Virtual engineering solutions for real plant success
There are several other areas, in which the automation processes can be applicable.

A model for modern production management

Our hardware interfaces are able to simulate the complete behavior of many devices on the fieldbus (PROFIBUS, PROFINET) in real time. Because the simulation runs without any form of retroaction to the PLC, the controller will encounter no differences when communicating with real or simulated devices. Additional support is given with our testing applications based on our simulation tool SIMIT: All of the facility’s steering and regulatory functions, along with possible reactions concerning malfunctions and operating errors can there be tried out and trained – without impacts on the real production. Technicians and automizers can use this platform to objectively verify the realization of the automation engineering.

Furthermore, our simulation platform allows software alterations to proceed independently from the real facility. So after test and verification a high-quality solution can then be installed absolutely smoothly during planned stoppages, without any negative effects for the ongoing operation and in a very short time.

As you can see, our simulation center offers a valuable tool for future decision-making and facility modernization.
By applying simulation solutions, automation software can be tested in much more depth and achieves a very high grade of quality before implementation on site.

Customers can verify the quality in the Factory Acceptance Test (FAT) before releasing the software, whereas commissioning times are reduced dramatically to speed up the production start.

You can build up, manage, keep and improve knowledge of the process and automation, but also train new operators for critical, borderline and dangerous situations without actually endangering them, the environment or the equipment.

Any changes in software applications, software drivers, operating systems or operation strategies can be tested and verified with the applications on the simulated systems before implementation within the running production system.

As a consequence, the risks of production stops, bad quality, buggy software, viruses and wrong strategies can be filtered out before installation on the real production system.

Also, a great benefit is the flexibility factor, with great opportunities for off-site presentations training facilities.

The result is a very flexible, easily moveable and transportable system, that allows not only a complete testing and handling foundation, but a solution that delivers an exceptionally good service in terms of future-oriented, economic operation and optimization.
Bringing transparency to plant processes

Running a plant is a challenge. We know it, because we have run through every possible operation there is – with our virtual engineering solutions.

With the solutions we present, you will be able to optimize the entire processing range, while constantly moving towards a better and more profitable business approach.

We know, that the most important factors of every realization are the quality standards, the cost and the time. While the facilities continue to become more and more individualized, expectations concerning the availability and efficiency grow from the beginning on. Nowadays, alterations and extensions range far into the processing phase, conjuring more complex projects, tighter time schedules and more work at cost-intensive hours.

To ensure the highest level of engineering quality, operator efficiency and performance optimization, our simulation lets you try out and arrange every single function of your plant, while running in complete virtual synchronization with the actual operations of your facility.
Building customer trust the virtual way

Demo and acquisition System:
Demonstrate actual applications

For demo and acquisition purposes usually only presentations are used. However, it is much more trustworthy, when you are able to show your customer your application in a real environment and therefore increase the chance to receive an order.

The simulation along with your original applications can run on 1–2 notebooks, while demo sequences can easily be implemented. Provide your sales staff with the best tools to do their job and acquire more customers due to your professional display of expertise.

Process model:
Model actual processes

If you want to describe the plant behavior to get a good realization of your automation tasks, you need to write down the production processes in detail.

Normally, this is done in form of written specification, easily misinterpreted and dependent upon further knowledge and understanding of the task. By using a simulation, you can define the real behavior of your production process by means of process control systems, while testing the automation against the actual model.

The supplier can then test the application against the model to be sure s/he is dealing with an exceptionally well tested software.

Emulation and simulation can be included on one notebook.

Define the real behavior of your production process.
Test system: Test actual configurations

When programming automation solutions, you have to test the PLC software and the Process Control software including the whole configuration of systems involved.

Usually you don’t have the configuration available which is actually present on site. Our solution simulates a configuration which behaves identical to the one on site. From the very beginning on you can therefore simulate single signals or feedback signals with a tip of your finger.

As a consequence, the testing time decreases and the test replication becomes far more easy.

Training: Shortening the learning curve

After finishing the application test and maybe a factory acceptance test, the equipment normally goes on site as commissioning starts. The operators should be thought the usage of the new applications and maybe also the handling of the new production process in a parallel manner. By using simulations, the operators can be trained well before the end of commissioning, thereby being absolutely fit for the job and working efficiently from the very beginning. Also, the skill level and overall knowledge of trained operators will rise visibly, ensuring a safer and more efficient production handling.

Testing without simulation: Testing with simulation:

Testing without simulation has a couple of disadvantages. Testing with simulation ensures quality and success and reduces time and costs.
Giving new meaning to customer care

Commissioning:
Start production faster

When using a simulation in the engineering phase, commissioning time can be decreased significantly. Tests can be repeated as often as needed, without wasting production goods and media. Also, the debugging of common errors can run parallel to the ongoing production, saving time and valuable production resources.

Service and support:
Service systems easier

Service and support is much easier when using a simulation. Failures of the production systems can be evaluated and replicated, while avoiding any interference with the ongoing production. Complex failures can be passed to the support staff, which then has the possibility of discussing and handling the problem step by step, in as many replications as needed.

Simulation makes commissioning effective and customer-friendly.

Service & Support with a simulated system is effective and fast.
Operation and optimization: Simulating and optimizing operations

With a simulated system, all new software modules can be checked against malfunctions, viruses, bugs and other effects which would otherwise lead to breakdowns in production. Trying out new and risky operations is no longer a danger for the actual equipment, and the realization of new ideas can be checked prior to cost-intensive investments.

Using our up-to-date simulation solution for the production management secures your competitive advantage.

Thanks to
• Greater certainty in planning and meeting of deadlines
• Reduction in costs and risk
• Significant improvements in terms of keeping to the budget while at the same time reliably meeting highest quality standards.

If you want also to participate in these benefits contact our Simulation Center.
The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.