Let us turn your production line into a success. **Our automation concept** thrives on the combination of refined standard components of world renown, matched to the unique requirements of individual production processes. Its technology was originated by a company that has vast expertise in consultancy, engineering, comprehensive solutions and service. **Nothing is left to chance.**

Creating individuality from standards.
Solutions for Powertrain
breed success

Solutions for Powertrain:

A one-stop solution for automating production lines. Its components are selected individually to solve the task at hand. It is already proving its worth in thousands of production lines every day.

The components:

SIMATIC®, SINUMERIK®, SIMODRIVE®, PROFIBUS®, ... These names have set standards in the market. Reliable standards that can be used to implement every system solution. From controlling simple hydraulic units to complex high-speed machining modules.

A recipe for success:

Uniformity, universality, simplicity – by using the same hardware structure, the same operator interfaces and the same tools for configuration, programming, start-up and diagnostics.

Machine manufacturers and users benefit from synergies – from configuration and start-up, through personnel training to service and maintenance.

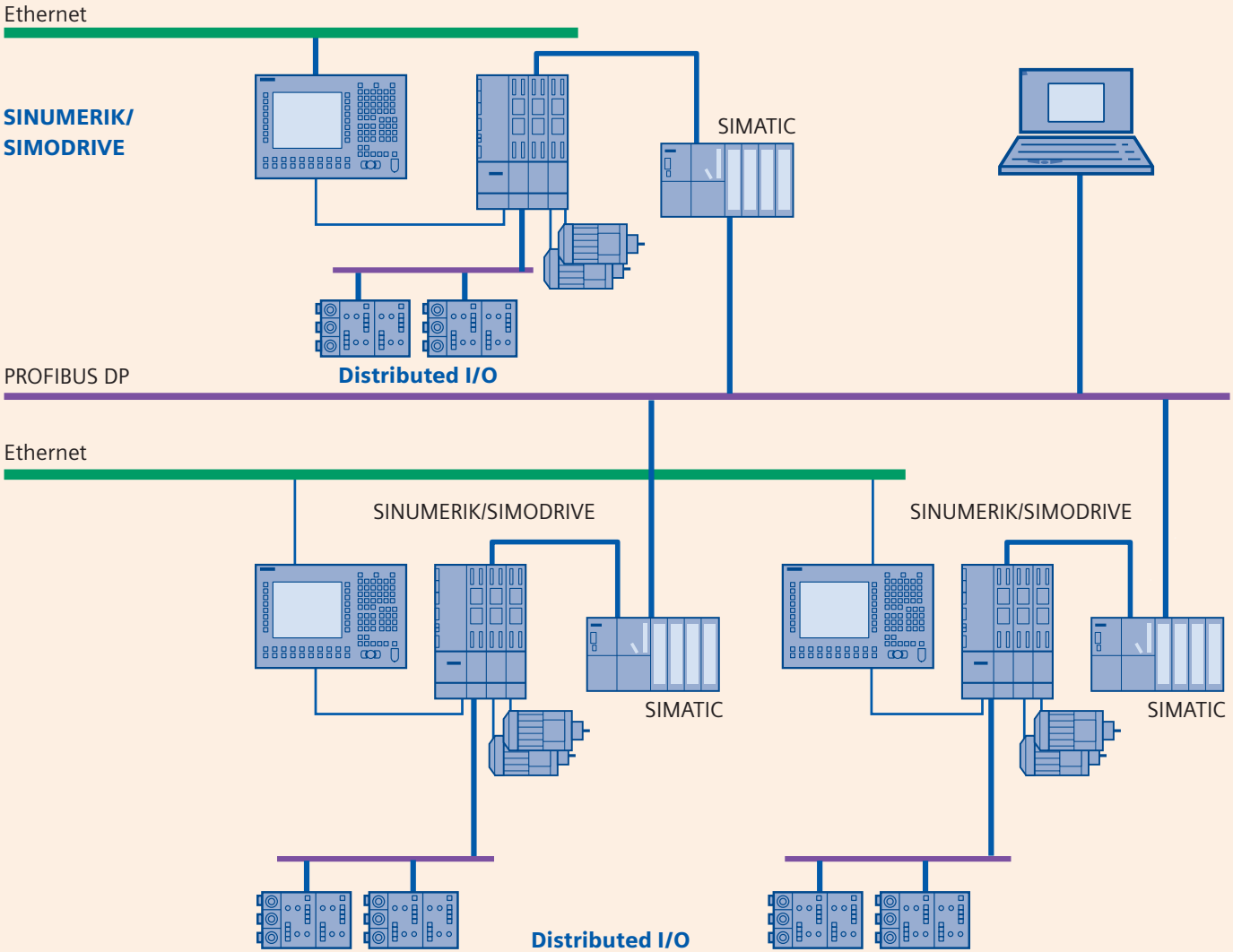
Freedom:

Our customers retain the option of making progressive modifications on the basis of these standards. The design of our technology is determined by the task, not vice versa.

What we do:

Implement solutions by integrating modular components in a complete system. This includes not only planning and the specification of interfaces, but also customer support for the system until it is operating – with the focus on training, instruction and service. Siemens automation solutions are a byword for maximum availability and productivity – in production lines all over the world.

Flexibility built on modularity:
Solutions for Powertrain



Graduated process output with **SIMATIC S7-300**

This complete PLC is also used in our CNC controls. With graduated performance from various central processors a **SIMATIC S7-300** is capable of resolving even complex control tasks. It is supported by a comprehensive set of commands.

The **multi-point interface MPI** and high-capacity communication modules connected to the **PROFIBUS DP** provide various options for optimal data exchange in the process.

Handling is simplified by integrated functions, such as automatic parameterization, expanded diagnostic options, passwords and ease of assembly.

Simple? Complex? Simply everything: **SINUMERIK 840D/840Di**

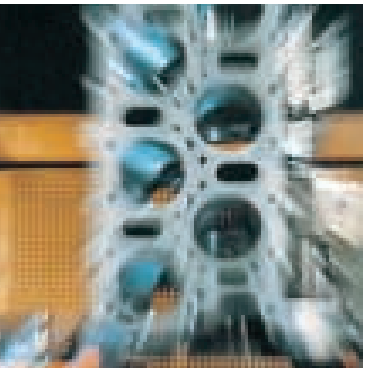
The **SINUMERIK 840D** is something special. From simple positioning tasks to complex machining processes with up to 31 axes and 10 channels – virtually everything is possible, thanks to graduated performance. To take just one example, its versatility ideally equips this CNC to machine powertrain components in the automotive industry.

SINUMERIK 840D understands the realities of production. With its compact, modular construction, it fits in anywhere and can be adapted to every configuration. "Safety Integrated" functionality provides reliable personnel protection without additional monitoring devices.

The **SINUMERIK 840Di** fully PC-integrated NC is particularly suited to PC-based control concept. It is ideal for applications requiring a powerful, flexible single-processor solution. It is above all customers implementing installation concepts who experience the greatest benefits, including cabinet-free plants with SINUMERIK 840Di. In addition to exhibiting impressive openness in hardware and software (PC standard on Win NT basis), another outstanding feature of the SINUMERIK 840Di in addition to HMI functionality is that the CNC also runs on the PC's processor.

Brings production up to speed:
SIMODRIVE 611 and POSMO

Variable-speed feed axes and main spindles, standard induction motors and hydraulic valves – the **SIMODRIVE 611** modular converter system can be flexibly configured for the most varied applications. The digital link to NC controls has proven a very user-friendly solution for configuration, start-up and diagnostics.



The **SIMODRIVE POSMO** distributed drives facilitate installation close to the motor and efficient servicing. They are independent, modular functional units which solve cabinet-free control and drive tasks directly at the machine. Especially impressive are the speed with which the machine can be installed and the low overhead required, thanks to integrated power and signal busses.

Controlled processes:
TRANSLINE 2000 HMI

Knowing what's going on is crucial in production processes in which every moment of availability can be measured in financial benefit. We paid close attention to this requirement when developing our "modular automation system". **TRANSLINE 2000 HMI** is a flexible user interface with integrated NC operation for all types of machine.

TRANSLINE 2000 HMI, the human-machine interface, runs on our PC-based standard operator panel. It goes without saying that the screen forms have been optimized for fast and simple set-up procedures and tool changing, for example.

The **TRANSLINE 2000 HMI Lite CE** operator interface is available for selected SIMATIC CE panels. The standardized operator control and diagnostic screen forms facilitate uniform machine operation.

Local intelligent control:
SIMATIC ET 200X

Distributed I/Os are increasingly becoming a hallmark of modern automation concepts. For good reason: this configuration significantly reduces assembly overheads, cabling and costs.

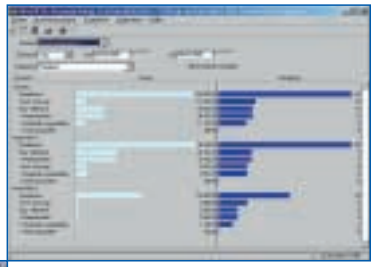
The **SIMATIC ET 200X** distributed I/O device shows its strength "in situ". With IP 67 degree of protection, it is entirely at home directly on the machine. It accommodates the right module for every application, including load feeders, direct starters or integrated PLC functionality.

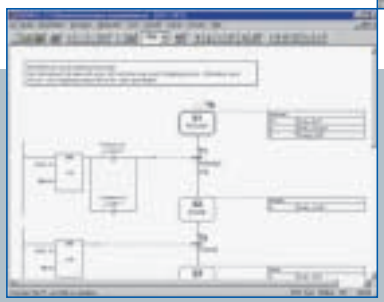
Reduce downtimes:
Diagnostics, preventive maintenance and production data acquisition

Here again, making more of standards is the key objective.

Important diagnostic functions are integrated in the **SINUMERIK 840D / 840Di** as standard. We also offer integrated diagnostics with fast, targeted fault location for the **S7-HiGraph** and **S7-GRAPH** graphic programming methods. Furthermore, the diagnostics also provide support for setting up the machine, which can make an additional contribution to increasing machine availability.

MCIS MDA and **MCIS TPM** are other software packages for increasing plant availability. Acquisition and evaluation of machine and process data with **MCIS MDA** facilitates easy identification of weak spots in the production process. **MCIS TPM** supports the machine operator in preventive maintenance so that plant downtimes are reduced to a minimum.





Communication à la carte: **PROFIBUS, MPI and more**

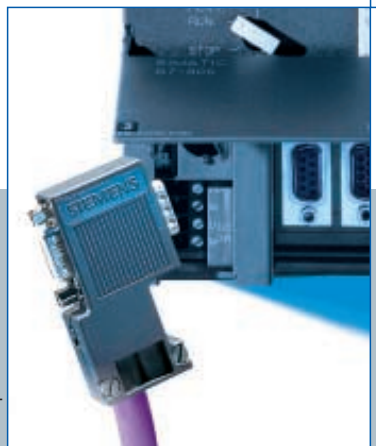
Communication is essential for process efficiency – particularly in distributed concepts. **Solutions for Powertrain** provides the following networking options:

At cell or factory level, Ethernet TCP/IP connects all the machine controls.

At machine level, **PROFIBUS DP** is recommended as a fast and easy link for distributed intelligence, distributed drives and I/Os.

At the actuator/sensor level, wiring grounding switches, BERO®s and control devices via the AS-Interface is child's play.

At the control level, a multipoint interface (MPI) is provided for connecting programming devices and operator panels.



Data security means process security: **DataManagement**

Who is responsible for backing up data which is created and used decentrally? Who manages and updates the programs executed in controls that are installed directly at the unit or machine component?

The answer to these and other questions is provided by **DataManagement**. A map of the plant layout can be input easily without any specialist knowledge of systems or databases – via an operator interface based on the Windows Explorer.
All the data and configurations for the **Solutions for Powertrain** components are backed up, loaded and managed, including modifications, in the associated storage structure – always using the same interface.