Finnish Society of Automation

OPC & MES Day. 7.October 2014. Dipoli Congress Centre.

Manufacturing Execution Systems in Mining, Minerals and Metals Industries - Case: Oulu Mining School, Mini Pilot Plant

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Pragmatic Agenda

- Schneider Electric in brief
- Mining, Metals and Minerals – technical environment
- MES supporting continuous improvement
- Oulu Mining School - Mini pilot plant
- Ampla – MES implementation at Mini pilot plant
- Key takeaways

Solutions and Services for Mining

Global Presence / Local Support:
- Expertise in global centers
- Local presence in + 100 countries
- International KSAM coordination
- Specialized system integrator partnership program
- Strong distribution channel for components

Simplified operation environment

Optimization Challenges
Key Performance Indicators

Shipping
Mining
Hauling
Crushing

Fleet, U/G, In-Pit
Budgeting & Long Term (Corp)
Short Term (Site)
Mine Scheduling
Monitoring
Modelling & Tenures

Financial

Payload

Mine

Example: Energy Metrics

Ampla MES Architecture

Key Performance Indicators

Goal: Continuous improvement

Beyond MES: Integrated Planning & Optimization

Example: Energy Metrics

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Example: MES User Interface

OMS Minipilot Plant

• A 1:5000 scale copy of FQM Pyhäsalmi mine’s process
• Copper and Zinc concentrate pilot scale production (30kg/h)
• Process equipment from Outotec Finland Oy
• Purpose: High level research & education, commissioned studies
  - Electrification, automation & IT systems
  - Schneider Electric

OMS Minipilot System Architecture

Minipilot MES System Architecture

Ampla with:
- Quality
- Production
- Downtime
- Knowledge
- Metrics
- Partnering with CGI Finland

Ampla – Quality (LIMS) at Minipilot

Key Takeaways

● Is MES a solution?
● Why MES is seen as a “big” investment?
● When an operation is ripe for MES?
● DIY MES or commercial license?
● Cherrypicking MES?
● Proprietary or open MES?
● Convergence between OT and IT?
Make the most of your energy

Answers:
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