Nuremberg/Seville, Spain.
At the end of April, Abengoa Solar began commercial operation of the world’s largest solar thermal tower plant, the new PS20, in Seville, Spain. The plant makes use of gears developed specifically for the application by Siemens Drive Technologies. The operators state that PS20 is the second commercial plant using the solar tower principle to produce environmentally friendly, clean power. What are known as heliostats reflect and bundle the solar radiation they receive onto the tower, heating up the heat carrier which drives the turbine to generate electricity.

With a power capacity of 20 MW, the Seville plant is the largest of its kind and will supply about 10,000 homes. According to Abengoa Solar, this solar technology helps save around 12,000 tons of Carbon Dioxide.

For this application, Siemens Geared Motors GmbH has developed gear units featuring very high stiffness and a low backlash. These parameters substantially affect the optimum power yield of the plant. A total of 1,300 gear units have been installed in the plant, enabling each of the heliostats to exactly track their 120 square meters of mirror to the position of the sun. Solar tower technology using heliostats has been heralded as having a very promising future. Abengoa Solar has also developed the first commercial tower power plant PS10 and expects this technology to show greater efficiency than other solar technologies.
One of Saxony’s biggest solar parks equipped with Siemens technology from Fürth

Rothenburg/Oberlausitz, Fürth. The Fürth-based Business Unit Systems Engineering (SE) was commissioned by photovoltaic system integrator Gehrlicher Solar AG from Neustadt near Coburg to supply photovoltaic (PV) system components for a major new PV installation. A total of ten container solutions using Sinvert photovoltaic inverters and medium-voltage switchgear systems were required to be supplied for the 20 megawatt (MW) project by the end of September.

High-efficiency Sinvert inverters transform direct current into alternating current, which is then fed into the grid. In addition to the ten container units, Siemens is also supplying the WinCC system used for visualization and monitoring of the entire plant right through to the grid connection, as well as several generator terminal boxes and other PV plant monitoring components. SE will also be on site to take charge of commissioning the new installation. The contract value for Siemens comes in at over four million Euro.

Gehrlicher Solar AG started construction work on the open-space photovoltaic plant in the middle of April this year at Rothenburg/Oberlausitz airport. The PV specialists are constructing a solar park stretching over 68 hectares of airport land which will be one of the biggest in Saxony with a total peak output of twenty megawatts. Producing over 20,000 megawatt hours of environmentally friendly power a year, the plant’s output will be enough to supply power to 5,700 three-member households and also save 11,500 tons of carbon dioxide emissions every year. Representing an investment volume of around six million Euro, the installation is due to be completed by the end of 2009. Its total peak output of twenty megawatts makes Rothenburg the highest powered of the solar power plants to be built by Gehrlicher Solar AG to date. At the end of 2008, the photovoltaic specialist based in Neustadt bei Coburg in Upper Franconia completed what is currently the biggest solar park in the Northern Swabia region with an output of ten megawatts in under four months.

Solar inverter
Sinvert–Photovoltaik
www.siemens.de/sinvert

Gehrlicher Solar AG
www.gehrlicher.com

Picture: Gehrlicher Solar AG
Nuremberg.
A new White Paper on the MES (Manufacturing Execution System) software Simatic IT from the Siemens Industry Automation Division describes ways in which different MES functional components can be integrated to create a consistent series of product suites.

The White Paper includes an introduction to the technology, explaining how Simatic IT can be simply adapted to specific customer requirements by making use of configurable standard functional features, so reducing the time and material effort required for product implementation and integration. The White Paper also looks at the Simatic IT Production Suite, the Intelligence Suite and the R&D Suite, explaining the benefits of implementing suites and sector-specific libraries in the various sectors. Finally, it goes on to describe the implementation and advisory services provided by Siemens, its partnership approach and the support and training options available to both business partners and end customers.

The White Paper is available in two different versions: One for the production industry, the other for the hybrid and process industries. The White Paper is available from the address below:

analyst.relations.automation@siemens.com

Manufacturing Execution Systems (MES) Simatic IT
http://www.automation.siemens.com/mes/simatic-it/index_76.htm

Industrial Analyst Relations
Industrial Analyst Relations
Northrop Grumman Recommends Siemens CNC Technologies for Use by ITS F-35 Supply Chain

Atlanta, June 19, 2009 – after extensive testing and evaluation, Northrop Grumman Corporation Aerospace Systems decided to use Siemens Sinumerik 840D solution line CNC and Sinumerik Volumetric Compensation System (VCS) to achieve high-tolerance machined parts for the F-35 Joint Strike Fighter program.

*Siemens collaboration on the F-35 program began in early 2002 with a CNC technology
symposium in Fort Worth attended by Lockheed Martin, Northrop Grumman and BAe Systems,” said Tim Shafer, director, Siemens Aerospace Center of Competence. “Since that meeting, the program partners have applied the advanced features of the 840D to solve many of their complex machining challenges. Siemens is honored to receive recognition from Northrop Grumman for this latest advancement in CNC technology.”

To find the right equipment to produce these high-tolerance machined parts, Northrop Grumman and its technology partners invested in developing and testing advanced technologies that would enable a step-change in machine tool accuracy. Extensive on-machine testing and evaluation by Northrop Grumman has demonstrated that a quality machine tool appears to be made substantially more accurate by using the Siemens VCS feature of their Sinumerik 840D solution line CNC. Northrop Grumman’s testing revealed that a number of key machine tool attributes are necessary to achieve the required high-tolerance machined parts. These include:

- Robust machine design
- Machine tool repeatability
- Machine tool responsiveness
- Environmental temperature stability
- Stable machine foundation

The Sinumerik 840D sI CNC can provide real-time internal compensation for geometric and feedback errors of a five-axis machine tool. The 840D sI’s VCS solution corrects the tool center point and orientation that results in a substantial improvement in volumetric accuracy for forkhead style five-axis machines.

For more information about CNC solutions from Siemens, point your web browser to　

Energ&Automation 　
www.sea.siemens.com/machine
Training courses around the world for Siemens automation technology

Beijing, China/Nuremberg. The Sitrain Training Center in Beijing is the latest location to offer Sinamics repair courses, which have now been in full swing since January 2009. The Chinese Siemens training staff were specially coached to teach the new repair courses with two internal training sessions, each attended by 15 candidates. The Training Center is kitted out with all the necessary equipment to maximize the efficiency of the repair courses, including for instance two G150 converter cabinet units, other Sinamics power blocks and S150 simulators, as well as the whole range of special tools required for repairs, offering students the ideal training conditions.

Sitrain offers training courses covering the entire Siemens automation product range in locations around the world. Alongside Simatic training, the range of courses on offer includes a wide selection of different training events for Sinumerik, Sinamics and Simotion. As well as conventional classroom courses attended in a training center, candidates can also sign up to distance, evening or online courses. The Sitrain performance portfolio also encompasses individually tailored and customer-specific on-site training events. In the international arena particularly, Sitrain is providing increasingly impressive proof of its presence and its flexibility when it comes to individually tailored special courses in over 16 countries. Just a few examples illustrate the diversity of the services provided by Sitrain around the world:

Saudi Arabia: For a whole week, Sitrain provided training in Al Jubail for employees of the Saudi Arabian Basic Industries Corporation (Sabic) in commissioning and servicing the Sinamics G130 converter. Sinamics G130 is used at Sabic as a drive system for four 205 Kilowatt (kW) oxygen pumps. The practical emphasis of the course and plenty of hands-on practice at the device have meant that participants are now able to not only commission and optimize the drive system, but also confidently exchange spare parts and carry out system diagnostics. The result: Reduced downtimes and minimized production outages.

Highly motivated course participants in Australia practice on a Sinamics power block under the watchful eye of Sitrain coach Andreas Strubl.
In view of the enormous demand worldwide for individually tailored special courses on the subject of automation and drive technology, the Sitrain training staff are set to continue their busy schedule of international travel to provide local on-site training.

**Australia:** Sitrain coach Andreas Strubl provided training for Siemens servicing staff in Melbourne, Victoria. 44 candidates registered for Sinamics drive courses taking place within the four-week training period, which focused on the servicing and operation of Sinamics G150 and Sinamics S120 chassis and cabinet units. Alongside course documentation, Sitrain also provided plenty of practice units, including several G150 simulators, four Sinamics S120 training cases, a Sinamics S150 simulator or a Simatic S7 rack. Candidates had the opportunity to practice mounting and removal of power blocks and other repair work at a Sinamics G150 switching cabinet. There was also a chance to carry out a real repair on a Sinamics Power Block Framesize G which had been sent in by a customer. This proved the highlight of the course and provided an excellent dress rehearsal for the type of servicing work the course participants would be called upon to perform in the future.

**India:** 26 Siemens sales staff members from India received training in the field of servomotor technology in Mumbai and Bangalore. The two-day courses dealt with basic electrical and mechanical aspects of motor technology, with the emphasis on the comprehensive Siemens servomotor portfolio: building up from the basics to look at the technical details of the various models, and then on to mechatronics support, drive design tools and special features, finally taking in the very latest developments such as the 1FN6 linear motor. Since the beginning of 2008, this course has been an established feature of the Sitrain training program, and is generally held in the Brendlorenzen motor factory in Bad Neustadt, Germany. With a few slight modifications to the subject matter, this course generated lively interest and met with an enthusiastic reception from course participants in India.

**Switzerland:** With four Siemens service personnel and two sales managers, Sitrain staged an internal training course dealing with servomotor technology in Switzerland. The course focused on fundamental technical aspects and fields of application for the individual drive products, and culminated in a demonstration of a D435 being commissioned with 1FK7 synchronous servomotors with and without DriveCliQ connection. Given the depth of the subject material and the lively interest demonstrated by the course participants, it was proposed that the course length should be extended.
Modernization of water treatment plants worldwide

Nuremberg.
With their complete product and system portfolio for wastewater and water treatment plants, desalination plants, pump stations and pipelines the Siemens divisions Industry Automation (IA) and Drive Technologies (DT) modernize and expand plants for water treatment worldwide.

The projects are manifold and range from the hanseWasser wastewater treatment plants in Bremen, Germany to wastewater and water treatment plants in Toronto, Canada and finally to the Swabian wastewater treatment plant Sallmannsberg, Germany and the wastewater treatment plant Steinhofen in Braunschweig, Germany.

Wastewater Treatment Plants Seehausen and Farge, Bremen/ Germany
In 2008, Bremen’s wastewater company hanseWasser decided to modernize both its plants with the distributed control system Simatic PCS 7. The wastewater company hanseWasser runs the 2,300 km long sewage networks of Bremen and treats annually about 60 million cubic metre (m³) wastewater of Bremen and the surrounding communities. Currently, systems from different manufacturers that have been in operation for roughly 20 years are used in the wastewater treatment plants and the approximately 200 outstations.

Wastewater and water treatment plants, Toronto/ Canada
In March 2009, Toronto Water commissioned Siemens Canada to modernize the water treatment plant R.L. Clark with a capacity of 415,000 m³ per day. The contract contains 600 Volt substations, motor control centers as well as the medium and low voltage distribution.

Wastewater Treatment Plant Steinhof, Braunschweig/ Germany
The wastewater treatment plant Steinhof in Braunschweig with its approximately 80 pump stations is equipped with a new Siemens distributed control system since end of March 2009. To realize this, the existing process control system Simatic S7 was migrated to Simatic PCS 7 and Sinaut telecontrol. In this complete solution the water company of Braunschweig, the “Stadtentwässerung Braunschweig GmbH” included also four weirs to protect the inner city from flood water.

Water Treatment Plant Sallmannsberg/ Germany
Since April 2009 the 15-year-old pump station Sallmannsberg is being expanded with Totally Integrated Automation to a water treatment plant with deacidification and is being modernized at the same time. The water supplier of Noerdlingen, „Bayerische Rieswasserversorgung (BRW)“ provides the drinking water for approx. 118,000 inhabitants and small and medium industries in the northern part of Swabia (district of Bavaria). The water supply of an average 20,000 m³/day is secured by 19 pump stations, 25 elevated tanks and 1,232 km of pipeline networks.

For the water and wastewater industry, Siemens founded the Competence Center Water&Wastewater in 2006 to support the sales regions. The water industry lists a growth of approximately five percent a year.

Water Portal
www.siemens.com/water
Nuremberg.
With the 30 megawatt (MW) multi-motor drive, Siemens has designed the world’s most powerful and yet economical low-voltage paper machine drive. In this design, individual motors produce outputs of up to 3,6 MW.

2011, the test liner and corrugated paper production line will operate with a working width of eleven meters, a production speed of 1,900 meters per minute and an annual output of 650,000 tons. Just the reel which takes up the paper at the end of the paper masses calls for extraordinary drive power and control capacity.

The drive design enables large power capacities to be effectively fed into the machine while involving low capital expenditure, due for instance to the ability of subsystems of the low-voltage multi-motor drive used here to produce three times the output of conventional drives. Siemens experts also introduced special features to increase the short-circuit capability of the design, which uses 90 low-voltage motors of the N-Compact range. The low-voltage motors are available in both a standard and high-speed version. The motor range boasts high efficiency, a small footprint and low maintenance. It covers the voltage range from 400 to 690 V and is available for ratings from 200 kW to 1,050 kW. The multi-motor design also includes motors from the H-compact PLUS range, which feature energy-saving and low-maintenance operation.

The same target specifications of modular design, scalability and simple installation apply to cubicle mounted multi-motor applications. The new Siemens S120 Cabinet Module design is a compact, ready-to-use drive solution. It is a modular system which is scalable up to an output of 4,5 MW.

The machine is due to be installed in a new production facility to be operated by Propapier, a subsidiary of Progroup, in Eisenhüttenstadt, Brandenburg. Starting in
Combined with a full package of optional extras, the modular and scalable arrangement makes for a high degree of flexibility in use providing optimum user investment security by supplying precisely what is required for any specific application. The various module types can be mixed and matched almost at will, allowing a tailor-made system solution to be configured for each specific multi-motor application.

Additional advantages of the multi-motor system include high availability of system components and simple maintenance. Despite its unique power density, the drive system is based on the Sipaper platform established by Siemens specifically for the paper industry. The new facility in Eisenhüttenstadt will be one of the largest paper mills in Europe.

Alongside the entire electrical engineering for the paper line, Siemens is also supplying the electrical equipment for the mill’s heat-and-power plant and the power plant turbine. The power plant has a firing thermal capacity of 150 megawatts and can be either coal-fired or run on waste paper processing residues. Energy-efficient drives and processes for the recovery of energy from waste are part and parcel of the environmental portfolio which earned Siemens around 19 billion euro in 2008.

Large Drives
http://www.automation.siemens.com/id/index_76.html
Award-winning linear motor

Prague, Czech Republic. The Siemens 1FN6 linear motor featuring a secondary section that does without permanent magnets has won the “Zlaty Amper” (the Golden Amper Award) at this year’s Amper trade fair. The panel of judges granted the award to the motor developed by the Erlangen-based Business Unit Motion Control Systems because of its unique technology: While it combines all the advantages of synchronous linear motor technology, the motor functions without a permanent magnet in the secondary section.

With the 1FN6 range, Siemens has come up with a self-cooled synchronous linear motor distinguished by its magnet-free secondary section, allowing the economical development of particularly dynamic applications involving long traverse distances. The magnet-free secondary section also permits the use of a highly dynamic linear motor in ambient conditions, where the use of magnetic secondaries is not desired.

Against this backdrop, the selection committee praised the new unique design of the secondary section without permanent magnet which offers benefits such as reduced adhesion of iron chip deposits in machine tools. As the shape of the secondary section is reminiscent of a gear rack and can also replace a conventional gear rack-type solution, this 1FN6 linear motor has also been dubbed the „electrical gear rack“.

Amper, the international trade fair for electrical engineering and electronics is held annually in Prague. Siemens Czech Republic regularly exhibits Siemens products at the fair. During the fair, five products are picked out to receive an award.

1FN6 linear motor

Report in brief: Cementtech 2009

Beijing, China/Nuremberg. Siemens attended the tenth International Cement Industry Exhibition and the International Cement Technology Conference, the Cementtech 2009, held in China in April to present its product portfolio aimed at the cement industry.

The Siemens presentation focused on “energy efficiency in the cement industry” as its headline theme, targeting both end users and OEMs from the cement industry with a wealth of information on ways in which Siemens technology can reduce energy input and costs in production as well as simultaneously enhancing efficiency.

As one of the biggest growth markets, Asia is of major strategic importance both for the automation and the cement industry. The conference afforded an excellent opportunity to forge links with cement sector specialists from China and around the world, to showcase the latest technologies and to compare notes. The Siemens product portfolio presented to the Chinese cement industry showed the company to be up among the top technology providers to the region, with the Simatic PCS7-based Cemat software forming the focus of its presentation.

Cementtech is an international cement industry exhibition and conference spreading over an exhibition area of 10,000 square metre with over 200 exhibitors from 35 countries and regions. This year saw around 5,000 visitors make the journey to the show, representing around 300 companies from inside China and beyond.

Cement
http://www.siemens.com/cement
Chinese Vice Premiervisits Siemens pavilion at Cimt

High-ranking Chinese politicians paid a first-time ever visit to a foreign manufacturer exhibiting at the “11th China International Machine Tool” Fair (Cimt). Leading CNC manufacturer Siemens welcomed Vice Premier Zhang Dejiang on the occasion of his official tour of the Fair.

Zhang Dejiang, Minister Li Yizhong and Vice Minister Miao Wei of the Industry and Information Ministry accompanied by other leading ministerial officials and representatives of the Chinese Machine Tool and Tool Builders’ Association, visited the Siemens pavilion. Xu Zhengshun, general manager for machine tool equipment in China, explained the significance of Siemens CNC products for the Chinese market and illustrated the wide range of applications for Siemens CNC machines in such areas as aerospace, aviation, automotive, energy, transportation, mould and die making, as well as education and training. Moreover, he emphasized the long standing successful cooperation with machine tool manufacturers and end users. Zhang Dejiang warmly welcomed the wide ranging commitment of Siemens in the Chinese machine tool industry.

The great success of Cimt 2009, he declared, was inseparably linked to the excellent organization of the Chinese Machine Tool and Tool Builders’ Association as well as the great performance of the exhibitors. He expressed the hope that the machine tool industry would continue to thrive in the future.

Together with Siemens Ltd. China I DT MC, the Erlangen Business Unit Motion Control Systems (MC) was in Beijing to present the Siemens CNC product portfolio at the Cimt, a leading international fair for the metal working industry. Siemens was present at the trade fair from 6th to 11th April 2009 to showcase its product portfolio as technological leader in the CNC field. At the Siemens booth, Chinese machine manufacturers had an opportunity to take a closer look at Siemens solutions applied in the automotive and aerospace industries. Sporting the slogan “Productivity in Motion – Systems, Solutions, Services”, Siemens showcased its integrated Sinumerik CNC system and services covering the entire life cycle of machine tools. This year’s highlight was high-speed cutting technology used in medical engineering, demonstrating how Siemens, together with its business partners in the field, successfully applies the great advantages of high-speed cutting in the production of prostheses and implants.

CNC Sinumerik
www.siemens.com/sinumerik
High-Speed-Cutting
www.siemens.com/high-speed-cutting

Industry
The Siemens Industry Sector (Erlangen, Germany) is the worldwide leading supplier of production, transportation, building and lighting technologies. With integrated automation technologies as well as comprehensive industry-specific solutions, Siemens increases the productivity, efficiency and flexibility of its customers in the fields of industry and infrastructure. The Sector consists of six Divisions: Building Technologies, Drive Technologies, Industry Automation, Industry Solutions, Mobility and Osram. With around 222,000 employees worldwide Siemens Industry posted in fiscal year 2008 a profit of EUR 3.86 billion with revenues totalling EUR 38 billion. www.siemens.com/industry

Industry Automation
The Siemens Industry Automation Division (Nuremberg, Germany) is a worldwide leader in the fields of automation systems, low-voltage switchgear and industrial software. Its portfolio ranges from standard products for the manufacturing and process industries to solutions for whole industrial sectors that encompass the automation of entire automobile production facilities and chemical plants. As a leading software supplier, Industry Automation optimizes the entire value added chain of manufacturers – from product design and development to production, sales and a wide range of maintenance services. With around 42,900 employees worldwide Siemens Industry Automation achieved in fiscal year 2008 total sales of EUR 8.7 billion.

Drive Technologies
The Siemens Drive Technologies Division (Nuremberg, Germany) is the world’s leading supplier of products and services for production machinery and machine tools. Drive Technologies offers integrated technologies that cover the entire drive train with electrical and mechanical components. This includes standard products but also encompasses industry-specific control and drive solutions for metal forming, printing and electronic manufacturing as well as solutions for glass, wood, plastic, ceramic, textile and packaging equipment and crane systems. The services provided by the Division include mechatronics support in addition to online services for web-based fault management and preventive maintenance. With around 39,900 employees worldwide Siemens Drive Technologies achieved in fiscal year 2008 total sales of EUR 8.9 billion.