



MES - Software

Scheduling System • PEP • MDE
BDE • Online-Monitoring • OEE
KPI • TPM • PZE • CAQ • DNC

PROXIA . The company

PROXIA – your MES partner: Robust – reliable – competent – innovative

PROXIA Software AG is an international software company that develops and integrates MES solutions for manufacturing and production companies. For more than 30 years, the corporate group has been engaged in industrial process optimization. Professional project management, expert staff, innovative software products and expertise in the industry form the foundation of our company's success.

The core product portfolio of PROXIA MES-Software solutions includes MES planning, data acquisition, monitoring, as well as analysis, evaluation and controlling key production indicators. The company's range of services includes development, sales, implementation, support, training and MES consulting. Complete MES process structures can be formed using the PROXIA MES-Software products MES Control Room, Shop Floor Management, MDE, BDE, ETKS, CAQ, TPM, online monitoring and OEE/KPI key indicator identification, and merged at ERP/PPS level – pave the way to a smart factory and Industry 4.0.

PROXIA is a certified SAP partner and through the vertical and horizontal integration of MES solutions from one source, provides data consistency from business processes to shop floor level.

Our principles are consistent with our corporate objectives and are an integral part of the daily routine of every employee, whether working with customers or with one another. Our software supports our customers in their transformation to digital and transparent production.

Targeted consultation and analysis helps us identify potential together with our customers, and offer strong, industry-specific solutions in the MES environment. We don't sell, we build partnerships.

- ✓ **ONE MES partner, everything from one source** for future security without interfaces
- ✓ **Over 30 years of MES and industry experience** ensuring ROI
- ✓ **In-house software development** with the latest technologies for reliable innovation
- ✓ **Strategic MES expertise and power in project implementation** for fast product deployment and short ROI
- ✓ **Modular, highly-integrated software modules** for a consistent MES total solution that grows with your requirements
- ✓ **Innovative, state-of-the-art MES products** with maximum performance, intuitive user ergonomics and cutting-edge design

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“The work of PROXIA Software AG employees is characterized by a continual focus on the benefit to the customer. State-of-the-art software development, coupled with high user friendliness, guarantee an almost linear increase in added value and assurance of the achieved level of productivity!”

Julia Klingspor
CEO



PROXIA – More than just MES-Software – Your MES Project realization tool

With the decision to purchase PROXIA MES, a production company lays the foundation for long-term improvement of its production processes, with a view to improving OEE key indicators: Increased availability, improved resource efficiency and better product quality. Working with PROXIA means more than just acquiring MES-Software. It's about entering a partnership with one of the leading providers of MES in the world. As an MES solution partner, PROXIA offers a high degree of strategic competence and power in project realization. Through MES process consulting, we support companies on a practical level in meeting their targets using the latest lean production methods, SMED concepts and set-up optimization models.

 Innovative MES Products	 Latest software	 Fast project realisation
Customised MES-Software products with a high level of standardization and modular design for a future-proof, consistent MES total solution, which grows with your company requirements	In-house software product development, made in Germany with the latest technology for MES-Software with excellent performance, intuitive user guidance and cutting-edge design	Seamless, quick implementation by our team of MES specialists, highly skilled in the industry, for rapid deployment in production, and a short ROI period on your MES investment

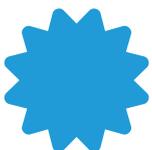
As a technology trendsetter, PROXIA offers transformable, in-house MES products with a modern design, ergonomic user interface and modular concept for a sustainable, consistent MES total solution that grows with your company's requirements. Individual MES-Software products with a high level of standardization ensure short implementation times with rapid integration into production, and a short amortisation period for MES investment.



30
years of MES experience



11.000
networked machines and workplaces



180
successful MES projects



Awarded
the TOP 100 award for innovation

PROXIA . Positioning

In Focus: MES in the context of Industry 4.0

The new era of global competition, high costs and tight deadlines present new challenges for production companies. The requirements of process and production optimization are highly complex; the starting points and objectives of individual companies vary widely:

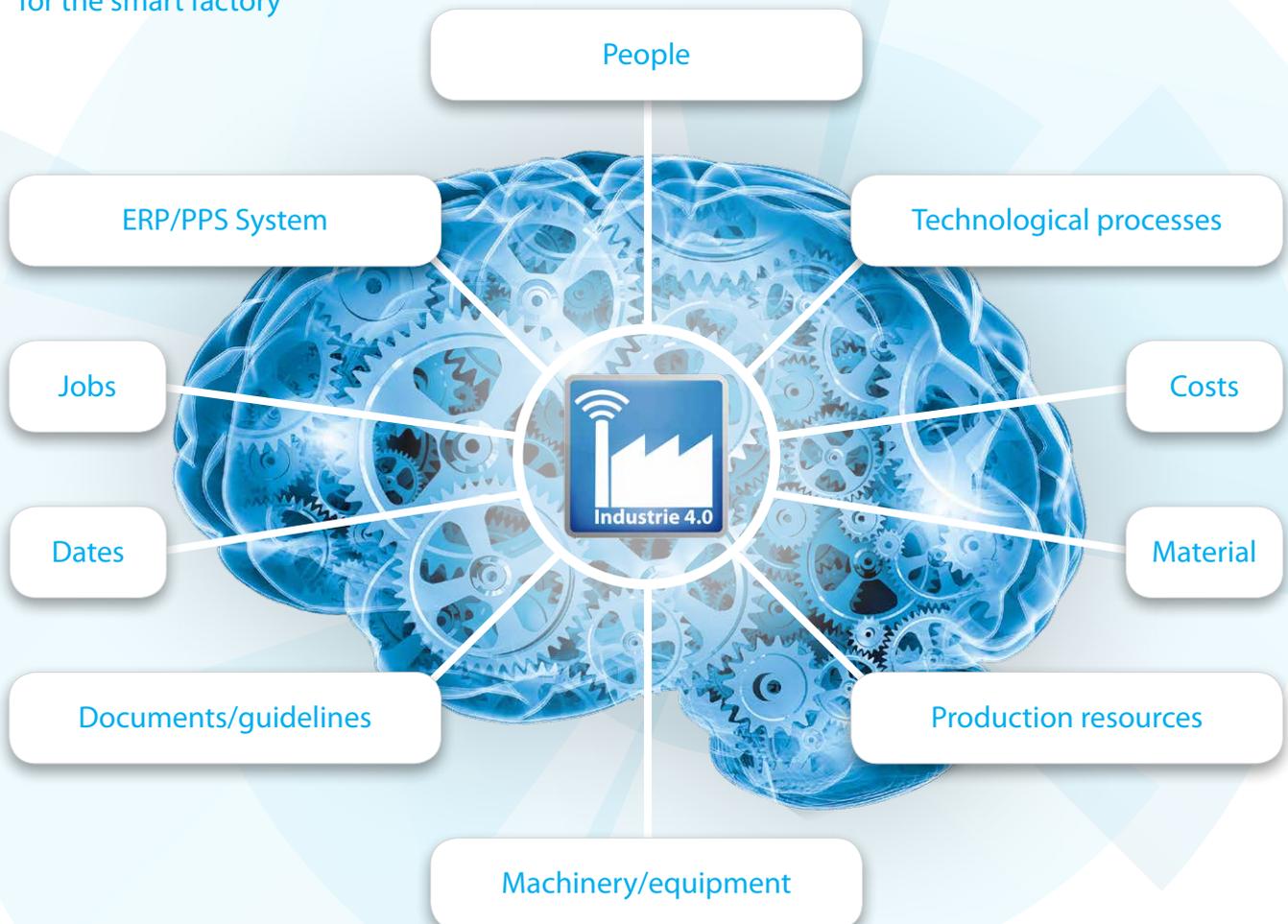
It may be that a company is in transition from a small business to an industrial corporation and must tackle the increasing shortage of skilled workers or increasing individualization and resulting batch reduction. Rigid vertical process integration, which has been frequently shown to date in a pyramid chart, is a thing of the past, as a far more dynamic model is now required from ERP - from production planning, right through to shop-floor level. Under the Industry 4.0 concept, there is a paradigm shift towards the integrated networking of machines, equipment, people and the relevant process levels of a company, for which PROXIA provides key support with its MES solutions.

Modern MES for the smart factory: PROXIA

Controlling complex "smart" processes and combining this with a high degree of adaptability requires IT systems that can be flexibly adapted to changes in the product and production environment through configuration. As an MES solution provider, alongside its extensive experience in production optimization, standardized software products and a high degree of implementation and project expertise, PROXIA has the necessary know-how to successfully implement Industry 4.0 projects and meet the challenges of IoT, Big Data and Smart Data.

With PROXIA MES, production becomes "lean", punctual, efficient, flexible and customer-oriented, with the industrial company more successful and more competitive on the market in the long-term. PROXIA MES improves production planning, creates greater transparency and controlled processes, provides KPIs, analyses and reports - regardless of the industry, and can be flexibly adapted to individual production processes - on the road to implementing lean production, a smart factory and Industry 4.0.

PROXIA "IT production memory" for the smart factory



PROXIA MES . Target Groups

ONE system for different target groups!

It's not just production that benefits from MES, but the whole company. Individual users or user groups pose different challenges when it comes to information processing, presentation or system operation. As a professional MES solution provider, PROXIA individually responds to these differences and meets the needs of management in terms of IT, controlling and quality management, work scheduling and planning, right through to production staff on the shop-floor. PROXIA MES is not the only link between management and shop-floor level, but as a control instrument it ensures greater transparency, effectiveness and quality far beyond the production level. By standardizing the sub-processes in

production, PROXIA provides a comprehensive MES package of ergonomics, performance and functionality for different user target groups. Production-related, dynamic control cycles required for a modern smart factory in terms of Industry 4.0 philosophy complement the ERP system for an integrated production system.



Benefits for Managers/Controllers

- Monitoring efficiency and productivity
- Optimization of capital utilization by activating unused resources
- Performance comparison (benchmarks) and key indicator analysis (KPI/OEE)



Benefits for production managers

- Optimization of machine and plant efficiency in terms of CIP
- Early identification and resolution of problems in production
- Less waste through greater transparency (lean production)



Benefits for quality managers and maintenance staff

- Easier monitoring and documentation of product quality
- Control of measures for improvement (CIP)
- Reduction in rejects
- Better planning of maintenance intervals



Benefits for machine/plant managers

- Compliance with scheduled completion times and a faster response to problems
- Reduction in workload due to less paperwork in production
- Improved documentation and information regarding operating data and processes

PROXIA MES . Industry solutions

Machinery/equipment:

- Comparative key indicator analysis
- Two-way communication with the shop-floor
- Personnel planning



Contract manufacturing:

- Demand-based software structures
- High levels of process standardization
- Efficient use of resources



Automotive:

- Seamless process documentation
- Precision drill-down functionality
- Interdepartmental planning



Tool/mold construction:

- Detailed components documentation
- Detailed resource planning
- Dynamic order generation



Plastics industry:

- Automated data capture
- Integration of statistical quality management systems
- Secure material flow



Chemical industry:

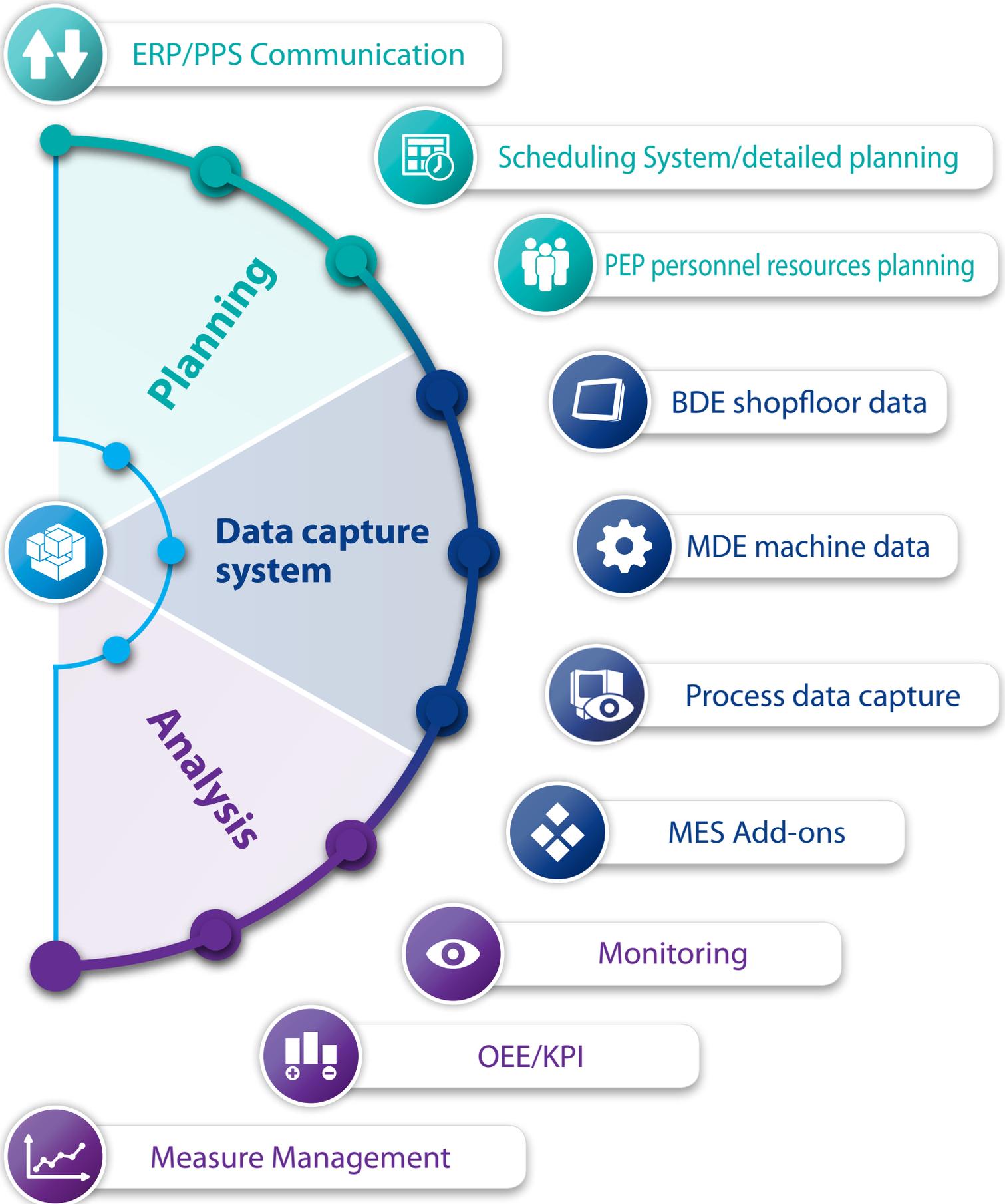
- Procedure management
- Key indicator monitoring for all processes
- Automated process data capture



PROXIA MES solution expertise in industry-specific detail

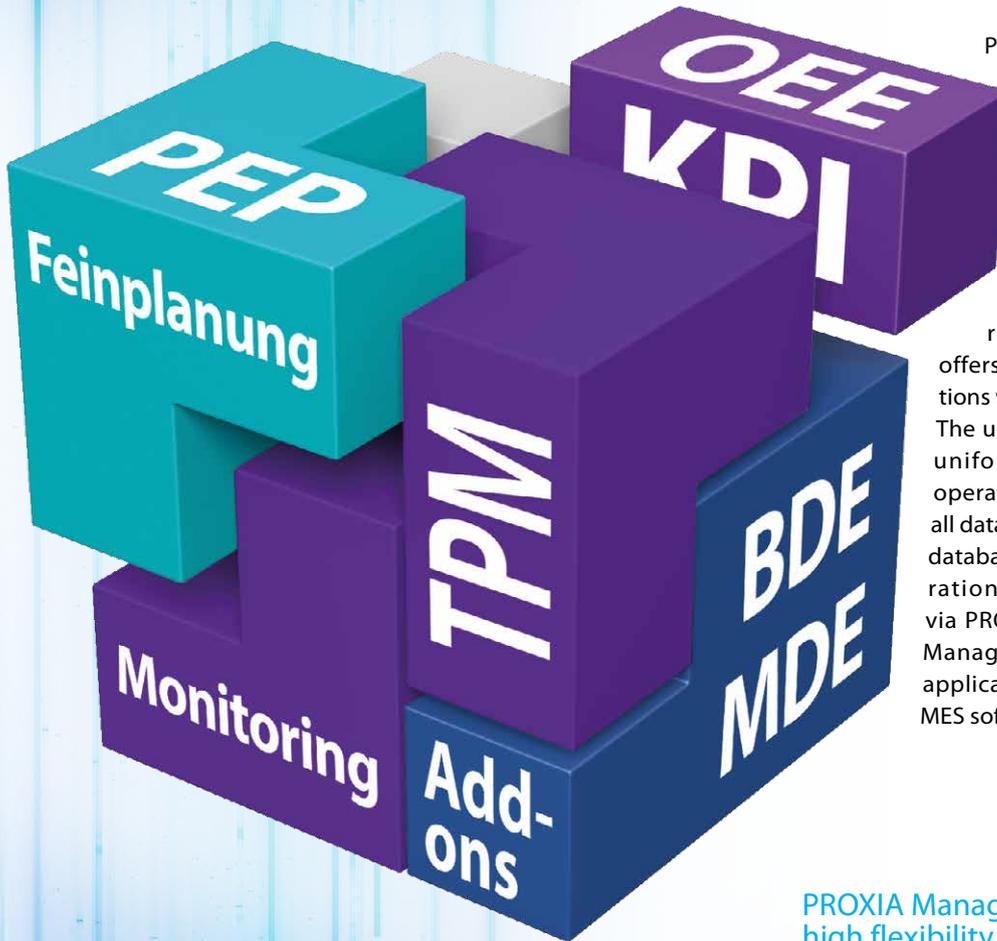
As an independent MES solution provider, PROXIA offers a wide range of integrated overall and detailed solutions for optimization of different processes at production companies. Standard, transformable software products developed in-house form the basis of our industry-specific solutions. Economic aspects and the optimization of technical processes are priorities in implementation.

PROXIA MES . Product portfolio





PROXIA . Manager



PROXIA Manager - standard application rack for all MES modules

PROXIA MES works on the basis of the standardized system platform, PROXIA Manager. This application platform combines all PROXIA modules and forms the basis for standardized data management. PROXIA Manager is the “application rack” into which PROXIA MES modules can be integrated as required. The application platform offers a broad portfolio of standard functions which are used in all PROXIA modules. The user thus benefits from an integrated, uniform and state-of-the-art software operating concept. PROXIA Manager uses all data and information taken from a central database structure. All allocations, configurations and settings can be organized via PROXIA Manager. Changes to the MES Manager, or the integration of additional applications can be performed live during MES software operation.

PROXIA Manager - strong IT foundation, high flexibility and full updatability.

PROXIA Manager was designed so that the software solution can be adapted to the precise needs of your production and manufacturing, without deviating from the standard. Therefore, PROXIA MES can always be updated and retains its data consistency even when the needs of the company change. Additional data sources can be added at any time and are immediately available to integrated PROXIA modules.

PROXIA Manager was developed using modern software development tools and is under continuous development. This forms the foundation of a sustainable high-performance MES enterprise solution that grows with the company’s requirements.



Highlights & Benefits

PROXIA Manager

- Standardized Software Platform
- One central application for all MES applications
- Modern, updatable basic structure for long-term company concepts
- Standardized, simple operation and function calls

ERP/PPS . Communication



Data sources

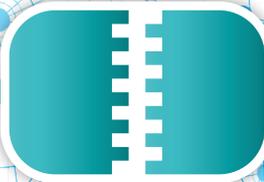
ERP-Systems

- Infor
- abas
- SAP
- PSI
- Sage bäurer
- PRO ALPHA
- Navision
- Microsoft Business Solutions
- ...

Other data sources

- xls file
- ASCII Text
- Web services
- native data-base-Access
- ...

PROXIA Connector



ERP/PPS and PROXIA MES – Use synergies for increased efficiency

An optimized system landscape is created for flexible production by exploiting synergies between commercial and production elements and the seamless exchange of information between both software system structures. The ERP and MES must therefore be synchronized using specific process units. Intelligent software connections then ensure the consistent, two-way exchange of information between ERP and MES.

PROXIA Connector – Working with the same media

The PROXIA Realtime Connector guarantees cross-system data communication between the ERP system and PROXIA MES. Furthermore, the PROXIA Connector can conduct two-way communication with other IT systems involved in the process. The company can access the same information at all process levels for evaluation, analyses or visualization. Different levels of transaction data and interface problems are therefore a thing of the past.



Perfect interchange with SAP

PROXIA MES begins where SAP stops

Integrating PROXIA MES in mySAP ERP creates a system landscape in which commercial and production levels work together seamlessly. PROXIA MES has been SAP-certified, with the distinction "Powered by SAP NetWeaver". PROXIA MES software can be incorporated into the SAP NetWeaver Exchange Infrastructure, an open integration solution (also SAP XI 3.0), as well as SAP NetWeaver Portal. Incorporating SAP XI 3.0 makes it possible to integrate ERP business processes by enabling data and information to be exchanged between the two systems.

SAP Certified
Integration with SAP Applications

SAP Certified
Powered by SAP NetWeaver

SOFTWARE
SAP
PARTNER



Scheduling System . Detailed planning



PROXIA Scheduling System – the tool that creates transparency

In practice, machine allocation or the sequence and priority of orders is frequently made on an empirical basis. This procedure is practicable up to a certain order volume. However, if the number of production orders or their complexity increases, where material stocks, setup optimization, order networks (multi-level planning) or multi-resources must be taken into account, a gut feeling is no longer sufficient and the planner needs the support of a mathematical Scheduling System.

Orders are imported via the ERP/PPS system interface and compared against existing capacities, based on resources,

shift models and personnel resources planning. The Scheduling System performs automatic, algorithm-based machine allocation and time scheduling, which can be influenced by the planner via drag & drop or priority rules in the next step. In order to simulate reality, a finite plan is created in the planning mode. Infinite planning can also be carried out in simulation mode to see where and how many overloads need to be reduced.

In developing the PROXIA Scheduling System, particular attention was paid to clear display/operation and high performance. Daily questions can therefore be answered ad hoc:



Highlights & Benefits

PROXIA Scheduling System

- Plan and simulate production scenarios
- Reduce throughput times, minimize inventories
- Planning with limited capacities and multi-resources
- Plan “priority orders”, order networks
- Material availability planning and grouping work sequences
- Gantt, forms and table functions for greater transparency

- What effect does the prioritization of a “priority order” have on other orders?
- Can the deadlines for one or more delayed orders be met by increasing capacity or outsourcing?
- What effect does a deadline set by sales or a project have on existing orders?
- Is setup optimization based on different characteristics such as material, color, diameter, etc. useful and what effect does it have on the schedule?

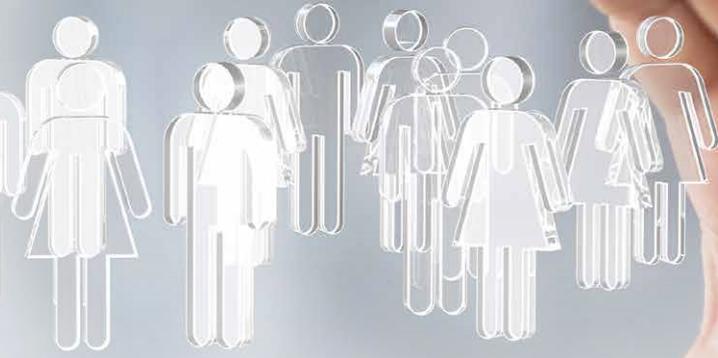
PEP . Personnel resources planning



PROXIA PEP – The second dimension of capacity planning

In the first dimension, capacity is determined by the resources and assigned shift model. This capacity is forwarded to the Scheduling System in advance for scheduling. In retrospect, this forms the basis for OEE calculation. The term “availability” is defined differently in companies. For example, this can be 24 hours a day, as a machine or equipment is always available depending on the assigned shift model or a company-specific definition, e.g. when only shifts that are manned are incorporated into OEE as available.

In addition to the resources/shift ratio, PROXIA personnel resources planning provides the option of factoring and planning personnel availability in the second dimension. Skills, certificates, absences, as well as roles and rights are taken into account when allocating employees to shifts. PROXIA PEP creates a realistic view of availability/capacity in the production environment and, therefore, enables finite resource planning in the production Scheduling System. The effect of a variation in the shift model, e.g. the introduction of another shift for a localized production bottleneck can therefore be checked for its impact by simulation in the Scheduling System.



Who works when and, above all, where?

Alongside personnel/shift allocation, which can be performed by drag & drop, personnel resources planning also takes into account the absence of employees. Absences such as vacations/leave, sick leave, training, etc. can be updated in the PROXIA PEP module or imported from a HR/PZE system. The result of allocation is both a personnel resources calendar and machine allocation plan.

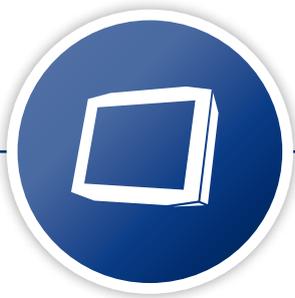


Highlights & Benefits

PROXIA PEP

- Definition of shift capacity, allocation via drag & drop for a better overview
- Personnel and shift planning with the allocation of employee skills: Prevent personnel shortages
- Different work modes (excluding operation, auxiliary workers, skills pool)
- Consideration of personnel characteristics and absences: Plan the right workers for the right tasks
- Option to fully integrate HR and PZE systems, as well as Scheduling System communication

Montag	Dienstag	Mittwoch	Donnerstag	Freitag
25	1	2	3	4
7	8	9	10	11
Frühschicht - DMG DMC ⁴ 835V	Frühschicht - DMG DMC ⁵ 835V	Frühschicht - DMG DMC ⁶ 835V	Frühschicht - DMG DMC ⁷ 835V	Frühschicht - DMG DMC ⁸ 835V
X	X	X	X	X
21	22	23	24	25
28	29	30	31	1
Frühschicht - DMG DMC ⁴ 835V	Frühschicht - DMG DMC ⁵ 835V	Frühschicht - DMG DMC ⁶ 835V	Frühschicht - DMG DMC ⁷ 835V	Frühschicht - DMG DMC ⁸ 835V
X	X	X	X	X
11	12	13	14	15
X	X	X	X	X
18	19	20	21	22
X	X	X	X	X
25	26	27	28	29
Normalschicht - SHIV Uniforce 8	Normalschicht - SHIV Uniforce 9	Normalschicht - SHIV Uniforce 10	Normalschicht - SHIV Uniforce 11	Normalschicht - SHIV Uniforce 12
Normalschicht - SHIV Uniforce 6	Normalschicht - SHIV Uniforce 7	Normalschicht - SHIV Uniforce 8	Normalschicht - SHIV Uniforce 9	Normalschicht - SHIV Uniforce 10
Frühschicht - Mazak Nosa ⁸ 400-II	Frühschicht - Mazak Nosa ⁹ 400-II	Frühschicht - Mazak Nosa ¹⁰ 400-II	Frühschicht - Mazak Nosa ¹¹ 400-II	Frühschicht - Mazak Nosa ¹² 400-II
X	X	X	X	X
13	14	15	16	17
X	X	X	X	X
20	21	22	23	24
X	X	X	X	X
27	28	29	30	1
X	X	X	X	X
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30	31	1	2



BDE . Shopfloor data collection

PROXIA BDE for weak point analysis

PROXIA BDE tracks the current status of production or assembly directly at the source. By seamlessly tracking the supply chain process from logging on to logging off, weak points can be identified using early warning, monitoring and reporting tools and the appropriate measures promptly taken.

The tracking period can be split into three configurable statuses/conditions such as set-up, production, breakdown, downtime, etc. Captured statuses are then posted to different accounts (work area, HR, work sequence). The HR and work sequence accounts in particular can be activated or deactivated using parameters, thus enabling, for example, anonymous data capture.

PROXIA BDE supports a variety of order types, e.g. production orders, overhead orders, container tracking, target/

actual entries, etc. Both individuals and groups can log on, therefore functions such as multi-machine operation or automated operation are also provided.

The work queue for individual tracking stations may come from a wide variety of sources, e.g. an ERP system, the Scheduling System or a manual order/workflow system in the PROXIA MES system. The primary objective in developing PROXIA BDE was to provide even PC beginners with a self-explanatory interface for simple, intuitive operation.

Feedback to the Scheduling System

In order to ensure that the control system is updated and dynamic, the BDE system supplies relevant and order-based current data to the Scheduling System. In this context it is irrelevant whether the PROXIA Scheduling System or another external planning system is used.

PROXIA BDE hardware platform

The PROXIA BDE data capture system is designed so that different hardware options can be used depending on the individual IT standards or specifications of the company: the BDE data capture system is a Microsoft Windows application and is compatible with standard PCs, industrial PCs or mobile devices such as tablets, smartphones, etc. Standard solutions such as barcodes, QR codes or transponders are supported for order reporting or personnel identification.

Expansion to create a comprehensive information system

As well as tracking production status, the BDE data capture system can also be used as an information system which supplies, for example, NC programs, tool lists, drawings or test procedures, etc. relating to the order. Internal communication options such as an e-mail or SMS alarm system can be used, always with a focus on enabling the operator to request information or to support production (e.g. maintenance engineer or material) directly from tracking stations.



Highlights & Benefits

PROXIA BDE

- Very easy, intuitive operating concept
- Freely configurable status buttons with full flexibility and updatability
- Expandable modular functionalities such as batch tracking
- Integrated BDE early warning system to enable a fast response in the event of bottlenecks
- Connection of production support hardware (e.g. scanner, RFID, ...)

MDE . Machine data collection



PROXIA MDE – The 24/7 “Machine ECG”

MDE is the electronic “fingerprint” of a machine or equipment. Depending on the design, system status can be reported manually or completely automatically via MDE by the machine itself. While the machine operator looks after his/her own machine as usual, the MDE capture system runs automatically in the background, thus preventing entry errors or skipped entries.

Due to the modular design of the PROXIA capture system, a mixture of both reporting variants (BDE and/or MDE) can be operated with no problem. Therefore, e.g. if state-of-the-art machines are acquired, they can be switched over from BDE operation to MDE operation.

Automatic data capture by MDE provides operating personnel with significant time savings, in particular on systems such as shuttle tables, pallet stations, clamping tower systems, production cells and multi-machine operation. Alongside the simple capture of status, the automatic capture of quantity is also an easy solution and provides part of the data required for OEE calculation.

Automatic alarm in the event of disruptions

A key concept in the Industry 4.0 context is active, two-way communication between machines/equipment and operators in order to identify faults or bottlenecks faster and minimize production downtimes. Different alarm scenarios



can be realized with PROXIA MDE. These can be either sent via in-house IT structures, e.g. by e-mail, or by external services e.g. via SMS or RSS feed.

Highlights & Benefits

PROXIA MDE

- Minimal reporting time through fully automatic data capture
- Process large data volumes or complex production structures, e.g. multi-pallet machines, pallet stations or production cells
- BDE/MDE mixed operation through modular design
- Support for international standards, e.g. OPC-UA or Euromap 63
- Different alarm mechanisms via e-mail, SMS or RSS feed

MTConnect®



Standardized machine communication with OPC-UA

The OPC-UA (Open Platform Communications - Unified Architecture) communication standard offers the ability to read information on plant/equipment status and all types of process data from different controllers. Existing infrastructure (e.g. an existing OPC-UA server) can be used for this communication standard. It is also possible to integrate older controllers, which do not have an OPC-UA server via smart gateway solutions. No programming of the machine interface is required on the MES side. All information e.g. setup of a signal matrix is configured in the MES system.



Process data . Capture

The intelligent tool for maintenance

Process data? This is the data which documents the actual parameters with which a process was performed. This data is generally used by the control systems of a plant to regulate the process. The information such as temperatures, pressures or speeds in most cases remain in the control system and are not used for other tasks. If this "data pool" is tapped, this opens up additional possibilities for increasing added value. For example, deviations from the theoretical process are quickly detected due to the permanent visualisation of relevant process parameters.

The information obtained in this way is not only an important asset for production employees, but also in maintenance, the database providing additional assistance for troubleshooting and optimising production facilities.

Perfect visualisation for maintenance

Many modern systems offer the possibility of providing data for maintenance.

However, almost all providers supply their own visualisation solutions. This makes a clear and uniform representation of telemetry data systems practically impossible. The visualisation level of the PROXIA process data module is able to represent graphically data of any kind, such as pressures, flow rates or vibration patterns. This provides the maintenance engineer with a modern, clearly laid out user interface available for all of his conditions based on the recorded telemetry data.

If measured values deviate from the specifications, push notification concepts such as SMS, Mail, RSS or the automated generation of maintenance reports are available. So unplanned downtimes are minimised and planned downtimes are transferred to less critical time windows become. In the event of quality deviations their causes must be determined.



PROXIA process data module - Additional aid in troubleshooting and optimising production plants, including on mobile terminal devices.

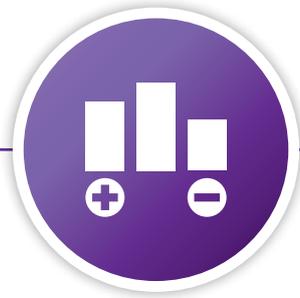


Highlights & Benefits

PROXIA process data module

- Use the process data recorded by the MES for your maintenance!
- Online monitoring of telemetry data, even on mobile terminal devices
- Automatic generation of maintenance messages
- Minimise reaction and down time!
- Identify the causes of faults and initiate coordinated measures
- Create a database for automated decision-making processes
- Process data as an "enabler" for maintenance 4.0

OEE/KPI . Analysis



PROXIA KPI/OEE – Analysis of KPIs and OEE in real time

Key Performance Indicators, KPIs for short, are key operating indicators which reflect the performance and efficiency of a company. They serve as benchmarks for the success or failure of a company. The currency of OEE key indicators plays an important role: If KPIs show that planning data cannot be fulfilled within the specified timeframe, you can intervene to correct the process. The comparison of past processes with OEE key indicators for existing processes is also a key element in the continuous improvement process (CIP). All current processes at the company can be evaluated, managed and corrected with KPIs (e.g. OEE key indicators), if necessary. PROXIA KPI offers all the advantages of a modern software solution to meet these demands.

PROXIA KPI Monitoring – determine productivity and OEE accurately

PROXIA KPI Monitoring provides detailed evaluation of all relevant process factors for OEE analysis. This captures automated reports from machines and equipment (MDE) and manual reports (BDE), and feeds this to configurable calculation formulas. Connections, standards or dependencies can also be configured, as can the analysis layout of OEE software. Drill-down functions allow you to immediately recognize where the “cause of the problem” lies in your process and/or in the company. PROXIA KPI is based on standardized calculation formulas and analyses that conform to VDMA/DIN norm 66412 for KPI indicators.





MES . Monitoring



Controlling production - live and on the move

Expanding the information network paves the way for the smart factory. The "Monitor.web" module enables the analysis and visualization of operating and machine data through the use of innovative web technologies in order to monitor production in real time. A major benefit of this is that this option is not dependent on which terminal is used. Therefore, it doesn't matter whether production data is viewed on a notebook, tablet, PC or smartphone. Web access is all you need to open the "window into production" via the "Monitor.web" module. With Monitor.web, you can set up different views, optimized

to the relevant application area as required. In case of large volumes of data, the list or tile view is the ideal setting. When localising machines or equipment with problems, the hall view is best. A combination of different views can also be selected. Additional information can be retrieved from the relevant views via a drill down function. This provides information on the operators working on a machine or the tasks which are currently in progress. All detailed views can be individually modified to the relevant user's requirements.



PROXIA Online Monitor - the "smart" window into production

PROXIA Online Monitor offers the process owner an immediate look at the current situation in his/her assembly and production area. For example, operating times, downtimes, quantities and rejection figures are shown in real time. PROXIA Online Monitor is therefore an ideal tool for the foreman in his/her particular area, as well as for planners or production managers when a more global view is required. If required, notification of incidents can be sent via SMS or e-mail.

PROXIA Mobile Monitoring – accurate information anywhere

Through Mobile Monitoring, PROXIA Online Monitor offers the option of receiving information on productivity, problems and order progress even when you are off-site. The early identification of factors which could negatively affect productivity prevents costly delays in the production and assembly process. Mobile Monitoring is a web application developed according to the latest standards and runs on any smartphone.

PROXIA Time Bar – the modern form of MES monitoring

The "Time Bar" analysis tool is available in Online Monitor as well as the web application "Monitor.web" and can therefore also be used on the move. Specific timeframes can be visualized with multi-touch support depending on the terminal. The "Time Bar" function in Online Monitor can therefore accurately illustrate the productivity of your machines in a time bar diagram. All information on machines is immediately visible. This enables e.g. the foreman to see how productive the last shift was at a glance.



Highlights & Benefits

PROXIA Monitoring

- Early identification of factors that can have a negative impact on productivity
- Multi-level de-escalation management
- View of the current situation in real time
- Web-based monitoring – be informed at any time, anywhere





MES . Analytics

PROXIA Mobile-Descriptive-Analysis

The analysis tool for large amounts of data. The different KPIs are visualised in the „KPI“ web application. This enables the classic production indicators, such as total plant efficiency, degree of utilisation, reject rate, rework rate or availability, for freely definable mobile call periods. All key performance indicators are represented on the timeline, so it is possible to identify trend speed and assign marked KPI changes to particular events. Process disruptions, non-productive times, set-up times and productive times can be visualised for individual machines, machine groups or entire locations. A drilldown function is conveniently available for specific navigation through the hierarchical data and for processing the ever increasing amounts of data from production so that the relevant information is collated to the required extent and is a basic requirement for future corporate governance processes.

Regardless of whether the overall plant efficiency or a machine should be visualized or a detailed view of the degree of utilisation of entire works is required. The „Descriptive Analytics“ function block in the KPI web allows data compilation in different degrees of detail. This tool is therefore suitable for the management at all management levels of the company. The ability to take correct decisions based on real data is the key to sustainable, positive corporate development.



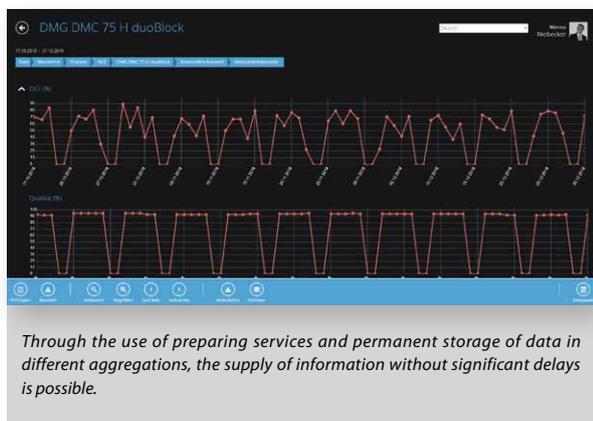
The ever-increasing amounts of data from the production process so that the relevant information is summarized to the necessary extent is one of the basic prerequisites for future Processes of corporate management.



Highlights & Benefits

Mobile-Descriptive-Analytics

- Fast and targeted data analysis based on standardised key performance indicators
- Processing large amounts of data and presentation in compact form
- Web-based analysis tool - Starting the analysis in any location
- Interactive OEE analysis for individual plants or complete production segments
- Project-specific integration of company KPIs
- Report generator with integrated PDF export, directly from the mobile terminal device





Highlights & Benefits

PROXIA Measure Management

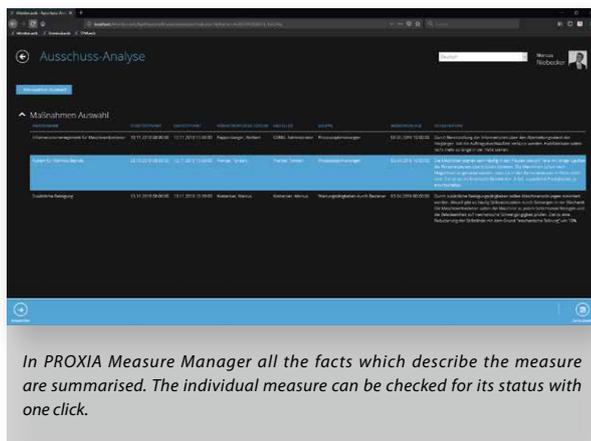
- Digital documentation of the measures carried out and yet to be carried out
- Graphic analysis of the measure conditioned changes
- Measure analysis from the machine to the complete production site
- Identification of conflicting goals in implemented measures



PROXIA Measure Management

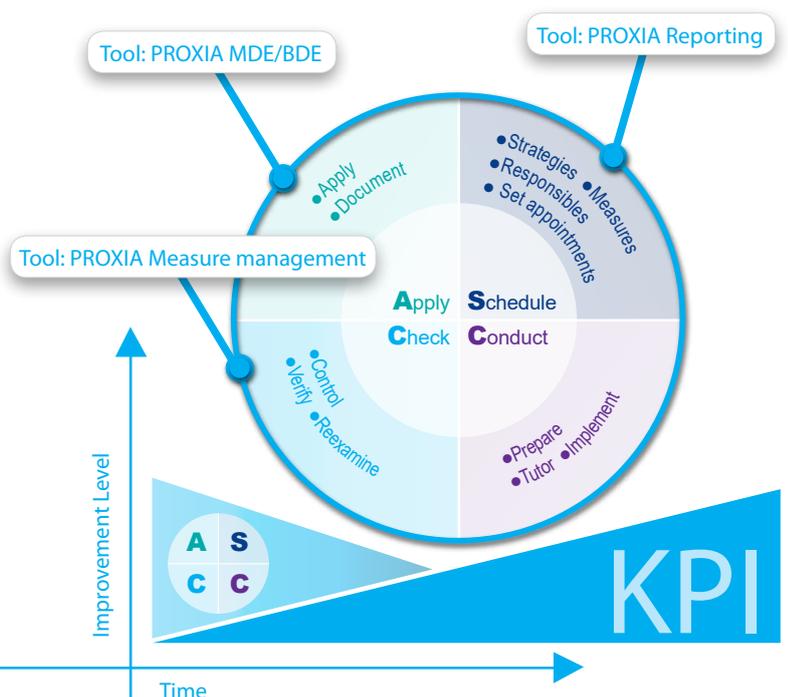
PROXIA measure management provides the employee responsible for the KPI with a powerful tool. With this web application it is possible to document measures in the course of process improvement, monitor the changes and evaluate results. Once the measure is stored in the system, changes in key performance indicators, relocation of production scrap, change in reasons for rejection or changes in order cycles, with reference to the measure, can be analysed.

The tool shows the changes on the timeline so that the quality and resilience of a measure can be assessed more accurately. Furthermore, the detailed KPIs are indicated as mean values. This is done both for the time before a measure and for the time after a measure. So it is possible to determine the extent of the change in the form of a KPI. Being able to evaluate the measures implement is the basis of each KPI.



In PROXIA Measure Manager all the facts which describe the measure are summarised. The individual measure can be checked for its status with one click.

The basis of the KPI: The PROXIA measure manager evaluates a change in the classic KPIs, such as OEE, availability, thanks for performance, rejection rate, set-up level, rework rate or technical efficiency, quickly simply and without complication.



PROXIA MES . Options & Add-ons



TPM Maintenance/Repair



DNC-Software



MES Hardware solutions



Tool & Data management



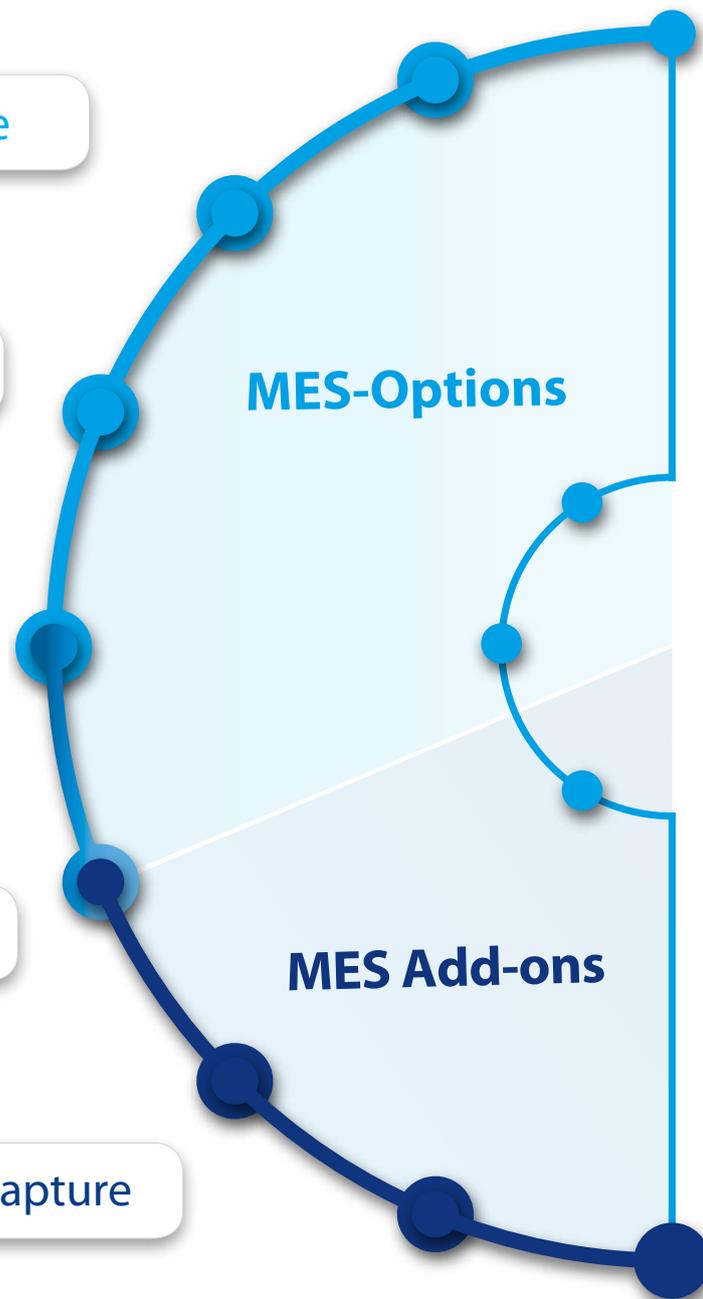
Internal transport logistics



CAQ Measurement capture



ETKS Employee timekeeping



Maintenance . Repair



PROXIA TPM Planning

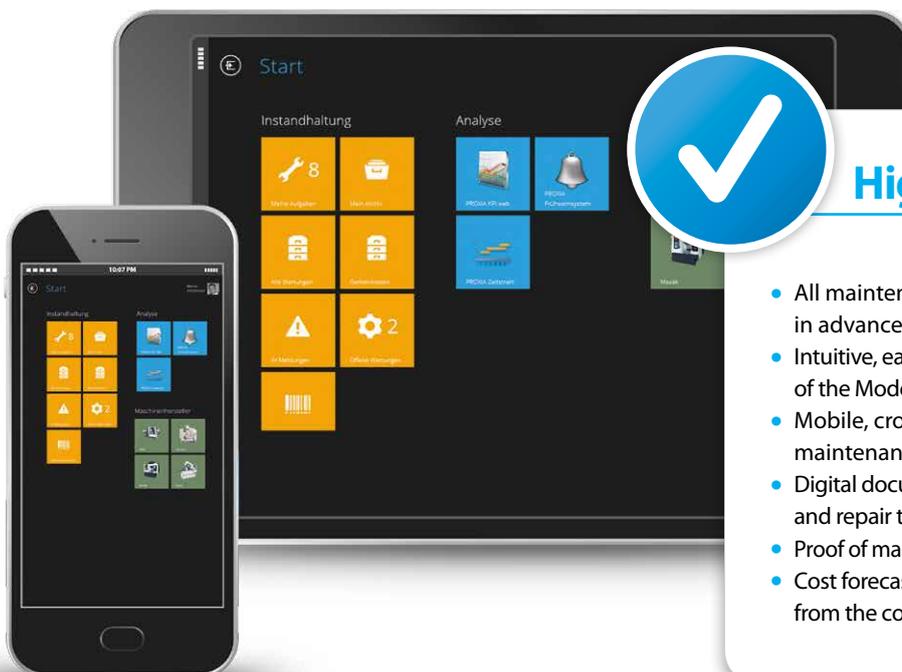
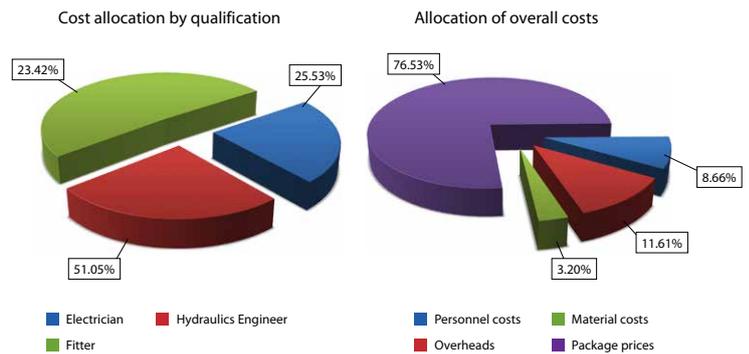
Maintenance jobs are scheduled using a graphic user interface and allocated to maintenance engineers. Production related downtimes can also be factored in, as can operator qualifications. This allows the maintenance planner to make the best use of the resources at his/her disposal. At the same time, the maintenance planner can also access information online regarding which jobs have been completed and the status of production equipment.

PROXIA TPM Analysis

Reduce maintenance costs, minimize downtimes, full documentation of maintenance jobs. Today's maintenance department must overcome these challenges on a daily basis. The "Maintenance & Repair" module of PROXIA Software AG is designed to address this. Quick and easy acquisition of information for the maintenance engineer at the machine, as well as a structured overview of all planned maintenance, inspections and repair work for planners, create the basis for making quick, focused decisions in maintenance.

PROXIA TPM Capture

Scheduled jobs are visualized online for staff on their terminals. This increases flexibility in maintenance and minimizes the downtimes of machines. It allows the maintenance engineer to fully document all completed jobs. Spare parts and consumables used are also captured here, along with the service times of the maintenance engineers. Depending on the level of detail of documentation, any type of document can also be attached to documentation. It is therefore possible to add, for example, inspection reports or photo documentation to the maintenance history.



Highlights & Benefits

PROXIA Maintenance/repair

- All maintenance jobs can be planned in advance and seen at a glance
- Intuitive, easy operation through the use of the Modern-UI
- Mobile, cross-platform capture of maintenance jobs
- Digital documentation of all maintenance and repair tasks
- Proof of maintenance overheads
- Cost forecast for maintenance costs, from the cost center down to the module



Transport Logistics and CAQ . Add-ons

PROXIA Internal Transport Logistics: optimize material movements

Often, searching for semi-finished products within production or waiting for a suitable means of transport consumes significant amounts of time in the production process. The PROXIA "Internal Transport Logistics" module is used to manage warehouse-related stocks of semi-finished products and document relevant warehouse locations. Material can also be transferred to other warehouse locations, machines or work areas.

Push and pull strategies are supported by selecting source and target warehouse locations when generating transport orders. Key information is visible to transport staff within the transport control system: From where? To where? When? By what means of transport? Cumulative transport times can subsequently be analysed.



PROXIA CAQ: A secure CAQ capture process for quality management

Only high-quality, defect-free products ensure the economic success of a production company. Therefore, the analysis, documentation and archiving of quality-related data with a CAQ tool is of great importance for companies that want to increase added value in production. The PROXIA CAQ capture module enables the capture of quality and performance data directly in the workplace. This allows operator self-inspection to be fully integrated into the process and everything to be captured on the standard entry form.

- In-process operator self-inspection
- QA reports, control chart, statistics and details
- A standardized operating concept through full integration into the BDE capture system
- Integration into the PROXIA alarm concept

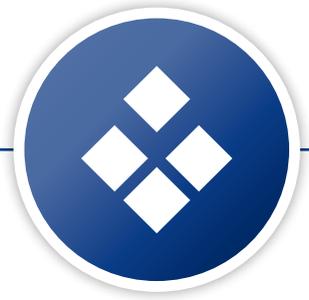


Highlights & Benefits

PROXIA Transport Logistics

- Inventory management and documentation of warehouse locations
- Rebooking/relocating semi-finished products to other warehouse locations
- Creation and visualization of transport orders
- Optimization of material movements and transport paths

PZE and DNC . Add-ons



PZE - IT instead of pocket calculators: the good old time clock has had its day!

Seamless capture of hours worked and transfer to payroll is the main task of PZE. Different functions such as online leave applications and attendance tables mean less work and easier handling. The employee timekeeping system captures the "in/out" movements of employees via BDE or PZE capture terminals and checks entitlement immediately, as well as the chronological sequence of entries. These are calculated and summarized in the appropriate time accounts. Absences for vacations/leave, sick leave or occupational training are shown in a clearly laid out calendar. Employees can check information at any time, e.g. hours worked, booked hours, remaining leave or other information on the entry terminal. Corresponding analyses give a detailed overview of attendance/absence levels, hours worked, and availability of employees. The employee timekeeping system can be fully integrated into the PROXIA BDE system.



PROXIA MES DNC – the information system for the shop floor

PROXIA MES DNC is a modern communication system, which performs all data transmission tasks to and from your machines. The primary task of the DNC system is to secure data transmission of NC and tool correction programs from machine-specific archives. In the case of NC programs in particular, two-way transmission takes place for maximum process reliability.

Moreover, CAD drawings, fixture diagrams and product photos can also be displayed directly on machines and equipment. Time-consuming queries, mountains of paperwork and machine downtimes are a thing of the past. The DNC system can be upgraded to a production information system by adding optional modules such as PROXIA NC Editor, PROXIA NC Compare and PROXIA NC Report.

The right solution for all requirements!

PROXIA MES DNC sends production and assembly information directly online to machine and equipment operators or production areas. PROXIA MES DNC is designed as an operator-friendly touch application and can be installed as a system shell (interface). PROXIA MES DNC or PLM Viewer (production information system) can be launched directly from the MDE/BDE interface. Input options ensure a two-way flow of information. This enables feedback to be communicated to planning level.

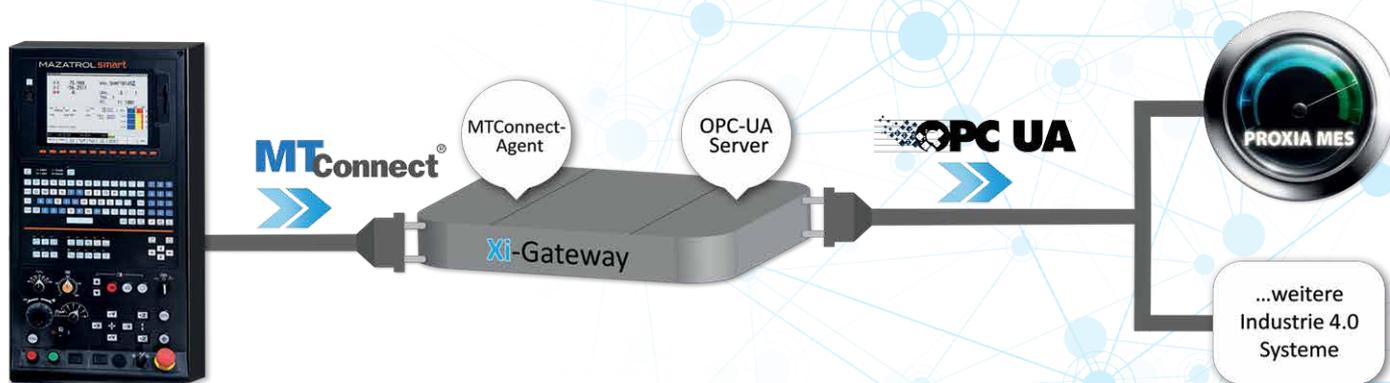


Highlights & Benefits

Employee time keeping system

- Access control
- Performance-related pay/bonus system
- Leave application workflow
- Automatic shift recognition

PROXIA XI Gateway . OPC-UA & MTConnect



Highlights & Benefits

PROXIA XI-Gateway

- Combination of standardised data model (MTConnect) and secure data transfer (OPC-UA)
- Use of machine data for availability and performance analysis, including visualisations and evaluations
- Make vertical and horizontal networking possible even for mixed machinery
- Raise existing technologies to a new level and make them Industry 4.0 compatible!
- The XI Gateway as a central "data provider" for your Industry 4.0 environment

Use what you have - for what you need!

The recording of machine data is not always a trial matter, particularly in the case of a heterogeneous with machinery consisting of different models with different control systems and years of construction. Unlike what the discussion of Industry 4.0 might suggest, the vertical and horizontal networking of machines and systems therefore continues in practice is highly cost intensive. Although there is already agreement in the context of Industry 4.0 on OPC-UA as the uniform, standardised communication architecture, it will take some time for this also to be fully supported by all machines, plants and control systems.

PROXIA XI-Gateway - perfect basis for Industry 4.0!

Knowing that Industry 4.0 systems expect communication via OPC-UA, many machines and systems can only communicate on the basis of other technologies, and PROXIA Software AG has developed the XI Gateway. This component is capable of transforming various communication types and protocols in OPC-UA. For example, the XI Gateway can make MTConnect accessible to every OPC-UA client. The data source remains MTConnect, but you use the advantages of OPC-UA. For example, network failures can be compensated by the use of HA technology (Historical Access) compensate or massively increase the security of the data transfer by means of the functions integrated in OPC-UA. With the standardisation of the communication via OPC-UA at shop floor level PROXIA users go one step further in the direction of Industry 4.0 and the goal to be achieved is the Smart Factory.

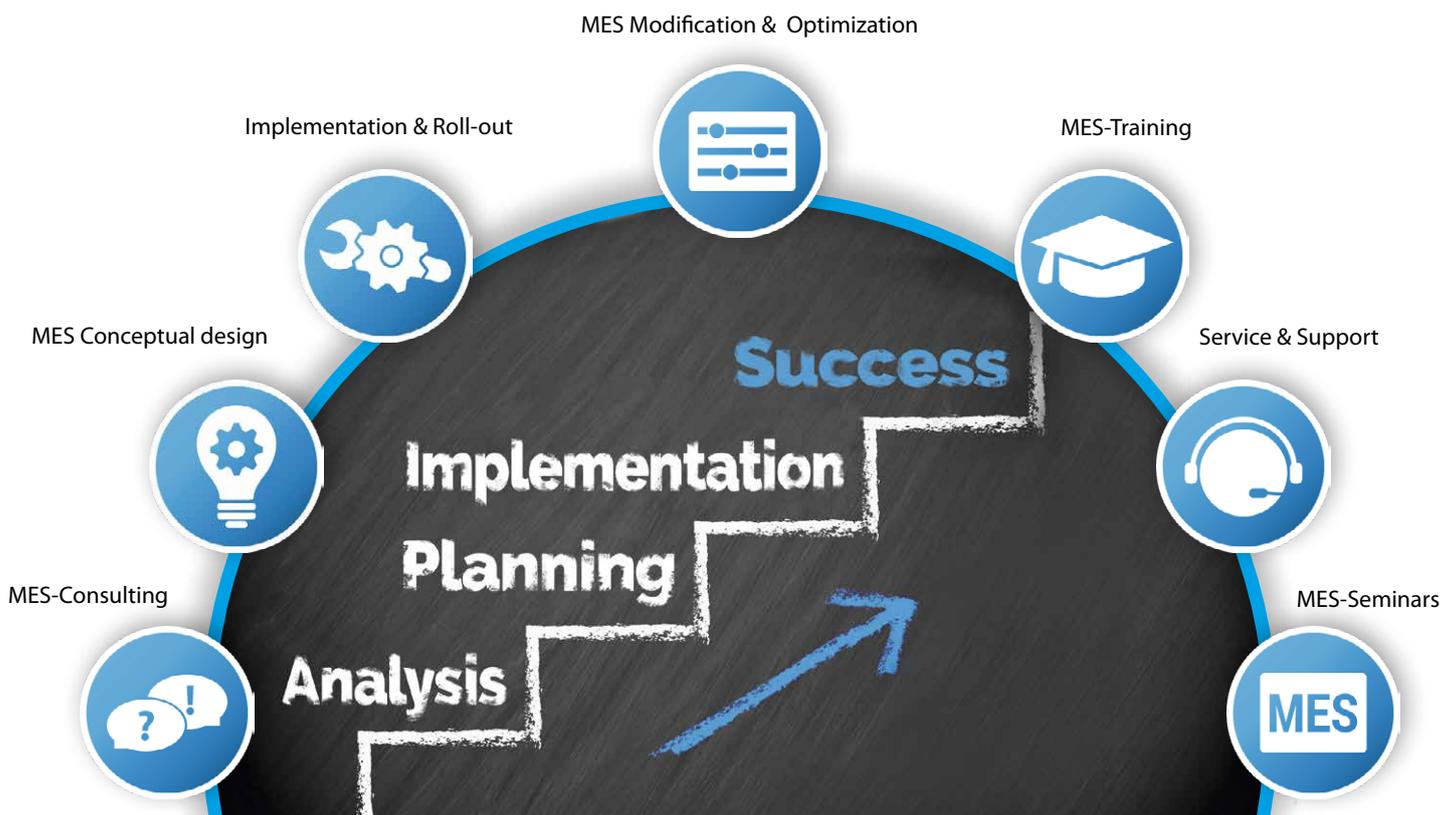
PROXIA MES . Services

For a more productive MES solution – More than just MES-Software for production

Flawless production cannot be achieved overnight. We don't simply focus on selling MES-Software. Our goal is to guide and support our customers in MES issues – and to establish a long-term partnership with you as your MES solution partner. Our services consist of a number of components, which interlink and come together to produce an all-round package: Your optimal MES solution – perfectly integrated into your existing infrastructure with the ability to continuously expand.

PROXIA Services include support in decision-making (MES Consulting) throughout the deployment process (MES Conceptual Design, Implementation and Modification/Optimization), and long-term support following implementation (training, support and seminars). We optimize step by step, not just during the deployment of MES, but far before and long after. Individually or as a total package, PROXIA MES solutions untap the hidden potential of your production, increasing productivity and competitiveness on the road to a Smart Factory and Industry 4.0.

- + Expert MES consultants – everything from one source**
Expert PROXIA consultants and trainers are available to you from start to finish of the PROXIA MES project. A contact person you can trust will oversee the MES project throughout and steer you towards your goals.
- + Full use of potentials in production**
We will help you to determine process potentials in your production using the PROXIA OEE method. We will provide recommendations for action and then you decide on how to proceed.
- + MES - a complete solution for success**
The PROXIA MES complete solution guarantees your MES project will be a success. From start to finish – from conceptual design to after-sales – a comprehensive, well-conceived module chain of software and services for quick ROI on your software investment.
- + Cost-efficient and future-proof MES**
More than just MES-Software: Goal-oriented concepts, rapid deployment, smooth communication and practical training. Our services promise a cost-effective and future-proof MES system.



PROXIA MES . Highlights & Benefits

PROXIA – The MES Project Realization Tool

With its decision to purchase PROXIA MES, a production company lays the foundation for long-term improvement of its production processes, with a view to improving OEE key indicators: Increased availability, improved resource efficiency and better product quality.

Working with PROXIA is much more than simply acquiring MES software, it is about entering into a partnership with one of the leading providers in the MES world. As an MES solutions partner, PROXIA offers a high level of strategic competence and power in project realization. Through MES process consulting, we support companies on a practical level in meeting their targets using the latest lean production methods, SMED concepts and set-up time optimization models.

As a technology trendsetter, PROXIA offers transformable, in-house MES products with the latest design, ergonomic user interface and modular concept for a sustainable, harmonized MES total solution that adapts to the company's requirements. Individual MES software products with a high level of standardization ensure short implementation times with rapid integration into production, and a short amortization period for MES investment.

On course for smart factory with PROXIA MES

Outstanding MES software product features and the latest PROXIA technical innovations support production companies on the path to perfect production, smart factory and Industry 4.0.



Highlights & Benefits

PROXIA MES

- PROXIA Scheduling System/detailed planning with live data - integration from production level
- PROXIA MDE/BDE with the latest signal capture and networking methods (digital I/O modules, OPC-UA, reports, etc.)
- PROXIA early warning system for rapid production measures in the event of disruptions
- Demand-based PROXIA software-operating concepts for a better overview
- PROXIA Dynamic Reporting for dynamic online analyses
- PROXIA KPI.web for off-site information on key indicators
- PROXIA Online Monitoring for real time procedure management
- PROXIA hybrid data processing technology

*Your vigorous
MES-project implementer!*

PROXIA MES



Potential savings

through the use of PROXIA MES:

Production throughput times	-55%
Paperwork	-67%
Data entry time	-36%
Work in Progress (WIP)	-32%
Preparation time	-22%
Errors and rejects	-22%

PROXIA . References & Customers



PROXIA MES ensures seamless production monitoring. Real time capture of machine and operating data ensures traceability, product quality, delivery flexibility and 100% adherence to schedules.



With PROXIA MES we can carry out operational planning with much more precision and utilize production capacities better. Thanks to the BDE capture system, machine and setup times can now be calculated accurately.

STEELTEC



The precise MDE/BDE acquisition and production monitoring at both our sites (Switzerland and Germany) through PROXIA MES supplies us with a range of extremely useful production key indicators. Set-up times have been reduced by up to 50%, and our plant productivity even rose by up to 15%. Thanks to PROXIA, we have also been able to make good progress on our "paperless production" goal.

PROXIA . Worldwide

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