

Prod-IQ®

More profitability with intelligent MES & Industrial IT

For every plant in the wood-based panel industry

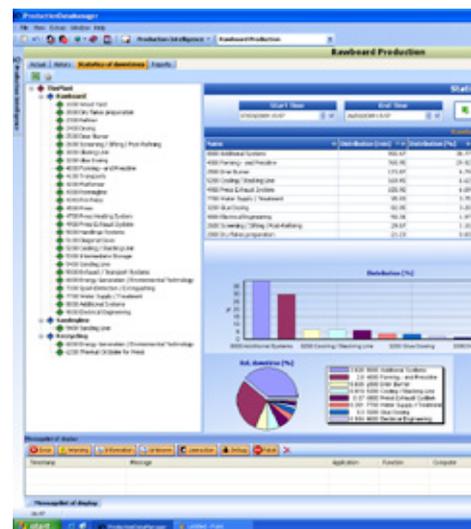
Developed for an optimum production process

More automation

Higher efficiency, more economic viability, greater productivity: All of this potential is in the data of your plant. With Prod-IQ®, our MES experts offer a software system that makes this potential available. With the intelligent Prod-IQ® tools you can optimise the whole production process of your plant almost with one click. The spectrum of this software ranges from process data management to smart production, from sensor to ERP. And all of this not just for Siempelkamp plants, but also external plants.

More profitability

The modular MES-tool is specially tailored to the requirements of our customers. Using the data provided by Prod-IQ®, you can comprehensively evaluate the efficiency of your plant. Whether number of boards, quality, consumption, downtime or reject rates: Prod-IQ® shows directly, which adjustments you can make to systematically increase the productivity of your plant. This provides you with reliable key figures for production management, quality control, maintenance and repair at all times.



Ø 1.5 %
reduced
downtime

furthermore
Systematic analysis
of downtime, quicker
error localisation

Ø 1.0 %
reduced
rejects

furthermore
Online quality
control (SPOC)

Ø 2.0 %
reduced
material consumption

furthermore
Less process
fluctuation, lighter
boards with the
same quality

Ø 0.5 %
increased
speed

furthermore
Production closer
to quality limits

Features & advantages

The features of Prod-IQ® at a glance

- + Automatic down time calculation and availability analysis
- + Management of production data with calculation of KPIs, e.g. for performance, consumption, quality and costs
- + Documentation of settings for production
- + Online quality control (SPOC) for strength properties and raw density profile
- + Process data based maintenance
- + Connection to ERP systems, e.g. SAP

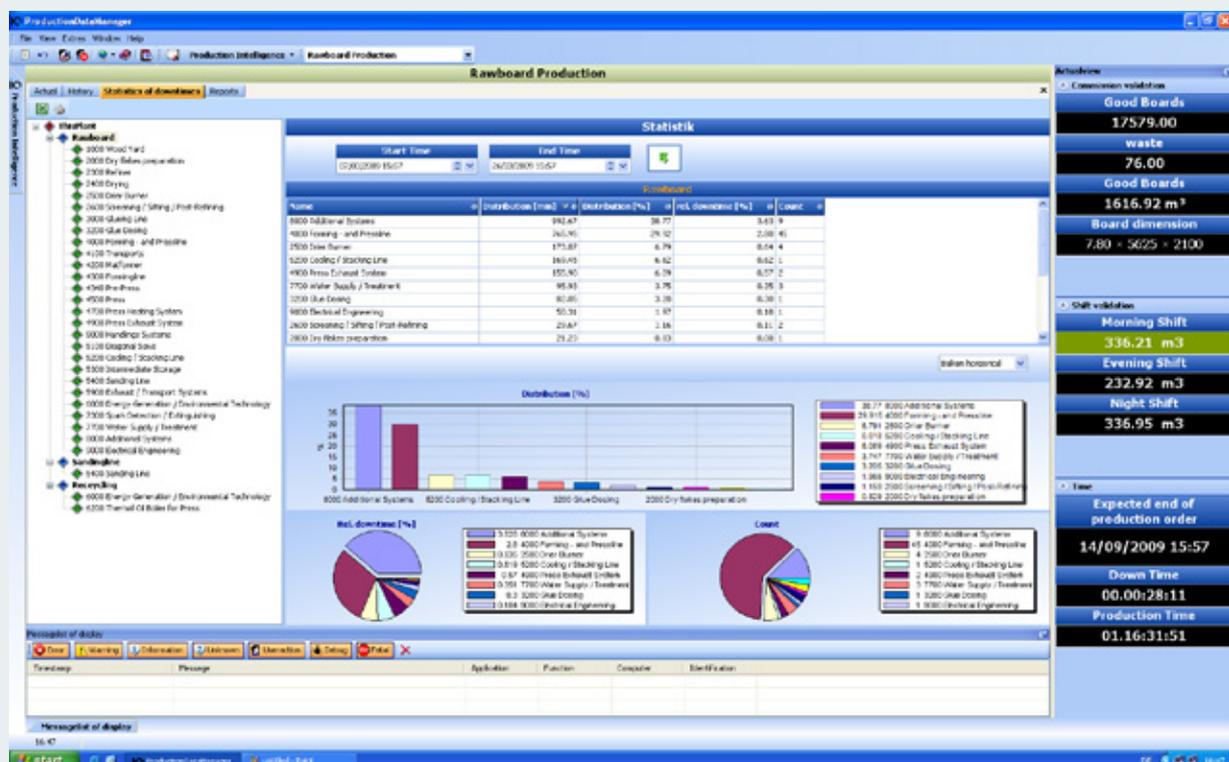
You benefit from

- + Online availability of all consumption and performance data for performance analysis
- + Reproducible product quality
- + Automatic implementation of group wide standards
- + Increased productivity, via material saving with secured quality, higher plant speed and reduced rejects amongst other things
- + Increased availability due to systematic downtime analysis and preventative servicing
- + Integration into existing plants possible

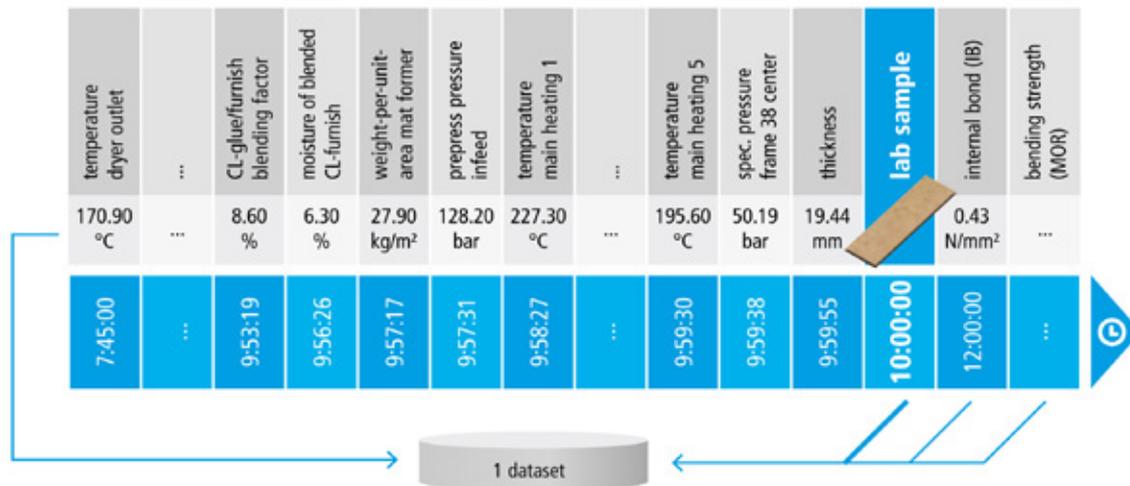
Prod-IQ.basics

Reliable and current management key performance indicators

Prod-IQ.basics is the basic module of the Prod-IQ® software family. It produces online KPIs about availability, plant performance, consumption or quality and documented processes. Prod-IQ.basics is included in the installation of a new ContiRoll®, and already prepared for the integration of further modules of Prod-IQ®. It can be integrated into existing plants and even plants of other manufacturers at any time.



Material flow tracking with lab report



Features & advantages

The features of Prod-IQ.basics at a glance

- + Collection and storage of production data
- + Tracking the material flow with a laboratory report
- + Downtime manager: systematic analysis of downtime and its causes
- + Production Data Manager: clear order, shift, daily and monthly evaluations
- + Automatically generated reports incl. downtime lists and statistics as Excel files
- + Trending (online and historical): issuing the production data in a timeline diagram for the purpose of monitoring
- + Configuration Manager: central plant configuration for data collection, reasons for downtime, user management etc.

You benefit from

- + Cyclic collection of all production and process data
- + Complete documentation of product development
- + Exact recording and quick elimination of downtime
- + Detailed and clear visualisation

Prod-IQ.business

Customisable expansion of the .basics functions

Prod-IQ.business adapts the .basics standard reports on the production order, shift, day and month to customer specific conditions. An integral part of Prod-IQ.business is the evaluation of Overall Equipment Effectiveness (OEE), i.e. the result of availability x quality x performance. In addition, it includes a C#-Scripting-development licence, and licences for two additional workplaces, where the Prod-IQ®-modules could be installed.

**Overall Equipment Effectiveness (OEE) =
availability x quality x performance**

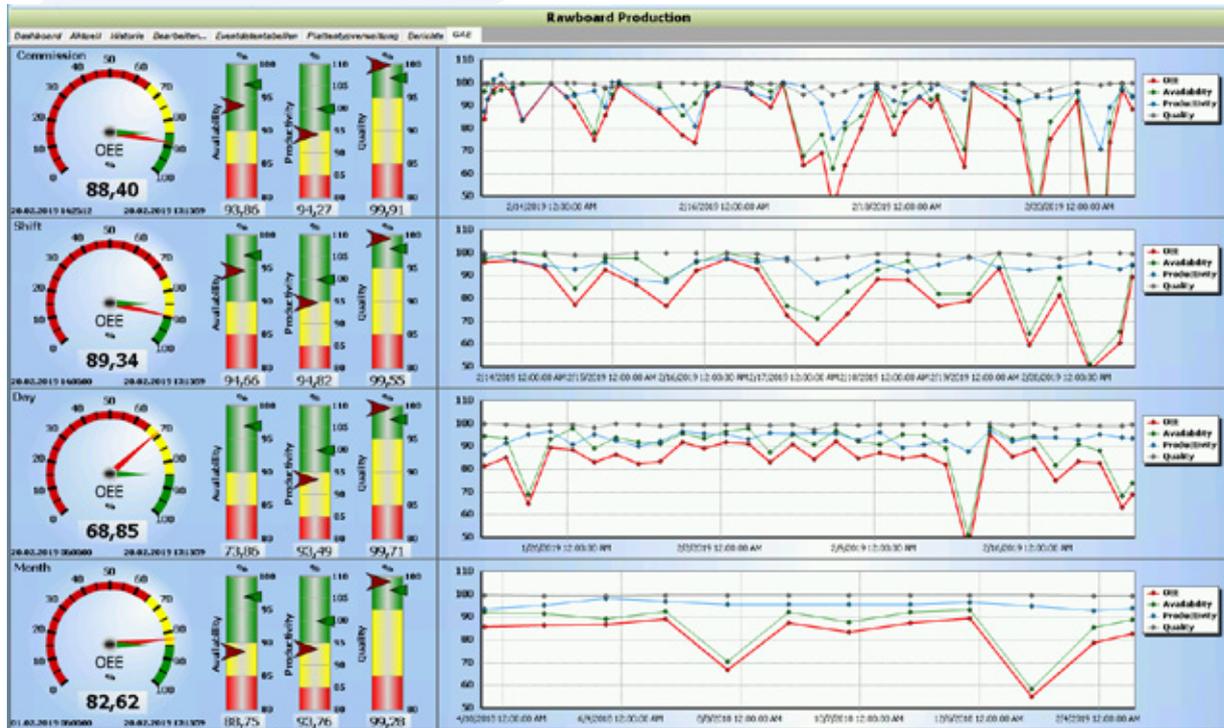
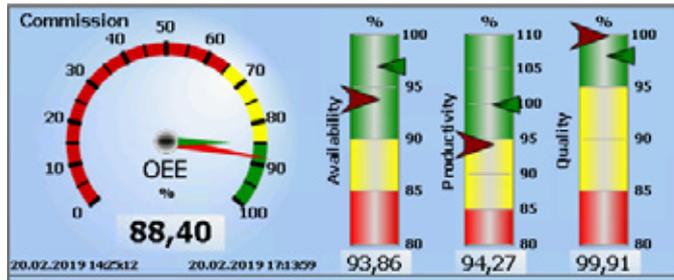
Features & advantages

The features of Prod-IQ.business at a glance

- + Evaluation of the Overall Equipment Effectiveness (OEE)
- + Customer specific adjustment of reports
- + Licences for two Office-PCs
- + Development licence and support for operators

You benefit from

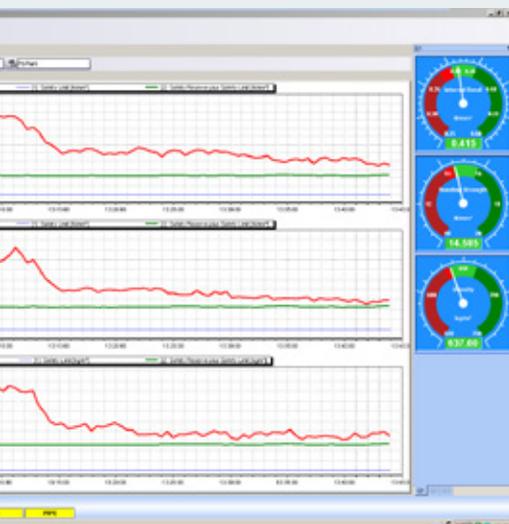
- + Cyclic collection of all production and process data
- + Complete documentation of product development
- + Exact recording and quick elimination of downtime
- + Detailed and clear visualisation



Prod-IQ.quality

Less costs and guaranteed quality due to automatic learning

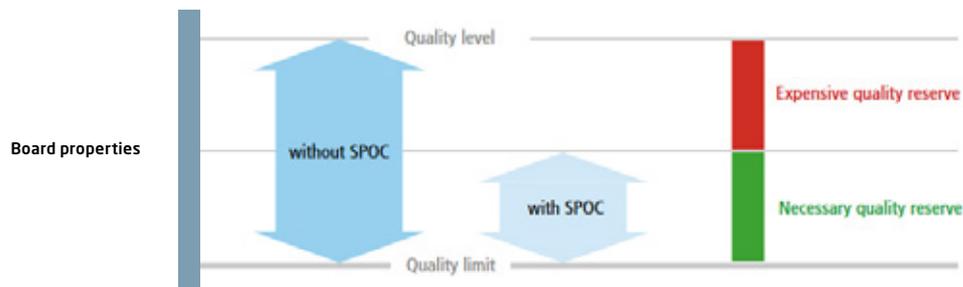
With Prod-IQ.quality our MES-tool offers a comprehensive module, which predicts the quality of important board parameters reliably and online. This includes for example internal bond, modulus of rupture, thickness swelling or surface soundness. The principle of Prod-IQ.quality: The software calculates the product quality on the basis of the current process settings, and presents them in a trend diagram. In addition, the software calculates the minimum quality reserves required. This means that production can run much closer to the maximum capacity, as the fluctuation range is much narrower. This increases the productivity with consistent quality.



The unique selling point of Prod-IQ.quality: machine learning

Prod-IQ.quality is a self-learning plant and shows a very high average accuracy of predictions, after just approx. 6 months. In figures: Raw density 99%, internal bond, surface soundness and modulus of rupture and thickness swelling each 95%. To this end, the plant uses every laboratory check to adjust the process model. Up until recently, this adjustment had to be carried out manually. Now it is automated. Furthermore, we have made the application more user friendly via an optimised user interface (one-click modelling).

Necessary quality reserve



Features & advantages

The features of Prod-IQ.quality at a glance

- + Technology support e.g. plant comparison, MFT-trending, process monitoring
- + Automatic learning of laboratory samples
- + Online quality prediction and control

You benefit from

- + Online calculation of reliable quality values
- + Increased production speed
- + Less rejects and use of material
- + Reduced costs with guaranteed quality

Customer feedback

The figures that our customers stated, show how effectively Prod-IQ.quality works:

- + **More than 2.5% reduction in use of material**
- + **Up to 2% more 1st choice panels**
- + **Up to 5% higher speed**

Equipped with intelligent production for the future

A further advantage of Prod-IQ.quality: Plant operators have thus already created the requirements for Prod-IQ[®] Next, i.e. for a superior control loop and thus for the self-optimising plant.

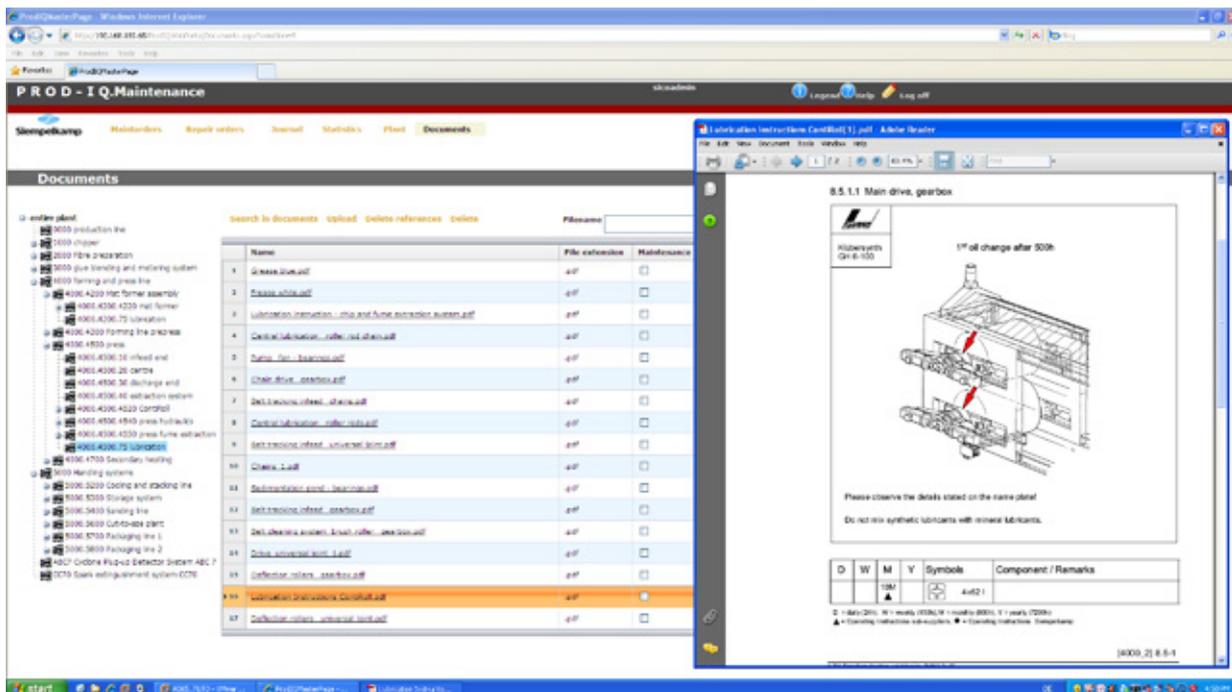
Prod-IQ.maintenance

More efficient servicing and maintenance

Prod-IQ.maintenance controls preventative servicing and maintenance measures for your machines and plants. This secures the investment, reduces maintenance costs and at the same time increases the plant availability. Prod-IQ.maintenance includes a logically divided plant structure tree, which illustrates all the maintenance objects with its criteria and interval. If necessary, it can be supplemented with CAD drawings, maintenance instructions or images.

Higher availability thanks to process connection

Preventative maintenance orders can be triggered cyclically, state-dependent or a combination of both. Prod-IQ.maintenance reads the necessary data for this directly from the control elements of the plant. In addition, the module serves to reveal weak points. To do this, it evaluates the data stored in the repair management, which clearly identifies the causes of recurring or similar defects. This means that plant operators can introduce counter measures immediately.



Features & advantages

The features of Prod-IQ.maintenance

- + Plant structure tree with all maintenance objects
- + Process connection for state-dependent maintenance
- + Repair management incl. repair requirement notification and status tracking
- + Weak point analysis

You benefit from

- + Predictable, forward looking and condition-based maintenance
- + Increased plant availability
- + Lower maintenance costs
- + Efficient elimination of weak points
- + Web based, easy use

Prod-IQ.profile

Prediction of the raw density profile of boards

Prod-IQ.profile ensures fine tuning of production, by predicting the raw density profile online. This module is calibrated via laboratory raw density profiles, and uses a further developed physical model based on the model VHP (Virtual Hot Press) for the prediction. It calculates the raw density profile of the current production via the materials values calculated such as surface weight and moisture as well as press settings (pressures, temperatures, speed) and presents it as a diagram.

The results are available directly after the pressing. Thus the laborious x-ray measurement technique is not required as a rule. Plant operators can achieve the desired quality faster.

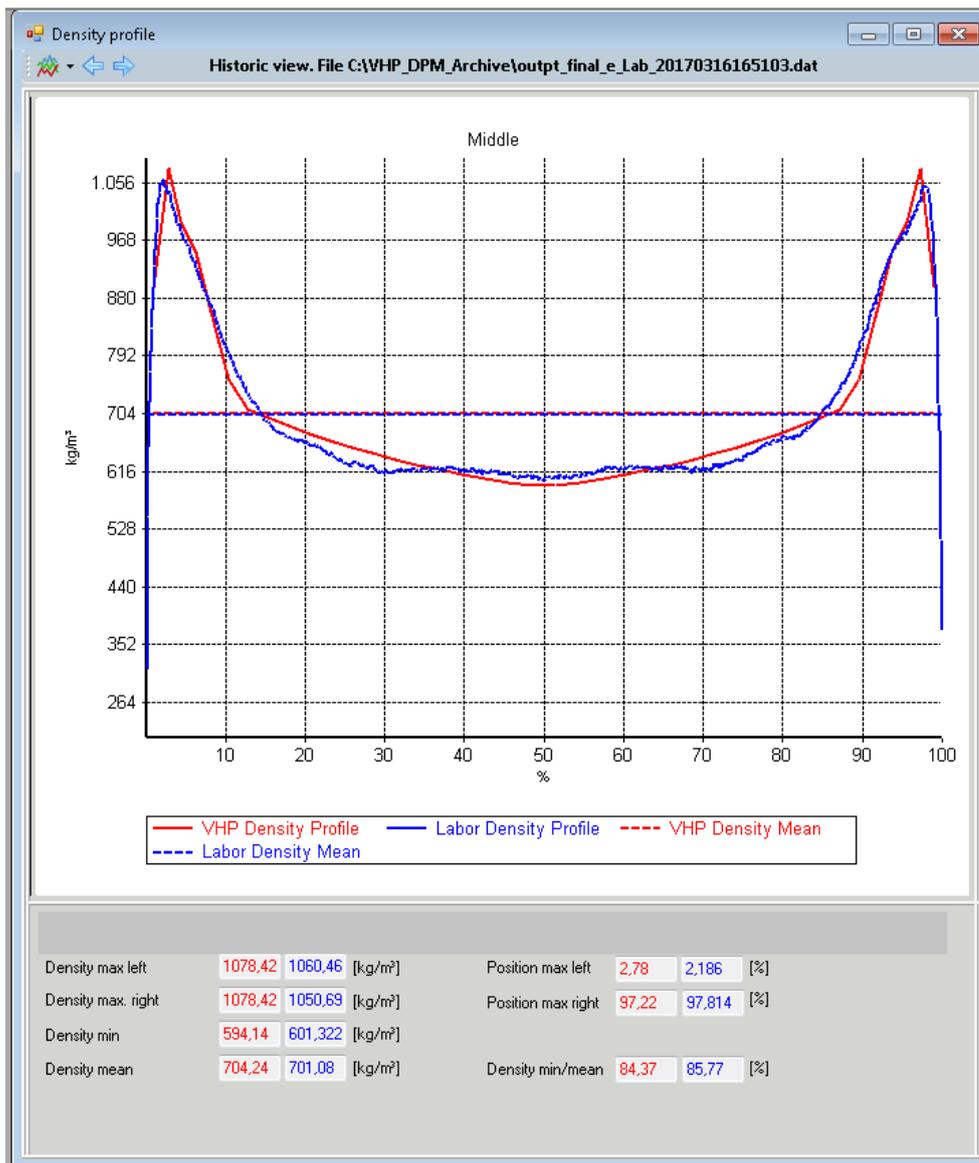
Features & advantages

The features of Prod-IQ.profile at a glance

- + Simulation of mat behaviour in the press, on the basis of a physical model
- + Supplementing the Prod-IQ® predictions with the raw density profile

You benefit from

- + Reliable online prediction
- + Results available directly
- + Reduced conversion losses
- + Simulation allows settings to be tested before the operator changes them



Connection to ERP systems such as SAP

Integration of business and production plants as a productivity boost

Generally recommended: the coupling of Prod-IQ® and therefore the plant to the customer's ERP System, e.g. SAP. Via the associated exchange of order data, the performance, availability and consumption data of your plant are always up to date. This means that you have powerful tools to hand, which can sustainably increase productivity.

Optional expansions

Universally applicable for more performance

In addition, Prod-IQ® offers you even more options, with which you can ensure more transparency and performance, even for other plant components or other plant types.

For example, the following is possible:

- + Use for other plant components such as final assembly, e.g. sanding line, painting or short cycle plants
- + Use for other plant types such as transformer boards, wood fibre insulating material plants or metal forming plants
- + Expansion of the plant with laboratory interface and cost trending

Advantages

You benefit from

- + Evaluations adapted to your specific requirements
- + Collection, presentation and regulation of incurred costs
- + Easy and quick product change

Software maintenance

For flawless IT sequences

IT continues to develop and the needs of our customers are changing. That is why we are permanently optimising our programmes. This means that the software also has to be continually maintained, to stay up to date. To this end, we offer an extensive software maintenance package: It ranges from software updates, e.g. after further developments or change of operating systems, right up to specific changes in the applications, such as the acceptance of further values into the laboratory interface or existing reports. You can concentrate on your core business, conserve your resources and be sure that your IT processes run smoothly.

Binding regulations on scope of services creates planning security

In general, our software maintenance includes the following services:

- + Maintenance works via remote maintenance: Software updates, software upgrades on change of release, support with changes to the application, support with operation and use of the programme
- + Implementation exclusively by qualified expert personnel
- + Documentation of maintenance works

All details of software maintenance such as performance specification, run time, prices etc. are regulated in a software maintenance contract.

developed by



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