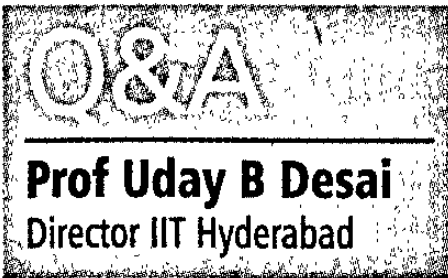


## Newspaper Clips

October 6, 2011

Business Standard ND 06/10/2011 P-10

# 'We want to become like MIT'



*Functioning from the premises of the Ordinance Factory in Medak, Indian Institute of Technology, Hyderabad, expects to move into a 580-acre permanent location by July 2013. The institute aims to become an R&D destination and is involved in collaborative partnerships with local industries. IIT-H Director Professor Uday B Desai talks about his future plans with B RAMAKRISHNA. Edited excerpts:*

**What are your plans for the institute?**  
Our vision is to stay focused on research, which has been the hallmark of IITs and which we rephrased as inventions and innovations, and of course, excellence in

teaching. Second, we would like to be a large-scale operation. We are targeting 20,000 students on campus — half of them will be undergraduates and the other half postgraduates, PhDs, and postdoctoral students. Other established IITs have 7,000-8,000 students.-

**How do you envisage the role of IITs? Are they the “incubators of socially-relevant technology” as Pandit Nehru envisaged, or in meeting skilled manpower needs of the economy?**

What Nehru said is definitely there. We have to be leaders in generating intellectual property (IP). How long can the country depend on foreign IP? Already, IITs have made a beginning. IIT-H also has a lot of R&D projects. And of course, we need to meet the manpower needs of the economy. There is so much demand for technical manpower in India. That's the reason why we are talking about 20,000 students. We will also look at starting a research and incubation park. On this, we are talking to industrialists in Hyderabad and their response has been positive.

**Are you looking at any specific**

**industrial sector?**

Initially, we may look at sectors which require a little less investment, but we will be looking broadly at all sectors. We are interacting with Dr Reddy's Labs on drug delivery systems and also discussing a Pratt & Whitney project with Infotech Enterprises. Basically, what we are looking at is joint research activities. In some cases, we may also have a joint training programme through short-term courses.

**There was a debate recently on the quality of faculties at IITs...**

It's partly true. We are doing research, but we have a long way to go. Today, our research output is at high levels, but we should be cognizant of the fact that we are not the Massachusetts Institute of Technology (MIT). We want to be like MIT, but it will take some time, I would emphasise on looking at the value of our research papers today and look at where we were 20 years ago. There has been a seven- to eight-fold jump in research papers. MIT has a much longer history, whereas the whole IIT system has been around for 50-plus years. And, research has been emphasised at IITs only in the last 20 years.

Times of India ND 06/10/2011 P-18

## Narayana Murthy concerned about falling standards of IIT students

### Ominous signs no exaggeration

Infosys chairman emeritus NR Narayana Murthy cannot be faulted for pointing at the falling standards of IIT students and going against the grain of uncritical media celebration of the IITs. His point is reinforced by little research of international quality being conducted by the IITs in recent years. It is telling that despite their elite status none of the IITs figure in the top 200 in the latest QS world university rankings. Even writer Chetan Bhagat, who has taken on Murthy for his remarks, has conceded his basic point. Bhagat's main concern is Murthy's choice of words, which could have been gentler on IIT students.

Murthy has rightly blamed the mushrooming of commercial coaching institutes that train IIT aspirants as one of the main reasons behind the rot. With coaching centres now training students to get into coaching institutes that 'guarantee' admission into the IITs, cracking the IIT joint entrance exam has become a status symbol. This in turn has corrupted the system by putting too much emphasis on pattern recognition and problem solving rather

than creative, out-of-the-box thinking.

Crippling the IITs further is too much government interference, following the media spotlight on them. The IITs were established as meritocratic institutes. However, government policies such as that on reservations - almost 50% of the seats are now reserved - have prevented the

#### ■ TIMES VIEW ■

institutes from aiming for global standards. Moreover, there is reason to believe that faculty appointments are politicised, with promotions determined by contacts rather than merit. That two IIT directors remain in their posts despite facing CBI indictment is a case in point. Coupled with problems such as the lack of quality infrastructure, as is the case with some of the new IITs, it is not difficult to see where Murthy's concern about declining standards stems from.



#### ■ COUNTERVIEW ■

Jay Kumar

has. But as pointed out by Chetan Bhagat, another celebrity IITian, his criticism is destructive and demoralising.

For starters, Murthy has unfairly singled out the IITs when the problem lies with the entire education system. The Indian education system, as it is today, is geared towards rote learning rather than cognitive development and imagination. This is true for all levels - primary, secondary and tertiary

### Still the best in the trade

Given that the indictment of IITs comes from the founder of one of India's most respected IT firms, there would be instant takers for it. Nevertheless, given that Murthy himself is an IIT alumnus, one would have expected him to come up with more constructive criticism than he

and even for competitive examinations for recruitment in the government sector. Murthy would have done well to consider the fact that as an institute of higher technical learning, the IITs are still widely regarded as among the best in the world. Not only are they still among the toughest institutions in the country to get into, but even those aspirants who don't make it are not mediocre.

Compared to other educational institutes in the country, the IITs still remain unmatched in providing high-class training facilities, eminent faculties and an environment to study with some of the best Indian minds. While it's easy to attack the IITs on the lack of research being produced from these institutes, the overall level of research in the country needs to be spruced up and incentivised. The sheer number of multinational companies including Murthy's Infosys hiring professionals from the IITs bears testimony to the standards of education they impart.

## **Business Standard ND 06/10/2011**

**P-10**

### **OTHER RESPONSE**

■ The coaching centers will remain largely unaffected by the IITs' new admission format. Because, coaching as an industry caters to the requirements of the children. Now, they will train students for both IIT-JEE and the board exams. Coaching centers exist because of the existing skewed education system. Moreover, the new exam format will merely mean a change in the coaching syllabi and students will continue to look for help due to the cut-throat competition.

— Nilaya Mitash Shanker, Shri Ram Swaroop Memorial College of Engineering and Management

Hindustan Times

Title : India does a Nano again, gives world Rs 2,276 tablet

Author : Vivek Sinha and Chetan Chauhan letters@hindustantimes.com

Location : NEW DELHI:

Article Date : 10/06/2011

# India does a Nano again, gives world ₹2,276 tablet

**SUPERCHEAP** Students can buy it for ₹1,400, to hit market in Nov

## TABLET FOR AAM AADMI

**₹2,276 (\$46)**

Cost of Aakash tablet

**₹1,400** Price at which students can buy it

**₹3,000** Price at which it will be sold in market from November under brand name Ubiplate. Likely to be sold through telecom operators along with ₹99-a-month net service pack

### Key features

- 7-inch (18cm) touch-screen
- 256 MB RAM
- 2GB external memory, expandable up to 32 GB
- Wi-Fi internet function
- Multimedia player
- 180 minutes of battery power

### What you can do with it

- Access 70,000 e-books and 2,100 e-journals across 1,500 colleges in India
- Play games and videos, surf the net



■ A Datawind representative displays the Aakash tablet during its launch in New Delhi on Wednesday. AP PHOTO

## PRICE WARRIOR

	Aakash	Desktop PC+	Other Tablets*
Screen	7 inches	15-18.5 inches	7-10 inches
RAM	256 MB	1-2 GB	256-512 MB
Hard disk	2 GB <sup>#</sup>	160-500 GB	4-64 GB
Price	<b>₹3,000</b>	<b>₹19,000-40,000</b>	<b>₹9,990-32,000</b>

<sup>#</sup> Memory expandable to 32GB

<sup>+</sup> Based on current market trends

\* Includes Samsung Galaxy Tab, Apple iPad, Reliance and Beetel

Vivek Sinha and Chetan Chauhan

■ letters@hindustantimes.com

**NEW DELHI:** At a time when the tablet computer is the most coveted gadget in the world, India has scored a big hit at a small price tag. On Wednesday, it launched Aakash, the world's cheapest tablet at ₹2,276 (\$46) — a fraction of what the big brands cost (₹9,900-32,000).

It's not as powerful as your home PC. And it's definitely not the cool, world-beating iPad. But Aakash still packs a punch and can do a lot of what the iPad does, perhaps in a slower, clunkier way.

The device, manufactured by UK-based Datawind, founded by NRI brothers Raja Singh Tuli and Suneet Singh Tuli, aims to revolutionise education and is set to be sold at a government-subsidised rate of ₹1,400 to 100,000 college students. Formally launching Aakash, HRD minister Kapil Sibal dubbed it a "device for the children of the world".

General buyers can buy it for ₹3,000 while Datawind plans to sell the gadget in partnership with telecom operators with ₹99-per-month internet services.

**CONTINUED ON PAGE 15**

**Hindustan Times**

**Title : India's \$46 tablet**

**Author :**

**Location :**

**Article Date : 10/06/2011**

# India's \$46 tablet

**CONTINUED FROM PAGE 1**

The cost has shot up since Datawind bid \$37.98 to build the computer that the government aimed for a \$35 device based on a prototype developed by 170 students of IIT-Rajasthan and showcased last year.

The 7-inch touchscreen tablet comes with two full-sized USB ports, a random-access memory of 256 MB and a 366-megahertz processor.

It can connect to the internet through WiFi links, USB data or a SIM card where telecom operators are involved. Its battery can work for three hours in active mode without recharging. You can buy an external keyboard for ₹300.

Aakash, like many cheaper

smartphones and tablet PCs hitting the market, is based on the Android platform developed by internet search firm Google, which has dramatically cut the software cost that makes up a big chunk of the bill. To this, the Tuli brothers have added refined component design and backed it up with low-cost manufacture in Hyderabad.

Suneet Singh Tuli told HT his device would trigger a price war. "We have the technology to manufacture the components of our device," he said, explaining how Datawind drilled things to 800 parts to lower costs.

Vishal Tripathi, analyst at research firm Gartner, said, "The available lower-end tablets will face price pressures."

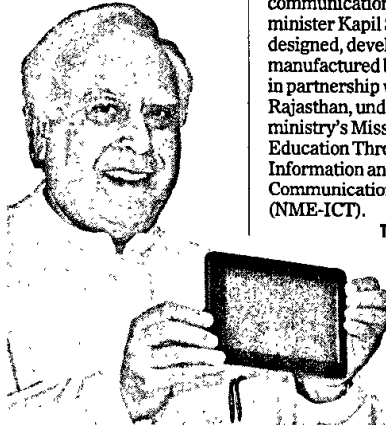
---

# India gets world's cheapest tablet PC

But low-cost computing yet to come of age

BS REPORTERS  
New Delhi/Mumbai, 5 October

NEARLY two years after it announced its intention to launch a low-cost computing device, the Indian government today demoed Aakash, now the world's lowest priced computing/internet device at \$46 (₹2,250). Other cheap



Turn to Page 16

Kapil Sibal launches the world's cheapest tablet, Aakash, in New Delhi. PHOTO: SANJAY K SHARMA

tablet PC initiatives by private companies include 'Magnum' by LACS, a division of the Bangalore-based Devraj group, priced at \$99. Beetel of the Bharti group priced its 'Magiq' tablet PC at ₹9,999 (\$200) while Reliance Communications' Reliance 3G Tab costs ₹12,999 (\$265). Aakash, launched by communications and IT minister Kapil Sibal today, is designed, developed and manufactured by DataWind, in partnership with IIT Rajasthan, under the HRD ministry's Mission on Education Through Information and Communication Technology (NME-ICT).

## OTHER LOW-COST PC INITIATIVES

- Linux-based mobile computer called Mobilis for ₹10,000 — **Failed**
- Wipro's Janata PC — **Failed**
- Simputer — **Lost steam**
- XO laptops — **Lost steam**
- The sub-10k PC launched by players such as HCL, Xenitis and others — **Lost steam**
- NComputing, a desktop virtualisation firm, has shipped so far **350,000**. Of this, **150,000** have been deployed
- Novatium's Nova PC, a thin client-base computing solution, had **40,000** users as of June 2010
- Also, LACS (Devraj group) for **\$99**; Beetel (Bharti group) for **\$200**; Reliance for **\$265**

## India gets world's cheapest tablet PC

The government is buying 100,000 tablets from DataWind at an all-inclusive price of \$46 (₹2,250) a unit. However, under NME-ICT, the target price for 10 million units is ₹1,750 (\$35) a unit. DataWind eventually plans to bring it down to \$10 (around ₹500) a unit.

The Aakash is a seven-inch Android 2.2 touch screen tablet that has an HD video co-processor for a multimedia experience and core graphics accelerator for faster application support, as also DataWind's UbiSurfer browser. The device includes Wi-Fi connectivity and support for optional 3G modems. Two full-sized USB ports are integrated into the unit allowing pen-drives, external keyboards, webcams, dongles and other inexpensive peripherals to be attached, according to DataWind CEO Suneet Singh Tuli. DataWind is also offering a leather keyboard case with the package.

The pilot project to test the device on the field will be done by distributing 3,300 devices in each state to post-secondary students. The state coordinators will be identified and field-testing on check-listed parameters will be done. Based on the feedback after 45 days, areas of improvement and innovation will be pondered over and changes brought accordingly.

Although the Aakash tablet will be available only to post-secondary students through NME-ICT, DataWind will offer a commercial ver-

sion called UbiSlate in late November for ₹2,999 (inclusive of all duties and taxes). That product will include a cellular modem, allowing it to deliver web access anywhere there is cellular connectivity, and also to function as a mobile phone. Internet access across mobile networks will be priced at ₹99 for 2 GB.

Sibal said the government was "also doing bulk deals with the National Institute of Speech and Hearing, Kerala". "The ministry is also seeking collaboration with content developers to create world-class content. The move will bridge the gap and bring access to the marginalised and people having limited access to resources," said Sibal. He said the government was in the process of drafting a legislation for that — the Electronic Configuration Bill — to be tabled in Parliament in the coming Winter session.

While low-cost computing initiatives are welcome, analysts say, history reveals they have quickly run out of steam. In May 2005, an Indian technology firm Encore Software announced a ₹10,000 Linux-based mobile computer. Christened Mobilis, it was powered by an Intel processor, had 128 MB of SDRAM, featured a 7.4-inch LCD screen, roll-up keyboard, touch screen with stylus input, six-hour battery life and a case that opened up as a desktop stand. "This marks India's leap into the future of PC technology..." said Kapil Sibal who was then minister for science and technology. Not much has been heard of the Mobilis since.

And does anyone remember the Simputer — the hand-held low-cost computing device introduced by Encore (along with PicoPeta)? Over the last eight years, the Simputer has been used by the governments of Karnataka and Chattisgarh and for automobile engine diagnostics (M&M), and tracking of iron-ore movement (Dempo), and (in some cases) by the police to track traffic offenders and issue traffic tickets.

Low-cost computing devices could effectively, and eventually, bridge the "digital divide". Analysts, however, caution while the move of the government to introduce the \$35 computing device is good, what is needed is a strategy to mass market these devices. Besides, the country needs adequate internet (broadband) penetration to make such models a success. The success of a computing model, add analysts, revolves around a friendly operating system (OS), an application-ready device, and a robust distribution model.

Perhaps, the first real answer to the challenge of low-cost computing for kids was the XO (which runs open-source Linux) from Nicholas Negroponte — founder of the One Laptop Per Child (OLPC) project. The original target cost was \$100 (about ₹4,600), but this escalated (including shipping costs) due to design upgrades (more memory and a faster microprocessor) and because the production volumes would not enjoy economies of scale. OLPC has sold two million XO units in 40 countries till date.

Times of India ND 06/10/2011 P-16

# Sporting a 7-inch touchscreen, Aakash runs on Android 2.2 OS

Akshaya Mukul | TNN

**New Delhi:** The HRD ministry on Wednesday unveiled its low-cost tablet, which took six years to develop and comes dirt-cheap, at Rs 2,250.

Sporting a 7-inch touchscreen, Aakash runs on Android 2.2 operating software. According to specifications, it has a high-definition video co-processor for good multimedia experience.

The device comes with Wi-Fi connectivity and has support for optional 3G modems. Two full-size USB ports are integrated into the unit. Aakash can be used as an e-book reader. A student will be able to access online streaming of course material and web-based research.

A B-Tech student of IIT, Delhi developed the first cut of the design. His father, Prem Kalra, later became director of IIT, Rajasthan and took the project to the logical conclusion. N K Sinha, additional secretary, HRD ministry and the man behind the low-cost tablet, said considering the huge demand, the price would come down further. Sinha, the first person who conceived that a low-cost tablet could be produced in India, was once ridiculed for taking the nation for a ride.

On Wednesday HRD minister Kapil Sibal complimented him: "You took the nation on a pleasant ride." The man Sibal and others completely

## MAKING THE CUT

	Aakash	iPad2 Basic model	Beetel Magic
Processor	366Mhz single core with special HD video co-processor	1Ghz dual core	1Ghz single core
Display	7" resistive touch screen (800x480 pixels)	10" capacitive touchscreen (1024x768 pixels)	7-inch resistive touchscreen (480x800 pixels)
RAM	256MB	512MB	512MB
Storage	2GB (32GB*)	16 GB	8GB (16GB*)
Ports	2 full USB	30 pin connector	MicroUSB
OS	Android 2.2	iOS	Android 2.2
Connectivity	WiFi	WiFi	Wi-Fi, 3G
Price	Rs 2,250	Rs 29,500	Rs 9,990

\* expandable with micro SD card



forgot was late Sudeep Banerjee, secretary, education who resisted imposition of OLPC and gave Sinha a free hand.

Early this year, the project nearly got derailed as the company that was asked to produce the low-cost tablet was taken over by an IT major.

Produced by Datawind, 1,00,000 tablets would be given out to students over the next year. Currently, the company is producing 700 tablets daily at its Hyderabad facility. Datawind has set up a manufacturing facility only for Aakash.

The company has been given the order for 1,00,000 tablets that would be delivered by November-end. The next order of 10 lakh tablets would go through a tendering process. HRD ministry officials said, "Considering the widespread interest in the product, many

companies might independently produce these tablets with competing prices. We do not have a closed mind in terms of innovation of technology and price. All are invited." One jarring point about Aakash remains. The tablet won't be available to school students immediately.

The cost is being borne by the National Mission on Edu-

cation through Information & Communication Technology. This deals exclusively with higher education, reason Aakash cannot be given to school students. This goes against the original idea of providing laptops to school children. The HRD ministry is likely to move another Cabinet note for making it accessible to school students.



Statesman ND 06/10/2011 P-3

# An Aakash of opportunities

statesman news service

NEW DELHI, 5 OCT: The Union human resource development (HRD) ministry today launched its much-awaited low-cost access device (LCAD), *Aakash*, for "field trials" by 500 higher education students across the country. Priced at Rs 2,250, this computing tablet is the cheapest in the category. These 500 students will be required to submit their "reports" on the LCAD over the next 45 days. The decision to order further production of these devices will be based on these reports.

Further improvements, if required, in the device will be carried out before the government places the orders for 10 lakh such tablets. Of the first order of 1 lakh tablets, each state will initially be supplied 3,500 such units for free distribution to students in higher education institutions.

The HRD ministry plans to sell the tablets to students at the subsidised price of \$35 (about Rs 1,700), even as it will be launched commercially at about Rs 3,000 (\$60). The Britain-based maker of the tablet, DataWind, is supplying the first 1,00,000 units of *Aakash* to the government at a price of Rs 2,250. "The Rs 3,000 figure is the 'maximum suggested retail price' of the commercial version of the product which we will offer with an embedded cellular modem and SIM," said Mr Suneet Singh Tuli, CEO of DataWind.



*Aakash* is being assembled by Quad Electronics in Secunderabad, Andhra Pradesh for DataWind. Mr Tuli said the device's lower price is achievable at higher volume levels. "When we supply the product to the government at a lower price, then too it will allow us a margin, albeit at higher volumes." The Rs 3,000 tablet for retail would have an inbuilt cellular modem and SIM to access internet, which will be absent in the Rs 1,750 device, supplied to the government. The retail version of the tablet is expected to be out within 60 days. The 7-inch tablet, *Aakash* has a resistive touch screen, runs on Android 2.2 (Froyo) with a 366 Mhz processor, weighing 350 grams with

256MB RAM and an internal storage of 2GB Flash memory, a 32 GB expandable memory slot and two USB ports. It would have WiFi connectivity for internet access and cloud storage.

Launching the tablet, the HRD minister Mr Kapil Sibal (*in left photo*) said: "The tablet is for Rs 2,276 which includes taxes and cost of transportation. The government will provide subsidy of 50 per cent to institutes buying it. It will cost around Rs 1,100-1,200 to institutes." He said the procurement order will be scaled up later with an aim to bringing down prices further. "If 10 lakh pieces are ordered, then it will be priced at Rs 1,750 (cost to the

government) which will include transportation cost and vendor's profit as well. So, I have fulfilled my promise of a \$ 35 tablet," Mr Sibal said. Those who have used the tablet as part of the trial so far gave a mixed response. While some said it was very useful to students due to its portability, others said it might be useful to school students but not much of use to higher education institutions. "The tablet starts heating up in just ten minutes. Its processor is slow. Its memory is not good enough for IIT students. Multitasking is also not possible with this tablet and you can do only one thing at a time," said a NIT student who participated in the trials at IIT Rajasthan.



Hindustan Times ND 06/10/2011 P-10

# How the world's cheapest tablet computer was born

**IDEA** It all began in 2005 when HRD resisted proposal to buy \$100 laptops

**Chetan Chauhan**

■ chetan@hindustantimes.com

**NEW DELHI:** The idea to develop the world's cheapest computer was born in 2005 when HRD ministry resisted a proposal of the Planning Commission to buy \$100 (approx ₹5,000) laptop developed by Massachusetts Institute of Technology for students to access internet easily.

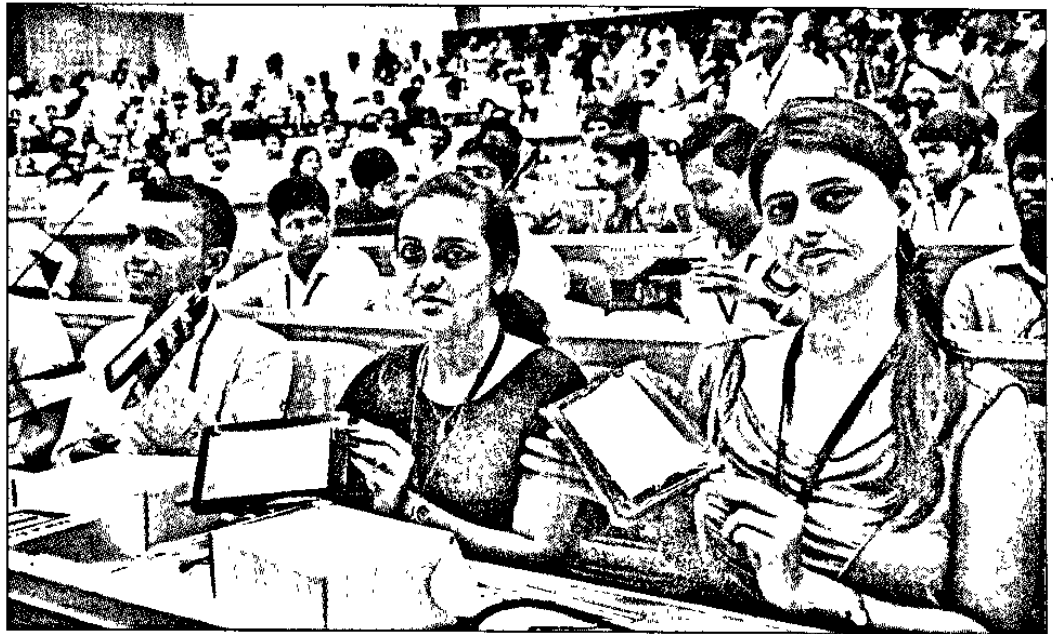
The average cost of a laptop then was around \$800 (approx ₹40,000) and the MIT's device seemed cheap. Most educationists were ready to buy the argument expect NK Sinha, an IITian, then joint secretary in the ministry.

He urged that India can produce a simple computing device for students at \$10 (approx ₹500). "People called it an impossible task," Sinha recalled before the launch of \$50 (approx ₹2,470) tablet called Aakash.

Education secretary RP Aggarwal was convinced and allowed Sinha to constitute a small group of fellow IITians and experts to work on the idea.

Breakthrough came in 2007, when a final year student of IIT developed a motherboard — provides electrical connection to other components in a computer — suitable to run a low-cost computing device. "It was the first hope of realising a dream," Sinha, now additional secretary in HRD ministry, said.

It took another two years for the team of experts to develop a model for the low-cost device. In January 2007, the govern-



■ Students display Aakash, dubbed the world's cheapest tablet computer, after its launch at Vigyan Bhavan in New Delhi on Wednesday.

MOHD ZAKIR/ HT PHOTO

ment included the model for funding under the National Mission for Information Communication and Technology and IIT Rajasthan bagged the job to develop the device.

The man in-charge of the project in IIT Rajasthan was its director Prem Kalra, whose son provided the first breakthrough. Over 170 students from his campus finally developed a prototype in 2009. After its initial testing, the cost of the device was projected as \$35 (approx ₹1750).

A tender for one lakh devices was floated and Datawind bagged the project with the lowest bid of \$37.98 (approx ₹1,880).

## tabletbuzz

**Aakash is the device for children of the world to access education. It's part of UPA's inclusive growth**

KAPIL SIBAL, HRD minister

**Aakash is proudly made in India, and is destined to revolutionise computing and internet access...**

SUNEET S TULI, Datawind

**Aakash is comparable with other tablets in the market. But its RAM is a constraint...**

ARUN SHARMA, MBA student

**I am excited as I now have my own laptop which looks like an ipad. Hope it works great**

NEHA AZAD, college student

Times of India ND 06/10/2011

P-19

# Coming soon: A quantum PC

**Washington:** Physicists have moved one step closer to building a quantum computer by creating a tiny 'electron superhighway' which they claim could be useful in producing the new computer that will use quantum particles in place of digital transistors found in today's microchips.

A team at Rice University says the tiny device, called a 'quantum spin Hall topological insulator', which acts as an electron superhighway, is one of the building blocks needed to create quantum particles that store and manipulate data.

Today's computers use binary bits of data that are either ones or zeros. Quantum computers would use quantum bits, or 'qubits', which can be both ones and zeros at the same time, thanks to the quirks of quantum mechanics. This quirk gives quantum computers a huge edge in performing particular types of calculations, said Prof Rui-Rui Du.

In the race to build quantum computers, the physicists are using various approaches create qubits. PTI

# A few IISc ideas help make Boeing dream

JOHNSON TA

BANGALORE, OCTOBER 5

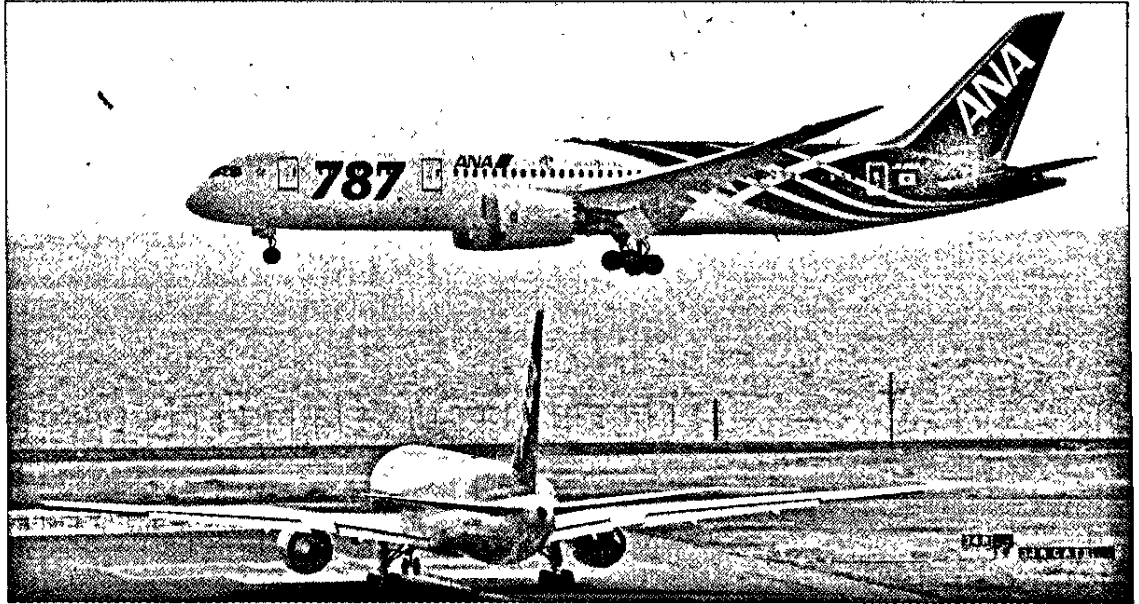
**O**N SEPTEMBER 26, when Boeing made the first delivery of its next-generation 787 Dreamliner aircraft to Japan's All Nippon Airways (ANA), there were puffed chests at the Indian Institute of Science in Bangalore, too.

Over the last few years, IISc has emerged as one of only two places outside of the United States to be designated as Boeing Company research centres — the other being the Cambridge University — working on futuristic aircraft technology including modelling, simulation and testing for the Boeing 787.

What started in 2005 as a five-year agreement, where Boeing funneled \$500,000 per year to IISc for advanced research, has now evolved into a long-term strategic tie-up that currently puts IISc alongside the likes of Caltech, Stanford, Carnegie Mellon, the Illinois Institute of Technology, and the Massachusetts Institute of Technology for Boeing research.

The tie-up has now produced over two dozen papers from faculty in various departments at IISc covering “nanotechnologies, structural alloys, composites, smart materials and structures, process modelling and simulation, manufacturing technologies, substructure fabrication and testing”.

“The strategic alliance between IISc and Boeing has turned out to be a fruitful one. Boeing is continuing to engage with us. Projects cover several



A 787 Dreamliner prepares to land in Tokyo; first delivery made last month.

REUTERS

advanced technology areas and several scientific papers have already been published by IISc researchers,” says Prof C E Veni Madhav, the chief executive at IISc’s Society for Innovation and Development (SID) that facilitates industry tie-ups.

Aerospace engineering and materials engineering for aerospace requirements have traditionally been strong points of research at IISc, contributing to India’s attempts at military aviation self-reliance and space faring over the last six decades.

While scientists at IISc are not sure if their research over the last five

years has gone into the first version of the Boeing 787 Dreamliner, delayed by three years when delivered, one of the mandates of the Boeing-IISc tie up, according to the SID, is to contribute to the 787’s development.

“What we are doing for Boeing is basically blue sky research. We are looking completely at futuristic technologies and are not concerned with what goes where in the aircraft. Some of the work may or may not be relevant right now,” says Prof S Gopalakrishnan of the department of aerospace engineering who has worked on a few Boeing-funded research papers.

“As researchers we are primarily concerned with the publication of papers. That’s our bread and butter. We would be happy if our work is utilised for Boeing technologies.”

The work by IISc researchers under the Boeing collaboration includes the development of smart aerospace structures, studies on and development of alloys, and computing and electrical communications. The innovation, design study and sustainability (IDeaS) laboratory at IISc’s Centre for Product Design and Manufacturing has worked on a sustainable manufacturing project for Boeing.

Hindustan Times ND 06/10/2011 P-17

# Nobel in chemistry goes to Israeli scientist

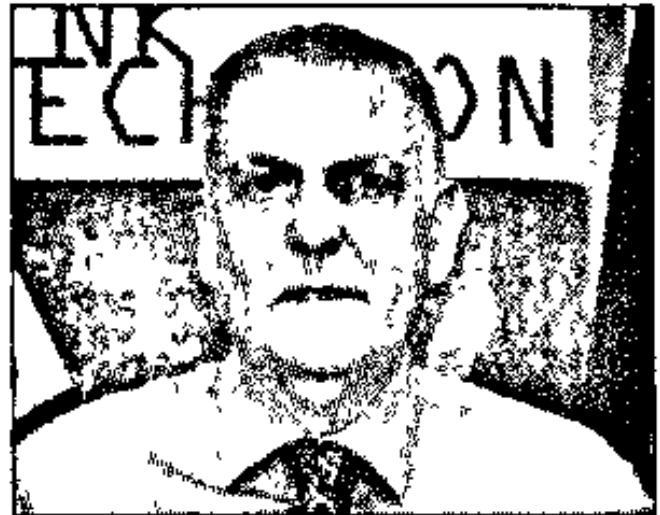
**The Associated Press**

• [letters@hindustantimes.com](mailto:letters@hindustantimes.com)

**STOCKHOLM:** Israeli scientist Daniel Shechtman won the 2011 Nobel Prize in chemistry on Wednesday for his discovery of quasicrystals a mosaic-like chemical structure that researchers previously thought was impossible.

The Royal Swedish Academy of Sciences said Shechtman's discovery in 1982 fundamentally changed the way chemists look at solid matter. It initially faced strong objections from the scientific community.

Contrary to the previous belief that atoms were packed inside crystals in sym-



• **Daniel Shechtman**

metrical patterns, Shechtman showed that the atoms in a crystal could be packed in a pattern that could not be repeated, the academy said. "His battle eventually forced scientists to reconsider their conception of the very nature of matter" the academy said.

# Poets lead the race for Nobel Literature Prize

SIMON JOHNSON  
Reuters

**T**WO poets, one Swedish and the other Syrian, are leading the betting to win the 2011 Nobel Literature prize, a bookmaker said on Tuesday, though past prizes have often defied the predictions.

British betting firm Ladbrokes have the 81-year-old Syrian poet known as Adonis at odds of 4/1 and Swede Tomas Transtromer, 80, at 7/1 to win the 10 million crown (\$1.5 million) prize, to be announced on October 6. Japan's Haruki Murakami was third at 8/1.

All three have been on the betting list of candidates before, but an award to Adonis, a champion of democracy and secular thought, would chime well with Arab Spring revolts in several Middle Eastern nations, though he has not been without his critics who view his support for the uprisings as too muted.

Apart from his political engagement, Khaled Mat-



**MASTERS OF THEIR MUSE:** (Top L-R) Syrian poet Adonis, Israel's Amos Oz, Sweden's Tomas Transtromer, (bottom L-R) Somalia's Nuruddin Farah, Japan's Haruki Murakami and Hungary's Peter Nadas

tawa, who has translated many of Adonis' works into English, said the Syrian, named Ali Hamid Saeed at

birth, deserved to be recognised for his artistry. "When I think of Adonis as a poet...I think of people

like Picasso or Matisse, people who opened up a new way of envisioning experience," Mattawa, an associ-

ate professor at the University of Michigan, told Reuters.

Adonis was awarded Germany's prestigious Goethe Prize for literature in May.

"I hope with the greater attention being brought to him, people recognise Arab literature is not only compelling for its content or for the way it might help us to understand Arab societies...but also (that Adonis's work can) give us a sense of the conceptual prowess we find in modern Arab literature," Mattawa said. The last poet to win the Nobel Literature prize was Poland's Wislawa Szymborska in 1996.

Transtromer, whose subtle, multi-layered work often deals with the relation between man and nature or the conscious and unconscious, is a regular on the list of favourites to win the prize.

"Transtromer is the person who stands head and shoulders above anyone else," said Neil Astley, founding editor at Transtromer's publishers Bloodaxe Books in Britain.

Interest in Swedish writing has increased in recent years, even if that has mainly been in the crime fiction books of dead writer Stieg Larsson and his 'Millennium' trilogy.

"It is not just the crime-writer boom. That has been a locomotive for other Swedish literature," said Helen Sigeland at the Swedish Arts Council, where she is responsible for promoting Swedish literature abroad.

The Nobel Prize sometimes results in a surprise choice of an artists who is little known outside a small circle of connoisseurs.

This has included Herta Mueller of Germany in 2009 and Jean-Marie Gustave Le Clezio in 2008, though the 2010 winner, Mario Vargas Llosa, is widely read. Doris Lessing, Harold Pinter and Orhan Pamuk are also laureates. One figure who would seem to be a very outside bet is Bob Dylan. Even so, his Ladbrokes odds have narrowed to 10/1 from 100/1 last week.

# On the road to issuing silent commands to machines

PAGAN KENNEDY

**"FINGERS!"** Gerwin Schalk spluttered, waving his hands in the air. "Fingers are made to pick up a hammer." He prodded the table, mimicking the way we poke at computer keyboards. "It's totally ridiculous," he said.

I was visiting Schalk, a 40-year-old computer engineer, at his bunkerlike office in the Wadsworth Center, a public-health lab outside Albany that handles many of New York State's rabiest tests. It so happens that his lab is also pioneering a new way to control our computers — with thoughts instead of fingers. Schalk studies people at the Albany Medical Center who have become, not by choice, some of the world's first cyborgs.

One volunteer was a young man in his 20s who suffers from a severe form of epilepsy. He had been outfitted with a temporary device, a postcard-size patch of electrodes that sits on the brain's cortex, known as an electrocorticographic (ECoG) implant. Surgeons use these implants to home in on the damaged tissue that causes seizures.

Schalk took advantage of the implant to see if the patient could control the actions in a video game called Galaga using only his thoughts. In the videotape of this experiment, you see a young man wearing a turban of bandages with wires running from his head to a computer in a cart. "Few, pew," the ship on the computer

screen whines, as it decimates buglike creatures. The patient flicks the spaceship back and forth by imagining that he is moving his tongue. This creates a pulse in his brain that travels through the wires into a computer. Thus, a thought becomes a software command.

On the day I stopped by his office, Schalk hit a button on his computer, and Pink Floyd blasted from his speakers. He was running an experiment to see what happens to people's brains when they listen to *Another Brick in the Wall, Part 1* (a question that has occurred to any stoner who ever contemplated human consciousness in the glow of stereo lights). Weeks before, Schalk played the Pink Floyd song for some of his epileptic volunteers and recorded the activity in the parts of the brain that process sound. Schalk showed me a volume meter on his computer screen — this was a brain, tracking the roar of a guitar solo. It worked just like any other volume metre, but in one experiment, Schalk found the brain did something unexpected. When he interrupted the Pink Floyd song with moments of silence, the brain's volume metre continued to tremble up and down, as if the song were still playing. This, Schalk said, showed the brain creates a model of what it expects to hear — a shadow song that

plunks out its tune in the player piano of our auditory system.

"Isn't this crazy?" he shouted over the thunder of the bass. "We're close to being able to reconstruct the actual music heard in the brain and play it. If we had several times more electrodes, I bet we could do it."

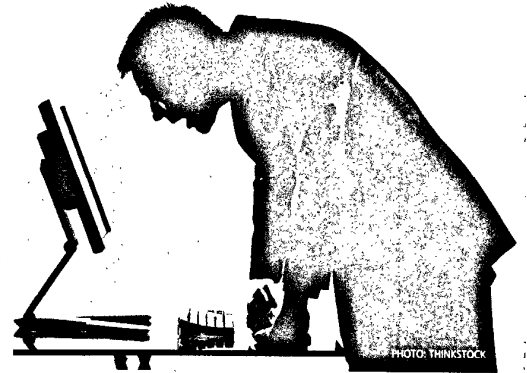
But for Schalk — and many others in the field — the ultimate goal is not music. It's language. Schalk dreams of letting people speak with their neurons, issuing silent commands to their machines. You could imagine the word "cat," say, and it would pop up on your computer screen. The areas involved with imagined speech take up just a few centimetres in the brain. With better implants, Schalk said, he might be able to pick up what his volunteer beams at the computer. Even with today's implants, he and his colleagues are getting closer. One epilepsy patient moved a ball across a computer screen simply by imagining either an "ooh" sound or an "aah" sound. It marked one more step toward telepathy with machines.

For years, computers have been creeping ever nearer to our neurons. Thousands of people have become cyborgs, of a sort, for medical reasons: cochlear implants augment hearing and deep-brain stimulators treat Parkinson's. But within the

next decade, we are likely to see a new kind of implant, designed for healthy people who want to merge with machines. With several competing technologies in development, scientists squabble over which device works best; no one wants theirs to end up looking like the Betamax of brain wear. Schalk is a champion of the ECoG implant because, unlike other devices, it does not pierce brain tissue; instead it can ride on top of the brain-blood barrier, sensing the activity of populations of neurons and passing their chatter to the outside world, like a radio signal. Schalk says this is the brain implant most likely to evolve into a consumer product that could send signals to a prosthetic hand, an iPhone, a computer or a car.

"The burr hole in the skull will be small," Schalk told me enthusiastically, as if urging me to get one of the plugs. The first dedicated trials in human beings, he says, are only a few years away. Schalk first began working with the ECoG implant in 2003, when a surgeon at Washington University in St. Louis invited him to visit the epilepsy ward; four patients had been taken off their medication and had portions of their skulls removed so they could be implanted with ECoG devices.

The implants — usually worn for about a week — allow surgeons to study the aberrant brain patterns of patients as they go in to seizure and then cut out the damaged brain tissue. Schalk camped out in the Missouri hospital to wait for the periods when patients



were between seizures, at which point he would try to transform the brain signals emitted by their thoughts into software commands. He was, in effect, designing a button that the mind could push. "We had no clue what we were doing," Schalk says.

On the first day of the experiments, he sat beside a young man who gamely waited to follow instructions. As researchers

rolled a monitor up to the bed, Schalk told the patient, "Now you're going to move this cursor by thinking." For a few minutes, the guy floundered. And then, Schalk says: "Boom, the cursor hit the target. Everyone was ecstatic."

# B-SCHOOLS CHEER RETURN OF COMPANIES

Most private institutes say they are in for a good season with offers for summer jobs picking up, despite fears of a global slowdown and job cuts

BS REPORTERS  
Mumbai

**T**op private B-schools have reasons to cheer with the summer internship scenario hotting up. Institutes have managed to rope in big players from both domestic and international companies across the spectrum, despite the slowdown fears.

"We began our summer placements last week. We are focussing more on engaging companies on campus through leadership talks or case study activities this year. This gives the companies a chance to visit the campus and engage with the students in live projects and assess them. It is proving to be a better tool," said a placement committee member from the Bhubaneswar-based Xavier Institute of Management (XIM-B).

Last year, the institute had invited 60 companies on campus, but this year the number has swelled to keep pace with the growing number of students per batch — from 180 last year to 240 students this year.

Most B-schools begin summer placements in October, and the seven top institutes Business



Standard spoke to said during the current season the response to summer placements has been good, in spite of the fact that batch sizes have increased be-

tween 15 and 20 per cent. B-schools have also been very aggressive, evolving new strategies to woo companies.

Hyderabad-based Indian

School of Business said it was working on how to increase the number of offers per company. "If we invite more companies, more of them will go without of-

fers. It's not a question of more companies coming to the campus, but about how to increase the number of offers per company," said VK Menon, direc-

tor-career advancement services, ISB.

"We all know of the global slowdown. But as far as ISB is concerned, we don't run after markets. We look at targeting companies. Already 24 companies have registered so far and we expect 80 more companies. On the domestic front, FMCG and sales development profiles seem positive. Finance and technology seem to be neutral. I don't see any reason why a premier school should be concerned," said Menon. ISB had 320 companies last year on campus and expects more during the current season.

At Delhi-based Indian Institute of Foreign Trade (IIFT), 70 companies have so far expressed their interest to participate. IIFT placement chairperson Munish Bhargava said companies have been very positive and the institute is confident of placing the 209 students for internships.

Last year too the response to summer placements was good for most B-schools, especially so for the Indian Institutes of Management (IIMs). Although the situation in 2010 was better, this year the Eurozone crisis had made B-schools jittery.

Last year there was an in-

crease of anywhere between 10-25 per cent in the number of new companies being invited on the campus and B-schools expect a similar trend this year.

At Gurgaon-based Management Development Institute (MDI), 170 companies had participated in 2010, while 187 companies have already confirmed their participation this year. Among the various sectors, finance companies have registered the highest increase — up from 58 in 2010 to 63 this year.

MDI's placement affairs chairperson Kanwal Kapil said the institute does not see any major impact of the financial crises in the US and Eurozone. The institute will place 300 students this year, while 24 have already received pre-placement offers.

B-schools however, did not reveal stipend package. "We will have to wait for the placements to complete. Only then will we have a clear picture. Guessing a number here would be hazardous," said Bhargava.

Last year, Cadbury had offered the highest stipend of Rs 1,00,000 for two months to a student from the Mumbai-based National Institute of Industrial Engineering (NIITE) and the Indian Institute of Management, Kozhikode.

At the Indian Institute of Management, Bangalore, 120 companies have registered so far. Since the batch size has increased to over 370, it is reaching out to more companies. Last year, over 180 companies had participated. The 375 students were placed in 127 companies.

Last year, each company, on an average, had increased the number of offers by 26 per cent, compared to the previous year.

At the Indian Institute of Management, Calcutta, more companies have been invited to the campus because of a larger batch this year. Amit Dhiman, professor in charge of placement, at IIM-C said the institute expects that the number of offers by companies may go down this year.

**IN SPITE OF A RISE OF 15% TO 20% IN THE NUMBER OF CANDIDATES IN EACH BATCH, MOST INSTITUTES ARE COMFORTABLY PLACED WITH THE STUDENTS GETTING HANDSOME SUMMER INTERNSHIP OFFERS**

Times of India ND 06-Oct-11 P6

**IGNOU inks pact with China's University: The Indira Gandhi National Open University has signed a pact with Honghe University to offer ICT-enabled courses at undergraduate and postgraduate levels. Emphasis will be given on research and development with the use of ICT-enabled education and interactive multimedia in distance education a release said on Wednesday. PTI**