

They are pursuing **four key initiatives** that require **new business capabilities** along the value chain.

Chemical companies need to become intelligent enterprises now to pave the way for superior customer experiences, increased brand recognition, and a sustainable future.

- Market dynamics threaten established strategic models.
- To drive sustainable growth, performance, and innovation in the experience economy, chemical companies must inspire and shape a digital chemical world.

	Customer engagement and co-innovation	Planning and sourcing	Integrated operations management	Delivery and service	Human resources	Finance
Selling business outcomes instead of just products	<ul style="list-style-type: none"> Anticipate and gain a 360-degree view of market trends and customer needs Capture "in-the-moment" customer feedback to better understand emotions and sentiments Ensure performance – based pricing Provide digital assistants and prescriptions for the optimal use of chemical products Provide digitally assisted formulation Ensure intelligent mapping of products to requirements 	<ul style="list-style-type: none"> Enable closed-loop concepts targeting sustainability (such as minimized virgin resource and energy consumption and embedded recycling and return) Provide automatic replenishment Enable collaborative planning and full supply chain visibility Ensure product authentication to avoid product counterfeits 	<ul style="list-style-type: none"> Monitor process parameters at customer operations and deliver business outcomes, such as first-pass quality of products Ensure easy to consume safety information and technical product descriptions 	<ul style="list-style-type: none"> Productize new service and revenue models (such as leasing models, benchmarking services, and price per outcome instead of per ton or volume) Provide chatbots to handle customer inquiries Provide intelligent customer inquiry assignment Enable comprehensive customer self-services 	<ul style="list-style-type: none"> Create flexible, service-oriented contracts with customers and suppliers Enable social collaboration among interdisciplinary teams, internally and externally Develop business-outcome-focused mentoring and training programs to attract and upskill new hires 	<ul style="list-style-type: none"> Establish outcome-based financial models Enable financial controlling of performance- and outcome-based service contracts
Simplifying to shrink cycle times	<ul style="list-style-type: none"> Use cognitive scientific literature, patent and data base research Provide multi-channel order entry with comprehensive back-order processing Ensure automation of (self-)service requests Provide digital assistants for sales and service staff Ensure easy connection of lab equipment to onboard measured data Reduce lab trials by digital data analysis 	<ul style="list-style-type: none"> Provide synchronized supply and production planning Ensure real-time decision support for order fulfillment Use the Internet of Things (IoT) to automatically order spare parts and services when maintenance is needed React faster to demand changes with pattern-recognition-based algorithms 	<ul style="list-style-type: none"> Use predictive models, digital twins, and augmented reality to maximize manufacturing and asset lifecycle performance Minimize cycle times for shutdowns, turnarounds, and outages Use of data for technical process parameter optimization and quality improvements 	<ul style="list-style-type: none"> Enable vendor-managed inventory and supplier-managed inventory scenarios, leveraging the power of the IoT Mitigate supply chain risks through real-time event and alert management, using new technologies such as machine learning or blockchain 	<ul style="list-style-type: none"> Identify the best candidates for jobs without bias using intelligent resume matching Find a list of recommended jobs for job seekers matching skills and qualifications through intelligent job matching 	<ul style="list-style-type: none"> Enable intelligent invoice matching and automatically clear payments using machine learning
Compete as an ecosystem	<ul style="list-style-type: none"> Open and collaborative innovation platform Turn structured and unstructured data from networks and ecosystems into value-based services Provide service and content rich customer portals and consultancy platforms Drive targeted customer communication 	<ul style="list-style-type: none"> Collaborate with suppliers to gain visibility on inventory and capacity levels Provide an integrated platform for visibility across the extended value chain, creating actionable insight 	<ul style="list-style-type: none"> Minimize production disruptions with asset intelligence network Drive orchestrated manufacturing and logistics networks 	<ul style="list-style-type: none"> Monetize data from customers and the ecosystem, developing new value-based services and revenue models (for example, precision farming) Ensure strong collaboration with logistic service providers 	<ul style="list-style-type: none"> Manage external contractors in a flexible manner and enable flexible work teams Upskill your workforce to manage complex services 	<ul style="list-style-type: none"> Optimize working capital Manage increased financial risks associated with highly flexible and complex supply chains and manufacturing operations
Adopt strategic agility in response to market dynamics	<ul style="list-style-type: none"> Rapidly assess impact of new ventures and joint customer initiatives on the overall portfolio through multilevel what-if simulations Integrate and validate global compliance requirements across the entire product and service lifecycle 	<ul style="list-style-type: none"> Enable end-to-end premerger to postmerger integration Flexibly augment your company's skill sets with integration of a contingent (service-oriented) workforce in line with company strategy 	<ul style="list-style-type: none"> Gain insight into external causal factors and determine potential impacts on extended supply chain, both upside and downside 	<ul style="list-style-type: none"> Establish multiple channels to support diverse customer needs and experiences Drive real-time price and margin management across all channels Maximize customer experiences and satisfaction across all channels 	<ul style="list-style-type: none"> Develop strong in-house skills and organizational entities to manage strategic decisions on an ongoing basis Establish a strong collaboration and education platform to support purpose-driven organizational and cultural change 	<ul style="list-style-type: none"> Rapidly evaluate impact of strategic portfolio decisions on your financial performance Visualize and manage corporate risks based on a single source of data

Typical business benefits*

- Faster time to market
- Increased quality
- Reduced costs and waste
- Increased brand recognition

- Reduced overall planning costs
- Reduced total logistics costs
- Reduced procurement costs
- Reduced days in inventory

- Reduced process cycle times
- Faster response time
- Reduced operational costs

- Increased on-time delivery
- New revenue from innovative services and business models
- Increased customer share of wallet

- Lower costs for time and attendance
- HR full-time equivalents: -44%

- Budgeting and forecasting costs: -25%–50%
- Annual time to close books: -40%–50%
- Days sales outstanding: -5%–10%

Experience	qualtrics	cx customer experience	px product experience	bx brand experience	ex employee experience
Analytics:	Augmented business intelligence		Collaborative planning	Predictive analytics	Data warehousing
Intelligent technologies:	Data-driven insights		Intelligent robotic process automation	Conversational AI	Internet of Things, cloud and edge
Database and data management:	Data pipelining	Data virtualization	Data governance	Storage and processing	Connection management
Application dev and integration:	Integration suite		Intelligent business process management	Enterprise extensions	Data orchestration
Intelligence					Metadata management
					Digital experience

	SAP S/4HANA®	SAP Ariba	SAP SuccessFactors	SAP Ariba	SAP Concur
Operations	<ul style="list-style-type: none"> Product master data governance and project control Production engineering Order and contract management Billing and invoicing 	<ul style="list-style-type: none"> Collaborative sourcing and contract mgmt. Production planning and the material requirements planning cockpit Operational purchasing Supplier management 	<ul style="list-style-type: none"> Production operations Maintenance management Basic inventory, warehousing, and transportation 	<ul style="list-style-type: none"> Basic transportation management Service operations and processes 	<ul style="list-style-type: none"> Time recording Accounting Cost management and profitability analysis International trade
Business areas	<ul style="list-style-type: none"> Enterprise portfolio and project management with embedded commercial project management Enterprise formulation Sales planning and performance management Billing and revenue innovation management 	<ul style="list-style-type: none"> Central requisitioning Constrained production planning Extended production scheduling and delivery planning 	<ul style="list-style-type: none"> Environment, health, and safety Asset operations and maintenance Multiresource scheduling Advanced inventory, warehousing, and transportation 	<ul style="list-style-type: none"> Product compliance Advanced order promising (AATP) Advanced inventory, warehousing, and transportation Commodity sales 	<ul style="list-style-type: none"> Financial planning and analysis Accounting and financial close Treasury and commodity risk management Receivables management Invoice management and accounts payable
	<ul style="list-style-type: none"> Innovation management Enterprise product development Sales cloud Marketing cloud Commerce cloud Incentive administration / gigya / callidus 	<ul style="list-style-type: none"> Integrated business planning Supplier collaboration Direct and indirect material sourcing 	<ul style="list-style-type: none"> Manufacturing Integration and Intelligence Digital manufacturing cloud Intelligent asset management 	<ul style="list-style-type: none"> Extended warehouse management Global batch traceability Logistics business network Customer data Service cloud 	<ul style="list-style-type: none"> Governance, risk, and compliance Invoice management Collaborative finance Signature management Regulation management Lease administration

* Benefits are based on early adopters of SAP S/4HANA or conservative outside-in benefits due to moving from a traditional ERP system to SAP S/4HANA, SAP intelligent technologies, and other relevant SAP solutions.