

Taking Diagnostics to Rural Areas, Disaster Sites, and Homes

CMEF Provides Insight in Key Medtech Developments – in China and Beyond

In mid May 2008, the earth trembled in the Chinese province of Sichuan – and a quake with the magnitude of 8 on the Richter scale killed at least 68,000 people. This October, Asia's largest medtech tradeshow came to Chengdu, the capital of this region. Set in the context of the history of disaster, and the continuing threat of natural catastrophes in this and other parts of China and elsewhere, the 2009 International Forum on Disaster and Emergency Medicine (CEME) took place in parallel, as did the IVD Forum and the OEM show ICMD.

From more than 20 countries, 2,100 exhibitors came to Sichuan to present their products to visitors from more than 100 countries.

China's Emerging Position in the World

This country with its 1.3 bn inhabitants is currently the second largest market worldwide for medical devices in Asia; demand for medical appliances is growing at double-digit rates (cf. Spectaris www.spectaris.de). It will become, according to analysts, the world's second largest economy in 2010; and by 2020, it will rank third as a healthcare market.

In-Vitro Diagnostics

The event in Chengdu included a large exhibit in the area of IVD and two-day summit dedicated to the opportunities, and responsibilities, of this industry in the context of the healthcare reform which is pushed forward by a 850 bn



Weiguo Tang, Chairman, Shanghai Kehua Bio-Engineering: "National policies and operational environments support the development of domestic IVD companies".

RMB (approx. EUR 80 bn) investment pledge from the central government. The aim is to provide "safe, effective, convenient, and affordable" care to all 1.3 bn citizens by 2020. Fundamental changes to the structure, and mindset, in the sector are imminent. Enormous business opportunities in this market, which includes an increasing number of private labs and an expanding system of reference labora-



tories, are being created also for foreign actors ... with certain barriers that need to be overcome. – "The IVD exhibit and summit activities of CMEF are carried out in close co-operation with the American Association for Clinical Chemistry AACC"; outlined Herbert L. Burklund, President of Jersey City (US) based Scherago International which is also a partner in the collaboration.

Enhancers in this market are stimulated economic development and subsequently increasing demand for healthcare, and also the general trend towards acquisition and use of patient information in hospitals. Already, a large part of the IVD market in China is in the hands of international vendors, explained Yanrong Sun, Deputy Section Chief of China's National Centre for Biotechnology Development in the Ministry of Science and Technology (MOST). Together with domestic companies, they cater for needs such as immunological

representative from Qiagen presented a diagnostic solution catering for the specific needs of developing markets such as China and India, with no external power source or clean water required. According to the company representative, a current study on the situation in India demonstrates the cost benefits of screening.

Weiguo Tang, Chairman, Shanghai Kehua Bio-Engineering explained how national policies and operational environments support the development of domestic IVD companies. "China's IVD industry maintains a sound and rapid growth momentum", with government investments and increasing individual medical expenditure in the wake of the reforms contributing further to this trend. According to the manager, an emerging international recognition of "Made in China" will enhance export opportunities. To compete with international corporations, domestic companies should "focus on the



This helicopter was the first to appear at the earthquake site in 2008. (photographs: MR)

reagents, genomic detection, and medical imaging equipment; "competition in this market of 6 bn RMB [approx. 550 mn EUR] is fierce". – Enormous key science and technology projects at national level encourage company activities and help advance technology; they include AIDS, hepatitis, and tuberculosis.

Screening for cervical cancer provided one of the examples in this context: a rep-

product portfolio and capital operation", stated the executive, with the products providing "the core for competitiveness". As a consequence, strategies related to the portfolio, and marketing are key management requirements ... and of course, a focus on R&D – "imitate and create".

"For IVD in China, my forecast is an annual 25-30% growth rate during the next three years", outlined Nathaniel



Ting Yang, VP International Marketing, Mindray (left) discusses market developments with Hospital Post's editor

Whitney, President, Whitney Research. "Point of care is one major focus, moving down scale another": whereas 80% of IVD activity has taken place in class III, the top tier of healthcare providers in the country – "in many cases with expensive, state-of-the-art, extremely high throughput equipment" - reformers are now aiming to move this down to class II and the entry level. "Rapid, point-of-care testing – already as big a market as clinical chemistry – is therefore now coming to the village hospitals here. It provides simplified handling and reduced cost", is Whitney's forecast.

ITC-Enabled Remote Diagnosis

In China - like in the other health systems facing the challenges of an ageing society, of chronic disease, and multimorbidity - remote and interactive diagnostic monitoring is an emerging option. Based on new technology, prevention and early diagnosis in everyday life may help reduce hospitalization, cutting cost and improving patients' lives. At the IVD summit, the vendor Relia presented a model integrating end users and professionals, making use of secure Internet and cell phone backbones for communication.

The German Pavilion



Most of the 16 companies exhibiting at the country's pavilion already have distributors in the country, explained Nadine Benad. She is Project Manager, Medical Technology of the German industry association Spectaris – comprising optical, medical, and mechatronic technologies - which organized the country's participation. The exhibitors, mostly SMEs, appreciate the option to participate with a high-standard booth at subsidized fees, with technical services and catering included.

Endoscopy manufacturers Gimmi had a booth at the pavilion. "German quality is a USP not only for class-III hospitals", explained President Thilo Henzler. "They use the 'made in Germany' brand as a tool for their patient marketing". The HD cameras the company sells usually go, however, to the top tier of caregivers. The key trend after HD, said Henzler, will be in the further reduction of camera diameter to allow for non-invasive procedures. The integrated OR – managing OR light, table, and the electrosurgical unit etc. also from third parties, under one interface from one control panel – is another trend for which Gimmi already offers a solution, according to the executive.

"We are into anything that's to do with 'respiratory'", outlined Volker Müller, General Manager, Heyer Medical (Beijing). "In China, we are looking at the middle segment ... with a focus mostly on mainland China here at CMEF". "We came to Chengdu specifically because, like most vendors, we got started in the coastal region first – that's where most of the buying power is. Chengdu, to us, is the springboard to the centre and the west of the country. - What is the major challenge China provides to SMEs, according to this company? "It is the speed of change", said Müller: "whereas in Europa, e.g., new laws and tax regulations turn up every, say, ten years, the cycle here is around 2-3 years. Adapting to this requires quite an effort from smaller companies that do not have an entire department to cope."



Neusoft executives Gong Jing Hua (left) and Liu Jian describe remote diagnosis practiced during the Sichuan earthquake, and lessons learned on the road towards a home healthcare solution offering

It is a field which Neusoft is aiming at entering, too. This large Chinese ITC and modalities vendor (the name is derived from North East University) helped rescue and medical teams cope with the aftermath of the 2008 earthquake: the number of diagnostic devices available in the region was not sufficient, and remote diagnosis made a significant contribution to the care efforts.

Neusoft, perfectly positioned for this activity by way of its portfolio combining modalities as well as ITC solution and service offerings, had built up expertise in the field during many preceding years.



"Computer-aided decision support is a key innovation trend": Genmiao Jiang, President, Neusoft Medical Systems



"Close co-operation of CMEF with the American Association for Clinical Chemistry AACC": Herbert L. Burkland, Scherago/AACC

"For example, country hospitals have been sending medical images to specialized physicians at the Beijing Ditan hospital for the expert advice – based on our systems and infrastructure", outlined Genmiao Jiang, VP Neusoft Corp. and President, Neusoft Medical Systems. The company now aims at using experience gathered from these projects and from Sichuan to implement a model the core elements of which are smart, location-independent di-

agnostic clients, computer-aided decision support – also sold as modules in PACS e.g. for urologists –, an Internet-based communication backbone, an electronic personal health record, and medical services centres interacting with hospitals. However, regarding acceptance of such new technologies, "it is harder to negotiate with hospitals than with end customers", explained Neusoft COO Liu Jian at a press conference in Chengdu. A major barrier on the part of medical professionals turns out to be the question of liability – if therapy is performed based on remote diagnosis, which player in the care chain will be held liable if unfavourable outcomes? As for the citizens, the concern is mostly with data privacy issues ... the "digital hospital without boundaries" (Liu), it appears, still is quite a remote vision.

Current Developments in Emergency Medicine

The memories Wang Zhonglin, Vice Mayor of Chengdu, has of the events last year are still very vivid. At the opening of the 2009 International Forum on Disaster and Emergency Medicine (CEME) in the context of CMEF, he described the challenges and successes health professionals experienced in the wake of the big quake. To him, CEME is the appropriate platform to learn from both domestic and international experience in disaster handling.

Richard W. Patrick, Director, Medical First Responder Coordination Division, Medical Readiness, US Office of Health Affairs, came to Chengdu to describe the ongoing development of Emergency Medical Services in the US where 20 mn patients are treated in emergency context ever year. The EMS education agenda is designed to establish a system of education in the US which integrates five levels of expertise in pre-hospital medical services, paralleling other medical fields. Threats cited by Patrick, in the context of the US National Incident Management and Incident Command System, include natural disasters, pandemics, as well as terrorist attacks (e.g., the dirty bomb, and anthrax by aerosol).

Bai Tao, Vice President, International Association of Emergency Managers (IAEM) Asia and consulting expert, reported about the ISDR International Strategy for Disaster Reduction system established by the UN. In China however – this is Bai's understanding – you cannot just rely on the central government and international organizations in the context of disaster prevention and reduction of consequences – he sees networked collabora-



Dancer demonstrates – at the CMEF Gala – the will to survive: this young lady lost her lower legs in the 2008 earthquake. Artistic dancing has helped her identify with the changes to her body, and cope with the traumatic experience ... she symbolizes the determination of this nation to make progress and shape a better future

Chengdu and Sichuan



It is an "economic and financial hub of central and western China" – at a reception of the German consulate (cf. photograph), Qian Feng, Deputy Director General, Sichuan Provincial Department of Commerce listed a number of business and leisure USPs of Chengdu. The subtropical city of, today, more than 11 mn sports a rich history which dates back to the Bronze age, it has been ranked "4th most livable city on China", and sports a number of landmarks. These include a breeding and research centre of the cherished panda bear, Chinese symbol of peace, and the newly refurbished Jin Li Street with shops, Sichuan cuisine street restaurants and teahouses – symbols of the laid-back attitude of the inhabitants.



tion as a key approach for local governments, with the exchange of expertise as a major ingredient.

"Safer school, safer hospital, safer city" are projects in the ongoing Chinese Haikou programme for the upcoming years to



From exports target to close collaboration: for Japan-based diagnostics vendor Shimadzu, the Chinese market plays a key role.

support prevention and reduction of damage in case of serious incidents. The "safe hospital" is designed to achieve a "new hospital which is anti-risk" and protected from disaster aftermath, ready to take on the task of caring for victims, according to Bai. A large part of the concept builds on training of staff and emergency management.

Considering budgets spent on these activities "investments" in lieu of "expense" is a major awareness challenge, said Bai, who participated in several China Emergency Aid campaigns abroad, which supported, e.g., rescue work in Algeria, Iran, Pakistan, and Tsunami-stricken Indonesia in recent years. Just like in the US, he sees China in the need to set up a medical spe-

cially with defined structure of theory and education to help professionalize the field ... the government has already signalled it is taking the matter seriously – "otherwise, when disaster strikes, we need to start from scratch again", underlined Bai. Lessons have been learned in Sichuan: in Chengdu, the largest training centre of China's southwest has been installed. - Dr. Hou Shi Ke reported on strategies implemented, and concrete activities carried out to save lives and enormous efforts incurred.

Medical Hightech from, and for, China

Shimadzu, headquartered in Japan, is among the large diagnostics manufacturers who came to China early. "While export of high-quality devices for class-III caregivers was the initial goal, we have since switched to an intensive cooperation with major Chinese hospitals for feedback on product improvement potentials, and production in the country", said Lv Chun, Vice Senior Manager, Medical Systems Department, Shimadzu International Trading (Shanghai). A key trend which Lv sees in imaging – China is no different in this respect compared to Europe and the US – is in the reduction of dose, which Shimadzu's R&D has been able to take to remarkable levels.

Mindray – with its portfolio of patient monitoring, imaging, and IVD – sports one of the outstanding success stories of medtech made in China: the company is listed on the New York Stock Exchange, has 5,500 employees worldwide, 550 mn US-\$ in sales of which half are realized outside the country, and R&D centres and

CMEF Country Pavilions

In Chengdu, CMEF sported five pavilions – Germany and Austria, Japan, Korea, United Kingdom, and United States. The spring shows typically house more of these pavilions which allow SMEs to have a presence at a comparatively low budget. At the Korean pavilion, the focus turned out to be on physiotherapy; but there were also vendors of imaging and ENT devices and products. Exhibitors expressed overall satisfaction with contacts and deals at the show. - To Ahn Byung-Chul, General Manager, Korean Medical Devices Industrial Coop. Association, one innovative trend is in homecare and remote diagnosis; a leading company in Korea is active in related areas as Neusoft. It will be interesting to observe what's coming out of Korea after the first pilot projects.

branch offices in many countries. "Quality and a comparatively low price are the drivers for our success", summarized Vice President International Marketing Ting Yang. "Made in China", according to the executive, is starting to get accepted

Iran Delegation

Representatives from the Al Zahra hospital in Isfahan were among the delegation which came to CMEF from Iran. "Hospital buyers as well as manufacturers of medical products and devices find CMEF a highly suitable exhibition for the purpose of buying from, selling to, and cooperating with manufacturers not merely from China, but also from Europe and other countries", explained Asghar Rafeian Esfahani, Department Manager, Isfahan Province International Exhibition Co.

globally as a quality brand; with Chinese products moving up slowly in quality – and price due to rising labour cost, as was the case with Japan in the automobile market decades ago, which countries are going to fill the gap? Vietnam, Indonesia, and Mexico are among the likely candidates, alluded Ting. But this development is not for the near future ...

Another "coastal version" of CMEF is coming up – 18-21 April, 2010 (<http://en.cmf.com.cn>). Anybody involved in the medtech field who has an interest in the dynamic Chinese, and Asian, market is invited to come to Shenzhen in China's south.

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