



MES
FactoryViewTM

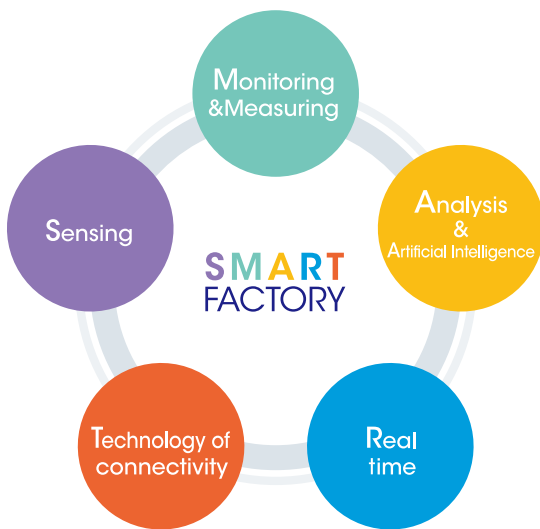
Smart Factory Management System

Your company gets
smarter!

Smart Factory?

Highly digitalized and connected production site that is realized more innovatable, flexible and profitable system, powered by IoT, AI, Cloud....

| 3View's Smart Factory



Sensing

- Force, AE* , Proximity, Angle, Temperature, Counting sensors, RFID, QR code, etc.

Monitoring & Measuring

- Force, AE* monitoring, Size measuring

Analysis & Artificial Intelligence

- Analysis production, quality, and machine data through AI.

Real time

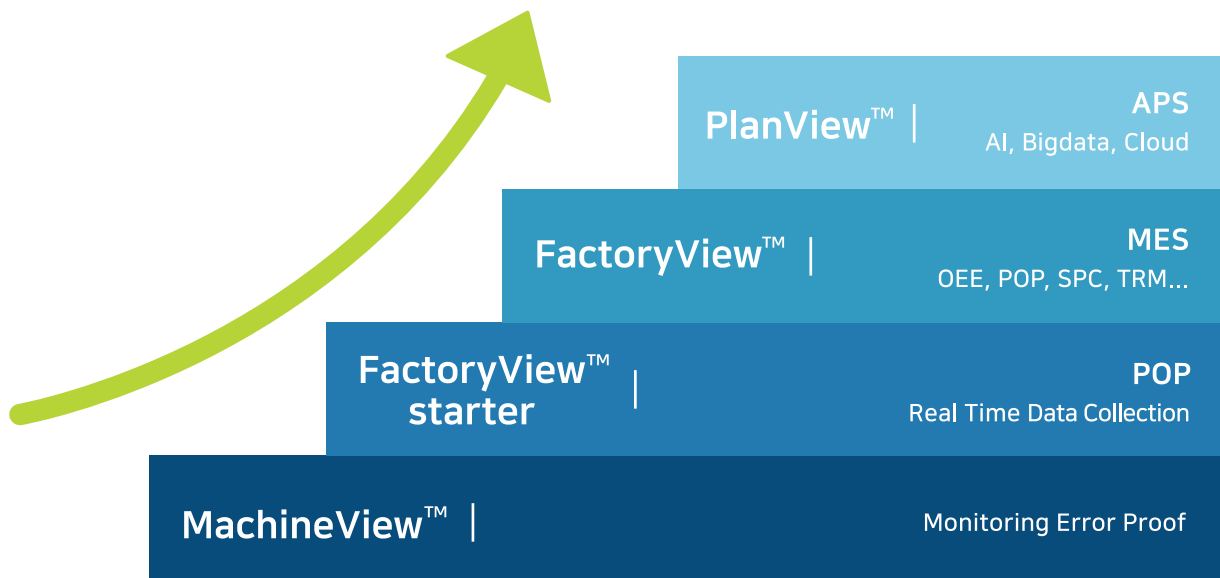
- IoT; Counting data, Monitoring; sensor data

Technology of Connectivity

- Wireless; WiFi, Sensor networks

*AE : Acoustic emission

| 3View's Step

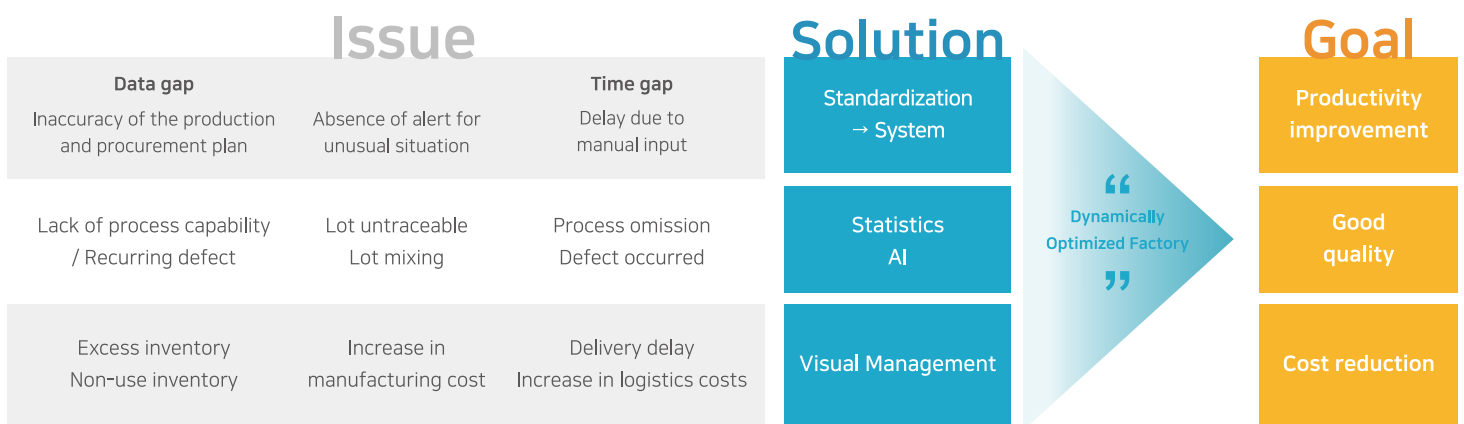


Overview

FactoryView™ is

MES (Manufacturing Execution System), which has been implemented and verified by more than a hundred companies of the world, that contributes to integrate the whole processes including production, quality management, supply chain management, tool management and automation, etc.

Target



Quick and flexible response to manufacturing changes



Real-time data collection at manufacturing sites and provides information



Removal of wasteful factors through history management and data analysis



Quality management system by strong interlocks



Wholly optimized processes from sales orders to product forwarding

Advantage



Easy

Proactive, Easy-to-use system



Extensible

Integration with existing systems and expansion with PlanView™ APS



Flexible

Response system to various changes Operational Guidelines

System interface Can be integrated with various systems such as ERP, SCM, QMS, PLM, etc. Share real-time data with master data.

ERP	SCM	PLM	Enterprise BI	QMS
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Main functions

BOM / BOT	Production calendar	OEE	Release management
Routing / Dispatching	Purchase order	Daily inspect	Sales management
Planning & Scheduling	Stock management	Maintenance activities	Document management
Work order	SPC analysis	Equipment parts management	Checklists
Traceability	Reject history	Tool management	Measuring instrument management
Lot management	Report management	Tool life management	Interlock

Extensible

AI, bigdata
Dashboard
Analysis & Report
Alarm
KPI
Mobile interface

Factory Automation

Bigdata platform	Equipment monitoring	IIoT connect	Remote control	HMI / SCADA
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Main functions

BOM / BOT

Systematically manages material and tool configuration information.

Production calendar

Set a work calendar in consideration of holidays, working hours, preventive maintenance plans, etc., and use it for production planning.

OEE

Calculate time utilization, capacity utilization, non-defective rate, and overall equipment effectiveness based on real-time production, equipment, and quality data.

Release management

Manage release plans and delivery orders according to customer's order specifications.

Routing / Dispatching

Set the work order routing and dispatches according to the production capacity.

Purchase order

Manage materials or parts required for the manufacturing process and issue purchase order.

Daily inspect

Record equipment preventive maintenance and daily inspection check sheets.

Sales management

Analyzing orders, establishing sales plans, registering orders, and manage sales progress.

Planning & Scheduling

Calculate MPS considering sales plan, production capacity, and stock. Provide lead time for scheduling and order information.

Stock management

Manage warehousing / delivery and stock. Supports warehouse location information and FIFO (First IN First OUT) functions.

Maintenance activities

Plan equipment inspection activities and manage a history of repair activities. Calculate maintenance indicators (MTBF, MTTR, failure rate).

Document management

Share and manage documents such as drawings and work procedure manuals. Also can manage changes and access privileges.

Work order

Work is instructed for each facility, and work information is transferred to the on-site terminal. Provide 4M information according to work order.

SPC analysis

Analyze process capability by utilizing production data. (X-r, CP, CPK, normal distribution table)

Equipment parts management

Manage stock and analyze life of equipment parts. Calculate stock of spare parts for stable equipment operation.

Checklists

Can immediately check the documents such as check sheets and work procedure manuals reference to work order, build paperless system on site.

Traceability

Provide Lot traceability function. Forward and reverse trace are both available, interwork with quality inspection data.

Reject history

Register and manage customer complaints and process reject history. Can be used as operator training material.

Tool management

Manage tool storage / retrieval, stock, and usage history. A set management function is provided by the BOT configuration.

Measuring instrument management

Register measuring instruments for quality inspection, manage the calibration cycle and issue calibration reports.

Lot management

Set criteria for each Lot and give independence. Perform divisions, changes, integrations of Lots.

Report management

Submit a report of measurement / inspection quality data, and transfer the data in the type according to the customer's specifications.

Tool life management

Based on the standard life of the tool, provides an alarm and a machine stop output when the life reaches its end. Analyze and manage the usage life of tools.

Interlock

Provides various interlocks to carry out the formal process. (FIFO, process leakage prevention, prerequisite conditions, etc.)

Extensible

AI, Bigdata

Systematic data structure facilitates analyze correlation and pattern between data, advanced analysis and algorithms provide optimal manufacturing efficiency.

Dashboard

Embody real-time visual management (VM). VM enables to figure out troubles immediately, take immediate action, and establish improvement measures.

Analysis & Report

Provides statistical analysis and results of data according to customer requirements. Also provides data output for analysis.

Alarm

When an emergency situation occurs, automatically sent an alarm to the person in charge by SMS or App. User can set alarm conditions.

KPI

Cumulative manage the key performance indicators of the production process. Grasp the most efficient balance between results and operations.

Mobile interface

Provides device extensibility considering various field conditions and mobile environments. Can be used on PDAs, smartphones and tablet PCs.

Factory Automation

Bigdata platform

Systematize data structures for Industry 4.0 big data environments. Optimal placement of various sensing data.

Equipment monitoring

Monitoring the power, vibration, and temperature of the equipment in real time. If a trouble occurs, control the equipment immediately. (MachineView™)

IIoT connect

Connect various sensors and IIoT equipments with OPC UA sensor network. Provide a platform that enables analyse the sensor data.

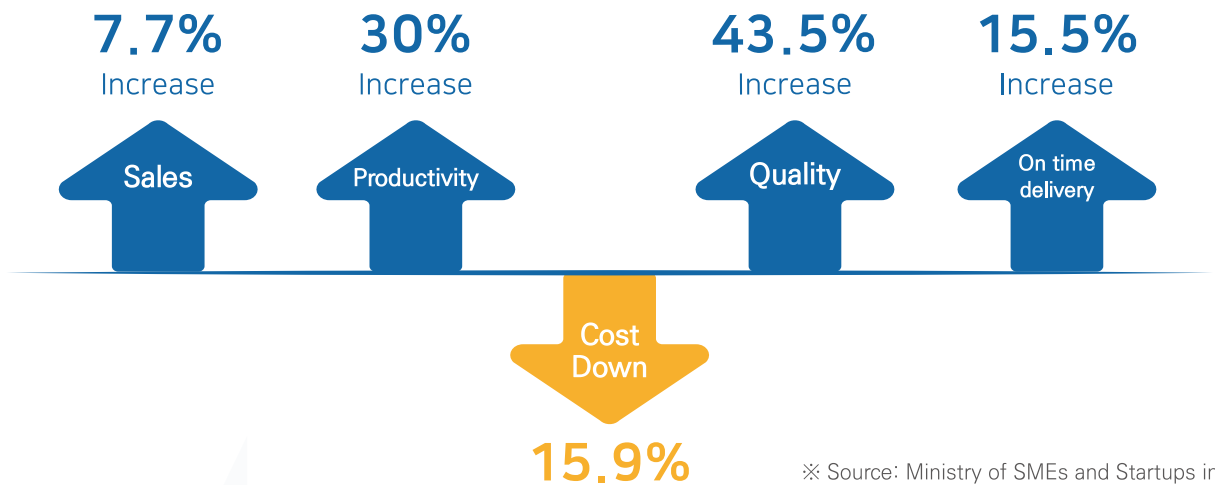
Remote control

Can control equipment remotely using monitoring system and IIoT equipments.

HMI / SCADA

Provide real time operating status and working conditions, control according to the management conditions.

Expected profit



※ Source: Ministry of SMEs and Startups in Korea

System Configuration





The Three V Solution!



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