

## Korea-China-Japan Tie-Ups in Hydrogen Fuel

Korea, China and Japan have decided to respond jointly to the international standardization of hydrogen fuel quality and hydrogen fuel cells. Presently, advanced countries like the United States, Japan and others are waging a fierce competition in this area in order to reflect their own country's technology in the international standards.



## 2 Korean Proposals Approved in ISO/TC 229

Two NWIPs (new work item proposal) suggested by Korea -- 'Generation of silver nanoparticles for inhalation toxicity testing' and 'Monitoring of silver nanoparticles in exposure chambers for inhalation toxicity testing' -- have been approved as an AWI (approved work item) by ISO/TC229 "Nano Technologies".



## ISO/TC22/SC10 & 12 Meeting on Vehicle Safety

KATS hosted the ISO/TC22/SC10 (Impact test procedures) and SC 12 (Passive safety crash protection systems) related to vehicle safety May 14-18 at Millennium Seoul Hilton in Korea. A total of 50 experts from eight countries, including Germany, Japan and the United States, participated in the five-day meeting organized by Korea Automobile Manufacturers Association (KAMA)...

## Contents

### 2 Issues & Focus

- Korea-China-Japan Tie-Ups in Hydrogen Fuel

### 3 Industrial Standardization Regime

- 2 Korean Proposals Approved in ISO/TC 229
- Korea to Host ISO/COPOLCO 2008 Plenary Meeting

### 4 International Standards Activities

- ISO/TC22/SC10 & 12 Meeting on

### Vehicle Safety

- ISO/TC Plenary Meeting on Paints & Varnishes

### 5 Safety/Standard Prism

- Korean Automarket Enthusiasts Set Sights on Standardizing New Technology

### 6 Technology / Standards

- Environmental Management System Certification on Rise
- KATS & Konkuk Univ. MoU on

### Korean Body-Mass Index & Apparel Tech

### 7 Tests, Inspections & Certificates

- SME-Developed Products to Be KS Certified

### 8 New Laws & Regulations

- Plan to Make Best Use of Test and Research Equipment
- Strengthening Post Management for NEP Mark Goods

## Collaboration for Standardization Korea-China-Japan Tie-Ups in Hydrogen Fuel

Korea, China and Japan have decided to respond jointly to the international standardization of hydrogen fuel quality and hydrogen fuel cells. Presently, advanced countries like the United States, Japan and others are waging a fierce competition in this area in order to reflect their own country's technology in the international standards.

On June 8, KATS hosted the international seminar on standardization of hydrogen fuel cells at the Palace Hotel in Seoul.

At the seminar, Korea Specialty Chemical Industry Association (SCIA) and China Association for Standardization (CAS) signed an MoU for Korea-China collaboration in the standardization of hydrogen fuel energy.



KATS also hosted the working group meeting of ISO/TC197/WG12 (hydrogen fuel quality) and WG13 (hydrogen detectors) June 6-9 at the same venue. This working group is currently preparing the international standards on hydrogen fuel quality and the specifications required for hydrogen detectors to measure and monitor hydrogen concentrations leaked from the hydrogen fuel cell system.



It is expected that the collaboration among Korea-China-Japan will enable them to exchange information and strengthen international standardization activities in the field of hydrogen quality and hydrogen fuel cell systems. Furthermore, Korea plans to host ISO/TC197 (hydrogen energy) and IEC/TC105 (fuel cell) meetings as well.

KATS also intends to build a Northeast Asian cooperation system to international standardization for all new & renewable energies, including photovoltaic and wind power, and to actively participate in the international standardization activities in the related fields.



### Fact Sheet

- Title: ISO/TC197/WG12 and WG13 Seoul Meeting
- Organizer: KATS, Ministry of Commerce, Industry & Energy (MOCIE)
- Managed by: Korea Speciality Chemical Industry Association (SCIC)
- Supporters: Hyundai-Kia Namyang Research Institute, Korea Gas Corp., Korea Gas Safety Corp., Yonsei University, NK, KCR and FuelCellPower
- Period: June 6 (Wed) - 9 (Sat), 2007 (four days)
- Venue: Seoul Palace Hotel, Seoul
- Participants: About 60 delegates from 8 countries
- Agenda:
  - WG12: Assess the impact of impurities on the function and durability of fuel cell cars and prepare quality standards to enable safe operation of fuel cell cars
  - WG13: Determine test methods and specifications required for hydrogen detectors to measure and monitor hydrogen concentrations leaked from a hydrogen fuel cell system (except for mobile vehicle use).

## 2 Korean Proposals Approved in ISO/TC 229

Two NWIPs (new work item proposal) suggested by Korea – ‘Generation of silver nanoparticles for inhalation toxicity testing’ and ‘Monitoring of silver nanoparticles in exposure chambers for inhalation toxicity testing’ -- have been approved as an AWI (approved work item) by ISO/TC229 “Nano Technologies”.

As a result of voting, 18 out of 24 P(Participating)-members of ISO/TC 229 agreed on the two Korean proposals. Consequently, at the ISO/TC 229 meeting in Berlin, June 4-8, Korea had the opportunity to collect opinions from each country and to establish two WD (Working Draft) project groups.

The draft standards for generation of silver nanoparticles and monitoring method were developed to address hazard related to silver nano products which could become a trade barrier. The draft standards were suggested to the ISO/TC 229 secretariat in January 2007 and as a result of P-members’

voting, they were approved by the TC (Technical Committee) on April 17.

Director Kim Moo-Hong of Materials and Nanotechnology Standards

Division, KATS, said, “If the Korea-suggested draft standards are finally established as international standards, the standards can be also applied to monitoring the density of globular nanoparticles as well as silver nanoparticles.” He projected that the two standards would contribute significantly to the verification and assessment of nanoparticle toxicity.

In addition, at the ISO/TC 229 meeting in June, Korea presented a proposal to standardize a safety assessment method for manufactured nanomaterial, silica (SiO<sub>2</sub>), which is used in surface treatment of medical supplies.



## Korea to Host ISO/COPOLCO 2008 Plenary Meeting

The 29th ISO/COPOLCO (Committee on Consumer Policy) meeting, which was held May 23-25 this year in Salvador de Bahia, Brazil, confirmed that its next meeting will be held in Seoul in May 2008. This will be the first time for Korea to host the consumer policy committee meeting.

Established in 1978 as one of ISO’s three policy committees along with the Committee on Conformity Assessment (CASCO) and Committee on Developing Country Matters (DEVCO), COPOLCO develops the standards policies from the perspective of consumers, including product safety, customer satisfaction management and corporate social responsibility, with significant impact on global society.

COPOLCO has 99 member countries at present. Korea joined the committee in 2002 and has been designated as a P-member. Also, the chair of the COPOLCO has been presided by Ms. KIM Jae-Ok, president of Consumers Korea, since 2006.

About 150 delegates from around the world, including officials of international organizations and governments, consumer representatives and standardization experts, are expected to participate in the 2008 ISO/COPOLCO plenary meeting to be held in Seoul. The next meeting will be the 30th anniversary of the committee and COPOLCO is promoting consumer input to the development of standards, both nationally and internationally.

The theme for the COPOLCO Workshop, which will be held during the plenary meeting, is presently under discussion and will be finally determined at the upcoming chair’s group meeting in November this year.

### How COPOLCO Works

To ensure that the voice of the consumer is heard in the development of ISO standards, COPOLCO selects areas in ISO’s work that are of priority to consumers and then coordinates participation by consumer representatives in the ISO technical committees developing standards in these areas.

COPOLCO also develops publications to promote consumer participation in standards work and to train consumer representatives for this task.

In addition, COPOLCO coordinates training activities and representation at events involving consumers and standardization issues.

Furthermore, it organizes annual workshops that bring together representatives of consumers, public authorities, manufacturers and standardization experts.

These workshops are oriented around a specific current issue that is relevant to consumers. They provide a forum for COPOLCO to develop recommendations for action, policy statements, guides for standards writers, or proposals for new areas of standardization.

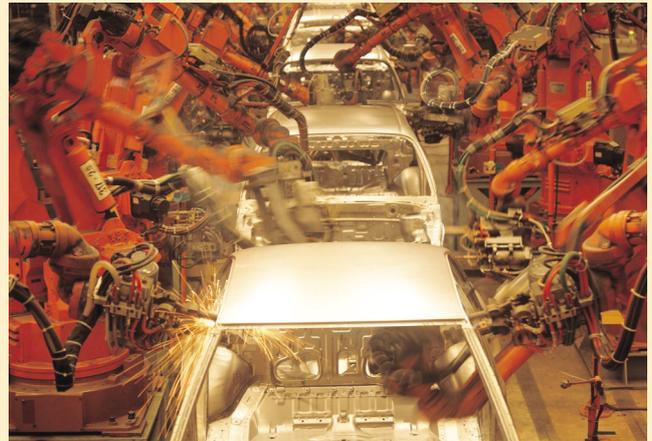
## ISO/TC22/SC10 & 12 Meeting on Vehicle Safety

KATS hosted the ISO/TC22/SC10 (Impact test procedures) and SC 12 (Passive safety crash protection systems) related to vehicle safety May 14-18 at Millennium Seoul Hilton in Korea.

A total of 50 experts from eight countries, including Germany, Japan and the United States, participated in the five-day meeting organized by Korea Automobile Manufacturers Association (KAMA) and Korea Automobile Technology Institute (KATECH) and supported by Hyundai Motor & Kia Motors and the Korea Society of Automotive Engineers (KSAE).

The participants discussed international standardization with regard to ‘Test procedures for evaluating occupant interaction with deploying airbags’ (ISO/TC22/SC10/WG3) and ‘Child restraint systems in road vehicles’ (ISO/TC22/SC12/WG1).

During the meeting, Korean experts presented three technologies and their status: “Car to Car Frontal Crash Test Procedures with Electronically Controlled Vehicle (ECV) Crash System” (by Team Manager, Park In-Song of Korea Insurance Development Institute); “Current Research and Rule Development Activities on Pedestrian Protection in



Korea” (by Prof. Yoon Young-Han of Korea University of Technology and Education); and “Test Procedures for Evaluating Occupant Interaction with Deploying Airbags” (by Prof. Choi Hyung-Yeon of Hongik University).

A KATS official said, “As international standards on vehicle safety have been adopted as mandatory in industries and are becoming core technologies for intelligent vehicles, participation by global carmakers like GM, Toyota, and others is increasing.” He added, “KATS will encourage the proposal suggested by Korea be adopted as a New Work Item for international standards.”

## ISO/TC Plenary Meeting on Paints & Varnishes

KATS hosted an ISO/TC35 (Paints and Varnishes) plenary meeting at the Shilla Hotel in Jeju Island May 29-31 with about 30 related international experts from eight countries, including the U.K., Germany, China, etc., participating. The meeting was supported by KCC and Korea Institute of Construction Materials (KICM).

TC35 has five subcommittees (SCs), including SC2 (Pigments and Solvents), and 26 working groups (WGs). It is also a field in which Korea has been working actively together with 23 P-members, the U.S., Germany, Japan, U.K., etc., since 1999.

The participants in the meeting reviewed the status of restrictions on VOC (volatile organic compound) content and discussed ways to standardize assessment methods and test conditions. They also conducted a technical study of rust prevention methods for steel structures, including bridges, test conditions, etc. The participants discussed the future direction of standardization for the paint field while agreeing to strengthen exchanges among member countries.

With this international meeting as momentum, domestic paint industries are expected to find a breakthrough to upgrade their position to another level by learning the latest production technologies that can respond to international standardization, new technologies and environmental restrictions, in particular.



Concurrently with the ISO/TC35 meeting, meanwhile, KATS also held the third Asian Joint Meeting(AJM), which was organized to respond to U.S. and Europe-led international standardization.

At this meeting, delegates from Korea, China and Japan attended and discussed ways to expand the scope of their activities along with cooperation in standardization research in the paint field, joint proposals of new work items to ISO/TC35 and sharing of advanced technology information.

## ○ Korean Automarket Enthusiasts Set Sights on Standardizing New Technology

By **Kim Hyun-il**  
Director General, Department of Advanced Technology and Standards  
Korean Agency for Technology and Standards (KATS)

Many over 30 probably still have vivid memories of the U.S. TV drama “Knight Rider” that grabbed viewers' hearts every week in Korea in the 80s.

The stars of the show were Michael Knight (David Hasselhoff) and his car KITT -- an icon of futuristic technology that accompanied Michael everywhere. It always came to his aid, chatted with him when he had a break between saving people, opened its door for him, and operated its windows, audio and television systems by itself.

Considering the limited level of IT and other automobile technologies during the 80s, no wonder KITT was such a dream for car lovers.

Good news: In the 21st century, we're all a little closer to getting into the driver's seat of a car like KITT, at least those attending the Seoul Motor Show 2007 in April, where several artificial intelligence, hybrid, hydrogen-powered, and environmentally-friendly cars were showcased.



When driving through Korea's mountains, we may encounter many unexpected situations such as an animal or boulder suddenly appearing on the road. In these cases, fatal accidents are possible if brakes lock up or a sudden turn causes the car to flip. To avoid this, an Electronic Stability Control (ESC) system has been developed to automatically control the car's brakes and prevent the vehicle from slipping or overturning.

The exhibition displayed a variety of high-end car safety technologies, like the Lane Departure Warning System that keeps drivers from crossing lanes or driving off the road; an infrared camera that helps drivers see objects in the dark; a Collision Avoidance System that warns drivers of a potential collision; and an Adaptive Cruise Control that automatically controls speed when the car approaches other objects.

Since 1955, Korea has been producing car parts and automobiles. In 2004, Korean carmakers surpassed both the U.S. and European carmakers in initial quality, according to



the marketing firm J.D. Power and Associates.

Presently, Korea is the fifth largest carmaker in the world, but it still uses overseas car assessment standards.

Global automakers are doing their utmost to develop technology to invent next-generation cars equipped with artificial intelligence. In the case of data transmission protocol programs, there has been a 10-year quest for one internationally recognized in-car communication program to connect data transmission protocol systems imported from various countries. Finally, only Controller Area Network, Vehicle Area Network and J1850 have survived the competition.

Despite, or in some cases because of, the advanced car systems today, other unexpected problems could occur. Mobile phone, navigation or in-car DMB use could lead to a disastrous accident as drivers take their eyes off the road while fumbling with the gadgets. One official international technology standard for these devices would greatly help reduce such technical confusion.

Considering the significance, the Korean Agency for Technology Standards has been making various efforts to standardize development technologies for futuristic, artificial intelligence-equipped automobiles.

The agency suggested the international standardization of artificial intelligence car terminology in April 2007. It also hosted the International Organization for Standardization in May this year and suggested the standardization of safety technology to prevent car collisions and to protect pedestrians.

The Korean government, the automobile industry and academia will continue to make concerted efforts to place the nation among the world's leading automakers. (Source: Korea.net)

## Environmental Management System Certification on Rise

The number of certification of environmental management system complying with the international standards in Korea in 2006 reached 5,893, 2.4 times the number (2,447) in 2004, according to statistics published by Korean Agency for Technology & Standards (KATS). Small and medium enterprises accounted for 95% of the certifications in many areas ranging from manufacturing and construction to services, public administration and education.

The sharp increase in environmental management system certifications results from the recognition that environmental management is the very important factor to improve an enterprise's image and raise its competitiveness through producing the environment-friendly products.

Growing environmental restrictions in the U.S., Japan, China and other countries, Korea's industries prompted the active adoption of environmental management. In addition, local consumers' increasing preferences for environment-friendly products in recent trends can be beneficial to the enterprises which obtain the certification of environmental management system.

Globally the number of certifications of environmental management system reached 111,162 in 2005 with Japan leading numbered 23,466, followed by China (12,683), Spain (8,206), Italy (7,080) and the UK (6,055). Korea's international rank in this area rose from tenth in 2004 to seventh in 2005.

Cho Duk-Ho, director of Biotechnology and Environment Standards Division at KATS, said, "Korean enterprises' adoption of environmental management system certifications has enhanced their global competitiveness, while increasing confidence among customers and stakeholders and demonstrating their commitment to social responsibility (SR)."

To expand the use of environmental management systems, the government has instituted the national environmental management awards and is supporting a greater number of green partnerships between large enterprises and SMEs.

## KATS & Konkuk Univ. MoU on Korean Body-Mass Index & Apparel Tech



On May 16, the Administrator of KATS and the president of Konkuk University signed an MoU for mutual exchange and cooperation in overall business matters encompassing common application of the Korean bodymass index (BMI) and technological development in the field of apparel & fashion.

Under the MoU, both organizations agreed to make efforts to accelerate the development of state-of-the-art fashion apparel technologies, including commercialization of mass-customized fashion products and digital apparel, by applying the body standards information of KATS' Korean body-mass index (BMI) and related body shape data.

Since 2003, KATS has been carrying out the Korean BMI and body shape measurement project on about 20,000 men and women aged between 0 and 90 with cutting-edge equipment, including 3D scanner, under the name of 'SizeKorea.' The resulting data are applicable to designing the industrial products and residential space.

With supply of the data obtained from the 'SizeKorea' project, KATS has supported such industries as footwear, furniture, kitchen utensils, electric & electronic home appliances and automobiles in the development of innovative Korean industrial products.

Since establishment of 'i-Fashion Apparel Technology Center in 2006, Konkuk University, supported by the Ministry of Commerce, Industry and Energy, has conducted the research on integrating the latest IT technologies, virtual reality, RFID, etc. with existing fashion and apparel technologies.

KATS expects this MoU to facilitate the advancement and high value addition in domestic apparel & fashion industries and also support establishing the framework to raise the competitiveness of traditional small-sized sewing companies.

## Potential to Develop into World-Class Products SME-Developed Products to Be KS Certified

Four products developed by Korean small and medium-sized enterprises (SMEs) with domestic patents will be established as KS (Korean Standard) for the first time. They are electric bidet, ondul-type electric bed, running machine and vegetable & fruit washing appliance.



On May 17, KATS announced its plan to establish the KS for electrical home appliances for which domestic demand is rapidly growing in order for consumers to use them more safely and conveniently.

As those items have high potential to develop into world-class products, KATS revealed it would also promote international standardization (IEC) along with establishment of the KS.



Through standardization of production facilities, parts and manufacturing processes, KATS also intends to reduce production costs and enhance function and quality as well as to ensure the safety for the common interest of SMEs.

By the end 2007, KATS plans to establish and supply the KS after specifying the quality criteria for the washing and drying functions of the electric bidet and uniform temperature distribution and dimensions of the ondul-type electric bed.



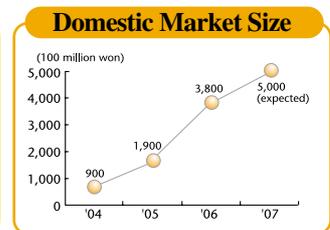
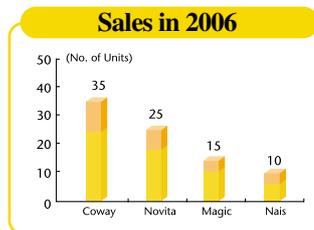
KATS also plans to establish the KS for the treadmill and vegetable & fruit washing appliance in the first half of 2008 after assessment of the function, accurate measurement of distance, speed, time, etc. and after evaluation of washing functions and development of ozone emission tests, respectively.

### Market Trends by Product

#### Electric Bidet

With the domestic market size estimated at about 380 billion won/year, exports have yet to begin.

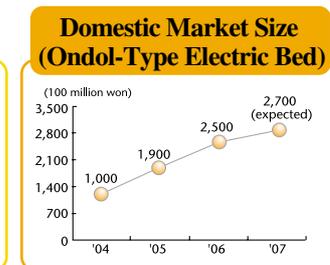
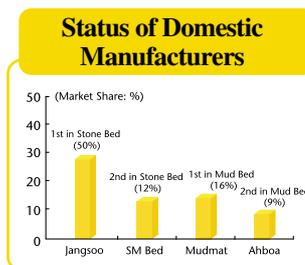
- There are about 30 local manufacturers, with the top 10 firms, including Woongjin Coway, Tongyang Magic, Novita and Chunggho Nais, occupying more than 80% of the domestic market share.



#### Ondol-Type Electric Bed (incl. stone/mud beds)

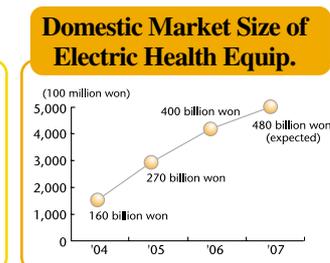
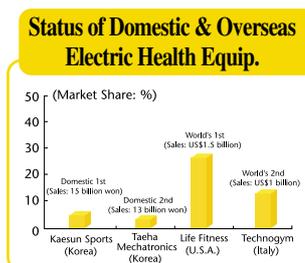
The domestic market size is estimated at about 250 billion won/year, but nearly no exports have been made to date.

- There are about 70 small and medium-sized manufacturers in the field, with Jangsoo Ind., SM Bed, Mudmat, etc. leading the domestic market.



#### Running Machine (Electric Health Equipment)

Among the domestic market estimated at about 400 billion won/year, sales by local manufacturers account for about 100 million won, while foreign brands imported from the United States, Italy, etc. are taking a market share exceeding 70% due to superior technological competitiveness.

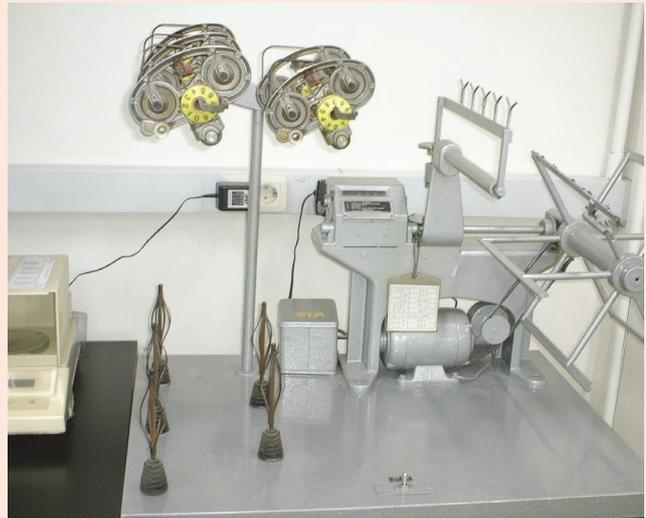


## Plan to Make Best Use of Test and Research Equipment

The Ministry of Commerce, Industry and Energy(MOCIE) has announced the launch of a 'Technology Infrastructure Partnership' project aiming to make the best use of existing test and research equipment that are maintained by public organizations through their exchange and cooperative use.

On May 21, 2007, a meeting to discuss the project was held at the Palace Hotel in Seoul, where Vice Minister for Commerce and Industry Oh Young-Ho and heads of 48 related organizations participated.

The 48 participating organizations consisted of two bodies from the government (Small and Medium Business Administration and Korean Agency for Technology & Standards) and 28 research institutes (Korea Quality Institute of Construction Industry, Korea Automotive Technology Institute, Korea Institute of Industrial Technology, etc.) and 18 test & assessment bodies (Korea Testing & Research Institute, Korea Electric Testing Institute, Korea Institute of Construction Materials, etc.).



Among the 13,400 kinds of equipment maintained by the organizations, about 6,000 are to be part of the project. KATS, in particular, will open use of 75% of its total 2,010 kinds of equipment to relevant organizations.

## Strengthening Post Management for NEP Mark Goods

KATS announced on May 21 that it would implement regular annual surveillance for 217 NEP (New Excellent Product)-certified goods jointly with Korea Excellent Production Certification Association.

The new surveillance system came as there have been expectations of higher reliability from NEP-certified goods because public organizations are obliged to purchase them to fill more than 20% of their requirements in accordance with the Industrial Technology Innovation Promotion Act. Furthermore, these items now qualify for exemption from conformity assessment of the Public Procurement Service(PPS) as it expanded its program scope to new technology and environment-friendly goods with NEP and GR (Good Recycled Products) certification starting May 10.

To secure transparency and impartiality, KATS intends to organize a surveillance and investigation team consisting of its own employees and external experts and confirm whether the technology, quality & performance, quality assurance system, etc. of NEP-certified goods have been kept as well as they were initially certified.

For the goods which are feared to elicit formal complaints or cause social criticism due to poor quality against safety,

KATS plans to strengthen the surveillance.

For certified goods that fail to meet the standards during post management, KATS also plans to newly establish the criteria for measures, and issue the improvement recommendations for minor violations to induce voluntary improvement of enterprises, and also strengthen the administrative measures for serious violations, including cancellation of certification.

For the products which the certification has been withdrawn, KATS will post the notices on website and inform the relevant public organization of the notice, and thus raise the reliability of certified products by blocking the distribution of defective ones.

