Success build on information: Industrial^{IT} – seamlessly linked information in real-time

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Being able to access relevant information in real-time - this is a basic requirement for successful business. If actual information from the automation level is directly available for the management, any type of decision-making is well supported. Industrial IT fulfils exactly this requirement: every component of a plant is a source of information. This includes intelligent machinery as well, which are integrated into the plant-wide information network by means of advanced networking concepts.

The availability of information is the indispensable prerequisite for the successful execution of business and automation processes. If provision used to be time-consuming in the past and could be realised only with considerable manual efforts, today availability is ensured by the use of adequate technology and comprehensive networking. This is where ABB's Industrial IT comes in: the key concept is access to the right information at the right time and the right place in real-time. In this context the term "information" is used in a broad sense of meaning and comprises all relevant business processes starting from the automation sector.

The correct information allows the decision-maker to initiate the correct actions immediately. Tools integrated in the information flow assist the implementation. Since ABB applies this principle systematically to the entire life cycle of plants, the Industrial IT-products set new standards with regard to effectiveness, flexibility, safety and productivity. The owners of plants, manufacturers, OEMs and system integrators profit from the integrated approach. The harmonic interaction of Industrial IT products, which makes the information flow, happen is an undisputed demand of ABB. ABB products being certified according to these strong criteria, are labelled with "Industrial IT enabled" sign. As the actual number of certified products is higher than 5700, all ABB products will be certified in the near future.

More effectiveness in machinery engineering

In machinery engineering, too Industrial IT is increasingly taken note of. In the past machines were shipped as isolated solutions to the end users. On site they were connected to the higher-level systems by adapting software and hardware. Today end users are more demanding. Machinery is supposed to integrate seamlessly and without any problems into the specified automation environment and the existing IT infrastructure. In this sphere the fusion of the ERP tools and the office world with the production machines in the plant can be observed. Furthermore intelligent machinery automatically providing a rich set of detailed information for further processing is what customers are asking for.

The manufacturers of machinery request powerful and inexpensive components, which are also reliable in future, to be able to implement their system solutions on a competitive basis. The market requests programmable controllers supporting trends such as integration into the office world, access via different field buses, distributed intelligent field devices and the safety field bus. Already today ABB offers its customers the necessary components in order to follow these trends. In addition and in a continuous dialog with customers, ABB develops new programmable controllers in order to offer the right products for future requirements. Such products are for example intelligent field units, which can be used independent of the actual selected field.

From machinery to the plant
A machine designed according to these principles cannot only run as a "stand-alone" unit, but may form a group with other machines of the same or different type in a plant. Thanks to the power of Industrial IT all interfaces are prepared to allow a seamless integration of several machines into one system. Process data can be visualized both at the system level and the machinery level. Direct access to the machinery level is also possible.

Since now several intelligent devices are installed instead of the previous central machine control, the structure of the automation system is more complex and requires configuration of communication instead of the former simple connection of inputs and outputs. The enormous advantages justify this additional expenditure. This type of the modularization is already frequently implemented in conveyor technique, in printing and paper machines, food, beverages and packaging machines, rubber and plastic producing machines as well as machines for special purposes.

The design of automation processes in the Industrial IT way of thinking, makes the clear-cut differences of the past between machine engineering, production engineering and process engineering vanish. Now objects are interacting by making their own information available to other objects via their aspects. Thanks to the integrated approach by means of the Aspect Object TM technology, it is unimportant for the information flow whether a specific object represents a machine, a batch process or a robot integration in a production line. The modelling of information enables the combination of different approaches to the solution into a new plant in a simple manner.

Process requirements are taken into account
Moreover the design of ABB's Industrial IT products for a wide range of applications ensures, that the specific requirements of the respective process will be considered in the best possible way. Such requirements may be: processing speed, redundancy or intrinsic safety, failsafe performance or data integrity, decentralization and networking, the fulfilment of legal requirements for validation or the optimization of process control at runtime. The scalability and flexibility of the wide range of Industrial IT products enable ABB to provide solutions for every application.

Since the Industrial IT approach is applied to all phases of the life cycle of machinery or plants and thus an integration of all processes is achieved, investments are safe. During the design phase engineering is optimized, during operation costs for maintenance and service are minimized and future expansions can be implemented easily. Thanks to the open standards the customers are already today well prepared for future challenges.

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