The Dragon speeds up

China’s speed start into the future: a countdown packed with chances and challenges

中国巨龙加快步伐
Dear Reader,

Do you still remember the image of the sack of rice toppling over in China that was used as a symbol for everything too far away or too unimportant to be of interest to us? Today this metaphor is hardly ever used. Because these days, news from China are among the most coveted stocks at the world’s information exchanges. But even if we know so much more about the Middle Kingdom today, this country is still far from being familiar to us. In spite of the wealth of facts and figures that we are presented with every day, this old, vague feeling of the unknown, intransparent, sometimes even uncanny proves to be surprisingly tena-

cious. For most of us, China is and remains a country that’s on the same planet, but still in a totally different world. Maybe, for the time being, we should say goodbye to our ambitions of understand-
ing the colossal dimensions and the com-
plex mechanisms of the Chinese cosmos as a whole. Maybe not every single topic should be discussed by everybody and anybody. Instead everyone should stick to those topics they are truly familiar with. Or to fall back on another time-honored metaphor: let the cobbler stick to his last. Thus we don't want to discuss the coun-
try’s political situation in this magazine issue, but we will rather concentrate on the traffic technology-related aspects of the exploding mobility development in China. The look outside the traffic field will be provided by an external expert: bestselling author Frank Sieren, who was hailed as an “authoritative China specia-
list” by the venerable LONDON TIMES and other publications. Now let me wish you good reading.

Kind regards

Dr. Michael Ostertag
Everything on red?

China’s ascent ■ Frank Sieren, author of the bestselling book “The China Code,” speaks about the new role of the earth’s most populated country within global economy.
Epochal changes have an awkward character: they are not immediately recognized as such. Asia’s ascent is the biggest challenge we have yet had to face in the course of globalization. More than half of the world’s population lives in China and India combined. There, people dream about reaching our standard of living and are prepared to work hard to do just that. In the last 20 years, China’s economy grew an average of nine percent, and India’s six percent per year. The center of world affairs is gradually shifting towards Asia, with China as the focal point. By now we have gotten used to the fact that China is the largest producer of fertilizer, stainless steel, PVC, air conditioners, shoes, fish, vitamins, and, more unfortunately, greenhouse gases. But who would have predicted in 2004 that foreign currency reserves of $400 billion would nearly quadruple to $1.5 trillion at the beginning of 2008? Who would have thought that in 2007 PetroChina would become the globe’s largest company with the world’s largest initial public offering to date – with Exxon Mobile following in second place at a good distance of 500 billion? It is especially remarkable that this took place in Hong Kong and Shanghai – not on Wall Street in New York. For comparison, the largest German company is ten times smaller that the worldwide front-runner. With already 350 million subscribers, China represents the largest mobile phone market in the world, and there is no end in sight for that growth. China systematically uses free-market competition, the motor behind Western societies, for its own purposes. Its virtual monopoly situation as a gigantic growth market allows China’s government to pick the most lucrative business opportunities and the best joint-venture partners. In the framework of these cooperation projects with international companies, the Chinese mother companies in the automobile sector in particular are winning increasing independence. SAIC developed its own vehicle using VW technology among others. FAW did the same. With the company Brilliance, BMW found a joint-venture partner who wants to stand on its own and is now present in the German market with its medium-class car Zhonghua since April. The vehicle’s design was developed by an Italian, the motor is from Mitsubishi, Porsche helped in the research phase and BMW was there in the production phase, and all partners are bound by contract. After all, everybody wants to do business in the booming Middle Kingdom. Smart companies take on the Chinese challenge – the earlier the better – and they are well advised to not underestimate their new customers.

Never before has so much money been pumped from the First World into the Third World

While in spite of all the problems there are still great opportunities for German companies in the Chinese market, the maneuvering room for Western countries is extremely limited. While the companies are free to move with the market, a country’s government remains behind and must get to grips with the fact that costs grow faster than revenues. This spells out enormous change on a global level. But all the same, general prosperity is on the rise. Credit Suisse estimates that as soon as 2014, the expenditures of all private households in China will exceed those in Japan. Expressed in US dollars, they will then be the second highest in the world – after the USA. To put it pointedly: China’s favorable position in the world economy puts its leaders in a situation that allows them to more fairly distribute the world’s wealth – at our cost, of course. Never before has so much money and technology been pumped from the First World into the Third World than through investments in China, something that will continue to help the People’s Republic. Since the country’s opening, industrialized countries have transferred $700 billion to China, with $40 billion in the past two years alone. In addition, the country earns with each exported “Made in China” article. But these developments don’t just affect China. For the first time in history, a country might just manage to reverse the long-term trend in global income development. The expectation that within the next fifty years China will redistribute the world’s wealth more fairly is one of the few ideas that all winners of the Nobel prize in economics seem to share. “The per capita income in countries like China will increase faster than in the more advanced countries,” predicts George Akerlof, for instance. Even Joseph Stiglitz, the leading figure among globalization critics, is certain that, “The Chinese will have a higher income. Even if China does not continue to grow as quickly as in the past 25 years, the imbalance between China, the European Union and the USA will be largely diminished.”

China is getting stronger by the day and has become the most important stability factor in Asia

Even though, from our conventional viewpoint, China’s heterogeneous mixture of socialism and capitalism is not supposed to function, and certainly not on this gigantic scale – the People’s Republic is proving us wrong, at least up to now. China is booming, the country is getting stronger by the day and has become the most important stability factor in Asia. Over several generations, China’s political leadership has managed to give the country perspectives for the future under the given circumstances. It’s not that China doesn’t have problems. Building up a social security system for 1.3 billion people that ensures minimum standards in regard to nutrition, health care and education is a true challenge...
In 2010 more people in China will earn a doctorate in engineering than in the USA

Add to that massive environmental problems. Traffic in the capital threatens to come to a standstill every single day, a blanket of thick smog covers the city, and today’s Beijing is dominated by anonymous housing blocks and shopping malls instead of the traditional cityscape about whose beauty and clarity Marco Polo rhapsodized in his travel reports. Meanwhile, around 1,000 new cars are newly registered every day in Beijing. By the middle of 2008, the total number is expected to reach 3.3 million. The automobile sector is booming. Japanese, Korean and increasingly Chinese manufacturers are turning into serious competitors for the leading German car builders in the world’s largest growth market. Last year, with 7.22 million vehicles sold, the Chinese overtook even Japan, the hitherto second largest market. Now only the USA is ahead, and perhaps not for long. Last year alone, China’s market grew by 37 percent and in the first quarter of this year by 22 percent. Only five percent of the vehicles purchased are imported, almost exclusively luxury models. The Middle Kingdom was able to increase production numbers in the past decade by 1600 percent. Despite that, the automobile boom in China has not yet truly started. While there are presently only around 30 cars for every 1000 citizens in China, the figure reaches 588 in Germany and even 790 in America. Chinese manufacturers are euphoric. But for the Germans this means tension. The earnings of just under $109 million that Volkswagen brought in after $119 million in losses in the previous year are certainly no laurels to rest on. The up-and-coming Chinese manufacturer Geely had to sell only 200,000 cars to reach the remarkable sum of US$371 million in profit last year that is only 30 percent of the number of cars Volkswagen had to sell.

The shifting of economic and political power towards Asia makes is clear that we should not allow our vision to be blurred by the current recovery phase in Germany. We must catch up in order not to fall back in development. Every year, half a million students leave China’s and India’s universities with degrees in the sciences or in engineering. The number in the USA is 70,000 per year. By 2008, experts are anticipating a 30 percent increase in engineering and science graduates, while a 11 percent decrease is expected for the USA. Already in 2010 more people in China will earn a doctorate in engineering and the sciences than in the USA is 70,000 per year. By 2008, experts are anticipating a 30 percent increase in engineering and science graduates, while a 11 percent decrease is expected for the USA. Already in 2010 more people in China will earn a doctorate in engineering and the sciences than in the USA is 70,000 per year. By 2008, experts are anticipating a 30 percent increase in engineering and science graduates, while a 11 percent decrease is expected for the USA. Already in 2010 more people in China will earn a doctorate in engineering and the sciences than in the USA. 

We have to learn to see the world through the eyes of the others. Only then can we home in on the peculiar clarity that is at the base of the Chinese strategy; only then can we be prepared and effectively represent our convictions. “We are not the ideal of the Chinese, our opinion is not the yardstick for their endeavors,” as the Swiss writer Max Frisch said with remarkable foresight in 1975. Our privileged position in the world is at stake. And our leading role in the world’s economy, too, will become relative. For a long time, those manufacturers and countries that had a technological headstart were the leaders. Their commodity was limited, which allowed them to strongly influence selling terms. This has changed in three ways. Firstly, in the age of the Internet, a technological headstart has become a very ephemeral advantage. Sometimes it is only months until the first imitations of a new product appear, and it is difficult to combat these copies. Secondly, in the face of fierce competition, price is becoming more and more important. That is why we are forced to produce in countries that offer the best mixture of high quality and low wages. Thirdly, new markets are increasingly important since our original markets are not growing as they did in the past. That means that, all things considered, the Asian economies are in the stronger position. They get the technology, they have the favorable manufacturing conditions, and the market is theirs. Under these conditions we will have to find a market niche: the earlier we will adjust to the new situation, the better. As former Goldmann Sachs boss John Thornton, who teaches at Beijing’s elite Tsinghua University, said: “China’s ascent is the most important geopolitical event within our lifetime.”

Examinations at Dongguan University: 30 percent more engineers and scientists in 2008

8 its magazine 4/2007

“Might makes traffic right”

Interview • Fred Kalt, who has been head of the Siemens ITS team in Beijing for three years now, speaks about China’s big leap from the “age of the bike” to the “age of the car.”

Mr. Kalt, just as a warm-up to our topic, let me ask you a highly personal question: What was your weirdest road traffic experience in China?

A race at a traffic light: in pole position, so to speak, were a donkey cart and a Ferrari. And the donkey cart won because it just drove round the usual gridlock in the intersection via the sidewalk.

An anonymous tourist to China wrote in his Internet blog: “It is illegal to use the pedestrian Shanghai,” which could be meant to signify something like: don’t speak, were a donkey cart and a Ferrari. And the donkey cart won because it just drove round the usual gridlock in the intersection via the sidewalk.

“On the street just as in business everybody tries to make the most of even the tiniest chance”

Usually they are also in the weakest position of the unwritten “pecking order” in traffic. And the fact that the people behind the wheel usually don’t have a lot of driving experience certainly does nothing to improve things. Consequently, it is pretty good advice “not to use pedestrian Shanghai.”

Another blogger, reflecting on the psychological make-up of the typical Chinese driver, summed his conclusions up in four words: “Only losers give in.” Is that an observation that you can confirm? In any case the rule on the road seems to be “might makes right,” absolutely. By the way, that’s where I see a striking parallel to business life: on the street just as in business, everybody tries to make the most of even the tiniest chance. In traffic this may be the gap on the neighboring lane; in business, the last little additional price advantage. The question what consequences this behavior may have for others is simply not asked. This seems to be in contradiction to the code of conduct, which is still largely shaped by Confucian values: the concept of Guanxi, that is the system of social relations, is taken very seriously. Family, colleagues, customers – all are treated with utmost respect. This value system works well and clear roles are assigned to all involved. In the anonymous traffic space, however, these pre-determined behavioral roles don’t exist. Having the bigger car or the larger motorbike redefines the roles – at one’s own discretion.

Consequently the people responsible for traffic safety in China have their work cut out for them?

That’s right. The country is currently investing large sums in infrastructure projects; the expansion of the transport network has highest priority and intelligent traffic systems are gaining more and more acceptance. However, the biggest part of these investments flows in what we might call “passive systems.” In the cities, for instance, fences are installed as separations between direction lanes in order to prevent careless passing maneuvers on the opposite lane or spontaneous U-turns. In contrast, an example for an active “system” is the introduction of “human intersection controllers.” These are official looking people in brown uniforms who use...
A vast history full of stories

Siemens in China • The story of Siemens’ activities in China is unique in the business world. This special relationship has been going on for 135 years now and involves a vast history full of stories and events.

1872 One year after the first Franco-Prussian war ended, Siemens started its first activities in China. A contract for the delivery of telegraphic equipment enabled China to enter the age of modern communication.

1879 Seven years later, the next order was placed: a 10-horsepower steam machine with a power generator for lighting Shanghai’s port. The installation was a technological revolution and even to this day it is described in Chinese history books, since practically over night it doubled the capacity of that lively port by allowing cargo to be unloaded at night.

Around 1900, one of Siemens’ largest overseas projects was started. China’s first electric tram line was built in Beijing, and to power it, Siemens also delivered the first power plant ever erected in China.

The first regional office – Siemens takes root

Accordingly, already at the turn of the century, Siemens was an established name in China and a synonym for the country’s modernization.

1904 Siemens’ first representative office on Chinese soil was founded in Shanghai and was the most important milestone in Siemens’ East Asian history. The success of the Shanghai office paved the way for the rise of Siemens China Electrical Engineering Company GmbH, which was established in 1910 in Berlin and Shanghai and renamed to Siemens China Co. in 1914.

By 1913, Siemens had built eight power plants, several overland power lines as well as the Hanyang steelworks. After the First World War, business in China stagnated, but already in the 1920s it was successfully revived.

Between 1920 and 1937, Siemens built numerous power plants, brought electricity to coal mines, cities and harbors, and delivered cement factories, spinning works, textile factories, steam-powered locomotives, telephone systems and hospitals, making a considerable contribution to the modernization of infrastructure and the improvement of living conditions in China. The Chinese-Japanese War brought these positive developments to a standstill, though it served as an occasion to help the company earn an extraordinary reputation.

In the winter of 1937/38, the general director of Siemens China Co. at the time, John Rabe, saved 200,000 citizens of Nanjing from prosecution by the Japanese troops, saving them from certain death. Still today, China’s former capital honors John Rabe as the “Good German of Nanjing,” and in 1997 his tombstone was placed in a memorial there (see box p. 14).
is more the “middle country,” which means that everything revolves around China, especially in the eyes of the Chinese, and food and drink are an important part of that culture. Earlier I mentioned Guanxi, the maintenance of social networks. In China, food and alcohol are the basis for building strong friendships. Once a customer rose his glass to me and declared: “I’d rather destroy my health than our friendship!”

A German Chamber of Industry and Trade offers special manager training courses on how to negotiate with Chinese customers. They say the three most important rules are: “Smile, smile and a lot of alcohol!” Does this coincide with your experiences at the conference tables in China?

The country of smiles is Thailand. China

Nanjing Road in Shanghai: “The Expo 2010 will be even more complex in terms of traffic requirements than the Olympics 2008”

Once a customer rose his glass to me and declared: “I’d rather destroy my health than our friendship!”

John Rabe, Siemens general director in China, saved the lives of over 200,000 citizens during the Nanjing Massacre committed by the Japanese invaders and has been revered as a folk hero ever since.

Born in 1882 in Hamburg, Germany, John Rabe pursued a career as businessman and went to Africa for several years before going to China in 1908. In 1911 he joined Siemens China Co. and in 1931 he was named director general at the company’s headquarters in Nanjing, the capital of Nationalist China. After the outbreak of the Chinese-Japanese War in 1937, the city was one of the primary targets of the Japanese. Immediately after invading the city, the Japanese army began to terrorize the city’s population in an orgy of violence, killing an estimated 300,000. A group of foreign diplomats, embassy employees and businessmen wanted to help by establishing a safety zone in the embassy district. John Rabe was elected chairman of the international committee managing the safety zone. Since Japan and Germany were allies in the war, the committee hoped that, as a German, Rabe would have the most influence on the Japanese generals. With tireless dedication and exemplary courage, but also with cunning, generosity and a sense of humor, Rabe succeeded in sheltering up to 250,000 people in the safety zone measuring only four square kilometers. At his private premises, which he marked with a highly visible flag of the German Reich as “friendly territory” for Japanese bomber pilots, he harbored more than 600 people and thanks to this trick successfully protected them against air raids. His practical humanity earned him the veneration of the Chinese population, but not the goodwill of the German government. In 1938, John Rabe was called back from Nanjing and, when trying to muster support in Germany for the protection of the Chinese population, he was arrested by the Gestapo. In 1950, John Rabe died of a stroke. His life as the “Oskar Schindler of China” is currently made into a movie starring Ulrich Tukur. It is scheduled to come to the cinema in late 2008.

The central purpose of big congresses is exchange – but not so much the exchange of goods than the exchange of new ideas, innovations and insights. Under the motto “ITS for a better life,” the ITS industry met for the 14th time to continue their exchange with experts from governments and administrations, universities and research institutes, organizations and associations. The choice of Beijing as the host city certainly was no coincidence, because without the 2008 Olympics, China’s traffic problems are enormous – just as the country’s Backlog demand for ITS. All this made the World Congress a welcome forum for discussing new approaches. The congress program included more than 200 sessions on the newest developments in the areas of traffic safety, comfort and convenience, environmental protection and efficiency, as well as on special aspects of traffic development in emerging countries. One thing became absolutely clear in all this: Environmental protection is gaining more and more significance as a traffic engineering topic. Against this background, the interplay between public transport, toll systems and environmentally-friendly or alternative drive concepts acquires a totally new quality. Active environmental protection is the challenge that will make ITS an exciting business also in the future. The congress was complemented by an exhibition involving more than 160 exhibitors from industries, associations and research institutes. Siemens’ 82 square meters of exhibition space increased, among others, the following topics:

- Traffic management, from single intersection devices to higher-level management systems for the entire city. In this context, the new MCUs ‘China Controller’ was presented.
- Toll systems, including the associated onboard units (OBU) from Siemens VDO, plus peripheral surveillance cameras for city congestion charging schemes such as the system deployed in London.
- Driver assistance solutions for integration in vehicles
- Fleet management ideas such as pay-as-you-drive insurance (insurance premiums are paid only for actually driven kilometers)
- Navigation systems in dialogue with traffic management infrastructure, so-called cooperative systems

One of the highlights of the Siemens presentation was the satellite tolling test installation on the outdoor grounds around the fair buildings. The route that the test car equipped with OBU and transmitter had taken was subsequently traced on a computer screen – an accurate basis for calculating the applicable toll fee. What surprised many visitors was the fact that, although the server and the back office for this application were located in Vienna, the data were available in Beijing within seconds. The visual impressiveness of the performance was further enhanced by the insertion of the driver route into a section of a Google Earth map, providing a detailed documentation of the trip.

Active environmental protection is a challenge that will keep ITS exciting as a business
As proven by experiences gathered in Europe and America, intelligent traffic control on the basis of IT-enabled traffic data processing helps prevent traffic jams. Now similar control techniques are to be implemented for managing the dense traffic flows in China’s cities. Pioneers in this development are the megacities Hong Kong and Wuhan. Every day, Hong Kong’s public transport system carries more than 7.7 million passengers, and traffic density in the city’s street network is one of the highest in the world. And as if that weren’t enough, the brisk development of new urban residential areas in Tuen Mun and Yuen Long in recent years has pushed the daily traffic chaos to new dimensions. Things have improved recently because Siemens developed and deployed new systems for more efficient traffic control and improved surveillance of the street network in both administrative districts. What is special about this project: the Urban Traffic Control (UTC) system with its 249 intersection controllers is able to coordinate traffic light switching in such a way as to reduce waiting times and minimize the number of times that vehicles need to stop at intersections. In addition, the automatically calculated signal plans take the passing intervals of buses and other public transport vehicles into account. This is an advance since up to now such “adaptive procedures” could not respond to individual vehicles. Another one of the system’s highly efficient elements is the crisis management module, which helps prevent traffic jams in the case of major events, accidents or other incidents. After the successful start-up of the new system in Hong Kong, the city of Wuhan followed suit and set itself the goal of optimizing traffic flow for its 8.5 million residents. In the capital of Hubei province, 420 intersections, junctions and turnoffs will be equipped with a comprehensive traffic control system including CCTV monitoring. The customers hope that the new system will reduce traveling times and boost the efficiency of the urban transport network. The implementation time for the system is extraordinarily short. The World Bank provides financial support for this project, which is the largest single contract awarded for an urban traffic control system in China to date. «

**Big fish**

Hong Kong and Wuhan projects • With state-of-the-art technologies from Siemens ITS, China is currently preparing the first of its million-inhabitant cities for the traffic challenges of the future.

**Taxi to the future**

Cooperation project • Together with China’s traffic information pioneer Newcom, Siemens ITS plans to use positioning data from taxicabs for traffic guidance applications

In many Chinese cities, the taxicab fleets are equipped with a satellite-based positioning system. The onboard system reports all cabs’ current position to a coordination and control center. Passengers calling for a taxi thus be sure that the closest free cab will be heading their way. But the system also offers decisive advantages in terms of safety and security. In case of an emergency, the driver can push a call button. As the center always knows the current location of the cab, rescue services or police can be guided quickly and precisely to the site of the emergency. The manufacturer of this system is the Chinese traffic information pioneer Newcom. Since December 8, 2007, in the scope of a pilot project in Guangzhou, Siemens ITS and Newcom are investigating the system’s potential uses for traffic guidance. Because it is quite obvious that the readily available positioning data of the city’s 16,000 GPS-equipped taxicabs are an excellent information source for calculating current traffic flow speeds. The pooling of both companies’ technical capabilities will now give Siemens and Newcom the opportunity to create a comprehensive platform for continually updated information on the present traffic situation. Via SMS, navigation systems or call center, motorists will be able to access detailed advice on the best route to take. Accordingly, Fred Kalt, head of Siemens ITS China, and Li Leren, CEO of Newcom, are enthusiastic about the opportunities opened up by the cooperation project. While Li Leren praises the project as “a great opportunity for road users in China,” Kalt underlines also its economic perspective: “Our cooperation is the key to a gigantic synergy potential and we expect to lead the way in the future Chinese market for traffic information services through this cooperation.” «

**Clever solution for emerging markets**

SITRAFFIC MCU 6 • The MCU 6, a low-cost controller developed and manufactured in China, offers high performance standards at favorable conditions for boom towns in emerging markets all over the world.

In the rapidly growing cities in the emerging countries, municipal authorities are faced with a multitude of complex tasks. And even if getting a grip on traffic is certainly not the smallest challenge they need to master, it is just one among many. Consequently, the cities are looking for pragmatic, flexible and robust solutions that will represent a big step forward without putting too much strain on municipal coffers. A solution on line with this demand is the new SITRAFFIC MCU 6 traffic controller, which has been developed specifically for the boom towns in emerging markets.

With its plug-and-play concept, the MCU 6 is an ideal starter system that enables traffic-actuated control at low costs and is able to grow with future challenges. Another remarkable feature is the controller’s extraordinary mechanical and technical sturdiness, making it a reliable partner even in case of instable power supply systems. Its scalable functionality and high degree of user-friendliness ensure that the MCU 6 is easy to use for both novices and experts. For further information, please contact the responsible Global Product Manager of Siemens ITS under tobias.marcks@siemens.com. »
Complete control or complete chaos?

Traffic planning for the 2008 Olympics ■ The first test runs for the Olympic Summer Games in Beijing had some surprising results to offer.

The 2008 Olympic Games in Beijing – while some are already in the starting blocks with eager expectations, others are losing their sleep at the mere thought of this event. Many experts fear a total traffic collapse, and, in fact, a glance at the sheer numbers might cause even hardened Olympic planners to sweat profusely. If ever an event was a true mass event, then this one. In terms of numbers, at any rate, the 2008 Olympics will break every record: 15 million residents in the host city, 1,300 million inhabitants in the host country, 202 participating nations, 301 competitions, 10,600 athletes, 21,500 media representatives, and 9 million tickets. The answers of the responsible traffic planners are impressive, too. By 2008, Beijing will have a new five- and six-lane ring motorway, six additional subway lines, a new large-scale airport, a bus rapid transit line (BRT), and a network of 270 kilometers of lanes reserved for accredited Olympic vehicles. However, the planners soon realized that all these measures would not suffice to get the Olympic traffic flows under control and that there was only one truly effective measure: reducing the number of cars during the four weeks of the Games. This consideration led to a plan according to which vehicles with odd last numbers on their number plate will be denied access to the city on the odd days of the month, while on the even days all other cars must remain without city limits. In August 2007 a four-day dry run was conducted. Besides the ban on entering the city, the hours of operation of the public transport system were extended by several hours and a 20-kilometer section of the Olympic reserved lanes underwent special tests.

The result: during the test phase the number of cars driving in the city was reduced by 1.3 million, which corresponds to a reduction by 43 percent. Furthermore the test run revealed that the Olympic reserved lanes can only work properly if traffic density is lowered by at least 40 percent.

Limiting the access to the city thus seems to be a practicable measure, and the city’s authorities are starting to consider the option of keeping this regulation in place even after the Olympic Games. One goal has not been achieved, however: the four days of the test run brought nearly no improvement to Beijing’s extreme air pollution. ■

ITS Award 2008 ■ Take your chance to win the prize. +++ Wanted: the best ideas for FCD and c2i. +++ Submission deadline: June 30, 2008 +++ ITS Award 2008 ■ Take your chance to win the prize. +++

FCD and c2i? That sounds a little like a German rap song making fun of the rampant abbreviations in informal speech. However, these two short forms stand for serious technical concepts for the future that may revolutionize traffic on our roads. FCD is the acronym for Floating Car Data, and describes a way of translating the idea into practice that road users are more than passive consumers of information and that cars can be used as a source of information. No entity is more closely and immediately involved in the current traffic situation than a vehicle “floating” in traffic. If such a vehicle is equipped with the required detectors it will be able to transmit its position and status data continually to a processing center via the navigation system. By analyzing data from onboard systems such as ABS and ESP, the detectors are also able to make deductions regarding road conditions. The navigation system might report, for instance, where it is currently located, if there is fog or black ice present, and if traffic on this stretch of road is stationary or flowing. If a large number of cars on the same section suddenly drive much slower, the central traffic computer will deduct that a traffic backlog is forming on this road and calculate appropriate alternative routes for all vehicles about to enter this road section.

How these data can best be transmitted to the control centers – the coordination infrastructure, so to speak – is a question that c2i (car to infrastructure) scenarios want to answer. There are currently two models:

On the one hand, a direct link-up to the central computer, the traffic management system or a service provider on the basis of chargeable mobile telephone services such as GPRS or UMTS. And on the other hand, free-of-charge connection to roadside infrastructure (e.g. intersection controllers or outstations) via W-LAN or infrared systems, for instance. These roadside units will then pass on the collected data via existing dedicated. This is the topic set for the ITS Award 2008. The practical relevance and topicality of this research topic is confirmed by a look at the “Taxi to the future” article on page 17 of the special section on China in this magazine. Maybe the €10,000 in prize money will pay for a trip to China to study the system on site, combined with a side trip to the 2008 Olympic Games in Beijing. Why not take your chance! ■

For detailed information on the ITS Award 2008 and a set of documents for participation, please contact Dr. Paul Mathias Siemens AG Intelligent Traffic Systems, NBBT, Hofmannstrasse 51 D-81359 Munich paul.mathias@siemens.com

Traffic jam in Beijing. Supervision Center: traffic was reduced by 43 percent during the dry run for the Olympics.
Around the world in 24 hours

New World Distribution Center ■ Jules Verne’s famous literary traveling party needed 80 days to circle the world – spare parts from Siemens ITS are much faster: express shipments dispatched from the World Distribution Center in Neu-Isenburg, which was officially inaugurated on September 12, can reach the other side of the world within a single day.

New LED signal heads for a traffic light that has been damaged in an accident in Bogotá? An urgently needed replacement module for a tunnel control system in Hong Kong? Within no more than 30 minutes after the order has been received, the Neu-Isenburg distribution center, the required components are ready for dispatch. And if things are especially urgent, the components will arrive at their destination the very next day, no matter if the customer is located on the Chinese east coast, in Oceania or in South America. This is made possible by advanced logistics technology and the center’s proximity to Frankfurt airport. Of course, the other key figures of the new World Distribution Center inaugurated on October 12 are similarly record-breaking. And if things are especially urgent, the components will arrive at their destination the very next day, no matter if the customer is located on the Chinese east coast, in Oceania or in South America. This is made possible by advanced logistics technology and the center’s proximity to Frankfurt airport.

On the bottom line, customers do not only profit from the reduction of spare parts supply delays to a new minimum, but also from significant savings generated by standardized IT processes and bundled shipment in closely coordinated logistics flows. Thanks to the integration of various functions into an overall warehousing solution that is able to handle multiple clients, the individual service centers can be operated in parallel with full transparency in terms of stocks, goods flows and booking.

At the World Distribution Center in Neu-Isenburg Siemens ITS is currently keeping 1,400 products and about 11,000 different spare parts on hand for quick dispatch to customers all over the world. And that this new service is meeting the rising acceptance of monitoring systems also among the wider public is owed largely to empirical data like the following: according to the findings of an independent study, in camera-monitored zones the number of serious accidents is reduced by about 40 percent. Against this background it is not surprising that the institutions responsible for traffic safety are more interested than ever in functional and affordable solutions. With SITRAFFIC E-Cam, Siemens is now able to offer an especially flexible and cost-efficient digital camera system for red-light and speed monitoring and enforcement. The system is suitable for permanent installation as well as for mobile applications. Based on a choice of three different detection technologies (piezo sensors, laser or fiber-optic technology), it can monitor both travel directions at the same time. In addition, high-resolution single-image photography facilitates the verification of the recorded data.

The exceptional versatility of SITRAFFIC E-Cam not only significantly reduces the number of camera systems needed, but also minimizes maintenance and administration costs.

The eye of the law

SITRAFFIC E-Cam ■ This especially flexible and cost-efficient digital camera system opens up new options for red-light and speed-limit enforcement.

Ready for take-off

inter airport Europe 2007 ■ At the 16th run of the world’s leading trade fair for the airports industry in October 2007 in Munich, off-street-parking solutions were among the exhibits attracting the most interest.

When speaking of airports technology, people will usually think mainly of airfields, systems, baggage and cargo logistics, power supply and security. But in point of fact, the efficient organization of parking areas is one of the essential success factors for modern airport operation. Correspondingly, the roughly 13,000 fair visitors were keenly interested in finding out more about the up-to-date solutions for off-street parking that Siemens ITS presented at the inter airport Europe, which took place in Munich in October 2007.

In the center of attention was for instance the SIPARK SSD individual parking space monitoring system, which uses sensors to monitor vacancies and optimize occupancy by guiding drivers to the next free space. Another fair highlight showcased by Siemens ITS was the SIPARK PMA car park guidance system: an integrated complete solution for access and payment control that is suited to all public and private parking garage and parking lot applications.

Car park guidance system at the airport: the efficient organization of parking areas is one of the essential success factors for modern airport operation.
Mr. Broer, one does not need to be a prophet to predict that the next set of accident statistics will again identify speeding as the main cause of accidents resulting in death and injury. Why is driving fast so popular?

Undoubtedly one of the most common causes is that in our society, everyone is pushed for time. But again and again one reads about the rise in selfish and irrational behavior as factors in this context. I do not want to claim that such attempts at explaining the problem are wrong, but I would say that they fall short of providing the whole story.

Because if that was all there was, we should be able to get the problem under control quite easily with rules and regulations and their enforcement. However, as we can see on a daily basis, this is not the case.

Perhaps it is simply that the punishments are too weak?

Do you really believe that every driver has the complete list of penalties in his head, at every moment? It may well be that someone who has paid an expensive fine can wreak such devastation. I am not convinced that a substantial proportion of all accidents can be traced back to a simple Biblical formula: “For they do not know what they are doing.”

Is it this separation that you want to remove with your dialogue displays? Yes, we work with pictures of children, who communicate directly with the driver. If he approaches at an appropriate speed, the word “thanks” appears on the display in green, if not, it makes the request to drive “slow” in red characters. What is in operation here are two very efficient psychological automatisms: on the one hand the “small child pattern,” as investigated by behavioral scientist Konrad Lorenz, immediately awakens our protective instincts; on the other hand almost all of us were brought up with the praise-and-blame strategy and are therefore still very sensitive to it. To that we can add social control, as our behavior is judged in the public arena, in front of other people.

When we sit behind the steering wheel, do we become a different person? Certainly not to others, but we do lose the ability to sense where we actually are. All that metal around us, the comfort, the high-performance technology—all of this separates us from our surroundings to a certain extent. We are not aware that we are moving in a vehicle that weighs more than a ton and where the smallest mistake can wreak such devastation. I am convinced that a substantial proportion of all accidents can be traced back to a simple Biblical formula: “For they do not know what they are doing.”

Apart from the indirect scientific support provided by Konrad Lorenz’s findings, you are also receiving ample endorsement by today’s scientists … Correct. From scientists such as Professor Dr. Bernhard Schlag from Dresden University of Technology and from those traffic managers who accompanied our studies in many German cities of varying sizes. For example, in Chemnitz, following the installation of our dialogue displays, 130.6 percent more drivers stopped at a pedestrian crossing, while at the test site in Horn-Bad Meinberg the number of speeding drivers fell by over 80 percent. Furthermore, as demonstrated by a long-term test carried out by the Berlin Senate, it has been proven that the effectiveness of the display continues for several years without any reduction in its efficacy. Immediately after the equipment was installed at a crossing on Lützowstraße in 2004, the average speed there decreased by around a quarter—and it still remains at this low level today. Currently a series of tests is running in Austria, Italy and the Netherlands.

So the dialogue display has achieved broad acceptance with drivers. Is this true of your customers too? Certainly at first we had to do a lot of work to convince people. In some municipalities there are still a number of officials who say, roughly speaking: “There is a sign, the sign is the law, and the law must be obeyed.” But it is getting better with every new positive study …

Mr. Broer, many thanks for the interview. “For they do not know what they are doing” Interview • Rudolf Broer, managing director of traffic engineering specialist RTB, discusses the main reasons for speeding and his psychological approach to developing counter-measures.

“Then we sit behind the steering wheel we are not aware of how much of a danger we represent.”
An end to frustration?

Traffic news ■ Using supplementary real-time information from a range of sources, the German motoring association ADAC has signaled the start of a new round in the fight against congestion

Live information from the tailback site and from the air optimize the ADAC traffic news
All squared away – this seems an apt description of the traffic situation here in Mannheim, and not only because of the city center’s famous grid layout. Above all, the phrase is appropriate because the state of the streets is generally a true credit to all concerned.

I won’t deny that in Mannheim like elsewhere, rush hours usually bring some congestion with them. But only rarely do we witness the full-blown chaos that practically forms a part of everyday life in some other places. All in all, we’ve got a pretty good handle on things.

There are a number of reasons for this. For one thing there is increasing prioritization for public transport, which also makes absolute sense from the environmental point of view. For another, there is the density of our traffic signal installations and the high quality of the associated controllers. And when you think it through, in some measure it is also down to people like me, the fault repair technicians who are on call around the clock to put right those minor faults that are bound to happen once in while in even the best product families. As far as traffic engineering is concerned, Mannheim is 100 percent Siemens-Ville. And in that way, we’ve made good progress both in the literal and metaphorical sense. Perhaps one reason is that the company remains, to my knowledge, the only supplier in the field to offer regular customer training sessions.

I attended my first self-maintainer seminar at the ITS Training Center in 1980 and the topic is still fresh in my memory: the training was about EST switching equipment, which had already been around for some time when I arrived in Mannheim a year earlier.

Thankfully the course had little in common with the tedious teacher-up-front style of instruction that everyone gets fed up with at school. Even at that time the whole thing was run more on the model of a workshop, with authentic everyday tasks and realistic case studies – training on the living object, so to speak. As a greenhorn I learned a lot for immediate use. After that there was hardly a single everyday problem that could not be put right somehow. And in the event that a situation actually turns critical, the Siemens technicians are on hand to help either by remote diagnosis or, if need be, by turning out in person.

But still, in between one seminar and the next you naturally accumulate a whole series of questions. The breathtaking pace of technical development in our trade can be judged just by looking at the ever shorter warranty periods for individual components. Unless you stay on the ball in our trade, you’ll be yesterday’s man in a flash. And that applies also to an old hand like me who has been in the job since before the Flood.

One occasion for me to realize how even we can still learn a thing or two, was the self-maintainer course for the SITRAFFIC C800V and C900V signal controllers in October 2007. As it was attended exclusively by total professionals, the theoretical section updating us on recent controller and detector developments was very short. The main focus was on exchanging experiences – not just with the specialists from development, engineering and sales, but above all with colleagues from other cities.

Nearly always there is somebody among us who has a ready-made practical solution for a problem that perhaps someone else is currently chewing on. For this reason alone, just about every one of these seminars takes me a step forward, even if it’s only by a couple of centimeters.

Sooner or later in your day-to-day work you’ll easily recoup the few hours invested here at the seminar. Appropriately enough for this pre-Christmas season I do harbor a secret wish or two. For my taste the self-maintainer training courses could benefit from an additional boost in terms of practical relevance. And apart from that I am waiting impatiently for a wireless radio-controlled local controller with low energy consumption. But perhaps something like that is already in the pipeline?