audi is on track to modernize more and more business processes and applications with SAP S/4HANA. A major focus for many departments is to simplify complex workflows by adding real-time information and extending use of modern apps based on the SAP Fiori user interface, which enables intuitive working and fully mobile access. Audi, IBM and SVA continually collaborate to develop new opportunities as Audi modernizes and refreshes its IT in additional business areas and platforms.

“IBM and IBM Business Partner SVA are strategic partners for Audi, and we have been working together very efficiently for a long time,” the Audi representative says.

“Thanks to IBM Power Systems with SUSE Linux Enterprise Server for SAP Applications, we can enable and drive digital transformation using SAP S/4HANA across the whole company. The number of SAP S/4HANA applications is growing rapidly, and our ability to manage this increase easily and cost-effectively clearly highlights the scalability benefits of the powerful and flexible IBM Power Systems platform.”

The Audi representative concludes, “Ultimately, SAP, IBM and SVA solutions enable us to grow further, and help us reinvent our business to create a greener, sustainable electric mobility future.”

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## About AUDI AG

Audi is a global manufacturer of premium cars with 17 production locations in 11 countries. Building 1.8 million cars in 2019, the company inspires customers across more than 100 markets worldwide. Founded as pioneer of automotive engineering in the 19th century, Audi is headquartered in Ingolstadt, Germany, employs over 87,000 people and achieved annual revenues of EUR 55 billion in the 2019 fiscal year.



## About SVA System Vertrieb Alexander GmbH

IBM Platinum Business Partner [SVA](#) is a leading system integrator based in Wiesbaden, Germany. With more than 1,700 employees across 23 offices across Germany, the company combines high quality IT offerings with in-depth experience to deliver flexible and reliable data center infrastructure solutions.

## Solution components

- IBM® AIX®
- IBM PowerHA®
- IBM PowerVM®
- IBM Power System E980
- IBM Power System S824
- IBM Services®
- IBM WebSphere® Application Server
- SAP® Business Warehouse
- SAP Cloud Platform
- SAP Fiori®
- SAP HANA®
- SAP ERP
- SAP Process Integration
- SAP S/4HANA®
- SUSE Linux® Enterprise Server for SAP Applications



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