Industry 4.0 - A Key Driver for Business Transformation

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Overview

• About OMP – about intelligence in planning and industry 4.0

• Case study: Business Transformation at Buderus Edelstahl
  • About Buderus Edelstahl
  • The need to change
  • OMP @ Buderus – Advanced Planning
  • Intelligent Master Data Creation
  • Intelligent Master Data Sensing

• Next steps
We aim to help executive and operational managers to substantially increase their short and mid-term key business results, by improving both the supply chain design and the supply chain planning.

- **OMP stands for**
  - Software
  - Services
  - Sector
  - Knowledge
  - Worldwide
  - Partnership

**Customers**

**Value**

**Innovation**
Industry 4.0 ... connection at all levels

Any role, instant access to the right level of info

Cloud based implementations

Easy analytics

IOT – Master Data Sensing

Distributed Intelligence

Always on

Continuous planning
OMP Vision & Roadmap: Smart planning platforms build on our solid base

Robotized & connected planning platforms

Collaboration Driven By stepwise intelligence

Industry expertise

Openness to user communities and architecture
OMP at Buderus Edelstahl

• OMP has been active in voestalpine group since 2015, also at Buderus

• Advanced Planning System
  Anno 2015
  • Integrated and Optimized Planning and Scheduling for Steel Works, Rolling and Forging Shops and Finishing
  • An intelligent planning system creates and maintains its own Master Data (and provides it to SAP)
  • Actively Supports and Key Driver for Business Transformation Program
SPECIALISED ON YOU
Buderus
Edelstahl
THE NEED TO CHANGE

STEEL MILL
- Steel Scrap
- Electric arc furnace
- Ladle Metallurgy
- Vacuum Treatment
- Ingot casting
- Ingot 2-5 t
- Blooming
- Hot strip mill
- Hot Rolled Strip
- Rolled Billets

ROLLING MILL
- Ingot 10-190 t
- Open die forging
- Heat treatment
- Machining
- Open die Forging
- Cold Rolled Strip
- Cold strip mill
- Heat treatment
- Closed die forgings

OPEN FORGING
- Closed die forging
- Heat treatment
- Machining
- Contour machining
- Tool Steel
- Engineering Steel

DROP FORGING
- Closed die forging
- Heat treatment
- Closed die forgings

FINISHING
- Contour machining
- Heat treatment
- Machining
- Tool Steel
- Engineering Steel

Direct Shipment
Stock
- Stock
TARGETS: DEVELOP AND IMPLEMENT NEW MDM PHILOSOPHY

- Standardisation of article structure
- Modular structure of production routing for easier revisioning
- Relation between sales article and industrial product (group of articles) 1/1 vs 1/n
- Clear assignment of master data responsibilities (Technology vs Logistics vs Sales)
Testing plan | 1:1 | Certificate

Routing | 1:1

Sales article

Cost accounting

Routing includes BOM and logistic target values.
Data is generated based on functional data sets in a central data base (AGA).
Specific plans are copies of former work orders – pseudo standard.
Nearly no revision capability.
Routing, BOM and logistic target values are separated

Data is generated based per industrial product (article group) valid for multiple specific sales articles

Routing and BOM are true standard data with revision capability
BASIC STRUCTURE OF ROUTING DATA

- PP - Process Plan
- PS - Process Step
- Module
- Operation Step

- Group of Aggregates
  - Aggregate
  - Norms Specifications

- Technology Content
  - Item
    - Target (range) / Real
WHERE WE ARE TODAY – BOM GENERATION

BOM / general characteristic of the Article
Routing
Losses per Operation
WHERE WE ARE TODAY - ROUTING GENERATION
BUSINESS VALUE FOR BUDERUS EDELSTAHL E.G. TOOL STEEL

- Achieving target time for OrderConfirmations \( \times 4 \) higher
- Reducing throughput times (ingot > finished product) by >25%
- Increasing OTD by >30%
- Improving cost unit deviations
EVOLUTION TO A SELF ADAPTING SYSTEM

Implement new MDM creation process in OMP
- Including new article structure
- New mindset (e.g. sales article ≠ production article)

Integration of MDM maintenance process in OMP
- Statistics / historical database

Implement maintenance mechanisms
- Semi-automated processes

Self adapting MDM<>Planning system
Next steps

• Deploy OMP Innovations at Buderus
Longer term areas of innovation

**DISCOVERY: BLOCKCHAIN**
Integration facilitation – security augmentation – sharing info

**BUILD: AUGMENTED REALITY PLANNING**
Even more anticipating what-if way of planning

**FULL AI BUILD OUT**
Further embedded machine learning in all levels of the planning cycle

**UNSUPERVISED INTELLIGENCE**
Continue the IoT coverage in the integrated solution levels

**E2E SENSING**
From demand-to-deploy-to-supply in a mesh-connected supply chain

**SERVICES**
Further build out an OMP University with broader online certifications, full consultant onboarding programs and more
Thank you

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