Sustainable Manufacturing

Smart Energy

April 2023

Camelot ITLab
Innovative Technologies Lab

Five key elements to establish Smart Factory in your organization

Operating Model
Align value creation in factory with customer

Enabling use Cases
Camelot & SAP Digital Apps

Foundation
Scalable technology stack that deliver standards and capabilities

Cross-functional Teams
Drive initiative & ensure end-to-end supply chain view

Change Management & Communication
Upskill & embrace new way of working

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Smart Factory Benefits

REVENUE

Increase in customer satisfaction
Improved order fulfillment and on-time shipments.

Incremental revenue opportunities
Real-time visibility to on-hand inventory.

Reduction of manufacturing cycle times
Real-time visibility to orders and exceptions

OPERATIONS

Less defects, re-work and short runs
Six Sigma compliance.

Reduced exception handling costs
Faster automated resolution of exceptions

Sustainable Manufacturing
Clean manufacturing to conserve energy and natural resources

WORKING CAPITAL

Reduction of raw material inventory
Accurate inventory visibility and exception-based management

Optimized finished goods inventory
Realtime inventory visibility.

Less production cost variances
Real-time analytics to measure actual vs. budgeted production costs

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Digital Manufacturing Value Proposition

IMPLEMENTATION SERVICES

▶ SAP Digital Manufacturing suite implementation services for SAP DMC, SAP MII, SAP Pco

▶ Process and application consulting

▶ Solution Implementation

INNOVATION SERVICES

▶ Smart Factory use case portfolio which includes deciated industry specific use cased which can be realized for our joint customers

▶ Sustainable Manufacturing application extending SAP DMC and built on SAP BTP

SCRC SERVICES

▶ Application Management Services

▶ Improvement of processes

▶ Knowledge transfer

▶ Train the trainer Workshop

▶ End-user training

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Camelot Smart Factory Service Portfolio

Plant Maintenance

Predictive Quality

Electronic Shift Book

Robot Palletization

Alerts

Autonomous Maintenance

Overall Equipment Effectiveness

Cloud
▸ SAP Digital Manufacturing Cloud for Insights (DMCi)
▸ SAP Digital Manufacturing Cloud for Execution (DMCe)
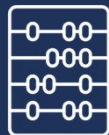
On-Premise
▸ SAP Manufacturing Integration and Intelligence (MII)
▸ SAP Manufacturing Execution (ME)
▸ SAP Plant Connectivity (PCo)

Smart Energy

Production Execution

Track & Trace

Manufacturing Performance

Product Quality

Process Optimization

Product Networks

Camelot Smart Factory Service Portfolio

Plant Maintenance	Predictive Quality	Electronic Shift Book	Robot Palletization	Alerts	Autonomous Maintenance

Overall Equipment Effectiveness

Cloud
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On-Premise
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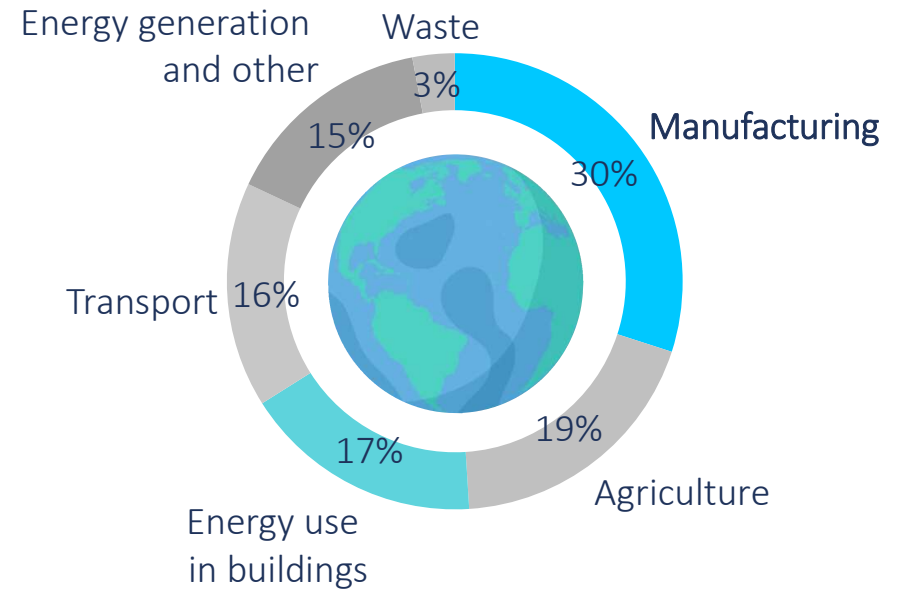| Production Execution	Track & Trace	Manufacturing Performance	Product Quality	Process Optimization	Product Networks

SUSTAINABILITY IS NOT A CHOICE - IT'S A RESPONSIBILITY

## Manufacturing is at the center of attention of global efforts for more sustainability

Manufacturing accounts for 30% of global CO_2 emissions; it is the greatest lever to achieve sustainability

Total emissions: 50 bn to (2019)

Energy generation and other
Waste
3%
15%
Manufacturing
30%
Transport 16%
17%
19%
Energy use in buildings
Agriculture

LET'S TAKE ACTION TOGETHER

Manufacturing Industries have been known to implement sustainability in their production processes in multiple forms like conducting an Environmental Impact Assessment, resorting to Lean Manufacturing, investing in Sustainable Technology or even implementing an in-depth Monitoring Technology to make sure wastage is minimized and sustainability goals are achieved.
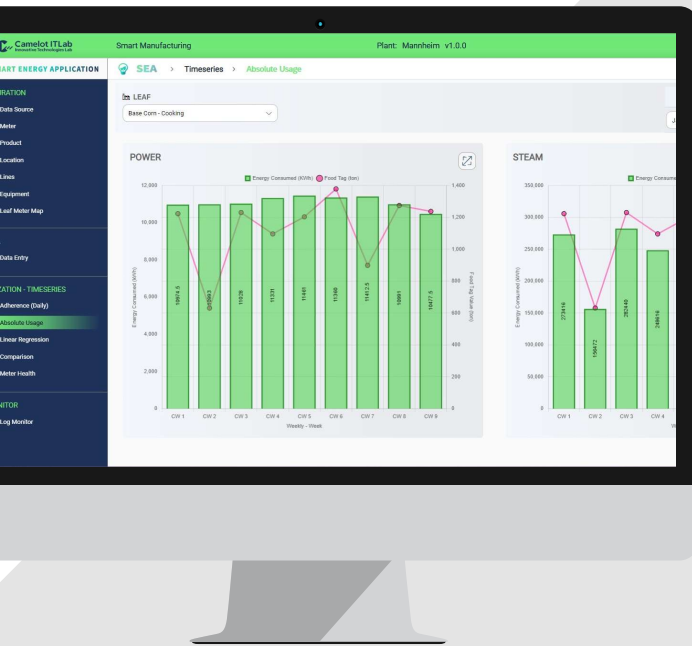
SMART ENERGY APPLICATION

MONITORING AND REPORTING
Analysis of usage of natural resources with a dual aim of maximizing production and minimizing wastage of natural resources.
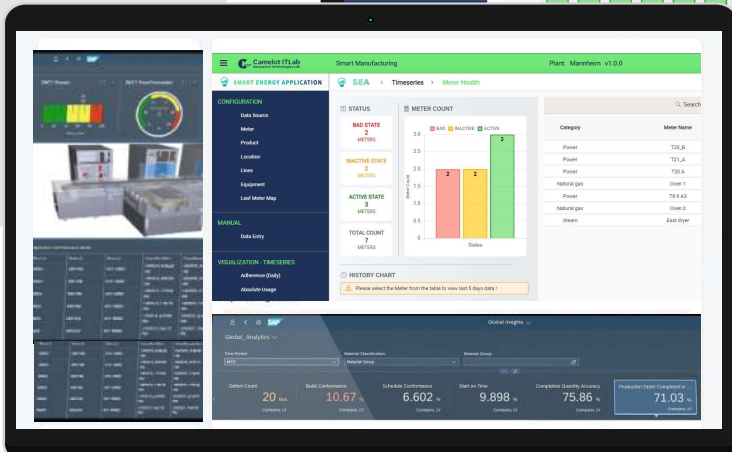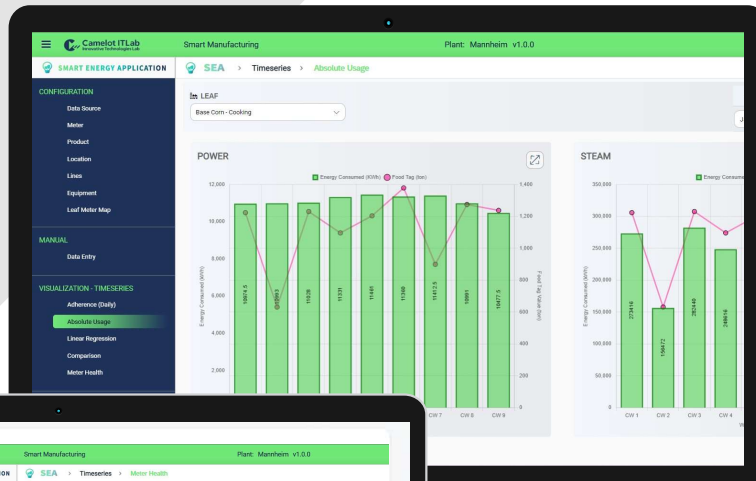
INNOVATION FOR A SUSTAINABLE FUTURE
with 'Streamlining the Manufacturing Process' to ensure an 'Optimum Utilization of Natural Resources'

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Camelot Sustainable Manufacturing - Smart Energy powered by SAP Business Technology Platform

SMART ENERGY APPLICATION

▸ Digital solution for tracking resource consumption and usage leveraging AI algorithms to define and analyze trending data and define smart targets

▸ Extending SAP DMC and built on SAP BTP

▸ Usage of SAP Workzone for seamless user experience

Sustainability project reference

Analysis of energy consumption and definition of smart targets leveraging AI algorithms, thus reducing amount of energy and realizing Kellogg's sustainability vision

Customer benefits

SEAMLESS INTEGRATION	IMPROVED VISIBILITY	SMART TARGETS	REDUCED ENERGY
Integration and extension of SAP DMC via SAP BTP and SAP Build Workzone to enable improved user experience	Tracking of actual resource consumption Bring visibility to operations about how much energy we are using	AI-enabled analysis and continuous improvement of energy, waste, and emissions in shopfloor	Guided root cause analysis and and reduction of energy consumption

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CAMELOT ITLab GmbH

The two pillars of the CAMELOT Group are CAMELOT Management Consultants AG and Camelot Innovative Technologies Lab (Camelot ITLab). Together we have 1,800 employees worldwide and headquarters in Mannheim, Germany. Our integrated consulting approach and close collaboration with renowned technology specialists, guarantee project success along all consulting phases: from decision-making to the organizational and technical implementation. Camelot ITLab is the leading IT consultancy for digital value chain management and driver of innovation in emerging enterprise technologies including Blockchain and AI. We stand for highest quality and responsibility, proven by an excellent track record. Innovations to solutions.

www.camelot-itlab.com

WHY Camelot

→ CAMELOT guides businesses around the globe in transforming their IT ecosystems, with a strong focus on Supply Chain Management, Logistics, Data & Analytics, Customer Experience, and ERP.

→ CAMELOT provides a digital assessment approach to identify the right technological innovations with the highest added value

→ CAMELOT continuously scans the market for newly developed technological innovations and has experience in implementing a variety of digital technologies

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