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HRD to institutes: Follow MEA, inform us on foreign MoUs

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NEW DELHI, JANUARY 19

IN WHAT could end up impinging upon the autonomy of higher educational institutions, the Human Resource Development Ministry has proposed that while signing any Memorandum of Understanding (MoU) for collaboration with foreign universities, Indian institutions must refer to the Ministry of External Affairs' advisory in context of "national interest", as well as keep the MHRD "informed".

This could, however, be completely contrary to Acts governing higher educational institutions like IITs, central universities and NITs which give them the power to enter into academic collaborations with other educational institutions, including foreign ones.

An internal note of the Department of Higher Education on the issue of "consolidated instructions with regard to collaboration with foreign universities for faculty exchange, research projects and other forms of MoUs" states that "in order to have a uniform system that encourages global partnership within the framework of national interest, it is important to be guided by the MEA with regard to nations with which



SMRITI IRANI

collaboration can be sought".

"In the case of faculty exchange programmes and research projects partnerships, higher education institutions should always refer to general advisory about countries that the MEA may have in context of national interest. We may request the MEA to provide this ministry regular updates for guidance of higher education institutions with regard to partnership for faculty exchange and research projects with other countries. If the MEA advisory is available on the website, higher education institutions can follow them and go ahead with such partnerships. They shall keep the MHRD informed. Copies of MoUs may also be made available to the MHRD," it states.

The ministry's latest proposal is in tune with HRD Minister Smriti Irani's view. During a retreat of Vice-Chancellors of central universities in

Chandigarh last year, presided over by Irani, the ministry had asked all VCs to send MoUs signed by their universities "during the last 20-25 years, within a period of one week".

This also comes at a time when there is a controversy brewing over IIT-Delhi's MoU with the Mauritius Research Council for setting up an International Institute of Technology Research Academy in Mauritius, with the ministry claiming the MoU violates the IIT Act. The ministry has set up an inquiry into the MoU.

Interestingly, if finalised, this HRD ministry's proposal will revisit a ministry order of August 2004 which had withdrawn previous guidelines that mandated central universities, deemed universities and state universities to take permission of MHRD, UGC and concerned state governments for signing MoUs with foreign universities. The guidelines were withdrawn with the ministry noting it was an "unnecessary interference on the autonomy of institutions".

While the MHRD may be trying to regulate MoUs signed by such institutions and universities, they are all governed by different Acts which give them the freedom to collaborate with foreign universities as they

deem fit. For instance, the Central Universities Act, 2009, states that the universities can "cooperate or collaborate or associate with any other university of authority of institutions of higher learning, including those located outside the country, in such manner and for such purposes as the university may determine".

The IIT Act too states that "subject to the provision of this Act, every institute shall exercise the following powers and perform the following duties, namely to 'cooperate with educational or other institutions in any part of the world having objects wholly or partly similar to those of the Institute by exchange of teachers and scholars and generally in such manner as may be conducive to their common objects". The NIT Act, 2007, reads similarly. State universities, meanwhile, are governed by state Acts with most universities having their own Act. The ministry note also says with regard to higher education institutions setting up campuses outside or facilitating setting up campuses outside India, "prior approval of the MoU by the MEA and MHRD shall be a mandatory requirement". "They cannot proceed ahead without clearances," it adds.

IIT Delhi's Startup Showcase Competition Invites Startups to Pitch for INR 10L in Funding

<http://www.iamwire.com/2015/01/iit-delhis-start-up-showcase-competition-invites-application-inr-2m-cash-prizes/108443>

Entrepreneurship Development Cell (EDC), [IIT Delhi](#) is inviting applications for Start-up Showcase Competition event, in association with Foradian Technologies and LetsVenture. The competition will be held at IIT Delhi with an aim to provide a platform for the Indian Start-up Ecosystem to showcase their budding ventures to the mentors and investors from India and abroad.

It is a three-stage competition which offers prizes worth over INR 15 lakhs to the winners along with a trip to the Silicon Valley. The winner would get INR 10 Lakhs, where as the first and second runner up will receive INR 500,000 and INR 300,000 respectively.

The startups can submit their applications till January 25, 2015 after which around 40-45 start-ups would be selected for the second round. The selection into the third round would depend on the basis of the commitment of all the members of the startup regarding their idea. After getting selected into the third round, the startups would be assigned a mentor from some of the VC firms eg. Sequoia, Helion etc. and would be provided structured mentoring. The final stage of the Start-up Showcase Competition will be conclude on March 7, 2015.

Being entrepreneurship enthusiasts ourselves, we firmly believe that a startup cannot be judged in one day, and hence the competition is more of a process rather than a single event, spanning a period of three months, with each team monitored by a group of mentors beyond the first stage, hence ensuring a productive three months for each of the participating teams, EDC, IIT Delhi mentioned on its website.

IIT Jammu to function from rented building: Govt

<http://www.greaterkashmir.com/news/2015/Jan/20/iit-jammu-to-function-from-rented-building-govt-33.asp>

Jammu, Jan 19: The IIT for Jammu and Kashmir, the Centre proposed in this year's Union Budget along with five other states, is likely to start functioning from the next academic session.

Sources said that the state Government has proposed to make the IIT functional from rented / temporary buildings from the academic year 2015-16. Pertinently, the HRD Ministry has sent letters to each of the five states to identify two sites for setting up these prestigious institutes.

However the states had been asked to start them from temporary campuses till the selection of suitable campus site by an inspection team from centre, and its subsequent development.

The five new IITs would come up in J&K (Jammu), Chhattisgarh, Goa, Andhra Pradesh and Kerala.

In this regard, Divisional Commissioner, Jammu today asked the concerned authorities to identify 'temporary space/buildings for the functioning of IIT in Jammu from the academic year 2015-16'. As per an official spokesperson, the Div Com also called for 'early preparation of revenue papers for the IIT'. Pertinently, as per the guidelines of the union government, the state government has identified two 600 kanal land sites in Samba and Kathua districts for the establishment of IIT institute at one of the site as selected by the central team.

IISc prof leads in development of cancer drug with knock-out edge'

<http://www.bangaloremirror.com/bangalore/others/IISc-prof-leads-in-development-of-cancer-drug-with-knock-out-edge/articleshow/45948491.cms>

Sathees Raghavan led scientists from four different institutions across India in the discovery of ESCR7 -five times more effective than award-winning drug SCR7

A team of Indian researchers, led by a Bengaluru-based scientist, has significantly improved upon a cancer drug which they had earlier developed. The new cancer drug - the much-improved one - is now found to be at least five times more effective than its predecessor.

The new anti-cancer drug, named 'ESCR7', is being considered as a potent weapon to boost the fight against cancer. In fact, its earlier form - SCR7 - was itself considered to be effective in treating different types of cancers in combination with chemotherapy and radiation treatment, according to Prof Sathees Raghavan, associate professor, IISc's Department of Biochemistry, who led the research.

Prof Raghavan, in fact, was awarded the Shanti Swarup Bhatnagar Prize 2013 for his and his group's work that led to the discovery of SCR7 which was found to successfully bind to a protein found in mammals called Ligase IV that blocked the DNA repair pathway to cause cancers.

Now the researchers have improved that very compound to give it much more punch to knock off cancers.

The group, led by Prof Raghavan and Prof Jinu George, assistant professor in Department of Chemistry at Sacred Heart College Thevara at Kochi, modified the award-winning SCR7 by encapsulating it in a polymer to deliver ESCR7.

This they did by encapsulating the former in a nano-carrier to improve its bio-availability. Bioavailability is the proportion of a drug that enters the circulation when introduced into the body. In this case, they found the ESCR7 circulated more than the SCR7 and was found to be much more effective.

"Encapsulation of drug in nano-sized carriers like polymers or artificially synthesised molecules help in easy transport of the drugs to target cells through the blood stream and also prevents the drug from getting degraded before being released," said Supriya Vartak, from IISc and a co-author of the study, which has been published in the journal *Macromolecular Bioscience*.

The encapsulation allowed use of smaller doses of the drug.

SCR7 was encapsulated in a polymer known as "pluronic block copolymers" which increased its solubility in water, and therefore its bioavailability.

The research group used different investigative biological procedures to arrive at the conclusion - that ESCR7 is at least five times more effective than its parent compound SCR7. The ESCR7 is found to be more efficient in binding with such cancer-causing proteins that block biochemical pathways that repair the DNA.

The study was the result of collaboration between IISc, Sacred Heart College Thevara, Kochi, Bhabha Atomic Research Centre, Mumbai, and KLE University, Bengaluru.

Bengaluru fifth most polluted metro: IISc study

Bosky Khanna, Bengaluru, Jan 20, 2015, DHNS

<http://www.deccanherald.com/content/454514/bengaluru-fifth-most-polluted-metro.html>

City may top list if govt fails to act now, says expert

A study by the Indian Institute of Science (IISc) shows that Bengaluru ranks fifth in the list of 10 most polluted major cities in the country and is climbing up the ladder.

As per the report, Delhi is the most polluted city and next in line are Greater Mumbai, Kolkata, Chennai and Greater Bengaluru in the same order. The report titled 'Renewable and Sustainable Energy' was prepared by a team of researchers and students headed by Prof T V Ramachandra, from Energy and Wetlands Research Group, Centre for Ecological Sciences and associate faculty at the Centre for Infrastructure, Sustainable Transportation and Urban Planning (CiSTUP), IISc. The team studied the cities of Delhi, Greater Mumbai, Kolkata, Greater Bengaluru, Hyderabad, Ahmedabad, Coimbatore, Bhopal, Pune and Kochi.

The study estimates GHG (greenhouse gases) footprint of GHG emissions (in terms of CO2 equivalent) for these cities and explores the linkages with the population and GDP. GHG footprint (aggregation of carbon dioxide equivalent emissions of GHG) of Delhi, Greater Mumbai, Kolkata, Chennai, Greater Bengaluru, Hyderabad and Ahmedabad are found to be 38,633.2 Gg, 22,783.08 Gg, 14,812.10 Gg, 22,090.55 Gg, 19,796.5 Gg, 13,734.59 Gg and 9,124.45 Gg CO₂, respectively.

The major contributor sectors are transportation (contributing 32 pc, 17.4 pc, 13.3 pc, 19.5 pc, 43.5 pc, 56.86 pc and 25 pc), domestic sector (contributing 30.26 pc, 37.2 pc, 42.78 pc, 39 pc, 21.6 pc, 17.05 pc and 27.9 pc) and industrial sector (contributing 7.9 pc, 7.9 pc, 17.66 pc, 20.25 pc, 12.31 pc, 11.38 pc and 22.41 pc) of the total emissions in Delhi, Greater Mumbai, Kolkata, Chennai, Greater Bengaluru, Hyderabad and Ahmedabad, respectively. Chennai emits 4.79 tonnes (t) of CO₂ equivalent emissions per capita, the highest among all the cities followed by Kolkata which emits 3.29t of CO₂ equivalent emissions per capita. Also Chennai emits the highest CO₂ equivalent emissions per GDP (2.55t CO₂ eq/lakh Rs) followed by Greater Bengaluru which emits 2.18t CO₂ eq/lakh Rs.

Explaining the report, which will soon be published and submitted to the government, Ramachandra told Deccan Herald, "The study included analysing industrial pollution, fossil fuel, electrical energy, waste generated and managed, human and vehicular population.

We studied the growth pattern of cities in the last five years (2009-14) and current developing trends. We found that Bengaluru was following in the footsteps of Beijing, which is the highest polluter in the world and if the government does not plan carefully, Bengaluru will top the charts.

He said: Another major problem in Bengaluru, like other cities, is mismanagement of solid and liquid waste. Methane emission has increased in cities Sewage is also found lying in open vacant sites for longer time and is adding to global warming. There is a need for true implementation of the Swachh Bharat campaign and control the GHG emission from vehicles. The aggregation of GHG emissions of all sectors reveal that GHG emissions in major cities in India ranges from 38,633.20 Gg/year (Delhi) to 22783.08 (Greater Mumbai), 22,090.55 (Chennai), 19,796.60 (Greater Bengaluru), 14,812.10 (Kolkata) and 13,734.59 (Hyderabad).

Wanted to steer DRDO into global arms market: Chander

Hindustan Times (Chandigarh)

MY BIGGEST DREAM WAS TO EXPORT DRDO-DEVELOPED WEAPON SYSTEMS. IT WOULD HAVE BEEN THE HIGHLIGHT OF MY 42-YEAR-LONG CAREER.

AVINASH CHANDER, former DRDO chief

NEW DELHI: Avinash Chander on Monday said he respected the government's decision to truncate his term as the Defence Research and Development Organisation (DRDO) chief but regretted that it had cut short big dreams too.

In an exclusive interview to HT, his first after being sacked on January 13, Chander said the government was free to take decisions but he would harbour the regret that he wouldn't be around to steer the DRDO's foray into the lucrative global arms market.

"My biggest dream was to export DRDO-developed weapon systems. It would have been the highlight of my 42-year-long career," said Chander, whose contract is being terminated on January 31 — 16 months before his term ends. The government cut short Chander's term as it wanted someone younger to man the crucial post.

Chander is the man behind the Agni series of missiles whose existing variants can hit targets at ranges of 700km to 3,500 km. Future versions of the series are expected to cross the 5,000-km mark.

He said India's strategic missile programme was the DRDO's crown jewel. "India's missile capability was zero when I joined in 1972. Today we can proudly claim it compares with the best in the world," he said.

The new DRDO chief will take over at a time when a major restructuring of the organisation is underway. Chander said the projects that would require his successor's immediate attention include final operational clearance of the light combat aircraft, delivering the longrange surface-to-air missile, crucial upcoming trials of the Astra beyond- visual- range air-to-air missile and flight tests of Rustom-2 unmanned aerial vehicle.

He said the active electronically scanned array radar for the LCA and the artillery gun project would also require close monitoring.



On PM Narendra Modi's Makein-India campaign, he said it would help the country carve out a place for itself in the global arms market and drive the DRDO to become more competitive.

Is there a message in DRDO chief's exit?

By removing Avinash Chander last week, the government has chosen to sacrifice the organisation's most potent symbol of success

http://www.business-standard.com/article/economy-policy/is-there-a-message-in-drdo-chief-s-exit-115011901105_1.html

In November, while accompanying Prime Minister [Narendra Modi](#) to Nepal, [Special Protection Group](#) chief [Durga Prasad](#) learned of his unceremonious exit from his job of providing personal security to the leader he was travelling with.

In much the same vein last week, Defence Research & Development Organisation (DRDO) chief Avinash Chander, at the fag end of a trip to Pune with Defence Minister Manohar Parrikar, learned that he was being removed from his job. The information came from journalists who had read a notification (hastily taken down later) on the website of the government's department of personnel and training. Since nobody bothered to inform Chander, he went to office the next morning as if nothing had happened, until Parrikar told the media that the accomplished missile scientist was being removed to make way for "someone good from the DRDO, who has the urge for development." Parrikar said he wanted someone young as [DRDO](#) chief; a retired employee, hired on contract, should not hold the job.

Parrikar did not explain why his own ministry had, just 45 days earlier, on November 28, 2014, granted Chander an 18-month extension to head DRDO till May 31, 2016. The most charitable explanation could be that Parrikar had taken over as defence minister just 18 days before that and had signed off on Chander's extension without considering it properly. Yet, that does not explain why Chander was removed so peremptorily without even the dignity of an advance warning. If Parrikar was signalling to the DRDO that failure was no longer an option, he chose for a sacrificial lamb in the organisation's most potent symbol of success.

Hasty farewell

It was an unceremonious end to the distinguished career of a child from a refugee family from Mirpur, now in Pakistan Occupied Kashmir. Recounting his personal story to Business Standard after taking over as DRDO chief in June 2013, Chander described his family's harrowing journey to India and a childhood in a one-room home in Old Delhi. After a succession of government schools, Chander was selected to join IIT Delhi, from where he went straight to DRDO in 1972. His MTech and PhD came later in his career.

Those were heady days for a fledgling organisation that was building ballistic missiles that could carry nuclear bombs to targets hundreds of kilometres away. After India's "peaceful nuclear experiment" on May 18, 1974 - codenamed "Smiling Buddha" and conducted on Buddha Jayanti - international technology sanctions forced DRDO to build everything from scratch. Fortunately, they had the men for the job. Chander quickly emerged as leader of the team that designed navigation systems; another youngster, Vijay Kumar Saraswat, who joined DRDO just 10 days before Chander, masterminded the development of propulsion systems.

The band of young scientists who coalesced around these two were taken under the wing of DRDO legend [APJ Abdul Kalam](#) - later India's president. Kalam's Integrated Guided Missile Development Programme was successful from the start, even as DRDO struggled on other technology fronts. The liquid-fuelled Prithvi missile was developed in the 1980s and 1990s, followed by the Agni series, culminating in the [Agni-4](#) and [Agni-5](#) missiles that - with ranges of 4,000-5,500 kilometres - provide India the ballistic missile capability it needs to deter China. Chander and Saraswat also delivered the underwater-launched K-15 missile, which allows nuclear-powered Arihant-class submarines to fire nuclear-tipped ballistic missiles, completing India's nuclear triad. This is now being developed into the 4,000-kilometre range K-4

missile.

Given the almost unalloyed career success of both these scientists and the wide respect they enjoyed within the organisation, it was hardly surprising that both rose to head the DRDO - first Saraswat in 2009-2013, succeeded by Chander on June 1, 2013. Far more remarkable is the contrasting fortunes of these two after achieving that pinnacle. Last week, Saraswat was appointed full-time member of the NITI Aayog, the revamped planning commission, with the rank of minister of state. This week, Chander lost his job.

Conspiracy theorists have been quick to conclude that Saraswat somehow engineered Chander's exit. In fact, the two have been close friends and colleagues for decades. In his interaction with Business Standard in 2013, Chander warmly described his relationship with Saraswat thus: "We have been good, close friends from the beginning."

The reality is that the hard-driving Saraswat was temperamentally inclined towards the Bharatiya Janata Party, joining a technology think-tank associated with the Sangh Parivar-linked Vivekananda International Foundation, which served as his springboard into the National Democratic Alliance (NDA) government. The laid-back Chander, as technologically gifted but visibly an appointment of the United Progressive Alliance government, found himself in the firing line. He was particularly vulnerable being a contract employee. While he had been appointed on June 1, 2013 for a three-year tenure as DRDO chief, his regular employment terminated in November 2014 when he became 64 years old - the age of retirement of scientists with the Central government. For the next 18 months, he would have had to serve on contract.

Since May, when the NDA government came to power, it was whispered that Chander would not be retained on contract when he superannuated in November. The rumours became more persistent after Modi, at the DRDO's annual awards ceremony on August 20, appeared underwhelmed by the organisation's achievements. While it was widely reported that the Prime Minister criticised DRDO's "chalta hai", or easy-going, attitude, he had actually referred to a nationwide lackadaisicalness. Modi's more trenchant criticism centred on the disconnect between DRDO and the military ("Has the jawan ever seen the rishi who has laboured in a laboratory for 15 years? When this happens, it will be very good"). The Prime Minister also implicitly criticised DRDO's focus on high-tech equipment while jawans hankered for better personal kit, including lighter boots and water bottles. In a statement that resonated after Chander's termination, Modi proposed empowering younger scientists by manning five of the 52 DRDO laboratories exclusively with scientists under 35. "We need labs in India that utilise raw talent, that employ people only below the age of 35. Let us allow these young scientists full decision-making power," Modi had said.

There is a dispute over whether junior DRDO scientists believe they are stifled and denied growth opportunities. Some argue that junior-and-mid-level DRDO scientists look to quit the organisation because promotion avenues are blocked by service extensions routinely granted to top officials. The counter-argument is that few DRDO scientists wish to leave a top military research establishment that provides both cutting-edge technological challenges and an annual budget of about Rs 15,000 crore (2014-15). Figures presented in Parliament on December 9, 2013, support the latter argument. In the five years from 2008 to 2013 (excluding December 2013), just 487 of the DRDO's 7,500 scientists resigned, a remarkably low annual attrition rate of about 1.3 per cent per year.

The elusive young head

Even so, following Modi's comments, rumours swirled about a government "search committee" that was looking for a successor, with Sekhar Basu of the Department of Atomic Energy (DAE) believed to be the outsider chosen to revitalise the moribund DRDO. The rumours held that Chander would not be put out to pasture. Instead, the three posts that he held - secretary (defence R&D), director general of the DRDO (being upgraded to chairman, DRDO); and scientific advisor to the Raksha Mantri- would be split. Basu would take over as director general of DRDO, while Chander would continue

as scientific adviser to the defence minister. One of them would additionally hold the post of secretary (defence R&D).

All this appeared to be water under the bridge when on November 28, two days before Chander was to superannuate, the defence ministry granted him an 18-month contract from December 1, 2014 to May 31, 2016, under the same terms and conditions that he enjoyed as secretary (defence R&D). The matter seemed settled; Chander apparently enjoyed the government's confidence.

Parrikar's media statements on Wednesday have confused the speculations. The defence minister says he wants someone from DRDO, while Basu is an outsider from the Department of Atomic Energy. Nor is Basu young by any reckoning; he is already on a two-year extension after having retired at the age of 60.

Within DRDO, shocked senior scientists are also looking around them warily for the man who might succeed Chander (there are no women in the running). The seniormost after Chander is S Tamilmani, the aeronautics chief, who is closely associated with the Tejas light combat aircraft (LCA) programme. Yet Tamilmani, who is nearing 62 years, has already received one extension. This is also the case with the next in line, the brilliant VG Sekaran who has long been a key mastermind of DRDO's Agni missile programmes and currently oversees all missile projects. Further down in seniority is another hot contender, radar specialist S Christopher, who heads the project to develop an Airborne Early Warning and Control aircraft, a flying command post from where the air force battle would be controlled. Christopher turns 60 in mid-2015.

Those who believe that the political leadership might carry out "deep selection" of a relatively young scientist who would bring a brand new perspective and serve a long tenure as chief, are placing their money on Satheesh Reddy, who currently heads the missile electronics laboratory, Research Centre Imarat, in Hyderabad. Elected last year as a fellow of the UK's Royal Aeronautical Society, Reddy is internationally recognised for his work in navigation systems. Missile scientists like Sekaran and Reddy benefit from their roots in DRDO's most successful vertical, one that still consumes most of the organisation's budget.

While DRDO scientists lick their wounds after Chander's contract termination, several believe that he remains in the picture. Top defence ministry officials confirm they are still examining the proposal to split the three positions traditionally held by the DRDO chief. That could see the organisation headed by a new, young chief, while Chander continues as the adviser to the minister. That would only be justice for a scientist whose name would feature prominently in anyone's history of the DRDO.

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ET Q&A

VIJAY GOVINDARAJANMARVIN BOWER FELLOW, HARVARD
BUSINESS SCHOOL

The leading expert on strategy and innovation believes Indian companies are ideally positioned to drive innovation, with the abundance of talent in the country

'Reverse Innovation is a Big Opportunity for India Inc'

'Reverse innovation', or any innovation adopted first in the developing world, is consistent with Prime Minister Narendra Modi's philosophy of 'Make in India', says **Vijay Govindarajan**, Coxe Distinguished Professor at the Tuck School of Business at Dartmouth College and Marvin Bower Fellow at Harvard Business School. He worked with GE's CEO Jeff Immelt to write 'How GE is Disrupting Itself' in the Harvard Business Review, which pioneered the concept of reverse innovation. HBR picked reverse innovation as one of the 'great moments' in management in the past century. **Rica Bhattacharyya** caught up with Govindarajan, one of the world's leading experts on strategy and innovation, during his recent visit to IIT Bombay. Edited excerpts from an interview:

What opportunities does reverse innovation pose for corporations in emerging economies, particularly India?

There is a huge opportunity for corporations in the emerging economy because reverse innovation is about reversing the process of innovation. Innovation usually starts with a rich country and goes to a poor country. Reverse innovation is about doing exactly the opposite.

It also understands the problems of the poor because local companies understand the local consumer and have local resources for the innovation. Therefore reverse innovation is the single biggest opportunity for companies in India.

POWERING INNOVATION

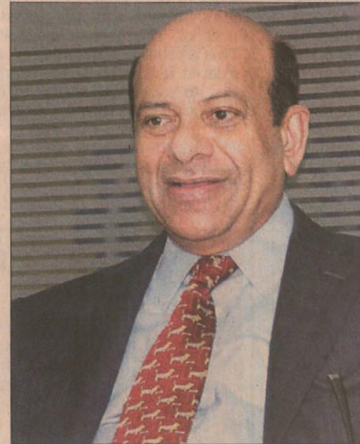
Education is the backbone of innovation. We cannot use the western business model. We have to use the power of digital technology to completely change the game

How would you place reverse innovation in the context of the 'Make in India' campaign?

It's absolutely consistent. What Narendra Modi is saying is that the growth path for India is going to be innovation and if you innovate for the Indian consumer you also have to make it in India. That's going to create jobs and more importantly, create competitiveness globally for Indian companies because you use that innovation to go abroad. Also, what Modi is saying is that the way to attack poverty in India is through building businesses, by growing the economy. Therefore reverse innovation fits squarely.

Which sectors are likely to benefit most from reverse innovation in India?

The three biggest sectors in which this applies are energy – we can become global leaders in renewable energy; healthcare – we can come up with affordable, high quality healthcare products; and education – we can teach the rest of the world how



you give high quality education to the masses.

How can Indian companies drive innovation? What qualities must a leader possess to foster and lead innovation?

Indian companies are ideally positioned for this because they have tremendous human talent. India has English-speaking, highly skilled people. We have almost 100% mobile connectivity, which means urbanisation of mind. We have got all the ingredients and therefore it is a leadership chal-

lenge. We have the human capital, which leaders have to step up and give big ideas. Innovation is absolutely the answer for India.

What role can our education system play in fostering innovation?

Education is the backbone of innovation because it builds capabilities. Fortunately, in India, we already place a high premium on education. What we need now is to educate the masses. We have to think of fundamentally new business models. We cannot use the western business model; we can't build so many brick-and-mortar universities. We have to use the power of digital technology to completely change the game in education.

What message would you like to give to the growing tribe of young entrepreneurs in India?

I am absolutely excited about it, because we need entrepreneurs to pull off innovation. Think about Silicon Valley – how much great wealth and value has been created. Ultimately innovation depends on creating more entrepreneurs.

Can your \$300 house project address the housing crisis in India?

We have so many slums in India and people in villages who don't have proper houses. So this (\$300 housing) has enormous potential (for India). The government has to play an important role because we have to give land, which is very expensive. NGOs have to play an important role too. But ultimately businesses have to step in.