Dr. Reddy's

# Dr. Reddy's Automation in Pharma Manufacturing

PARA TECH
WEBINAR
SPEAKER
imprint™
Automation India

**Download**

K. Kulbhushan began his career with General Electric (GE), where he earned his Master Black Belt in Lean Six Sigma and led global operational excellence from 1996 to 2003. He then headed supply-chain and business-excellence roles at Jubilant Life Sciences, served as SVP & Global Head at Max Life Insurance, and later led Operations Excellence at Sun Pharma (2017–2018). Since August 2018, he has been with Dr. Reddy's Laboratories as Global Head & VP – Operations Strategy, Excellence and Digital. He further enhanced his strategic leadership through the Global Advanced Management Program at Kellogg School of Management, Northwestern University. K. Kulbhushan is a visionary leader in pharmaceutical operations, steering global transformation as Head of Operations Strategy, Excellence & Digital at Dr. Reddy's. With over two decades of experience, he has driven major initiatives including

Lean Manufacturing Excellence: Pioneering lean practices across Dr. Reddy's global plants to streamline workflows, bolster compliance, and enhance quality control.

Digital Transformation Champion: Led adoption of AI, machine learning, and digital twin simulations, modernizing manufacturing and supply-chain systems for increased resilience and compliance.

Quality Leadership: Recognized as one of India's Top 50 Quality Professionals, underscoring his unwavering commitment to operational excellence.

Awards & Accolades: His strategic direction contributed to Dr. Reddy's winning the Express Pharma Excellence Award 2025 and multiple accolades in Operational and Manufacturing Productivity
Excellence.

Industry Thought Leader: A sought-after speaker at premier events like FlyPharma Europe, Pharma Manufacturing & Automation Conventions, and the Future of Manufacturing Summit, where he discusses lean automation, Industry 5.0, and evidence-based process innovation. He is also part of the Elite Jury for the Future of Manufacturing Awards 2025.

Strategic Outlook: Kulbhushan emphasizes critical thinking and data-driven decision-making as essential tools to reduce waste, improve cost efficiency, and accelerate speed to market.





K. Kulbhushan
Global Head & Vice President – Operations Strategy, Excellence & Digital
Dr. Reddy's Laboratories

Manufacturing Automation

# MES-DCS Integra on for Life Sciences

## Seamless Control, Compliance & Efficiency with Rockwell Automa on

In pharmaceutical and biotech manufacturing, the need for precision, traceability, and compliance is paramount. Rockwell Automation addresses these demands with a purpose-built integration of its **PharmaSuite MES** and modern **Distributed Control Systems (DCS)**—empowering manufacturers with a unified digital thread from recipe execution to process control.

### Why It Matters

In traditional setups, MES and DCS operate in silos, requiring manual data transfers, duplicate entries, and increasing the risk of transcription errors. This slows down batch release and exposes plants to compliance risks under global regulations like **21 CFR Part 11.**

### What Rockwell Delivers

- **Bi-direc onal Data Flow**: Automates parameter exchange between MES & DCS
- **Electronic Batch Records (EBR)**: Generated in real-me, reducing documenta on lag
- **Devia on Detec on**: Alerts operators instantly across both systems
- **Built-in Compliance**: Validated templates and audit trails ready for FDA/EMA requirements
- **Scalable Architecture**: Adapts to con nuous or batch processes with ease

**Rockwell Automa on's PharmaSuite MES and modern DCS form a proven platform for compliant, efficient, and future-ready life sciences operations.**

With **MES-DCS integration,** life sciences manufacturers can accelerate batch release, enhance data integrity, reduce manual interventions, and stay audit-ready—while building a foundation for **realtime release testing** and **digital manufacturing maturity.**

Unlocking Industrial Intelligence with AVEVA™ PI System

# Empowering Opera onal Agility Through Real-Time Data Infrastructure

In today's competitive industrial environment, the ability to transform raw operational data into realtime insights has become essential. The AVEVA™ PI System stands at the forefront of this transformation, serving as a powerful data infrastructure that connects the entire enterprise—edge to cloud. Trusted globally across sectors like pharmaceuticals, power, oil & gas, and manufacturing, it enables seamless data collection, contextualization, and visualization to drive smarter, faster decisions.





What sets the PI System apart is its ability to unify disparate data sources across complex facilities. It securely collects high-frequency data from SCADA systems, PLCs, sensors, and IoT devices, and archives decades of high-fidelity time-series data without loss of granularity. This data is not just stored—it is contextualized using AVEVA's Asset Framework, which links process values to physical assets like pumps, reactors, or production lines. This turns raw values into actionable intelligence.

The system's built-in visualiza on layer, AVEVA PI Vision, empowers users to build dynamic dashboards that reflect the real-me status of opera ons. For deeper analysis, PI DataLink integrates this data directly into Microso Excel, offering engineers, analysts, and managers a familiar pla orm to extract performance trends, monitor KPIs, and make data-driven opera onal adjustments.

In regulated industries, maintaining traceability and auditability is cri cal. The AVEVA PI System provides secure data logs, complete audit trails, and supports compliance with standards such as FDA 21 CFR Part 11, ensuring confidence in every decision made. Its architecture is designed to scale—from single-site deployments to enterprise-wide rollouts—and supports hybrid cloud configura ons, aligning with the digital transforma on goals of forward-looking organizations.

With growing demand for real-me visibility, predic ve maintenance, and energy opmiza on, the AVEVA PI System offers a strategic advantage. It not only streamlines plant opera ons but also provides the founda on for advanced analy cs, sustainability tracking, and future-ready industrial performance.

IT and Data Infrastructure Automation

# Kyndryl partners with Dr. Reddy's Laboratries to implement advanced IT solutions

## Transforming Pharma IT: Dr. Reddy's & Kyndryl Join Forces

A Strategic Leap Toward Zero Touch Operations

In a bold stride toward enterprise-wide digital transformation, Dr. Reddy's Laboratories has partnered with Kyndryl, a global leader in mission-critical IT services, to modernize and automate its entire IT operations landscape. This strategic initiative spans the pharma giant's global manufacturing sites, offices, data centers, and cloud infrastructure—marking a decisive shitf toward intelligent, autonomous operations. At the heart of this transformation lies Kyndryl Bridge, an AI-powered integration pla orm that will serve as the digital backbone for Dr. Reddy's operations. The plaform is set to deliver predictive insights, enable self-healing and auto-remediation capabilities, and offer unified visibility through a single-pane dashboard. More than a monitoring tool, Kyndryl Bridge aims to evolve the company's IT from reac ve service delivery to a resilient, insight-driven ecosystem.

A key ambition of the partnership is to implement a Zero Touch IT Operations model, dras cally reducing manual interventions by up to 60%. Using Kyndryl's Dual Model IT Ops framework, the focus shi s from fixing incidents to permanently resolving root causes—ensuring not just continuity, but excellence. The transformation will not only enhance service performance and risk management, but also bring new levels of compliance automation, a crucial requirement in pharma's highly regulated environment.

This partnership reflects a broader trend in India's life sciences sector: a move from legacy IT systems toward agile, predictive, and automated digital infrastructure. As Lingraju Sawkar, President of Kyndryl India, aptly states, "By leveraging the expansive predictive capabili es of Kyndryl Bridge, we can identify issues and solve them to support Dr. Reddy's commitment to leverage technology to provide pa ents with access to innovative and affordable medicines." The collaboration marks a new chapter in IT-driven pharma innovation—where technology does not just support operations but defines them.

# Dr. Reddy's Laboratories: Pioneering AI-Driven Data Transforma on with Informatica

In the rapidly evolving pharmaceu cal landscape, Dr. Reddy's Laboratories has embarked on a transforma ve journey to harness the power of data and ar ficial intelligence (AI). Recognizing the imperative for agile and trustworthy data management, the company has integrated Informatica's Intelligent Data Management Cloud (IDMC) to revolu onize its data infrastructure.

Facing challenges such as increasing regulatory demands, the rise of digital therapeutics, and the need for personalized medicine, Dr. Reddy's sought a solution to streamline data governance and quality. With IDMC, the company has achieved a 50% reduc on in data pipeline development me, delivering 5,000 records per second for AI applications, and surpassing a 95% benchmark in AI data quality.

A key aspect of this transformation is the empowerment of over 300 data stewards across the organiza on. Through tailored e-learning modules, these stewards have been equipped to manage data quality effec vely, fostering a culture of data accountability.

The integra on of IDMC has also enabled Dr. Reddy's to accelerate its research and development processes. For instance, the company can now process information on over two billion compounds in under five min-utes—a task that previously took months.

Anish Agarwal, Senior Vice President and Global Head of Data and Analy cs at Dr. Reddy's, emphasizes the significance of this shi : "The pharmaceu cal industry is undergoing a massive shift . We needed to reassess our data strategy to ensure that we aggregate and provision the right data to our teams, who in turn can trust and analyze the data to drive the right outcomes." By leveraging Informa ca's IDMC, Dr. Reddy's Laboratories is not only enhancing its opera onal efficiency but also reinforcing its commitment to delivering innova ve and affordable medicines to patients worldwide.

**Sterile Manufacturing Automation**

# Embracing Automation in Steile Manufactuing

## Insights from Dr. Reddy's Laboratories

In the evolving landscape of pharmaceutical manufacturing, automation has become a pivotal element, particularly in sterile operations. Krishna Venkatesh, Global Head of Sterile Operations at Dr. Reddy's Laboratories, underscores the industry's shift towards integrating automation, data analytics, and artificial intelligence to enhance efficiency and product quality.

Venkatesh highlights the importance of end-to-end connectivity, enabling seamless information flow from manufacturing to the end custom-er. This integration not only improves timeliness and cost effectiveness but also ensures the delivery of high-quality products. The adop on of track and trace technologies is also emphasized to combat counterfeiting and ensure product authenticity throughout the supply chain.





**Krishna Venkatesh**

Addressing cost reduction, Venkatesh points out that leveraging data analytics and AI can identify inefficien-cies and areas of waste, allowing for targeted improvements. He notes that organizing data meaningfully enables algorithms to suggest solutions that bring significant value, thus reducing manufacturing time and minimizing waste.

However, challenges persist, particularly in data management. Venkatesh notes that a significant portion of time in data analytics is spent on cleaning data, which is inefficient. He advocates for a concurrent approach to data acquisition and analytics, emphasizing the need for good quality data that requires minimal procesing.

The article also touches upon supply chain disruptions, particularly in obtaining primary packaging materials and sterile filters, which have been exacerbated post-pandemic. Venkatesh stresses the need for predictive maintenance and robust automation systems to mitigate such challenges.

In conclusion, the integration of automation and digital technologies in sterile man-ufacturing is not just a trend but a necessity for achieving operational excellence and ensuring product integrity in the pharmaceutical industry.

**Warehouse and Material Handling Automation**

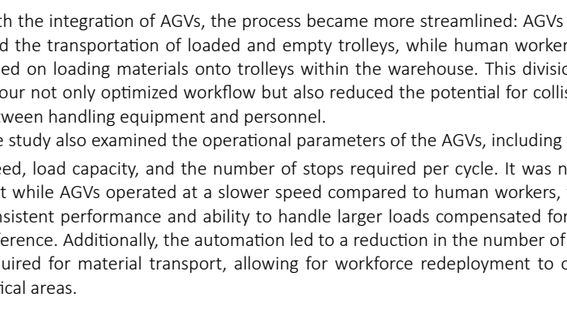
# Enhancing Warehouse Efficiency with Automated Guided Vehicles

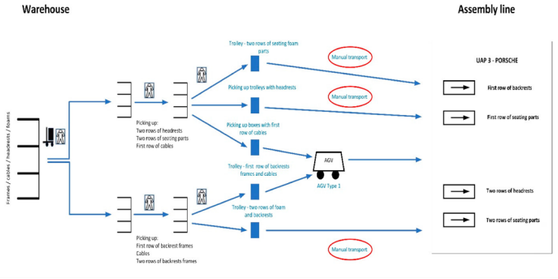
## Insights from Recent Research on AGV Implementa on

In the pursuit of operational excellence, warehouses are increasingly turning to automation to streamline processes and enhance safety. A recent study published in Sensors (2024) delves into the practical implementation of Automated Guided Vehicles (AGVs) within a warehouse setting, highlighting their impact on efficiency and human-machine interaction.

The research outlines a scenario where AGVs were introduced to transport materials between a warehouse and an assembly line. Prior to automation, this task required manual labor, in-volving multiple workers and various types of trolleys.

With the integration of AGVs, the process became more streamlined: AGVs han-dled the transportation of loaded and empty trolleys, while human workers fo-cused on loading materials onto trolleys within the warehouse. This division of labour not only optimized workflow but also reduced the potential for collisions between handling equipment and personnel.
The study also examined the operational parameters of the AGVs, including their speed, load capacity, and the number of stops required per cycle. It was noted that while AGVs operated at a slower speed compared to human workers, their consistent performance and ability to handle larger loads compensated for this difference. Additionally, the automation led to a reduction in the number of staff required for material transport, allowing for workforce redeployment to other critical areas.




Overall, the implementation of AGVs demonstrated sig-nificant improvements in warehouse operations, including enhanced efficiency, better utilization of human resources, and increased safety.
This case study serves as a compelling example for organi-zations considering the adoption of automation technolo-gies in their logistics and manufacturing processes.