

SAP for Life Sciences

Life Sciences Solution Strategy with focus on Analytics

Mandar Paralkar, GVP, IBU Life Sciences, SAP
Dec 9, 2022



Life sciences companies are balancing the impact of **global disruption** and the need for a **resilient supply chain**



In today's world, **intelligent life sciences companies** are challenged with

investing in new opportunities for innovation, growth, and digital transformation amid a pandemic crisis with uncertain supply and volatile demand

while also **remaining profitable** despite new business models around personalized medicine, declining margins, and constrained capacity

Life sciences trends across the value chain

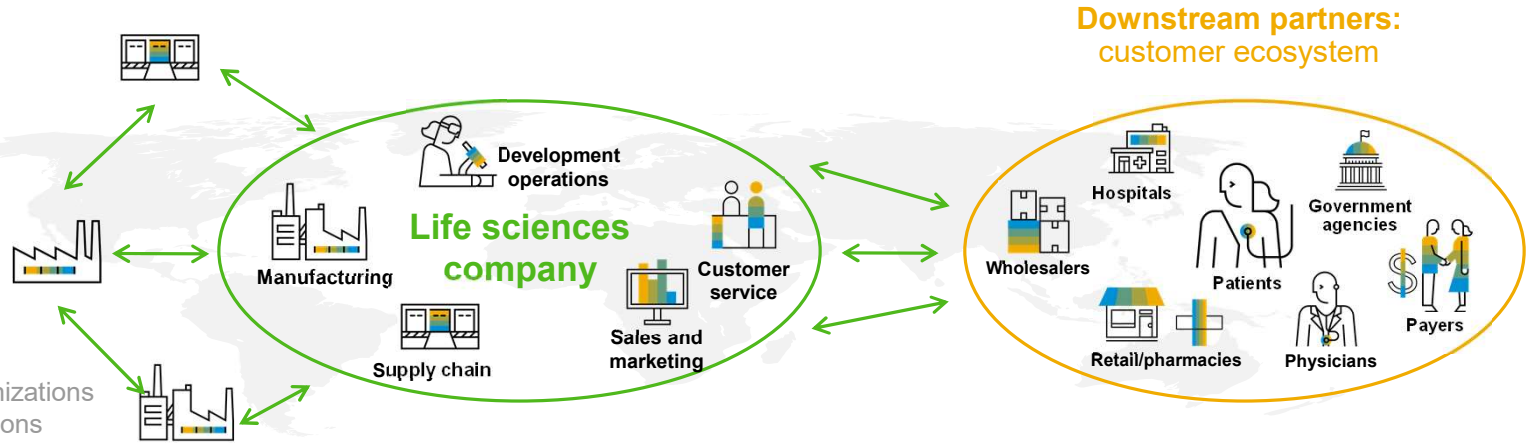
Upstream partners: supplier network

Material suppliers

1. Indirect material (operating expenses), office/plant supplies
2. Direct material (COGS) raw/bulk/API Active pharmaceutical ingredients

Contract organizations

1. CMO – Contract manufacturing organizations
2. CPO – Contract packaging organizations
3. CRO – Contract research organizations



Growing the business while satisfying **customer demand** is getting tougher



Empowered patients and personalization

Patients are increasing taking control of their health approaches and demanding therapies that provide promised outcomes.



Big data driving health networks

Fragmented value chains transforming to new ecosystems integrating suppliers, contractors, regulatory agencies.



Regulatory pressures and rising HC costs

Unsustainable healthcare costs driven by complex channel models and R&D investments.

Purpose in Life Sciences

Help Life Sciences companies run better and improve the lives of patients and the communities they serve



Objective:

1. Business Process Redesign
2. Cloud Migration
3. Back to standard through Business Platform

Innovation, Digital Transformation :

1. SAP Industry Cloud
2. SAP Business Network
3. Intelligent Sustainable Enterprise



Meeting the challenge

Strategic priorities that drive business transformation

Transformation trends



Empowered patients and personalization



Big Data driving health networks



Regulatory pressures and rising healthcare costs

Vision 2025



Delivery of personalized patient solutions at scale and as a service



Customer outcomes and profitability



Costs and risk

Strategic priorities



Improve customer outcomes



Compete as an ecosystem



Enable the digital supply chain and smart factory

SAP point of view: **Intelligent life sciences enterprises** will lead the way

Strategic view



- CEO**
 - CFO**
 - CTO/CDO**
 - CIO**
- Growth and market share
 - Shareholders and market capitalization
 - Sustainability and strategic longevity

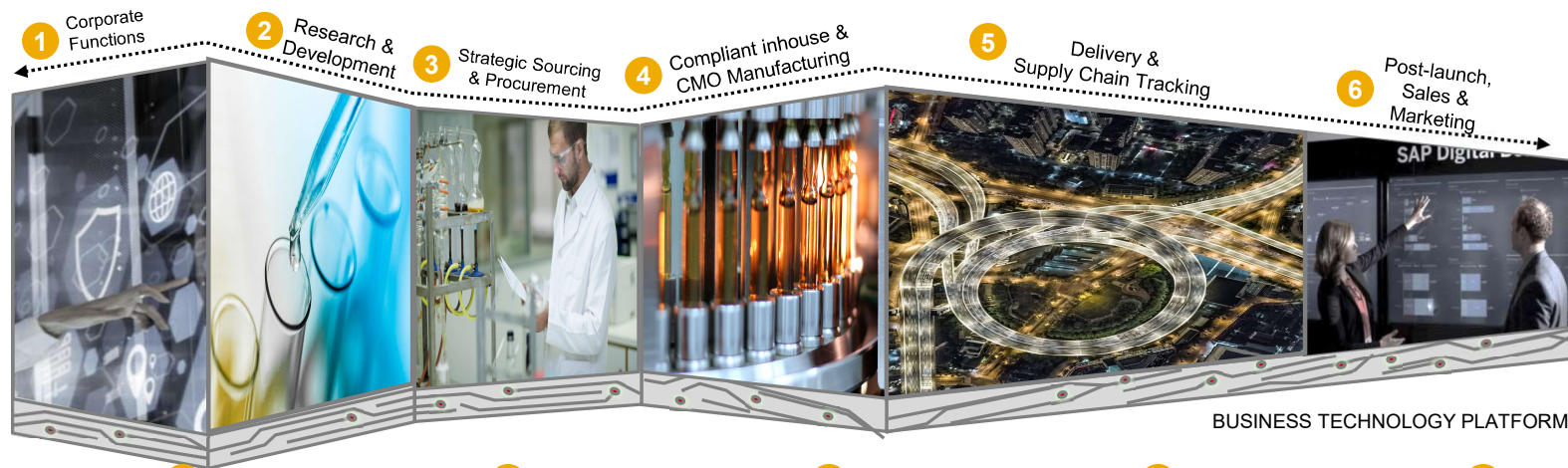
Value chain view



- Head of R&D**
 - Head of procurement**
 - Head of supply chain**
 - Head of manufacturing**
 - Head of sales and service**
- New products revenue
 - R&D cost
 - Production meeting revenue targets
 - Process function cost
 - Days payable outstanding on targeted spend
 - Cost due to stock-outs
 - Days in inventory
 - Total logistics cost
 - Total manufacturing cost
 - Manufacturing cycle time
 - Inventory levels
 - On-time delivery
 - Customer satisfaction
 - Service delivery cost



SAP for Life Sciences (Innovations)



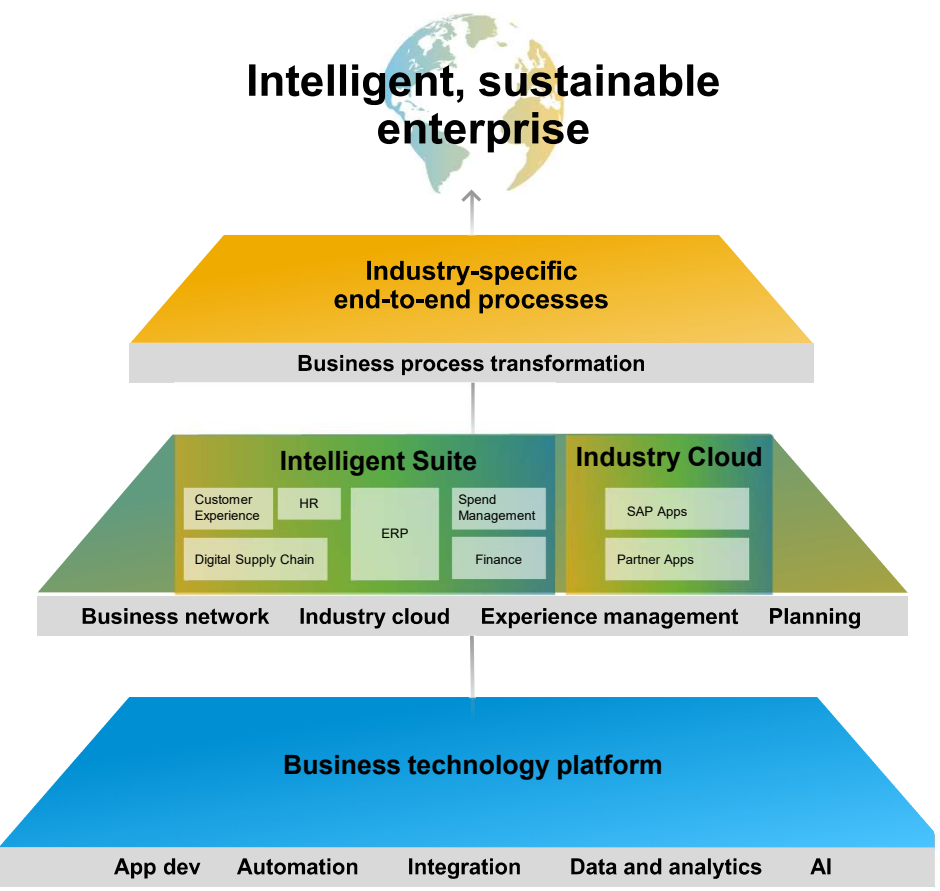
- | | | | | | |
|---|--|---|--|---|--|
| <p>1 Corporate Functions</p> <ul style="list-style-type: none"> • Financials • Controlling • KPI reporting • Human Resources • Validated Learning Management | <p>2 Research and Development</p> <ul style="list-style-type: none"> • Product Development Collaboration • Intelligent Clinical Supplies Mgmt (Planned) • Specification Mgmt • Recipes / Formulation • Product Life Cycle Costing | <p>3 Strategic Sourcing & Procurement</p> <ul style="list-style-type: none"> • Strategic Sourcing Procure ingredients • Supply Chain Collaboration • Manage SOW, contingent labor • Service Procurement | <p>4 Compliant inhouse and CMO Manufacturing</p> <ul style="list-style-type: none"> • Inhouse Manufacturing • CMO Manufacturing • Batch Release Cockpit (New) • Packaging & Labeling • Tech Transfer • Vaccine Collaboration | <p>5 Delivery and Supply Chain Tracking</p> <ul style="list-style-type: none"> • Warehouse Mgmt • Serialized Track and Trace (New Country packages delivered) • Cold chain monitoring (Evaluation) • Collaboration with logistics providers • Cell Gene Therapy (New) | <p>6 Post-launch, Sales & Marketing</p> <ul style="list-style-type: none"> • B2B Commerce • Sales and Operations Planning • Logistics Distribution with Business Network • Asset Intelligence Network • Service based Billing |
|---|--|---|--|---|--|

Customer References: # 1 [Almirall – Digital Procurement](#) # 2 [Boehringer Ingelheim – Secure SC](#) # 3 [Carestream Health - B2B Commerce](#)



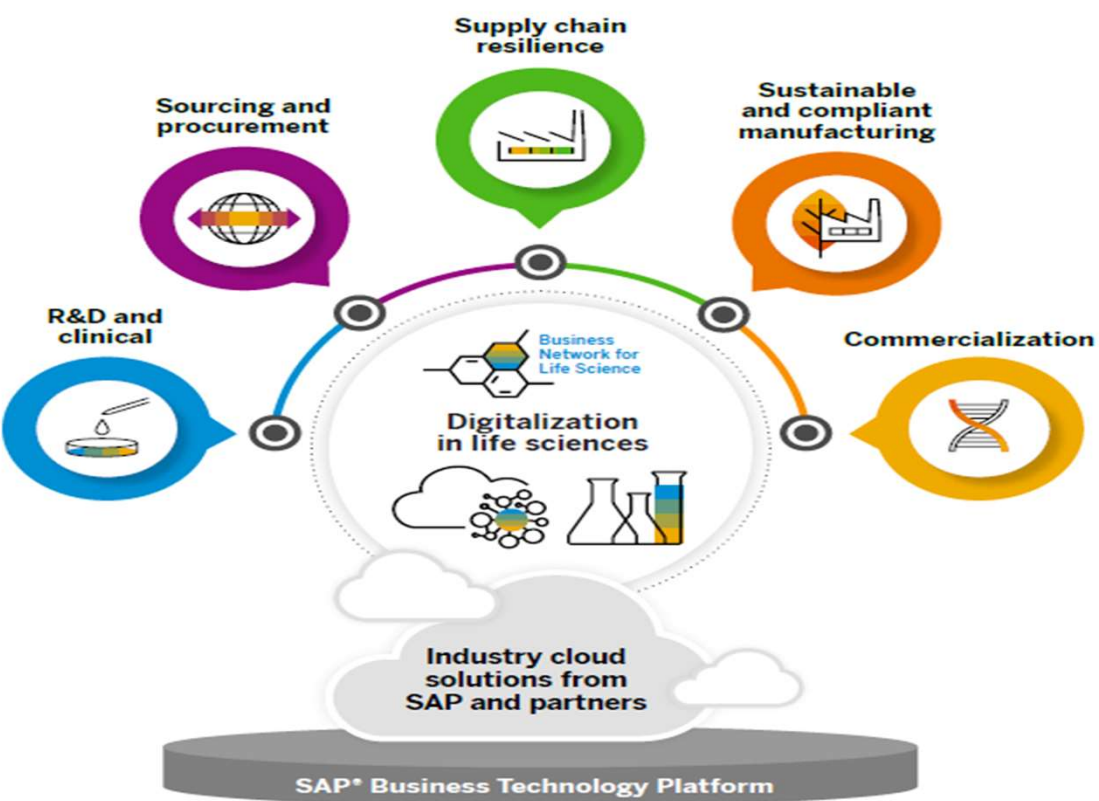
Strategy : Intelligent Sustainable Enterprise

ERP Foundation with Intelligent Suite & Industry Cloud - <https://www.sap.com/industries/life-sciences.html>



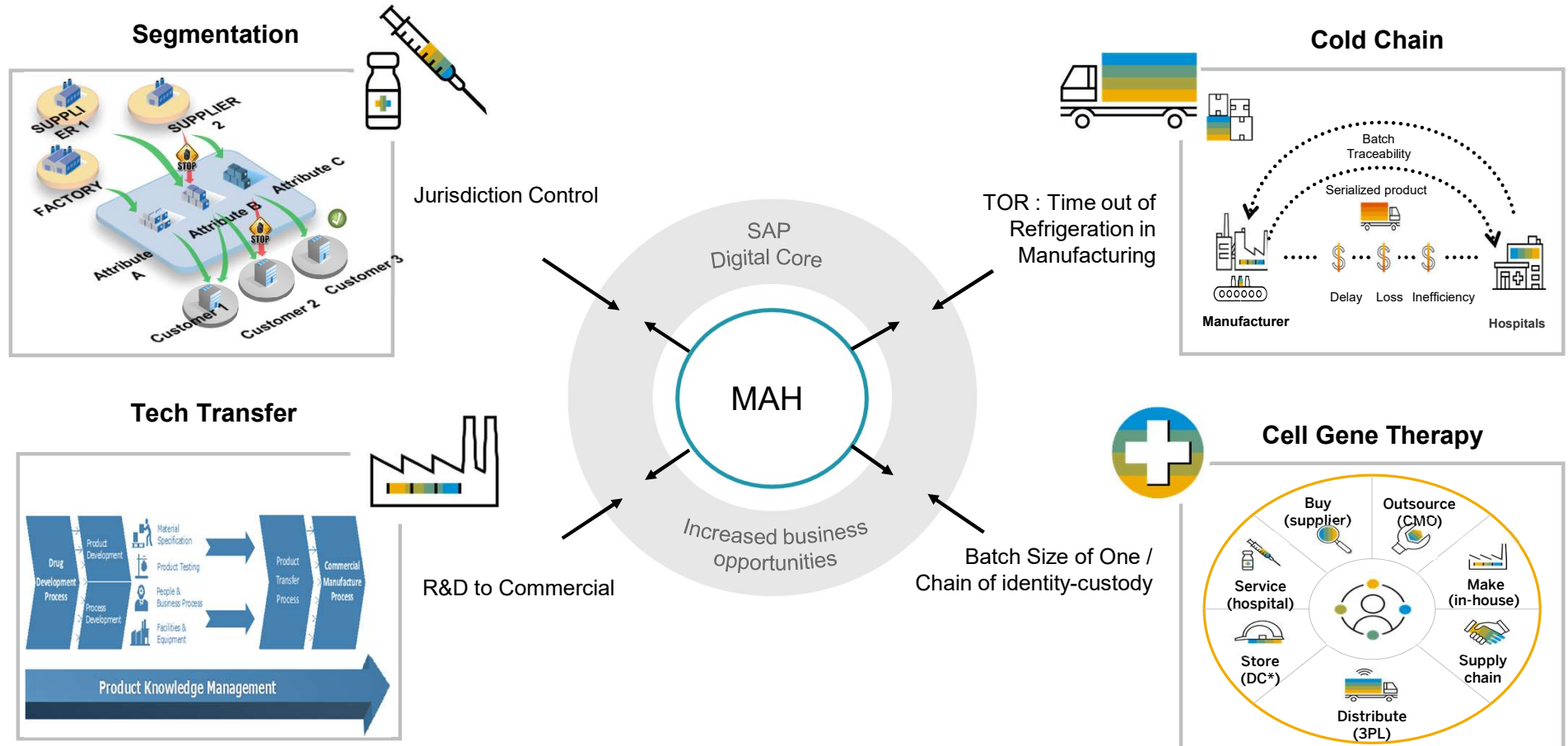
Protect Margins by Enabling Compliant Production Processes

How Digital Solutions Support the Intelligent, Sustainable Life Sciences Enterprise



Solution Approach in Life Sciences

Potential co-innovation opportunity leveraging digital core S/4 HANA business process & Industry Cloud Apps

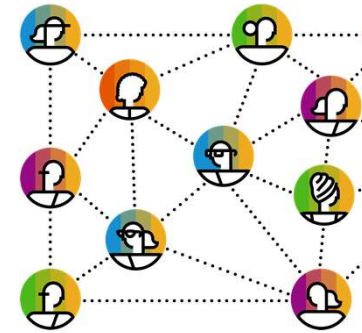


Few selected examples

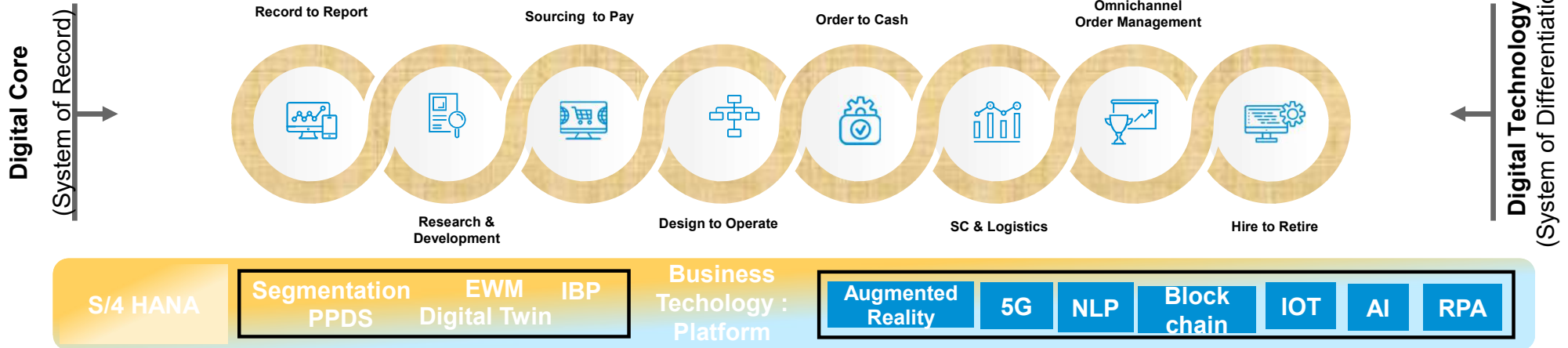
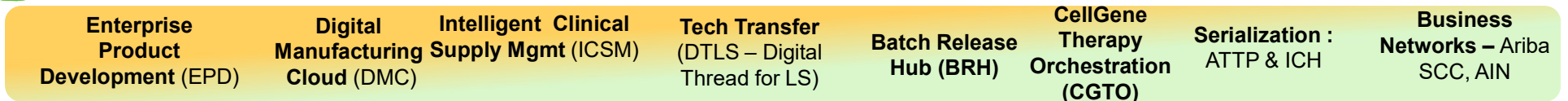


Life Science Data in Business Context

Intelligent Suite (ERP Digital Core) as Foundation with Integrated Cloud apps



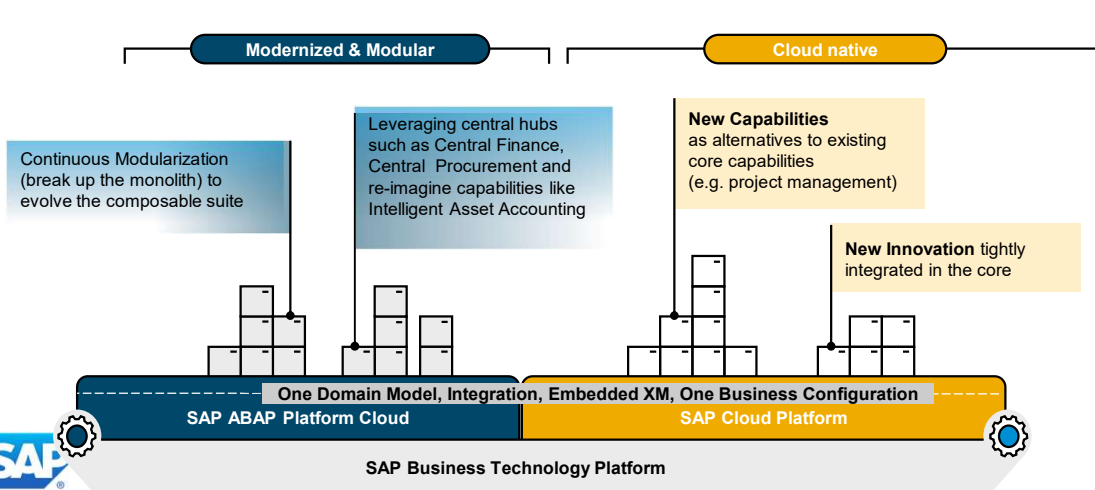
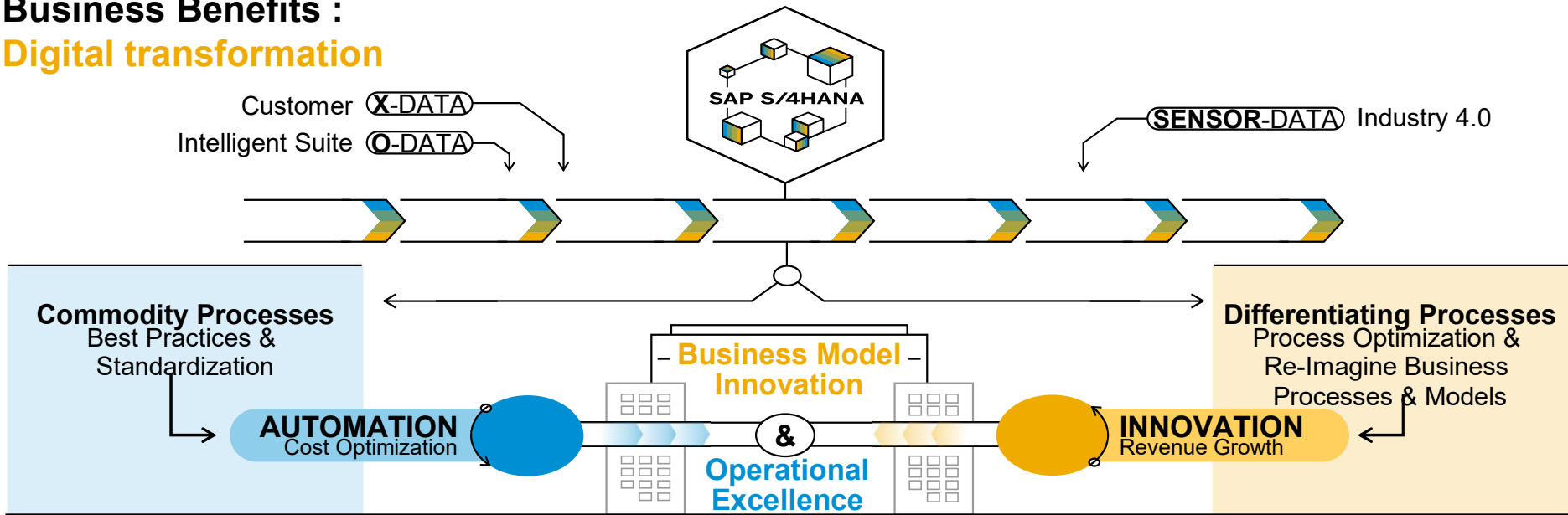
Unlocking End-to-End Value with Intelligent ERP & Business Networks
System of Innovation (LS): Agility & Value In Times Of Global Disruptions



A Complex Value Chain Is Hard To Manage, But Is A Gold Mine Of Untapped Data



Business Benefits : Digital transformation



Life Sciences Industry Partner Overview : Life Sciences Cloud Portfolio 2022

SAP Store <https://store.sap.com/dcp/en/search/life%20Sciences>



S/4 HANA (CLEAN DIGITAL CORE)



Life Sciences Industry **Solution Overview** : Value Map 2022

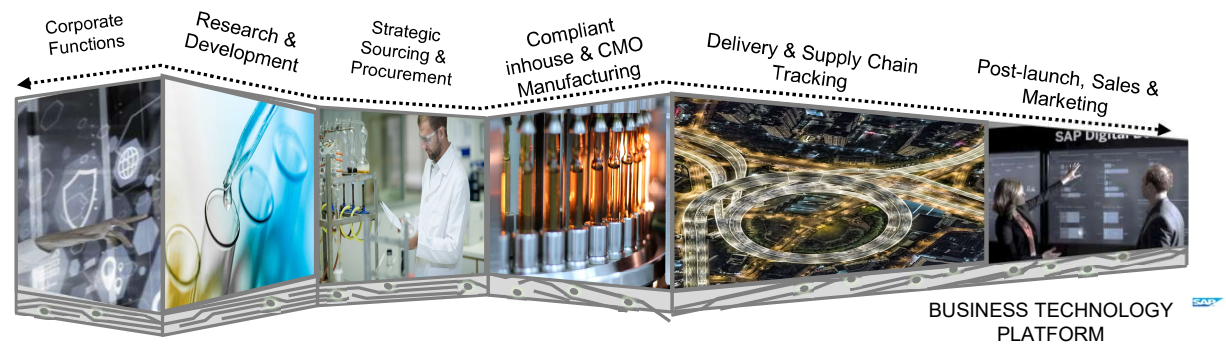
Life Sciences Value Map

Overview

R&D/Engineering	Strategic Sourcing and Procurement	Demand-Driven Supply Networks	Compliant Manufacturing	Multichannel Sales, Marketing, and Service
<u>Development Collaboration</u>	<u>Sourcing and Contract Management</u>	<u>Sales, Inventory, and Operations Planning</u>	<u>Asset Collaboration</u>	<u>Customer Experience Management</u>
<u>Portfolio and Project Management</u>	<u>Buy and Deliver Indirect Material</u>	<u>Demand Management and Insights</u>	<u>Production Operations and Quality Management</u>	<u>Single Customer View</u>
<u>Product Compliance</u>	<u>Supplier Management</u>	<u>Response and Supply Planning</u>	<u>Manufacturing Execution</u>	<u>Consent Based Marketing</u>
<u>Device Design and Engineering</u>	<u>Contract Research Organization Collaboration</u>	<u>Order Promising and Segmentation</u>	<u>Contract Manufacturing</u>	<u>Optimized Marketing</u>
<u>Drug Formulation and Recipe Development</u>	<u>Direct Material Plan and Forecast</u>	<u>Warehouse Management</u>	<u>Manufacturing Performance Management</u>	<u>Omnichannel Commerce Management</u>
<u>Global Regulatory Compliance</u>	<u>Invoice and Pay</u>	<u>Cold Chain and Transportation Management</u>	<u>Asset Operations and Maintenance</u>	<u>Omnichannel Customer Service</u>
<u>Talent Management and Learning</u>	<u>Contract Manufacturing Organization Collaboration</u>	<u>Serialization and Logistics Business Networks</u>	<u>Asset Performance Management</u>	<u>Field Service Management</u>

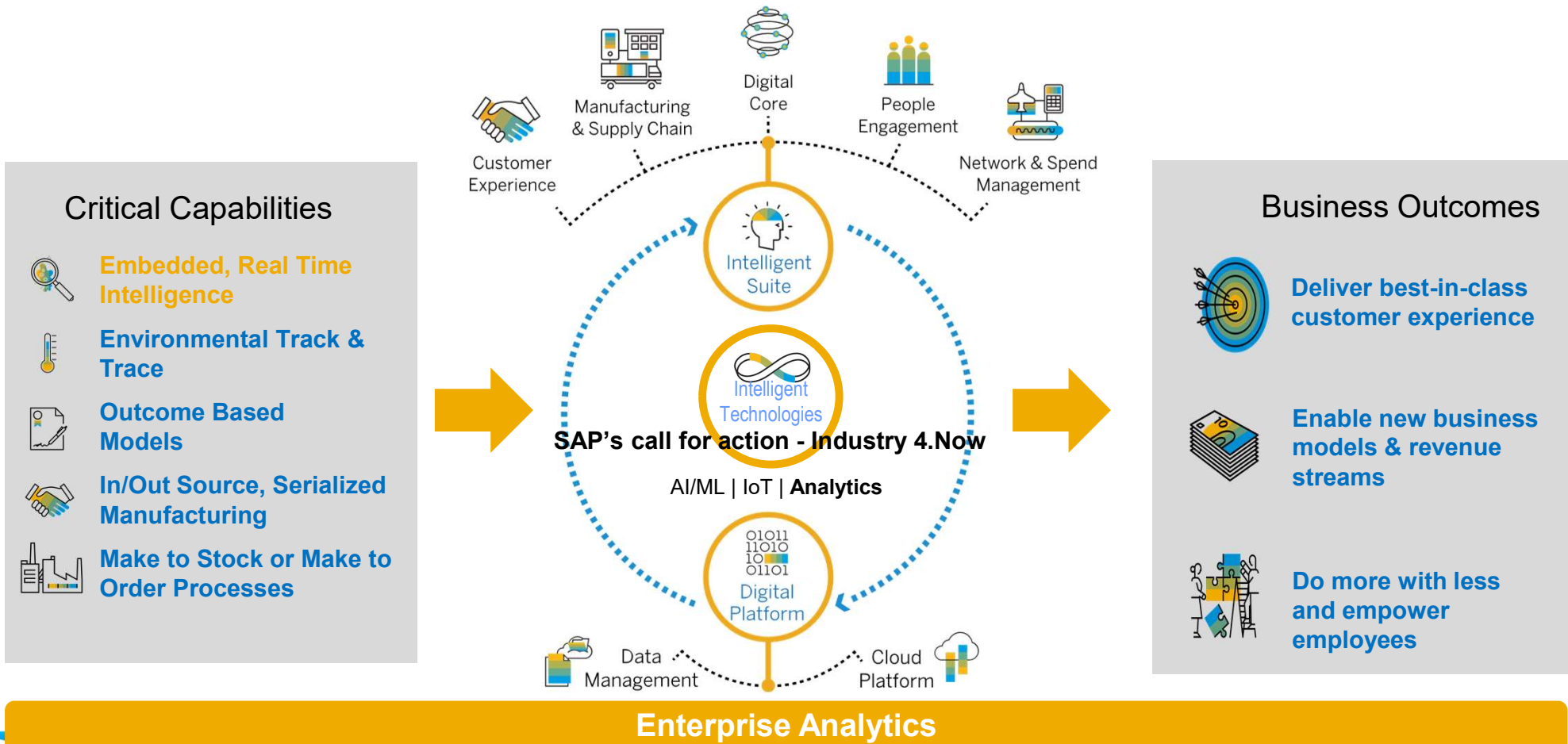
Human Resources	Finance
<u>Core Human Resources and Service Delivery</u>	<u>Invoice-to-Pay</u>
<u>Talent Acquisition</u>	<u>Invoice-to-Cash</u>
<u>Employee Experience Management</u>	<u>Financial Planning and Analysis</u>
<u>Payroll and Time & Attendance Management</u>	<u>Record-to-Report</u>
<u>People Analytics</u>	<u>Travel-to-Reimburse</u>
	<u>Treasury Management</u>
	<u>Real Estate</u>

© 2020 SAP SE or an SAP affiliate company. All rights reserved.



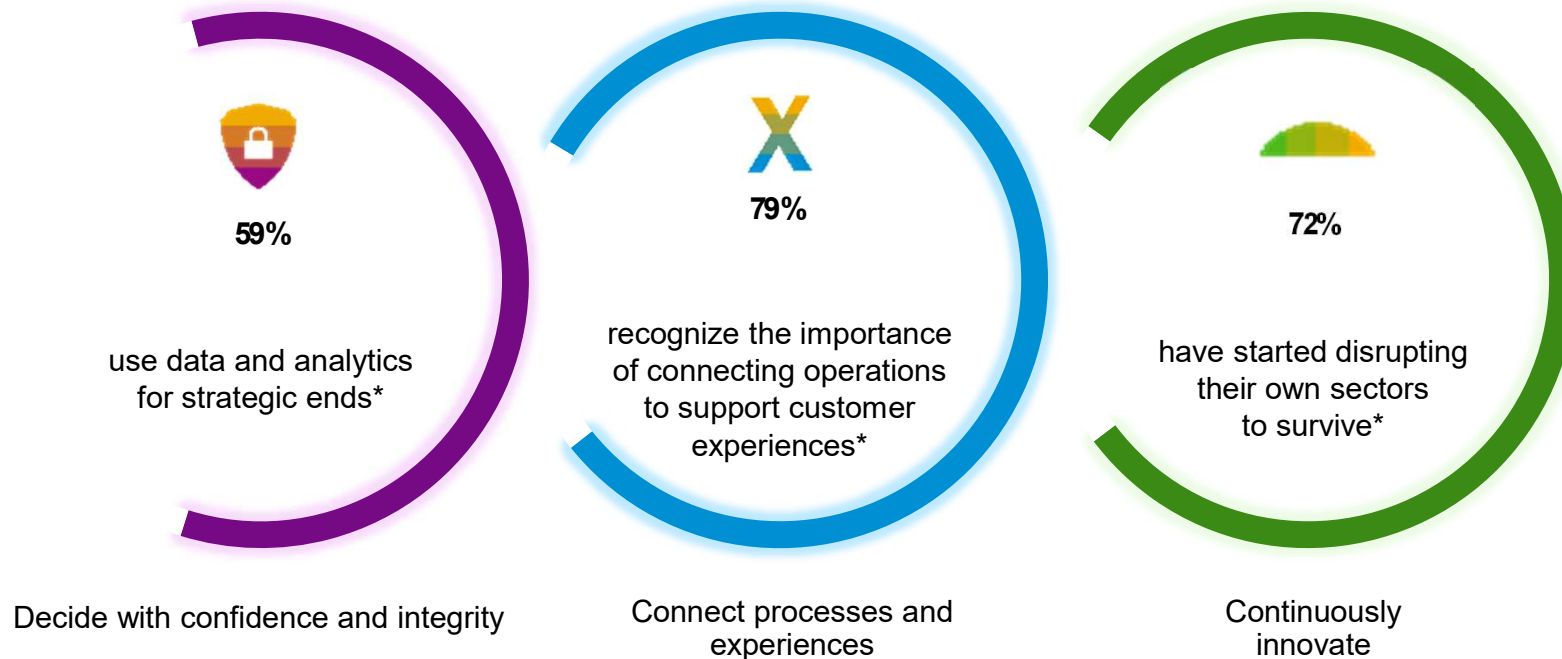
SAP Enables the Intelligent Life Sciences Enterprise

Industry 4.0 addressing intelligent product, factories, assets and empowered people



In the digital economy businesses must stay agile to succeed

Market Trends relevant for Life Sciences Analytics



By 2024 (Source: Gartner MQ 2020)

“70 % of all new financial planning and analysis projects will become **extended planning and analysis (xP&A) projects**, extending their scope beyond the finance domain into other areas of enterprise planning and analysis.”

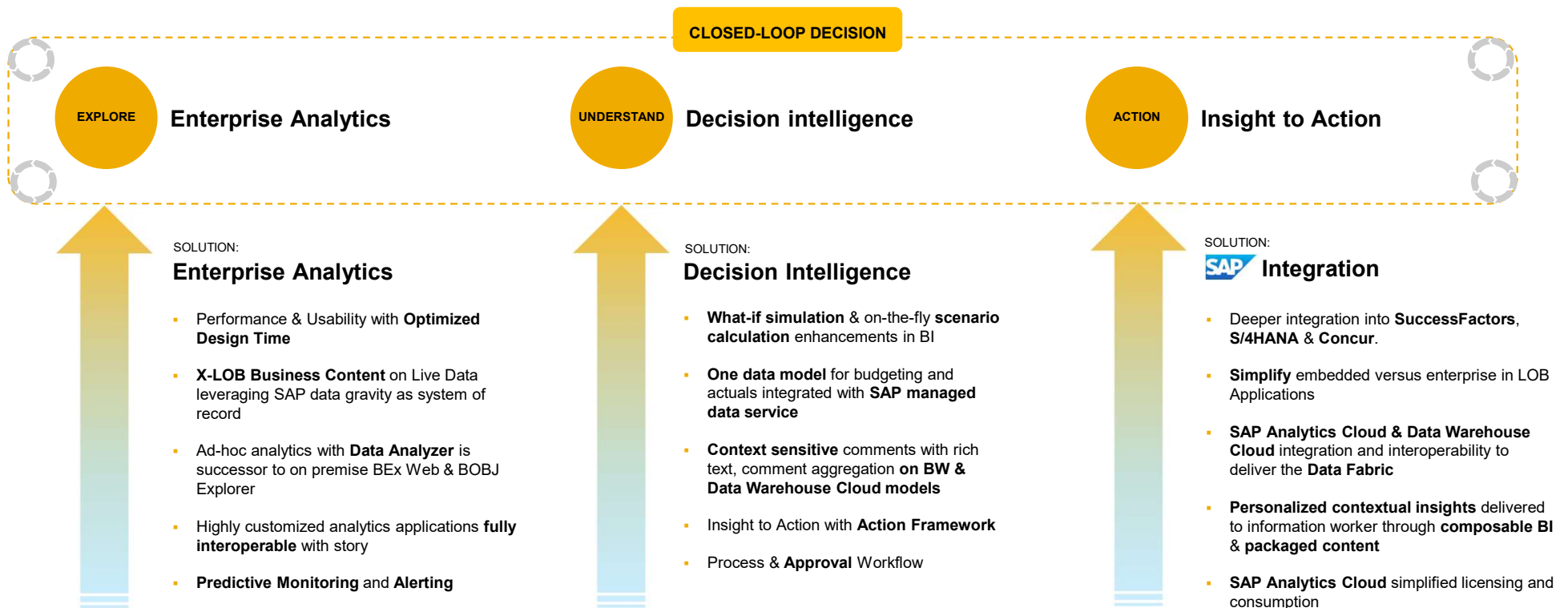
Top trends (Source: BARC Retreat 2020)

“Leveraging augmented and **predictive planning & forecasting** is an important goal for improved and efficient future corporate planning.”



SAP LIFE SCIENCES CLOUD ANALYTICS STRATEGY

INVESTMENT THEMES AND PRIORITIES



Powering Predictive Financial Forecasts with SAP® Analytics Cloud

Before: Challenges and Opportunities

- Overhaul and automate a costly, reactive, and time-consuming forecasting process used by its R&D finance team
- Leverage a universal and scalable solution across its entire R&D finance organization
- Empower financial planners with predictive insights to enhance decision-making capabilities

Why SAP

- Embedded predictive planning capability offered by the SAP® Analytics Cloud solution
- Native integration with the existing data foundation in SAP Business Warehouse powered by SAP HANA®, allowing years of historical data to be leveraged to enable more accurate and harmonized forecasting in a matter of hours rather than weeks
- Single, integrated, scalable solution, lowering maintenance effort and reducing costs
- Fast implementation and deployment of predictive planning capabilities

After: Value-Driven Results

- Shifted the focus of the R&D finance organization from traditional bottom-up financial forecasts to an automated predictive forecasting process – automating 14,000 out of 20,000 forecast data entry points
- Enabled the R&D finance team to deliver critical insights that lead to actions instead of manipulating and adjusting data
- Accelerated transformation and new ways of working, with efficient cross-functional collaboration between IT, business units, and finance centers of excellence



“Every minute we allow our R&D organization to focus on the science has an exponential impact on bringing **transformative medicines and treatments** to society.”

David Dubowsky, Head of R&D Finance, F. Hoffmann-La Roche AG

70%

Of forecast data entry points automated with SAP Analytics Cloud

2 hours

To generate a US\$4.2 billion financial forecast – reduced from several weeks

F. Hoffmann-La Roche AG
Basel, Switzerland
www.roche.com

Industry
Life sciences

Products and Services
Pharmaceuticals and diagnostics

Employees
>100,000

Revenue
CHF 58 billion
(US\$62 billion)

Featured Solutions
SAP Analytics Cloud and
SAP Business Warehouse
powered by SAP HANA

THE BEST RUN 

Enterprise Analytics brings it all together

The DATA SUPERPOWER

AMOUNT



QUALITY



USAGE



VALUE

Data of any size
In-Memory | Disk | Lake

Data of any kind
Datasets | Streams | Models

Data for anyone
BI | Planning | Predictive

Data-driven enterprise



Data-Driven Enterprise Analytics

Technology Platform

USAGE



Business User



Ad-Hoc data exploration



Powerful visualization



Intelligent augmentation



Business planning

QUALITY



Power User



Data Layers



Business Layers

AMOUNT



Data Engineer



Data Pipelines



Data Governance



Data Transformations



Thank you.

Mandar Paralkar
GVP, Life Sciences Industry Business Unit

SAP America

+1 610-662-4820
mandar.paralkar@sap.com



THE BEST RUN 



SAP® Information Collaboration Hub for Life Sciences



SAP® Information Collaboration Hub for Life Sciences is a cloud-based offering that allows pharmaceutical partners to exchange drug serialization information more securely and easily. It has been designed to help reduce drug counterfeiting by providing a network to exchange serialization data with supply chain business partners. The hub follows directives issued by governments worldwide on the serialization of drugs and the corresponding compliance reporting requirements.

How can SAP Information Collaboration Hub for Life Sciences help you change the game?

Today, life sciences companies are facing the menace of counterfeit pharmaceuticals and are challenged by governments worldwide to better control the production and distribution of drugs. Now, SAP customers can counteract this threat and correspond to legal regulations by exchanging serialization data with supply chain business partners for improved drug traceability, resulting in reduced drug counterfeiting.

What are the key features of SAP Information Collaboration Hub for Life Sciences?

- Enables pharmaceutical trading partners to exchange large amounts of serialization data securely, including data for commissioning, decommissioning, and other serialization events
- Allows manufacturers to integrate third parties much more quickly into serialization processes in an agile supply chain, improving drug traceability
- Helps manufacturers and other value chain entities report to government agencies, thus adhering to regulatory requirements within different serialization legislations
- Uses blockchain technology to provide a secure, reliable, and distributed network to enable verification routing within the information hub

What are the benefits?

SAP Information Collaboration Hub for Life Sciences enables pharmaceutical trading partners to effectively fight counterfeiting and help ensure compliance with governmental reporting requirements. Other benefits include:

- Reduced cost and risk of implementing required collaboration capabilities
- Operations in multiple countries to comply with regulations wherever trading partners do business
- Verification of the authenticity of medicine packages returned to wholesale distributors from hospitals and pharmacies, as required by the U.S. Drug Supply Chain Security Act
- Proof of drug origins and authenticity to prevent fraud, protect the value of branded pharmaceuticals, and improve patient safety
- Easier and faster exchange of large volumes of data and messages in different formats to meet quality and regulatory requirements

Customer

- ▶ [Boehringer Ingelheim](#)
Improved the traceability and authenticity of pharmaceuticals – safeguarding patient health

Why SAP?

Based on SAP's long-standing industry experience, SAP Information Collaboration Hub for Life Sciences uses SAP Integration Suite to exchange messages and can provide connectivity options, depending on business needs and technical requirements. Along with the industry cloud portfolio, SAP combines the power of SAP S/4HANA® and SAP Business Technology Platform with intelligent suite solutions to provide vertical capabilities that deliver real business value.



SAP® Compliant Batch Release is an advanced solution that addresses the specific needs of quality management for batch release, enhancing business operations thereby improving patient outcomes

How can SAP Compliant Batch Release help you change the game?

The solution provides users with tools to streamline and simplify the full batch release procedure, including improved safety of patients, reduction of product recalls, and faster batch releases. The reduction of review cycle times enables scalability through the full automation while retaining compliance

What are the key features of SAP Compliant Batch Release ?

- Accelerate the batch release process
- Enable review by exception
- Increase right first-time-rate
- Enable quality assurance for batch size-of-1
- Optimize Batch Release Operations
- Enable clinical and commercial batch release
- Reduce risk of product recall

What are the benefits?

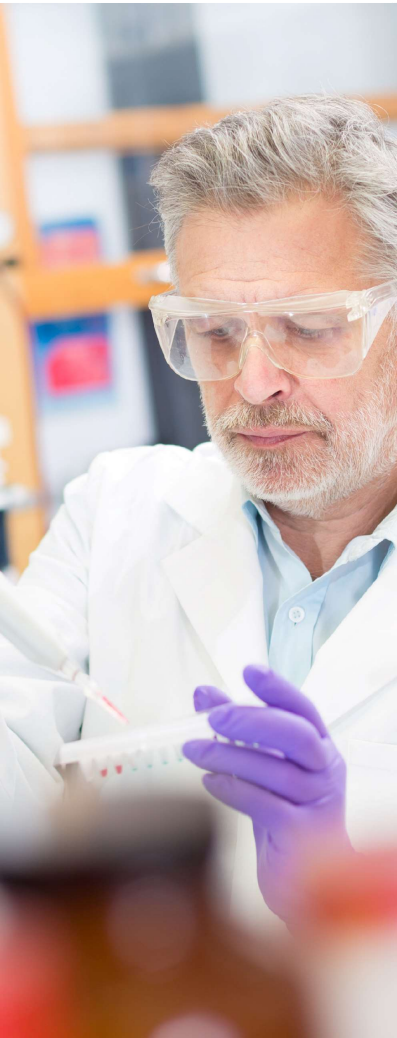
SAP Compliant Batch Release helps

- Achieve site level visibility and improve decision making by enabling automatic data synchronization
- Enable quicker and accurate batch release decision processes with greater compliance to quality requirements
- Allows quicker and flexible responses to future trends and new types of manufacturing with smaller batch sizes
- Provide overviews for the QA/QP in case of an audit to be able to show the decisions of the past were compliant

Why SAP?

Based on SAP's long-standing industry experience, SAP Compliant Batch Release extends the enablement of the Intelligent Enterprise by bringing software intelligence into the core process of batch release for pharmaceutical products.

SAP® Intelligent Clinical Supply Management



SAP® Intelligent Clinical Supply Management is an advanced solution that helps life sciences companies improve and automate the supply process for clinical trial materials and gain increased visibility into the status of supplies worldwide.

How can SAP Intelligent Clinical Supply Management help you change the game?

Today, life sciences companies are missing transparency into clinical supplies, which makes clinical trial supply management a challenge. Now, SAP customers can readily facilitate demand forecasting, manufacturing, packaging, labeling, and shipment of clinical trial materials, gaining competitive advantages through faster time to market.

What are the key features of SAP Intelligent Clinical Supply Management?

- Enables blinding and randomization for clinical trials
- Infuses clinical trial parameters as well as enrollment rates into the supply and demand planning processes
- Supports new types of clinical trials and medicines
- Provides full visibility into global supply status, enabling a supplier network for stakeholders in the clinical trials process
- Proactively avoids shortages or waste when enrollment is faster or slower than expected

What are the benefits?

SAP Intelligent Clinical Supply Management helps life sciences companies gain transparency and insights into the clinical supplies process from source to site. Other benefits include:

- **Fast cycle times:** Reduction in cycle times for the clinical trial supply chain, supporting quick adaptation to change
- **Improved accuracy:** Integrated processes to reduce errors and delays; accurate planning to reduce inventory excesses
- **Greater flexibility:** Quick and flexible responses to future trends and new types of clinical trials with more complex trial design, with scalable architecture that accommodates multiple clinical supply models in one system
- **Increased collaboration:** Stakeholders for clinical trial supply management being able to work together, from suppliers to life sciences companies to logistics providers to clinical sites
- **Improved efficiency:** Processes simplified and automated, eliminating manual processes, reducing complexity, and providing system guidance
- **Lower costs:** Total cost of ownership lowered by leveraging customers' existing SAP S/4HANA® software and faster implementation of new solution aspects

Why SAP?

Based on SAP's long-standing industry experience, SAP Intelligent Clinical Supply Management offers better visibility for inventory status during global clinical trials. Along with the industry cloud portfolio, SAP combines the power of SAP S/4HANA and SAP Business Technology Platform with intelligent suite solutions to provide vertical capabilities that deliver real business value.

Customer

- ▶ [Roche](#)
Shape the future of clinical supplies operations and harmonize clinical and commercial supply chain management systems.

SAP® Cell and Gene Therapy Orchestration



THE BEST RUN 



The **SAP® Cell and Gene Therapy Orchestration** solution helps life sciences companies organize, plan, and execute cell and gene therapy treatments. It covers the orchestration and integrity of the personalized therapy lifecycle and helps ensure that the right patients get the right treatments without errors.

How can SAP Cell and Gene Therapy Orchestration help you change the game?

Today, the market for cell and gene therapies is growing massively, and the demands for personalized therapies are rising. However, traditional supply chains do not apply to these innovative treatments. Integration with a multitude of stakeholders, time sensitivity, small batches made to order, and scalability are some of the key challenges for manufacturers. Now, SAP customers can meet those challenges by orchestrating supply chain execution and connecting business processes to create greater visibility and reduce cycle time and overall operational costs.

What are the key features of SAP Cell and Gene Therapy Orchestration?

- Track and link patient and product details with chain of identity and chain of custody
- Perform digital order management with configurable orchestration of the delivery process for different therapy modalities
- Manage shipment order lifecycle (courier booking, handovers, etc.)
- Allow confirmation of schedule and manufacturing slot
- Enable digital document exchanges and lifecycle, including labels

What are the benefits?

SAP Cell and Gene Therapy Orchestration helps companies to reduce the turnaround time of inventory while smoothly integrating comprehensive supply chain processes. Other benefits include:

- Reduced risk of quality noncompliance by enabling a chain of identity and chain of custody so that patients get the right medicine
- Reduced order fulfillment lead time by streamlining critical value stream management activities and business processes
- Reduced data integration costs by providing built-in integration events and interfaces with SAP ERP and open APIs to easily integrate with treatment center platforms and manufacturing organizations

Impact

10%–20%
Reduced risk of quality noncompliance (for greater patient safety)*

10%– 20%
Reduced data integration costs*

5%– 50%
Reduced order fulfillment lead time*

Why SAP?

Based on SAP's long-standing industry experience across the entire value chain of supply chain management – from planning, forecasting, and manufacturing to logistics – SAP Cell and Gene Therapy Orchestration extends the enablement of an intelligent enterprise by bringing software intelligence into the core processes of cell and gene therapy. Along with the industry cloud portfolio, SAP combines the power of SAP S/4HANA® and SAP Business Technology Platform with industry-leading solutions to provide vertical capabilities that deliver real business value.

Follow us



www.sap.com/contactsap

© 2022 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP SE or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP SE's or its affiliated companies' strategy and possible future developments, products, and/or platforms, directions, and functionality are all subject to change and may be changed by SAP SE or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, and they should not be relied upon in making purchasing decisions.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

See www.sap.com/copyright for additional trademark information and notices.

