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Fast boot up technology for smartphones has been invented by a Taiwanese researcher who has developed a potentially energy-saving technology. However, the patent applications of Taiwanese inventors have continued to decline in the third quarter of 2014. Taiwanese officials are worried about their competitiveness.

A Swiss delegation of officials has met with Taiwanese non-profit organizations and businesses in Taipei to discuss the challenges in developing sustainable energy including the question how to reduce the dependency of nuclear power.

A pocket-sized blood test card has been developed by Taiwanese scientists of the National Cheng Kung University in Tainan (South Taiwan). This card is able to identify the blood type and to finish cross-matching within a few minutes.

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Researcher unveils genome of orchid

(Taipei Times, 26 11 2014)

National Cheng Kung University professor Chen Hung-hua unveiled the results of her research on *Phalaenopsis equestris*—an orchid species native to Hsiao Lanyu Island (Little Orchid Island) off the southeast coast—which solved the entire genome sequence of the plant.

Chen led a team of 38 researchers from 13 international institutions and facilities in China, France and Belgium in successfully working out the sequencing of the plant's 29,431 genes — a feat which they said would benefit future studies on breeding new orchids with shorter blossoming intervals and higher resilience against disease and pests. According to the team, similar research previously required teams of investigators to work for decades, beginning with the 20 years needed to establish a new orchid species. Results of controlled experiments on subjects such as the colors and fragrance of the blossoms begin to show only when the plants enter their flowering stage, resulting in a protracted trial-and-error process, they added. With the findings of the research, the genetic traits of orchid buds yielding red blossoms can be identified while the plants are still in their budding stage, reducing the breeding period by half.

<http://www.taipeitimes.com/News/taiwan/archives/2014/11/26/2003605343>



Taipei ranks 25th in best cities for international students: poll

(Central News Agency, 24 11 2014)

Taipei has been ranked 25th in a survey of the best cities for international students, an improvement of three notches from last year's ranking, according to the poll results published by a British higher education institution. Quacquarelli Symonds (QS) lists the world's 50 top cities for students overall in its QS Best Student Cities 2015 rankings. Taipei was ahead of both Beijing (26th) and Shanghai (32nd).

The results show Paris at the top of the list, followed by Melbourne, London, Sydney and Hong Kong, in that order. Hong Kong was listed seventh last year. Rounding out the top 10 are Boston, Tokyo, Montreal, Toronto and Seoul. The survey draws on a range of data sources designed to assess cities in five key areas: universities, affordability, lifestyle, employment prospects and student community. In order to be considered for inclusion, a city must first meet two prerequisites: a population of over 250,000 and at least two higher education institutes featured in the QS university rankings. A total of 116 cities in the world meet these criteria, 50 of which are ranked.

<http://focustaiwan.tw/news/aedu/201411240023.aspx>

Intel Labs, ITRI launch prototype of low-energy DRAM memory

(Central News Agency, 18 11 2014)

US-based Intel Corp.'s research arm announced that it has created a new low-energy prototype memory array alongside Taiwan's state-funded Industrial Technology Research Institute (ITRI) that could boost device battery life. The prototype dynamic random access memory (DRAM) array can achieve four times lower latency at 25 times less energy than the standard double data rate synchronous (DDR) DRAM devices that are generally used in computers, according to Intel Labs.

The improved energy efficiency can help devices improve battery life, integrate mobile data faster, enhance graphics with higher resolution and boost mobile user experience, the research division said. Intel Labs noted that technology from this research prototype could be used in system-on-chip (SoC) devices for mobile devices or a memory controller for datacenter systems with large memory arrays. The new prototype is the latest in a series of continuing research efforts in advanced memory architectures between Intel Labs and ITRI since 2011. Together they have created experimental memory arrays and prototyping and developed model simulation software.

<http://focustaiwan.tw/news/ast/201411180024.aspx>





Tamkang University bags six gold medals in FIRA robot event

(Central News Agency, 17 11 2014)

Tamkang University garnered six gold medals and three bronze medals in a major robot competition in Beijing this month. The school team's performance in the Federation of International Robot-soccer Association (FIRA) 2014 Cup, held in Beijing Nov. 6-8, was the best Taiwan has ever seen, according to the school.

Tamkang said the difficulty of the robot competition increases each year. This year's challenge was that robots had to move on their own without human-operated remote controls, meaning the team had to integrate cameras, computers, hardware controls and wireless equipment into the robot to communicate with it. The Tamkang team upgraded past robots to increase overall efficiency and stability, their ticket to the big win.

<http://focustaiwan.tw/news/ast/201411170026.aspx>

Acer's convertible laptop gets 2015 CES Innovation Award

(Central News Agency, 12 11 2014)

Taiwan's Acer Inc. announced that it has received a 2015 Consumer Electronics Show (CES) Innovation Award for its Aspire R 13 convertible notebook in the computer hardware and component category. Products chosen as CES Innovation honorees reflect innovative design and engineering in some of the most cutting edge tech products and services coming to market, Acer said in a news release.

The Aspire R 13's display is affixed at the sides to Acer's unique Ezel Aero Hinge that allows the screen to rotate 180 degrees, so the notebook can be used easily for reading, typing, web browsing or playing games, according to the company. "The Aspire R 13 combines intelligent construction and smart features that enhance work and play. It's the perfect notebook for those who don't want to give up a traditional notebook design but want more options and flexibility," Vice President of Acer said.

The CES Innovation Awards are an annual competition honoring outstanding design and engineering in consumer technology products.

<http://focustaiwan.tw/news/ast/201411120008.aspx>

Local technology turns on phones in just six seconds

(The China Post, 11 11 2014)

A researcher in southern Taiwan has developed a potentially energy-saving technology that he says allows smartphones to boot up in as little as six seconds.

"When I looked at the code in the operating system relating to power saving, I realized there was a more efficient way to code it and started looking into it," said Lo Shi-wu, an assistant professor of computer science and information engineering at National Chung Cheng University.

On average, it takes 40 seconds for most devices to turn on, according to the researcher. Lo explained that this technology could save energy by encouraging people to switch off their phones when not in use, something many people currently avoid because they feel turning the phone back on when they want to use it can take too long.

Calling his invention an improvement on other energy-saving designs for phones, Lo said it works based on the random access ability of flash memory. The technology has been patented in Taiwan and South Korea and has already been transferred to several major chip and software companies, Lo said, without specifying the companies.

<http://www.chinapost.com.tw/taiwan/national/national-news/2014/11/11/421552/Local-technology.htm>

2014 Taipei International Design Award announces list of this year's winners

(The China Post, 09 11 2014)

The Taipei International Design Award 2014 has announced its winners, with Marcin Markowski from Poland winning the top prize. Markowski's "Cain & Abel-Poster" won the Taipei City Mayor Prize, the biggest overall honor



in the contest, as well as the Golden Award in Visual Communication Design. Markowski's work is a poster he designed for a theater festival. "Convection," an electric fan-shaped sculpture by Canada's Chou Yi-nung, won the Golden Award in Industrial Design, while Japan's Naoya Matsumoto grabbed the Golden Award in Public Space Design for the work "Yoshi Bar," a bar constructed by reeds. Each of the winners won a cash prize of NT\$500,000, according to the city government, which runs the annual contest to show Taipei's commitment to promoting good design. The contest this year attracted 3,077 entries from 65 countries vying for a total of 75 prizes. A ceremony was held recently to present the prizes to the winners. The award-winning works are now being exhibited at the



Taipei Arena until Nov. 12.

<http://www.chinapost.com.tw/taiwan/national/national-news/2014/11/09/421377/2014-Taipei.htm>

https://www.taipedaward.tw/en/news_main.aspx?sn=37

Taiwan shines at INOVA invention show in Croatia

(Central News Agency, 09 11 2014)

Taiwan has won the second-largest haul of medals in the INOVA invention show being held in Croatia, behind only the host country, the World Invention Intellectual Property Associations (WIIPA) announced. Taiwan grabbed 10 gold medals, five silvers, 11 bronzes, five special awards and one best innovation award among 32 submissions at the Nov. 6-18 competition held in Osijek that drew 609 inventions from 19 countries.

Kuo Yen-si, a student from Syuejia Junior High School in Tainan, took a gold medal and a special award for his invention, for which he used the theory of the hand press charge flashlight to produce a door handle that lights up when someone presses the doorbell. Chang Yu-jong, from Tainan Jiansing Junior High School, also won a gold and a special prize with a multi-purpose electrical scale that can weigh five items, such as food ingredients or drugs, at the same time.

Meanwhile, a team from National Kangshan Agriculture and Industrial Vocational Senior High School in Kaohsiung (South Taiwan) also earned a gold and a special award with a multi-function magnetic plug and socket connector.

<http://focustaiwan.tw/news/ast/201411090017.aspx>

Taiwan's Teng Hung-chi awarded world's most outstanding inventor

(Central News Agency, 09 11 2014)

Taiwanese inventor Teng Hung-chi, who has been dubbed "Taiwan's Thomas Edison," was honored in Osijek, Croatia as the world's most outstanding inventor. Teng was granted the title and a golden trophy by the World Invention Intellectual Property Associations (WIIPA). Also awarded were two other inventors, one from the United States and the other from Romania.

"This award is for the Taiwanese people," Teng said after receiving the honor. "It recognizes the results Taiwan has created in invention and innovation." In 1999, Teng was the first Asian winner of the Genius Prize at the Nuremberg World Invention Exhibition, with a remote control pager device. The 50-year-old also won gold medals at the Nuremberg international invention show for five years in a row.

Now heading a creative invention center at Taichung-based Chaoyang University of Technology, Teng has urged Taiwan to develop its brand of "made-in-Taiwan" into "designed-in-Taiwan." His biggest wish is for Taiwan to become a global haven for invention and creativity, he said. Over past three decades, Teng has created more than 300 patented works, including an automatic toilet-flushing system and a lock operated by recognizing fingerprints. This is the first year that the WIIPA has selected the world's most outstanding inventors. Teng and other two award-winners were elected from among candidates from 22 countries around the world.

<http://focustaiwan.tw/news/ast/201411090010.aspx>

Two ITRI technologies honored with R&D 100 Awards

(Central News Agency, 08 11 2014)

Taiwan's Industrial Technology Research Institute (ITRI) was honored at this year's R&D 100 Awards in Las Vegas, Nevada for two technologies developed by its researchers. The two award-winning technologies are a high-efficiency calcium looping technology designed for carbon capture and an in-line compact thermal analyzer (ITCA) developed for faster LED inspections, the ITRI said in a statement released on 8 Nov.

"ITRI is excited to receive recognition for the seventh consecutive year by R&D Magazine for these breakthrough technologies," said June Lin, general director of the ITRI's Office of Marketing and Communications, who attended the award ceremony.

Both ITRI technologies, named among "the 100 Most Innovative Technologies Introduced in 2013," have been licensed for use by Taiwanese companies, including Taiwan Cement Co., which has introduced the carbon capture technology at its plant in Hualien County, the ITRI said.

The technology can achieve a carbon dioxide (CO₂) capture rate of up to 90 percent and the CO₂ captured has been used to grow algae and generate new income sources for the cement company, according to the ITRI.





On the other hand, ITRI manager Chou Pei-ting, one of the principal developers of the ITCA, said the technology can reduce LED's component thermal resistance testing time from the industry average of 10 minutes to 0.3 seconds.

This cost-efficient technology, the ITRI said, has been adopted in the LED testing operations of MPI Corp., which is in a partnership arrangement with the Hsinchu-based institute.

<http://focustaiwan.tw/news/ast/201411080021.aspx>

ITRI, MediaTek named among Top 100 Global Innovators

(Central News Agency, 06 11 2014)

Taiwan's state-funded Industrial Technology Research Institute (ITRI) and mobile chip designer MediaTek Inc. were named among the Top 100 Global Innovators by major mass media and information firm Thomson Reuters. Asia is home to the lion's share of the top 100 innovators for the first time this year, with 46 companies on the list hailing from the region. Of these, 39 are based in Japan, four are in South Korea, two are from Taiwan and one is from China. North America follows with 36, down from 46 last year, of which 35 are domiciled in the United States and one in Canada. Europe contributed 18 honorees, with the largest representation coming from France with seven, Switzerland with five, and Germany with four.

Now entering its fourth year, the program honors the 100 most innovative organizations globally as measured according to a series of patent-related metrics: overall patent volume, patent grant success rate, global reach of the portfolio and patent influence as evidenced by citations. The intense competition in the smartphone arena is clearly apparent in this year's Top 100 Global Innovators list, with many of the major players in the smartphone patent wars making the cut -- Apple Inc., Microsoft Corp., Samsung Electronics Co., Google Inc. and BlackBerry Ltd.

"By focusing exclusively on quantitative analysis of global business' intellectual property portfolios, we are able to identify not only what companies are inventing the most, but also how aggressively they are protecting those inventions," said Basil Mofteh, president of Thomson Reuters IP and Science. "This list of 100 companies represents the absolute vanguard of innovation -- the organizations that are driving new breakthroughs, creating new jobs and igniting the global economy; we are honored to recognize their efforts," Mofteh said in a news release.

The semiconductor and electronic components industry continued to lead all other industry sectors in the 2014 list, with 21 representative companies. Computer hardware was the next most prolific industry, with 13 companies, followed by the industrial sector with eight companies and the automotive sector with six.

<http://focustaiwan.tw/news/ast/201411060019.aspx>

Patent applications continue to decline in 'warning sign' for Taiwan

(Central News Agency, 03 11 2014)

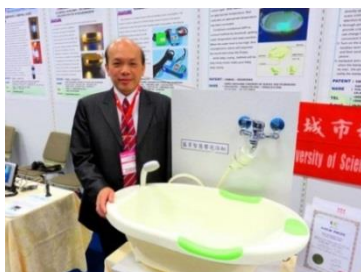
Patent applications continued a six-quarter consecutive slide in the third quarter of this year, a trend that an official at the Intellectual Property Office (IPO) of the Economics Ministry said is a warning sign about Taiwan's competitiveness.

The number of patent applications, including those for invention patents, utility model patents and design patents, was 19,218 in the third quarter, down 4.28 percent from the same period last year, according to data released by the office. Invention patent applications made up more than half of the total in the third quarter at 11,444, down 4.51 percent from the same period last year. Utility patent applications recorded a year-on-year drop of 4.27 percent and design patent applications fell 2.95 percent year-on-year, according to the IPO data.

"The quarterly decline could possibly be related to a 'quality-over-quantity' trend," said an official at the agency who requested anonymity due to not being authorized to comment on the data. "The application volume has continued to drop. It is a potential problem and a warning sign," the official said, calling the number of patents as a gauge for industrial innovation and national competitiveness.

Analyzing the decline, the official said that the IPO found decreases in funding and changes to government subsidy policies have affected institutes' willingness to apply for patents. Other reasons include failures to turn patents into profitable commodities and an increase in businesses cutting down on research funds or adjusting their patent strategy to "attach more importance to quality over quantity," the official said.

<http://focustaiwan.tw/news/aeco/201411030018.aspx>



Taipei university bags 4 gold medals at iENA Nuremberg

(Central News Agency, 02 11 2014)

The Taipei Chengshih University of Science and Technology has won the highest number of gold medals among Taiwanese contestants at this year's iENA Nuremberg--a leading international trade fair for showcasing innovation, according to results released. The university bagged four gold medals, the highest



among the Taiwanese delegation, one silver and one bronze medal, pushing the nation's total medal haul to 19 gold's, 26 silvers and 31 bronzes. Chai Yen-hsin, an assistant professor of electrical engineering, won two golds for the university. One of his gold-winning inventions is a hook that latches tightly on to walls under great weight even in the humid environment of a bathroom. Chai won the other gold for inventing a camp light that also helps dispel mosquitos and snakes. The device also boasts global positioning capabilities that allow campers' families to locate them. It also doubles as a charger for campers' cellphones.

The third gold won by the Taipei university went to Tsai Yao-pin, a lecturer from the department of computer and communication engineering, who invented a bathtub that detects water temperatures and shuts down automatically to protect babies and plays soothing music. Lee Shih-jung, head of the university's research and development office, said students can improve their hands-on skills by participating in an international invention show like the iENA Nuremberg, which helps boost their job prospects. The 2014 iENA Nuremberg was held from Oct. 30 to Nov. 2 in the German city of Nuremberg.

<http://focustaiwan.tw/news/ast/201411020011.aspx>

TSMC tops Taiwan's list of innovative enterprises

(Central News Agency, 01 11 2014)

Taiwan Semiconductor Manufacturing Co. (TSMC), the world's largest contract chip maker, has moved into first place on an enterprise innovation list, based its intensive efforts to develop high-end technology, according to the Ministry of Economic Affairs (MOEA). TSMC this year replaced restaurant chain operator Wowprime as the top enterprise on the annual industrial innovation list, which is compiled by the global management advisory firm Boston Consulting Group. Wowprime has dropped to second place, which was held by TSMC last year.

The MOEA said that TSMC has taken the lead because of its efforts to develop the energy efficient 28 nanometer process, which has helped the company cut production costs. In addition, TSMC has been gearing up to develop more sophisticated technologies such as the 20nm, 16nm and 10nm processes.

Hon Hai Precision Industry Co. the world's largest contract electronics maker which assembles iPhones and iPads for Apple Inc., was in third spot on the 2014 innovation list, up from the 10th last year. The MOEA said that in a bid to diversify its product portfolio, Hon Hai has been developing fourth generation telecom services, in collaboration with the telecom industry, and has also teamed up with U.S.-based PC vendor Hewlett-Packard Co. on the development of cloud technology in an effort to grasp more business opportunities.

On to the innovation list, PC vendor Asustek Computer Inc. was in fourth place, followed by the 7-Eleven convenience store chain operator President Chain Store Corp. and smartphone brand HTC Corp. Rounding the top 10 were integrated circuit designer MediaTek Inc., bicycle maker Giant Manufacturing Co., power management system provider Delta Electronics Inc. and smartphone camera lens supplier Largan Precision Co.

<http://focustaiwan.tw/news/aeco/201411010016.aspx>

<http://chinapost.com.tw/taiwan/business/2014/11/02/420896/TSMC-tops.htm>

NTU ranked 105th in new US global university rankings

(Taipei Times, 01 11 2014)

National Taiwan University (NTU), the nation's top institution of higher education, has been ranked 105th in the US News and World Report's first Best Global Universities Rankings, released earlier this week. The media outlet ranked universities in the US and nearly 50 other nations based on global research reputation, regional research reputation, publications, normalized citation impact, total citations, number of highly cited papers, international collaboration and number of PhD degrees awarded. Among the world's top 500 universities according to the rankings, 134 are in the US, followed in second place by Germany with 42 and the UK with 38. China has 28 schools in the top 500, while Hong Kong has five.

In the top 10, eight are American and two are British. They are, in order of highest to lowest: Harvard University, Massachusetts Institute of Technology, University of California-Berkeley, Stanford University, University of Oxford, University of Cambridge, California Institute of Technology, University of California, Los Angeles, University of Chicago and Columbia University. The best Asian university is Japan's University of Tokyo (24th). It was followed by China's Peking University (39th) and the University of Hong Kong (42nd).

Other Taiwanese universities to make the list are National Tsing Hua University (282nd), National Cheng Kung University (324th), National Central University (365th) and National Chiao Tung University (369th).

<http://www.taipetimes.com/News/taiwan/archives/2014/11/01/2003603424>

Swiss-Taiwan workshop focuses on sustainable energy practices

(Central News Agency, 27 10 2014)

A Swiss delegation met with Taiwanese representatives of nonprofit organizations and businesses in Taipei on 27 October 2014 to discuss ways to tackle challenges in developing sustainable energy, including how to reduce dependence on nuclear power. The Swiss delegation, led by the Trade Office of Swiss Industries (TOSI) in Taipei,



said Switzerland decided to gradually phase out nuclear power, which provides about 40 percent of the country's electricity, following the Fukushima disaster in 2011. It noted that the planned nuclear shutdowns will have to be offset by substantial improvements in energy efficiency and the ramping up of renewable energy -- policy goals that also figure prominently on Taiwan's energy agenda. TOSI described Switzerland and Taiwan as highly-developed, export-oriented and resource-poor economies that are heavily dependent on energy imports and face growing challenges associated with the social acceptance of nuclear power. As a result, the trade office said, Switzerland and Taiwan should consider the shift toward a more sustainable economy as an opportunity for their industries to win greater shares of the world's growing clean-technology market. The topics covered included Switzerland's energy strategy and Taiwan's research on sustainable energy. The workshop was organized by TOSI and the Swiss Federal Office of Energy.

<http://focustaiwan.tw/news/ast/201410270021.aspx>

Taiwan to send artists to CERN for special program

(The China Post, 24 10 2014)

Taiwan's Ministry of Culture and Switzerland-based European Organization for Nuclear Research (CERN) will soon work together to facilitate interaction between artists and scientists. The Culture Ministry and CERN issued an open call on Oct. 28 to choose two Taiwanese artists for the one month research program called Accelerate@CERN next year, the ministry announced. The two selected artists, one from the field of digital performance and one from the field of dance, will receive stipends to spend a month in residency at CERN, which operates the world's largest particle physics laboratory.

Culture Minister Lung Ying-tai said the program will provide them the rare opportunity to interact with scientists at CERN. "Our artists will also be able to attract international attention to their works through CERN," she added. During her trip to Switzerland in June, Lung signed an agreement for the Accelerate@CERN program, making Taiwan the third country following only Greece and Switzerland to participate.

<http://www.chinapost.com.tw/taiwan/national/national-news/2014/10/24/420211/Taiwan-to.htm>

Tainan researchers unveil 'smart' blood test card

(Central News Agency, 23 10 2014)



A research team at National Cheng Kung University in Tainan (South Taiwan) unveiled on 23 October 2014 a pocket-sized blood test card that can identify blood type and finish cross-matching in just minutes. Unlike conventional examinations that require an entire test tube of blood, the appropriately named smart blood card needs less than one cubic centimeter of blood from the finger to come up with results within five minutes, said Chang Hsien-Chang, a professor of biomedical engineering who lead the research team. Chang's team is confident the efficiency and low cost of the smart blood card will cater to mid-to-low end markets such as medium- or small-sized hospitals, where blood bank centrifuges are usually used to check blood samples. Chang said his team has been in

talks with a major medical equipment manufacturer to partner on producing smart blood cards. Future variants of the card could be used for testing blood for dogs and other animals, he added.

<http://focustaiwan.tw/news/ast/201410230028.aspx>