

BAVARIA IN THE NEWS

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Macro-benefits from Bavaria's microelectronics

Chips cutting the world's energy bills

The smallest part of computers are going to solve IT's biggest problem.

IT's explosive growth has turned it into one of the world's biggest consumers of energy. The Internet alone now consumes more than 1% of the world's electricity. This is bad news for the climate, and for IT companies and users trying to get a grip on skyrocketing energy bills.

Employing the CoolMOS, OptiMOS and other revolutionary technologies, several families of chips recently launched by the Munich-based Infineon is going to slash computers' consumption of energy in three ways.

The chips, of which Infineon is now producing six million a week, consume up to 50%

less energy and produce much less heat (heat, in turn, has to be dealt with by energy-gobbling ventilation) than conventional models.

The chips have new capabilities that reduce the numbers of components and subsystems needed by computers and communication grids. The fewer the working parts and subsystems, the less electricity needed to operate the devices and the grids.

And, finally, the new chips are equipped with features enabling these computers and communication grids – along with manufacturing plants, cars and mobile telephones – to get a lot more performance out of a lot less energy.

Engineering a more productive world: Bavaria's industrial engineering community

A pending recession in the USA? The record strength of the Euro?

Powered by red-hot demand for its machines and systems from Asia, eastern Europe and other rapidly industrializing areas, Bavaria's industrial engineering sector shrugged off these supposed growth-killers in 2007, and registered the best year in its history.

In 2007, the sector's 400 major companies registered revenues of €41 billion (of those, 58% stemmed from exports), a rise of 14% over 2006 – and 50% over 2003. These rises pushed total employment up past the 190,000 mark, a level last seen during the boom years of German reunification in the early 90's.

The sector is characterized by its great breadth of activity, location and origin of ownership. The plant and equipment manufactured by the sector enable the production of everything from steel, asphalt, automobiles, tunnels, bridges and factories to bottle tops, clothes, fruit-pickers and glue applicators.

The sector's companies are located in virtually every city, town and village in Bavaria. A large number of these companies are still being run by their "founding families"; many others – 142 at latest count – are subsidiaries set in the state by Japanese, American and other non-German firms.

Among them: Hurco GmbH, whose corporate parent is headquartered in Indiana and which produces the most fundamental of all industrial engineering products – machine tools. These manufacture the one-off parts providing production systems with their edges over competitors. Employing state-of-IT software, Hurco's CNC machining centers enable manufacturers to create, with an unrivaled speed and reliability, parts of an unexcelled sophistication.

No wonder that Hurco GmbH set all-time corporate records in 2007, in which the company's sales of machine tools rose a surging 43%.

Inside technology

Lifebridge: a bridge bringing life to heart patients

Cardiac arrest is the world's number one cause of death. Generally triggered by a heart attack, it happens everywhere – in homes, at golf or in cars. Should the heart attack take place in a hospital, it generally isn't fatal, thanks to a heart-lung machine, which cardiologists use to keep patients alive while repairing restarting their hearts.

The reason why heart-lung machines aren't standard equipment for cardiologists on rescue calls: they're far too bulky to be transported.

And that's too bad. Should they be "down-sized", rates of heart attack survival would

skyrocket. Based in the little Bavarian town of Ampfing, and founded in 1999 by a health industry executive, a cardiologic surgeon and a medical engineer, Lifebridge Medizin-technik AG has devoted itself to developing such a transportable life-saver.

Successfully. Lifebridge's Its B2T[®] is small (large suitcase-sized) and light (17.5 kilos), powerful (with all of the capacities of stationary models) and easy-to-employ (5 minutes set-up time) to be used by doctors on emergency calls.

Widespread clinical use of B2T[®] was launched at the beginning of the year. Resulting headlining articles on its "miracu-

lous" saving of lives are spurring its world-wide sales, reports CEO Manfred Salat.

For further information:
www.lifebridge.com

Key figure

232,200 fulltime jobs have been created in Bavaria since the beginning of 2006. Like the comparably large rise in the number of companies and professional contractors in Bavaria, this increase is a product of the sustained upswing gripping the state's business community.

Inside the state

Augsburg: moving manufacturing with mechatronics

Want to see where technology is going? Then go to Augsburg.

This maxim is true today as it has been through the past 125 years, during which engineers based in this city of 285,000

developed everything from two of the world's most widely used propulsion systems (the Diesel and jet engines) to the basis of today's media (modern printing).

Still very much at the forefront of mobility (and especially in aerospace) and media, today's Augsburg is also producing technologies remediating and protecting the environment and finding new and better ways of manufacturing the goods needed by an inexorably growing and demanding world population.

These technologies go by the name "mechatronics", and they're what happens when you take advanced production systems, electronics and ICT and work them into a single system. The results are such items as industrial robots, robotic cells and other items capable of manufacturing state-of-technology products.

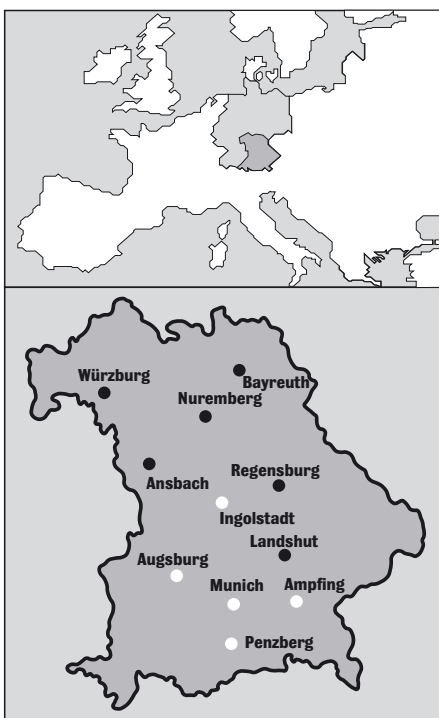
Along with advanced welding and other automated production systems, these products are all from Kuka AG, based in Augsburg and one of the world's leaders in the field of production automation for 110 years.



Dom, Augsburg

Today, this large-sized (€1.3 billion and 5,000 employees) and highly successful company forms a key component of Augsburg's chain of mechatronic development, which starts with the degree programs and centers of expertise provided and maintained at the University of Augsburg and at the city's University of Applied Sciences, and extends to the IWB center for the application of production technologies.

For further information:
www.augsburg.at – the portal to Augsburg's business community



Bavaria in Europe

Bavaria's automobile industry:

designed for success

Is the world flocking to buy BMWs, Audis and Bavaria's other motor vehicles because a. they perform so well or b. they look so fantastic?

The answer is probably a. and b.

Peak technological performance and jaw-dropping beautiful designs are inseparable and symbiotic parts of the record-setting story of Bavaria's car industry.

Bavaria's automobile industry does it again!

In 2007, in a repeat of past years' performances, Bavaria's 153 manufacturer-strong automobile industry smashed its records for total turnover (more than € 84.1 billion – up 12% over 2006) and exports (€ 55.6 billion, up 16%). Also increasing in 2007 was the number of employees (more than 179,000) working for the industry.

BMW has been getting design awards about as fast as it has been making and selling cars. And that's very fast. So fast, in fact that the Munich-headquartered company set in 2007 all-time bests for sales (€ 56 billion, up 14.3% over 2006), net profits (€ 3.1 billion, up 9%), automobiles produced (1.54 million, +13%) and delivered (1.5 million, +9%), and employees (107,000).

The year was also a great one for BMW's 300 designers, whose main office is in BMW's Research and Innovation Center in Munich, and who have been led by Chris

Bangle, a native of Wisconsin, since 1992. They were named "Design Team of the Year" by the prestigious Red Dot organization.

This spate of awards picked up strength in the first three months of 2008, in which BMW won the USA's renowned EyesOn design award, the Design Prize of the Federal Republic of Germany (the highest honor bestowed by the country's federal government), Red Dot's "best of the best" evaluation, and the prestigious iF Gold award for design excellence.

Same story at BMW's cross-state rival Audi. Headquartered in the central Bavarian city of Ingolstadt, "Audi registered the most successful year in its history in 2007", stated CEO Rupert Stadler. Among its new records were sales (€ 33.6 billion, up 8%), operating profits (€ 2.7 billion, up 34%), automobiles manufactured (981,000, up 6%) and delivered (964,000, up 6%).

Led by Wolfgang J. Egger, Audi's design team has also been the recipient of a number of important design prizes. Among them: "World Car Design of the Year", conferred upon the Audi R8.

These awards have been especially warmly hailed by Bavaria's schools of design, at which many of BMW and Audi staff studied. These schools include Bavaria's eleven universities and seven of the state's universities of applied sciences. These degree programs are complemented by the large number of public and private sector-run

academies and universities of applied sciences offering design-related programs of vocational and occupational education.

Many of these program's graduates find employment at the state's other manufacturing powerhouses. Others go into business for themselves. There are now more than 9,500 design "hotshops" in Bavaria, reports Bayern Design, the state's design promotion agency.

The agency attributes this country-best number to the state's business community's realization of the importance of design in creating products that work properly and appeal to would-be purchasers.

For further information:
www.bayern-design.de

Foundation stones

Setting forth the investment boom in Bavaria's R & D, **MAN Nutzfahrzeuge**, one of Europe's largest and most successful manufacturers of trucks and buses, commissioned in March 2008 its Technology Development Center in Munich. Part of MAN's €190 million upgrading of its operations in Munich, its "home town", the center joins those of GE, Lear and many others recently commissioned in Bavaria.

One of the next up is that of Roche. The Swiss company's facilities in the southern Bavarian town of Penzberg have a workforce of 4,400. Their main activity: manufacturing biotech-based medications. The largest in Europe, the facilities will soon also feature a €172 million R & D center.

A state of entrepreneurs

FlowLine: Oscar goes to world's master of disasters

The year has started off pretty well for FlowLine. On February 9th, the young (founded at the beginning of 2007) company received a technical Oscar for its software of the same name, which is the world's best in simulating natural disasters – floods, fires and storms – and in creating unnatural effects – prehistoric monsters arising from the sea, oil rigs burning and crashing into the ocean.

Many of these disasters and effects gave "300", "Iron Man", "Poseidon", "Harry Potter and the Order of the Phoenix" and other recent blockbusters their most exciting moments. The FlowLine software was developed through four years of concentrated work by the young and gifted programmers Thomas Ganshorn, Oliver Pilarski and Stephan Trojansky.

Their software uses a pixel-by-pixel modeling approach, sophisticated simulation hierarchies and highest-end data crunching (the processing of up to 50 million bits of water and air to create a single wave) to generate its better-than-nature visualizations and effects.

Also winning a technical Oscar this year: the Ottobrunn-based P + M Technik GmbH, for its "Skater Mini" camera dolly. The lowest-to-the-ground and most maneuverable dolly ever built, it enables directors to get hitherto "impossible" tracking shots.

A state to be explored

Climbing Bavaria: the state's mighty mountains



Zugspitze

They are the subjects of countless folksongs, odes and articles in tourism and climbing magazines: Bavaria's mightiest mountains.

Each of them offers spectacular views and challenges ranging from enjoying the cable car rides to testing your mettle on rock and snow.

The **Zugspitze** is Bavaria's and Germany's highest (2,962 meters) and busiest mountain. Located on the state's border with Austria, the Zugspitze is a favorite with day-trippers from Munich (an hour by car, an hour and a half by train), who take up either the cable car or cog-wheel railway to the summit, where an observation platform, restaurants, souvenir shops, a climate research station and breathtaking views (of Germany's five Alpine ranges, and of those in Austria, Switzerland and even Italy) await them.

The hikes up (between four and eight hours, depending on your condition and route) are the most popular in the German Alps. For good reason. They offer spectacular

scenery (including the Partnach-klamm and Höllental gorges), easy-to-master athletic challenges (provided that you are fit, well-equipped and keep a prudent eye on weather) and convivial lodges along the way.

The craggy, soaring **Watzmann** is Germany's sixth highest mountain (2,713 meters). None has been the subject of more veneration and frightened awe, none offers more amazing scenery – such as the Königssee at its eastern foot. This limpid and brooding lake and its St. Bartholmä church are Germany's favorite postcard motifs. The Watzmann and its southern reaches form the Berchtesgaden national park, the most unspoiled and remote-feeling area in Germany. Most hikers spend two days traversing the Watzmann massif on its guided climbs.

The world is a huge mountainous forest. Or so it seems from the summit of the **Großer Arber**. The mountain is the highest point (1,456 meters) of the vast forested mountain range forming the border between Germany and the Czech Republic. It takes between one and two hours of easy hiking to hike up the Großer Arber. Waiting for you at the top is a restaurant and, depending on the season, skiers or summit-visitors. Their way up: the cable car!

Our representative in ...

Vietnam is Jan Nöther. After securing a degree in banking administration, Nöther embarked in 1987 upon a two decades-long career in international finance. One of his main places of assignment was Vietnam. This expertise led him to be named in 2006 chief representative of Germany's chamber of industry and commerce in that country.

... in Munich ...

Automatica 2008

Automation technologies and systems
June 10 – 13, 2008

For further information:
www.automatica-munich.com

Intersolar 2008

Photovoltaic and solar collector products, systems, services and technologies
June 12 – 14, 2008

For further information:
www.intersolar.de

... and Nuremberg

SMT/Hybrid/Packaging

Microelectronics assembly and packaging systems
June 3 – 5, 2008

For further information:
www.mesago.de

Powtech

Mechanical processing and analysis systems
September 30 – October 2, 2008

For further information:
www.powtech.de

Trade fairs ...



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