University Accelerators: Where Award-winning Ideas Are Born

Brains are buzzing, machines are whirring, and enthusiasm is approaching an all-time high; it's just another day at the IDEA Lab in New York University Abu Dhabi (NYUAD). Here, at the university's campus in the heart of Saadiyat Island, young geniuses brainstorm for hours as they experiment with and fine-tune their early-stage ideas.

Seed accelerators, also known as start-up accelerators, have seen a significant upward trend over the last 10 years. Whether independently run, inter-university, government-funded or corporate sponsored, accelerators are typically cohort-based programs that include mentorship and and culminate in a public pitch event or demonstration day.

Five-stage process

In the UAE, the concept is relatively new, with only a handful of academic institutions offering accelerator programs. One of them is NYUAD, whose IDEA Lab opened in October 2014, though the university had been supporting student innovation since its establishment in 2010. The program, which stands for Innovation, Design, Entrepreneurship & Acceleration (IDEA), guides the university's student in developing and commercializing their ideas by taking them through five fundamental stages.

'During the ideation stage, we guide, assist and encourage student entrepreneurs to brainstorm and sandbox their early-stage ideas for start-ups. The successful ideas are further developed by building prototypes in our lab and through training, workshops and mentorship," Dr. Ramesh Jagannathan, research professor, associate dean of engineering, and vice provost for innovation and entrepreneurship at NYUAD, told INSIGHT.

Once a viable product is developed, the next stage of the process helps student entrepreneurs develop their business and commercialization strategy before pitching their start-up ideas to real investors or business accelerator programs.

'We have a bootcamp for entrepreneurs in the January term that helps students develop a business model at this stage, when an idea or prototype has been developed. Finally, following successful investment, a student startup can use the funds to launch their start-up, by building a larger team and offering their services and products in the market."

Winning inventions

Among the latest award-winning innovations to come out of IDEA Lab is the Wadi Drone. Designed by a team of four students, the fixed wing airplane collects data in regions where deploying communications infrastructure would spoil the natural heritage or present a human risk to physically retrieving data.

Flying over the mountains and valleys of Wadi Wurayah National Park in Fujairah – the UAE's first national park – the drone wirelessly downloaded photographs taken by ground-based camera traps, which automatically capture images of wildlife as they pass by.

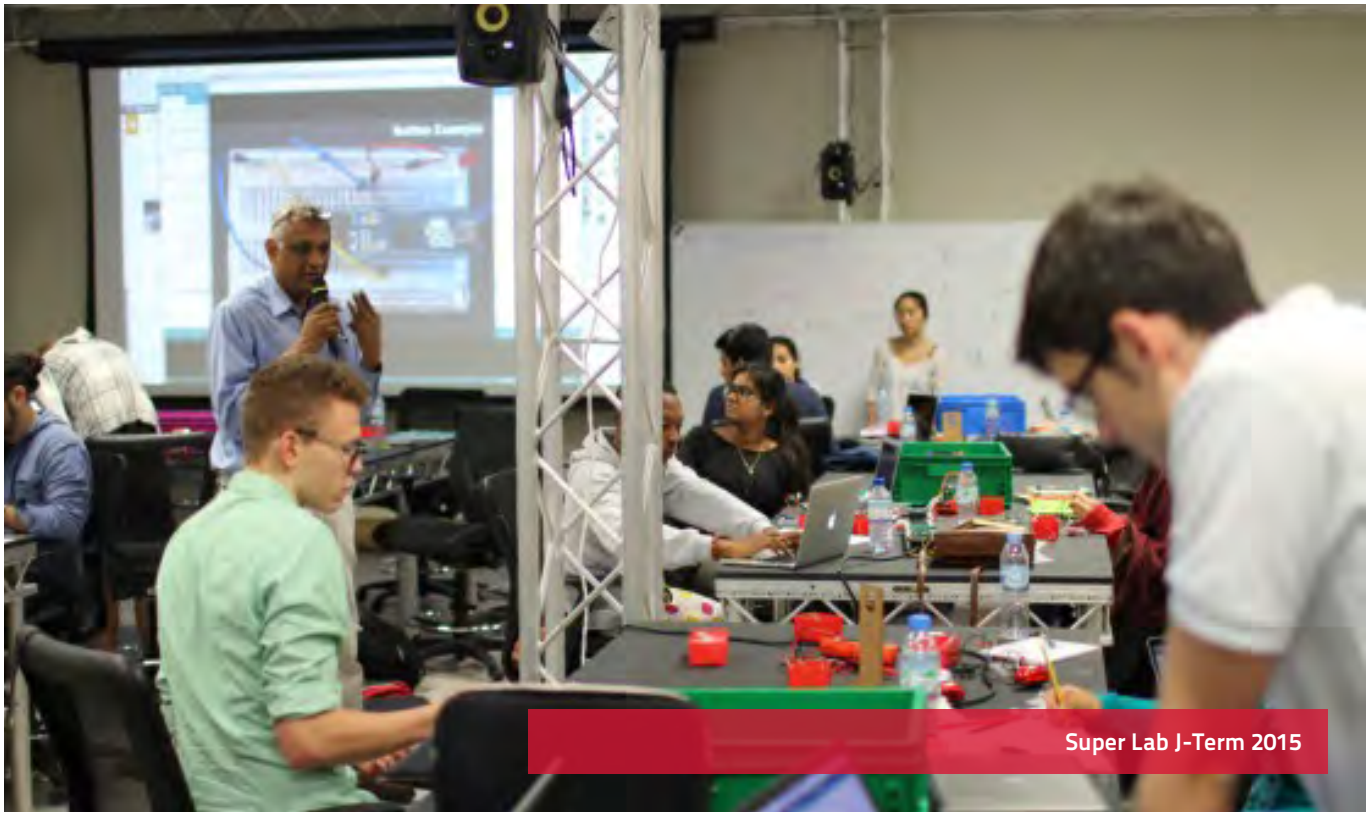
The device would serve the conservation efforts of the Emirates Wildlife Society in multiple ways. Firstly, by increasing the rate at which photographic data of wildlife and potential poachers can be analysed. Secondly, by reducing the human risk associated with the current method of hiking to retrieve photos from remote camera traps; and thirdly, by eliminating the need for employing an expensive helicopter to reach camera traps during summer months, when the heat makes it too dangerous to hike.

Wadi Drone Team Feb 2015

The innovation won the UAE Drones for Good Award 2015, a national competition created by the UAE Government to reward the best ideas for the use of drones to improve public services. Using the prize of AED 1 million, the winning team is now working on implementing the Wadi Drone in the national park, before expanding regionally and internationally.

'Launching a product into the market requires substantial customer discovery, market research and investment. A product will also likely go through many different iterations throughout the process in a continuous feedback loop with customers, so the final product has already been tested and proven successful over the course of many smaller experiments," explains Dr. Jagannathan.

The next step of commercializing an idea occurs after the start-up



Super Lab J-Term 2015

has a tested product and some early customers as well as successful investments from seed-stage or angel investors. Investment from these early stage investors will allow the start-up to scale and offer the product or service to a larger customer base.

Another winning innovation that emerged from IDEA Lab was a T-shirt that could detect and display the emotional state of autistic children in real time and in a non-invasive manner, thereby enhancing the relationship between the child and their parents. The invention would not only enable parents to remotely observe the onset of their child's autistic episodes through data collected from the shirt, but would also store and transmit that information to healthcare professionals.

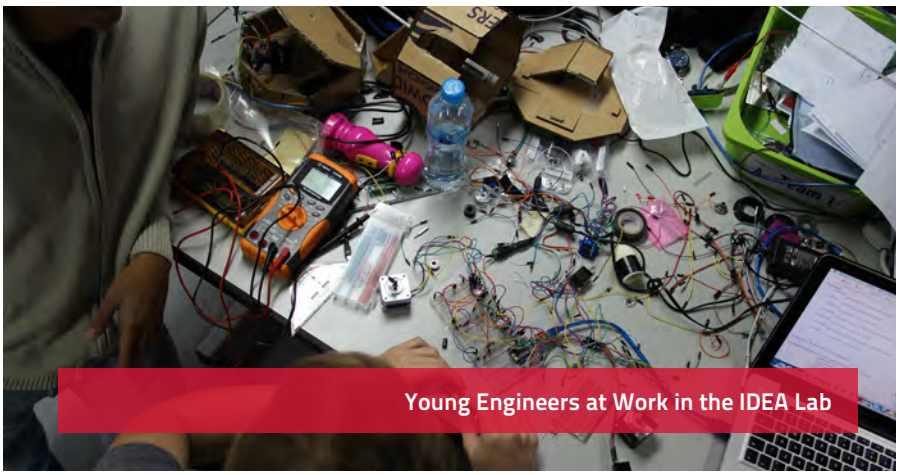
In 2014, the efforts of the student team behind the idea stood out from over 160 entries to win the Innovator of the Year, a competition sponsored by Abu Dhabi Technology Development Committee.

Prototyping tools

Such is the power of university accelerators. Believing in abstract ideas, driving them forward, and seeing them materialize into tangible, high-potential innovations. The IDEA Lab further benefits from state-of-the-art prototyping tools and materials, from a Roland vinyl cutter and over-locker sewing machine, to a Mitsubishi photo printer and electronics test equipment.

Configured as a mixed-use working space, it encourages exploration and invites students to embrace influences from art, design, and engineering when generating new concepts. And it's not only entrepreneurs who make use of the Lab, as the facility hosts the Engineering Division's superLab Design & Innovation course, as well as student teams working on competition entries and self-directed projects.

'More than 100 students have participated in our superLab program," remarks Dr. Jagannathan. 'A number of Student Interest Groups, such as the Entrepreneurs Society and Maker's



Young Engineers at Work in the IDEA Lab

Decode Dubai Hackaton June 2015


Young Engineers At Work in the IDEA Lab

NYUAD IDEA Lab

Group, also use the IDEA Lab on a regular basis. Periodically, we conduct programs that are open to the public, such as the Robotics Lab for K-12 students."

First US patent

By May 2015, a group of NYUAD students had obtained a US patent for the first time. The patent was granted for their invention of a pen that can detect the onset of stress in the user, by monitoring the Axial Pen Pressure exerted on the pen tip, and wirelessly transmitting that information to a music library. The pen, which is also an MP3 player, contains a selection of 'mood-sensitive' music and starts to play the appropriate tunes to help relieve the user's stress.

'Our students have filed over five US patent applications in the last four years. One has been granted and the others are pending approval," says Dr. Jagannathan, an entrepreneurial technologist with more than 40 US patents under his belt.

'Protecting intellectual property (IP) is a very complex legal process, so we recommend the inventor read and understand applicable university or other institutional patent policies, terms and conditions, and understand what qualifies as an invention. If you are not sure about the patentability of your invention, then you should seek the advice of an attorney that specializes in IP or if you are coming from a university setting, then you should talk to the industrial liaison or technology transfer office."

These offices, he adds, evaluate the patentability, market value of the idea and, if appropriate, file the patent application with the US patent office as well as other global IP offices if needed.

Angel Hack visits Abu Dhabi

As the new academic year approaches, NYUAD's IDEA Lab is preparing to bring Angel Hack to Abu Dhabi for the first time. The global organization, which supports hackathons across the world, will be holding a 24-hour hackathon in September to ignite the passion of UAE's most vibrant coders, developers, designers, and students and give them the opportunity to be mentored by renowned industry leaders, venture capitalists, and academicians.

The winning team will enter the HACKcelerator Program and showcase their work to investors in Silicon Valley, a once-in-a-lifetime opportunity.

'We are a new campus with a small but active student body," concludes Dr. Jagannathan. 'Our goal is that anyone with an idea, regardless of their background, age or education should be able to walk into the IDEA Lab prototyping facility and safely and efficiently convert their idea into a functioning prototype in a short time."

- Heba Hashem