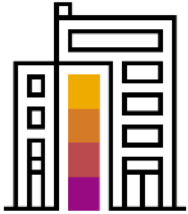


# SAP Innovation Awards 2021 Entry Pitch Deck

Safeguarding the US Drug Supply with SAP Advanced Track and Trace for Pharmaceuticals and SAP Information Collaboration Hub for Life Sciences

AmerisourceBergen

PUBLIC



## Company Information

<b>Headquarters</b>	AmerisourceBergen
<b>Industry</b>	Healthcare Distribution
<b>Web site</b>	<a href="http://www.amerisourcebergen.com">www.amerisourcebergen.com</a>

AmerisourceBergen, a leading global healthcare company, makes a positive impact on the health of people and communities around the world by advancing the development and delivery of pharmaceuticals and healthcare products. With a foundation in pharmaceutical distribution and solutions for manufacturers, pharmacies and providers, we create unparalleled access, efficiency and reliability for human and animal health. Our 22,000 global team members power our purpose: We are united in our responsibility to create healthier futures.

AmerisourceBergen has consistently been an early pioneer in adopting technology to increase efficiencies in the pharmaceutical supply chain. Select examples include:

- 1947 – The first to use computer punch cards to track inventory
- 1971 – Introduced the electronic transmission of purchase orders, reducing delivery time by 24 hours
- 1994 – Partnered with Apple Computer to launch AccuSource, a retail pharmacy electronic ordering system

# Safeguarding the US Drug Supply Chain

## AmerisourceBergen



**AmerisourceBergen designed its traceability solutions with future regulations in mind. This forward-thinking approach has not only allowed us to be DSCSA-compliant ahead of schedule, it also allowed us to be better prepared for any future regulations in the United States and across the globe.**

Jeff Denton | Vice President,  
Global Secure Supply Chain,  
at AmerisourceBergen

### Challenge

In 2013, the Drug Supply Chain Security Act (DSCSA) was passed to protect the safety and security of the supply chain, with implementation beginning in 2015. According to the World Health Organization, by 2017 the counterfeit drug market in developing countries grew to US\$30 billion and caused thousands of deaths. To protect the US market, the DSCSA required that drugs be traced for millions of daily shipments across thousands of companies.

### Solution

AmerisourceBergen worked with SAP and 12 other pharma partners to pursue the greenfield development of SAP Advanced Track and Trace for Pharmaceuticals to manage the drug supply chain at the batch and then the unit level. SAP and AmerisourceBergen also collaborated on the SAP Information Collaboration Hub for Life Sciences to meet the messaging regulations for AmerisourceBergen and its thousands of trading partners.

### Outcome

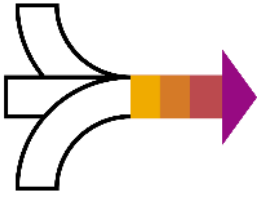
SAP Advanced Track and Trace for Pharmaceuticals now tracks the supply chain at the batch level for over 100 customers, with unit level tracing on target for 2023. 18 of the top 20 pharma companies and two US wholesalers, responsible for 65% of distribution volume, are all on SAP Advanced Track and Trace for Pharmaceuticals. 60 customers are on SAP Information Collaboration Hub for Life Sciences and are connected to 650 unique business partners with 250K messages sent daily.



**\$185B** Business continuity for \$185B pharma supply chain

**250K** Messages exchanged daily among hundreds of trading partners

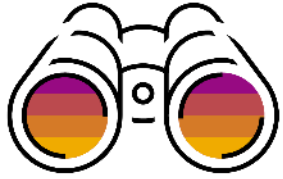
**14K** 14K employees protected from the burdens of new regulations



# Business Challenges and Objectives

- Compliance with the DSCSA required dramatic changes in supply chain management. These challenges included new labeling, bar codes, and other data elements.
- Units have to be tracked at the individual level by 2023 using standardized and unique serial numbers imbedded in 2D Data Matrix labels. AmerisourceBergen processes and ships products on up to 3.3 million pharmacy order lines each day.
- AmerisourceBergen had multiple ERP and WMS systems that needed to interoperate with the solution to ensure adequate supply chain visibility.
- Information had to be shared instantly among thousands of trading partners.
- 58 thousand unique units of drugs, worth US\$2.5 billion, are returned each year. These returned drugs are normally re-saleable in the US but would be at risk under the new regulations.

- Preclude the potential of US\$ billions in counterfeit drugs causing thousands of deaths in the US.
- Track shipments from manufacturer to customer by batch in 2015 and by unit in 2023.
- Interoperability among thousands of trading partners with GS1 standards.
- Meet the regulatory requirements for each year of the DSCSA timeline from 2015 to 2023.



## Project or Use Case Details

---

Counterfeit or contaminated drugs are a threat to health and safety. In 2008, contaminated Heparin with an ingredient sourced from China caused the deaths of over 80 people. In 2012, counterfeit versions of a cancer drug from a foreign supplier, which didn't contain the required ingredient, were purchased by 19 medical practices in the U.S. The DSCSA was put in place to track and trace prescription drugs at the unit level across every stage of the US supply chain. Requirements and use cases addressed by SAP Information Collaboration Hub for Life Sciences and SAP Advanced Track and Trace for Pharmaceuticals include:

- Lot level product tracing in 2015 so that the entire history of a lot can be traced when needed
- Trading partner authorization so that any member of the supply chain is validated as an authorized partner
- New product labeling with unique identifiers
- Transactions blocking in the supply chain unless the product is encoded properly
- Notification among trading partners and the FDA of suspected counterfeit or contaminated products
- The ability to identify and quarantine illegitimate products across the supply chain
- Unit level product tracing by 2023



# Benefits and Outcomes

## Business or Social

- Meeting the regulations in time was critical for maintaining business continuity for the US\$185B annual US drug supply chain managed by AmerisourceBergen.
- AmerisourceBergen has about US\$2.5B in returns annually that are re-saleable. SAP Advanced Track and Trace for Pharmaceuticals makes it possible to track these returns, including product verification back to the manufacture, in accordance with the new regulations.

## IT (optional)

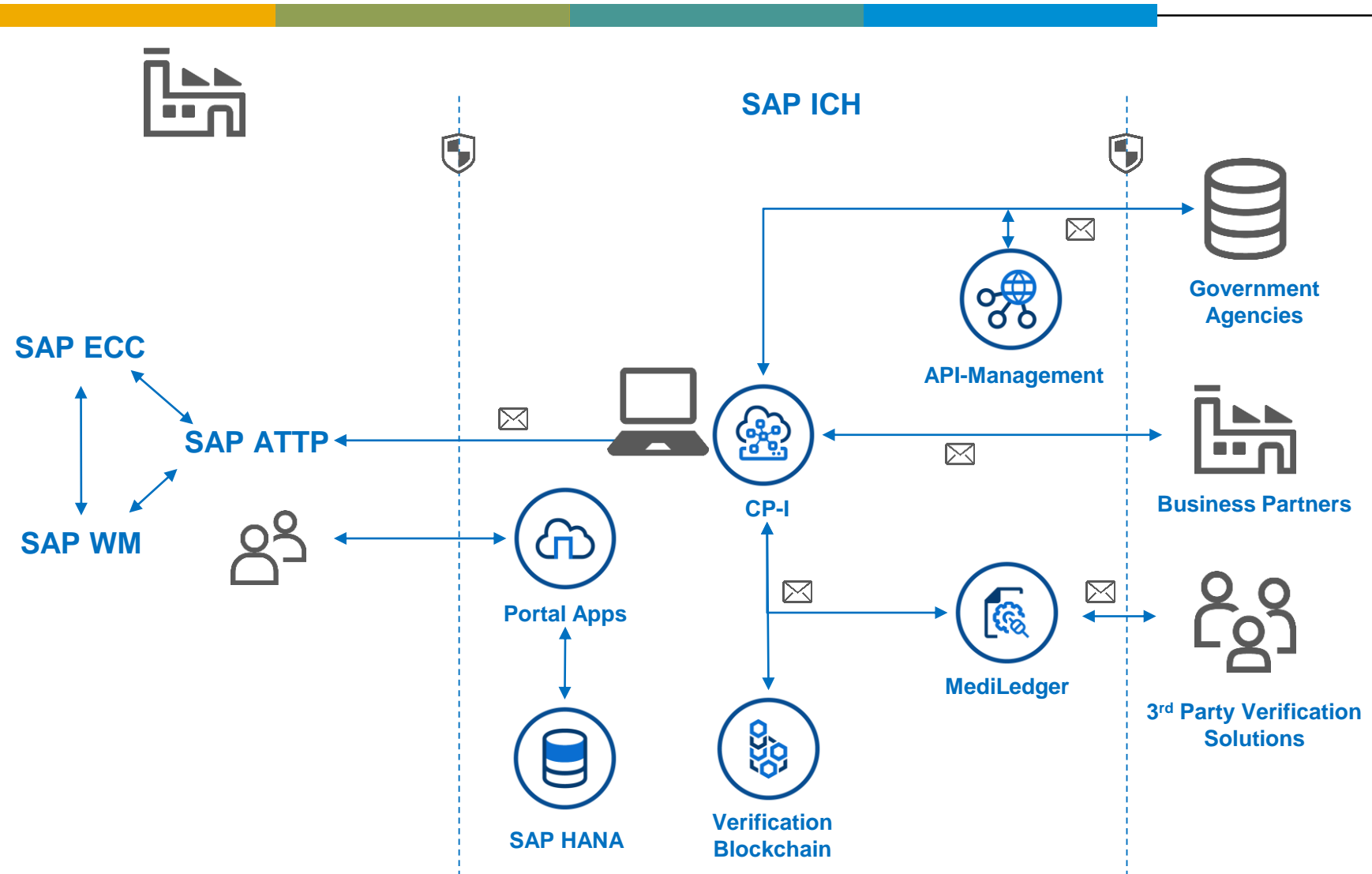
- Over 100 customers and growing are using SAP Advanced Track and Trace for Pharmaceuticals.
- 60 customers on SAP Information Collaboration Hub for Life Sciences, representing 80% of the volume, are connected to 650 unique business partners.
- Approximately 250K messages are exchanged per day on SAP Information Collaboration Hub for Life Sciences.

## Human Empowerment

- The company was already highly efficient across its distribution centers, but it needed to maintain that efficiency despite the additional regulations.
- The regulations required moving from scanning lots to tracking units. The solution was deployed so that 14,000 employees across the distribution centers were neither impacted nor burdened by the new regulations.



# Architecture





# Deployment

**Deployment status** Live

**Date** July 2017

**Number of users** 100s of trading partners

## SAP® technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Advanced Track and Trace for Pharmaceuticals	Live July 2017	Backend repository to manage serialization and tracing Information
2	SAP Information Collaboration Hub for Life Sciences	Live July 2017	Secure messaging platform for 1000s of trading partners. Verification platform
3	SAP HANA	Live July 2017	Real-time in-memory database used inside SAP ICH
4	SAP ERP Central Component	Live 2012	System to manage order lifecycle

If you have used one or more of the services or support offerings from SAP Services and Support during the implementation or deployment phase, please indicate which one(s) below with an

SAP MaxAttention™

SAP ActiveAttention™

SAP Advanced Deployment

SAP Value Assurance

SAP Model Company

Others:

SAP Innovation Services

SAP Innovative Business Solutions





# Advanced Technologies (1 of 2)

The following **advanced technologies** were part of the project.

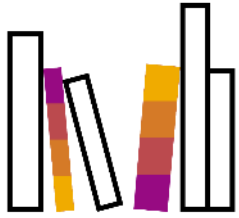
Technology or use case	Product used*	Contribution to project and how product used integrates with SAP products
<b>1 Machine learning or artificial intelligence</b> Robotic process automation, conversational AI, AI-based knowledge graph		
<b>2 Intelligent data management</b> Multi-cloud, data virtualization and governance, smart data tiering, persistent memory, data privacy		
<b>3 Advanced and augmented analytics</b> <ul style="list-style-type: none"><li>• Real-time and streaming analytics, spatial analytics</li><li>• Natural language query and generation</li><li>• AutoML to identify trends, patterns, outliers</li><li>• Predictive analytics (time series analysis and forecasting, regression, classification)</li></ul>		
<b>4 Data and analytics solutions in the cloud</b> <ul style="list-style-type: none"><li>• Unified data and analytics cloud platforms by SAP</li><li>• Modern/self-service data to analytics</li></ul>		



## Advanced Technologies (2 of 2)

The following **advanced technologies** were part of the project.

Technology or use case	Product used*	Contribution to project and how product used integrates with SAP products
<b>5 Advanced cloud integration</b> <ul style="list-style-type: none"><li>• API economy (monetization and API marketplaces)</li><li>• AI-based or crowdsourced integration</li><li>• High throughput, low-latency digital integration hub</li></ul>		
<b>6 Industry cloud platform</b>		
<b>7 Blockchain</b>	SAP Information Collaboration Hub	Blockchain is part of SAP Information Collaboration Hub and used for verification.
<b>8 Internet of Things</b>		
<b>9 3D printing</b>		



## Additional Information

---

[AmerisourceBergen Video Sapphire Now](#)

[Business Transformation Study](#)

[Blog: Three Ways Drug Wholesaler AmerisourceBergen Overcame Disruption Through Innovation](#)