



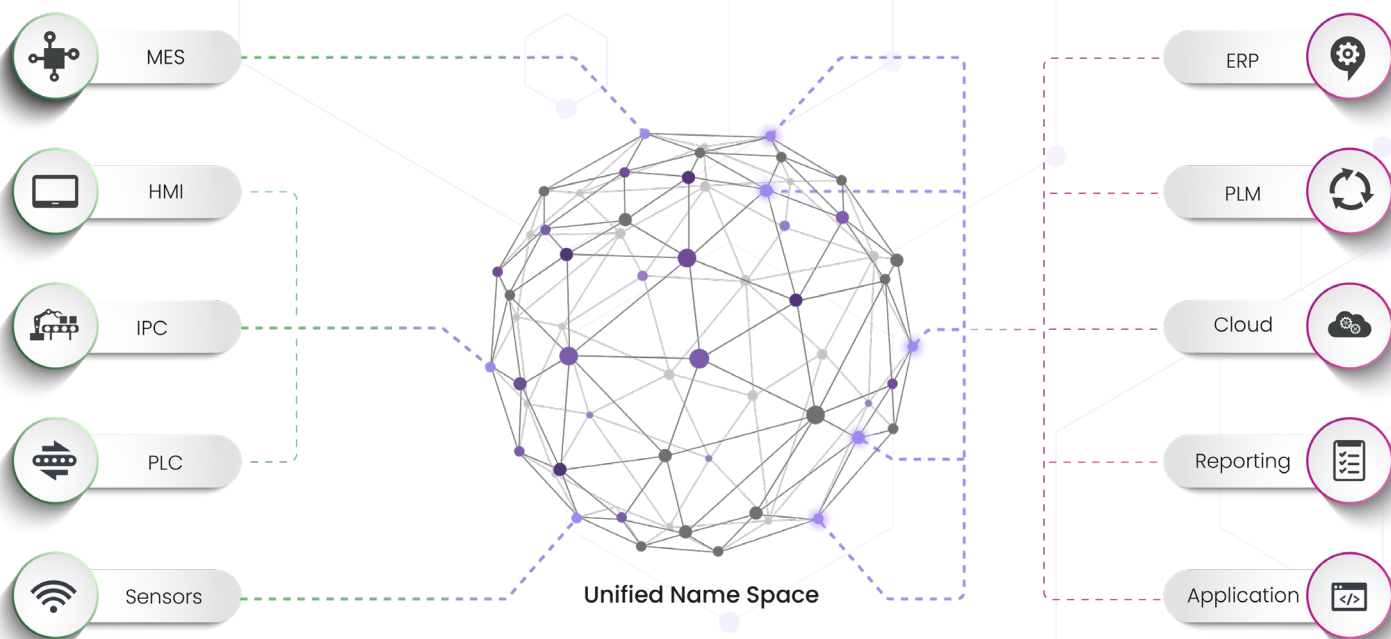
Case Study
Pharmaceuticals

Revolutionizing Pharmaceutical Manufacturing with Industry 4.0: How UNS Deployment Saved Time, Cut Costs, and Transformed Operations

A Global Pharmaceutical Group with an annual turnover of €3.2 billion and one of the largest generic pharmaceutical companies in the world operating in 34 markets worldwide. A global roll out across 14 sites of the Unified Namespace dedicated to their digital transformation.

Introduction

In the fast-paced world of pharmaceutical manufacturing, Gallarus Industry Solutions emerged as a game-changer by deploying the Unified Namespace (UNS) ecosystem. With its transformative power, the UNS connected disparate systems and assets, with real-time data and unlocking a world of possibilities to the customer – one of the largest contract manufacturers in the world with a 3.2 billion turnover. Let's delve into how this cutting-edge solution sparked unprecedented results for a top-tier pharmaceutical company.



Accelerating Digital Transformation

Within a mere 11 weeks, Gallarus Industry Solutions accomplished what would have taken an Industry 3.0 approach an estimated two years. A lean team of just three engineers and one project manager expertly orchestrated a low-code to no-code implementation on legacy assets, effectively shattering conventional barriers. The project timeline encompassed every phase, from concept architecture to full validation, ensuring a seamless transition into the new era of manufacturing.

Results That Speak Volumes

Real-Time Insights at Your Fingertips: A custom user interface, specially designed for desktop and mobile, empowered everyone from operations to management with unparalleled visibility into operations. Accessible anytime, anywhere, this intuitive interface became the go-to resource for informed decision-making.

Unleashing the Power of Data: The implementation of a Historian solution opened the floodgates to real-time machine data and historical analytics, complete with comprehensive trends and charts. Previously elusive insights were now at hand, empowering proactive decision-making and enhancing operational efficiency.

Seamless Data Distribution: Nucleus 4.0 UNS seamlessly distributed valuable data to other applications, ensuring smooth collaboration across the organization. This interconnected ecosystem eliminated data silos and facilitated holistic insights for comprehensive analysis.

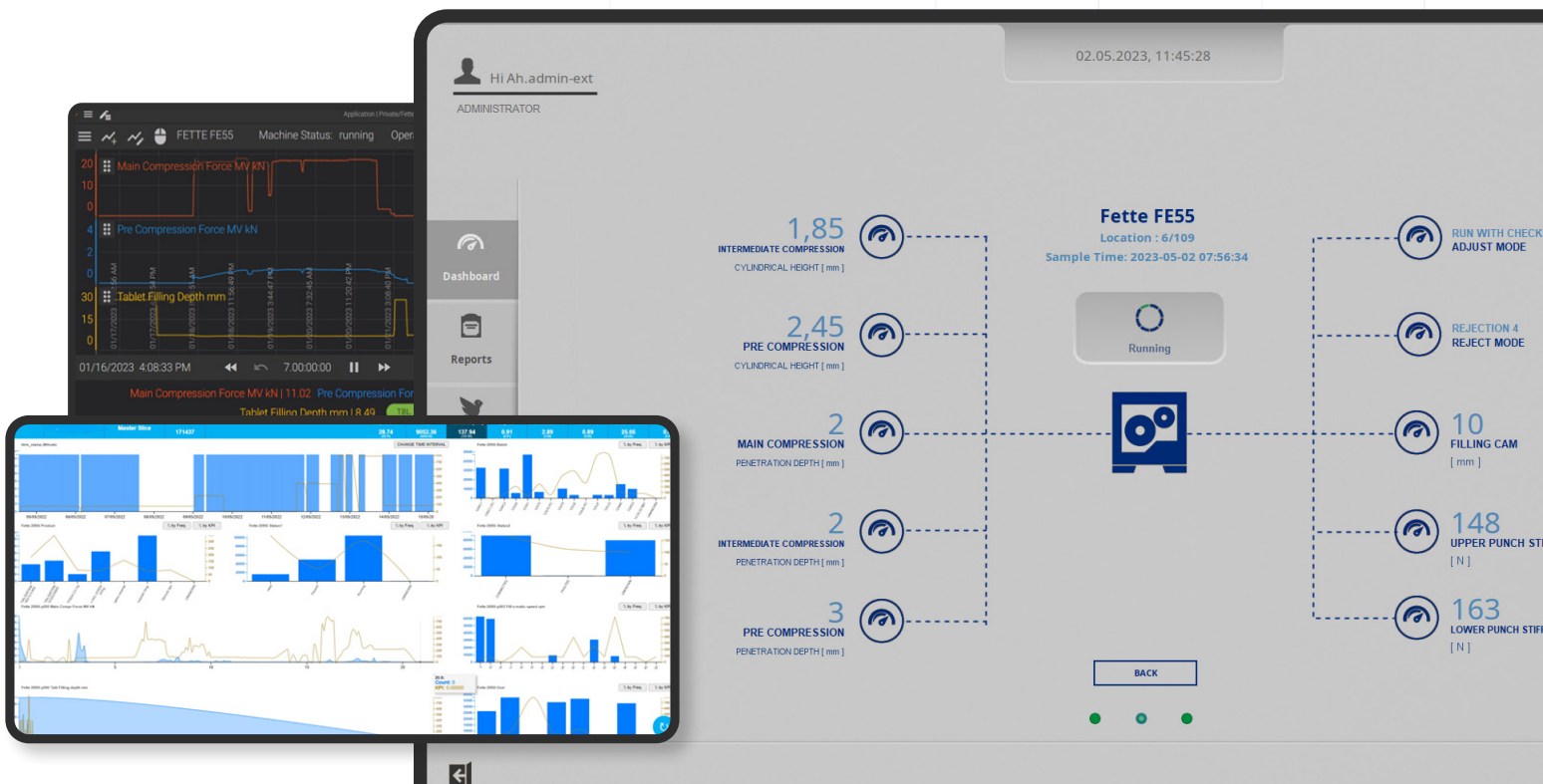
Instant Alerts for Optimal Performance: With alarm notifications integrated into every machine, potential issues were detected and addressed promptly. Proactive maintenance and rapid response mechanisms safeguarded operations, preventing costly downtime and maximizing productivity.

Streamlined Quality Control: Electronic Batch Records became easily accessible, facilitating efficient review processes. Quality control procedures were streamlined, ensuring compliance with industry regulations while minimizing errors and delays.

Empowered User Management: Integration with Active Directory, with 21CFR11 compliance, simplified user management. Role-based access control ensured data security while granting the right stakeholders the necessary permissions to drive productivity and collaboration.

Centralized Data Collection: By serving as a centralized source for data collection across the entire site, UNS eliminated data fragmentation. This holistic approach enabled comprehensive analysis, identifying trends, patterns, and areas for further optimization.

Pioneering Machine Learning: The UNS implementation paved the way for machine learning applications with access to true contextualised data, enabling advanced analytics and unlocking the potential for future cost savings. With numerous machine learning use cases on the horizon, the organization continues to explore new frontiers of operational excellence.



Summary

The UNS implementation left a profound impact, delivering extraordinary results that far exceeded expectations. Rollouts have continued globally across the next number of sites for this customer. The condensed timeline and efficient utilization of resources yielded excellent savings, underscoring its dominance over traditional Industry 3.0 approaches.

Testimonial



Global Head of Engineering

"We are delighted with the results from the UNS deployment across the site. We now have a centralised source of data for data collection. Real time data continuous collection and storage to complete CAPA for ongoing process verification. Snowflake & SAP4Hana are plugged into the UNS to subscribe to data over Web API. We now also have the ability to connect to other external systems including SAP BW, LIMS LabWare, eQMS, eDMS, Sartorius Scales and PAT. We calculated that the data collection savings on 12 machines over the course of 1 year had an ROI of 46.5%. Full return on investment in the project was under 2 years. Other savings are planned with several machine learning use cases to come. A project of this scale would have taken us 2 years to complete whereas implementing the UNS took only 11 weeks."

New Horizons

As the journey unfolds, exciting possibilities emerge on the horizon. Future encompass connecting batches, and data for QC charts, leveraging the full potential of Historian Canary (axiom) functionality. Additionally, exploring the impact of Critical Process Parameters (CPP) on values versus production schedule promises further optimization opportunities. Further use cases for machine learning will help to provide large savings.

Conclusion – Pharma 4.0

The success story of UNS deployment at this pharmaceutical company exemplifies the power of Industry 4.0, the Unified Namespace and Gallarus Industry Solutions' innovative approach. With unparalleled speed, cost savings, and transformative results, this ground-breaking initiative has set the stage for a new era of pharmaceutical manufacturing – Pharma 4.0. As the company scales its digital transformation journey, the UNS ecosystem continues to unlock untapped potential and shape the future of the industry.

Hi Ah.admin-ext
ADMINISTRATOR

02.05.2023, 11:45:28

Dashboard

Reports

Trends

Alarms

Users / Audit

1,85
INTERMEDIATE COMPRESSION
CYLINDRICAL HEIGHT [mm]

2,45
PRE COMPRESSION
CYLINDRICAL HEIGHT [mm]

2
MAIN COMPRESSION
PENETRATION DEPTH [mm]

2
INTERMEDIATE COMPRESSION
PENETRATION DEPTH [mm]

3
PRE COMPRESSION
PENETRATION DEPTH [mm]

Fette FE55
Location : 6/109
Sample Time: 2023-05-02 07:56:34

Running

BACK

RUN WITH CHECKMASTER
ADJUST MODE

REJECTION 4
REJECT MODE

10
FILLING CAM
[mm]

148
UPPER PUNCH STIFFNESS
[N]

163
LOWER PUNCH STIFFNESS
[N]

Hi Ah.admin-ext
ADMINISTRATOR

02.05.2023, 11:34:56

GRANULATION **TABLETING** ENCAPSULATION IN-PROCESS

Dashboard

Reports

Trends

Alarms

Users / Audit

Fette 1200i_II	80.000 TabletsPerHour [Tablets / h]	303.000 GoodProd [Tablets]	Reisetabletten ProductName	13TCL BatchNumber	MORE INFO
Fette 1200i_III	80.000 TabletsPerHour [Tablets / h]	204.000 GoodProd [Tablets]	Torasimid 20 mg ProductName	13SXL BatchNumber	MORE INFO
Fette FE55	300.000 TabletsPerHour [Tablets / h]	1.081.000 GoodProd [Tablets]	Nebivolol (AUSUN) 5mg ProductName	13T2J BatchNumber	MORE INFO
Fette 2090i	0 TabletsPerHour [Tablets / h]	1.871.000 GoodProd [Tablets]	Metoprolol Snap 60 mg ProductName	13T2W BatchNumber	MORE INFO

Logout

Hi Admin

30.03.2023, 13:54:38

Dashboard

Reports

Trends

Alarms

Users / Audit

Logout

Filter Machine	Active Time	Label	Display Path	Current State	Priority
Bad Vibes	28.03.23, 10:59	attention: stop function deactivated	Fette 2090i Alarm_5000 /Machine	Active, Unacknowledged	Medium
Encapsulation	28.03.23, 15:12	error in rejection system, check good production	Fette 2090i Alarm_4422/Station2	Active, Unacknowledged	Medium
Bosch GKF1	28.03.23, 15:12	rejection not working	Fette 2090i Alarm_4402/Station2	Active, Unacknowledged	Medium
Bosch GKF2	30.03.23, 12:04	level control reached	Fette 2090i Alarm_5006/Station2	Active, Unacknowledged	Medium
Granulation	30.03.23, 12:58	check extraction vacuum	Fette 2090i Alarm_5158 /Machine	Active, Unacknowledged	Medium
In-Process					
Tableting					
Fette 1200i_II					
Fette 1200i_III					
Fette 2090i					
Fette FE55					

Acknowledge Shelve

