

NEWS

Special Edition
for SAP Users

December 2007

MPDV Mikrolab GmbH: innovative MES-Solutions for effective management of production, personnel and quality

Perfect integration of SAP applications with the shop floor

Good news for SAP users: by realizing the standard interface for sub systems to SAP QM and being certified as first xMI partner in Europe, MPDV has made another decisive step towards the integration of SAP applications to the shop floor. Thus, MPDV is the MES provider

that supports both the common PDC interfaces and the latest interfacing technologies of SAP AG on the basis of NetWeaver, providing a long experience of more than 160 MES applications realized within the SAP environment.

HIGHLIGHTS

[Inspection Data Interface for SAP QM \(QM-IDI\)](#)

[Machine connectors for SAP applications](#)

[Interview on the positioning of the new MPDV Add-ons](#)



SAP Certified Integration

SAP xApps CERTIFIED

POWERED BY SAP NetWeaver



SAP Integration Certification

CERTIFICATE

Interface Software for the SAP Business Suite™

SAP AG hereby confirms that the interface software **HYDRA MES Link Enabling 2.0** for the product **HYDRA Version 7.2** of the company **MPDV Mikrolab GmbH** has been certified for integration with **SAP R/3 4.6C** via the SAP integration scenario **QM-IDI 4.6**.

This certificate confirms the existence of product functionality in accordance with SAP certification procedures. It does not guarantee that the product is error-free.

The certification test is documented in report: 1004350/9213816/1090210/Waldorf dated October 9, 2007.

The test has been performed using an SAP R/3 4.6C System.

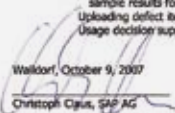
Vendor Hardware: PC-Pentium
Operating System: Windows 2003
Used Integration Tools: SAP RFC Library

This configuration meets the requirements for connecting **HYDRA** to the SAP Business Suite™.

Certified Functions:

| | |
|--------------------------------------|---------------------------------|
| Download inspection requirements | |
| Download available inspection points | |
| Upload: | |
| single results | (quantitative, code, valuation) |
| sample results | (quantitative, code, valuation) |
| charac. results | (quantitative, code, valuation) |
| single results for insp. points | (quantitative, code, valuation) |
| single results for insp. points | (quantitative, code, valuation) |
| Uploading defect items supported | (quantitative, code, valuation) |
| Usage decision supported | |

Waldorf, October 9, 2007


Christoph Claus, SAP AG

SAP, R/3, and SAP Software are registered trademarks of SAP AG in Germany. All other marks are registered or unregistered trademarks of the holders of this certificate.

SAP Certified Integration

THE BEST-BUY BUSINESS FOR SAP

SAP Integration Certification

CERTIFICATE

Packaged Composite Application for SAP NetWeaver™

SAP AG hereby confirms that the packaged composite application **xPCC Version 1.0** of the company **MPDV Mikrolab GmbH** has been certified as a SAP NetWeaver Composite following the NW-CA-MFG 1.0 certification test process.

This certificate confirms the existence of certain product attributes in accordance with SAP certification procedures. It does not guarantee that the product is error-free.

The certification test is documented in report: 2658722/9242113/1090210/Waldorf dated November 9, 2007.

The test has been performed against the following shop floor / backend component systems accessed by the composite:

MPDV PCC 1.0
SAP ECC 5.0

The composite is developed using SAP xMI v11.5.

This configuration meets the requirements for connecting **xPCC** to SAP NetWeaver™.

Certified Functions:

Production Orders

Waldorf, November 9, 2007


Christoph Claus, SAP AG

SAP, R/3, and SAP Software are registered trademarks of SAP AG in Germany. All other marks are registered or unregistered trademarks of the holders of this certificate.

SAP Certified Integration

THE BEST-BUY BUSINESS FOR SAP

Inspection Data Interface for SAP QM

Due to the QM-IDI interface (Inspection Data Interface in Quality Management), the SAP QM module disposes of a powerful, open interface to external MES systems. MPDV is one of few SAP partners that have realized the entire range of functions of the QM-IDI interface, whose integrity could be proved and has in turn been officially certified by SAP AG.

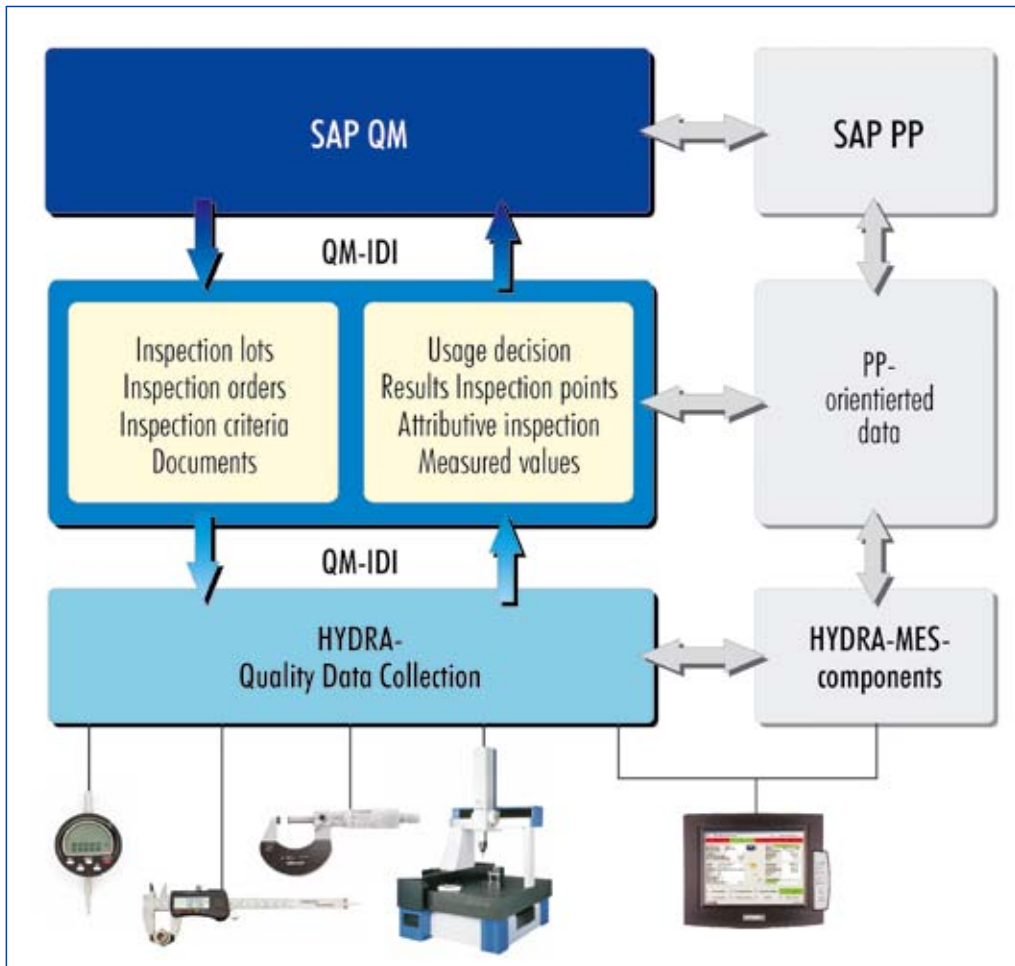
In using the common SAP interface technologies or the Net-Weaver, MPDV's MES solution HYDRA starts the relevant function modules in QM to transfer inspection specifications and documents, required

for the in-production quality inspection. After the transfer, HYDRA makes sure that data and documents (e.g. inspection diagrams, photos, drawings and inspection instructions) are directly transported to the inspection stations respectively machines and work stations assuring, that these information are at the workers disposal in time when production starts. Thus, delays in the production process are avoided and the organizational time and effort spent to distribute inspection instructions manually is reduced significantly.

Further optimizations can be achieved in combining the described transactions with the transfer of production orders directly from PP so that inspection orders and operations are forwarded to the machines and workplaces.

Depending on the inspection specifications, HYDRA provides the corresponding functions for both attributive inspections and collection or upload of measured values via separate inspection dialogs or inspection dialogs that are already integrated in the shop floor data collection module. Especially useful is in this case the capability of HYDRA to connect all kinds of gages, measuring devices and test control units via already existing data interfaces and thus enabling an automatic collection and transfer of data. Consequently, inspection operations become safer and the time needed reduces considerably.

Having completed the quality inspections, HYDRA uploads the inspection results or the usage decision back to QM. The advantage: data that are, for example, needed for product verification or inspection certificates are available in QM automatically and nearly in real time and thus do not have to be recorded or updated manually.



Machine connectors for SAP applications

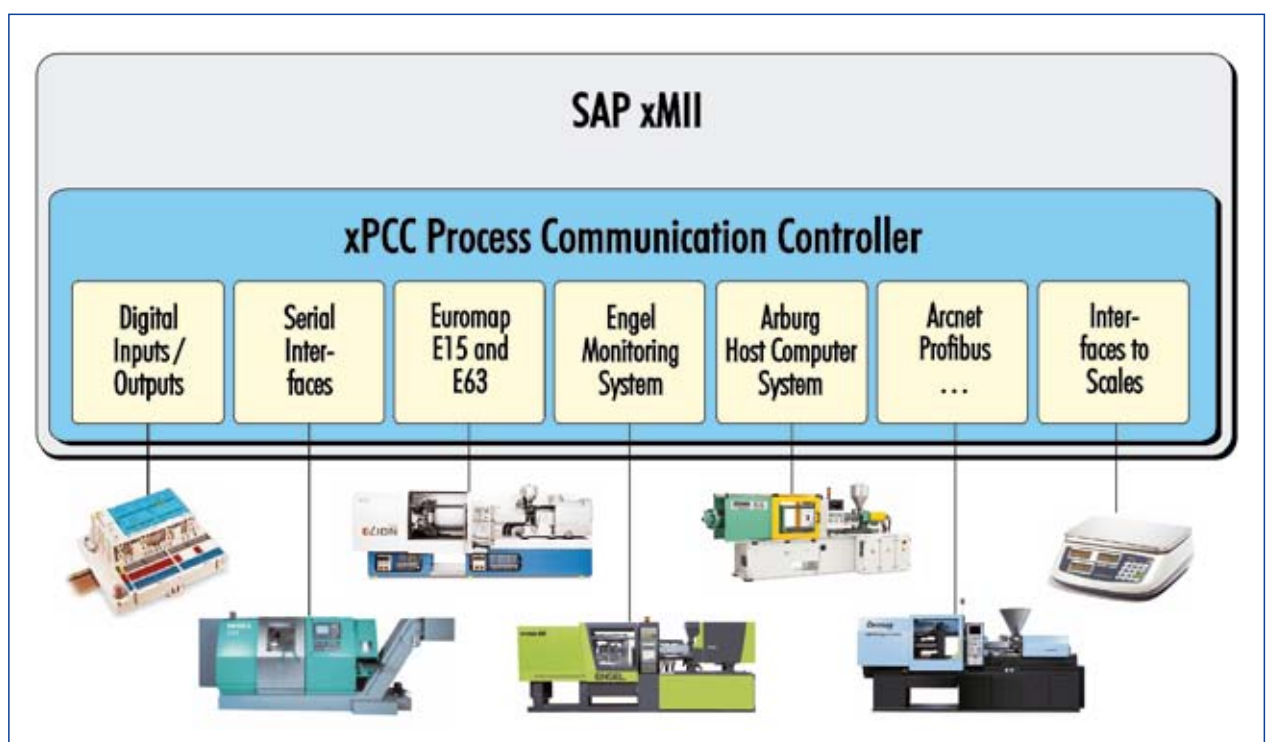
Since a while, SAP offers the Composite Application SAP xApp Manufacturing Integration and Intelligence (SAP xMII). Via SAP xMII typical applications for production-related departments such as work scheduling, shop floor scheduling and maintenance can be realized as well as interfaces to SAP applications (ERP, SCM, etc.) can be established. Thus, xMII provides **Manufacturing Intelligence** as well as **Manufacturing Integration** based on the SAP NetWeaver technology platform.

As an ideal supplement to xMII, MPDV has developed the Composite Application "xPCC – Process Communication Controller" and therefore has obtained – as first European SAP partner – the official xMII certification by SAP AG. xPCC

renders it possible to connect a variety of machines to xMII via data interfaces and to organize a bi-directional data exchange. The benefits are obvious: machine and process data can directly be recorded at the machines and plants or they can be uploaded from their controls, processed and visualized in xMII in real-time and forwarded directly to the SAP applications. Vice versa, it is possible to transfer setting parameters and NC data records directly to the controls.

xPCC provides already today a comprehensive library of proprietary or standardized interfaces and protocol modules. For example, the Euromap interfaces E15 and E63, which are commonly used by the plastics industry to connect machines from **Netstal**,

Battenfeld, Engel, Krauss-Maffei and **Demag**, as well as the interfaces to the **Arburg Host Computer System (ALS)** and the **Engel Monitoring System (EMS)** rank among them. Among other interfaces, metal working companies apply connections to NC machines by **Index, Deckel Maho, Spinner, Gildemeister** or **Takisawa**. Interfaces to scales of **Mettler Toledo, Bizerba, Sartorius** and many others have been realized to directly upload weighing values. MPDV's xPCC is also able to communicate with machines and plants equipped with the commonly used machine controls (SPS) and peripheral assembly groups of **Bosch, Fanuc, Philips, Siemens, Panasonic, Beckhoff** and **WAGO** as well as via industrial bus systems such as **Arcnet** and **Profibus**.





Rainer Deisenroth, sales manager and member of the MPDV board, gives the following interview concerning positioning and benefits of the new MPDV developments for SAP users:

You are mentioning that MPDV has more than 160 MES solutions within the SAP environment. But why were separate MES sub systems required at all?

First of all, it is certainly undoubtedly that planning systems require current data from machines and plants quasi in real-time in order to be able to support an "adaptive production" that is in the position to quickly adjust to the permanently changing internal and external influences. Until recently SAP could not provide such a solution and so we have closed the gap to the shop floor with our MES HYDRA.

And what has changed in the meantime?

SAP has recognized the signs of the times. With their Composite Application xMII they provide for the first time the possibility to connect business applications such as PP and QM to the shop floor level as well as to map logical approaches and processes that are relevant to production by customizing. Thus, xMII offers Manufacturing Integration and Manufacturing Intelligence to say it in SAP language.

How can the aforementioned MPDV applications be classified in this context?

Certainly, there are still some "white spots" on the xMII map, for example, when it comes to the bi-directional data exchange with machines, plants and other production facilities, so the direct interfacing via data interfaces and bus systems.

Yet, xMII also provides, for example, OPC interfaces?

But there's more to it than OPC. There are a nearly unmanageable number of proprietary interfaces or quasi standards that have been developed by the machine manufacturers for comprehensible reasons. In this field, MPDV has an extensive know how and a pool of interfaces and coupling technolo-

gies, which we have gained in more than altogether 500 MES implementations during the last 20 years.

Could you please give us a specific example?

Companies of the plastics industry have defined the quasi standard Euromap E63 in long lasting, intensive standardization efforts. Although, this one can now be regarded as efficient and secure, some manufacturers are still doing their own "thing": Netstal only supports the E15 format, Arburg works with special, serial interfaces and their own ALS, Engel offers its EMS...

And what benefits specifically arise for SAP users?

The mentioned MPDV modules are to be considered as supplement to the SAP functions in the "final stage" of production, i.e. a separate sub system is not required any longer provided that the technology platform xMII is in use. We can connect the machines to SAP via "Plug & Play". Low implementation costs and fast availability as well as a complete integration into the SAP infrastructure rank among the SAP users' benefits.

MPDV Mikrolab GmbH
74821 Mosbach, Germany
Römerring 1
Phone: +49 (62 61) 92 09-0
info@mpdv.de, www.mpdv.de

The installation and product names are trademarks of their respective owners or suppliers.

HYDRA is a registered trademark of MPDV Mikrolab GmbH.

© 2007 MPDV Mikrolab GmbH
Doc ID: SAP-NEWS GB / 2007