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HYBRID POWER


 A white paper authored by David Humphrey of US market analysts ARC Advisory Group praises PROFIBUS'

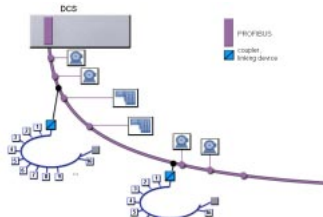
superior value proposition over all other fieldbuses due to its tightly integrated solutions for factory and process automation. Download a copy from www.profibus.com

(For your convenience we have linked the above headlines to their respective pages. Just click the 'hot spot')

PROFIBUS: PERFECT FOR PROCESS

TIGHTLY INTEGRATED DP AND PA PROTOCOLS DELIVER UNIQUE VALUE PROPOSITION FOR PROCESS PLANTS, USING SINGLE FIELDBUS SOLUTION

 A second round of international press conferences is underway, this time to explain why more than 5 times as many PROFIBUS devices are used in 'process' as any other fieldbus!



PROFIBUS is the only fieldbus to support process instrumentation AND discrete manufacturing devices on a single cable. In most process plants this can save a lot of money.

How can that be?

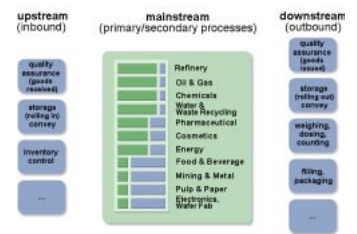
Well, the PROFIBUS PA solution featuring power-on-the-bus and IS is tightly integrated with PROFIBUS DP, the high speed solution for discrete manufacturing. In 'process', PROFIBUS DP is essentially a LAN, with linking devices connecting to the PROFIBUS PA segments which carry instruments such as pressure, temperature and flow transmitters.

However, in the majority of process plants there is a large amount of digital I/O as well (such as starters, pumps, level sensors, control valves etc.), for which PROFIBUS DP is the ideal solution. This 'hybrid' requirement is prevalent in food, drink, pharmaceuticals, water, waste and similar areas where upstream and downstream processes such as bulk handling, inspection, filling, bottling, labelling and packaging must be carried out. Because PROFIBUS can handle both applications areas it wins hands down.

It's the only one!

In fact, it's the only fieldbus that can handle both applications on a single cable. Our competitors always need a second fieldbus - which often turns out to be PROFIBUS DP in fact! Ask them!

Using realistic estimates it's possible to say that 1.3 million PROFIBUS DP devices are used today in the process sector. Adding this to the 300,000+



Most process plants have batch and discrete applications both upstream and downstream of the main process. PROFIBUS, with its tightly integrated DP and PA protocols is the ideal fieldbus as it means a single cable and a single solution.

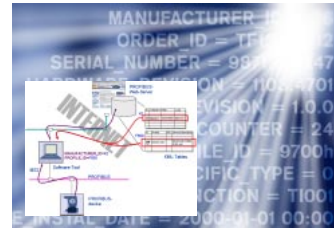
PROFIBUS PA process instruments brings the total up to 1.6 million.

Powerful ... and simpler

So, next time you think of using a fieldbus in your process, think PROFIBUS. A single fieldbus means savings all round - in engineering, commissioning, configuration, maintenance, training, inventories and so on. And as you'll probably end up using PROFIBUS anyway, why not 'think PROFIBUS' from the start and keep things not only powerful, but simpler too?

IDENTIFICATION/MAINTENANCE

The I&M functions of PROFIBUS specify how certain device description data are stored in PROFIBUS devices. Engineering tools can then read this data and interpret it via a key that can be accessed from the PROFIBUS web server, allowing access to up-to-date information about the device, such as identification data, task and status information. The I&M functions offer room for profile-specific and manufacturer-



specific expansions. For more information about this important feature of PROFIBUS go to <http://www.profibus.com/productguide/imfunctions/index.html> or download here.

BOARD APPOINTMENTS

Edgar Küster (Germany) and Mike Bryant (USA) have been re-appointed as Chairman and Vice Chairman of PROFIBUS International (PI) on the 16th PI Meeting in Cape Town which took place on 20th / 21st May 2004.



▶▶ PI PAGE

HUGE SUCCESS FOR PROFIBUS/ PROFINET ROADSHOW IN CHINA



The first seminar day was focused on PROFIBUS topics. The presentations - given by specialists from the Chinese member companies - included detailed information about installation, maintenance, diagnostics, and the cost saving benefits. PROFIsafe, the solution enabling safety applications, was also presented. The key message was that PROFIBUS, with more than 10 Million installed nodes in total - including 1.6 million in process automation - is **the undisputed worldwide**

market leader of fieldbuses.

The presentations were supported by a live multi-vendor demonstration organized by 12 companies (see picture above), which showed the seamless integration of 34 process devices and DCS systems from ABB and Siemens.

68% of the companies attending were already using fieldbuses. Nearly all companies expressed their strong interest in using fieldbuses within the next 2 years and **more than 70% indicated their preferences for PROFIBUS over other solutions**, principally because of the unique advantages of PROFIBUS in 'hybrid' applications. Mr. Li Baihuang, chairman of CPO (pictured above), stated: "PROFIBUS provides not only the latest technology in industrial

automation but also meets the future trends and expected requirements of Chinese customers".

The second seminar day covered PROFINET, including the actual status of the new technology and the planned milestones. The concept of realtime functionality for Factory Automation and Motion Control Applications was explained in detail.

The unrestricted and coexistent use of realtime functionality with TCP/ IP and the easy integration of existing fieldbus systems (like PROFIBUS, Interbus, DeviceNet) are unique advantages. PROFINET IO products were shown in a live application.

Between August 30th and September 10th the Chinese PROFIBUS Organisation (CPO) organized a PROFIBUS and PROFINET Roadshow in Beijing, Shenyang, Shanghai and Guangzhou, supported by ABB, Beckhoff, Endress+Hauser, Harting, Krohne, Pepperl+Fuchs, Sick, Siemens, Turck, Weidmüller, WAGO and Wika. **Over 800 participants attended** the 2-day seminars in these four cities.

PROFINET IO CERTIFICATION

Stringent standards are being applied to PROFINET IO certification to ensure no faulty device behaviours are experienced anywhere in the world. The certification system has been set up along similar lines to the proven system for certifying PROFIBUS products.

A test laboratory is authorised by the PROFIBUS organisation to execute a special "Black-Box-Test" on the PROFINET IO device. The aim of this test is not to confirm Ethernet functionalities, but to check for:

- ▶▶ correct implementation of the defined state-machines
- ▶▶ diagnosis/alarm handling
- ▶▶ transmission of IO data and acyclic data transmission
- ▶▶ mandatory PROFINET services like auto crossover, auto negotiation, correct implementation of the real-time-concept
- ▶▶ correct addressing
- ▶▶ provoking of errors

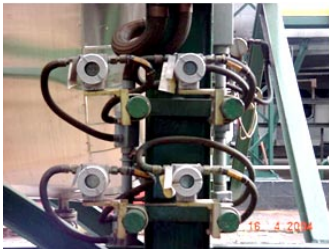
The first tests, starting September 2004, will be detailed plant tests to extend experience with PROFINET IO networks. The first certificates will have a limited validity, as was the case for the first PROFINET CBA certificates. Final test scenarios are planned for early 2005. Although the functionality of PROFINET IO is considerably higher than PROFIBUS, certification time should be no longer than for PROFIBUS devices.

SEE PROFIBUS NEXT AT ...



» APPLICATIONS

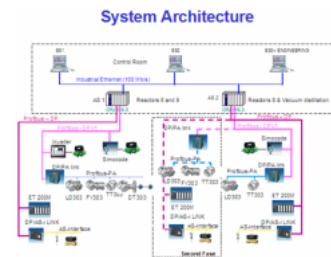
BRAZIL: PHTHALIC ANHYDRIDE



The 'hybrid' value proposition of PROFIBUS is highlighted once again at Petrom, the largest Phthalic Anhydride producer in Latin America. Smar has supplied more than 100 field PROFIBUS PA process devices for a PROFIBUS Process and Discrete Automation system on three reactors and a vacuum distillation tower, totalling 1200 I/O points. Conventional instrumentation was integrated using networked remote I/O. An estimated 15,000m of cables was

saved, equivalent to US \$520,000. The first phase involved 43 control loops, 400 I/O points and 385 analog inputs.

PROFIBUS PA segments use tree topology and the spurs have several lengths. There are 9 links with 9 DP/PA couplers and a maximum of 21 field devices in each segment. Besides that, there are 16 IM-153 (ET200M), 3 frequency inverters, 13 motor drives and 8 AS-interface gateways and repeaters.



Smar provided Pressure and Level Transmitters, Temperature Transmitters, Density/

Concentration Transmitter, and Positioners.

The new plant has operated since the second quarter of 2002. The cost reductions and simplicity of PROFIBUS were confirmed and now Petrom is observing maintenance behaviors, which show big improvements. "The partnership with smar has contributed to high operational availability. We are anxious to proceed to the next stage," says Petrom automation technician Marcos A. Cusma.

smar: cesarcass@smar.com.br or marcos.cusma@petrom.com.br

GERMANY/ PIGMENTS



Yet another plant emphasising the 'hybrid' value proposition of PROFIBUS is the Gernsheim site of Merck KGaA, which produces pearl lustre pigments for automotive and industrial paints and cosmetics. PROFIBUS was recently selected for a new Iridion product line there.

Pearl lustre pigments are manufactured by coating small, thin mica sheets with chemicals, with the thickness and chemistry determining the finish. A mica suspension is produced from natural mica and stored in a mica tank. Then, the pigment is produced from the suspension through treatment with chemicals. Waste gases and water are produced, which must be cleaned and treated.

The plant has been broken into sections with standardized automation structures from the field through to the control cabinet.

Redundancy is used for instrumentation and control rooms as well as the controls and operator servers. Peripherals are connected over an optical ring.

The decisive criteria for choosing PROFIBUS was the scope of the application options, which enabled all requirements plant-wide to be covered by a single fieldbus - PROFIBUS DP and PA.

The plant was operational just 12 months after the start of planning. One noticeable benefit has been central access to all devices, which has revolutionized maintenance work.

» PRODUCT GALLERY

GATEWAY DTM

The "is Pro DP/PA Link DTM" allows the integration of a Siemens PROFIBUS



DP/PA Link device into any FDT Engineering and Configuration Tool, enabling engineering and commissioning to be handled from one central workplace. The DTM acts as a Gateway DTM and provides communication via DP-V1. It also facilitates diagnosis of the PA segment with a graphical user interface. The DTM can be used together with the CommunicationDTM "is Pro FDT" and ifak's USB and PCI PROFIBUS interfaces. **ifak: +49 3 92 54 45 63 60 or ahe@ifak-system.com**

measurement that enables the monitoring and analysis of all kinds of coupled and redundant networks. Preventive maintenance can be done by comparison of the redundant units. Critical items such as redundancy couplers can be on-line tested during start-up and supervised during service. It is also possible to compare data of redundant stations. Long-term recordings can be made and .txt and .xls files can be stored. The tool can also be used as two single channel analyzers. **itm: www.itm.tum.de or kausler@itm.tum.de**



Control systems. A hardware dongle is used to regulate licensing. All previous functions are still available allowing regular or even permanent monitoring of systems. **Trebing & Himstedt: +49 385 39572 23 or lstillert@t-h.de or www.t-h.de**

COUPLER IS MASTER



FD 20 is a new fieldbus coupler for transferring PROFIBUS I/O data over serial links with

special drivers or PLC cards. It is aimed at applications where there is a small number of slaves at a remote site and data from these must be sent to a PROFIBUS network over a leased line, dial up modem or a wireless network. Point to point transfers and multiple network transfers are possible. **Westermo: +44 1489 580585 or sales@westermo.co.uk or www.westermo.com**

DUAL CHANNEL ANALYZER

The PROFIBUS Dual Channel Diagnosis-Monitor is the first analysis tool with synchronized time

NEW SCOPE VERSION



T&H PROFIBUS scope is now available in a new release supporting PROFIBUS DP-V2, enabling the analysis and troubleshooting of complex Motion

▶ AROUND THE WORLD

▶ REGIONAL ASSOCIATIONS

NETHERLANDS

The latest PROFIBUS Center Netherlands Product



Development training was actually held in Scottsdale (USA) on 2 and 3 August, just before the General Assembly meeting of the PTO (see separate story)! Dennis van Booma told us that there were 13 attendees from a variety of companies, all of whom plan to start a PROFIBUS development project soon. With the training provided PROFIBUS Center Netherlands believes that the level of knowledge and experience of the delegates in the roadmap from product specifications up to certification has increased enormously. There was great interest in the certification tool 'ProfiScript' and the analyzer 'ProfiTrace'. The event was organized in cooperation with the USA PROFIBUS Interface Center

UK

The success of the recent PROFIBUS UK conference has prompted the decision to hold another in 2005. A Call for Papers has gone out, in particular for the Master Classes, which will focus on latest developments and applications involving PROFINET, PROFIsafe and PROFIdrive in manufacturing, hybrid and process industries. A provisional title, a 150 word synopsis and a brief biography of the presenter should be sent to a.verwer@mmu.ac.uk. More details from www.profibus.co.uk.

The UK is also forging ahead with its training programs and will be exhibiting at the forthcoming Drives and Controls Fair in October where a series of presentations and demonstrations will be given. Among forthcoming training opportunities is a free day



The PROFIBUS Association South East Asia, in conjunction with the Instruments Control Society of Singapore, held a technical talk in July titled "Open Solutions for the world of Automation", an event sponsored by Siemens Pte Ltd. The evening event was held at Siemens Center auditorium, with 135 people from different organizations. The purpose was to provide an overview of the communication intelligence in

on 'Commissioning, Troubleshooting and Maintenance', which features the ProfiTrace tool from the PROFIBUS Center Netherlands. Read this page or email uk@profibus.com for details.

USA

A highly successful General Assembly meeting was held in August, with over 50 member companies attending. During the 2 day event - which also celebrated the 10th anniversary of the PROFIBUS Trade Organization - technical and marketing updates were given on PROFIBUS and PROFINET. Five 'retrospectives' overviewed the first ten years and Executive Director Mike Bryant (above) said how much he was looking forward to the next ten! Much discussion took place about the marketing of PROFINET. Mike



automation by introducing PROFIBUS and PROFINET and providing various perspectives for transparent networking in all areas and levels of manufacturing. The distinguished panel of speakers included: Mr Andreas Agostin from Pepperl + Fuchs, Mr Richard Jennens from Endress + Hauser and Mr Volker Schulz from Siemens Pte Ltd.

explained that new initiatives are planned for PROFIBUS in coming months and there will be emphasis on the process industries.

FRANCE

France PROFIBUS is organizing a 'journées techniques' in Paris on October 20th and in Lyon on October 21st. Topics include PROFINET, FDT/DTM, PROFIsafe and new products. Contact france@profibus.com

SWITZERLAND

PROFIBUS Switzerland will hold its annual PROFIBUS Day on November 10th in Basle. This year's topic is 'Business Logistics and Automation: PROFIBUS, the enabler.' Around 200 delegates are expected. More details from www.profibus.ch



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