HYDRA
Shop Floor Scheduling

Perfect production control without bottlenecks or missed deadlines!

The MES Experts!
MOTIVATION
Responsive production planning and control

In order to remain competitive in the long-term, production companies must plan effectively, utilize resources optimally and react quickly to customer demands.

The HYDRA module Shop Floor Scheduling (HLS) supports your production processes by providing a 360 degree view on available resources. It therefore ensures a proactive and rapidly responsive production control – much faster and more effective than a centrally organized PPS or ERP system.

The central element of HYDRA HLS is the graphic planning board in form of a Gantt chart. Thus, manual planning grids are now obsolete. You will be able to react to changed delivery quantities and deadlines in real time. Additionally, handling of situations deviating from the actual state will be much easier.

Apart from an increasing transparency in production control, you can benefit from shortened lead times, reduced WIP and inventory levels, and adherence to delivery times due to perfect capacity utilization, lower setup costs and ideal batch sizes.
Integrated resource management

HYDRA HLS not only supports the planning and assignment of machines but also takes into account other resources like tools, test equipment, NC programs, material and energy. It also calculates personnel requirements that can be fulfilled by HYDRA Personnel Scheduling (PEP).

Essential functions of HYDRA HLS are:

- Graphical planning board (Gantt chart) operated with user-friendly drag and drop
- Display and consideration of individual shift calendars and performance levels
- Automatic planning based on assignment rules, KPIs and profiles
- Planning of multi-leveled orders using order networks
- Special functions for campaign building and to split orders
- Simulation and optimization of planning scenarios
- Self-learning and optimizing algorithms based on empirical values of completed operations
- Supporting evaluations, e.g. conflict lists, capacity utilization and utilization profile
Planning and control in real time

In contrast to many ERP and PPS systems, planning with HYDRA HLS is based on real time data and actually available capacities. Ideally, HYDRA HLS accesses relevant production data collected by other MES applications:

- Progress reports from collected shop floor data to permanently compare planned and current status
- Machine status and maintenance activities from collected machine data
- Availability of material, tools and aids including information from MES applications for material and production logistics, test equipment and tool and resource management
- Energy-optimized production planning based on collected energy consumption data
- Feedback to CAQ applications (e.g. in-production inspections) to ensure the availability of inspection plans to start production
Monitor the complete value chain

To ensure smoothly running processes and a clear assignment of tasks, information must be transparent and available at all times. For this purpose, HYDRA HLS offers numerous evaluations and functions:

- Flexible, configurable planning board containing a broad range of information functions
- Graphical planning chart for information purposes only
- Setup change list for work preparation
- Posting of supporting order information (notes)
- Order pool lists for machines and machine groups
- Capacity charts and histograms
- Print functions for assignment graphics and tables
- Mobile app for decentralized production control (Touch2Plan)
Manage complexity

The HYDRA HLS module is highly flexible. It can deal with production systems from all sectors due to a wide range of configuration options and can map single and multi-leveled production processes:

- Manual, semi- and fully-automated assignments
- Scheduling of single- and multi-level production orders
- Flexible forward and backward scheduling
- Variably adjustable planning horizons
- Priority assignment for operations and machines
- Strategies to cope with capacity bottlenecks
- Automatic closing of assignment gaps
- Consideration of tool and material changes (setup change matrix) to optimize setup times
- Individual shift calendar for each machine to compare true capacities
- Functions to temporarily change capacities of machines and workplaces
- Split, fix and targeted release of operations
Needs-based, tailor-made MES applications

Every MES solution is as individual as the company using it. An MES must be of a modular design and largely configurable in order to turn field-tested standard functions into tailor-made solutions.

Extensive requirements covering all business sectors and levels must be considered: From user-friendly collection and information functions for operators to reliable statistics for the management.

The examples for HYDRA HLS applications illustrated in this brochure are a combination of standard MES products by MPDV. These products, characterizing a state-of-the-art MES, can be selected needs-based and integrated without interfaces:

- **Shop Floor Integration Services**: Interfaces to machines and production lines plus data collection and information functions for operators
- **MES Applications**: Powerful programs to process data and functions for data maintenance, detailed planning, monitoring and controlling
- **Smart MES Applications**: For usage on mobile devices and in web browsers
- **MES-Cockpit Applications**: Dashboards for general KPIs
- **Enterprise Integration Services**: Basic functions and interfaces to seamlessly integrate the MES into an existing IT landscape


The mentioned product names are trademarks of the respective producers or suppliers. HYDRA® is a registered trademark of MPDV Mikrolab GmbH.