

PM's Visit to Israel

When it comes to innovation, what is it that India, which has its own IT industry, engineers, innovation culture, learns from Israel?

What we really need to learn from the Israelis is the seamless manner in which they have cooperation between industry, academia and government. We have to learn from their universities, how they have technology transfer companies based right on their campuses, who help convert theory into useful products in a very short period of time. We have a developed system, but the areas where they have start-ups far exceeds what we have. This is a country that has no automotive industry for example, and yet they are the R&D centre for autonomous cars (self-driving) in the world. We also need to have Israeli companies look more at the Indian market.

So far, Israeli start-ups have looked at American investors and buyers, but Indian firms could do the same with larger markets and cheaper production lines.

“Made in India” intrusion detection system for security of PM's residence

NEW DELHI: The government aims to upgrade security at the prime minister's residence with a new Perimeter Intrusion Detection System (PIDS) to help keep watch over the complex at 7, Lok Kalyan Marg (LKM). It will be indigenous in nature with the government specifying that all key components have to be "Indian made".

The Special Protection Group (SPG) will be overseeing the installation and commissioning of the PIDS by mid-2018, said people with knowledge of the matter. The system will have the latest sensors that will help detect any intrusion attempt into the complex through the 2.8 km perimeter. ET could not independently verify the existing perimeter security system although CCTVs are visibly in place. Given that the area has busy thoroughfares such as Lok Kalyan Marg and Teen Murti Marg running alongside, security concerns have always been high.

"All major systems and subsystems of PIDS should be of Indian make and the make/model of the same should be reflected while making a bid," the SPG has specified in bid documents reviewed by ET and issued last week.

The winning bidder will have to train 10 SPG officers for operating the system once it's up and offer round-the-clock maintenance.

The PIDS has to be installed and commissioned within three months of the work being awarded by the SPG. Prospective bidder ..

New PIDS systems were recently installed at the Delhi and Hyderabad airports to detect movement around the boundaries

They involve a covert radio frequency intruder detection system, a secondary active infra-red intruder detection system and a comprehensive CCTV surveillance system with each perimeter detection zone having a dedicated CCTV camera associated with it.

An invisible infra-red beam fence is generated by the system and any breach triggers an alarm in the control room.



“India to Play Key Role in Forming 5G Standards



- ▶ NEW DELHI: India would play an important role in developing global 5G technology standards, with the newer technology poised to become a robust part of the Digital India initiative, a top official of the Department of Science and Technology said.
“As 5G standards process has started globally, India would be one of the important players in formulating standards for it,” Ashutosh Sharma, secretary, Department of Science and Technology (DST), told ET, adding that earlier in 3G and 4G, India had missed the bus in giving inputs for relevant standards.
- ▶ Sharma is also a co-chairman of the high-level 5G Forum constituted by the Narendra Modi-led NDA government in September 2017 to evaluate and prepare a roadmap to adopt the newer technology in tandem with the global timeline of 2020, and position India as a globally synchronised participant in design, development of 5G-based technology applications.
- ▶ The government-led panel also includes representatives from private players: Gopal Vittal, chief executive, India & South Asia at Bharti Airtel, and Sanjay Mashruwala, MD of Reliance Jio
- ▶ Telecom Standards Development Society, India (TSDSI), as a member of 3GPP (Third Generation Partnership Project), is representing India in 5G standards discussions worldwide. As part of 3GPP, first specifications for 5G technology have been recently released with support from the likes of AT&T, BT, Vodafone, Deutsche Telekom, NTT, Verizon and Huawei.
- ▶ The Indian government is eyeing 5G technology to boost the initiative — Digital India — launched in 2014 at an initial outlay of ₹1.13 lakh crore with the aim to digitally facilitate 1.3-billion Indians through a bouquet of citizen-centric services.
- ▶ “Digital India is all about empowering people and enabling industries bringing relevant skillset for India. 5G, leading to better connectivity, would be a strong part when comes to Digital India,” Sharma said.
- ▶ The official believes unprecedented opportunities drive applications in sectors such as agriculture, fisheries, healthcare and manufacturing.
- ▶ “This 5G will propel Industry 4.0 where we need machines to communicate between each other with integrated communications:

Railways to Start Largest Track Renewal Exercise

-Indian Railways will soon start its largest track renewal exercise, targeting the replacement of 8,000 km of old and depleted lines on trunk routes at an estimated cost of Rs 10,000 crore and overhauling the entire signalling network to improve safety.

-The railways hopes this will reduce the number of derailments by 50 per cent in the next two years. It will invite global tenders for the procurement of rails. "This length of 8,000 km would be taken starting next financial year and we would wrap up the work by the end of FY20. These are the high-density tracks for Indian Railways. We're working towards an accident-free network," a top government official said.

-Indian Railways replaces about 2,500 km of old tracks on an average every year. In the current financial year, it's renewing almost 3,000 km. It has a total route network of 64,000 km. The ministry is also looking at bringing in advanced signalling systems to allow trains to operate at higher frequency even on busy routes. "A new signalling technology will soon be introduced in railways. It will be the biggest-ever technology upgrade," the official added.

-Indian Railways is seeking almost Rs 15,000 crore from the finance ministry in the next budget for its safety fund and related works. This money will be spent on renewal of tracks, repairing of old bridges, upgrading the signalling network and removing unmanned level crossings.

-The finance ministry allotted about Rs 5,000 crore for the safety fund this financial year. Rail Board chairman Ashwani Lohani recently said that the number of train accidents has reduced.

-He said the railways was in the process of filling 1lakh posts related to safety works in the national transporter.

-"Train accidents have been continuously decreasing from 135 in 2014-15 to 107 in 2015-16 and down to 104 in 2016-17," minister of state for railways Rajen Gohain recently said in the Rajya Sabha.



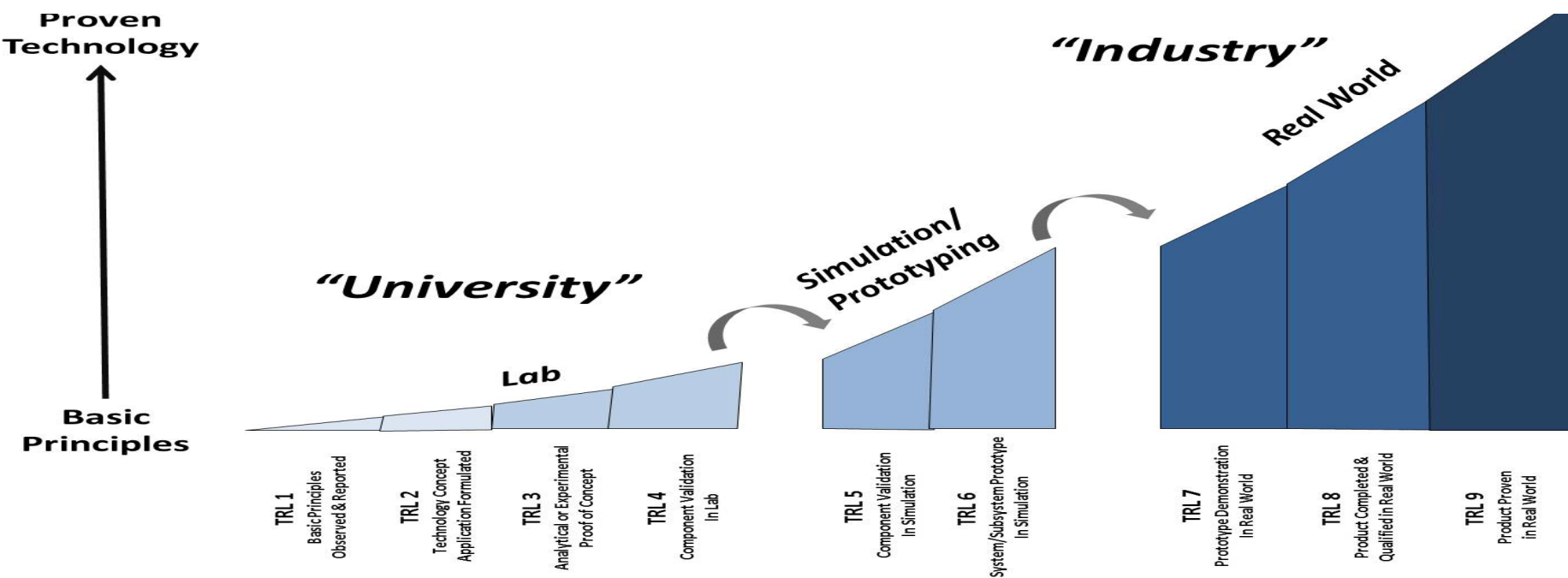
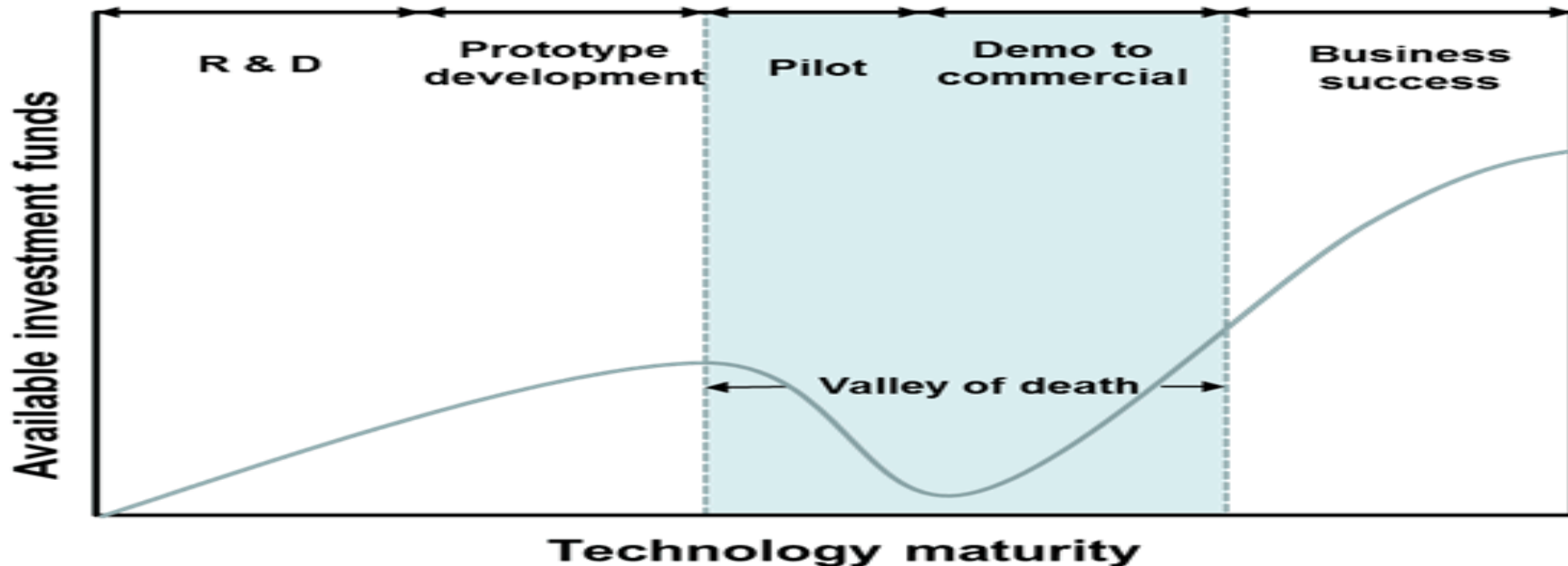
Insurance firm looks to IIT-M to improve sprinklers

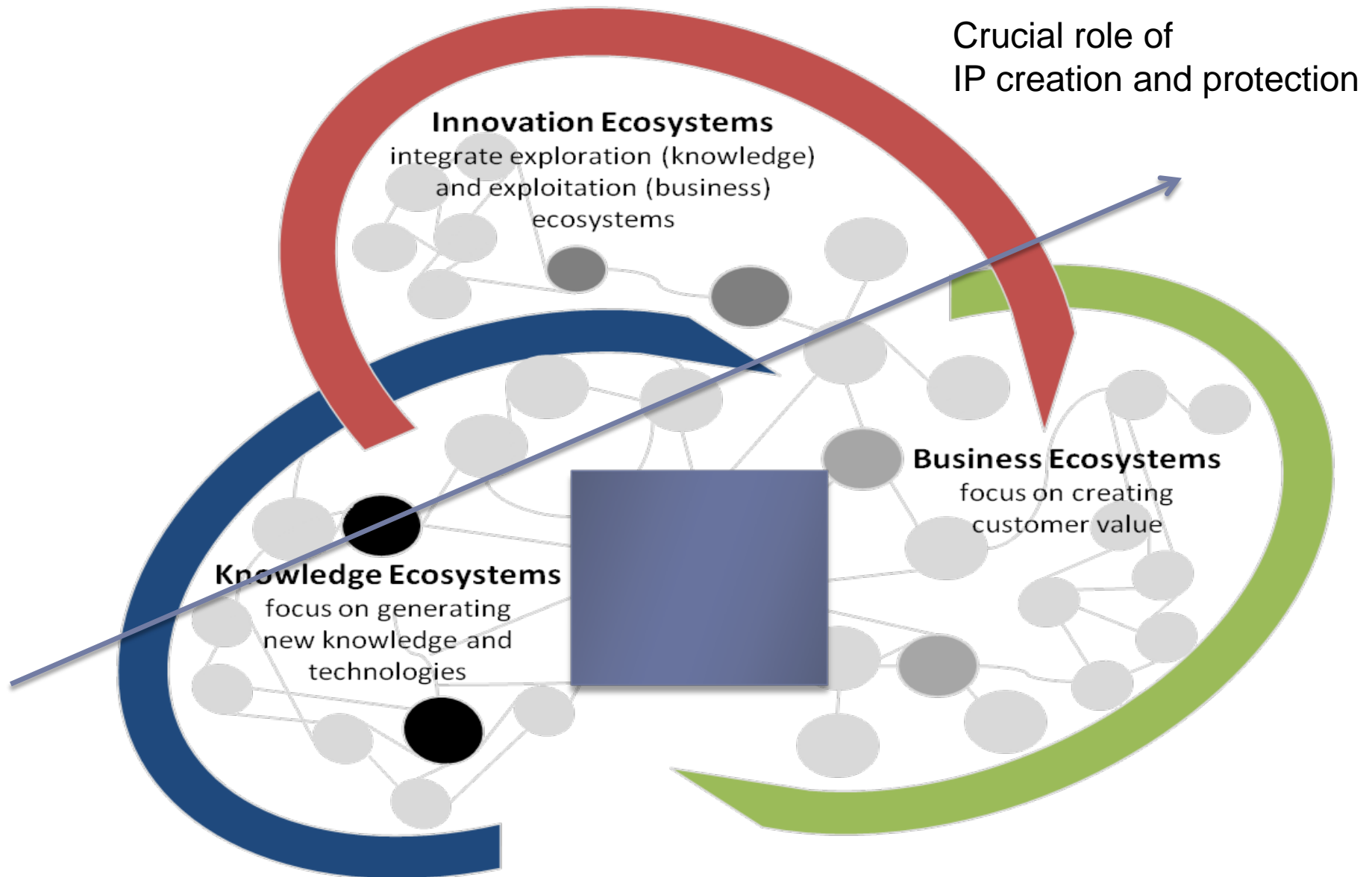


- ▶ The new model aims to reduce use of water and property damage in case of fire accidents
- ▶ Swanky malls are attractive hangouts. How fire-proof are they? With malls allocating space for eateries, safety measures remain a concern as studies by international agencies have found that 98% of malfunction of sprinkler systems could be due to human error.
- ▶ While stringent rules could save lives, often insurance companies find themselves settling huge claims when goods are damaged by water used to douse the fire. The flip-side of sprinkler systems are that they are designed to drench the room to prevent fire from spreading. As a result, water damages the stored property.
- ▶ The United States-based insurance company FM Global's search for an answer ended at the National Centre for Combustion Research and Development of the Indian Institute of Technology - Madras. The company has entered an agreement with the Institute to develop a sprinkler design that would reduce water use and thereby reduce damage to stored goods.
- ▶ The design for sprinklers remains a trial-and-error method. When fire begins and the sensors are activated, the sprinkler system automatically starts spraying water. The fire may have started elsewhere but the sprinkler would douse the entire floor.
- ▶ Chetankumar S. Vegad, a Ph.D student at the Institute's Aerospace Engineering department, is working to improve on the existing design. "The final outcome is water droplets. Our primary objective is to find how the droplet forms. Several forces like pressure, surface tension, inertia and gravitation. We want to make the optimum use of water but create a large mist that will react with the flame plume to suppress fire," says Chetan.

Studying with laser

- ▶ He uses laser to study the spread of water into fine droplets and how they react at different conditions. Chetan's ultimate aim is to design a sprinkler nozzle to spray fine droplets that will evaporate and cause a water vapour blanket that will not only suppress the fire but also diminish damage to stored goods.
- ▶ "In the 1970s, the buildings were compartments but with large malls and fancy architecture, the sprinkler systems are losing ground, unable to do the best thing," says Chetan's guide and professor S.R. Chakravarthy, who is also the coordinator of the NCCRD.





National IPR Policy

► Vision Statement

An India where creativity and innovation are stimulated by Intellectual Property for the benefit of all; and India where intellectual property promotes advancement in science and technology, arts and culture, traditional knowledge and biodiversity resources; an India where knowledge is the main driver of development, and knowledge owned is transformed into knowledge shared.

► Mission Statement

Stimulate a dynamic, vibrant and balanced intellectual property rights system in India to:

- Foster creativity and innovation and thereby, promote entrepreneurship and enhance socio-economic and cultural development, and
- Focus on enhancing access to healthcare, food security and environmental protection among other sectors of vital social, economic and technological importance



NATIONAL INTELLECTUAL PROPERTY RIGHTS POLICY

12th May 2016

Government of India
Ministry of Commerce and Industry
Department of Industrial Policy & Promotion

12th May 2016

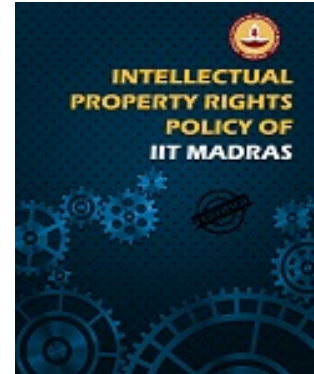
Policy – Objectives laid out

- 1: IPR Awareness: Outreach and Promotion
- 2: Generation of IPRs
- 3: Legal and Legislative Framework
- 4: Administration and Management
- 5: Commercialization of IPR
- 6: Enforcement and Adjudication
- 7: Human Capital Development



IPR Policy

- ▶ “ ..encourages the protection & licensing of such IP to organizations which can effectively utilize the same for commercial exploitation. This would yield financial returns to the institute, and partially support R & D efforts”



- ▶ Guidelines
 - ▶ Ownership of IP > Need to keep IP Cell informed
 - ▶ Indian & International filing
 - ▶ Support from Institute and Cost Sharing
 - ▶ Revenue sharing
 - ▶ Rights and obligations

-
- ▶ A copy of the Institute's IP Policy can be accessed from the Web -site

Research to Market: An IITM Case



IP Licensing to Nanoholding
Indian 14
International 8 PCTs , 64
National entries (16
countries)

Stake in “Inno Nano” incubator

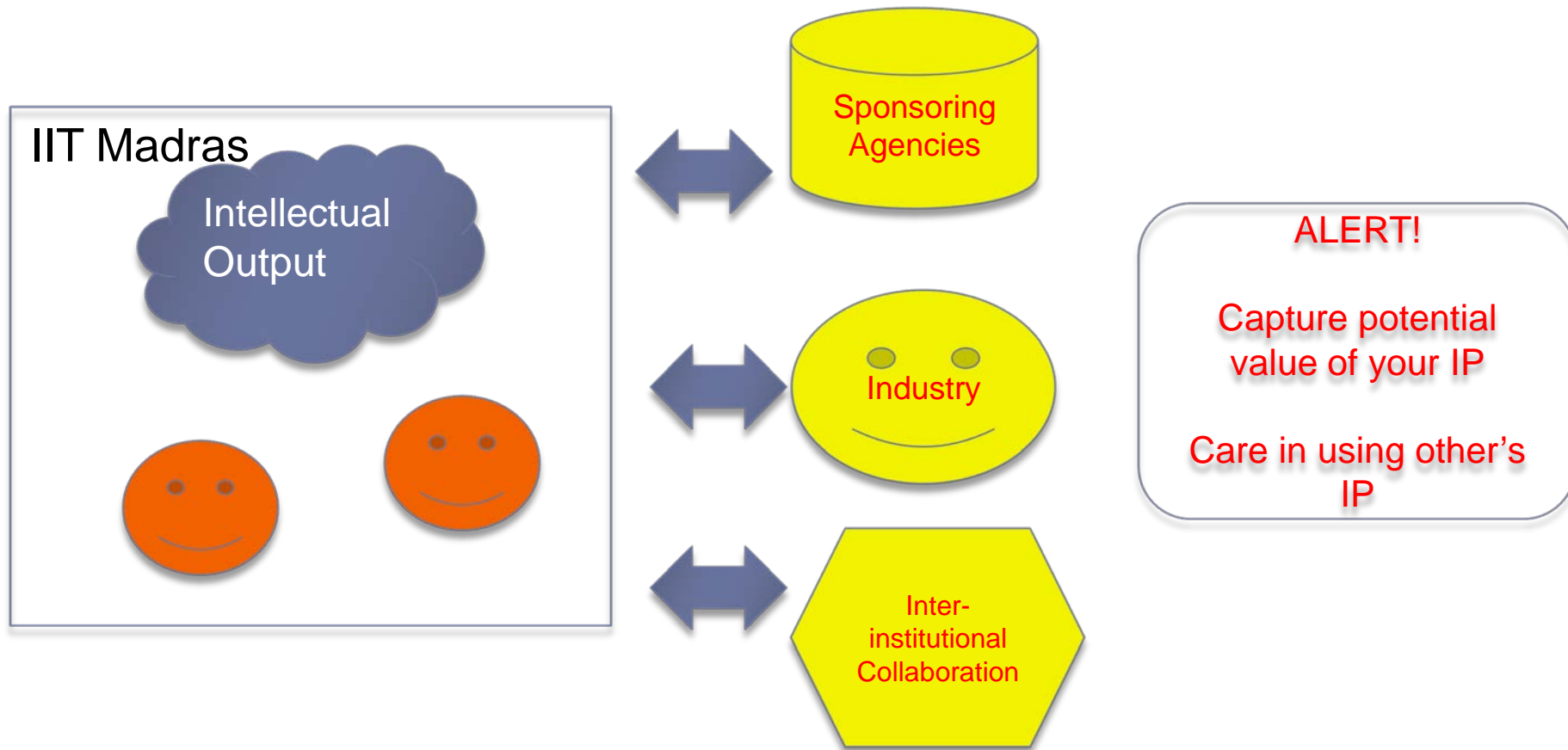
- IIT M Funding: Rs 15 L
- Funding by Nanoholding:
Rs 5 Cr



- Licensing revenues Rs 1 Cr & future royalties
- Valuation of Company: Rs 250 Cr
(IIT M Holding 5%)



Generating and commercializing IP is a key national priority!



US varsity cites 2 Indians' work in \$862 mn patent win against Apple

Chidanand.Rajghatta
@timesgroup.com

Washington: Gurinder Sohi and T N Vijaykumar are not names that will leap out of your latest iPhones as you gush over the performance of Apple's much-coveted devices. But the work of these two Indian researchers, alumni of BITS-Pilani, is central to a patent lawsuit that may result in Apple having to cough up \$862 million in a landmark case that underscores the seminal role that university research — and Indian engineers — play in the American high-tech eco-system.

A US jury on Tuesday found the iPhone maker incorpo-



Gurinder Sohi & T N Vijaykumar are alumni of BITS-Pilani

rated technology owned by the University of Wisconsin-Madison's licensing arm without permission in chips found in many of its most popular devices. The case relates to Apple's use of A7, A8, and A8X chips, which are present in the iPhone 5S, iPhone 6 and the new iPhone 6S (plus some models of the iPad), and which are said to

contain technology covered by a 1998 patent filed by the Wisconsin Alumni Research Foundation (aka WARF).

In court documents, WARF, which is the designated patent management organization of University of Wisconsin-Madison and uses revenue from patents to support research of its alumni, cited the work of four researchers, including Sohi and Vijaykumar, as being central to improving the performance of the chips Apple used. Their work, outlined in a paper titled "Table based Data Speculation Circuit for Parallel Processing Computer," had received patent #

5781752 or the simply known as the '752 patent,' the University said.

US District Judge William Conley, who is presiding over the case, has indicated Apple could be liable for up to \$862.4 million in damages. He has scheduled the trial to proceed in three phases: liability, damages, and finally, whether Apple infringed the patent willfully, which could lead to enhanced penalties.

Sohi has been a faculty member at the University of Wisconsin-Madison since 1985. Vijaykumar is professor of electrical and computer engineering at Purdue University.

Essential Familiarity

- ▶ What is Intellectual Property & Types?
- ▶ How to recognize IP & potential value?
- ▶ Institute's IP Policy
- ▶ Resources you could leverage!
 - ▶ IPR Filing !
 - ▶ Commercialising or transfer of value to society



IP at a Glance



➤ **Patents** : New products & Processes)
Water treatment technologies; New Biotech process



➤ **Copyrights**
Softwares ; Books ; Published material etc



➤ **Integrated Circuit layout designs**



➤ **Plant Breeder's Rights**



➤ **Designs**
Water Treatment unit;



➤ **Copyrights**
Literary, Dramatic pieces



➤ **Trademarks**
Blackberry, KORE-MOOL



➤ **Geographical Indications**
Darjeeling Tea



➤ **Trade Secrets**
Coca Cola, Pepsi

▶ Please attend our regular OPEN FORUMS ! > Schedule on “Announce”

Intellectual Property Eco-system @ IIT M



ICSR IPM Cell

GMK Raju
Plus Team

Department of Management

Dr Feroz Ali
(IPR Chair Professor)

Commercialization

Marketing , Agreements etc

IPR Administration

Filing , Prosecution , Maintenance

Capacity Building

Awareness , Drafting, Search

Network of Service Providers

IITM Homepage : Locating IP Resources

Navigation bar: About IIT Madras | R & D @ IITM | Study @ IITM | Learning for all | International relations | Giving Back to IITM | Media | News & Events

Left sidebar: Administration | IITM Journal | Incubation Cell | Post-Doctoral Opportunities | Technology Transfer

Top right: Social media icons (Facebook, LinkedIn, Twitter, Google+)

Search bar: Search []

Dropdown menu (R & D @ IITM):

- Research Highlights
- Research Park
- Industrial Consultancy
- Industrial Consultancy (Internal)
- IITM Journal
- Incubation Cell
- Post-Doctoral Opportunities
- Technology Transfer

Yellow callouts:

- Industrial Consultancy & Sponsored Research External (points to Industrial Consultancy)
- Industrial Consultancy & Sponsored Research Internal (points to Industrial Consultancy (Internal))
- TECHNOLOGY TRANSFER (points to Technology Transfer)

Background image: IIT Madras sign with text in Tamil and English: "இந்திய தொழில்நுட்ப கழகம் சென்னை" and "Technology Madras"

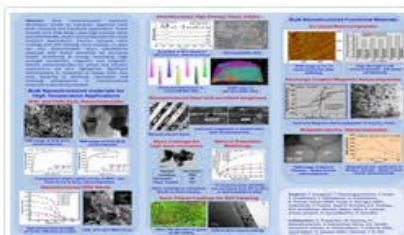
Achievements section:

- ☆ Prof. K. Krishnaiah honoured with 'Life Time Achievement Award' by VIT / प्रो के कृष्णैया वी.आई.टी द्वारा 'लाइफ टाइम अचीवमेंट अवार्ड' से सम्मानित
- ☆ IITM incubated Detect Technologies wins the Superpreneur Award at TIECON PitchFest / आईआईटीएम इनक्यूबेटी डीटेक्ट टेक्नोलॉजीज, टाइकान पिचफेस्ट पर सुपरप्रेनर पुरस्कार जीता
- ☆ Research Scholar M. Satyanarayana, wins the ACCMS-TM Poster Award / रिसर्च स्कॉलर एम सत्यनारायण एसीएमएस-टीएम पोस्टर पुरस्कार जीता

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Faculty Recruitment October 2016 (Click for Details)

Research Highlights



High Entropy Alloys



Solar Revolution for India



Affordable Clean Water & Environment



CERN



Technology Transfer

LICENSING AND COLLABORATION

INDUSTRIAL CONSULTANCY & SPONSORED RESEARCH (IC&SR), IIT MADRAS



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Incubated Companies



Technology in the News

IIT-M develops dental filling for pain-free, lasting cure

More often than not patients experience pain or sensitivity after undergoing a dental filling to restore a decayed tooth as most conventional fillings begin shrinking almost immediately after the procedure.

At Indian Institute of Technology, Madras, researchers have come up with a new formulation of dental filling that does not shrink ensuring a pain-free treatment...

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IITM Site

ICSR IPM : Internal User

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Indian Institute of Technology Madras, Chennai

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PATENTS AND OTHER IPR; TRANSFER OF TECHNOLOGY

POLICY & GUIDELINES

IPR Policy (Revision 2012)
Incubation Policy
Technology Transfer / Royalty
Sale of Software

PROCEDURES

Procedure for filing an Indian Patent (Constituted review committee)
Procedure for filing of PCT and / or other foreign filing (Constituted review committee)
Incubation >> Refer to IITM Incubation Cell

FORMS AND TEMPLATES

IDF (Invention Disclosure Form)
TAF (Technology Assessment Form)
NDA (Confidentiality Agreement)
JDA (Joint Development Agreement)
Sample MOUs with Industry: [Available for reference in ICSR]
Sample IIA (Inter Institutional Agreement): [Available for reference in ICSR]

QUICK LINKS

[IIT Madras Home](#)

[ICSR Home Page](#)

[Patents and Other IP Listing \(External Website\)](#)

[Project Accounts Website](#)

Before Publishing Protect IP (Patents):

Options

- 1) Direct Provisional Filing – can be done by 3 days
- 2) Provisional Filing through Attorney - by 7 working days

**>>> Complete Filing within 1 year after due diligence for
'Techno Commercial' potential**



Techno Commercial Due Diligence

- ▶ International

- ▶ WIPO, USPTO, EPO, SIPO, JPO, KIPRIS, ARIPO etc – National IPR Office Websites

- ▶ Indian Patents

- ▶ <http://ipindiaservices.gov.in/publicsearch>

- ▶ -----

- ▶ Comprehensive Search

- ▶ Orbit – Express (Campus wide) www.orbit.com
- ▶ Orbit – Expert (IP Cell) www.orbit.com
- ▶ Thomson Innovation (IP Cell & Library) www.thomsoninnovation.com
- ▶ Thomson Derwent World Patent Index






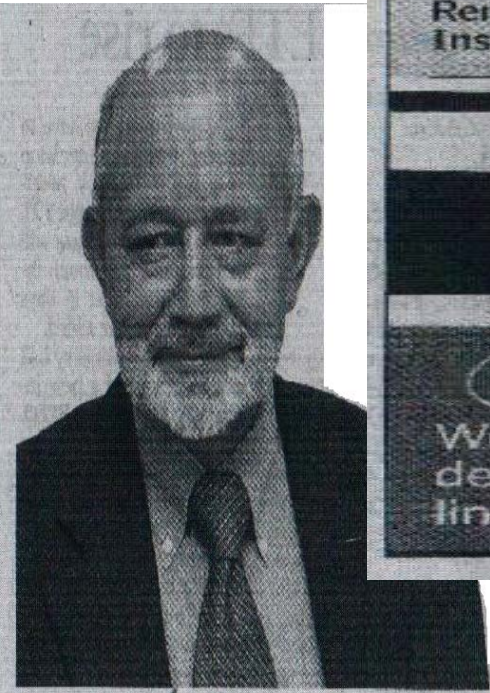
An Alumni's Journey

A SCIENTIST AND AN ENTREPRENEUR

Dr. Jayant Baliga has many inventions to his credit, but the IGBT stands head and shoulders above the rest

Education	Authored	Patents
Electrical Engineering	18 books & 500 scientific articles	120
1969 - B.Tech., IIT-Madras	• Awards - Among others, received the National Medal of Technology and Innovation in 2011, the highest recognition given to an engineer in the U.S.	
1971 - MS, Rensselaer Polytechnic Institute, New York	• Most recently received an honorary doctorate from IIT-Madras, his alma mater	
1974 - PhD, Rensselaer Polytechnic Institute, New York	• One of his top inventions, the IGBT, helps reduce energy and fuel use	

The invention touches lives through automobiles, solar panels, refrigerators, washing machines, CT and MRI scanners, X-Ray and ultra-sound machines, aircraft, train and bus systems



I had to convince not only the management at the GE's research labs but even Chairman Jack Welch. After his buy-in, I had to flawlessly execute the design and fabrication of the device in a manufacturing line resulting in product availability in less than a year



Your research is
valuable !

Protect it !

IPM Cell is in Second Floor, IC&SR Building
Thank You !!

For more details you can contact us at

Phone 22579756 E Mail: ipoffice@iitm.ac.in or ipcell@iitm.ac.in