THE INTELLIGENT ENTERPRISE IN THE EXPERIENCE ECONOMY FOR BUILDING PRODUCTS COMPANIES

Helping to create superior customer experiences through tailor-made solutions for the living space
Dear Customers,

The world is facing huge social, economic, and environmental challenges, and every person and company has a role to play in creating a sustainable future for all of us.

Massive global changes are impacting building products companies. Standards of living are improving, and the overall urban population and middle class are growing. This creates an enormous demand for building products in developing countries. In developed regions, low interest rates and migration are revitalizing renovation and home building. Major shifts in behavior, attitudes, and technologies are also impacting the market.

I predict that, by 2025, many building products companies will transform from purely selling products to delivering new, differentiating, customer-centric solutions and business outcomes. Companies will be more flexible and efficient, which will enable them to respond to uncertain and changing conditions profitably while adhering to governmental regulations and meeting societal expectations. Classical borders and task assignments between companies in the value chain will disappear, and the traditional supplier-customer relationship will morph into deeper cooperation models.

Building products companies will focus on four strategic priorities:
- Delivering a superior customer experience
- Connecting and automating the enterprise
- Supporting enhanced business models and value-added services
- Building a responsible and sustainable business

To execute on these strategic priorities and achieve the 2025 vision, companies will change the way they operate. They will adopt innovative technologies and obtain an abundance of real-time information from customers, suppliers, and the world at large that will support more-collaborative customer relationships. They will then learn from this information to make decisions that enable them to react much more quickly to changing situations and to solve customer and societal problems in novel ways. Additionally, winning and keeping business will be based on providing great experiences across all interactions.

Building products companies will use extensive automation and robotics not only on the operational side but also in the back office through robotic process automation. By shifting routine tasks from humans to business systems enabled by machine learning and artificial intelligence, these companies will create smart factories and distribution channels that more easily support changing customer demands and the pursuit of the transformation of business models.

With the SAP® Intelligent Enterprise Framework methodology, SAP provides the integrated suite of applications, the intelligent technologies, and the digital platform that companies need to pursue this shift. We have the vision, the solutions, and the commitment to go with you all the way from defining your transformation strategy and delivering the right solutions to running your digital backbone in the cloud.

Sincerely yours,

Ursula Grün
Global Industry Lead for Building Products
SAP SE
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Global “megathemes” are affecting building products companies and providing new opportunities for growth.

**Urbanization**
Urban expansion combined with the overall growth of the world’s population will continue to drive significant demand for construction and building products companies beyond 2025. This growth comes with important environmental challenges, such as how to sustainably use limited space, how to provide infrastructure for increased traffic, and how to satisfy increased water and electricity consumption.

**Globalization and Right Shoring**
Increasing customer expectations as well as continuing geopolitical uncertainties add risk along the entire supply chain – from procuring raw materials to production and delivery. Companies will need the ability to shift resources, production, and financial funds around the globe in a flexible way to make the best use of regulatory and location advantages and to best meet customers’ changing requirements.

**Circular Economy**
A mind shift is happening among consumers, employees, suppliers, and investors, resulting in businesses needing to consider purpose and sustainability. A circular economy requires a change in the complete supply and production processes from a take-make-use-dispose flow to a circular approach that considers reuse and zero waste.
The building products sector is being reshaped by three major trends.

- **Changing end-customer behavior**: This is driven both by how the customer consumes information and makes decisions using multiple channels as well as by individual likes and dislikes, wishes and dreams, and motivations and inclinations. Different demographic groups will further develop significant differences in their preferences, which need to be understood and addressed by the building products sector. Winning and keeping relationships will be based on providing great experiences across all customer interactions.

- **Automated intelligent supply chain**: Companies will collaborate within their own borders and along the entire value chain, enabled by digital technologies to form an “outcome network.” The way companies run and maintain assets, operate the shop floor, and deliver goods will dramatically change.

- **Digitalization of construction**: The construction sector urgently needs to overcome a lack of productivity and a shortage of skilled workers. Digital technology will redefine this industry area and its entire ecosystem. The way building products companies will act as suppliers and important partners in the business-to-business (B2B) environment will be redefined by 2025.

Being able to address these global megathemes and the associated industry challenges will determine who will be among the winners over the next 10 years. Successful business model innovation, process optimization, and customer centricity are directly linked to delivering great customer and employee experiences. The best-performing companies are pulling away from the rest, widening the performance gap and creating a landscape where digital leaders are the most profitable because they successfully adopt new technologies and deliver winning products and services more efficiently.

88% of innovative discrete manufacturing companies have started or completed their digital transformation, compared to 54% of other companies.¹
In 2025 intelligent enterprises in the building products sector will be highly connected with the construction sector (B2B) and the end consumer based on the segment they are selling to (see Figure 1).

They will offer solutions and services targeting specific market segments through a significantly stronger and more consistent omnichannel presence. The use of social media, targeted marketing campaigns, and analysis of customer data will complement and extend communication with the customer.

In 2025 building products companies will deliver personalized solutions at scale and as a service. Most of the revenue will come from products and services based on highly customized, individualized solutions, which will address very specific requirements and serve the “segment of one.” Some will be based on new business models, specifically around the capability to effectively share data within the network of construction professionals, to the benefit of all participants.

Companies will be more flexible and efficient in responding to uncertain and changing conditions profitably while meeting governmental regulations and societal expectations. This will be achieved by eliminating data silos, increasing process automation, and closely collaborating across business networks with other players in the ecosystem.
Solutions and services will be available throughout the product lifecycle, starting with the development of a product through delivery, use, decommissioning, and reuse. Classical borders and task assignments between the companies in the value chain will disappear, and the traditional supplier-customer relationship will morph into an extended cooperation model.

Building products companies will put significantly more focus on making products and servicing customers in a sustainable way and purposefully making a positive contribution to society. Companies will offer an increasing number of products containing more sustainable materials. They will support recycling, establish lower energy requirements, and reduce material consumption. They will also strive for fair labor conditions and will better engage with local communities.

By 2021, 90% of manufacturers will leverage real-time equipment and asset performance data to self-diagnose issues in advance and trigger a service intervention to avoid unplanned downtime.²

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> Figure 1: The Intelligent Enterprise in the Building Products Sector

FROM:
- OPTIMIZE

TO:
- EXTEND

TO:
- TRANSFORM

- Connecting customers closely
- Offering personalized solutions
- Responding to changing conditions
- Providing complete solutions and services
- Offering solutions built with purpose

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> >50%

Of all IT spending will go directly to digital transformation and innovation by 2024³

> 20%

Of manufacturing companies will have started to treat their assets as internal customers, leading to a 40% reduction in asset downtime by 2021⁴

> 40%

Of manufacturers will have tied innovation and product lifecycle management to S&OP systems to meet customer demand and needs more effectively, thus raising product success rates by 25% by 2023⁵

> 50%

Of manufacturers, driven by demand for product personalization, will have integrated simulation and configuration tools with customer profile data, thus achieving up to 2% gains in revenue by 2024⁶
FOUR PRIORITIES FOR SUCCESS

We have identified four strategic priorities necessary for building products companies to transform their business.

1. Delivering a Superior Customer Experience
2. Connecting and Automating the Enterprise
3. Supporting Enhanced Business Models and Value-Added Services
4. Building a Responsible and Sustainable Business
DELIVERING A SUPERIOR CUSTOMER EXPERIENCE

Deliver unique products and experiences to the customer by understanding their business objectives and priorities.

All B2B businesses today must understand how their customers are making buying decisions and how they are using products to be able to deliver value—all the way to the end consumer. True customer centricity means understanding the ultimate end consumer, how their behaviors are changing, and then making every business decision based on this insight.

The Vision
In 2025 building products companies will play a significant role in point-of-sale interactions with end consumers—today the domain of retail and wholesalers. In some cases, they will even own the point of sale and interact directly with the end consumer, bypassing third parties. They will be able to maintain “customer-for-life” relationships with a focus on long-term value supported by a 360-degree understanding of customers (see Figure 2). This includes a detailed understanding of requirements and needs and also collection and analysis of the ongoing knowledge of how consumers use the products in their daily operations. They will interact with their customers seamlessly on a consistent basis through multiple channels from Web to direct and including IoT connectivity. And they will communicate regularly with consumers tracking their own goods throughout the entire ecosystem.

The Journey
Building products companies will start toward this goal by evolving their current routes to customers into a true omnichannel model. This means that their customers can be served seamlessly, even if they change the channels by which they interact. This situation will then be extended by targeting specific profitable markets with laser-sharp marketing campaigns and individualized product offerings specific to the customer group. Social customer interactions and sentiment analysis as well as capturing the customer experience will be important to help understand how the market is perceiving services and product offerings. In addition, this end-to-end knowledge will function as a knowledge base to guide customers during the purchase process using product configuration suggestions enabled by machine learning.

Figure 2: Establishing a Customer for Life

The front door of our store is no longer at the front door of our store. It’s truly in our customers’ pocket, it’s on the job site, it’s when they’re sitting on their couch. The shopping experience in most categories starts in the digital world, even if it finishes in the physical world now.”
– CEO of a Big-Box Retailer

Four Priorities for Success

Germany-based Hörmann KG is the most famous manufacturer of gates, doors, frames, and operators. With hundreds of thousands of products sold every year, a certain number of complaints can be expected. Working with SAP Customer Experience solutions, Hörmann is offering excellent service in this area, improving its complaint management—and gaining many satisfied customers.
Putting the customer’s point of view at the center of every decision is a key prerequisite for building products companies. It encompasses what to market, sell, and produce; what services are offered; and where products and services are delivered. Providing relevant information, independent of the channel used, contributes to a positive customer experience. Including the end consumer in business-to-consumer go-to-market activities is mandatory.

Customer order processing software from SAP helps organizations streamline the order-to-customer cycle, including order fulfillment and after-sales service, with real-time data and fully integrated and automated workflows.

**DELIVERING A SUPERIOR CUSTOMER EXPERIENCE**

**PUT THE CUSTOMER POINT OF VIEW AT THE CENTER OF EVERY DECISION**

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**TRADITIONAL SCENARIO**

Disparate information and data silos are hindering the ability to have a clear picture of customer orders and order status.

Achieving consistent product configuration in the area of building products can require significant effort. Production, costing structures, price, and more need to be calculated based on product specification. Changes to customer orders will impact many different levels and departments, leading to lack of visibility. Order fulfillment and delivery are separate processes, and product tracking is difficult. In the case of claims, many departments need to be consulted to understand the situation and provide appropriate assistance to the customer.

**NEW-WORLD SCENARIO**

Put customer success at the center of all activities:
- Single point of truth
- One single document that covers all products or services requested
- 360-degree view of past and current customer activities, leading to better decisions
- Ability to react quickly to late order changes
- Ability to track goods and delivery
- Instant service on claims and warranty cases

When a customer requests unique product features, machine learning can support product configuration. Products and services are captured in one central place. All dependent processes can be adapted based on custom requirements. Change requests to orders can take effect immediately, and decisions can be communicated to customers in a timely manner. A high level of integration across sales order processing allows for total visibility of cost drivers at all stages. Knowing transportation details helps avoid delays and find alternatives. Product status and origin can be tracked across all material levels. Transparency of customer history and activities improves decision-making. Machine learning can automatically define the right reaction for speedy claim resolution. High customer satisfaction is achieved through individually configured products delivered on time. Value-adding services, such as installation services or supplemental products, provide a complete solution for customers. Claims and warranty cases can be more easily addressed. Customer feedback can be captured and tracked easily and integrated into the process of customer interaction.

**TOP VALUE DRIVERS**

- **Increase** in revenue growth
- **Increase** in customer satisfaction
- **Reduction** of sales and service costs

*Source: SAP Performance Benchmarking*
Providing solutions that precisely fit the needs of one single customer has been commonplace in traditional make-to-order environments. Now, the ability to capture customer requirements effectively and drive mass customization is the key to giving customers exactly what they want. Critical for this transformation is the ability to manage the specifics of each order in every aspect of the industrial value chain, in a consistent way, and at nearly the cost of a standard order. To do this, all product and process information must be kept in a single place, and all business processes—from initial engineering through after-sales service—must be effectively executed and closely monitored.

With SAP software at their digital core, building products companies can provide their customers with individualized products faster and at a lower cost.

**DELIVERING A SUPERIOR CUSTOMER EXPERIENCE**

**MANUFACTURE AND DELIVER EXACTLY WHAT EVERY CUSTOMER WANTS – PROFITABLY**

There is an inability to design, market, and profitably sell individualized products. Special requests or changes are difficult to manage, time-consuming, and cut into margins.

**NEW-WORLD SCENARIO**
- Define product feature catalog, which can be selected during sales order processing
- Personalize marketing and sales
- Offer products and services tailored to individual customer segments
- Support flexible manufacturing units with highly automated processes and data exchange
- Support omnichannel solution selling

**TOP VALUE DRIVERs**
- **Faster** time to market
- **Lower** R&D costs
- **Increase** in revenue from new products
- **10%–12%** Reduction in total logistics costs
- **10%–20%** Increase in on-time deliveries
- **Up to 10%** Reduction in total manufacturing costs

*Results are based on customer benchmarking conducted by SAP. Results may vary.*
CONNECTING AND AUTOMATING THE ENTERPRISE

Tomorrow’s enterprise needs to run in a highly automated fashion to ensure operational efficiency. It also needs to be tightly connected with other players in the network.

Companies must execute in an automated fashion to achieve operational efficiency and tightly integrate with their networks of supply and demand. This will require increased automation throughout all processes, not just on the shop floor. It will include the use of new technologies such as bots, augmented reality, and machine learning to increase efficiency and be able to promise and deliver orders on time as expected. Capturing the experience of all involved parties (suppliers, employees, and customers) will provide the necessary feedback and build the foundation for change.

The Vision
In 2025 the supply chains and manufacturing networks of building products companies will allow the seamless execution of producing and shipping the right product at the right time in the most profitable way. Process integration will be achieved beyond a company’s own borders to form the “network of outcome.” Repetitive tasks will be automated, processes will be managed by exception only, and even complex decisions (for example, in maintenance: repair, replace, or retire) will be calculated on the fly for the most profitable, least risky solution.

The Journey
Building products manufacturers will start their journey by analyzing Big Data (usually from within the company), enriching themselves with business data and understanding the dependencies or predicted outcomes. Subsequent steps will increase machine-to-machine connectivity and collaboration, allowing autonomous decisions based on sensor data and machine learning algorithms. Intelligently connecting manufacturing, logistics, and supply chains will allow companies to quickly address short-term demand impulses, supply fluctuations, and changes to customer orders, enabling true modular production processes. These businesses will be connected with the digital network and run fully automated processes beyond their own company borders, for example, enabling machines to order the parts they need directly (see Figure 3).

Four Priorities for Success

For global steel giant ArcelorMittal S.A., managing sales and operations planning was a big challenge. This is not surprising, considering it can produce more than 80,000 different products from a single steel coil. Using the SAP Integrated Business Planning for Supply Chain solution, the company now has visibility into the quality of the stock that can best serve customers while also reducing the company’s unproductive lead time. ArcelorMittal is now more flexible with customer order changes and has achieved quicker decision-making that helps it reduce the need for working capital and inventory.

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Transform your supply chain into a responsive network. Companies everywhere face volatile customer demand and heightened expectations of responsiveness. Innovative technologies can help meet these higher expectations by providing vital business information across the network, improving real-time analysis, and enabling better collaboration across departments and trading partners, making the supply chain more responsive.

With help from SAP, build a responsive digital network with real-time analysis that allows better collaboration across departments and trading partners. Use new technologies to automate the enterprise — not only on the shop floor.

**TRADITIONAL SCENARIO**
- Disconnected departments and limited access to the business network, prohibiting responsive business
- Plans not consistently created and shared, so information cannot flow quickly
- R&D, sourcing, sales, manufacturing, and planning not aligned – wasting time and money
- Reliance on and manual communication with even just a few supply chain partners, resulting in limited visibility and collaboration difficulties, which make delays inevitable and the risk of error high

**NEW-WORLD SCENARIO**
- Digital technology in plants and in the supply chain, intelligently connecting manufacturing operations and supply chain networks to the rest of the enterprise, while technologies such as predictive quality and maintenance can help dramatically change the way products are created, sold, and delivered
- Linear supply chains transforming into digital supply networks through simultaneous collaboration of all relevant stakeholders
- Alignment of procurement, sales, manufacturing, and delivery, improving customer satisfaction
- Connected enterprise that can quickly act on any sudden change within the network
- Your company at the center

**TOP VALUE DRIVERS**
- **Higher** overall equipment efficiency
- **Better** real-time decisions
- **Optimized** inventory and supply

Source: SAP Performance Benchmarking
SUPPORTING ENHANCED BUSINESS MODELS AND VALUE-ADDED SERVICES

To compete in a world of blurring industry boundaries and new players in well established industry segments, you need to be prepared to enhance your product and solution portfolio.

Construction projects and home remodeling projects are difficult to manage. Building products companies can ease this by providing additional services beyond the traditional products. The supplier-to-customer relationship will convert to a partnership where the building products company helps its customers excel in their business.

The Vision
Services will have moved from being sporadic “add-ons” to becoming offerings in their own right, even sometimes with separate business models. These services are offered throughout the lifecycle of a product from development to decommissioning, including design support; prefabrication; installation; offerings around various financing models, such as leasing or renting; after-sales services including maintenance, disassembling, recycling; and more. It will be difficult for one company alone to meet all the new customer expectations (see Figure 4). Thus, solutions will not be restricted to the companies’ own products but, rather, evolve into multibrand services and solutions. These will include partners from the ecosystem delivering a variety of services, with the building products company orchestrating the seamless execution. Tightly integrated feedback processes will allow a company to understand the customer experience on the fly and be the basis for further enhancements to the product and solution portfolio.

The Journey
Companies will start toward this goal by moving to a digitalized project infrastructure, such as building information modeling. This will allow them to collaborate with architects, engineers, and construction companies throughout the entire lifecycle of a construction project from RFP, awarding contracts, managing projects, progressing them, and billing them. Additionally, companies will provide an e-commerce platform with additional services such as order tracking and history and flexible payment and fulfillment options. This will be extended with further products and services from external partners not part of the company’s own product portfolio or traditional offering but necessary to complete a construction project.

Figure 4: Creating New Products and Services with the IoT

Today – Selling Products
Future – Selling Outcomes

Working with SAP, Hagleitner Hygiene International embarked on a digital business transformation that helped it make the leap from a commodity-product-based business model to a service-based model. This innovative approach has brought new recurring revenue streams, closer customer relationships, and access to new markets. The company has reinvented the management of the soap, disinfectant, towel, and paper dispensers used by its large-facility customers. Hagleitner used cloud and IoT technology combined with advanced analytics to modernize washroom facilities and help customers increase efficiency, boost customer satisfaction, and strengthen compliance with health regulations.

Four Priorities for Success
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Digitalization or interconnection of products and services can create additional value. Some examples are leasing and use-based selling and including maintenance or take-back services. Construction and remodeling projects can be cumbersome to manage, so offering outcome-based services can increase both customer satisfaction and revenue potential. Many companies are looking past current value chains to expand into new ecosystems.

SAP supports you in becoming the go-to partner when it comes to home projects such as construction or remodeling.

**TRADITIONAL SCENARIO**
Customers are required to manage all their needs to run a home improvement project by themselves. The parties involved are not connected to each other, which leads to increased administration costs and delays in project delivery.

**NEW-WORLD SCENARIO**
Become the go-to partner when it comes to home projects such as construction or remodeling. Provide all products to complete a project — not only those the building products company produces but also third-party products required for the project — and deliver those to the job site. Include design, installation, and maintenance services in the offering.

- Unified business systems and standardized data to support orchestration of one-stop shopping across multiple acquired product lines
- Business networks connecting with other manufacturers and traders that can supplement your own offerings to enable a complete solution
- End-to-end management of customer needs to open up new revenue streams and increase customer retention

**TOP VALUE DRIVERS**

| Greater competitive edge | Increase in customer satisfaction | Increase in revenue |

Source: SAP Performance Benchmarking
BUILDING A RESPONSIBLE AND SUSTAINABLE BUSINESS

We are moving toward a purpose-driven economy globally. A mind shift is happening across consumers, employees, suppliers, and investors that is incentivizing companies to deliver on their purpose and act responsibly in the light of climate change.

To succeed in the future, building products companies will, of course, still need to deliver financial performance, but they will also have to show how they are making a positive contribution to society, preserving the planet and natural habitat, and working to solve some of the world’s greatest challenges (see Figure 5). With natural resources being limited on this planet, there is increased awareness of the ecological footprint of a product. Examples include carpeting and furniture made from 100% recycled materials, modular housing that can be set up on-site quickly and affordably, use of plastic tubes to support drip irrigation, and clean and reliable water supplies for poor schools and neighborhoods. Companies will strive for fair labor conditions and minimize waste and their consumption of raw material, water, and energy. Advanced product performance and ease of use will be paired with low environmental impact throughout the product lifecycle. Worker safety will also continue to be a strong focus.

The Vision
In 2025 building products companies will be able to offer best-in-class worker safety, even in remote locations. They will avoid using material such as wood from illegal logging, and they will be able to prove the origin of their products at all stages. Companies will be able to replace some products with environmentally friendly material, and they will reduce the amount of material required to fulfill a certain purpose. Recycling rates will approach 100% of all material employed.

The Journey
Manufacturers will start toward this goal by improving production processes so that they have lower energy consumption, reduced waste, and improved labor conditions and worker safety. This will be achieved through process insight based on sensor data, real-time analytics, and IoT concepts. Another step is to collaborate with business partners to lower transportation effort, and then decide to produce locally to lower transportation volumes. Companies will take additional transformational steps to produce for purpose in the areas of avoiding illegal logging and modern slavery, replacing products with environmentally friendly material, and increasing their operational focus on zero waste.

Mohawk Industries recycles more than 6.6 billion plastic bottles each year to make its flooring products and is the largest recycler in the flooring industry. In addition, the business strives for zero waste to landfill certification, which requires a plant to recycle or reuse 90% or more of its manufacturing process waste. To date, 48 Mohawk facilities have earned this certification. In 2018, Mohawk saved US$4.3 million on landfill and haul-away costs, as well as the costs of treating and discharging water to public sewer systems.”

Jana Kanyadan, CIO, Mohawk Industries

“In a letter to our clients today, BlackRock announced a number of initiatives to place sustainability at the center of our investment approach, including making sustainability integral to portfolio construction and risk management; exiting investments that present a high sustainability-related risk, such as thermal coal producers; launching new investment products that screen fossil fuels; and strengthening our commitment to sustainability and transparency in our investment stewardship activities.”

Laurence Fink, Chairman and CEO, BlackRock Inc.

Building a Responsible and Sustainable Business

Keep Employees Safe and Mitigate Environment, Health and Safety Risks

Building products companies want to address growing expectations from customers, investors, employees, and society. Offering a safe, attractive, and purpose-driven business increases brand recognition and attracts talent, investors, and customers alike. Products that are designed and built with sustainability in mind can drive purchase decisions and employee engagement. Efficient production and logistics contribute to lower emissions and energy use, which are increasingly important criteria for suppliers. Reuse of materials is the future, as part of closed-loop material circulation.

SAP helps organizations keep employees safer and mitigate environment, health, and safety (EHS) risks by providing the functionality to perform risk assessments, efficiently measure and report emissions, manage incidents, and communicate safe work practices to all employees.

**Top Value Drivers**

- Increased safety
- Less time and money lost
- Increased employee satisfaction and engagement

*Source: SAP Performance Benchmarking*
Deliver better outcomes by engaging your customers and other business partners in the development process of new services and products.

Improve customer service at every customer touch point through customer feedback.

Increase the employee’s ability to operate efficiently by capturing workforce feedback.

Improve logistics services at every step through customer, carrier, and employee feedback.

Deliver better outcomes by engaging your supply chain partners in the planning process.
Each of these priorities will be enabled by emerging intelligent technologies.

**Artificial Intelligence and Machine Learning**
Machine learning enables algorithms to “learn” from existing data. Once the algorithm is trained, it can then predict future outcomes based on new data.

**The Internet of Things**
Although manufacturers have been using the Internet of Things for some time, now the entire value chain can be connected from design to production to supply chain. Data-driven insights of customer preferences can drive better designs, lower material costs, and reduce risk.

**Data Platform to Manage Experience**
Leaders are interlocking the operational performance data from companies’ business systems (what is happening) with the experience data coming from customers and employees (why it is happening) to get 360-degree views, actionable insights, and to deliver better experiences.

**Advanced Analytics**
Empowered users can get real-time visibility into their changing environment, simulate the impact of business decisions, mitigate risk, and achieve better customer outcomes.

**Blockchain**
The blockchain model of trust, through massively distributed digital consensus, could reshape supply chains and commerce across the digital economy.

**Virtual and Augmented Reality**
Already in use to help workers with difficult or infrequent maintenance activities, this will become even more critical to attract and retain new talent.

**Conversational AI**
Voice interfaces will be the go-to technology for the next generation of applications, allowing for greater simplicity, mobility, and efficiency while increasing worker productivity and reducing the need for training.

**Robotic Process Automation**
Robotic process automation streamlines repetitive, rule-based processes and tasks in an enterprise and reduces cost through the use of software robots by replicating specific tasks or keystrokes.

Cosmo Films Limited is using SAP HANA® Enterprise Cloud to help it move toward becoming a cloud-run company with a future-ready platform that allows it to adopt smart applications across core areas of the business.

90%
Of new enterprise applications will embed artificial intelligence by 2025

30%
Of manufacturers will be utilizing blockchain and the IoT (driven by increased requirements for sustainability) to provide reliable provenance, leading to a 90% increase in audit efficiency by 2025

60%
Of G2000 manufacturers will address growing industry talent shortages by making significant investments in intelligent robotic process automation by 2023

40%
Of manufacturers will leverage IoT-connected products and artificial intelligence tools to validate warranty claims preventing claims submitted in error by 80% by 2023

65%
Of global manufacturers will realize a savings of 10% in operational expenses through process digital twins driven by IoT and machine learning routines that factor in unstructured data sets by 2023

50%
Of all manufacturing supply chains will have invested in supply chain resiliency and artificial intelligence, resulting in productivity improvements of 15% by the end of 2021
Companies will become intelligent enterprises on three distinct tracks as they evolve their strategic priorities to match their company’s vision.

1. **Optimize** what they already do by implementing a stable and scalable digital core to make processes more transparent and integrated

2. **Extend** their current processes by connecting them to the real world using IoT technologies

3. **Transform** their business using a constant stream of data, enabling new service-driven business models (see Figure 6)

**Figure 6: Strategic Priorities Across the Maturity Framework**

- **Optimize**
  - Achieving customer centricity: Exchange information seamlessly with customers
  - Connecting and automating the enterprise: Integrate all production and logistics data
  - Supporting value-added services and new business models: Complement physical products with information
  - Building a responsible and sustainable business: Optimize production for lower energy consumption

- **Extend**
  - Collaborate in real time with customers using omnichannels
  - Improve insights into physical reality with smart sensors
  - Collaborate on product design and delivery in an open manner
  - Collaborate with partners to lower transportation effort and reduce waste

- **Transform**
  - Manage a collaborative interdisciplinary network
  - Connect with external parties to automate beyond the company
  - Unify the data model for supplier and customer to be able to analyze product performance along the entire value chain
  - Achieve best-in-class worker safety

**Networked approach with customers, including (logistics) service providers interacting with your customer’s customers**

- **Digital twin of assets and value chain**
- **Automated interaction of companies**
- **Full shop-floor automation – robots**
- **Selling performance instead of products**, for example, by ensuring products run well on customer machines or by providing additional security

**Companies running their business profitably while focusing on product recyclability, fair labor conditions, community engagement, minimizing waste, and material reuse**
Most organizations understand what is happening in their business, but they may not always know why.

They know what’s happening because they have systems that capture operational data (O-data) – about their customer transactions, supply chain, manufacturing, spending, and the activities of their workforce. They can see that data through reports and dashboards. They can see trends and predict what will happen next.

But to influence what happens next, companies need data about the interactions people have with their products and their business. Experience data (X-data) captures beliefs, emotions, opinions, and perceptions – “why” something is happening. And when companies know why something is happening, they can make an informed decision about the best way to respond.

To win in this experience economy, intelligent enterprises connect experiences with operations. They use both X-data and O-data to guide their business decisions. Intelligent enterprises collect insights from customers, employees, products, and brands at every touch point. They use powerful technologies to automate and integrate their data, processes, and applications, enabling them to sense risks, trends, and opportunities. And they act on this intelligence across every part of their business (see Figure 8).

Only SAP has the strategy, expertise, and solutions to deliver on this vision, enabling intelligent enterprises to turn insight into action.

**Figure 7: SAP® Intelligent Enterprise Framework**
In the digital economy, intelligent technologies and integrated business processes are now driving digital transformation.

To do this effectively requires an end-to-end plan for becoming an intelligent enterprise. This includes creating an intelligent enterprise road map and implementation plan with proven best practices and deployment options that optimize for continuous innovation with a focus on intelligent outcomes.

The End-to-End Journey to Becoming an Intelligent Enterprise

Plan
well to manage expectations

Simplify and innovate
- Reimagined business models, business processes, and work
- SAP Intelligent Enterprise Framework methodology as a guide for digital transformation
- Value-based innovation road maps

Standardize and innovate
- Model-company approach to accelerate adoption with model industry solutions
- Design thinking and rapid, tangible prototypes
- Coengineered industry innovations delivered with agility

Build and launch
with proven best practices

Run
all deployment models

Run with one global support
- One global, consistent experience
- End-to-end support – on premise, in the cloud, or with a hybrid approach

Run with one global support
- One global, consistent experience
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Optimize for continuous innovation

Optimize to realize value
Continuously captured and realized benefits of digital transformation

To move forward with speed and agility, it helps to focus on live digital data and combine solution know-how and industry-specific process expertise with data analytics so that the right digital reference architecture is defined and delivered. In that context, a model-company approach is aimed at simplifying and increasing the speed of the digital transformation journey. Model companies represent the ideal form of standardization for a specific line of business or industry. They are built on preconfigured SAP solutions based on best practices supported by SAP, along with the business content that encompasses our experience and expertise relevant for the industry. They provide a comprehensive baseline and come with the accelerators to jump-start digital transformation projects.
Our comprehensive ecosystem for the building products industry offers:

- The Intelligent Enterprise as the overarching strategy to meet future requirements, providing:
  - SAP S/4HANA® co-development programs for customers and partners
  - Industry co-innovation programs for industry-specific use cases
  - Delivery of “enterprise-to-enterprise industry clouds”
  - Thought leadership, evangelism, and enablement by industry through events, councils, and regular customer exchange
- Integration into a wide range of business services (OEMs, suppliers, key vendors, and more)
- Open architecture, with a choice of hardware and software specifically designed to meet requirements
- Complementary and innovative third-party solutions to provide leading-edge and state-of-the-art technology

Our partner ecosystem includes, among others:
SAP IS COMMITTED TO INNOVATION

10-Year Innovation Vision
SAP delivers fully intelligent business solutions and networks that span across company boundaries and promote purpose-driven businesses. These solutions will be the most empathic symbiosis between machine intelligence and human ingenuity.

- Self-running enterprise systems
- Self-organizing business ecosystems
- New markets and business models

Comprehensive Industry Coverage
SAP enables comprehensive coverage of the complete building products value chain across the enterprise. With its clear industry road map, SAP is the partner of choice for the building products sector.

- More than 2,300 building materials companies run SAP software
- 4,900 forest product, furniture, and textile companies are SAP customers
- All lines of business are supported on a single platform

Proven Services Offering
By bringing together world-class innovators, industry and emerging technology expertise, proven use cases, and design thinking methods, we help building products companies develop innovations that deliver impact at scale.

- Proven methodologies to drive innovation, from reimagining customer experiences to enhancing operations
- Innovation that is fueled through a managed innovation ecosystem from SAP
- Ability to build your own innovation capability and culture

SAP supports building products companies in becoming intelligent enterprises – providing integrated business applications that use intelligent technologies and can be extended on SAP Cloud Platform to deliver breakthrough business value.

Learn more
- SAP for Mill Products
- SAP Services and Support
RESOURCES

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


Note: All sources cited as “SAP” or “SAP Performance Benchmarking” are based on our research with customers through our benchmarking program and other direct interactions with customers.