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# Science, Technology and Education News from Taiwan Number 09 — March 2009

### Introduction

A "biotech takeoff plan" calls for the setup of a mega NT\$ 60 bio. biotech venture-capital fund, with the aim of doubling the annual output of Taiwan's biotech industry to NT\$ 300 bio. in four years. The plan is part of development strategies for six emerging industries, namely tourism and travel, medical care, green energy, cultural innovation and sophisticated agriculture. The national development fund will contribute 40 % and the private sector 60 % of the fund (initial scale set at NT\$ 7-10 bio.) and it is designed to be in operation for 10 years. At first the focus will be on strengthening research on newly-developed medicines and medical instruments and push them toward clinical trials. An investment evaluation team will be in charge for selecting investment targets (local and foreign). The plan also envisions the setup of a national biotech incubation center to introduce technologies of biotech firms invested by the biotech fund. A new-medicine selection committee (domestic and overseas experts) will be responsible for the allocation of bio-medicine research projects.

Universities in Taiwan have been encouraged to work closer with other institutes to promote R&D in various areas. For this purpose, the Ministry of Economic Affairs plans to invest NT\$ 2 bio.

Swiss company Novartis joined with National Taiwan University Hospital to set up a clinical research and development center.

#### **Contents**

1.	New solar-powered water heater is on the way	2
2.	Antibody-based therapeutics conference held in Taipei	2
3.	Research teams develop wireless sensor network	2
4.	Hon Hai invests in cell therapy company Bionet	2
5.	'Space box' for orchid seedlings	3
6.	Taiwan scientists catching up on water splitting technology	3
7.	NTU Hospital, Novartis to set up joint research center	3
8.	Taiwan aims to become animal vaccine hub in Asia	3
9.	Local surgeons adept at modifying new organs	3
10.	SHL Wins Red Dot Award With Next-generation Precision Pen Injector	4
11.	Flat panel company wins certification for green building	4
12.	Taipei university hospital opens translational research lab	4
13.	Economics ministry to spend NT\$2 billion to promote R&D	4
14.	NCKU to investigate nanotechnology's effect on health	5
15.	International workshop to discuss 450mm wafer processing	5
16.	Gov't to Set Up a NT\$60 B. Biotech Fund	5
17.	Microsphere radiation therapy offers hope for liver cancer patients	5
18.	Taiwan, China to cooperate on solar cell industry development	6
19.	World's smallest robot made in Taiwan	6
20.	Scientists to join Antarctic research	6
21.	Research alliance in Taiwan to develop large wind turbines	7

## 1. New solar-powered water heater is on the way

(Liberty Times, 04. 03. 2009)

A research team composed of teachers and students in the Department of Mechanical Engineering at Kun Shan University in Tainan County has developed a solar-powered water heater that gets its energy by tracking the sun. The device not only boosts the efficiency of water heaters but is also able to heat the water to 50 degrees Celsius. The commercial viability of the water heater is currently being tested.

### Full article:

http://www.taiwanheadlines.gov.tw/ct.asp?xItem=150432&CtNode=9

## 2. Antibody-based therapeutics conference held in Taipei

(BiotechEast News, 04. 03. 2009)

The 3rd International Symposium on Antibody Engineering and Antibody-based Therapeutics (AEAT 2009) was held in Taipei from 2-4 March with the participation of world-renowned researchers and pioneers in the field of monoclonal antibody-based drugs.

Organized by a consortium of government agencies and research institutes from Taiwan including the Development Center for Biotechnology (DCB), Academia Sinica, and the Biotechnology and Pharmaceutical Industries Program Office, MOEA, the event was being held in Taiwan for the first time, after previous gatherings in Beijing in 2005, and Tianjin (also China) in 2000. The conference featured an impressive lineup of presentations from 35 international experts, including several from Taiwan.

#### Full article:

http://www.biotecheast.com/modules.php?op=modload&name=News&file=article&sid=2037&mode=thread&order=0&thold=0&topic=2

## 3. Research teams develop wireless sensor network

(Taipei Times, 05. 03. 2009)

In the not-too-distant future wireless sensors will become part of people's lives, helping them turn on lights, turn on the coffee machine at home when they are in the office, or even monitor the bio-stats of loved ones remotely, a group of scientists sponsored by the National Science Council said. The teams were responsible for the development of WSN applications in areas including home appliances, medical devices and safety detectors for public construction projects. With mature and advanced chip design technology, Taiwan is at an advantage in WSN research and development.

## Full article:

http://www.taipeitimes.com/News/taiwan/archives/2009/03/05/2003437586

## 4. Hon Hai invests in cell therapy company Bionet

(Taipei Times, 06. 03. 2009)

Hon Hai Precision Industry Co has invested in local cell-tissue banking and cell therapy company Bionet Corp through the purchase of NT\$100 mio. in Bionet shares. The two companies plan to invest an additional NT\$200 million in a joint venture called Conn Lian, aimed at developing next-generation health care focused on predictive, preventive, personalized and participatory medicine.

#### Full article:

http://www.taipeitimes.com/News/biz/archives/2009/03/06/2003437756

## 5. 'Space box' for orchid seedlings

(Central News Agency, 09. 03. 2009)

A patented plastic container caught the eye of visitors to the Taiwan International Orchid Show 2009 in Tainan, for its "green" design and germproof character. The "Space Box" -- a square box with a round cap -- was developed by a

Taipei-based company, Asia-Orchids Technology Corp., to replace the traditional glass bottle used to pack delicate and fragile orchid seedlings exported overseas.

The light weight and compact design of the recyclable plastic bottle, 12 cm in diameter and 11 cm high, help save one-third of the shipping costs necessary to ship the seedlings overseas in the glass bottles.

#### Full article:

 $\underline{\text{http://www.cna.com.tw/CNAeng/RealTimeNews/NewsDetail.aspx?strNewsDate=\&strNewsID=200903090026\&strType=ST}$ 

### 6. Taiwan scientists catching up on water splitting technology

(Central News Agency, 09. 03. 2009)

A National Taiwan University (NTU) research team has caught up with the most up-to-date technology in photocatalytic water splitting, using nitrogen rather than oxygen as a photocatalyst for activation by sunlight. The results of the research program were presented at the second U.K.-Taiwan International Networking for Young Scientist Symposium, held on the NTU campus in Taipei. The latest technology uses sunlight instead of electricity to activate the photocatalyst in the decomposition of water into oxygen and hydrogen, which is a cleaner alternative to fossil fuels.

#### Full article:

 $\underline{\text{http://www.cna.com.tw/CNAeng/RealTimeNews/NewsDetail.aspx?strNewsDate=\&strNewsID=200903090029\&strT}\underline{\text{ype=ST}}$ 

## 7. NTU Hospital, Novartis to set up joint research center

(Central News Agency, 14. 03. 2009)

Novartis Taiwan Co. signed a cooperation agreement with National Taiwan University Hospital (NTUH) on the establishment of a clinical research and development center.

#### Full article

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903130032&pType1=JD&pType0=xJD&pTypeSel=0

# 8. Taiwan aims to become animal vaccine hub in Asia

(Central News Agency, 14. 03. 2009)

The Pingtung Agricultural Biotechnology Park (PABP), eyeing the vast animal vaccine market in Asia, is working hard to attract a European animal vaccine company to operate in the park in a bid to make Taiwan a regional vaccine hub.

### Full article:

 $\underline{\text{http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=\&pNewsID=200903130030\&pType1=ED\&pType0=xEM\&pTypeSel=0}$ 

### 9. Local surgeons adept at modifying new organs

(Taipei Times, 20. 03. 2009)

Taiwan's surgeons are capable of modifying donated organs and making them more suitable for transplantation.

### Full article:

http://www.taipeitimes.com/News/taiwan/archives/2009/03/20/2003438932

### 10. SHL Wins Red Dot Award With Next-generation Precision Pen Injector

(Taiwan Economic News, 20. 03. 2009)

Scandinavian Health Ltd. (SHL) Group, the world's largest privately-owned designer, developer and manufacturer of advanced drug delivery devices with production facilities in Taiwan, recently announced that its newly developed precision pen injector (PPI) won the 2009 red dot product design award.

According to SHL, the PPI is designed to deliver small but highly accurate doses of Restylane Vital Light, a treatment for rejuvenating delicate skin, produced by Swedish biomedical firm Q-Med AB. The innovative device was praised by doctors and clinicians during the recent launch at IMCAS (International Master Course on Aging Skin) 2009 annual meeting in Paris for its ease-of-use and compact design.

#### Full article:

http://cens.com/cens/html/en/news/news inner 26726.html

### 11. Flat panel company wins certification for green building

(Central News Agency, 20. 03. 2009)

AU Optronics Corp., the world's No. 3 flat panel maker, has earned gold certification for Leadership in Energy and Environmental Design (LEED) for its 8.5-generation factory in the Central Taiwan Science Park.

The AU Optronics 8.5 generation factory, the world's first thin film transistor liquid crystal display panel (TFT-LCD) hybrid fab, is one of only four facilities in the world to have been awarded LEED gold rating. Among them, it is the largest in terms of facility size. The company expects to save 21 % of its total energy consumption and reach a water-recycling rate of 90 %, which is equivalent to saving 3 mio. tons of fresh tap water annually.

#### Full article:

 $\underline{\text{http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=\&pNewsID=200903200010\&pType1=ED\&pType0=xEM\&pTypeSel=0}$ 

### 12. Taipei university hospital opens translational research lab

(Central News Agency, 21. 03. 2009)

Taipei Medical University Hospital's Cancer Center has recently set up a laboratory for translational research, launching the "bench-to-bedside" approach that is aimed at turning scientific discoveries into practical applications. The new lab will focus on "translating" basic medical research in the laboratory into clinical treatments for various forms of cancer.

## Full article:

 $\underline{\text{http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=\&pNewsID=200903200026\&pType1=ST\&pType0=}\\ \underline{\text{xST\&pTypeSel=0}}$ 

# 13. Economics ministry to spend NT\$2 billion to promote R&D

(Central News Agency, 22. 03. 2009)

The Ministry of Economics Affairs will spend NT\$2 bio. over a one-year period beginning mid-April to encourage universities in Taiwan to work with other institutes to promote research and development in various areas. The officials at the MOEA's Department of Industrial Technology said that in line with the Cabinet's plan to expand investment in public construction and create more jobs to attract research talent, the ministry has worked out a set of guidelines regarding the granting of subsidies for all sorts of research projects. The research projects would cover all areas, including science and engineering, agriculture, medicine, law, business, literature, history, technical services, greenhouse gas reduction, green industries, arts and creative industries, they said.

#### Full article:

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903220003&pType1=ED&pType0=xEM&pTypeSel=0



## 14. NCKU to investigate nanotechnology's effect on health

(Taipei Times, 23. 03. 2009)

National Cheng Kung University (NCKU) recently launched a research project to investigate any possible health threats of nanotechnology. The Integration of Biomedical and Nanotechnology Systems Project will create a molecule simulation to probe any potential negative effects of nanotechnology.

### Full article:

http://www.taipeitimes.com/News/taiwan/archives/2009/03/23/2003439152

## 15. International workshop to discuss 450mm wafer processing

(Central News Agency, 23. 03. 2009)

The Taipei-based European Economic and Trade Office (EETO) and the National Science Council (NSC) held an international science and technology workshop in Taipei March 24 to share expertise and seek opportunities for cooperation on the transition to 450mm wafer processing.

#### Full article:

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903230013&pType1=ED&pType0 =xST&pTypeSel=0

### 16. Gov't to Set Up a NT\$60 B. Biotech Fund

(Taiwan Economic News, 23. 03. 2009)

The Science and Technology Advisory Group of the Executive Yuan is scheduled to put forth the "biotech takeoff plan," calling for the setup of a mega NT\$60 bio. biotech venture-capital fund, with the aim of doubling the annual output of Taiwan's biotech industry to NT\$300 bio. in four years.

The plan has been formulated in response to the instruction of President Ma Ying-jeou in late February for the Executive Yuan to come up with the development strategies for six emerging industries, namely biotech, tourism and travel, medical care, green energy, cultural innovation, and sophisticated agriculture.

The national development fund under the Executive Yuan will contribute 40 % of the biotech fund, with the remaining 60 % to come from the private sector. The initial scale of the fund is set at NT\$7-10 bio. and it is designed to be in operation for 10 years.

The private-sector partners of the fund will take charge in establishing an investment evaluation team for selecting investment targets, both in Taiwan and abroad, in order to introduce cutting-edge technologies or obtain the dominance of outstanding biotech firms.

### Full article:

http://cens.com/cens/html/en/news/news inner 26731.html

## 17. Microsphere radiation therapy offers hope for liver cancer patients

(Central News Agency, 24. 03. 2009)

Every year in Taiwan, around 10,000 people are diagnosed with liver cancer and 7,000 others die of the disease. And now, an innovative type of radiation therapy adopted by one of the country's leading hospitals may provide greater hope of survival for liver cancer patients.

The details unveiled by the Taipei Veterans General Hospital indicated that selective internal radiation therapy (SIRT), which uses tiny microspheres containing a radioactive element called yttrium-90, has shown a significant effect in retarding the growth of liver cancer.

#### Full article:

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903240011&pType1=HH&pType0=xST&pTypeSel=0

#### Related article:

http://www.taipeitimes.com/News/taiwan/archives/2009/03/24/2003439264

## 18. Taiwan, China to cooperate on solar cell industry development

(Central News Agency, 26, 03, 2009)

Photovoltaic industry representatives from both sides of the Taiwan Strait signed a letter of intent to boost technology cooperation and exchanges in the field. Taiwan Photovoltaic Industry Association Chairman C.W. Lan and Li Jungfeng, secretary general of the Chinese renewable energy industry working commission, signed the agreement for the two sides to establish uniform product standards and a common system for quality testing and certification in the solar cell industry.

#### Full article:

 $\underline{http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=\&pNewsID=200903250025\&pType1=ED\&pType0\\ \underline{=xCS\&pTypeSel=0}$ 

#### 19. World's smallest robot made in Taiwan

(Liberty Times, 27. 03. 2009)

BEROBOT is the 2009 Guinness Book of World Records honoree for the world's smallest robot, and every element of the robot, from the screws and the motor to the shell, was made in Taiwan. BEROBOT, a humanoid robot measuring 15 centimeters high, weighs 250 grams and carries a price tag of NT\$16,000.

It can be shaped into a dog, a spider, or a one-legged monster. The servomotor on the body can also provide 65,000 motions.

The record-breaking robot is the fruit of R&D by the Chichu Technology Company, resident at National Central University.

Full article:

http://www.taiwanheadlines.gov.tw/ct.asp?xItem=152439&CtNode=9

#### Related article:

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903280016&pType1=JD&pType0=xJD&pTypeSel=0

# 20. Scientists to join Antarctic research

(Taipei Times, 29. 03. 2009)

A group of Taiwanese scientists will set off on an expedition to Antarctica aboard the Chinese polar research vessel Xuelong in October, in what will be the first cross-strait cooperation on polar exploration. Focusing on marine biology research, the Taiwanese team will comprise three or four experts from the National Museum of Marine Biology and Aquarium in Pingtung County, National Dong Hwa University in Hualien and Cheng Shiu University in Kaohsiung County.

# Full article:

http://www.taipeitimes.com/News/taiwan/archives/2009/03/29/2003439678

### Related article:

http://english.cna.com.tw/ReadNews/Detail.aspx?pSearchDate=&pNewsID=200903280010&pType1=ST&pType0=xCS&pTypeSel=0

## 21. Research alliance in Taiwan to develop large wind turbines

(Central News Agency, 30. 03. 2009)

The Metal Industries Research & Development Centre (MIRDC) invited three of Taiwan's top engineering companies, namely Tatung Co., Shihlin Electric & Engineering Corp. and Far East Machinery Co. to form an alliance to develop and produce large wind turbines with a capacity of 2'5000 kilwatts within four years. The center's ambitious project -- unprecedented in Taiwan -- intends to develop wind turbines with rotor diameters measuring 86 meters and each aerodynamically designed blade weighing about six tons.

### Full article:

http://english.cna.com.tw/ReadNews/Eng TopNews.aspx?ID=200903300022

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