

SIEMENS

Helmut Gierse,
President of the Siemens Automation and Drives Group (A&D),
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- Check against delivery -

Ladies and Gentlemen,

Welcome to Nuremberg – home town of our A&D Group. It gives me great pleasure to welcome you not only as a host but also as President of the A&D Group.

We have invited you here to show you a new system which we will be unveiling to the trade public at SPS/IPC/Drives this November. It is a system which we believe will be as successful as Simatic and Sinumerik have been for so many years, both of which were developed here in this region. Since they were launched on the world market they have been continuously improved and advanced.

Since 1957, Simatic has been the universal control in all types of automation applications. In 1964, Siemens launched the Sinumerik control for machine tools. Both controls have become synonyms of leading technological systems world-wide.

Innovation to improve customer benefit is our philosophy, and we invest about six per cent of our annual sales in research and development. Thanks to the consistent application of our philosophy, the Siemens Automation & Drives Group (A&D) is the world's leading manufacturer of automation equipment and drives. A&D is active in four areas: low voltage control and installation technologies, drives, manufacturing and process automation. Our range includes standard products for electrical installations, controls, industrial communication, as well as complete solutions for the factory and process automation.

The Group employs a staff of about 54,600 worldwide; of these, approximately 24,000 work in Germany. In fiscal 2000 (year-end 30 September), A&D produced a result (before taxes) of 872 million EUR, sales of 7.9 billion EUR, and new orders worth 8.2 billion EUR. A&D employed about 54,000 worldwide in 2000. To go by the three-quarters figures – new orders worth 7.0 billion EUR, sales of 6.5 billion EUR and EBITA of 711 million EUR – we believe that these three figures in complete fiscal 2001 will be higher than the year before.

Market and competitive environment

The world market for A&D products, systems and solutions has a volume of about 98 billion EUR. Across our whole range, we hold the number one position with a market share of eight per cent. Our position varies in the four divisions. In manufacturing automation, we are the unchallenged number one with a 12 per cent market share, and we also hold the lead position in drives at 11 per cent market share. In low voltage control and installation technologies we hold a good number two position at eight per cent. In process automation, our market share is currently around four per cent, showing an upward trend.

The new A&D system we wish to present here today aims at the drives and manufacturing industries, i.e. a segment of machine construction which is enjoying significant growth rates.

A leading position with Simatic and Sinumerik in machine construction

As a universal automation system, Simatic is the world market leader. For simple motion controls, Simatic's open loop control capabilities can be extended to include motion control functionalities which have been successfully applied in machine construction.

With its closed loop control qualities, Sinumerik is tailor-made for complex motion control in machine tools. Sinumerik is particularly suited for turning, milling, or drilling. With Sinumerik we share with our main competitor in the world leading position.

Trends in machine construction

The advance of microelectronics has opened up new opportunities in machine construction to design new applications, mainly in complex motion control. This is where drives and intelligent motion control are gaining importance. The new designs increase productivity and significantly improve the profitability of the machine builders. At this point, I would like to give you a brief overview of the current trends in the fields of mechatronics, auto-motion, usability, industrial standards, openness and modular machine concepts. The following speaker, Mr. Trummer, will be giving you the technical details.

- When machine builders think of safeguarding their future or increasing productivity, this is more and more often associated with the magic word mechatronic. Mechatronic denotes the interaction between mechanics, electrical engineering, and software. In machine construction, this means

replacing rigid mechanical components by new functional units in order to enable more flexible mechanical functions, e.g. conversion to single axis solutions. This development has led to a convergence of mechanical and electrical design in machine construction.

- In new motion control systems, the emphasis is now on simple and flexible solutions in the most varied motion control tasks. This means merging motion control with the functionality of PLCs and technology. It enables all motions and all motion-related PLC and technological functions to be implemented in the same system.
- By usability we mean intuitive and uniform configuration, parameterisation and programming with a view to reducing complexity. Good usability alone helps optimise motion sequences in machines whilst minimising the engineering effort and thus delivery times and machine costs.
- Major industrial automation standards have been created in recent years which are also consistently applied in machine construction. The advantages of standards include the possibility to use software in different systems, to minimise the engineering effort in the long term, thus safeguarding the investment made in programming.
- Modular machine designs make it possible to create many different machine variations from few modules, to adapt them more easily to meet customers' requirements, or indeed, to innovate single modules and to enable earlier machine commissioning. Accordingly, it must be as easy in new motion control systems to integrate peripherals or drives and converter systems.

Ladies and Gentlemen,

Trends determine the requirements mainly of those customers who build and/or use machines with complex motion control. They demand simple, open, and flexible solutions.

A dynamic market for motion control systems

The world market for such motion control systems and solutions has a volume of approximately 5.1 billion EUR. Typical machine construction industries include packaging, printing, plastics, textiles, and presses. We expect this market to grow at an average annual rate of more than five per cent. We expect the main markets to grow at such a double digit rate.

So there is considerable potential for automation specialists who help shape the trends in this segment to meet customers' requirements. As a matter of fact, neither our Sinumerik nor Simatic cover this segment fully so as to meet the new requirements. It is true to say that with 30,000 units sold every year with ten axes each on average, Sinumerik is very successful, but that is only specifically true of machine tools for which it was originally designed. Simatic is undisputedly the successful universal automation system in machine construction, particularly strong in open loop control with simple motion control. Therefore we have added a new – third – system which aims specifically at this segment that places particularly high demands on motion control.

Simotion – Siemens' new motion control system

Besides Simatic and Sinumerik there is now Simotion, the motion control system for complex motion control applications combined, in one unit, with simple control functionality. This system will bring to our customers an unprecedented benefit. In a single motion control system, Simotion combines all scalable motion functions; a single engineering system can be run on different hardware platforms, allowing our customers greater flexibility in designing their machines. Thus, the overall costs to machine builders can be optimised further.

The new system has been designed mainly for use in standard machines. We are mainly suppliers of automation systems, hence responsible for the smartness of the plant. Simotion provides a simpler way for our partners to apply their specific technological expertise. No longer do machine builders have to try and integrate drives and controls of different makes or to overcome expensive technological hurdles. This task is resolved with Simotion, providing a decisive advantage: we relieve our customers of the considerable cost of integrating heterogeneous product environments to combine them into a working system. With Simotion, the integration is built into the system, free of charge ex works. This means that our partners are now free to concentrate on their core competence and their trade expertise, able to sell added value and to save considerable engineering cost.

The use of this balanced motion control system not only helps save considerable cost at the level of machine builders but also at the user's and operator's level. Savings made in this field may amount to 10 per cent of the price of the machine even in the early investment phase, and up to 20 per cent in continuous operation.

The Simotion system at a glance

Let me now give you a brief overview of the system before Mr. Trummer presents the finer details of Simotion.

The Simotion system consists of an engineering system called "Simotion Scout" which runs under Windows on commercially available PCs, a runtime system which runs on three hardware platforms, and the hardware platforms themselves.

- Project planners will use the Simotion Scout engineering system for all motion control tasks and motion-related control functions. This includes the sequence chart within which projects are planned involving state-of-the-art instruments, selected technological functions, and associated user

programs. This enables shorter diagnostic cycles and improved user friendliness.

- Simotion's capacity is scalable and based on a modern multi-tasking runtime system: we have chosen a component approach for the architecture of the runtime system. The basic system includes program processing with PLC functionality.
- Both functions and the software system can be run on three different hardware platforms: as a controller it is called Simotion C, as an industrial PC Simotion P. This PC-based variation meets all the demands of openness, flexibility, and performance that are put forward in today's PC world. The smart drive-based variation is called Simotion D, which is where we expect the greatest potential.

Once a Simotion solution has been designed it will run on a PC, controller or a drive platform without any additional effort. This enables machine builders to respond flexibly and efficiently to any requirements of their customers. It means additional flexibility which is further increased by the use of standard interfaces and the system's scalability.

As a part of TIA, Simotion is open to extensions

As you know all our products and systems used in production as part of Totally Integrated Automation, which we launched in late 1996, can be combined and interlinked in an intelligent way and without great effort. This means significant economic advantages for the user of up to 25 per cent of the cost of automation. Our well thought-out system design of Totally Integrated Automation allows us to innovate our full product range quickly and easily, further extending our competitive edge in all automation segments.

It goes without saying that Simotion has been fully integrated into our Totally Integrated Automation world and operates with the same consistency of data

management, project planning, and communications. Simotion is another example of the easy and cost-effective way in which we were able, based on our platform concept, to extend Totally Integrated Automation in order to increase customer benefit in another automation segment, i.e. machine construction with complex motion specifications. Being an integral part of Totally Integrated Automation, Simotion uses TIA components for operating and monitoring, communication and process integration, as well as drives. Both the Simotion and Simatic systems have been designed to interoperate, i.e. in a complex plant Simotion may be running under the command of a Simatic S 7-400.

Simotion launch at the SPS/IPC/Drives fair

At the SPS/IPC/Drives fair in Nuremberg, we will be unveiling Simotion to the public. It is no coincidence that we chose this fair; SPS/IPC/Drives is held on our doorstep, so to speak, it is like showing on our own premises. Moreover, it is a fair where the automation and drives community meets, so Simotion fits in beautifully. Last, but certainly not least, it is a fair which has been growing and gaining importance for years – so it offers the right setting for a Simotion premiere.

We will be starting with Simotion C, the controller version, and Simotion P, the industrial PC version. The drives version, Simotion D will be launched in the second half of 2002.

Ladies and Gentlemen,

Simotion adds motion control functionality for complex motion control to Totally Integrated Automation. Thus more users gain access to the advantages of automation and drives from a single source which is still unique in the automation and drives world.

We are set to maintain and improve our position as world market leader in automation and drives, and to write a new success story with Simotion in very

much the same way as we wish to continue the success stories of Simatic and Sinumerik. Starting in November at SPS/IPC/Drives in Nuremberg, there will be customer events held in Germany and other European countries. We are convinced that before long Simotion will become a household name in motion control in machine construction where demands on complex motion control are particularly high and will, therefore, be appreciated as a valuable addition to Simatic and Sinumerik.