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MES Toolbox

Feed mill automation

The Engie MES Toolbox is a proven and scalable modular software platform for the automation of batch and continuous processes. The platform includes a number of generic software components dedicated to the feed industry, which positions the Van Aarsen - Engie MES Toolbox as next generation feed mill automation system.

The MES Toolbox has been implemented for many feed producers being a complete solution for controlling the entire production of a feed mill: intake of raw materials, dosing, grinding, mixing, pressing into pellets and loading of bulk trucks.

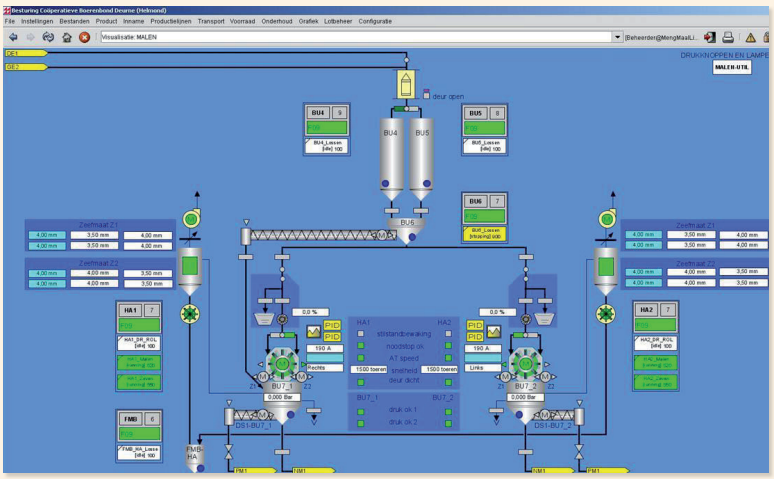
High performance

Using the MES Toolbox the performance of an existing feed mill can be improved with more than 10%. Even results of 20% were achieved depending on the mechanical capabilities of the production equipment. This offers a return of investment of less than 2 years!

Benefits and Features

Optimal control

- Integrated functionality for controlling the entire production of a feed mill
- Built-in process optimization tool visualizes potential bottlenecks in the production process
- Route planning for trucks with geographic information ensures efficient logistics



Energy efficiency

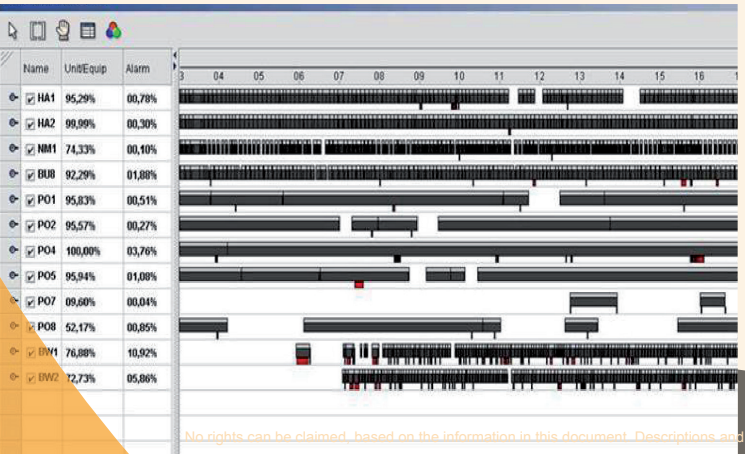
- Built-in energy performance measurement

User friendly operation

- Clear visual displays for Gantt chart based optimization- and bottleneck analysis tool
- Advanced Key Performance Indicator (KPI) dashboard with which the status of most important KPI's of the plant can be presented

Cost efficiency

- No multiple software packages and licenses are needed anymore. The software is fully web-based: No installation of specific software and no need of expensive licenses for the workstations.
- Interfaces for e.g. weighing bridges, barcode and RFID readers are provided.
- Includes all development tools; the software application can be easily modified by the owner in cooperation with Van Aarsen.



Flexible

- Compatible with standard PLC series, preferable Siemens S7
- Runs on all MS-Windows versions, VMware ESX and Linux
- Applicable for new as well as (parts of) existing feedmill installations

High quality

- Full software redundancy provides high uptime and avoids data loss (machine parameters, recipes, alarms etc.)
- The concept meets the industry standards ISA-88 and ISA-95 consistently.

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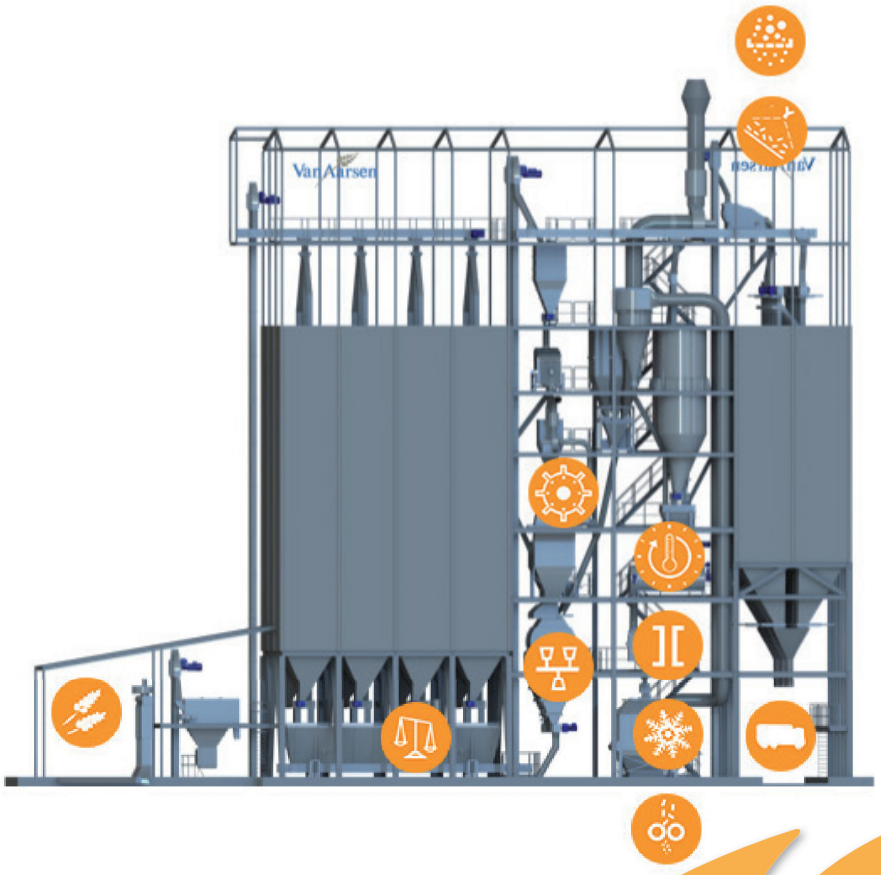
Overall Functionality	Basic	Efficiency options	Quality options
Basic MES Toolbox system based on ISA 88 and ISA 95	√		
Article / recipe management	√		
Silo, tank, storage management	√		
Stock management	√		
Tracking and tracing, basic, no scanning, no labels	√		
Real-time and historical trending of all signals	√		
Advanced batch registration	√		
Functionality Intake	√	√	√
Functionality Dosing / Mixing	√	√	√
Functionality Pelleting	√	√	√
Functionality outloading with manual weight registration	√	√	√
Basic hardware configuration with hot standby server	√		
Siemens PLC	√		
Performance optimization tool (Efficiency control)	√		
KPI dashboard		√	
ERP interface		√	
Quality measurements			√
Maintenance management	√		
Advanced tracking and tracing with labels and scanning			√



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Functionality Intake	Basic	Efficiency options	Quality options
Intake registration with supplier and truck	√		
Prepare intake for list of silos	√		
Manual registration of the net weight	√		
Start transport from operator room	√		
Article code check on silo	√		
Automatic change over to next silo when silo is full	√		
Transport change over in product stream	√		
Weight per silo based on time division	√		
Push button near intake pit for start / stop	√		
ERP interface for purchase orders		√	
Weight interface and legal weight registration		√	
RFID tags for automatic start		√	
Touch screen near intake points		√	
Printing of HACCP documents			√
Quality measurements			√
Automatic sampling			√
Tracking and tracing (quality control)	√		
Filling silo : Manual weight registration, no lid detection	√		
Filling silo : List with refill request per silo		√	
Filling silo : Barcode scanning before filling		√	
Filling silo : Touch screen near filling point		√	

Functionality Dosing - Mixing	Basic	Efficiency options	Quality options
Production planning	√		
Configuration of all equipment according ISA 88	√		
Contamination check	√		
Advanced batch reporting	√		
Recipe versions	√		
Fine dosing and automatic stop when fines are used	√		
Tracking and tracing	√		
Energy saving and optimization functions	√		
Additives dosing by push button	√		
Additives : Touch screen for list of additives		√	
Additives : Barcode scanner for scanning additives		√	
Additives : Weigher bin or platform		√	
Quality measurement after mixer			√
KPI dashboard		√	
Peak shaving		√	

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Functionality Pelleting	Basic	Efficiency options	Quality options
Production planning	√		
Configuration of all equipment according ISA 88	√		
Contamination check	√		
Advanced batch reporting	√		
Recipe versions and per pellet mill	√		
Speed measurement based on RPM	√		
Tracking and tracing	√		
Energy saving and optimization functions	√		
Automatic starting of pellet line	√		
KPI dashboard		√	
Quality measurement after cooler			√
Automatic sample taking after cooler			√

Functionality Outloading	Basic	Efficiency options	Quality options
Basic silo administration with manual input of loaded weight	√		
Bagging of transport with manual input of weight	√		
Communication sales orders with ERP		√	
Customer database		√	
Sales order administration		√	
Trip planning from sales orders to trips		√	
Trip planning with geo data (maps)		√	
Truck administration (truck types with compartments / trucks)		√	
Automatic loading from trip orders		√	
RFID tags on trucks and outloading location		√	
Touch screen at outloading location		√	
Check weighing on weighbridge		√	
Outloading on weighbridge		√	
Outloading with movable scale		√	
Outloading with contra sets		√	
Quality measurement during outloading			√
Automatic sample taking			√
Tracking and tracing (Quality control)	√		

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