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Partner with SAP to Create Unprecedented Insight and Anticipate Trends

Today’s data-driven economy is creating new pressures on businesses to make rapid, real-time decisions. Business applications must be intelligent – more intelligent than the human/computer alternative. Partners are looking to machine learning and predictive analytics to deliver better, faster, real-time decisions within their applications.

Independent software vendors (ISVs) are typically very knowledgeable in leveraging technology tools and resources to their advantage. However, with the exponential growth of data, new data types, and sources, partners need proven embeddable solutions and technology to create future-proofed intelligent applications.

To stay relevant, software providers are exploring opportunities for alliances – the kind of alliances that accelerate learning curves and get innovative solutions to market quickly with low risk. ISVs need a partnership that enables them to disrupt their market place – a co-innovation partner that will help them deliver more than their customers expect.

SAP has the know-how and the right technology to help partners deploy and scale their solutions with the latest embedded machine learning technology.

As an SAP partner, an ISV can take advantage of SAP’s large business ecosystem, integrate applications with world-class technology, and manage development investments to deliver real-time, adaptive, and data-driven machine learning results for its customers.

With SAP, partners can deliver transformative innovation and build applications for the Intelligent Enterprise.

This document provides more information about SAP’s machine learning technologies and solutions that can be used to deliver a competitive advantage within partner applications.

### SAP Machine Learning and Predictive Solutions
Essential machine learning and predictive solutions for teasing accurate meaning and anticipating trends from growing mounds of data:
- SAP Analytics Cloud
- SAP Predictive Analytics Suite
- SAP HANA In-Database Machine Learning
- SAP Leonardo Machine Learning
- SAP Predictive Maintenance and Service
- SAP Conversational Artificial Intelligence

### SAP PartnerEdge Build Program
SAP PartnerEdge Build Program - a complete set of services that gives you sure footing throughout planning, design and development and help you get to market confidently.
Machine Learning Improves All Aspects of Business

Many businesses are beginning to use artificial intelligence to deliver additional value from their data. Creating the Intelligent Enterprise starts with leveraging all types of data, applying machine learning across the enterprise, and automating decision making in real time.

What is machine learning? Simply put, machine learning technology teaches computers how to perform tasks by learning from data – instead of being explicitly programmed. Machine learning uses sophisticated algorithms to “learn” from massive volumes of data. The more data the algorithms can access, the more they can learn.

Applications that leverage machine learning algorithms provide a greater opportunity for delivering value to business users and ISVs alike. Key benefits include:

- **Faster decisions**: Prioritize and automate decision making for immediate action
- **Adaptability**: Process historical and real-time data from structured and unstructured sources
- **Algorithmic business**: Pave the way for innovative new business models, products, and services
- **Deeper insights**: Analyze big, complex, and streaming data, and find insights beyond human capabilities
- **Efficiency**: Plan and forecast accurately, automate tasks, reduce costs, and even eliminate human error
- **Better outcomes**: Trigger smart actions and accurately predict results before a decision is made
SAP Machine Learning
Industry Technologies at the Forefront

SAP is at the forefront of the software industry in providing partners with access to a wide set of intelligent technologies across multiple platforms including machine learning, with all its benefits. The next section highlights the latest machine learning technologies from SAP.

SAP Analytics Cloud
A cloud-based analytics solution that provides predictive modeling as part of its “smart predict” feature, along with built-in, point-and-click predictive features such as “smart discovery” and “smart insights”

SAP Predictive Analytics
A predictive modeling solution that provides automated, large-scale model development and model management tools

In-database machine learning in SAP HANA
A large collection of predictive functions that provide in-memory machine learning on live data

SAP Leonardo Machine Learning Foundation
Cloud-based service and capabilities that bring intelligence to data types such as images and video, audio, speech, and natural language

SAP Predictive Maintenance and Service
An Internet of Things (IoT) solution to collect and model sensor data and predict maintenance and service events

SAP Conversational AI
A cloud-based solution for building smart, relationship-centric chatbot technology
Build Applications that Enable Faster, More Confident Decisions using SAP Analytics Cloud

SAP Analytics Cloud is a single solution for business intelligence and collaborative planning that is enhanced with the power of predictive analytics and machine learning. With SAP Analytics Cloud, partners expend less effort using powerful augmented analytics and can easily model complex scenarios to design more dynamic applications, provide powerful insights, and enable data-driven decision-making.

Features in SAP Analytics Cloud include:

- **Smart predict** – create and integrate predictive models into applications without requiring a PhD in data science
- **Smart discovery** – discover key influencers, run powerful simulations, and gain instant decision-making clarity to take action
- **Smart insights** – uncover data nuances using natural language, and with a few clicks, quickly develop and visualize even the most complex aspects of data
- **Smart transformations** – enhance data models, take repetitive tasks out of the work cycle, and fully integrate the mundane duties of data cleaning and preparation
- **Search to insight** – embed data stories to provide customers with fast and natural language access to essential business information and create visualizations on the fly
- **Smart grouping** – automate the grouping of data and utilize data clustering across comparable data sets to deliver innovative and value-added applications
For ISVs that need to build, integrate, and maintain large numbers of predictive models, SAP Predictive Analytics software provides the ideal application environment. Predictive model developers can easily create and manage multiple models and embed patented predictive modeling functionality into any application.

Features include:

- **Data manager** – automates data encoding with point-and-click tools, allowing partners to create usable data sets that can be repurposed in very little time

- **Automated modeler** – provides guided workflows to create robust predictive models, with detailed debriefing and statistical readouts to get the best performance

- **Expert modeler** – allows for complex model development, using a drag-and-drop editor, that provides data scientists with a self-sufficient end-to-end user experience

- **Predictive factory** – delivers scalable model management across the full predictive lifecycle spanning data preparation, model building/rebuilding, model evaluation, model deployment, monitoring, and versioning

- **Predictive analytics integrator** – provides an integration framework for deploying predictive models directly into SAP applications and application extensions
Deliver Unprecedented Insights with In-Database Machine Learning in SAP HANA

**Machine learning** functionality gives partners the ability to make SAP HANA–based business applications more intelligent. SAP HANA enables in-database machine learning that can operate within the business process by minimizing execution latency to near zero, no matter the size or complexity of the data and predictive model.

**SAP HANA® Platform**

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While SAP HANA provides a rich set of application-specific function libraries, ISVs can also integrate or extend their own predictive functions. SAP HANA provides an application function library within its software development kit that allows ISVs to leverage existing C++ functions to create new predictive applications within SAP HANA. And if an ISV has already invested development in R or Google TensorFlow, SAP HANA has an open source philosophy that keeps development projects moving forward, rather than being trapped behind the curve, requiring code rewrites.
Unlock Knowledge from Structured and Unstructured Data with SAP Leonardo Machine Learning Foundation

Traditionally, applications have been able to analyze only structured data that resides in databases or business systems. But today most enterprise data – including images, videos, audio, e-mails, documents, and natural language text – is unstructured. SAP Leonardo Machine Learning (ML) Foundation provides advanced ML technology that helps developers create applications that can recognize patterns and correlations in unstructured data. The foundation offers a powerful yet easy-to-use API that enables partners to build intelligent applications from nontraditional data types.

Capabilities include:

- **Image processing services** – to make images searchable, enabling automatic detection of what is shown in pictures of find similar images
- **Text processing services** – to analyze natural language content that is stored in documents, Web sites, or e-mail, and reveals its meaning
- **Speech processing services** – to convert speech to text and synthesize speech to power digital assistants or voice-controlled apps
- **Custom machine learning models** – to deploy and run your own machine learning models, or tune existing models with your own data through customization

Because the ML foundation is based on SAP Cloud Platform, ISVs can quickly and efficiently build, extend, and integrate intelligent applications with machine learning features based on a single technology platform. This allows partners to create, run, and maintain intelligent applications on a common infrastructure, all in one place, with tight, secure integration with SAP solutions.
With SAP Predictive Maintenance and Service, ISVs can build applications that remotely monitor customer equipment, leverage rule- or data-science-based analytics to alert customers to deteriorating equipment conditions, perform root cause analysis, and indicate when corrective actions are needed.

Applications using SAP Predictive Maintenance and Service can be built to reduce application-user maintenance costs so that asset owners can plan and package maintenance schedules dynamically and achieve improved resource utilization and decreased asset downtime. And, in delivering innovative applications based on SAP Predictive Maintenance and Service, ISVs can empower asset operators and service providers to predict failures early and implement corrective actions.

With SAP Predictive Maintenance and Service as a foundation, ISVs can build applications that enable:

- **A 360-degree view of assets** across asset model, master, transactional, and performance data in a single solution
- **Advanced analytics** for decision support, facilitating better maintenance execution and strategy decisions
- **Intuitive and scalable** machine learning for maintenance professionals (such as machine learning for the masses)
- **End-to-end process integration** as part of a comprehensive asset management portfolio
Let’s Talk about SAP Conversational Artificial Intelligence (AI)

Using SAP Conversational AI, a comprehensive bot-building platform, partners can quickly build and integrate innovative and smart chatbots that meet unique and specific business models and customer service needs.

SAP Conversational AI offers cloud deployment, powerful multilingual technology, integration with external and internal channels, an end-to-end bot-building platform and a set of preconfigured industry-specific bots. SAP Conversational AI is a highly capable chatbot development platform.

With SAP Conversational AI as a foundation, ISVs can build applications that enable:
• **Augmented natural language processing** – leverage proprietary natural language processing (NLP) technology to analyze text inputs and enrich key data – for a rapid and straightforward deployment
• **Powerful bot development tools** – draw on a comprehensive suite of chatbot tools to help the development process, from bot building to training
• **Support for multiple languages** – interact with customers using the same level of accuracy in multiple languages
• **Integration with SAP and non-SAP solutions** – connect chatbots to any external communication channel, any SAP product, or any back-end system using bot connector functionality
• **Voice activation** – deploy voice-activated chatbots for Google Home, Alexa, and Cortana, in addition to text-activated bots

SAP Conversational AI has a world-class, industry-proven NLP and a natural language understanding (NLU) API that handles different languages with ease (no translation necessary). The end-to-end platform helps speed application development and deployment with a GitHub-based user experience for developers and an intuitive, easy-to-learn cockpit for nontechnical users. Bots can be integrated into any social media channel including Facebook Messenger, Twitter, Kik, and more.
Everything You Need in a Single Rewarding Partnership Experience: SAP PartnerEdge – Build

Whether you’re creating stand-alone commercial software, extending SAP solutions, integrating and connecting to SAP data, or modernizing an existing application, the “Build” engagement model of SAP PartnerEdge will support you in your journey. Designed for ISVs and solution providers, this partner offering gives you access to a comprehensive range of planning, design, development, and go-to-market (GTM) services. It enables you to leverage the latest in intelligent technologies and platforms – reducing risks, speeding your time to value, and opening new business opportunities.

- The “Build” engagement model allows you to engage with SAP solutions, resources and our ecosystem, whether you’re just starting to explore SAP development tools, are ready to create new commercial solutions built on SAP technology, or want to integrate your existing solutions with SAP offerings.
- The full SAP PartnerEdge program provides you with easy-to-consume resources and access to partner advisory and support services to help you plan, develop, and then take your commercial solution to market effectively, at scale.
- Our partnership agreement makes it simple for you to engage with SAP, allowing you to list and transact your solutions on SAP App Center, or bundle and embed SAP technology through runtime licenses. You can also explore a custom terms option to fit your own business model.

Program Benefits:
- Rapid onboarding and enablement
- Learning resources: How-to guides, tutorials, videos, cookbooks, tech support, and more
- Access to SAP’s broad portfolio of technologies and solutions
- Solution qualification and (optional) certification
- GTM support and enablement
- Access to SAP partner brand
- Exposure to over 400,000 SAP customers through co-marketing and listing on SAP App Center
- Embedding and bundling at standard terms
- Custom commercial terms possible*  

Get exposure to over 400,000 SAP customers – start by selecting the partner level that fits your innovation and go-to-market needs. Learn more at the SAP PartnerEdge – Build site.

* Available to partners that meet specific criteria and commitments (SAP whitespace industry or LoB, committed business plan, dedicated sales and marketing resources, financial commitment)
Intelligent technologies and cloud are enabling new opportunities for ISVs. Explore how partnering with SAP will help you design, innovate, and market the new solutions needed to reinvent your business, compete, and succeed in the new digital era.

SAP PartnerEdge – Build and SAP machine learning solutions provide you with the tools, support and capabilities needed to accelerate your development and solution innovation.

Get started today:

- Grow your business through SAP PartnerEdge – Build
  - [www.sap.com/buildbetter](http://www.sap.com/buildbetter)

- Learn more about SAP machine learning solutions
  - [sap.com/ml](http://sap.com/ml)

- Get started building intelligent applications with SAP machine learning solutions
  - [developers.sap.com/ml](http://developers.sap.com/ml)
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