Microsoft

Leveraging SAP on Azure for Business Transformation

## Business Leaders Guide

Azure

SAP HANA

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The context

The clock speed of
business is changing

New disruptive competition has changed the "clock speed" of business. Consumer expectations, set by e-commerce for shopping and social networks for communications, and always-on information access with mobile and 4G networks, are also increasing pressures on businesses to achieve results and outcomes like never before. Speed and agility are critical – a business must act faster and make better-informed predictions and decisions to compete and win.

The new digital business landscape

41%	**65%**	**80%**
of business revenues will be driven by digital products by 2020	of businesses believe legacy systems are no longer a fit	of businesses believe that not modernizing IT will hurt growth

Source: Why Now is the Right Time for SAP on Azure, Accenture, 2017
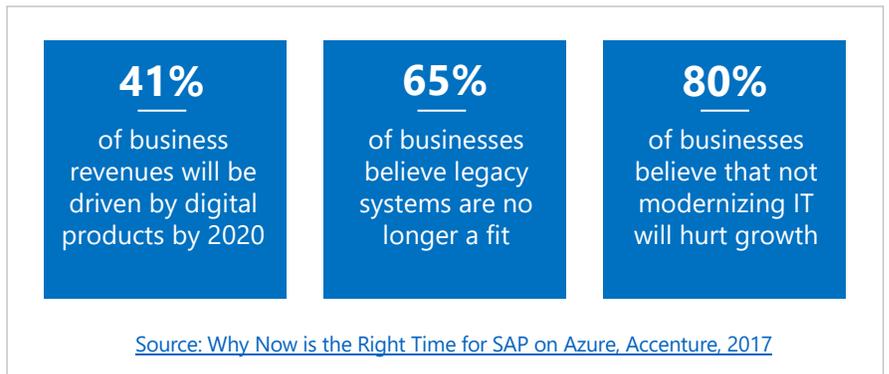
What's needed: Data-driven insights and speed to action
In today's lightning-fast digital economy, businesses must improve business processes and use end-to-end, real-time insights from modern ERP systems combined with non-transactional data to succeed in new markets and to reinvent themselves in existing markets. Developing insights and quickly turning them into action are the key imperatives for today's business leaders.

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The challenge
Legacy SAP solutions aren't
meeting today's needs

SAP customers are working hard to realize the full value of their SAP systems. But with legacy deployments, data in SAP systems is isolated from other business data and systems, leaving most users frustrated with too many manual processes. Additional pain points include the integration of multiple legacy systems and data silos driven by geographical expansion or growth through acquisitions.

Existing deployments limit the potential of a digital core
Non-cloud-based SAP landscapes are often slow, manual and fail to present a holistic view of the business across global operations. Business innovation simply can't happen in an IT environment with disparate systems and data, fragmented views of the customer, and manual feedback loops that can take months to close or resolve. If data and processes can't be efficiently pulled together, analyzed, and leveraged, they can't be used to create business value.

SAP-powered transformation needs to be led by business in collaboration with IT

Most IT teams are tied to legacy infrastructure that requires long cycles and manual processes for configuration; this, compounded by decreasing budgets, leaves them unable to react to fast-changing business needs. Switching to real-time data driven decision making without changing one's core is very expensive and comes with operational overhead (for example, the promise of Teradata and other data warehouse solutions).

Today, ERP investment decisions are cutting across functions such as finance and supply chain with far-reaching implications. Business is now required to go beyond just changing infrastructure; business must lead. The destination is a new digital core – SAP S/4HANA – in the cloud that powers insight, speed and efficiency:

- Accelerate innovation with improved insight and predictions
- Move faster and accelerate time to value with agility
- Improve business processes and efficiency by optimizing operations
- Reduce costs and TCO

Such a modern IT foundation enables revolutionary new capabilities, giving business leaders an increased ability to quickly respond to threats and opportunities and to change plans instantly, all while remaining cost efficient, compliant, and secure – and meeting day-to-day responsibilities with ease.

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The cloud

Enterprises are past the tipping point of cloud adoption

Public cloud is being embraced by most enterprises today, and the majority of IT spending is now focused around cloud applications and services, as a "cloud-first" procurement strategy is now the norm.

The number of enterprises using the public cloud will increase from 45% in 2016 to more than 90% by the end of 2019, according to Morgan Stanley.

45%			90%
2016	2017	2018	2019
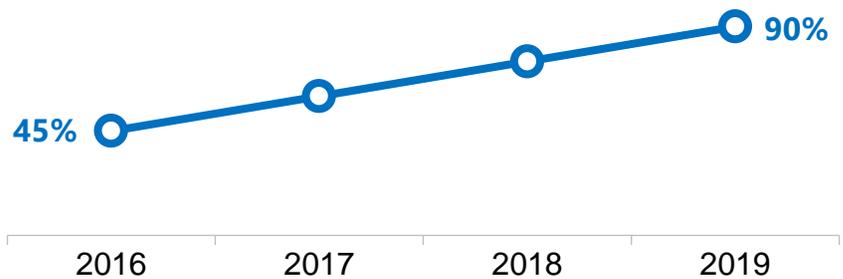
It's about the need for speed, automation, scalability, time-to-value, and innovation – and cloud becomes more than just a deployment option, it becomes an enabler of expanded capabilities. As Frank Gens at IDC noted in 2017:

> *"The cloud is becoming enterprises' most critical and dependable source of sustained technology innovations."*

Two global hyperscale clouds dominate the marketplace
Microsoft Azure and Amazon Web Services (AWS) are the two dominant players; together, they own approximately 70% of the market. Recent statistics released by Microsoft show that Azure recorded a 98% growth rate in the second quarter of 2017.

Azure's uniqueness lies in the enterprise

Azure, Microsoft's cloud platform, is an evolving collection of integrated cloud services spanning compute, storage, data, networking, and applications. The platform offers enterprises a smooth and seamless transition to the cloud by offering Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and a hybrid cloud model that leverages organizations' existing investments on-premises with cloud resources.

"Some of Microsoft's largest customers are moving their production SAP workloads to the Azure Cloud, offering conclusive proof that the cloud has become a mainstream enterprise-technology foundation for anything a global corporation chooses to deploy there."
– Bob Evans, Forbes, 2018

The risk today is around *not* moving to cloud

Today, the risks around the cloud are the opportunity costs of *not* leveraging its benefits, particularly for SAP and SAP HANA application landscapes. The opportunity for SAP customers is the value realization of a modernized SAP landscape combined with the right global hyperscale cloud, which acts as a value multiplier to SAP benefits that power digital transformation.

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The path

Microsoft Azure is the hyperscale public cloud built to meet enterprise SAP requirements

Azure's unique ability to drive performance, agility, and innovation for SAP landscapes is derived from Microsoft's enterprise-grade security, global data center availability, scalability to support uniquely large SAP workloads, and integrated tools running on a common Azure platform.

When SAP estates are moved to the Azure cloud, the business can drive better insight, innovation and business processes:

Data analytics powers better, faster decisions and innovation

Leading security, global reach, and compliance

Microsoft enterprise DNA, partners, and support

Microsoft and SAP partnership – shared roadmaps; MS runs SAP on Azure

Reliable – High availability for business continuity

1. Data analytics powers decision-making and innovation
Marry SAP transactional data with other data to power business intelligence and move to a dynamic real-time insight-to-action model with Azure. You are likely using Power BI or Tableau and you need your other data in the cloud to power its value. By moving your SAP systems to the Azure cloud, you can integrate your data – including unstructured and external data – to power better predictions, insight, decision making, and innovation.

2. Leading security, global reach and compliance

Microsoft invests about $1 billion on cloud security every year. Enterprise-grade security and privacy are built into the Azure platform, providing the same level of protection for all Azure customers, including many of the world's largest financial institutions. Azure has the largest compliance portfolio of any cloud with more than 72 international and industry-specific compliance certifications.

The Azure cloud is the leader in global coverage, powering high-performance services worldwide with a growing network of datacenters and backed by Microsoft's multi-billion dollar investment in datacenter infrastructure. Today Azure has 50 regions around the world and supports 10 languages and 24 currencies. Azure's global coverage enables enterprises to deliver low-latency services to users around the world. Enterprises can co-locate data close to users, and Azure's 1,500+ peering points for express routing ensure reliable high-speed connectivity.

3. Microsoft enterprise DNA, partners and support

Microsoft has decades of experience serving global enterprises, understands their needs, and has a large portfolio of enterprise-grade products and services, along with a thriving partner ecosystem and a strong enterprise support network. As the most partner-friendly cloud, Azure invites you to bring your trusted partners and SI along as solution collaborators. In addition, Microsoft's SAP certified high performance infrastructure supports lifting and shifting as-is or transformation with SAP HANA.

4. The Microsoft and SAP strategic partnership

Microsoft and SAP are committed to empowering digital transformation and innovation for their customers with a 30-year partnership that is optimized, trusted, and seamless. Roadmaps and innovation are, by design, driven by co-located developers. SAP is running on Azure for their business-critical systems and Microsoft runs SAP, including SAP S/4HANA. In addition, integrated enterprise-class support is provided by co-located support staff, while co-located engineering and aligned sales and marketing teams ensure a seamless customer experience.

In November of 2017 the two companies announced an expanded partnership offering customers joint cloud capabilities and a trusted road map.

Microsoft and SAP CEOs announcing their expanded partnership in 2017.

5. Reliable high availability for business continuity

Azure offers a wide range of easy and economical high availability, backup, and disaster recovery services that protect and natively support the widest range of enterprise applications of any cloud DR provider. Failover your apps – and your entire datacenter – with automated recovery plans in a matter of minutes and hours instead of weeks or months and reap the benefits of global hyperscale cloud economics. For reliable business continuity, Azure uniquely offers 99.99% SLAs for mission-critical SAP deployments.

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The results
The value of SAP on Azure

Companies that conquer new markets do so because they have access to real-time insights and the ability to quickly pivot and scale their businesses. Businesses can achieve this today by running their core operational processes on SAP's next-generation intelligent ERP platform, SAP S/4HANA, in the Azure cloud. Moving to a digital core in Azure speeds up transactions, simplifies business processes and data integration, and enables web and mobile access for SAP data.

Microsoft completes its journey to SAP on Azure
In February 2018, Microsoft finished moving its entire SAP landscape – *an estimated 50 terabytes* – to Microsoft Azure, ending a fast-moving year-long journey. Estimates are that moving from on-premises to Azure will slash the Microsoft SAP budget by 10 percent to 20 percent, cost savings that come from fine-tuning usage, snoozing systems at night and on weekends, and by leaving behind old processes that aren't needed any more.

> "*Moving to the cloud will save us money, but this is really about becoming more agile and innovative...our teams can stop worrying about keeping our infra-structure up and running and focus on innovating without a lot of heartburn. They can run experiments, learn, and then take us in new directions.*"
> – Mike Taylor, manager of the Microsoft SAP program in Core Services Engineering and Operations

A new digital core – SAP S/4HANA – in the cloud powers insight, speed, and efficiency
With such a foundation in place, business can leverage predictive analytics and machine learning to take action on insights in real-time. Business leaders can focus on strategic growth and diversification into new markets, geographies, products, and channels to drive new revenue streams.

ACCELERATE INNOVATION WITH IMPROVED INSIGHT AND PREDICTIONS

When you move to SAP's next generation digital core with SAP S/4HANA and run it in Azure, all your data – transactional, unstructured, external – come together for analysis and insight. With Azure, you get easy-to-use tools that support a full range of analytic workflow capabilities for business-centric, agile, self-service analytics. You can use Microsoft Power BI and other big data analytics tools for everything from fine-grained sentiment analysis and product-mix optimization to business risk management.

Transform data into intelligent action
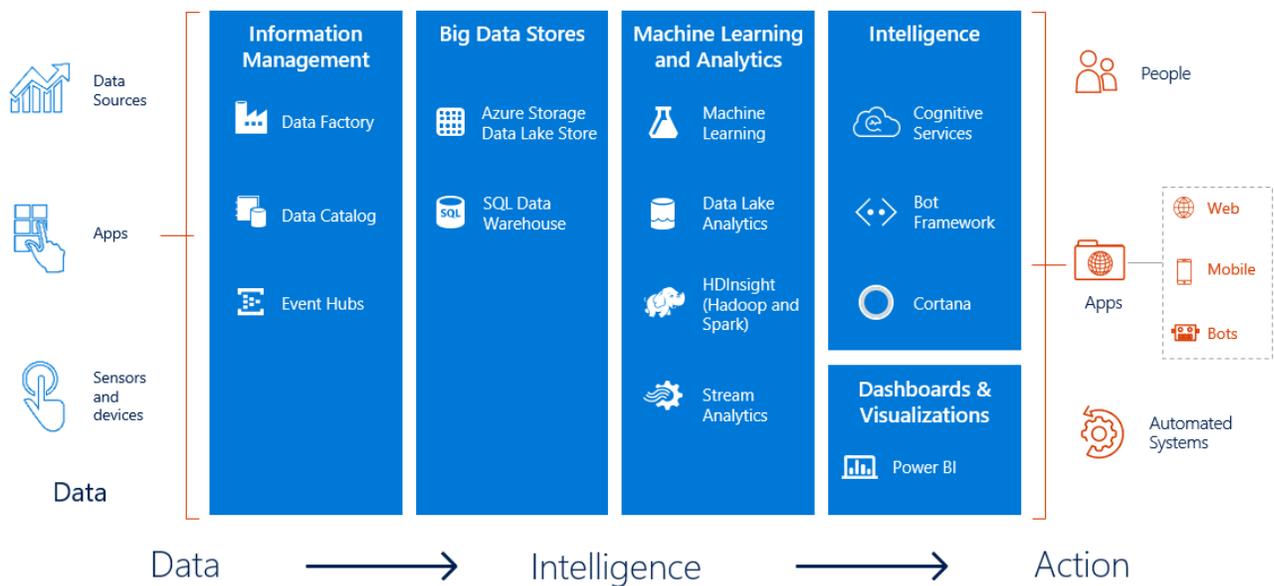
Data integration powers business intelligence

Azure enables you to harness data as a strategic asset, shifting from hindsight to foresight, automating manual processes, delivering personalization to customers, and innovating with new business models, services, products, and experiences – all to differentiate and capture emerging revenue opportunities. Azure offers an end-to-end set of data services such as Azure Data Factory for data integration from various sources, Azure Data Lake Store to store trillions of files, Azure Cognitive Services (such as Azure Machine Learning) to derive predictive insights from your data, and Power BI to visualize and analyze the data in a user-friendly interactive fashion.

"By moving SAP HANA to Azure, we have been able to speed up planning cycles and accelerate delivery of finished goods to our customers. Our whole production engine can now speed up." – Richard Cammish, Chief Information Officer, Coats

Thread manufacturer spins its future in the cloud

For example, Coats, the world's leading industrial thread manufacturer, is moving all its datacenter assets into Azure – including its production SAP HANA systems – to gain elasticity, vastly improve performance, and reduce costs. Its 7,000 employees now use Office 365 and Azure together, and Coats can explore new cloud services such as machine learning and artificial intelligence.

Deploy new technology solutions such as IoT and machine learning

Azure imbues business functions from analytics to new product development with new technological capabilities. For example, machine learning and AI capabilities can be powered by Azure Machine Learning and Cognitive Services, and IoT solutions and intelligent edge devices are enabled with the Azure IoT Suite of services.

Kohler brings the IoT revolution to your bath

For example, Kohler is building the next generation of smart kitchen and bath products using Microsoft Azure Internet of Things (IoT) solutions. The 145-year-old Wisconsin-based company is transforming from a manufacturer of tubs and toilets into a digital leader in the smart-home revolution. Its new smart fixtures can make life more convenient for customers while delivering data that helps Kohler continuously evolve its products to better meet customer needs.

> *"We easily cut our development cycle in half by using Azure platform services and infrastructure while also significantly lowering our startup investment."*
> – Fei Shen, Associate Director of IoT Engineering, Kohler
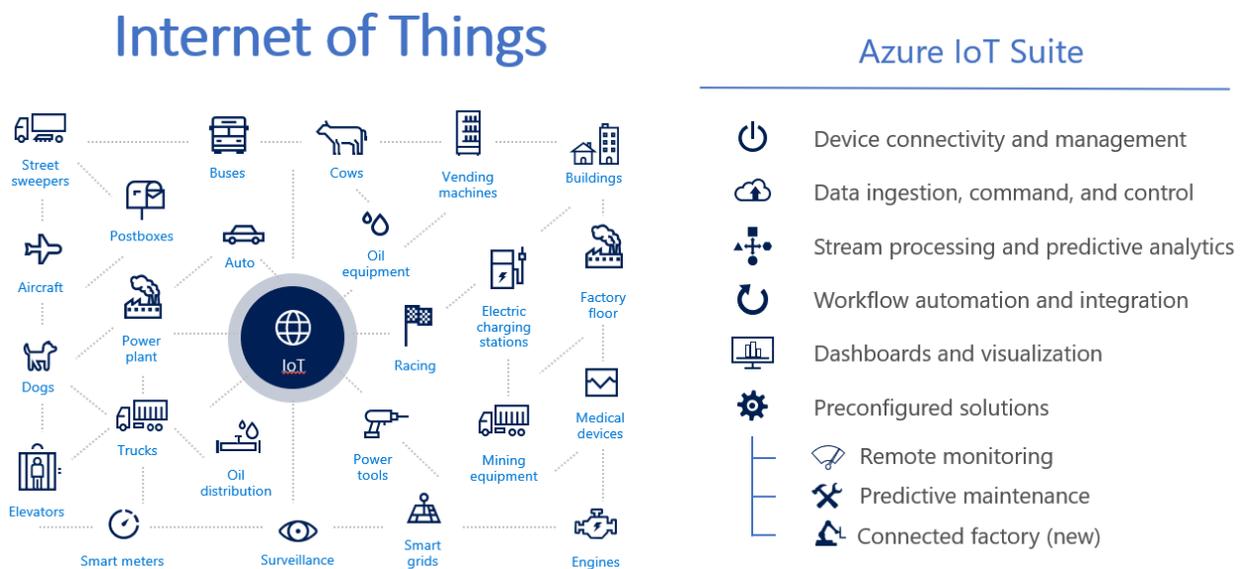
MOVE FASTER AND SPEED TIME TO VALUE WITH IMPROVED AGILITY

Dramatically increase your speed of action in responding to new competition

Azure's on-demand resources – combined with Azure's integrated toolset – enable the enterprise to develop, iterate on, and stand up new business models quickly. You gain the ability to try new things quickly, test them quickly with fast POCs and fast-fail iteration, and determine their success potential quickly as well. Azure offers everything for app development from API management to managed databases (such as Azure CosmosDB) and Azure Container Services to event-driven serverless capabilities with support for a wide variety of development toolsets.

> *"By using Azure, we stood up an infrastructure in Japan in two to three weeks. We couldn't even have signed a hardware P.O. in that time if we were building our own datacenter. We simply could not have gotten into the Japanese market without Azure."*
> – Tom Phillips, Vice President of Data and Infrastructure, Ambit Energy

Energy company electrifies pace of innovation and expansion

To stand up new infrastructure quickly, Ambit uses Azure services – including Azure Container Service together with infrastructure as code and open source technologies – to completely automate infrastructure provisioning. By implementing Azure, Ambit can move dramatically faster to enhance its services and enter into new markets. And costs are 22 percent lower.

Grow as fast as you can think with Azure

For example, the move to SAP on Azure enables businesses to: execute agile 3-week product upgrade cycles, instead of months or longer; plan promotions daily with real-time data, instead of planning months ahead; and build a proof of concept that proves the viability of a new solution on your tech stack in a week or two.

> *"We're a lot faster in trying out stuff and bringing a team up to speed, which means faster time-to-market with new products."*
> – Peter Rothlaender, Manager of Cloud Solutions, Daimler AG

Daimler embraces the cloud to innovate faster

Daimler AG, one of the world's largest manufacturers of premium cars and trucks, is driving hard to be a key player in software. To speed up software development and innovation, Daimler uses Azure DevTest Labs for a higher-velocity software development model. By developing in Azure, the company can onboard developers in hours versus weeks, get new ideas underway faster, and attract top talent with a state-of-the-art development environment.

IMPROVE BUSINESS PROCESSES AND EFFICIENCY BY OPTIMIZING OPERATIONS

Optimize operations

Azure enables you to improve processes across the business, so you can run your business predictably and safely. Accelerate the responsiveness of your business, improve service levels, and reduce costs with intelligent processes that anticipate the future and coordinate people and assets more efficiently.

> *"With Azure, we get access to compute, network, and storage resources preconfigured for SAP HANA that we didn't have to build, install, or manage."*
> – Brad Huggins: Manager, Innovation Group, Technical Development Team, Tate and Lyle

Global ingredients provider finds sweet success with Azure cloud for SAP HANA

Tate & Lyle has a 150-year history of developing ingredients for food, beverage, and other industries. When the company decided to streamline its financial reporting and support SAP Business Warehouse, the company chose SAP HANA on Azure Large Instances – with compute, network, and storage resources all certified for SAP HANA. Now Tate & Lyle has improved business processes, including reporting speed and capacity management, without a big infrastructure investment.

Transform and innovate

Azure offers a wide selection of enterprise-grade data and application services, including Active Directory and single sign-on, with enterprise-spanning authentication for all Microsoft users. Azure also supports a range of databases, including SQL Server, Oracle and others, along with SAP HANA. Azure also offers the only integrated cloud suite built on a common foundation with synergies and increased productivity for Office Online 365 users, Microsoft Power BI users, and other Microsoft ecosystem products. Data Lake Store and Data Warehouse are two such Microsoft ecosystem products that are built to easily integrate.

> *"We needed a platform with the speed and capability to launch exceptional new experiences... Microsoft Azure allowed us to do that with the advanced insights we need and a cautious approach to data."*
> – Imran Khan, Vice President – Digital Customer Experience, TD Bank

TD builds on its reputation for excellent customer service with the Microsoft Cloud

TD Bank Group (TD) is sharply focused on building the bank of the future – a future where digital is one of the core driving forces of its transformation journey; where data provides insights into the bank's customer beliefs, needs and behaviors; and where technology will be the centerpiece of the bank's delivery model. The bank's digital and data-driven transformation allows more meaningful

and personal engagements with customers, fuels application development, and informs branch and store service delivery by gathering insights to better serve customers. TD generates close to 100 million digital records daily and has more than 12 million digitally active customers. With the Microsoft Cloud helping to harness that data, TD can deliver on its promise of legendary service at every touchpoint.

REDUCE COSTS AND TCO WITH SAP ON AZURE

Reduce costs while keeping your focus on value

When evaluating TCO (total cost of ownership) for your deployment options, it's important to include a careful evaluation of the *value* of the options, not just costs. With that said, Azure's SAP-certified on-demand infrastructure can save 40% or more and allows IT to redirect focus to strategic, revenue-generating work instead of maintaining systems. Expensive over-capacity becomes a thing of the past, and the scale of cloud drives down costs over time.

> "*With SAP on Azure, we will always have an up-to-date technology platform with resources provided on an on-demand basis. By paying only for what we use, and by expanding and contracting those resources to meet business needs, we manage SAP much more effectively on Azure than we ever did in our own datacenter*."
> – Tan Kok Meng, Chief Information Officer, Malaysia Airlines

Cloud economics and other cost-reducing drivers

Additional cost drivers for a reduced TCO of SAP on Azure include: turning off resources when not in use; reduction in servers, storage, datacenter heating and cooling costs; reduction in IT management overhead costs; reduced software licensing costs (for example, through Azure Hybrid Use Benefit for SQL Server and Windows Server, saving up to 82% when combined with Azure Reserved Instances); and savings on archival costs by leveraging economical Azure cloud storage.

Rio Tinto mines new frontiers of efficiency and agility in the cloud

For 144 years, Rio Tinto has pioneered automated innovation in mining. But because its business faces constant pressure from gyrating commodities prices, Rio Tinto relentlessly seeks new efficiencies. The company moved its huge SAP estate to Microsoft Azure and is digitally empowering its 55,000 employees with highly secure mobile access to business information through Microsoft 365 Enterprise. With these cloud advances, Rio Tinto is moving faster, saving money, improving decisions, and better engaging employees

> *"With SAP running in Azure, we can deploy needed infrastructure faster and thus respond faster to pricing volatility in commodities, exchange rate fluctuations, and business needs."*
> – Steve Somerville, Head of Enterprise IT Services, Rio Tinto

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Conclusions and recommendations

Run your business better with your SAP applications and their data in the Azure global hyperscale cloud

To succeed in today's disruptive environment, it's time to make the decision and start planning the move of your SAP systems to Azure. By marrying your SAP data to other data on Azure's agile cloud platform, you'll be able to use end-to-end, real-time insights to quickly enter new markets, fend off disruptive competition, improve your margins, and grow your business.

For a successful journey to the cloud, we recommend you build internal allies and be proactive in engaging and collaborating with your technical colleagues. Also, pick your partners carefully and bring them along. Select a business unit or focus area, such as logistics, planning, or financials. Engage in a free workshop with SAP on Azure cloud architects by contacting your Microsoft Account team. Come up with a POC and develop and iterate on it. Develop your cloud roadmap and embark on the journey.

Also see our companion whitepaper
for technology and IT leaders,
Leveraging SAP on Azure for IT Transformation.

For additional information please
visit the [SAP on Azure website](#).