2/2012

EINblick

News, Products, Dates, Tips and Services.

international

Always keep the overview!

With ibaDatManager, we have developed a tool that allows a central management and analysis of decentrally acquired data. Comfortable search functions show by a single mouse-click the measured data provided by different ibaPDA systems in the whole network. The data can be opened in ibaAnalyzer directly from the ibaDatManager application and be analyzed constantly.

Plant-wide use of ibaDatManager

Not only in major industrial plants, it is essential to have a constant quality monitoring. On the one hand, in course of the whole production process, the product and production quality need to be monitored, on the other hand, possible failures need to be detected immediately. This is why on many positions along the production line, quality relevant parameters are measured, limit values are monitored and characteristic values are calculated. The more complex the plant, the higher the data volume. Let us take a hot strip mill as example: Measured data from the furnance section, the production line, the coiler etc. deliver the basis for analyzing and evaluating the data by different organizational units, like e.g. maintenance, electrical maintenance, quality assurance or production. Each organizational unit is interested in a customized selection of data and needs to have access to these data from any place.

Data acquisition systems like ibaPDA store the data in data files that are placed in different directories. For users who are not familiar with the directory structure or the naming scheme it might be difficult to find the files. If the data are stored on a drive in the network environment, the user moreover needs to know the access code.

Search and find in the whole network

With ibaDatManager, we have developed an application that offers to different users a uniform view on all data in the whole network. You do not need to know the storage area or the exact name of the file. You can rapidly find files in the whole network from your own computer.

With the search and filter criteria on a clearly structured surface, you rapidly

Continued on page 2

Dear reader,

We have dedicated the current issue of the "EINblick" company magazine to a completely new product, the ibaDatManager. The new software is based on an idea told to us from a long-standing customer about 2 years ago. The customer acquires approx. 100,000 signals in his wide hot strip mill, distributed over several ibaPDA systems. For analyzing the data, ibaAnalyzer has been introduced everywhere in the plant and is used for maintenance purposes, process technology and in the field of quality assurance.

As we wanted every user group to have the best view on the data, we established in the plant a huge and constantly growing library of analyses which are structured according to the tasks in the ibaAnalyzer analysis tree. ibaDatManager allows the user to find the data file for each task without having to know the storage location and the name of the file. You can search like in document management systems for defined properties like strip numbers or exceedings of the tolerance limits.

Also in entirely other areas of technology, we are driving innovations forward. As our youngest member of the ibaPADU-family offers a sampling frequency of 100 kHz, we now want to enhance the properties of our products for applications in the fields of Condition Monitoring, vibration analysis and network quality analysis. As in the example above, our customers delivered the decisive impulses. At this year's SPS/IPC/Drives exhibition in Nuremberg, we will present a new additional module for ibaPDA, the ibaInSpectra which makes vibration analysis much more comfortable and informative than before. Just „iba-like" quality as you know it!

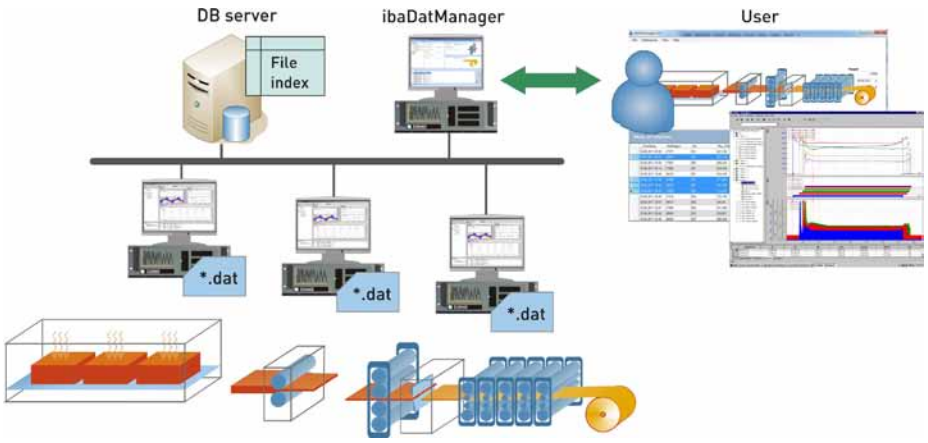
I am looking forward to welcoming you at our exhibition stand. There, we will demonstrate the functionality of ibaInSpectra on a gear test stand that has been developed especially for this purpose.

Yours sincerely

Continued from page 1

get the desired results: with the calendar function, you can restrict your search to a certain time period, selection screens offer pre-defined values as search criteria, you can search for additional information fields and the search can be restricted to data from certain positions in the production lists, calendar functions etc. and combine these tools with the information fields in the database. The query layout cannot only be designed flexibly, but also created without a deeper knowledge in programming languages.

You can also integrate graphical objects: The layout of the own plant visualizes the



System overview

tion line. Of course, the tool allows you to search for files that belong to a certain product-, alloy- or campaign number. With a single mouse-click, all measured data that fulfil the search criteria are shown in a table. Then, one or more files can be selected and via one mouse-click analyzed continuously by means of a pre-defined analysis regulation. This is how the ibaDatManager seamlessly fits in the iba overall concept that reaches from acquiring to analyzing the data.

Index tables

The measured data that have been acquired by means of iba systems – ibaPDA, ibaLogic or ibaFiles – are taken from the different measuring stations by ibaDatCoordinator or ibaAnalyzer-DB-Extractor and registered in an index table in an overall database. MS SQL-servers, MS ACCESS, ORACLE and other ODBC-compatible databases are supported. All available information fields from the index table can be used later as filter and search fields in ibaDatManager.

Individual layout of the query interface

The query interface of ibaDatManager can be configured freely. In a special design view that is reserved to the administrator, selection and control fields can be designed according to the individual needs. The administrator can combine freely design tools like checkbox, combobox, selection lists, calendar functions etc. and combine these tools with the information fields in the database. The query layout cannot only be designed flexibly, but also created without a deeper knowledge in programming languages.

You can also integrate graphical objects: The layout of the own plant visualizes the different measuring stations and hence enhances comprehensibility.

Searching for properties

The user can simply choose or click on the desired query options in the completed query interface. Let us take our example in the hot strip mill: The quality manager needs to have access to the process data of all rolled strips that show a deviance in thickness which exceeds the allowed limit values and belong to a certain alloy. Now, he does not need to search any more in each single file, but has the possibility to list all required measuring files via the "thickness deviation" and "alloy number" criteria. The database based search does not only save valuable time, but also reduces the network load as only relevant measuring files are transferred. Hence, the use of the ibaDatManager software also becomes interesting for single-user systems that store the files only on the local computer.

Data analysis via a single mouse-click

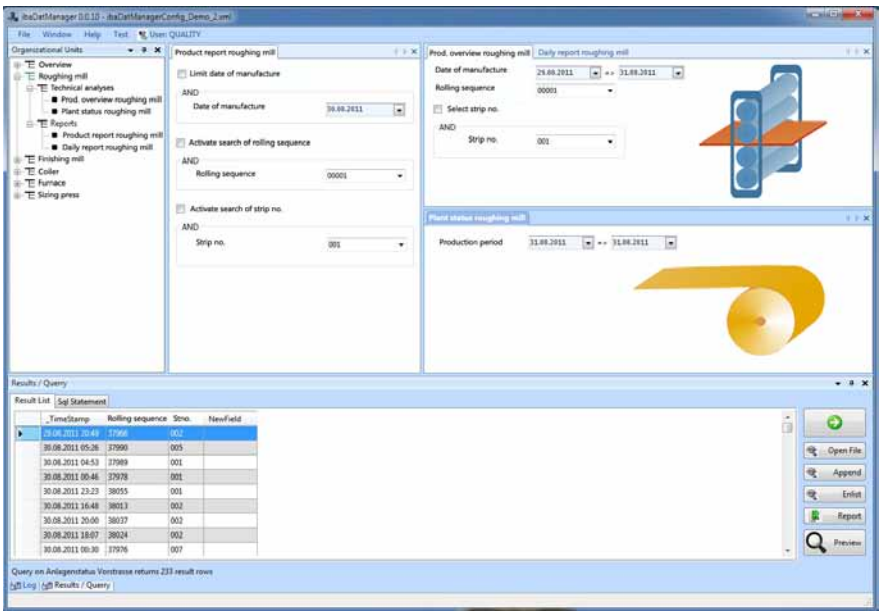
Now - using the right analysis regulations - you can open and continuously analyze one or more measuring files by just a mouse-click. The administrator can pre-configure various analysis regulations and assign these regulations in ibaDatManager, like e.g. process specific views for quality and maintenance data.

An up to date overview and a central access to all stored data are guaranteed by the constant synchronization of the database. Of course, ibaDatManager indicates data that have been displaced on the server. On the contrary, data that have been deleted, are not shown any more in ibaDatManager.

Finding runaway signals

In the near future, it will be possible to search for certain signal patterns - the so called process situations - in the measured data files by means of ibaDatManager.

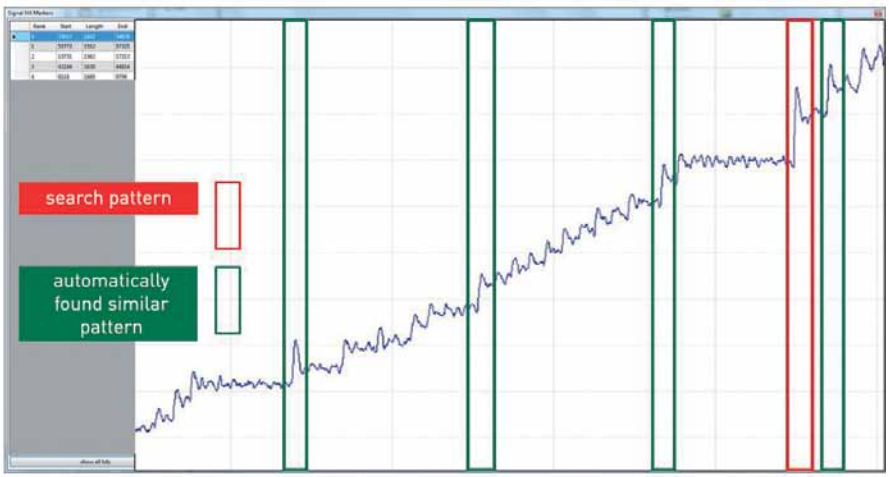
Continued on page 3



The graphic surface facilitates the search for files. Files that have been found, can be opened in ibaAnalyzer by a mouse-click.

Continued from page 2

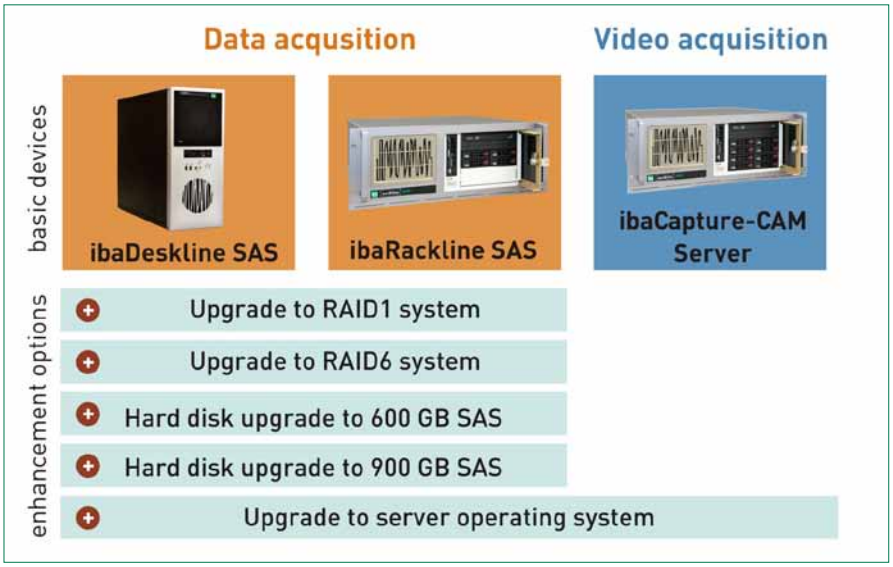
The user can have a preview of the signal progress of a chosen measured data file in a preview window and can mark a section of special interest by means of the mouse pointer. All signal sections of this signal that correspond to the signal pattern are displayed, also over more than one measured data file. This way, you can exactly see when the signal pattern has appeared and what happened before and afterwards. Significant deviations and runaway signals can be identified rapidly and connections to certain events be found easily. Currently, ibaDatManager is tested in the plant of a major flat steel manufacturer. It will be available on the market in the first quarter of 2013.



Selective search for signal patterns helps finding runaway signals.

Computer portfolio modernized

We have restructured our iba computer portfolio and designed it more clearly. With a few blocks we can now configure customized computers that are tailored to specific requirements for data processing or video recording. The product packages have been reassembled and are available in the shop since July.



The new computers are divided into data processing and video recording systems. The data processing division offers two basic devices: ibaRackline SAS in 19" rack mount case and ibaDeskline SAS as a midi tower or desktop. Both devices can be upgraded with enhancement packages to RAID1 or RAID6 technology, with a server operating system and larger hard drives.

The basic devices

Both basic computers, ibaRackline SAS and ibaDeskline SAS, are equipped with the usual powerful inner workings: SAS technology, CPU Core2Quad 9400 2.6 GHz with long-term availability, disk expansion to 300 GB SAS and standard operating system Windows 7 Ultimate 32-bit.

For ibaDeskline SAS, we have developed special housing and can thus ensure long-term availability. The housing is extremely robust and is designed so that the computer can be used both standing and lying down. ibaDeskline SAS replaces the previous computer, ibaOfficeline.

Enhancement packages

The enhancement packages are available for both basic devices equally under the same order number:

- Upgrade to RAID1 technology with redundancy power supply
- Upgrade to RAID6 technology with redundancy power supply
- Upgrade to server operating system Windows Server 2008 embedded 32-bit
- Hard disk upgrade 300 GB SAS to 600 GB SAS
- Hard disk upgrade 300 GB SAS to 900 GB SAS

The expansion packages replace the previous computer versions RAID1 workstation, RAID5 workstation, RAID1 server and RAID5 server. The Windows XP Professional operating system is available at no extra cost.

Video recording

Applications with video recording require particularly powerful computers with large memory. This division now replenishes the ibaCapture CAM server that is run on the same RAID6 technology with 6 TB storage capacity and redundancy power supply. Equipped with Intel® I7 processor (3.4 GHz) and Intel® Q67 Express chipset, the computer meets the high requirements of image processing.

ibaCapture CAM server is suitable for video recording by analog, IP and GigE Vision cameras. An optional upgrade to the server operating system, Windows Server 2008 embedded 32-bit, is available.

Innovations at ibaPDA-V6 and ibaAnalyzer

ibaPDA-V6 (6.28.1 – 6.29.0)

.NET Framework 4.5: From version 6.28.4, ibaPDA-V6 also supports the .NET Framework 4.5.

Active-X Control: A new version of ibaPDA Active-X Control supports WinCC flexible.

New data types: The range of supported data types has been expanded:

- S5 floating point value
- DOUBLE for the TCP/IP Generic Module and Generic UDP
- Big-endian byte order for EtherCAT sniffer modules.

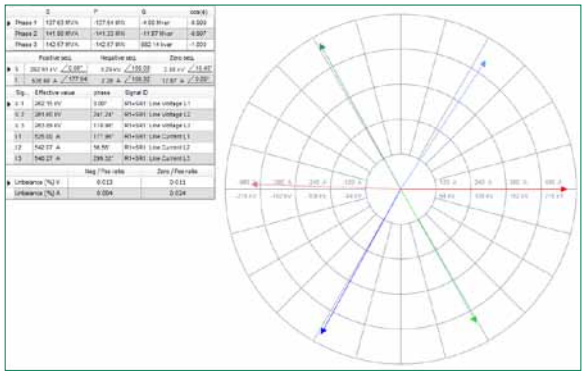
Generic TCP/IP interface: There is now an output interface for the Generic TCP/IP protocol. ibaPDA-V6 can therefore send data over Generic TCP/IP to other users. The transmission cycle (at least 50 ms) is adjustable, as is the number of analog and digital signals.

Hardware support: More peripheral devices are supported:

- ibaLink-VME system interface connection
- ibaPADU-S output modules ibaMS16xDO-2A, ibaMS16xAO-10V, ibaMS16xAO-20mA

HD event table: Events can now also automatically trigger the switching of views. Views or displays which are covered in the tab display are brought to the foreground.

Phasor diagram: For applications in energy measurement there is a new view: the phasor diagram. Specially designed for measurements in 3-phase networks, the diagram represents the current and voltage values as pointers with their phase positions in radial or Cartesian coordinates (real and imaginary). In addition, the active, reactive and apparent power and power factor are calculated on the basis of the measured variables. The RMS and peak value, phasing, frequency, crest and shape factor as well as the rectified value are also determined for all alternating quantities. These values can be displayed next to the phasor diagram in table form.



Phasor diagram

ibaQPanel: The object *label* can now also display the current time. A new control, *picture*, can be configured both to display a fixed picture as well as for changing pictures. In the latter case, each full path and name of the image file must be dynamically specified using a Technostring. If the content of the Technostring changes, ibaQPanel tries to load the corresponding picture.

Offline trend graph: For the QPanel view, there is a new display element, the *offline trend graph*. This enables data to be displayed from a data file (*.dat) or a text file. The element can be configured so that a particular file is loaded or that the system monitors a directory and in each case automatically loads the latest file. As a third option, the file name can be specified via Technostring. Time and length-based signals can be displayed. Next to the curve display field, there is a signal tree with all signals and information fields in the data file. Signals can, as in the normal trend or ibaAnalyzer, be included in the display by double clicking or dragging & dropping. One possible application is, for example, the direct comparison of the current measurement with a previous one.

Color setting: The method for setting the colors has been standardized for all display objects in ibaPDA and ibaQPanel. Clicking on the corresponding buttons in *Properties* always opens up the Windows standard color dialog. It has up to 16 individual colors that can be defined and stored, which are then available for all display objects.

Simulation mode: A simulation mode has been designed for the I/O Manager which can be switched on or off via a button in the tool bar. In simulation mode, I/O configuration files or ibaPDA project files can be loaded without ibaPDA trying to adapt the configuration to the current (hardware) environment or verify it. This is useful when the current system environment does not match the configuration, for example, because the interface boards do not stick or because the licenses are not available. The simulation mode primarily helps our support department diagnose customer problems. But, the simulation mode also has advantages for the user. I/O configurations can be prepared even if the original system is not yet available or complete. A simulation mode has also been established for the data recording configuration which can be operated accordingly and enables the development of the data recording without adopting the previous I/O configuration.

ibaCapture-CAM: In connection with ibaCapture-CAM, trigger signals can now also be defined for snapshots (still images). When an image trigger is released, ibaCapture-CAM creates a photo that is saved in a special directory. The image trigger is stored in the ibaPDA data file so that the images can be focused on later with the ibaAnalyzer program.

ibaAnalyzer (5.22.4 – 5.22.10)

Video export: The export of video clips can now be easily limited by positioning the markers in the data file. For the export and extraction of dat-files, the accompanying videos can be exported as external mp4 files.

New mathematical functions: *Mmax* and *Mmin* for the calculation of the maximum or minimum in a sliding interval.

Atan2 (x,y) for calculating the arctangent of x/y taking into account the sign.

New FFT functions: In order to calculate the trend of amplitude or power of the frequency bands within a predetermined time interval:

- *FftInTimeAmpl*
- *FftInTimePower*

Corresponding functions for order analysis

- *FftOrderAnalysisAmpl*
- *FftOrderAnalysisPower*)

and peak calculation

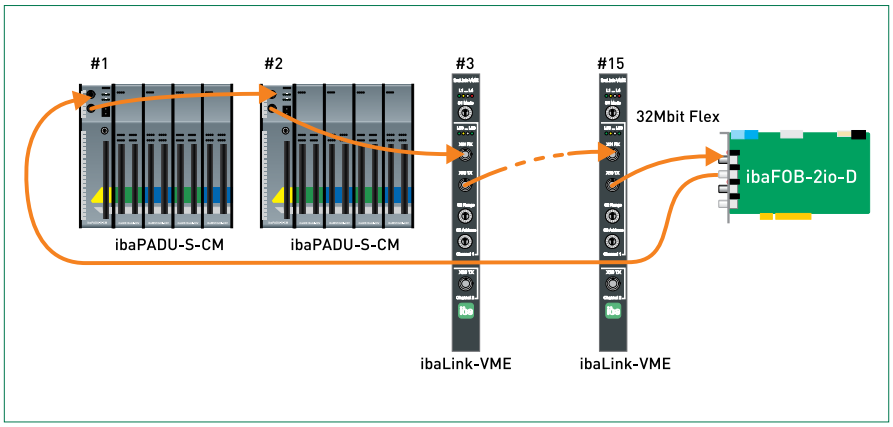
- *FftPeaksInTimeAmpl*
- *FftPeaksInTimePower*.

Other new features: *YatX* has been enhanced to be able to use both variable and constant input parameters.

Report generator: The path of the analysis file is also available on the new „AnalysisPath" variable for reports. ■

VME connection now with ‚Flex'

Our latest development from the system coupling division is devoted to connecting VMEbus-based control and regulating systems to the iba world of data acquisition and control. The new ibaLink-VME interface card works with the powerful ibaNet protocol 32Mbit Flex and offers significantly enhanced applications and more comfortable operation compared to the previous ibaLink-SM-128V-i-2o cards.

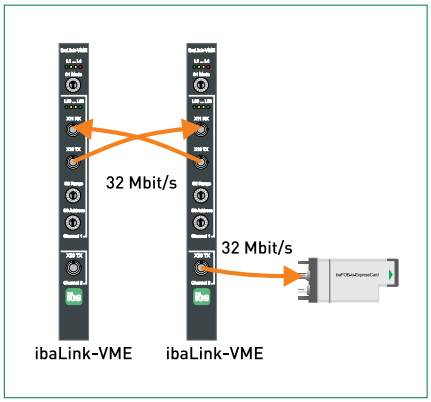


Up to 15 devices can be cascaded in the 32Mbit Flex mode

ibaLink-VME directly builds on the features of the ibaLink-SM-128V-i-2o card. The new card is fully compatible with the 3.3 Mbit/s mode of its predecessor and also offers new functionality with the ibaNet protocols, 32 Mbit/s and 32Mbit Flex. The card can be used in all standard VME32 and VME64 systems, for example, SIMATIC TDC, GE Energy HPCI, or SMS X-Pact. It provides a bi-directional FO channel for I/O signals as well as a one-way FO output for output signals or diagnostics.

Wide variety of applications

Depending on the ibaNet transmission protocol, the card supports different applications.



Peer-to-peer connection between two systems in the 32 Mbit/s mode with additional diagnostics

With the 3.3 Mbit/s protocol, the card is fully compatible with the previous ibaLink-SM-128V-i-2o model. Up to eight devices can be cascaded at the I/O, and the I/O of the PLC systems can be enhanced. The signals are transmitted in a fixed time cycle: 64 analog and 64 digital values in one millisecond per output. There is a new option to use the second output, on which the data from the first can be mirrored, for diagnostics.

ibaLink-VME

In addition, you can link together two VME systems in the peer-to-peer operation for test purposes. This is also possible with 32 Mbit/s, including diagnostics, whereby the acquisition time can then be set between 50 µs and 1.4 ms.

User configurable

The use of 32Mbit Flex offers the most flexibility: data rate, quantity and formats can be adjusted freely and conveniently configured in ibaPDA. If the amount of data is smaller then the cycle time can be reduced by up to 25 µs at 65 bytes. The largest amount of data can amount to 4060 bytes with a 1.4 ms cycle time. In addition – as for all 32Mbit Flex-enabled iba products – up to 15 devices can be interconnected in a ring topology.

VME access

The card allocates 256 kbytes of address space in the VMEbus. Data formats, VME base address and address mode can be adjusted using DIP switches.

The following modes are supported on the VMEbus:

- Access types A24, A32, A64 with data formats 8/16/32 bit (D08/D16/D32/MD32)
- 8/16/32/64 bit block transfer modes (BLT/MBLT)
- Unaligned transfer (UAT) and read-modify-write (RMW)

If consistent data telegrams are to be transmitted in a block, a special consistency mode can be activated by means of DIP switches.

Product cancellation

The ibaCom-PCMCIA-F (Art.-No. 12.102000) notebook interface and the ibaCom-FO-A (Art.-No. 12.102100) adapter module are cancelled with immediate effect.

As the PCMCIA-plug-in technology for notebooks has been cancelled, we will discontinue the card on 12/31/2012. The same is true for the FO-adapter module, which can exclusively be used in combination with the PCMCIA-card.

Both components will be available after the cancellation date only as replacement parts at a changed price until 12/31/2012 at the latest.

Fourth international sales conference

From 15-17 October 2012, against the backdrop of the global distribution of iba products and the challenges involved, the fourth international sales conference of the iba Group was held. This year's host was ibaChina at the Shanghai site.

(From left to right) Back row: Craig Harrison (Australia), Janelle Thornton (Australia), Mario Gansen (Germany), Eric di Luzio (Panama), Mayday Yoon (Korea), S.H. Lee (Korea), Andreas Quick (Germany)
Front row: Wang Yanping (China), Ahmed Kosereisoglu (Turkey), Eric Snyder (USA), Zhu Xiaowei (China), Ulrich Lettau (Germany), Günter Spreitzhofer (Austria)

Special emphasis this time was on the presentation of the solutions developed in various countries based on iba products and the presentation of the products in development.

The various demands of customers from different markets were also discussed in depth and included in the development plan.

At the end of a successful conference, all participants reaffirmed how valuable personal exchanges and close networking across national borders are in order to broaden the customer base, develop new markets and strengthen local presence.

The next sales conference will be held in 2013 in Fürth, probably in our new building. ■

Integrated connectivity to iba systems

With the ibaLink-io-embedded-module we are addressing manufacturers of control systems that want to integrate access to our iba measurement and automation solutions into their systems.

ibaLink-io-embedded

ibaPDA systems for data acquisition are already so well established in the automation environment that directly providing control systems with FO connections to connect to iba systems is a definite advantage. It eliminates the need for additional devices, for example, of the ibaPADU family.

With ibaLink-io-embedded, OEM customers receive a finished module with a FO I/O which supports 32 Mbit/s and 32Mbit Flex ibaNet protocols. This supports the implementation of many applications. The data rate, quantity and formats can be configured flexibly in 32Mbit Flex mode; the configuration takes place via an entry in the DPRAM register in fast mode (32 Mbit/s).

For the connection to the manufacturer's systems, the module offers a parallel asynchronous data bus which can be operated in 8 bit or 16 bit mode. The mechanical connection is carried out via a two-row pin connector. Thanks to the compact size of 80 x 80 mm, the module requires very little space. The power supply of 5 V (± 5%) is fed through the pin connector. In addition, 4 LEDs inform the user of the operating status. The developer receives all the information necessary for the integration with the accompanying Designer's Guide.

First applications are found in the electrical drive engineering where fast readings are transmitted directly from the inverter control via the iba FO technology to the measuring system. ■

EINblick
Current news, products, dates, tips and services.

Published by:
iba AG, Koenigswarterstraße 44
D-90762 Fuerth, Germany
Tel: +49 (0) 911/97 28 2-0
Fax: +49 (0)911/97 28 2-33
www.iba-ag.com

Edited by:
Ralph Maronde
Branch Office Berlin, Germany
Tel: +49 (0) 30/85 40 73-41
Fax: +49 (0) 30/85 40 73-51
ralph.maronde@iba-ag.com