

Carl Zeiss AG



Production data collection, machine data collection, shop floor scheduling, DNC, tool and resource management with HYDRA as SAP-subsystem



■ The company

In 1846 Carl Zeiss was founded as workshop for precision mechanics and optics in Jena and is today a world-wide leading company group of the optical and optoelectronic industry with more than 14,000 employees. Carl Zeiss has locations in more than 30 countries and is altogether represented in more than 100 countries. The production plants are located in Europe, North and Central America as well as in Asia. The head office is in Oberkochen in Baden-Württemberg.



Carl Zeiss considers it the most important task to put science and technology in a position to recognize so far invisible things. The slogan "We make it visible." is the expression of the promise to lead the customers of Carl Zeiss into spheres, which have so far been hidden.

Carl Zeiss is market leader in many industry fields and offers a manifold spectrum of technologically high-quality solutions and products for the areas semiconductor and optoelectronic technology, life sciences and health care, eye care as well as industrial solutions.



MPDV Mikrolab GmbH

Römerring 1
74821 Mosbach
Germany
Fon +49 (62 61) 9 20 90
Fax +49 (62 61) 1 81 39
E-Mail info@mpdv.de
Internet www.mpdv.de

■ Task and solution

In recent years Carl Zeiss redesigned the IT-infrastructure in the service centers Oberkochen and Jena. Among other things, a shop floor scheduling module, which was not supported any more and by means of which the detailed planning was carried out for the mechanical and optical production under SAP R/3 PP, had to be replaced. Moreover, a system was urgently needed that provides for the collection of actual machine scheduling times, the accurate measurement of the overall equipment efficiency (OEE, GEFF) and the replacement of an obsolete DNC solution was possible.

Having implemented the MES HYDRA, Carl Zeiss now has an integrated system, by means of which the roughly planned production orders from R/3 PP are downloaded via an efficient interface and are dispatched to the respective operating facilities, taking into account schedule restrictions as well as machine and tool availabilities at altogether 8 HYDRA shop floor scheduling modules. Besides the above-mentioned functions of DNC and the machine data collection, an interface to the tool management system of TDS and a comfortable PDC solution incl. uploads of actual data to R/3 PP were realized.

Due to the transparency over all processes and plants, achieved with HYDRA, the needs for coordination between the material requirements planning and the production are considerably reduced and violations of requirements are quickly recognized. The findings from the machine data collection already lead to a significant improvement of the load factor and thus the efficiency of the "The advantage of the MES

MPDV Locations:

Mosbach, Hamburg, Hamm,
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HYDRA is the fact, that it is tailored to the essential needs of the production. It is in the position to cover all relevant data areas and also constitutes the extended arm of the ERP system. Carl Zeiss mainly uses the system for the order control, the persons in charge of production lines, the work scheduling and the persons responsible for processes."

Quotation of Steffen Springl, project manager optical production Jena



■ The project in brief

- 700 employees work with the HYDRA modules production and machine data collection (ADE, MDE), shop floor scheduling (HLS), tool and resource management (WRM) and DNC at the locations Jena and Oberkochen
- Central server on the basis of IBM RS6000 H58 (electronic data processing center)
- ORACLE database
- 128 terminals (IPCs and PCs) for the data collection
- Data interfaces to NC-machines and machining centers
- 139 HYDRA clients
- Interfaces to SAP PP, TDS-tool management and efficiency evaluation programs

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