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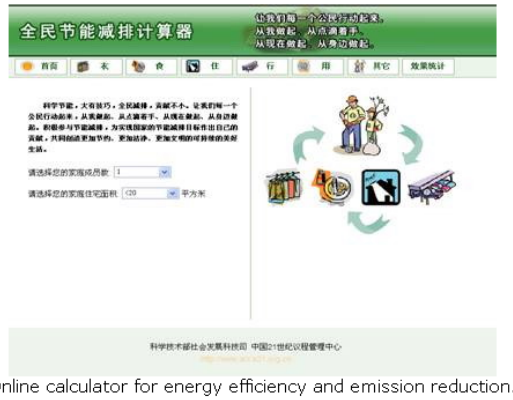
SPECIAL ISSUES

Calculator for Energy Efficiency and Emission Reduction

An online energy efficiency calculator, jointly developed by MOST Dept. of Social Development, and China Agenda 21 Management Center, has been officially opened to the public, after test and trial operation.



Online calculator for energy efficiency and emission reduction.

The calculator is designed to calculate one 's energy efficiency and emission reduction capability in the context of clothing, food, sheltering, travel, use, and others. One can see his or her own energy efficiency and emission reduction values by hitting relevant buttons. The calculator would calculate the items one entered for a total value of energy efficiency and emission reduction. The calculator is easy to operate, with reliable scientific data, allowing people to see their energy efficiency and emission reduction responsibility in everyday life. http://www.acca21.org.cn/eser/counter/index.htm

21st Statistics Report on China's Internet Development

CNNIC published on January 17, 2008 its 21st statistics report on China's internet development. The published data show that as of December 31, 2007, China's online population has reached 210 million in number. China has had 11.93 million registered domain names, with an annual growth of 190.4%, or four times that of 2006. The booming is largely due to 9 million new registrations to .CN domain name. Up to date, there are 1.006 million websites under the name of CN.

CNNIC report also unveiled a detailed analysis of newly added netizens. For example, rural netizens have become a major part of the newly added the online population. In addition, people, who have a lower income, young in age, and less educated, have increased their visibility over the internet. Of the newly added 73 million new netizens, rural residents have taken up some 40% as a proportion. As of the end of December 2007, China has a rural online population of 52.62 million, growing at an annual rate of 127.7%.

The annual growth of IP address and domain name reached 38% and 190.4% respectively. As of the end of December 2007, China has had 135 million IP addresses, though seeing a large gap for the basic need of one IP address for each netizen. China's national domain name CN has witnessed a large boom in 2007, with a four-fold increase, or 20,000 a day. In addition, the number of websites, webpage, and word clusters has grown at a rate of 60%.

Platform for Seismological Engineering

A seismological engineering platform, to be built by the Institute of Engineering Mechanics, part of China Earthquake Administration, has recently been launched, as a project to be put into trial operation at the end of the year. Designed to simulate the damages of earthquake and associated processes, the platform will work on the damaging process and earthquakes, with engineering means and suggestions for earthquake resistance. It will render useful information for improving the earthquake resistance of structures in the country.

The platform will connect experimental systems and observation networks both at home and abroad via Internet, for data sharing, providing consolidated earthquake information to all walks of life. It will also integrate, and summarize latest scientific and experimental findings in the area.

INTERNATIONAL COOPERATION

Extended Human Genome Project Launched

An international coordination panel made up of scientists from China, the UK, and the United States announced on January 22, 2008 in Shenzhen, London, and Washington simultaneously that they would launch a project to sequence at least a thousand persons' genome in the world. The efforts will eventually result in a polymorphism genome map with valuable medical applications. Sanger, BGI Shenzhen, and NHGRI are the major sponsors of the project.

Scientists will create a number of high flux sequence platforms to cover the target populations, including Yoruba people in Nigeria, Japanese in Tokyo, Chinese in Beijing, northern and west European descendents in Utah, Luhya in Webuye and Maasai in Kinyawa of Kenya, residents in Toscani, Italy, Indian descendents in Gujarati, Huston, Chinese descendents in Denver, Mexican descendents in Los Angeles, and African descendents in the southwest part of the United States.

Novel Process for Mining Coalbed Gas

China, in collaboration with Canada, has kicked off on January 25, 2008 a project in Beijing to collect coalbed gas by injecting or burying carbon dioxide at a deep level. The project is designed to raise the recovery of coalbed gas while reducing the greenhouse gas emission.

With a budget worth RMB 9.9 million, the project, jointly undertaken by China United Coalbed Methane and two Canadian firms, will be implemented in two phases in a period of 5 years. In the first two years, efforts will be made to inject carbon dioxide into individual wells, before working on multiple well injections in the latter three years. The latter phase will be determined by the results of the preceding phase. The experiment will be made over a site in the Qinshui Basin of Jincheng City, Shanxi.

China-Korea Yellow Sea Expedition

Not long ago, China Haijian17 boat kicked off its scientific journey from Qingdao to investigate the environmental pressure of Yellow Sea ecosystem, a project initiated by UNEP/GEF. The expedition will collect the first hand data for formulating a strategic action plan for the region, which is extremely important for realizing the final goal of the project and strengthening the marine cooperation between China and Korea.

The project has achieved noticeable progresses since its launch two years ago. So far the project has completed the collection and analysis of historical data of the Yellow Sea, with a cross-border diagnostic analysis report, where environmental issues are identified for the region. 8 Korean experts, and 13 Chinese experts are part of the first marine journey.

Peking University Collaborates with ESRI

An Arc GIS teaching and applied research center, jointly established by Peking University Digital China Institute, and ESRI, a US based largest GIS provider in the world, was inaugurated on January 21, 2008 at the compound of Peking University. According to an accord, ESRI will provide software, technical service, and training for the research center. The Center will work on GIS technology related teaching, applications, and R&D, in an attempt to diffuse GIS technologies in the country. Under the framework of cooperation, Peking University will diffuse Arc GIS software taking advantage of its teaching and R&D strength. Meanwhile, Peking University will work on the secondary part of development to enhance the functions and quality of Arc GIS software.

RESEARCH AND DEVELOPMENT

Biochips for Hereditary Hearing Impairment

The PLA General Hospital Institute of Hearing Impairment and Beijing National Engineering Center for Biochips have recently rolled out a novel technique to test hereditary hearing impairment. Since its clinical trials started from April 2007, more than 3000 patients in Beijing and Hunan have been tested for the causes of their hearing impairment. Meanwhile, scientists have tested several hundred child-bearing age men and women who have a family history of hearing impairment, detecting possible risks for future families. The novel system has been used by the PLA General Hospital, Beijing Tongren Hospital, China Deaf Children Rehabilitation Center, and Changsha Xiangya Hospital.

Breaker for Low Temperature and Air Pressure

It is reported from the Shenyang High Voltage Electric Products Quality Test Center that a novel breaker tailored to both low temperature and air pressure, independently developed by Pinggao Group, has successfully passed its verification check.

Thanks to its 3-year tireless efforts, Pinggao Group developed a novel breaker in the early last year. The product has become very popular among its users, for its advanced design, high tech, easy maintenance, and reasonable pricing. However, it failed to meet the tough environment of the northeast region, where low air pressure dominates. Users ask for a normal breaking function when air pressure drops by 20%. Through repeated experiments under different air pressures, researchers have worked out right solutions to addressing the problems. The improved breaker is now able to work in an environment where low temperature and air pressure dominate, making the new product a growth point for the Group.

NEWS BRIEFS

China’ s Satellite Data Cover 70% Asia

Kashi Station, part of the Terrestrial Observing and Digital Earth Center, was officially inaugurated on January 28, 2008 in Kashi City, Xinjiang. The station passed a test check and went into a trial operation on August 24, 2007. Equipped with a 12-m large receiving antenna and data receiving and recording facilities, the new station is able to receive satellite data, including multi-spectrum and synthetic aperture radar data, sent by China’ s environmental satellite, US’ Landsat, France’ s SPOT, and Canada’ s Radarsat, with a spatial resolution ranging from 3m to 100m. The establishment of Kashi station and a similar station in Sanya, makes China able to cover 70% of Asia’ s territories. The data received will find applications a broad range of area, including land resources survey, forestry resources survey, ecological environment investigation, urban expansion monitoring, desertification watch, crop yield estimation, disasters watch and assessment, geological and resources prospecting, and large infrastructure construction. The data will play a significant role in spurring up the nation’ s sustainable socioeconomic development.

China’ s Unmanned Helicopter

Final test before taking off.

Trial flight of unmanned helicopter “WD100” in Anyang.

Unmanned helicopter “WD100”, developed by Hexiang Aviation Technology, recently completed its automatic taking off and landing trial operation in Anyang, Henan. The novel helicopter can be used to provide services for a range of area, including remote sensing, resources prospecting, and land mapping.

Largest Excavator in the World

China’ s first excavator, able to dig out 55m^3 of earth, rolled off on January 26, 2008 from Taiyuan Heavy Duty Industry. With a height of 22m, and a weight of 1400 tons, the excavator has a 56m^3 bucket. It is not only the largest of its kind in the country, but also the largest in the world. It is able to work at open pits under diverse mining conditions.

Robot for Antarctic Expedition

With the support of the advanced manufacturing technology component under the National 863 Program, a research team, made up of scientists from the National Polar Research Center, Shenyang Institute of Automation, and Beijing University of Aeronautics and Astronautics, has developed a lower air flying robot, and a snow surface robot, that have been tested in the ongoing China’ s 24th Antarctic expedition. The lower air flying robot has made two 15-minute flights for a short trip of 25 km, working on scientific missions to test sea surface temperature and make aerial photograph. The snow surface robot also passed a range of tests, including mobility, environment adaptability, and water proof, and completed a task to measure the glaciers.

CSTAR Telescope in the Amery Ice Shelf

China’ s Antarctic expedition team has reached on January 12, 2008 the Amery Ice Shelf, the highest point of the Antarctic inland. Scientists have selected a site in the Shelf

to install a Chinese made CSTAR telescope. As an array of four 14.5cm large view telescopes fixed on the same rack, CSTAR is designed to track down variable stars and make corresponding statistical analysis, looking for exoplanet and supernova.

The observatory site selection is an international project jointly sponsored by scientists from China, Australia, and the United States. An observatory will eventually be established on the site to study dark matter, dark energy, and exoplanets.

Standardized Digital TV Chip

Zhuosheng Electronics (Shanghai) has rolled out on January 18, 2008 an MXD1320 ground digital TV chip in line with internationally accepted standards. An expert panel, responsible for testing the chip for its performance, signed for the following conclusions: it has realized a novel algorithm allowing high repetition of chip resources, found solutions to a number of technical difficulties, met with modules required by TV authorities, and reached an internationally leading level, in the context of area and power consumption. The new chip expects to be put into mass production in the early March, with an annual sale ranging from 1.5 million to 2 million chips.

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