PACT*ware* – a must-have tool

Integrated device management

Clear and fast access to device diagnostics data
with PACT*ware*

PACT*ware*: To be continued

Reprint

PACT*ware* – a must-have tool

PACTware proves its suitability in practice more than 26,000 times

For the past five years, the PACTware Consortium, an association made up of medium-sized Process Automation device manufacturers and software providers, has been offering a standard configuration tool for its devices, called PACTware. In the meantime, more than 26,000 users worldwide have profited from the advantages of the new technology, which includes availability in the Internet as a free download, easy PC installation and intuitive field device operation. One of the main reasons why PACTware is accepted by the automation community is the fact that the software is based on proven basic technologies and its suitability for universal plant-wide applications.

The days when you still needed a screw driver to configure and parameterize modern field devices are over. Though there are probably many who think back nostalgically to when it was still possible to do everything using a few standardized set of screws, uncomplicated tools and via an intuitive operation. That what used to be good and self-evident needs to be recreated for the new PC technologies. Today, to operate a field device, the user always needs the suitable device driver, which is developed and marketed by the respective field device manufacturer. These highly-functional device drivers (also referred to as Device Type Managers, DTM in short) contain all the basic functions such as complex graphic display functions, interactive adjustment options, help functions and also offer simulation and diagnostics options.

There are a lot of proprietary configuration tools – almost as many as the number of field device and plant manufacturers. These configuration tools are characterized by different operating concepts. Often equipped with almost overwhelming functionality, these systems are not always state of art due to their complexity and the associated high maintenance and development costs. Furthermore, they are sometimes limited to supporting only certain system environments. In practice, this means that a plant operated with many devices from different manufacturers needs a dazzling array of configuration tools, not to mention everything that goes with it: licensing, version management and training.

Moreover, in the past many device manufacturers also had to contend with the problem that the undeniable advantages offered by a new device generation were difficult to recognize by the customer, let alone be used, due to the disadvantages of unsuitable "screw drivers".

The operator's primary concern, however, is that he can complete his tasks quickly and efficiently and not get bogged down by numerous tools. And in today's world the customer is king. So what can be done? The logical answer to this confusing state of affairs is called PACT-*ware* – a universal and open solution, which is fieldbus and manufacturer independent, provided by the PACT*ware* Consortium, free of charge, to device users.

The tool supports state-of-the-art device and bus technology and only has a few elementary functions in the basic configuration. However, other additional functions can be imported via the integrated interface using add-ins at any time.

It must be noted that PACT-*ware* is neither an engineering tool nor an asset management system, nor does it want to be! It is simply a PC program which like Windows in the office world provides connected devices.

Standards as the key to success

In the meantime, PACT*ware* has demonstrated its advanced quality during daily operation in thousands of plants around the world. Clariant, for example, is using the operating software very successfully in its plant in Gersthofen, which was nominated for the HART Foundation's "Plant of the year" award in 2004.

The extremely flexible operating tool can also be used for installation and parameterization purposes. Moreover, because PACT*ware* enables an offline configuration it allows users to get an initial impression of the user interface and the new possibilities without connecting devices.

If devices are connected, the standardized PC operating software allows the user to easily integrate the respective special operating software of his devices modularly via the corresponding DTMs. Specialists refer to a software of this kind as a frame application or container program. The software interface between PACT*ware* as a frame application and the devices corresponds to the open standard FDT 1.2 (Field Device Tool). This allows the creation and expansion of device drivers independently of the operating program. A new DTM version of a device can then be simply installed in PACT*ware*, like a printer driver on the PC. The FDT technology, which is basically nothing more than a standardized interface between the operating program and the device driver, supports the smooth change over of device drivers, thus extending the flexibility of bus technology through to the operating systems. This was first made possible by the Microsoft technologies COM and XML, which are used by FDT for innovative software implementations.

Using future-proof technologies

These two widely spread basic technologies provide for a user-friendly and standardized „look and feel". A feature which has already become the standard in the computing world:

- Microsoft ActiveX and client/server COM specification (from PACT*ware* 3.0 .NET): state-of-the-art technology from the office world simplifies and standardizes functions such as DTM installation.
- The FDT standard uniquely defines the interface specifications which are necessary

The leading minds

The managing board of PACT*ware* Consortium e.V. is made up of the following persons:

Dr. *Joachim Schullerer*, Head of Development at KSB AG in Frankenthal and CEO of PACT-ware heads the association's activities. He was in at the beginning and is responsible for advancing software development.

Rainer Waltersbacher, Head of Product Management and Marketing at VEGA Grieshaber KG in Schiltach, represents in particular the interests of medium-sized companies. Actively involved in development and marketing tasks, he makes important contributions to the success of the association.

Michael Kessler, Head of Business Field Components and Technology at Pepperl+Fuchs in Mannheim, a co-founder of the operating tool since the foundation stone for it was laid at the end of the nineties.

Frank Rohn, Head of Process Automation Product Management at Hans Turck GmbH & Co. KG in Mülheim, a member of the PACTware managing board for the last two years. His creativity and unconventional approach ensure that interesting ideas and new market demands are implemented quickly and precisely.

for the creation of the DTMs. The main advantage of FDT/DTM technology is that it is possible to emulate any existing plant structure using software by combining corresponding DTMs, which means that even complex communication structures can be handled without difficulties.

Like the Windows operating system, PACT*ware* performs the higher-level functions for all devices: a must for basic operation and navigation in every plant. The information which is necessary for this is exchanged between the operating program and the device DTM via the common FDT/DTM interface. The operation of special device functions is implemented in the DTM of the respective device and is integrated into the frame. The prerequisite for this is that the devices to be integrated provide their own operating software in the form of a DTM for the software installation. PACT*ware* is a modern, PC-based operating system for all field devices with DTM, which provides connected field devices bus independently e.g. via HART or PROFIBUS and uses their performance and advantages.

The fact that every plant is different is no problem at all for the versatile software. The software is flexible enough to be used practically at every point, from the central engineering station through to on-site field operation. And that's not all: for the first time, PACT*ware* makes it possible to operate all the plant's field devices and field-buses with a single software. It not only offers a sophisticated, professional menu interface, but the new Release 3.0 also supports a whole range of extra convenience functions. The further articles in this series show which possibilities exist in the PACT*ware* software e.g. during diagnostics.

Who is behind it?

PACT*ware* Consortium e.V. is an association made up of 29 international manufacturers and service providers in the field device industry. Working closely with its members, the consortium develops and maintains the PACT*ware* frame application based on the open FDT specification. PACTware is distributed together with the DTMs by the member companies. In the interest of the products and to assure quality, the software is only made accessible to its full members as open source. Companies, who support the idea and want to be informed directly without taking part actively in the development process, are recommended to opt for the more cost effective OEM membership. This way, their devices together with the PACT*ware* operating software and their own company name in the information field can be delivered to the customers. The program is available for quick and easy access as a free-of-charge download on the web pages of many member companies – without ordering and complicated license agreements.

An FDT frame application

- is the container for DTMs
- does not need any device-specific information
- takes over data archiving
- manages access rights (roles) and access profiles for your devices
- allows logical point-to-point communication between the DTMs and "your" devices according to the network topology (routing)

  PACT*ware* is the most widespread FDT frame application.

Integrated device management

Vertical integration from the field level through to the office with PACTware

Field device tool technology (FDT) and its frame application PACT*ware* allow device parameterization and configuration across all communication levels. Remote I/O systems ensure that the communication between the field and the higher-level control works. An Ethernet-PROFIBUS Gateway can now even translate the data into the established office standard, thereby enabling convenient, central access to the devices. This is a step closer to company-wide asset management.

Process plants are still dominated by 4…20 mA technology. This resulted over decades in the classical topology: sensors and actuators in the field, control and signal processing with interface modules in the switch room and in-between marshaling cabinets and distributors with direct point-to-point connections. In recent years, remote I/O systems like *excom*

from Turck or the Remote Process Interface (RPI) from Pepperl+Fuchs have proven themselves in the communication between field devices and control system. They act as an intermediary between the analog and digital worlds. On the field side nothing changes concerning signal connection. However, in the process control system, the extensive wiring with multi core cables is replaced by a single fieldbus connection.
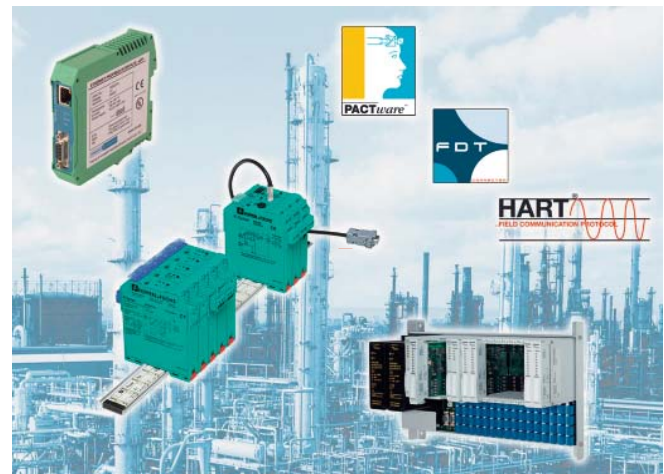
One for all

Via the FDT (Field Device Tool) technology and the device driver, the DTM (Device Type Manager) as their central software component, the user can access the complete functions of the remote I/O systems in an extremely user-friendly and specific manner. The DTMs of any devices and manufacturers are simply integrated via the open FDT software interface into the PACT*ware* user interface. The hardware structure of the remote I/O system is crea-

ted in the form of a project tree in the project window. Here the fieldbus coupler and every individual I/O component of the remote I/O hardware structure is displayed as a separate DTM. Via the operating window the user can access process data, parameters and diagnostic messages of the individual device drivers.

It is also possible to add HART transmitters and control devices to the hardware structure of the remote I/Os using the easy drag & drop function. With HART, additional information is transmitted which comes from the field device and is designated for the process control system or maintenance (e.g. device ID, manufacturer specifications, tag numbers, calibration and sensor information, measuring ranges, process variables, status information and diagnostic values etc.), without interference of the analog signal and with the existing cabling. In this way, it is also possible, for example, to write parameterization or configuration information into the field device. The acyclic PROFIBUS communication then transmits the HART information of the field devices via the remote I/O system to the control system or to maintenance.

PACT*ware* thus enables digital access to the devices. In the case of HART devices without any manufacturer-specific DTM a generic HART-DTM in PACT*ware* can perform the function. It "understands" the universal commands and common practice commands in accordance with HART specification. PACT*ware* provides access to all manufacturer-specific device functions which are integrated into the DTM such as condition monitoring and messages, interactive functions or graphic objects like trend curves, time courses and online helps.

Since PACT*ware* stores all parameterizations centrally in one database, the original configuration can be immediately

copied to the newly installed device during device changeover. If, for example, a defect pressure transmitter of the same manufacturer cannot be obtained on short notice, it can be replaced without any difficulties by a comparable device from another provider. This ensures smooth operation without long downtimes.

Closing the gaps

In principle, either a local or central device management solution is possible. The local solution integrates a PC or a notebook directly via the corresponding interface cards into the PROFIBUS. Alternatively, a special PROFIBUS USB box can be used to establish connection. Cost effective systems of this kind are especially suitable for smaller networks with a PROFIBUS line. If several lines
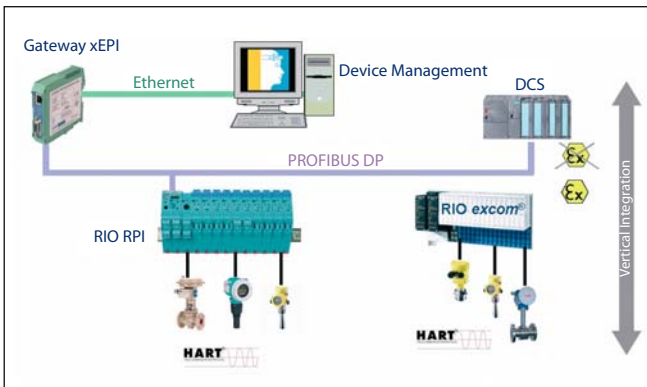
are installed and simultaneous access is necessary, integration via Ethernet is best suited. Yet this presents the users with a problem. In what way can they overcome the inhomogeneous and complex communication structures to be found today in every plant in many partial systems and individual data islands?

Trebing & Himstedt has the answer. The ETHERNET-PROFIBUS-INTERFACE (xEPI) allows easy integration into any type of automation, operation and company structures. It acts as a PROFIBUS configuration master class 2 and is operated in parallel to the master class 1 of the control system. Its integration capability is particularly demonstrated by the possibility of configuring the field devices directly via the communication levels Ethernet – PROFIBUS and HART. In this way, all PROFIBUS-

PACT*ware* is a user interface for manufacturer-independent parameterization and configuration of field devices, remote I/O systems and communication components in field bus systems and networks. The FDT interface enables access to all network components, as soon as their technical descriptions exist as a DTM.

The operating software is based on proven basic tech-

nologies and is suitable for universal application. In the meantime, over 26,000 applications worldwide have profited from the advantages of the new technology, which includes its availability in the Internet as a free download on the web pages of the PACT*ware* e. V. member companies, easy installation and an intuitive operation.

Gateway xEPI
Ethernet
Device Management
DCS
PROFIBUS DP
RIO RPI
RIO excom®
HART
HART
Vertical Integration

An integrated device management with PACT*ware* allows parametriza-tion and configuration of field devices through all communication levels

This considerably simplifies and accelerates configuration and diagnostics – especially in explosive areas. This is because the universal operating tool does away with the need for the extensive parameterization of every individual device on-site with expensive and spe-cially approved devices. This has many advantages, for example, during installation, in maintenance and during opera-tion. The solution was success-fully implemented both for PROFIBUS-PA and for HART devices, which are connected to a remote I/O with correspon-ding functionality.

PACT*ware* is a powerful, free-of-charge tool, which pro-vides plant-wide and universal support for the most important communication technologies, thereby paving the way to con-tinuous, vertical integration.

The user interface provides commissioning engineers and maintenance personnel with a central access to detailed device information and reliable information on the current sta-tus of their plants. This creates the prerequisites for efficient asset management.

PA and HART devices, which are connected to the PROFIBUS via a remote I/O with HART func-tionality, can be configured independently of the control system in a flexible manner and without additional time and effort via Ethernet.

Integration with added value

With PACT*ware* it is possible to access field devices and remote I/O systems throughout the whole company centrally and comfortably from the office.
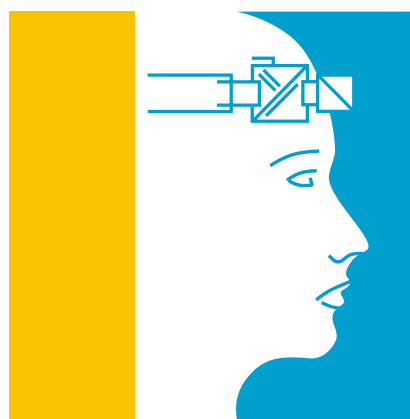
Clear and fast access to device diagnostics data with PACT*ware*

Using the often complex diagnostic information, delivered free of charge with the latest generation of some devices types, at the right moment requires special operating software. With the PACTware FDT frame application, displaying and evaluating diagnostic functions is quick and easy. This contribution is intended to show the full range of possibilities offered by the clever tool in relation to diagnostics using a valve positioner and a magnetic inductive flowmeter.

For some device types, implementing the diagnostic functions requested by the users can be easier than for others. This is especially true for positioners. Believe it or not, the device from Samson can create 77 different messages via various diagnostic functions, surely making it the holder of the current absolute record. Other measuring principles and procedures are in comparable. OPTIFLUX, the family of magnetic inductive flowmeters (MID) from KROHNE, provides approx. 70 different diagnostic data, which are depicted with referece to specified cartegories and grouped into diagnostic classes in order to increase clarity. The following two examples are intended to show the extent to which the diagnostic functions have been developed and the way they can be used effectively via PACT*ware*.
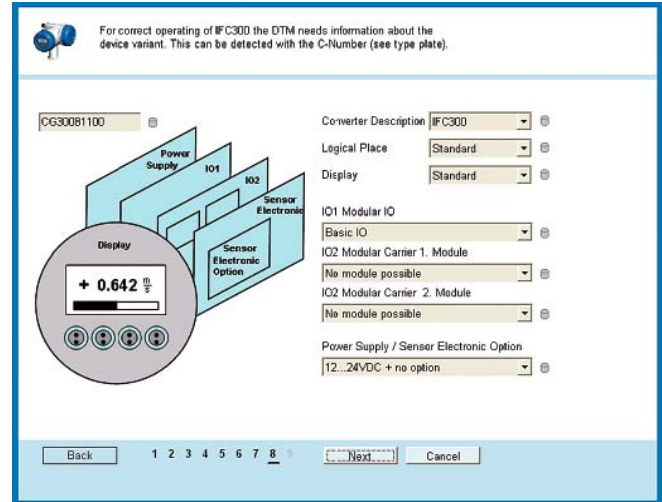
Positioners monitor valve functions

Whether micro valve or linear piston type actuator with very different travels, one thing remains the same: the position

sensor system in the electro-pneumatic positioner. The construction and handling of the necessary mechanical adapter is not always easy, especially if the positioner and actuator manufacturers are different. Intelligent positioners can detect possible mounting errors.

Another source of error is the mounting of the pneumatic actuator on the control valve. With a measurement accuracy of 0.1%, electronic positioners from Samson do not allow the mechanic any personal "tolerances". The Device Type Manager (DTM) delivers specific remedy notes via PACT*ware*. The devices only accept an error-free initialization.

After commissioning is finished, the complete data record can be marked with the tag number, stored and documented. If required, complex data records can also be copied into a replacement device without any difficulties. As a manufacturer-neutral operating program for all devices, PACT*ware* offers standardized data management which also allows untrained maintenance personnel to put devices into operation

Graphical User Interface: Quick Set up (Picture: Krohne)

using it. The user can subsequently assign an overwrite protection to the device setup wit the operating tool. This limits local access in the field to read only and effectively prevent unqualified interventions.

Benefits during operation…

A positioner monitors not only the internal hardware, but also the total system consisting of valve and actuator. Modern devices generate a variety of status messages during this process. To keep the number of messages manageable, every message can be categorized in the device DTM based on the NAMUR recommendation NE 107. The status with the highest priority – "Failure" outvotes "Maintenance required"– determines the condensed status. The behaviour of the separate binary output is also determined by this. With HART communication, the fault indicator output first inicates a "need to talk" and the device starts "chatting" after the connection has been established with PACT*ware*.

If, for example, a real, but temporary valve function interference exists, the status can be classified as "Failure". As soon as

the fault does not exist anymore, the message is reset automatically. The event remains stored in the protocol, however, and can be traced in PACT*ware*.

When the valve's closed position is approached, the zero point is monitored. Behind a certain deviation, the status "zero point" appears. This message is sensibly classified as "Maintenance required" and appears permanently. When the next plant shutdown occurs, the maintenance engineer should overhaul this valve.

…and during the complete life cycle

Positioners with enhanced diagnostic functions also evaluate the operating status of the valve. The extensive results stored in the device can be displayed graphically via PACT-*ware*, without an additional diagnostics tool. The positioners are provided with, among other things, a defined, manual or event-triggered operating data logger, visualize wear tendencies, predict the lifetime of packing and seals, detect missing supply air pressure or changes in the valve signature/friction.

With its 3 x 100 % diagnostics the KROHNE OPTIFLUX-MID offers highest reliability (Picture: Krohne)

The probably most interesting information is contained in the histogram. This is because the distribution of the valve position allows an evaluation of the valve layout. Vague operating data in the planning phase is mostly balanced by personal "safety margins" in the quantity structure. The result is an overdimensioned Kvs value, which subsequently leads to a lower valve load during operation and thus ultimately to decreased performance and increased wear. Of course, the reverse limit case is also recognized. The information from the travel histogram can be used to improve the layout subsequently. Finally, special off-line tests allow you to verify and compare the quality of different control valves.

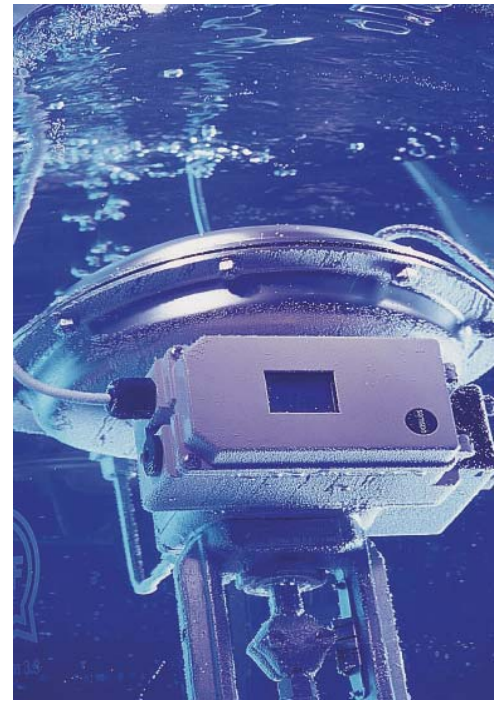## 3 x 100% diagnostics with MIDs

With flowmeters like the OPTIFLUX, the magnetic inductive flowmeter series from KROHNE, three diagnostics packages monitor the accuracy of the measured value, the device function as well as the application conditions. The primary focus is placed here on the detection of gas bubbles, electrode corrosion, electrode coating or electrode short circuit. In addition, the devices also detect too low conductivity, media change, partial filling, damage of the liner, external magnetic fields, flow profile changes and too high media temperature. The Optiflux series covers all diagnostics developed in the VDI/VDE/ Namur 2650 and a lot more. The maintenance engineer and user are thus provided with information on the quality of the measured value, the device status, as well as possible installation and application errors.

The devices were designed especially with the aim of introducing a unique measuring-transmitter to the market featuring greatly improved measuring performance for all applications. The OPTIFLUX converter has a modular structure based on a platform concept and its different diagnostic functions ensure high operational safety. The integrated diagnostics tools monitor the accuracy of the flowmeter and the

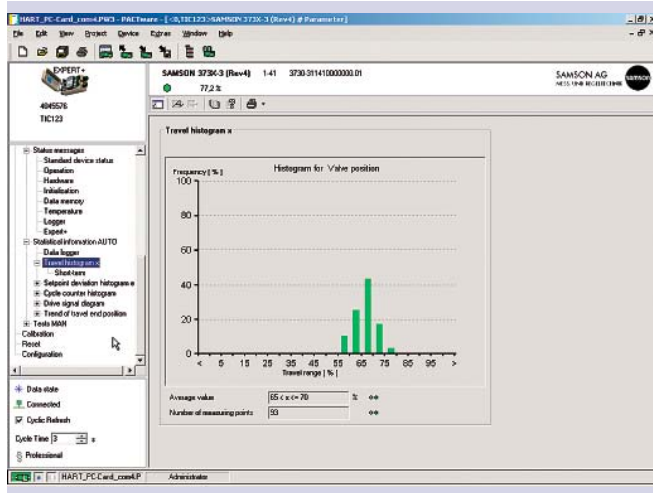**SAMSON positioner 3730-3 – here in unusual test environment** (Picture: SAMSON)

entire process. In the scope of an out-of-spec diagnostics it is checked continuously to see whether the flowmeter is still working within its specifications. Conventional device diagnostics is of course also available. The microprocessors, the software processes, the memory modules, the temperature of the electronics and the outputs are tested.

The graphical user interfaces of the MID family correspond to the DTM style guide, which was developed by many manufacturers. For several years, KROHNE has been providing a variety of DTMs for field devices with HART or PROFIBUS interface to the market, allowing the devices to be integrated into the PACT*ware* FDT frame application – free of charge, without license and in full functionality. The display of the processing chain in the DTM graphical user interfaces visualize which working steps are currently being executed at process

or I/O level. Also, all diagnostic data are displayed in the DTM in a clear and comprehensive way with reference to the different diagnostic classes.

The DTM technology, in conjunction with PACT*ware*, offers the possibility to visualize and evaluate existing autonomous diagnostics functions in the device – starting with the elementary commissioning routines through to complex considerations, for example, critical valves on positioners. The standardized operating software makes it possible to actually make use of the added value of fieldbus technology. PACT*ware* provides access to the full scope of diagnostics functions over the entire life cycle of a plant.

Samson Screen, Graphical analysis of the valve position (Picture: SAMSON)

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PACT*ware*: To be continued

Update on the technology and the Consortium

The benefit of a software tool is always greatest if the user is barely aware of it, it supports him in his daily work and it is tailored precisely to the demands of his working environment. For this reason, the further development of PACTware is primarily directed towards the continuous improvement of usability. Continuity is a basic prerequisite for progress. The PACTware Consortium has ensured continuity by the reelection of its board of directors. The cooperation agreement with the FDT Group also demonstrates that the technology is being consistently further developed. This year, for the first time, the two organizations are jointly presenting the advantages of FDT-based operating software to European neighbors at an international roadshow.

The key success factors that have contributed towards the spread of PACT*ware* as a parameterization tool, which is used worldwide, include its free-of-charge availability via the Internet, quick installation on Windows operating systems, the user interface featuring 5 languages and the direct user support hotline. The awareness that PACT*ware* is being developed and sponsored by many well-known device manufacturers provides the safety of using a tool in automation plants which meets stringent quality standards. A guarantee for smart continued development is the PACT*ware* Consortium's product management team. It defines the direction of the future application in process and manufacturing technology.

One of the greatest challenges of the FDT specification as an open standard is to bring together all the different Device Type Manager (DTM) implementations which were developed over the past years in many companies. A frame application must be capable of working with every DTM available on the market. Even if using a DTM should once not meet expectations, PACT*ware* offers support. In order to prevent problems encountered in daily use, the operating software is integrated into all interoperability tests of the FDT

Group. Due to the high distribution in the development of new DTMs it is available as one of the first test frames to developers all over the world
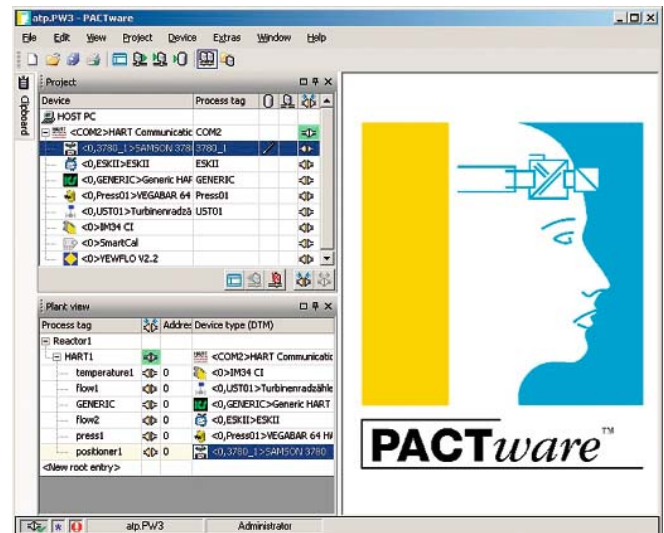
Key points of continued development

The continued development of PACT*ware* takes into account primarily the general trends in software implementation. It also has the aim of ensuring maintainability for years to come, thereby increasing investment security for the users. The current PACT*ware* version 3.0 is a .net application, which runs on the current Windows operating systems. The development process is supported by professional tools, which also allow for cross-company development without any loss of quality.

In addition, the standards of user interfaces in the office world have been developed further in terms of appearance and application. The next PACT*ware* version will also be adapted to take this into account. The look & feel of Office 2003 products served as a template for this. This overcomes user reservations to switching between the office and automation world. Style guide library icons are used as a reference in the FDT world.

However, in particular, PACT*ware* will support all FDT specifi-

cation extensions (today version 1.2.1) in PACT*ware* version 3.5 to be released this year, as far as they are necessary for a stand alone tool. The Tool Calling Interface (TCI), which has just been presented for review by the PROFIBUS User Organization, is also compatible with the new version. Thus, all DTMs can be called via PACT*ware* from

Network and plant view of a project

existing engineering systems for the parameterization of field devices. The parameter data is returned to the calling engineering system after processing.
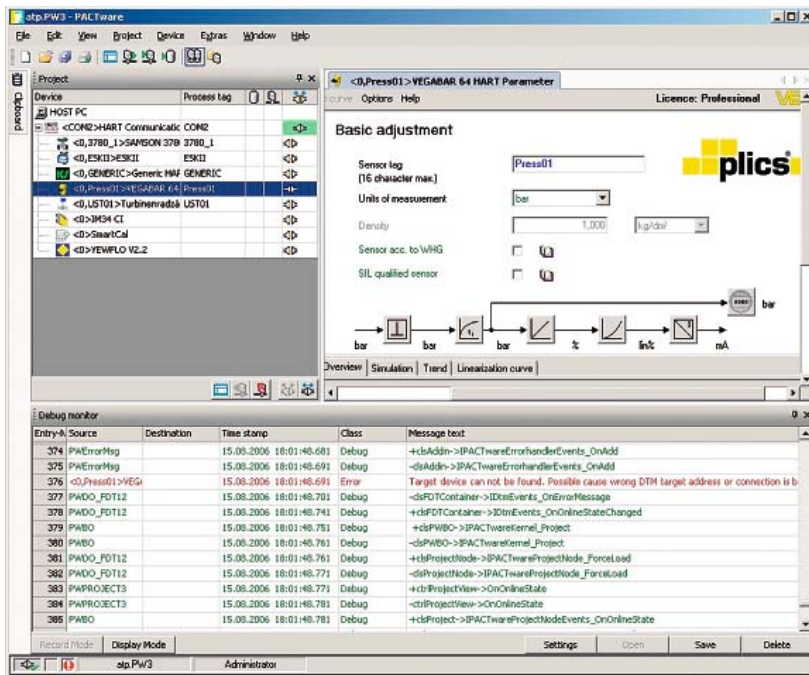
Improvement of modules

Thanks to the modular software architecture, PACT*ware* offers the option of enhancing the core of the program using add-ins. A series of add-ins belongs to the scope of delivery from the first, which is offered by every member of the PACT*ware* Consortium. Other modules can be added for special applications, such as plant analysis, if required.

The user friendliness of the user interfaces and add-ins of the basic configuration are significantly improved with version 3.5, so that the user can use PACT*ware* more efficiently for his applications. The basic configuration includes the device catalog (Fig. 1), the network and plant view of a project (Fig. 2) and the error moni-

tor. The handling of the device catalog is supported with new sorting and selection possibilities, so that also several hundred DTMs can be managed easily. In addition to the network view of a project, in which bus structures with communication DTMs, Gateway DTMs and device DTMs are displayed, the tool now offers a plant view where the focus is on the plant structure. Via the plant view, the users can still access, parameterize and control their devices as usual. And both views can be maintained consistently.

To be able to analyze the behavior of DTMs within the

PACT*ware* device catalogue

frame application, a largely parameterizable trace monitor (Fig. 3) is also delivered. This monitor can be used, among other things, to record and store processes between the DTMs and PACT*ware* in order to be able to analyze a faulty behavior of a component.

Accelerating handling

To accelerate the analysis and parameterization of field devices, PACT*ware* also offers a HART Scan add-in in the basic configuration. It can be used to automatically create the network view of a plant after the device scan. The network view contains all devices, which are connected via a HART bus to a PC and for which a suitable DTM was found in the catalog.

Recurring tasks in a plant are optimally supported by PACT*ware*. The tool now stores the last set configuration of DTMs and PACT*ware* compon-

ents and recovers them during the next start. As a result, individual field devices or also partial projects of a plant can be processed more quickly.

News update

Besides the purely technical enhancements, there is also news about other new developments. For example, the PACT*ware* Consortium and the FDT Group signed a cooperation agreement at the end of April 2006. Both parties hope this announcement will send out clear signals. Firstly, the partnership shows the market that both organizations are interested in marketing the FDT technology jointly. And secondly, the cooperation clearly set outs their position to one another and concerning the FDT technology. Under the agreement, the PACT*ware* Consortium receives a seat in the Board of Directors of the FDT

Group. In addition, it can send a representative as the vice president to the executive committee.

Meanwhile, in internal circles, the 16th general meeting of the PACT*ware* Consortium saw the existing managing board being unanimously confirmed in their office for a further two years. The reelection is to be seen as recognition of the successful work in the past year. Dr. Joachim Schullerer (Head of Development at KSB) as the CEO as well as Rainer Waltersbacher (Head of Product Management and Marketing at VEGA), Frank Rohn (Head of Process Automation Product Management at Turck) and Michael Kessler (Head of Business Field Components and Technology at Pepperl+Fuchs) will also continue to develop PACT*ware* in the future with support of the office lead by Dr. Marianne Katz (Karlsruhe University).

Big things are also planned for the new period of office. Besides the release of PACT*ware* 3.5 in 2006, focusing on the manufacturing industry and the internationalization of PACT*ware* also have top priority. The start signal for this is the European roadshow scheduled for the autumn of 2006.

PACT*ware* goes international

Following the success of the events in the German speaking countries, the PACT*ware* roadshow now plans to conquer the European market in their third year. In October 2006, the PACT*ware* Consortium and notable member companies, supported by the FDT Group, will be heading for the centers of process automation in Switzerland, France and Italy. The roadshow stops in Montreux (October 9, 2006), in Lyon (October 10, 2006) and in Milan (October 12, 2006). Under the slogan "Manufacturer-independent device operation in process automation," the roadshow will demonstrate, in a series of one-day events, how the cost of device operation can be reduced and plant efficiency increased. The well-tried and tested roadshow concept consists of lectures on the FDT technology and PACT*ware*, user reports as well as live demonstrations on a multi vendor plant. The event will be rounded off by a product exhibition by the participating companies Bopp&Reuther, Krohne, Magnetrol, Pepperl+Fuchs, Samson, Trebing & Himstedt, Turck, Vega, Wika and Yokogawa.

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Control valve diagnostics

Emergency plant shut downs due to a defective control valve are the nightmare of any plant engineer.

Positioners with extended diagnostic functions analyze the operating status of a control valve. The extensive results saved in the device can be graphically indicated without requiring an additional diagnostics tool.

Controlling valves with SAMSON Series 3730 or 3731 Positioners helps avoid unscheduled plant downtime easily. The integrated EXPERT firmware enables the positioners to detect malfunctions and trends as well as indicate them as alarms on the positioner display or to the control station using the HART or PROFIBUS protocols.

PACTware, the manufacturer-independent configuration software for smart devices, allows for the uniform configuration and parameterization of device data. To do so, users only need the appropriate device driver (Device Type Manager, DTM) that is provided free of charge by SAMSON. The driver already includes all essential functions.

As a result, maintenance work can be planned well ahead, guaranteeing a good night's sleep.

TREBING + HIMSTEDT

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VEGA

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VEGA Grieshaber KG is a world market leader in level, pressure and switching instrumentation. As a founding member of the PACTware Consortium e.V., it has relied on PACTware to support instrument adjustment since 2001. And this with good reason, because this universal adjustment tool is based on FDT/DTM technology and enables comprehensive, central instrument access. From the office desk right through to the field instrument, via any bus system. Thanks to PACTware, communication and manufacturer independent adjustment is guaranteed.

VEGA attaches great importance to making its instrument drivers as user-friendly as possible. The DTMs of the Black Forest based company guide the user through parameterisation point by point with their own navigation system. All VEGA instruments can thus be systematically, easily and quickly set up and operated.

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industrial it-solutions

www.wetcon.net

wetcon is a software developer for industrial applications. wetcon is serving well-known customers from the process industry and factory automation with software solutions based on Microsoft's actual technologies, especially Microsoft .Net.

One emphasis is laid on the FDT technology; wetcon is a member of the FDT group and is over the last years actively participating in the creation of the FDT specification. wetcon offers consulting and support for FDT solutions, custom-tailored for the customer's requirements and existing software components.

Based on proprietary FDT toolkits, it is possible to create customer-specific FDT solutions, for example DTMs. As a PACTware solution provider, wetcon develops complete solutions as customer- and hardware specific service tools, based on PACTware as frame application and complemented by specific PACTware enhancements.

Beyond the FDT technology, wetcon is developing industrial IT solutions, especially for automation systems, and supports the migration of existing software applications towards Microsoft .Net.

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