

# Complete MES Solutions

## Comprehensive Enterprise Coverage

### From Start to Finish

One system for all needs



**e-Factory**  
Partner Product

- COMPREHENSIVE**
- INTEGRATED**
- VERSATILE**
- TRANSPARENT**

Solutions from machine monitoring to HR functions

High degree of compatibility with enterprise IT applications

Open, modular design allows complete implementation flexibility

Delivers visibility into even the most complex production operations

# Everything in one place



A comprehensive MES solution

## An integrated approach

Transparency is a key concern for all manufacturing businesses today. With increasingly severe constraints being imposed by governments, standards organizations, customers and shareholders, it is vital for company management to always know what is going on in its own operations. But as a side benefit, this need for transparency also delivers the potential for process improvements. Hence companies should see this environment as an opportunity to improve their competitive position, rather than another burden.

The MPDV Hydra MES concept brings all critical functions of a manufacturing enterprise together into a single system in order to provide complete transparency across all operations. Not only manufacturing, it also covers the areas of quality assurance and human resources.

MPDV has joined the e-F@ctory Alliance to further support the goal of extending Mitsubishi Electric's own solutions by combining them with complementary best in class solutions from third parties. MPDV's Hydra MES is the enterprise IT complement to Mitsubishi Electric's MES Interface IT. This module for the iQ Platform provides a simple and quickly deployed information channel directly from the shop floor to IT systems such as Hydra. No intermediate

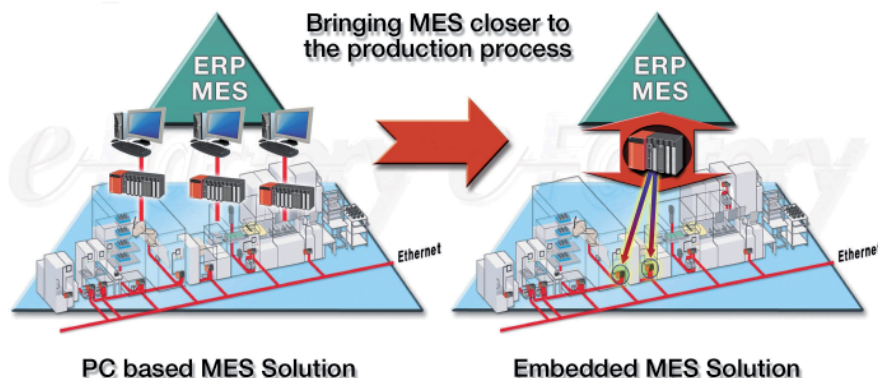
PCs are required, meaning the solution is robust and free of the maintenance and security issues that typically affect PCs.

## Third party recognition

The value of the Hydra MES solution has been embraced by the industrial community in general, with dozens of well known companies implementing it in their factories. Further recognition of Hydra's success was obtained when the well known research organization Frost & Sullivan presented MPDV with their 2010 Product Excellence award for Hydra.



Frost & Sullivan 2010 Product Excellence award for Hydra MES-System



Direct shop floor to enterprise IT links

## Transparent production

For the collection and management of production data from the shop floor, Hydra provides a comprehensive solution. The raw data is provided by the MES Interface IT, and then processed to provide extensive visibility of a wide range of critical production information. This covers all data related to machines, tooling, orders, materials, products, processes, batches and charges. This results in shop floor, production and top management all being given the key information required to understand what is happening now. Hence the agility of the organization is improved and reactions to modified production requirements or out of tolerance machine and workplace conditions happen quickly.



See critical production information in clear graphical terms

## Drill down to precise detail

Hydra provides specialized modules for monitoring of individual machines for the maximum ability to “drill down” into the production process. This allows the productivity of each part of the process to be seen in detail, along with unplanned shutdowns, to allow Overall Equipment Effectiveness (OEE) to be determined. Hence armed with this information, production management can view the overall production picture from any level and take the necessary steps to insure optimized processes. Finally, Hydra also provides connectivity to maintenance systems, allowing planned maintenance to be scheduled and carried out as required.

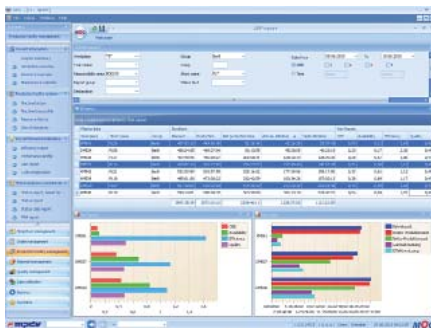
For machine tool lines, Hydra also offers modules that cover management of tooling and control programs, allowing efficient administration of tool stock, wear monitoring and history. Centralized control of machine operating programs is also available, insuring that the right programs are available at the right machines in the right version.



View the manufacturing process down to individual machine level detail

## Stay out of trouble

Of course, it’s not enough to know there is a problem. Ideally, the MES system should be able to predict it, so corrective action can occur before scrap is produced. Hydra’s process data collection module provides this ability. Key features include management of key test parameters and logging of the data, evaluation of process disturbances, intervention monitoring and assignment of test parameters to machines, parts and tools. Hence corrective action can be taken at once before defective parts are produced.



See potential problems before they get out of hand

## High level functions

As well as being focused on shop floor operations, Hydra also offers a wealth of enterprise management capabilities, covering material and production logistics, production scheduling and more. Hence material flows can be monitored, storage times can be controlled and traceability enabled. Further, capacity utilization can be visualized, meaning production resources can be operated at the maximum capability. Interfaces are also provided to other ERP and production planning systems that may be available.

MPDV offers full support for SAP installations, with certified connectivity to a range of SAP modules. Their commitment to SAP support has led to MPDV having a broad range of certifications for a variety of SAP technologies and products, including some which were among the first in the industry. Hence current SAP users can specify a Hydra based MES solution with confidence.

For quality management, Hydra also offers modules that cover all aspects of this vital discipline. Hence the complete flow of production from supplier evaluation to goods receipt to complaint management is all covered.

Finally, since people are usually a company’s most valuable resources, Hydra also includes support for monitoring time and attendance, personnel scheduling and access control to ensure staff are working as well as the machines they run.

**SAP® Certified**  
Integration with SAP Applications

Certified compatibility with SAP applications

## Shop Floor

## MES Interface IT

## Hydra MES

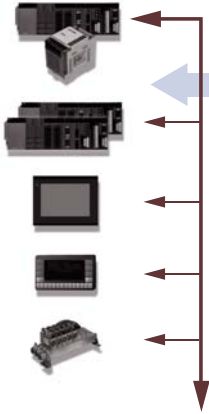
Mitsubishi PLCs:  
IQ, Q, AnS, FX

Third party devices  
Controllers/PLCs  
Omron, Rockwell,  
Siemens

IPCs  
RFID reader

Intelligent devices  
(ex. vision systems)

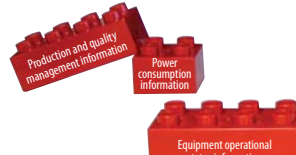
Devices  
(ex. nut runners)



Message communication



Simple setting procedure  
using the Workbench  
setting tool!



Production and quality  
management information

Power  
consumption  
information

Equipment operational  
status information

Message communication



To Enterprise  
systems and  
databases

Direct connection to information systems

## Overview of MPDV

Founded in 1977, MPDV has become a leader in capturing and processing data from production, human resources and quality assurance. MPDV's international structure includes offices in Germany, France, Singapore, Switzerland and the USA. Its customers range from small and medium size enterprises through to multi-national companies in the following industries: plastics, rubber, metals, automotive, food and beverage, plant and mechanical engineering, furniture and timber, printing and packaging, precision mechanics and optics as well as electrical engineering and electronics.



MPDV headquarters

### EUROPEAN BRANCHES

MITSUBISHI ELECTRIC EUROPE B.V. Gothaer Straße 8 D-40880 Ratingen Phone: +49 (0)2102 / 486-0	<b>GERMANY</b>
MITSUBISHI ELECTRIC EUROPE B.V. Radlická 714/113a CZ-158 00 Praha 5 Phone: +420 - 251 551 470	<b>CZECH REPUBLIC</b>
MITSUBISHI ELECTRIC EUROPE B.V. 25, Boulevard des Bouvets F-92741 Nanterre Cedex Phone: +33 (0)1 / 55 68 55 68	<b>FRANCE</b>
MITSUBISHI ELECTRIC EUROPE B.V. Viale Colleoni 7 I-20041 Agrate Brianza (MB) Phone: +39 039 / 60 53 1	<b>ITALY</b>
MITSUBISHI ELECTRIC EUROPE B.V. Krakowska 50 PL-32-083 Balice Phone: +48 (0)12 / 630 47 00	<b>POLAND</b>
MITSUBISHI ELECTRIC EUROPE B.V. Carrereta de Rubi 76-80 E-08190 Sant Cugat del Valés (Barcelona) Phone: 902 131121 // +34 935653131	<b>SPAIN</b>
MITSUBISHI ELECTRIC EUROPE B.V. Travellers Lane UK-Hatfield, Herts. AL10 8XB Phone: +44 (0)1707 / 27 61 00	<b>UK</b>

### EUROPEAN REPRESENTATIVES

GEVA Wiener Straße 89 AT-2500 Baden Phone: +43 (0)2252 / 85 55 20	<b>AUSTRIA</b>	AutoCont C.S. s.r.o. Technologická 374/6 CZ-708 00 Ostrava-Pustkovec Phone: +420 595 691 150	<b>CZECH REPUBLIC</b>	KAZPROMAUTOM. Ltd. Mustafina Str. 7/2 KAZ-470046 Karaganda Phone: +7 7212 / 50 11 50	<b>KAZAKHSTAN</b>	Beijer Electronics AS Postboks 487 NO-3002 Drammen Phone: +47 (0)32 / 24 30 00	<b>NORWAY</b>	Beijer Electronics AB Box 426 SE-20124 Malmö Phone: +46 (0)40 / 35 86 00	<b>SWEDEN</b>	TEXEL ELECTRONICS Ltd. 2 Ha'umanut, P.O.B. 6272 IL-42160 Netanya Phone: +972 (0)9 / 863 39 80	<b>ISRAEL</b>
TEHNIKON Oktyabrskaya 16/5, Off. 703-711 BY-220030 Minsk Phone: +375 (0)17 / 210 46 26	<b>BELARUS</b>	B.ELECTRIC, s.r.o. Mladoboleslavská 812 CZ-197 00 Praha 19 - Kbely Phone: +420 286 850 848	<b>CZECH REPUBLIC</b>	Beijer Electronics SIA Vestienas iela 2 LV-1035 Riga Phone: +371 (0)784 / 2280	<b>LATVIA</b>	Sirius Trading & Services Aleea Lacul Morii Nr. 3 RO-060841 Bucuresti, Sector 6 Phone: +40 (0)21 / 430 40 06	<b>ROMANIA</b>	Omni Ray AG Im Schürli 5 CH-8600 Dübendorf Phone: +41 (0)44 / 802 28 80	<b>SWITZERLAND</b>	CEG INTERNATIONAL Lebanon Center/Block A Autostrade DORA Lebanon - Beirut Phone: +961 (0)1 / 240 430	<b>LEBANON</b>
ESCO D & A Culliganlaan 3 BE-1831 Diegem Phone: +32 (0)2 / 717 64 30	<b>BELGIUM</b>	Beijer Electronics A/S Lykkegårdsvej 17, 1. DK-4000 Roskilde Phone: +45 (0)46 / 75 76 66	<b>DENMARK</b>	Beijer Electronics UAB Savanoriu Pr. 187 LT-02300 Vilnius Phone: +370 (0)5 / 232 3101	<b>LITHUANIA</b>	Craft Con. & Engineering d.o.o. Bulevar Svetog Cara Konstantina 80-86 SER-18106 Nis Phone: +381 (0)18 / 292-24-4/5	<b>SERBIA</b>	GTS Bayraktar Bulvarı Nutuk Sok. No:5 TR-34775 Yukarı İSTANBUL Phone: +90 (0)216 526 39 90	<b>TURKEY</b>	CBI Ltd. Private Bag 2016 ZA-1600 Isando Phone: +27 (0)11 / 977 0770	<b>SOUTH AFRICA</b>
Koning & Hartman b.v. Woluwelaan 31 BE-1800 Vilvoorde Phone: +32 (0)33 / 921 02 40	<b>BELGIUM</b>	Beijer Electronics Eesti OÜ Pärnu mnt.160i EE-11317 Tallinn Phone: +372 (0)6 / 51 81 40	<b>ESTONIA</b>	ALFATRADE Ltd. 99, Paola Hill Malta- Paola PLA 1702 Phone: +372 (0)21 / 697 816	<b>MALTA</b>	INEA SR d.o.o. Izletnicka 10 SER-113000 Smederevo Phone: +381 (0)26 / 617 163	<b>SERBIA</b>	CSC Automation Ltd. 4-B, M. Raskovoyi St. UA-02660 Kiev Phone: +380 (0)44 / 494 33 55	<b>UKRAINE</b>	ILAN & GAVISH Ltd. 24 Shenkar St., Kiryat Arie IL-49001 Petah-Tiqva Phone: +972 (0)3 / 922 18 24	<b>ISRAEL</b>
INEA BH d.o.o. Aleja Lipa 56 BA-71000 Sarajevo Phone: +387 (0)33 / 921 164	<b>BOSNIA AND HERZEG.</b>	Beijer Electronics OY Jaakonkatu 2 FIN-01620 Vantaa Phone: +358 (0)207 / 463 500	<b>FINLAND</b>	INTEHISIS srl bld. Traian 23/1 MD-2060 Kishinev Phone: +358 (0)22 / 66 4242	<b>MOLDOVA</b>	AutoCont Control s.r.o. Radlinského 47 SK-02601 Dolny Kubin Phone: +421 (0)43 / 5868210	<b>SLOVAKIA</b>	CS Mtrade Slovensko, s.r.o. Vajpanskeho 58 SK-92101 Piestany Phone: +421 (0)33 / 7742 760	<b>SLOVAKIA</b>		
AKHNATON 4 Andrej Ljapchev Blvd. Pb 21 BG-1756 Sofia Phone: +359 (0)2 / 817 6004	<b>BULGARIA</b>	UTECO A.B.E.E. 5, Mavrogenou Str. GR-18542 Piraeus Phone: +30 211 / 1206 900	<b>GREECE</b>	HIFLEX AUTOM. B.V. Wolweverstraat 22 NL-2984 CD Ridderkerk Phone: +31 (0)180 - 46 60 04	<b>NETHERLANDS</b>	INEA d.o.o. Stegne 11 SI-1000 Ljubljana Phone: +386 (0)1 / 513 8100	<b>SLOVENIA</b>				
INEA CR d.o.o. Losinjka 4 a HR-10000 Zagreb Phone: +385 (0)1/36940-01/-02/-03	<b>CROATIA</b>	MELTRADE Ltd. Fertő utca 14. HU-1107 Budapest Phone: +36 (0)1 / 431-9726	<b>HUNGARY</b>	Koning & Hartman b.v. Haarlerbergweg 21-23 NL-1101 CH Amsterdam Phone: +31 (0)20 / 587 76 00	<b>NETHERLANDS</b>						



Mitsubishi Electric Europe B.V. /// FA - European Business Group /// Gothaer Straße 8 /// D-40880 Ratingen /// Germany  
Tel. +49(0)2102-4860 /// Fax: +49(0)2102-4861120 /// info@mitsubishi-automation.com /// www.mitsubishi-automation.com

Specifications subject to change /// Art. no. XXXXXX-A /// 07.2010

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