Transforming Government for the Digital Era

To Improve Citizens' Lives

Dear Customers and Partners,

Governments have a timeless mission: to protect the community, provide services, and help the economy prosper. However, many governments are unable to fulfill that mission. Citizens can't engage with government in the ways they expect, government employees can't adequately engage with their organizations, nor can government leaders effectively manage their bureaucracies.

At the same time, digitalization and its underpinning breakthrough technology innovations offer immense opportunities to deliver better outcomes. Governments need to redefine their core competencies, and consequently, rebuild their strategies around those competencies.

Digitalization is the foundation for a citizen-focused government. Our goal is to help the government successfully master digital transformation to deliver better outcomes.

In working with leading governments across the globe, we see investments and energy around four strategic priorities:

- **Citizen centricity for better societal outcomes**
- **Digitalizing government management and operations to be efficient and effective**
- **Data-driven government for improved decision making**
- **Smart cities for better living**

Based on our 30-year experience partnering with public sector agencies, we have a unique perspective to enable digital transformation with our digital business framework.

SAP has the vision, the solutions, and the commitment to be with you all the way from defining your digital strategy to delivering the right solutions to running your digital backbone.

This document offers our perspective on where the public sector industry will go and how SAP contributes to the radical change of the public sector in a digital world.
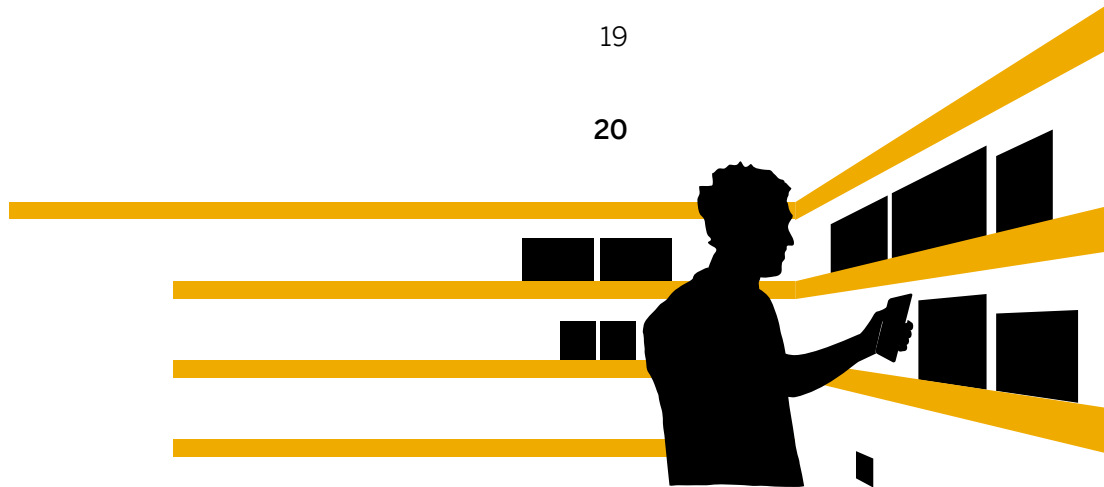
Run Live,

Dr. Martin Klein
SAP Global Vice President for Public Sector

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Big picture: Digital transformation is the catalyst for better government

Access more information
on the latest technology
trends here:

Technology trends change everything

Digitalization has reached every aspect of today's life, and it is here to stay. For the public sector organizations, technologies like the following provide new and exciting opportunities.
- Internet of Things (IoT)
- Artificial intelligence (AI) and machine learning
- Blockchain
- Augmented reality

New technologies creating value in the digital world

Governments face daunting challenges to protect the community, provide services, and help the economy prosper. They need to radically transform to achieve better outcomes for society.

Successfully embracing the opportunities from new technologies and implementing the right initiatives will be the foundation of staying competitive and to become more efficient and effective in the future of government.

Transformation will not result from doing things incrementally better, but by doing things fundamentally differently. Governments are using:

- **Internet of Things** technology to better manage and evaluate infrastructure, assets, traffic, and the environment.

- **Artificial intelligence and machine learning** to help deliver anticipatory services which will allow agencies to deliver a more personalized, interactive citizen experience. Further, it will help government agencies automate their business processes.

- **Blockchain** to replace less secure data sharing methods by using the groundbreaking distributed ledger technology. It will reduce fraudulent activity and increase transparency. Blockchain will enable everything from e-voting to e-prescriptions.

- **Augmented reality** to improve emergency management training, transportation planning, healthcare, and tourism. Public institutions could also use the technology to provide simulated self-guided tours for citizens to choose facilities that meet their needs.

Digital business models are disruptive. The rules have changed.

- **Hamburg Port Authority (HPA)** keeps traffic and trade flowing smoothly through the port, by gathering real-time information from the HPA and transport companies.[1]

- **The US State of Delaware and Illinois have both started blockchain initiatives** to use blockchain records and smart contracts, rather than paper-based processes. Governor Markel stated that "to take advantage of distributed ledger and smart contract applications, we are laying the groundwork for a more modern, secure and transparent business environment for years to come."[2]

- **The United States Office of Science and Technology** collected information about artificial intelligence to determine the challenges and opportunities from industry, citizens and academia in July 2016.[3]

The Future: To govern in a digital society, public sector organizations will fundamentally reimagine and transform all aspects of government.

1. **Digitalizing government management and operations for improved performance**
   Governments need to embrace digital technologies and replace aging infrastructure and transform financial processes, procurement, and asset management with an integrated approach . Digital technologies will enable:

   o Agencies to identify fraudulent transactions and improve anti-fraud processes and mitigation strategies through real-time analysis

   o The government workforce to transform into an engaged, dynamic, and outcome based organization

   o Postal agencies to increase operational and business excellence by building customer-centric postal operations leveraging the well-trusted postal network. Postal organizations will adopt new business models and find new business opportunities beyond letter and parcel delivery.

   o Social services agencies to utilize digitalization to improve compliance and client centricity in social protection planning, delivery, and outcome evaluation

   o Revenue management agencies to increase revenues through low-touch tax processing, increased compliance, and digital taxpayer engagement

2. **Data-driven government for effective decision making**
   Decision making and fact finding will be based on verifiable data from heterogeneous sources. Data silos will be eliminated to predict and simulate with real-time business intelligence to solve policy issues and maximize the benefit of scarce public funds.

3. **Smart cities for better living**
   Sensors, machine learning, mobile, and in-memory technology will help optimize smart initiatives in mobility, transportation, infrastructure, sustainability, citizen empowerment, safety, and livability. In-memory computing is able to translate massive data to insightful information.

4. **Citizen centricity for better societal outcomes**
   Putting the citizen's point of view at the center of every decision is a key prerequisite for success in the digital age. This does not stop in the citizen-facing departments, but also applies to enterprise-level decision making across program delivery from public safety to infrastructure improvements.

Successfully embracing the opportunities from new technologies and consequently addressing these four strategic priorities will be the foundation of successful digitalization and staying ahead of the innovation curve.

REIMAGINING

But how do you achieve these strategic priorities? The starting point of the digital journey is the ability to reimagine everything. That means reimagining your business models, your business processes, and your work. The potential is huge: This sort of transformation requires simplification and a reimagining – unity of purpose across all levels of government, improved models across traditional boundaries and silos, and simplifying the provision of government. It will foster a digital mindset within government that is focused on the best possible outcomes, using the creative power and expert insights of society.

10%
Of the data in the digital universe will be coming from embedded systems by 2020[4]

$6.2 trillion
Is the estimated global worth of Internet of Things technology by 2025[5]

$1 trillion
Is the estimated size of the machine-to-machine (M2M) market by 2020[6]

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REIMAGINING

THE DIGITAL ERA OFFERS INFINITE NEW OPPORTUNITIES

In a connected world, smarter infrastructure and services will help government reimagine everything to deliver on their policy goals.

REIMAGINE BUSINESS MODELS

> Connected and empowered citizens, intelligent value networks, and new vendors are enabling entirely new business models based on their ability to orchestrate and deliver high-value outcomes.

Citizen centricity for better societal outcomes

For more than two decades, government focused on standardizing business processes and introduced online services to streamline internal processes. This generated remarkable financial, social, and political return on investment, thus providing significant public value. But with digital technology, governments can achieve even more.

To govern in a digital society, agencies need to put themselves in the shoes of the citizen to transform their business and operational models. This digital strategy is foundational in how agencies drive value across the entire operational value chain and places the citizen at the center of the agencies' mission.

Government now has the tools to radically simplify complicated processes for the citizen. Governments can become anticipatory service orchestrators, information brokers, and networkers, rather than supplying all services directly. New digital capabilities can provide personalized, self-managed, and insightful online services guiding citizens through the jungle of possible transactions, giving individual recommendations and delivering services proactively. Further, governments could issue a secure online identification for citizens that bridges the silos between agencies without resorting to a single central database of personal information.

Savings from optimized processes and reduced legacy system maintenance will help agencies engage citizens in new ways and build the organization in the way they want.

Inclusion and participation

Policies and decisions have much better outcomes when they are based on citizens' insights and ideas. Analysis of sentiments expressed in social networks and e-participation tools help governments understand the electorate. Digital technologies enable crowdsourcing at scale and in real time.

Optimize investments using data from everywhere, including sensors, operational systems, emergency management, transportation, non-governmental organizations (NGOs), and citizen-facing systems by leveraging predictive models to simulate outcomes.

Analyze program performance to ensure the effective use of time, money, and resources to deliver better strategic outcomes and drive accountability and transparency.

Government as a simplifier

Australia and New Zealand are expanding their "MyGov" platform to a "tell us once" capability where, regardless of how your circumstances change, you can tell the government once and all relevant departments are notified.[7]

Sharing information and coordinating care

ChildStory in New South Wales designed a new way to allow everyone involved in a child's life to contribute to a child's online records. The online system enables children and families to tell the relevant government stakeholders their needs and issues only one time since all stakeholders are notified.[8]

REIMAGINE BUSINESS PROCESSES

> Flexible and agile business processes are smart and dynamic and designed to shift in real time to deliver outcomes that capitalize on moments of need.

Data-driven government for effective decision making

Decision making and fact finding will be based on verifiable data from heterogeneous sources. Data silos will be eliminated to predict and simulate with real-time business intelligence to solve policy issues and maximize the benefit of scarce public funds. Government will seamlessly move from insight to action to measuring outcomes and engaging citizens.

By bringing together both transactional processes and analytical intelligence – and combining all agency knowledge sources in one platform – organizations can turn data into actionable information. That allows decisions based on facts and provides predictive insights. As issues arise, agencies can be more agile and responsive, incrementally adding connected solutions to address new problems – without disrupting operations.

Smart cities for better living

Sensors, smart machines, and algorithms are helping optimize smart initiatives in transportation, infrastructure, sustainability, citizen empowerment, safety, and livability.

- Sensors monitor asset utilization and health, predicting potential issues and maintenance needs
- Analysis of real-time data combined with historical data are helping government proactively manage assets and infrastructure
- Predictive modeling and simulation is helping keep citizens safe through real-time situational awareness
- In-memory computing is helping translate massive data into insightful information

Digitalizing government management and operations for better performance

Many government agencies have not kept up with the rapid pace of digital progress in the private sector. According to the U.S. Government Accountability Office, "72% of the federal IT budget goes toward just maintaining legacy systems."[9]

In the public sector, technology has become inseparably interwoven with progress on public policy. Agencies that do not rapidly adjust to technological advances cannot achieve their policy objectives.

It's time to decrease costs, improve constituent satisfaction, and accomplish more with less. Through digitalization, agencies can now change operational models by interconnecting all aspects of the value chain in real time and seeing the big picture instead of only offering outdated glimpses into different parts of the organization. Leaders and managers can use insight to identify, predict, and address issues to improve the effectiveness and efficiency for all involved.

Further, government organizations can use machine learning, which is software that is able to learn without being explicitly programmed to access, analyze, and find patterns in Big Data, in a way that is beyond human capabilities. Agencies could identify fraud and public security risks by learning patterns and identifying anomalies.

Better data-driven decisions

The state of Indiana identified trends allowing state employees and officials to visually see issues that have occurred over time to help find ways to provide targeted resolutions.[10]

Simple more effective operations

Diakonie Michaelshoven implemented SAP S/4HANA® to standardize and streamline structures and processes across the organization and recast departments as internal service providers. Diakonie was able to make administration faster, simpler, and more cost effective.[11]

REIMAGINE WORK

Transform the government workforce into a digitally enabled, dynamic, and outcome-based organization. Enable collaboration in real time to orchestrate and deliver value in the moment.

Maintain an agile workforce
Enable a flexible workforce that scales dynamically based on policy needs.
- Rationalize talent toward differentiating skills like data science, constituent insights, and engagement.
- Leverage shared capacity to ramp operations up or down to execute on the mission.

Build and maintain an engaged and effective workforce
Change your agency's culture by onboarding and training employees quickly and seamlessly. Develop, deploy, and manage a comprehensive learning program and establish social collaboration among teams. Enable mobile learning in easy-to-consume packages.

Ad hoc collaboration and learning
Bring together the right people at the right time, independent of organizational boundaries, to learn and perform a task in the most timely, efficient, and effective manner.

Transparency and access to data
The keys for empowering the digital workforce and enabling industrial professionals to tackle problems with confidence while taking their organizations to even higher levels of innovation and excellence are transparency and access to data.

Digital mind-set
A savvy government workforce with digital skills must be provided with attractive career opportunities. Incentives and metrics support decision-making agility. Employees are encouraged to develop new ideas and collaborate across functions and hierarchies.

Hyper-connected workforce
Field personnel from law enforcement to public works make well-informed decisions through real-time integrated, wearable technology in clothes, or with on-body devices such as cameras and glasses. They require applications that are simple and scalable across different platforms, ensuring that the right information is easily and quickly accessible at the right time and on the right device.

Predictive decision making and artificial intelligence
Build a better workforce through predictive workforce analytics and planning to understand issues quickly and drive impactful outcomes.

Chatbot interactions
Chatbot technology will further change the role of the worker into more of an orchestrator and exception manager who only engages when constituent engagement requires human creativity and ingenuity.

Improving life for the children
Plan International uses SAP® solutions for HR, finance, and grants management to serve children better than ever while delivering donor reports that are accurate, timely, and complete. "The highly integrated way that SAP software deals with all our operational areas and worldwide sites is absolutely key," echoes Mark Banbury, Global CIO, Plan International.[12]

Simple, more effective operations
The State of Indiana identified trends allowing state employees and officials to visually see the drug abuse problem that has occurred over time and help find ways to provide targeted help where it's needed most.[13]
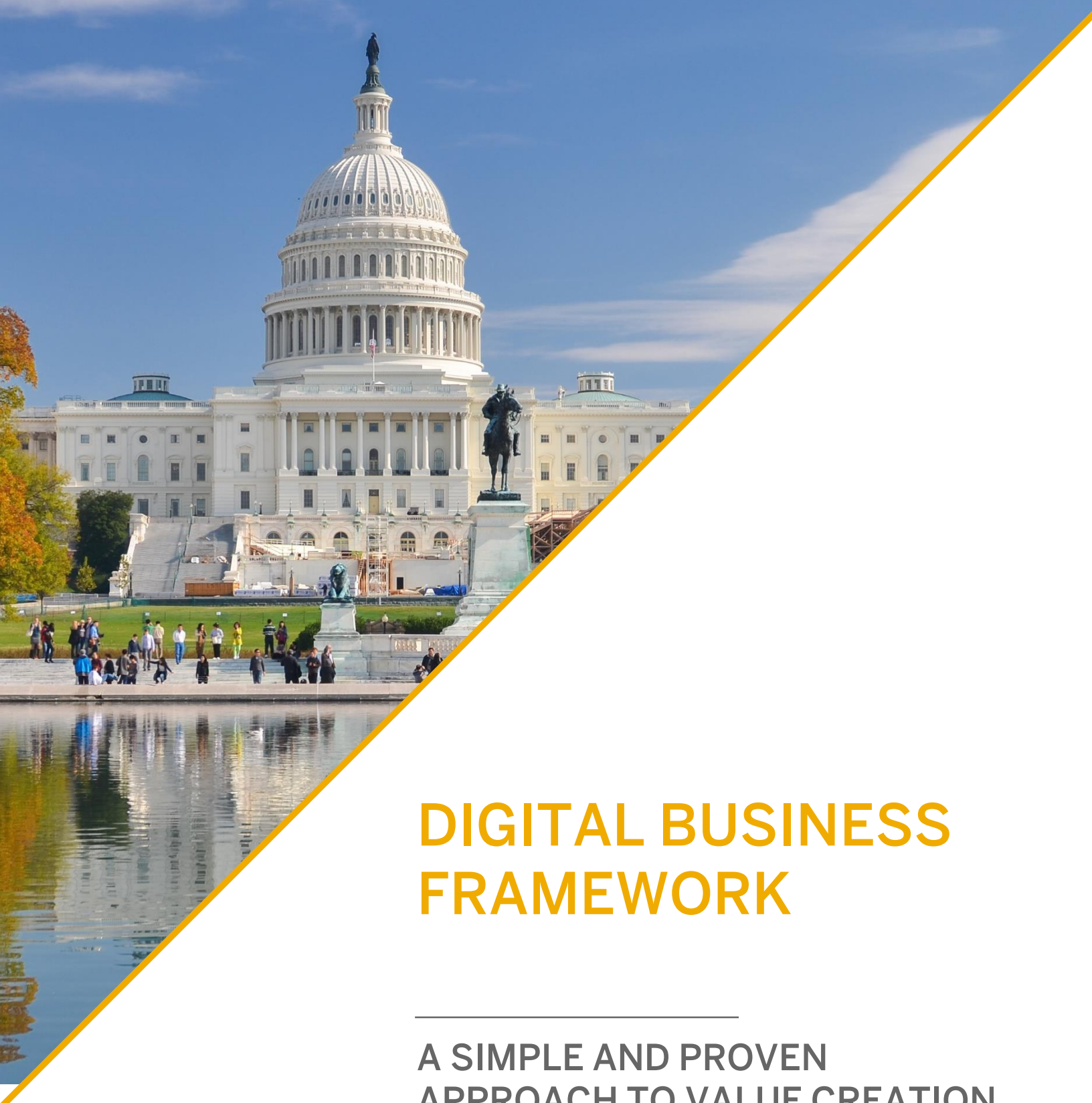
DIGITAL BUSINESS FRAMEWORK

A SIMPLE AND PROVEN APPROACH TO VALUE CREATION THROUGH DIGITALIZATION

In a connected world where every public sector agency can deliver smarter services and better public value.

DIGITAL BUSINESS FRAMEWORK
Every agency needs to think about the five pillars of a digital strategy

We have looked at the strategic priorities that agencies are pursuing and how they have to reimagine their operational models, processes, and work to achieve their mission for citizens.

Let's now look at how SAP can help enable them do this by providing the following architecture.

As agencies are reimagining their entire operational model, they need an IT architecture that provides both stability and long-term reliability for the core business processes, and at the same time allows for flexibility in areas where change is happening on a constant basis.

This concept, which is often referred to as 'bimodal IT,' is brought to life through our digital business framework, pictured below.

- The digital core is the foundation for the core enterprise processes, which need to run consistently and uninterrupted. It provides real-time transactions and analytics, the ability to work with Big Data, and connectivity to the outside pillars of the framework.

- Deliver seamless, **omnichannel citizen service** enabled by a digital core for business transactions and intelligent decisions to provide your **constituents** flexibility in the way they interact with you through multiple channels.

- Connect, transform, and reimagine operations across the supply chain with **machine-to-machine** capabilities and the **Internet of Things.**

- Ensure flexibility and adaptability in working with **providers and partners, contingent labor,** and **expense management.**

- Build and maintain an agile **workforce**.
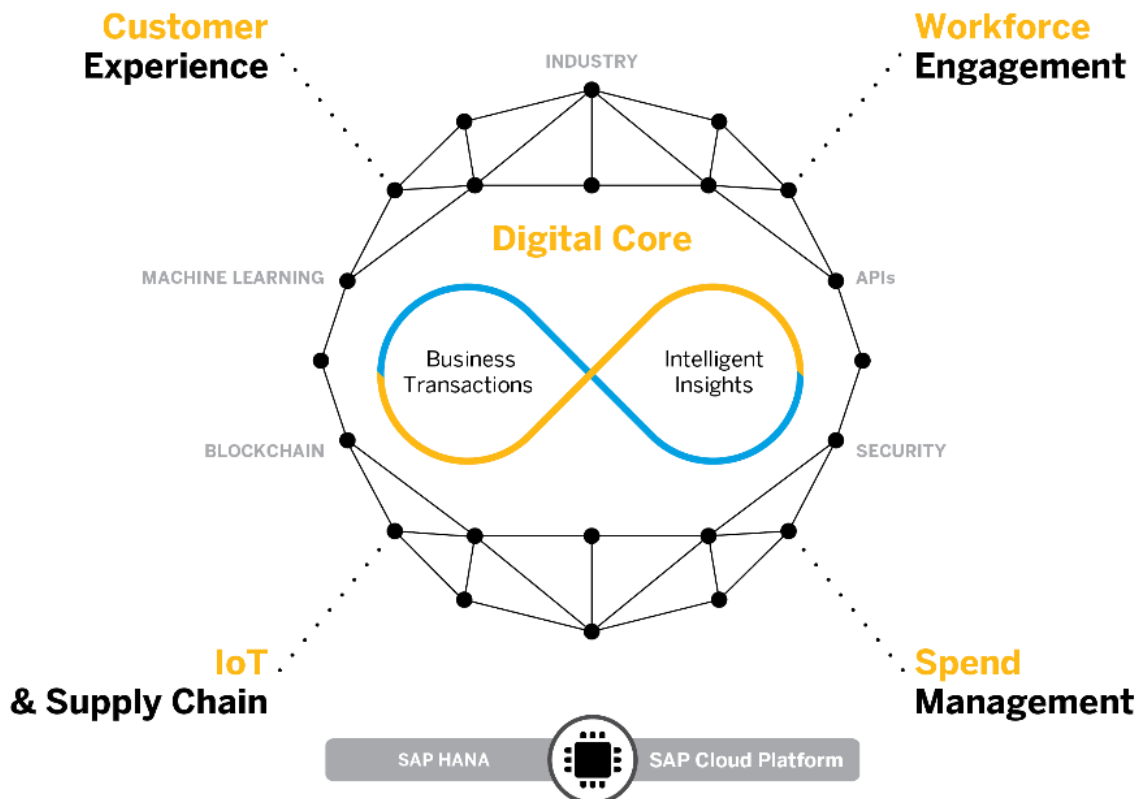
PORTFOLIO OF SOLUTIONS FOR PUBLIC SECTOR FROM SAP

In the digital economy, simplification and innovation matter more than ever. To do this effectively, it's important to cover the end-to-end digital transformation journey, ranging from planning a digital innovation road map and implementation plan with proven best practices to the ability to run all deployment options and ultimately optimize for continuous innovation with a focus on outcomes. Processes are designed from the outset to flow end to end across the cloud-based solution extensions, listed in the white bands in the image below, and are fully integrated to the SAP S/4HANA Enterprise Management solution and are optionally deployed to address business needs. The solution capabilities, shown in the dark blue band, the digital core, are delivered as part of SAP S/4HANA Enterprise Management. The lighter blue band, also in the digital core, shows capabilities that are part of SAP S/4HANA Enterprise Management, but added on as needed.

Learn more about SAP solutions today and discover planned innovations by accessing the SAP road map for public sector here:


Digital Core

BUDGET AND FINANCIAL EXCELLENCE
- Planning, budgeting, and forecasting
- Monitoring and reporting
- Governance, risk, and compliance for finance

GOVERNMENT FUNDING
- Taxpayer online services
- Collection online services
- Debt enforcement

SAP Hybris

SERVICE DELIVERY
- Constituent experience
- Inbound and outbound contact center
- Benefit decision making
- Grantor management

SAP Hybris

DIGITAL CONSTITUENT EXPERIENCE
- Constituent engagement accelerator
- Case management
- Inbound and outbound contact center
- Constituent self-service

- Accounting and financial close
- Treasury management
- Financial planning and analysis
- SAP® Fraud Management for Public Sector analytic application

- Tax payer identification and processing
- Receivables management and payment handling
- Credit and collection management

- Receivables management and payment handling
- Credit and collection management

- Budget maintenance
- Budget execution
- Budget and financial closing and reporting
- Grantee management
- Accounting and closing operations
- Cost management

SAP S/4 HANA Enterprise Management

- Accounting and closing operations
- Accounting
- Cost management
- Invoice management and accounts payable

- Operational purchasing
- Collaborative sourcing and contract management
- Invoice and payables management
- Supplier management
- Procurement analytics

- Core human resources
- Time and attendance management
- Human capital analytics

- Investment and construction
- Portfolio and lease management
- Infrastructure strategy and performance

- Payroll

- SAP Mobile Asset Management application
- SAP Predictive Maintenance and Service solution
- Asset information collaboration

ASSETS AND INFRASTRUCTURE

- Extended procurement for public sector
- Supplier collaboration
- Business network
- Guided end-user buying
- External workforce management

SAP Ariba
SAP Fieldglass

PROCUREMENT

- Core human resources and payroll
- Talent management
- Time and attendance management
- Human capital analytics

SAP SuccessFactors
SAP Fieldglass
C CONCUR

HUMAN RESOURCES

SAP Leonardo

SAP HANA© | SAP Cloud Platform

* Compatibility scope

<<<ADD P1_01 VERSION (WITHOUT BLACK BACKGROUND) PO PUBLIC SECTOR >INTO PDF AND REPLACE THIS PAGE>>

HOW DOES IT ALL COME TOGETHER?

While the five digital business pillars deliver significant value as stand-alone capabilities, the ultimate goal is to design the next-generation of government solutions that will span across all the digital pillars, leaving organizational boundaries and technology friction behind. Citizens come first when government orchestrates all activities to protect the community, provide services, and help the economy prosper.

DATA-DRIVEN GOVERNMENT
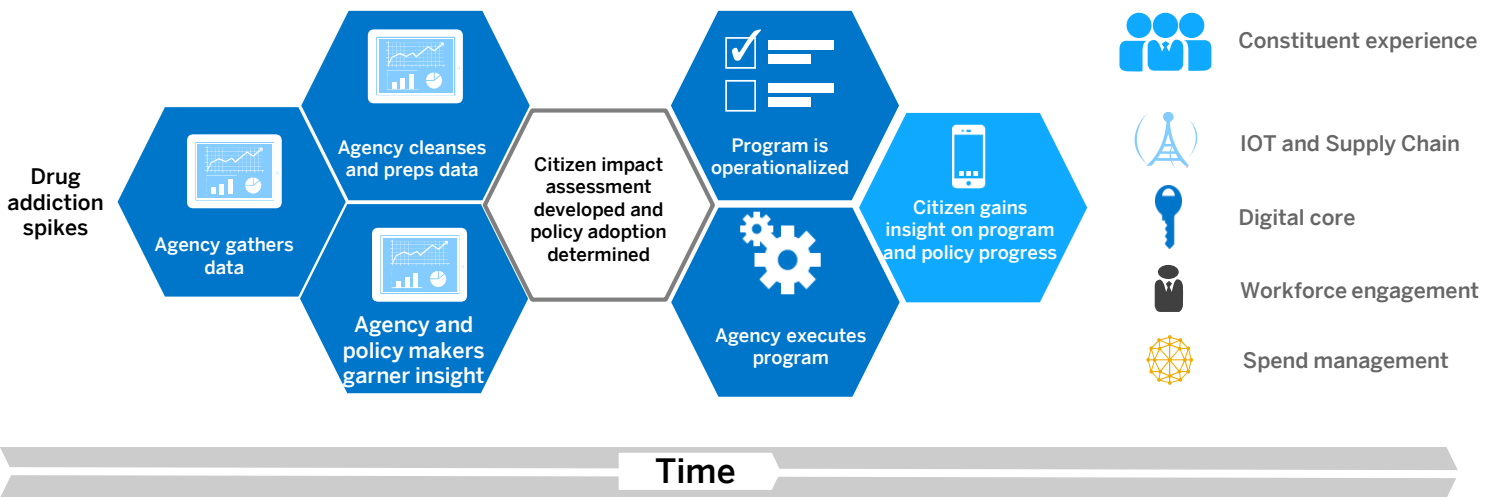
The scenario above shows how government can make data-driven policy decisions from several heterogeneous sources of data to solve policy issues and maximize the benefit of scarce public funds.

Sample story:

The governor has just been informed that drug addiction in his states is getting worse. He has instructed his policy team to assess the problem and make recommendations to fix it.

The policy team works with the relevant agencies to **gather the appropriate data to better understand the problem**. This data is cleansed and prepped and then data scientists and analysts start looking for patterns. Critical insight is gained on the problem and a **360-degree view of the impact of the problem** on citizens is developed, with buy-in and support from all the relevant public agencies.

The governor's policy team can **use the insight gained to recommend policies that will most likely solve the problem**. The governor can use this data to work with stakeholders to develop a solid policy program, including the resources (people, processes, and technologies) necessary to execute on the program. The proper agency or agencies **operationalize the program** by changing business models and processes appropriately. **Citizens are informed of the issue through a performance dashboard** showing the budget and resources invested into the program to solve the issue, as well as the problem resolution results.

The government breaks down data silos to achieve policy objectives.
- Insight: Better able to analyze public policy problems and their impact on citizens
- Action: Leverage insight to develop better targeted programs
- Transparency and accountability: Agencies engage citizens more meaningfully
- Outcome: Real-time assessments of the impact on issues

State of Indiana

FROM YOUR CURRENT STATE TO DIGITAL

THE JOURNEY TO BECOMING A DIGITAL GOVERNMENT BEGINS WITH PLANNING A DIGITAL TRANSFORMATION ROAD MAP

SAP DIGITAL BUSINESS SERVICES
Enabling your success in digital transformation

SAP has a broad range of services to cover the end-to-end digital transformation journey, ranging from advising on a digital innovation road map and implementation plan with proven best practices to the ability to run all deployment options and ultimately optimize for continuous innovation. We provide both choice and value within our service offerings, allowing you to tailor the proper approach based on your specific organization's expectations and industry requirements.

- 25,000 professionals in 70 countries serving 130 countries
- Outcomes delivered as one team in one contract
- Projects connected in real time to global network of support functions through **SAP Solution Manager** – which includes **SAP Mission Control Center, SAP Innovation Control Center, and SAP Operations Control Center**
- SAP MaxAttention™ and SAP ActiveEmbedded services to safeguard investment
- Consistent experience – on premise, cloud, or hybrid
- Standardized adoption based on best practices, processes, and tools
- Streamlined onboarding and ramp-up of stakeholders

From proposing a comprehensive digitalization proposal to realizing and running it, SAP delivers on the digital transformation promise to its customers on time, on budget, and on value.

SAP value delivery relies on unique differentiating assets:

| Exhaustive service portfolio | SAP's model organization | SAP Activate methodology | SAP Solution Manager | SAP Mission Control Center |

| Expert organization | Global reach | Partner ecosystem | Industry expertise | Focus on business outcome | Co-innovation |
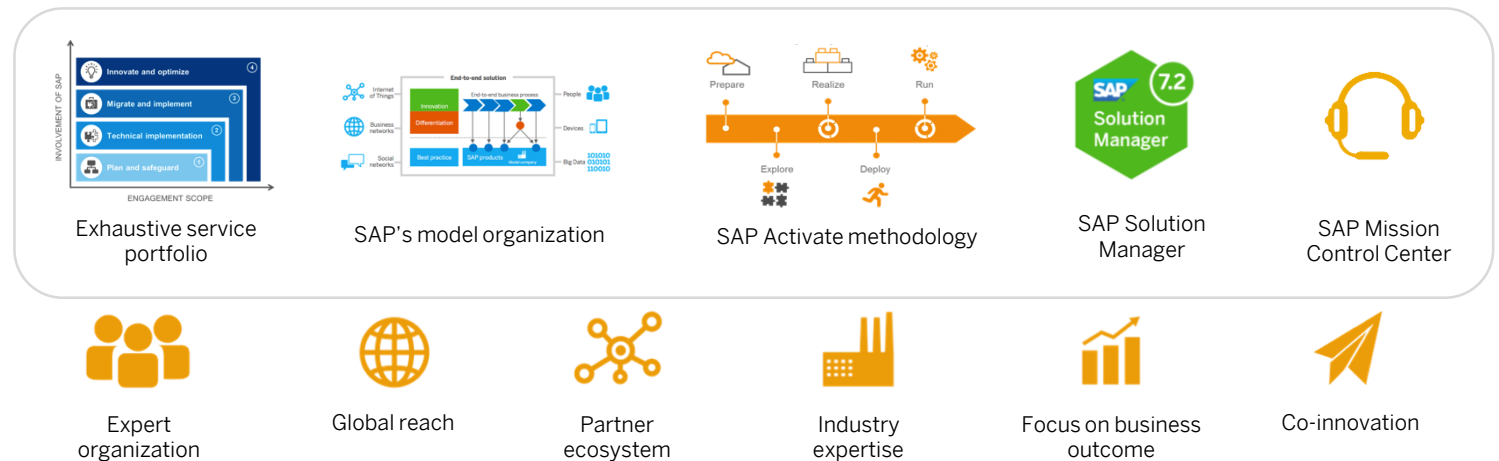
SAP Digital Business Services deliver digital innovation with simplification and accelerated implementation, which is key to adoption and value realization. Continuous improvement is supported through ongoing assessment of real-life data insights and joint governance with customers.

Value delivery at SAP focuses on the following deliverables:

Digital business foundation
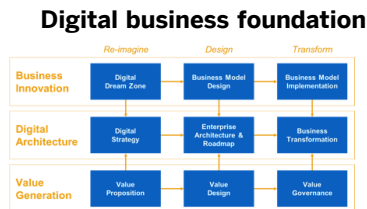
- Digital business model
- Flexible, scalable enterprise architecture
- Platform for the digital future
- People and culture transformation

Business insights

- Digital boardroom
- Predictive insights
- Value realization dashboard
- Agile decision making and execution support

Continuous improvement

- Joint value governance
- Sustainable engagement model
- Innovation without disruption
- Simplification

COMPREHENSIVE SAP ECOSYSTEM
Orchestrating the world to deliver faster value

Our comprehensive ecosystem for the public sector industry offers:

- Integration into a wide range of business services

- Open architecture: choice of hardware and software

- Complementary and innovative third-party solutions

- Reach – partners to serve your business of any size anywhere in the world

- A forum for influence and knowledge

- A large pool of industry experts with broad and deep skill sets

Deloitte. **OPENTEXT** **EY** Building a better working world

accenture High performance. Delivered.

Vesta A Rising Company Real. World. Experience.

IBM **CISCO**

Greenlight TECHNOLOGIES

Capgemini CONSULTING. TECHNOLOGY. OUTSOURCING.

Qlarion

Atos **esri**

KSM CONSULTING **KMD** IT MED INDSIGT

NTT DaTa Global IT Innovator **CSC**

BUSINESS NETWORK

- 1.9 million suppliers

- 200 major travel partners (air, hotel, and car)

- 50,000 service and contingent labor providers

INFLUENCE FORUMS AND EDUCATION

- 32 user groups across all regions

- 40+ industry councils

- SAP community with >24 million unique visitors per year

- 1,800 members of SAP University Alliances

INNOVATION

- 1,900+ OEM solution partners to extend SAP solutions

- 2,000 startups developing applications for the SAP HANA® platform

DRIVING CUSTOMER VALUE

IMPLEMENTATION SERVICES

- 300+ services partners

- 3,200 services partners overall

- Delivering public sector-specific solutions and services

PLATFORM AND INFRASTRUCTURE

- 1,400 cloud partners

CHANNEL AND SME

- 4,800 overall channel partners
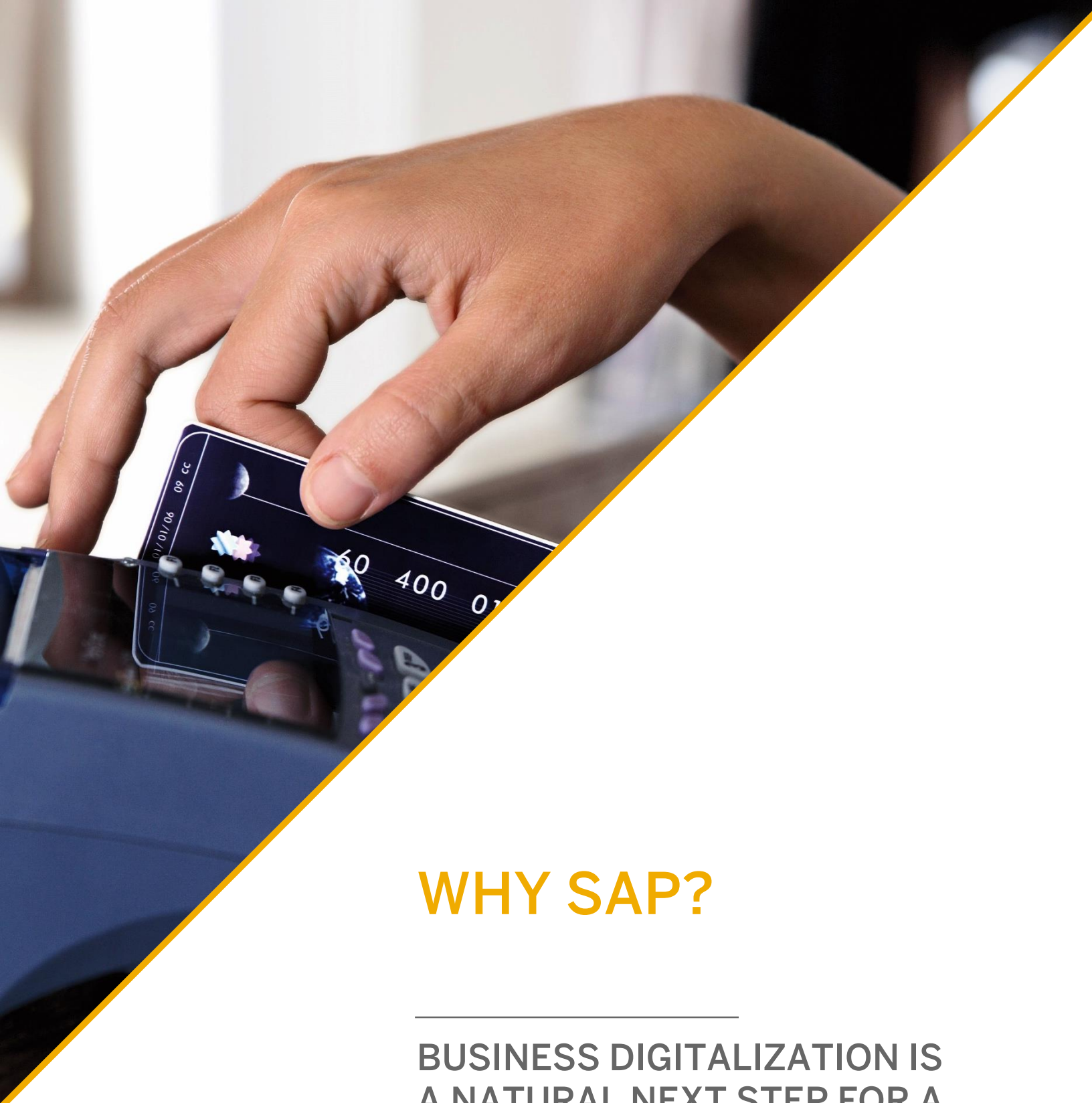
WHY SAP?

BUSINESS DIGITALIZATION IS A NATURAL NEXT STEP FOR A #1 BUSINESS APPLICATION COMPANY

It took years of innovation, strategic investment, and the forging of new, strategic relationships to build the end-to-end digital business platform.

SAP IS COMMITTED TO INNOVATION

Vision Help the world run better and improve people's lives

Mission Help our customers run at their best

Strategy Become <u>the</u> cloud company powered by SAP HANA

GLOBAL PRESENCE AND RELEVANCE

- **82K employees** representing 120 nationalities
- **335K customers**
- SAP operates in **190 countries**

INDUSTRY AND LOB FOCUS

- Solutions for **25 industries and 12 LoBs**
- **98% of most valued brands** are our customers
- **76% of the world's transactions** managed on SAP software

DIGITAL ECONOMY READY

- **120 million** business cloud users
- **1.9 million connected** businesses
- **$800 billion+** in B2B commerce
- **99%+ of mobile devices** connected with SAP messaging

INNOVATION LEADER

- 2011 **SAP HANA** launched
- 2012 **SAP Cloud** launched
- 2014 **Business networks from SAP** comprise the largest marketplace in the world
- 2015 **SAP HANA Cloud**
- 2016 **SAP S/4HANA:** Most modern enterprise resource planning system

PUBLIC SECTOR ORGS ENABLED BY SAP

- More than 30 years of public sector industry expertise
- Providing solutions to **58% of United Nations member governments** to help improve citizen services
- **10 of the 10 most competitive countries** in the world run SAP solutions

Source of all data: SAP internal data and analysis

5.5 hours to 4.19 seconds

Reduction in retrieval times for weather data. **Korea Meteorological Administration** introduced SAP HANA to help businesses, such as fisheries, and citizens live and work with greater confidence.[14]

End-to-end channel visibility

- **Fire & Rescue New South Wales** implemented the SAP HANA platform to address demands by improving interagency transparency and using data to efficiently protect people and property.[15]

ADDITIONAL RESOURCES

Outlined below is additional external research that was used as supporting material for this white paper.

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13. "Indiana Uses Data Analytics to Lower Infant Mortality, Child Fatality", Government Technology, by Jessica Hughes, April 2014, http://www.govtech.com/health/Indiana-Uses-Data-Analytics-to-Lower-Infant-Mortality-Child-Fatality.html

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Note: All sources sited as "SAP" or "SAP benchmarking" are based on our research with customers through our benchmarking program and/or other direct interactions with customers

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