30 innovation-led start-ups felicitated; DST-Lockheed Martin India Innovation Growth Programme enters 10th year

Over 400 innovation led start-ups supported and scaled in global markets

NEW DELHI, 3 June 2016: Thirty innovation-led start-ups were recognized and felicitated today under the 10th year of the DST-Lockheed Martin India Innovation Growth Programme. The innovation awards were given away today by **Mr. Amitabh Kant, Chief Executive Officer, NITI Aayog.**

With the current government's commitment towards building a young start-up nation, India is rightly poised to drive the next entrepreneurship wave. To ensure success, a conducive ecosystem is needed that not only nurtures creativity and innovation but also provides market opportunities to the new genre of entrepreneurs. The DST-Lockheed Martin India Innovation Growth Programme (IIGP) is one such unique initiative that provides the much needed handholding and business development support to upcoming start-ups.

Resonating with Prime Minister Narendra Modi's "start-up India" call, the program has been a pioneering initiative that has supported more than 400 innovators, start-ups with in-depth technology commercialization training and handholding support to commercialize and scale their ventures in India and across the world, particularly in the United States. The programme has facilitated access to capital, industry partnerships and resources sought by the entrepreneurs. An impact assessment by Ernst and Young highlighted that the participating companies have generated economic wealth of over US$ 800 Million and have provided employment across different areas such as finance, strategy, operations and marketing.

Through a wide outreach campaign spreading over 100 cities across India, the Programme has received and evaluated over 7000 ideas so far. In addition to building entrepreneurs, more than 50 incubation managers from India have been trained in the US on global best practices on incubation and commercialization.

A unique public private partnership initiated in 2007 between Government of India's Department of Science and Technology; Lockheed Martin Corporation; Indo-US S&T Forum; FICCI; Stanford Graduate School of Business; IC^2 Institute, University of Texas at Austin and TiE Silicon Valley. Each partner brings a distinctive value to the programme with a common objective of fostering innovation driven entrepreneurship in the country.

On the occasion, a coffee table book, **'Transforming India through Innovation'** was released depicting key milestones of the programme along with technologies developed by awarded companies over the last 10 years.

The programme was also addressed by **Ms. Naina Lal Kidwai**, Past President, FICCI & Chairman, Max Financial Services; **Mr. Robert Urstein**, Managing Director, Global Innovation Programs, Stanford Graduate School of Business, who spoke on the global perspective of India Innovation

Growth Programme; **Mr. Harkesh Kumar Mittal**, Adviser, Member Secretary National Science & Technology Entrepreneurship Development Board (NSTEDB), Department of Science and Technology, Government of India; **Dr. Dana (Keoki) Jackson**, Chief Technology Officer, Lockheed Martin Corporation; **Mr. Sid Burback**, Director, IC2 Institute, University of Texas at Austin, who spoke on Commercialization of Indian Innovation in Global Markets; and **Dr. Rajiv Tayal**, Executive Director, Indo-US Science & Technology Forum.

Innovation Award Winners

1. **Innovation:** Catheter reprocessing system

Innovator: Mr. Vikram Goel, Incredible Devices
Brief: an innovative computer aided catheter reprocessing machine which is fully automatic providing quality assurance and eliminates human error. It Saves Rs 526/- per Catheter and reduce treatment cost up to 55%.

2. **Innovation:** LED tube light with lamp-integrated detachable driver

Innovator: Mr. Krishna Ravi, Reckon Green Innovations Pvt Ltd
Brief: The technology is a detachable driver that improves life of the tube light to match with LEDs by 3 times with self-serviceability. Easy to retrofit without rewiring and also customize or upgrade as per site requirement without wasting the lamp.

3. **Innovation:** Chakr

Innovator: Mr. Arpit Dhupar, Chakr Innovations
Brief: Chakr Innovations has developed a device that can be coupled to the exhaust of diesel engines and thus captures the soot coming out of it; repurpose it to be used as black ink. Instead of burning off the particulate matter that is being emitted from I.C. engines, they are collecting it and reusing it to be made a raw material for ink industry thus creating a self-sustainable and scalable business model.

4. **Innovation:** Novel cell culture technology using torocell disposable bioreactor system

Innovator: Mr. Arunkumar Gandlur, Lablinks Biotech Pvt.Ltd.
Brief: The innovation is the development of an externally agitated cell culture technology which uses disposable plastic bags or specially designed glass/stainless steel vessels which aims to simplify the culturing of a variety of cells viz, bacterial, fungal, insect or animal cells either in suspension or on anchorage matrices. The innovation drastically cuts capital and production costs and improves the cell yield multiple fold.

5. **Innovation:** Real-time fog removal from videos in application to safety and surveillance

Innovator: Mr. Manish Kumar Sharma, Indian Institute of Technology Kharagpur
Brief: This innovation provides a solution to fog which as we know causes degradation of scene quality and interpretation of objects become difficult. Using this technology, the user can interpret the scene more clearly and identify objects of interest in the scene in real-time.

6. **Innovation:** TycheeJuno's BPPC technology (Burst Preventive Puncture Curative)

Innovator: Mr. Sameer Panda, TycheeJuno
Brief: The invention is a multi-chambered tubeless tyre with a mix of sealant, coolant and balancer to take care of puncture in tread and side wall; decrease the possibility of burst caused due to localized overheating. It also increases safety on road due to burst prevention.

7. **Innovation:** Microwave sintering of ceramics

Innovator: Mr. Gaurang Doongursee, Double Dee Technology Pvt ltd
Brief: This technology involves a volumetric heating which is instantaneous, rapid and highly efficient.

8. **Innovation:** CliniOps: Tablet based eSource/EDC for clinical trials

Innovator: Mr. Avik Kumar Pal, CliniOps, Inc.
Brief: CliniOps's leverages Social, Mobile, Analytics & Cloud (SMAC) which drastically transforms the way CTs are conducted reducing the time &cost of collecting data while simultaneously improving its quality.

9. **Innovation:** Easy position/ Easy fix medical stirrups

Innovator: Dr. Gnanaraj Jesudian, SEESHA /KU and STAAN Biomedical Engineering Private Ltd
Brief: Easy Position /Easy Fix stirrups offer almost unlimited position options through which the surgeon can manipulate the position during surgery. It is a simple device that can replace the standard stirrups in any type of operating table.

10. **Innovation:** FlexiOH™: A breathable, washable and light-weight cast immobilization technology for fractured bones

Innovator: Dr. Pankaj Kumar Chhatrala, JC OrthoHeal Private Limited
Brief: FlexiOH is a washable cast which allows skin to breathe and is very light weight. FlexiOH is easy to apply and remove through its specially designed zip withut any mechanical instruments.

11. **Innovation:** Monitoring transmission lines using UAV, imagery sensors and data analytics

Innovator: Ms. Swati Tiwari, Arcturus Business Solutions LLP
Brief: The organization has developed a service innovation in Automatic defect identification on Live Power transmission Lines using small Unmanned Aerial
Vehicle (UAV), imagery sensors and its data analytics.

12. **Innovation:** mAPD - Wearable alternate kidney, a safe affordable anytime/anywhere CAPD dialysis device

Innovator: Mr. W. Gowrishankar, Padmaseetha Technologies Private Limited
Brief: The company has devised mCAPD, a wearable device offering a simple, safe, affordable, anytime/anywhere CAPD dialysis, empowering patients with a near normal lifestyle, without the need for break from their work/routine to carry out dialysis.

13. **Innovation:** BioAVert I: Building disease resistance & health-care system for crops

Innovator: Dr Abhay Shendye, Swasti Agro and Bioproducts Pvt Ltd

Brief: -Swasti Agro has developed preventive “vaccines” and “healthcare system” which ensures proper penetration of technology up to last mile. They plan to reach 500,000 farmers within 3 years with their technology.

14. **Innovation:** 5 axis precision CNC co-ordinate measuring machine XT 400

Innovator: Vikram Salunke, Accurate Gauging & Instruments Pvt. Ltd

Brief: XT400 is a shop floor CMM with application of precision LM guides on high accuracy granite guides. The machine is fully CNC with 5 axis measuring capability and advanced CAD based evaluation software. CAD based measurement software enable a very quick evaluation and multisensory technology allows quick detection of internal thread damages.

15. **Innovation:** Renewable bio-fuel production from chicken slaughter waste

Innovator: Dr. John Abraham, Kerala Veterinary and Animal Sciences University

Brief: The USP of this technology is creating “wealth from waste”. Chicken slaughter waste, which has become a major source of pollution and threatening human health in the wake of emerging diseases, is processed here after planned collection in a rendering plant and bio-diesel plant to produce.

16. **Innovation**: Prophylactic cold chain free vaccination by silk nanoparticle reinforced self-microneedle patches

Innovator: Mr. Bhushan Namdeorao Kharbikar, Indian Institute of Technology Bombay

Brief: The technology is for delivering vaccine by self-administration and for eliminating the requirement of cold chain. The innovator has developed vaccine patches based on microneedle reinforced with vaccine loaded silk nanoparticles. This innovation will heavily reduce cost, ease the logistics, prevents wastage of vaccine due to thermal damage due to failure in maintenance of cold chain.

17. **Innovation:** Pupil expansion device- Bhattacharjee pupil expansion ring

Innovator: Dr. Suven Bhattacharjee, Med Invent Devices Pvt. Ltd.

Brief: This device has made Pupil Expansion easier for the Surgeon, Safer for the Patient & Possible in situations where Competition fails. Entire device is in a thin single plane allowing smooth passage through very small incisions.

18. **Innovation:** Design of microfluidic system for controlled drug delivery

Innovator: Ms. Richa Mishra, Indian Institute of Technology Kharagpur

Brief: Diabetes is becoming a health hazard on the global level. The innovation aims to address the market gap of insulin delivery devices where only low end (syringes) and high end products (insulin pumps) are available. The device is ten times smaller in size than the insulin pump and integrates a patch of painless microneedles.

19. **Innovation:** Mobile brick making machine (BMM)

Innovator: Mr. Vilas Chhikara, Jugparvesh Chhikara, SnPC Machine Pvt Ltd.

Brief: This innovation relates to the brick making technology this machine moves in the forward direction and continuously lay brick 2 in one time on the surface of the land. This machine can

do a person's whole day work within 4-5 minutes without any hassle with the finest quality of brick.

20. **Innovation:** Microbial colorants: The future of natural colorants

Innovator: Ms. Vaishali M. Kulkarni & Mr. Arjun Singh Bajwa, Institute of Chemical Technology, Mumbai

Brief: Microbes which are present in many different colors can be exploited to extract colors. These natural colors can find applications in food, feed, pharmaceuticals, textiles and cosmetics. Microbes provide inexhaustible feedstock which can be used for extracting different natural colors, thereby giving an opportunity to color the whole world in a completely new different way.

21. **Innovation:** Simple low cost processing of titanium foam for skeletal tissue reunion

Innovator: Mr. Kausik Kapat, Indian Institute of Technology Kharagpur

Brief: The innovation deals with a novel processing of metallic foam, which competes with the conventional techniques. Using this technology, innovator has developed a highly open porous, light-weight titanium foam for healing critical bone fracture and causes rapid healing (2-3 months) of critical bone fracture.

22. **Innovation:** SpeedLink - High speed internet by merging multiple heterogeneous mobile networks

Innovator: Mr. Sriramkumar VH, Watchy Technology

Brief: SpeedLink is a portable Wi-Fi router that combines upto 8 different cellular networks (2G, 3G, 4G) from any vendor and provides the sum of all the bandwidth capacities as one super-fast Internet connection. SpeedLink technology can bond GPRS network and provide 8x faster internet to customers. Imported products are built for 3G and LTE with poor performance on GPRS.

23. **Innovation:** Cervical spacer for reducing radiation dosage on critical organs during brachytherapy treatment

Innovator: Dr Abi Santhosh Aprem, HLL Lifecare Ltd

Brief: The device innovation is an independently inflatable biocompatible device. This device decreases radiation exposure to critical organs and improved the patient comfort.

24. **Innovation**: Transforming personal health through data analytics

with a mission to eradicate chronic diseases

Innovator: Dr. Subhasish Sircar, Health Vectors

Brief: This is a revolutionary personal health management system, by collecting clinical & personal health data and then providing individuals actionable insights using predictive analytics & machine learning.

25. **Innovation:** Automated portable microscope for malaria detection

Innovator: Dr. Satya Tapas, Centre for Cellular and Molecular Platforms, Bangalore

Brief: CNC microscope is a portable automated device that scans the blood smear with its autofocus feature and captures images in series for further analysis.

26. **Innovation:** N+2level noise suppressor/ thrust augmenter for turbojet engines

Innovator: Mr. Lahari Sumanth Varma Indukuri, AST Industries

Brief: The innovator has developed a New Noise Suppressor/Thrust Augmenter Technology forJet Engine, with 18% peak noise suppression for state of the art jet engines. When connected to engine/ airframe, it performs as a noise suppressor while takeoff, and a thrust augmenter at a higher altitude.

27. **Innovation:** Tellmate

Innovator: Mr. Gunjan Gupta, Tellmate Helper Private Limited

Brief: Tellmate is a wearable computer vision device in the form of glasses which will process in-front images of Visually Impaired Person, convert it to sound and whisper in the ear using hearing aids. Tellmate can process any printed paper in English, convert it to give digital text and speak it using text to speech synthesis.

28. **Innovation:** Oxygen enrichment unit for medical application basedon hollow fiber membrane technology

Innovator: Dr. Ulhas Kharul, Genrich Membrane Private Limited

Brief: HITOS uses fast GPU based algorithms to provide results in a short time frame. This allows the strategist using the software to come up with a trajectory in less time, giving the flexibility to plan approach in time critical scenarios.

29. **Innovation:** Smart sensor based E-weed control

Innovator: Dr. Nitin Saluja, Chitkara University Research and Innovation Network

Brief: In India, among various factors responsible for low crop yield in agriculture, weed infestation is the major one. Their invention is based on the capability of high frequency waves to selectively treat the weeds by cell death (necrosis). The invention can result in crop yield enhancement up to 37%, without any hazardous side effects**.**

30. **Innovation:** High fidelity CFD simulation software

Innovator: Nikhil Vijay Shende and S & I Engineering Solutions Pvt Ltd.

Brief: Computational Fluid Dynamics (CFD) deals with prediction of air flow past configurations in aerospace and automotive arena which targets future design and analysis requirements by capturing greater flow physics both in terms of spatial and time resolution.

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