AVEVA

AVEVA™ Discrete Lean Management

Drive higher levels of discrete manufacturing productivity, flexibility, reliability and cost competitiveness with digital tools for the rapid adoption of Lean Manufacturing best practices and for paperless work management.

Overview

AVEVA Discrete Lean Management is a commercial off the shelf software to improve discrete manufacturing productivity, flexibility, reliability and cost competitiveness through a set of ready to use digital lean and work management tools:

- Performance Management – Capture labor and equipment effectiveness KPIs and loss reasons for dashboard visualization, reporting and root cause analysis

- Andon – Production issues notification and dashboard visualization to prevent or reduce production losses through effective response and team collaboration

- Work Order Management – digital and centralized production work order management and allocation to production lines for execution reporting and tracking

- Digital Work Instruction – Paperless step by step work instructions, documents and videos, in a product context

- Material Process Handling – material event notifications and response management through step-by-step process execution and data collection for material handling optimization

Drive line and plant productivity with proven lean management practices and KPIs for measuring, visualizing and improving manufacturing performance. Ready to use digital Lean tools allow manufacturers to become Lean practitioners without being Lean experts.

Minimize the number of manual production and Lean data collection tasks and automate event notifications with the full range of AVEVA's connectivity with IOT devices and plant automation systems.

The software offers a short time to value as it is easy to deploy, configure and integrate with plant and enterprise systems. Its client server architecture is lightweight but offers proven performance to support production environments with high production volume and many product variations.

AVEVA Discrete Lean Management allows manufacturers to quickly start their digital transformation journey, achieve a fast ROI by identifying low hanging fruits with insights into the hidden causes of productivity losses and provides them with the foundation for data driven continuous improvement.

Smarter Manufacturing through the digitalization of Lean and Work Management

AVEVA Discrete Lean Management provides a set of digital tools to help you quickly adopt proven industry standard Lean practices to reduce production losses and to continuously improve discrete production line effectiveness. The ready to use digital Lean tools allow manufacturers to become Lean practitioners by adopting practices such as Andon, Jidoka, Kaizen, KPIs, Muda, OEE, Root Cause Analysis, Six Big Losses, Standardized Work and Visual Factory without being Lean experts.

- Respond faster to production issues through notifications to production stakeholders and with real time visibility on dashboards, workstations and mobile devices for collaboration and effective response to different issue scenarios.

- Empower the workforce to eliminate waste and reduce cost through visibility of line performance and production issues on dashboards and workstations.

- Continuously improve your operational effectiveness by measuring, visualizing and analyzing key performance indicators for both manual and automated production lines, and perform root cause analyzes by correlating plant events

- Quickly adopt lean practices and lower change management efforts with ease of use tools and by keeping workers free from manual data collection tasks through integration with plant automation systems or IoT enabled devices.

AVEVA Discrete Lean Management also helps you replace de-centralized paper records with orchestrated access to work order information, work instructions and a digital user interface for reporting work order execution.

- Improve your manufacturing flexibility while reducing the risk of human error through the digital transformation of work management and work instructions.

- Help your teams do the job right the first time and prevent production errors from happening with easy to follow digital work instructions.

- Optimize resource and equipment utilization by dispatching work orders to production lines based on available capacity and the best line performance (based on Overall Equipment Effectiveness or Overall Labor Effectiveness) for the specified product.

Key features

Andon - Production Issues Notification

Andon is a Lean Management method of visually indicating or notifying you of production problems so that other production team members are informed and stakeholders are called for help to prevent or reduce downtime and production loss on a production machine, production line or for the entire supply chain.

The Andon module allows you to configure Andon categories and related issues within each Andon category as needed. Andon issues can be defined for all levels of the plant hierarchy, down to individual issues to be raised for a specific line or for an individual workstation only.

The software provides an intuitive user interface to raise, acknowledge and normalize production issues. Issues can be also automatically raised based on control and automation system communication.

A production issue can be escalated based on rules through e-mail notifications or by sending a signal to an automation system.

The Andon dashboards provides a display of the problem locations where one or more issues were triggered and how many issues are active or acknowledged.

History logs and data export is provided for analyzes in standard applications such as Microsoft Excel.

Andon Plant Overview Dashboard
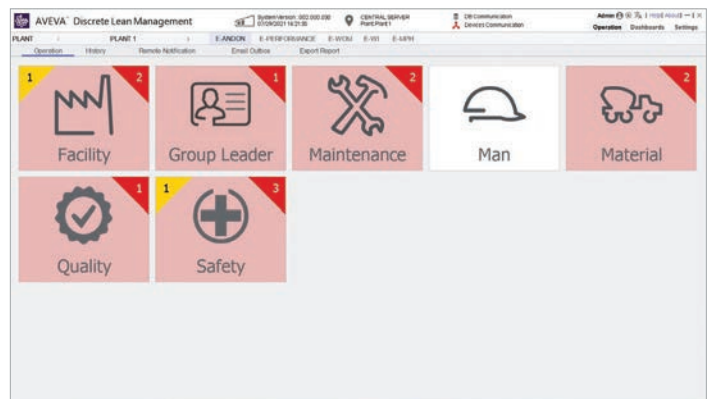
Andon Operation

Andon Event History and Event Details

Key features

Performance Management

You can continuously improve your operational effectiveness through KPI (OEE/OLE) monitoring and root cause analyzes of production losses by capturing utilization and production data on production lines and workstations.

On manual production lines shift operators report good production and quality losses.

On automatic lines production data collection can be automated with many native TCP protocol or OPC UA drivers for integration with equipment control systems or IoT devices.

For the categorization of down times and quality defects a reason entry interface is included.

Evaluate and analyze performance by location (plant, area and line level), interval (hour, day and month) and product with a dashboard for different KPIs including:

- Efficiency – Overall Equipment Effectiveness (OEE), taking the equipment capacity into account or Overall Labor Effectiveness (OLE), taking the number of operators working at a line into account

- Quality – Manufacturing Defect Rate (MDR)

- Barriers – Downtime and Quality issues (pareto)

- Maintenance – Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR)

Line Operation View

Waterfall Dashboard

Quality Defect or Downtime Reason Dashboard

Key features

Work Order Management

Work Order Allocation – Allows you to dispatch orders automatically to lines, optimize the overall plant performance and minimize changeover within the same shift by allocating work orders based on capacity and best line performance (OEE/OLE) for the specified product.

Work Order Execution - Provides you with a ready to use user interface to execute work orders on a line and report production.

The system captures and provides an audit trail of all work order events such as Released, Started, Running, On Hold, Closed, Allocation Changed, Suspended, etc.

ERP integration - You can receive orders, release to production, and confirm them upon closure based on file-based data exchange with an ERP or other business application.

Work Order Master View

Work Order Operation

Work Order History View

AVEVA Discrete Lean Management

Key features

Digital Work Instructions

Work instructions are displayed to operators to guide you through your work tasks with easy-to-follow step by step instructions for producing a specific product.

The sequence of work activity steps can be individually defined for each line / workstation and product reference relationship.

Each work activity step can be associated with a specific work instruction document or media file (PDF documents and/or mp4 videos).

Digital document and instruction media files can be hosted in a central repository for effective instruction change and lifecycle management.
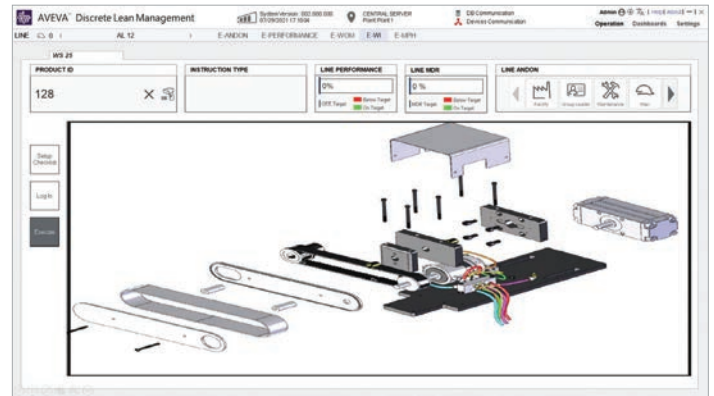
Work Instruction Document

Work Instruction Video

AVEVA Discrete Lean Management

Key features

Material Process Handling

The Material Process Handling Module provides a material handling request notification, process execution and reporting system which helps to ensure uninterrupted production flow and continuously improve the material handling processes.

It enables fast response to material handling requests and allows for the standardization of processes such as e.g. component top up, moving finish goods or clearing the waste bin. Processes are configured as a sequence of steps which ensures that identified best practices are followed and required data is collected.

The Material Process Handling module allows you to configure material event categories, the number of process steps for each event category and the details of the steps such as the activity to be performed, the data to be collected or the input to be provided during the material handling process execution.

Material Events can be defined for all levels of the plant hierarchy, down to individual events for a specific line.

The software provides an intuitive user interface to manually raise material events and execute the handling processes in response. Material events can be additionally automatically raised based on communication with control and automation systems.

The Material Process Handling dashboard provides the event count information for a selected period and the related average step execution duration or lead time, allowing you to identify material process handling opportunities.
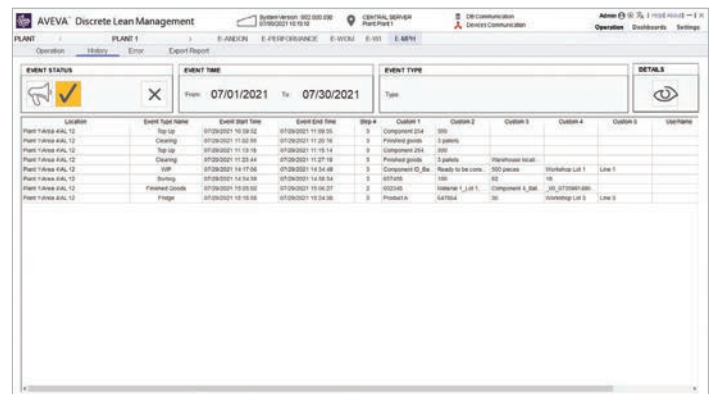
Material event history logs and data export are provided for analysis in standard applications such as Microsoft Excel.
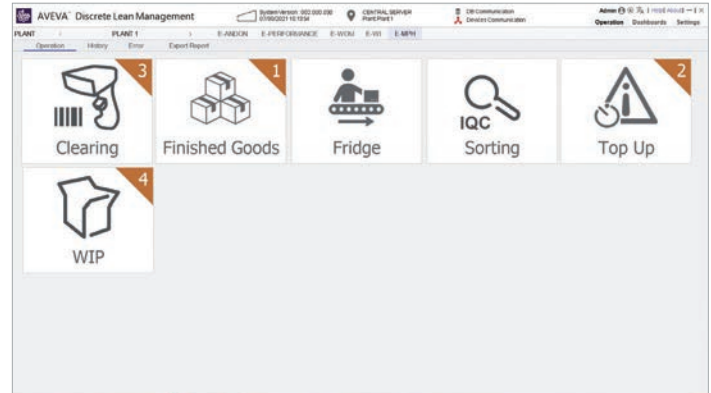
Material Process Handling Operation
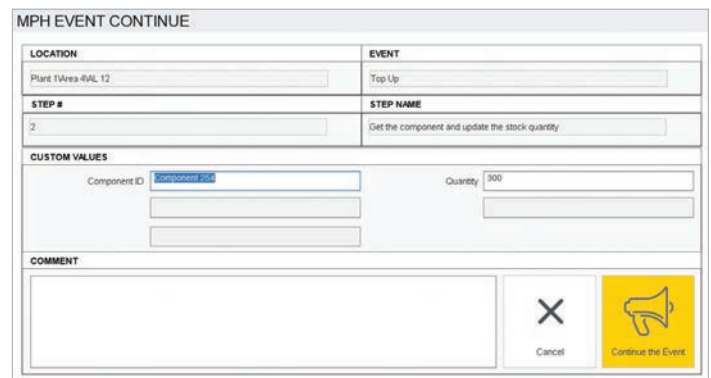
Material Process Handling Step by Step Execution

Material Process Handling History View

General features

Localization – The graphical interface and messages are available in English. Additional user interface translations can be added by uploading a .csv file.

Interoperability – You can integrate with external equipment and systems via standard interfaces (OPC, SQL) in addition to native drivers to industrial TCP/IP protocols for connectivity with:

- Email Servers (SMTP)
- RFID Card Readers (User Authentication)
- PLCs and automation devices
- Barcode readers
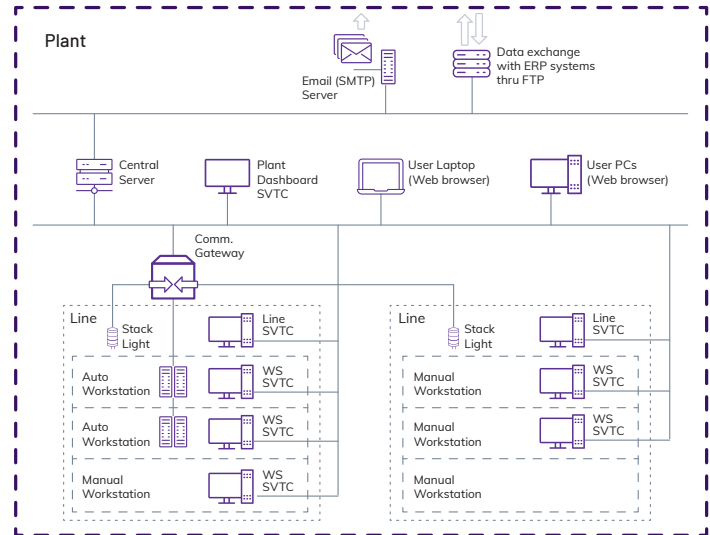
AVEVA Discrete Lean Management Architecture

For more information, visit:
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