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VALUE STREAM TECHNOLOGY™

Serial & Repetitive Manufacturing

Enabling Zero Defect in High Speed Operations

Streamlined Manufacturing and Supply Operations

ZERO TOLERANCE

Catching Up with

'The Speed of Change'

Constantly changing customer demand and innovation drive today's manufacturing strategies in many industries. Serial & repetitive manufacturers are **required to react faster** than ever, shortening 'time-to-market', providing new products in shorter cycles, in **high volume, in highest quality, and with highest performance**, while inventory levels are reduced drastically. The next generation of components and products has been developed already, waiting to be assembled and shipped.

Traditional manufacturing systems are not able to catch up with **the speed of change in modern manufacturing companies**. Innovation is to be turned into stable, streamlined manufacturing processes in less time than ever. New product introduction is, especially in the High Technology and Electronics industry, daily business. And once new products have been introduced, immediately manufacturing operations need to perform with **'Total Quality'** and **'Total Performance'**, while ensuring constant **material supply at lowest inventory levels**.

Modern manufacturing operations are **demand-driven** and line logistics and **material flow is pull-oriented**. **Lean Manufacturing**, not much more than a catchword in the 90s, today can be applied strategically, utilizing modern technology, and **enabling full control and traceability**. Visual instructions allow much **shorter learning curves** and interactive applications provide change information and electronic workflow. **'Zero Defect'** and **'Zero Tolerance'** strategies are **the cornerstones of Lean Manufacturing**, now applied real-time and paperless.

CellFusion's **'Value Stream Technology™'** is a focused **'end-to-end'** **Lean Enterprise** application suite, integrating the advantages of ERP and Supply Chain systems with **advanced Lean Manufacturing**.

INTERACTIVE
ACCURACY



ZERO DEFECT



Accelerating Manufacturing Operations & Making Performance Visible

Excellent manufacturing processes are based on optimized manufacturing engineering, well-planned material flow, a qualified flexible workforce, and demand-based manufacturing strategies.

Lean Manufacturing Engineering builds the first cornerstone with **Process & Sequence of Event Design™**, receiving product and BOM information directly from ERP/SAP® and CAD, sequencing, balancing and visualizing processes. **Line Design & Line Balancing™**, as well as comprehensive manufacturing engineering applications, provides a **powerful engineering toolbox** with **Component & Process Matrix™**, Change Over, Tact Time and Cycle Time Analysis. **Line Logistics & Kanban Planning™** ensure optimized material flow and material availability, constantly monitoring demand and **pro-actively** displaying color-coded alerts for Kanban cycles in case of demand fluctuations or unexpected trends; enabling planners to **react before it is too late**, avoiding material shortages at low inventory levels.

The heart of Value Stream Technology, however, is the application suite **Visual Manufacturing Operations™**, with a wide range of interactive shop floor applications **receiving, controlling and providing information and workflow**. **Manufacturing Action Control™** provides assembly teams with all required information about customer orders, process and material utilization. It automatically controls the paperless manufacturing process, and captures all information required for **end-to-end traceability of processes and products**. Interactive functions enable assembly workers to capture any issue or event with **simple 'point&click'**. This includes quality issues of materials or products (TQC) and actual product and process metrics, material shortages and equipment issues. All **information flows instantly**, to **e-Performance Andon Boards™** and **Early Warning Portals**. **First Passed Yield (FYI)** and **Overall Equipment Efficiency (OEE)** are calculated real-time during the manufacturing process, and made visible on the shop floor and on manager's PCs and handhelds.

- Integrated manufacturing engineering enables **optimized manufacturing operations**
- Process-oriented line logistics planning ensures **streamlined material flow and supply**
- Demand-based early warning portals provide **color-coded alerts for fast adjustment** of supply cycles
- Electronic workflow in manufacturing operations **empowers assembly teams**, line logistics, quality and maintenance departments
- Visual Factory applications turn workstations into **the center of information and workflow**
- Visual instructions for faster manufacturing **change introduction and increased accuracy**
- e-Kanban signals and e-Kanban boards provide **optimized material flow and supply execution**
- Issue Action Management provides issue workflow, and **immediate and strategic actions**
- e-Performance Andon Boards make manufacturing **status and issues visible, everywhere**
- Full product and process **traceability at your fingertips**
 - Serial number & lot tracking
 - Quality & product metrics
 - Change introduction
 - Actual cycle time monitoring
 - Personnel experience tracking
 - All answers for: **what, where, when, why, who... and how...!**

- **Lean Engineering**
 - Lean Process Design
 - Line balancing
 - Component Matrix and Analysis
 - Kanban & supply strategy analysis
- **Supply Synchronization**
 - Supply Point management
 - Supply Synchronization with where used analysis
 - Color coded demand impact identification
 - Kanban Planning & Kanban Early Warning Portals
 - Change impact identification
- **Visual Manufacturing Operations**
 - Visual Instructions guide assembly teams through all processes
 - Paperless manufacturing operations with simple 'point & click' reporting and information flow
 - ePerformance Andon boards
 - Integration of supply, quality, and maintenance operations
- **Zero Defect and Total Quality**
 - Visual TQC reporting
 - Early Warning Portal for manufacturing quality, and real-time First Passed Yield Dashboard
 - Early Warning Portal for supplier quality
 - End-to-end Traceability Portals
- **Zero Tolerance and Total Performance**
 - Interactive issue reporting with 'point & click'
 - Instant information flow
 - Alert and escalation management to recover Total Performance
 - Action management to systematically eliminate issues
- **Lean Operations**
 - eKaizen with electronic workflow and action management
 - Cycle time optimization based on actual manufacturing information
 - Electronically collected manufacturing information in early warning and manufacturing portals, providing alerts and the strategic basis for continuous improvement of processes and products



For more information

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