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Purdue Research Foundation's The Foundry

PURDUE RESEARCH FOUNDATION'S THE FOUNDRY

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Spensa Technologies, a precision agriculture company specializing in pest management, selected its name after the Latin word for "storehouse." Spensa is dedicated to protecting grower's crops from threats so that their storehouses can always be full. Spensa Technologies empowers growers to achieve this goal by using technology that helps identify and document insects, weeds, disease, nutrient deficiencies and general agronomic issues, then strategically mitigate problems before they spread. With Spensa Technologies, growers can use bio-impedance sensors to identify target pests and transfer data to Spensa's Web and mobile-enabled application called OpenScout. The growers' observations are then geotagged and time stamped and combined with data collected from the bio-impedance sensors placed in the grower's field. Spensa also has a hardware product called Z Trap, an electronic insect-trapping system that can automatically monitor insect populations. Both products are currently used in five continents around the globe.

Spensa Technologies was founded by Johnny Park, who developed the concept as a research assistant of electrical and computer engineering at Purdue University. Energized by his idea, he sought and received assistance from the Purdue Foundry. Managed by the Purdue Research Foundation, the Purdue Foundry is a business accelerator dedicated to assisting Purdue faculty, staff and students interested in creating startups.

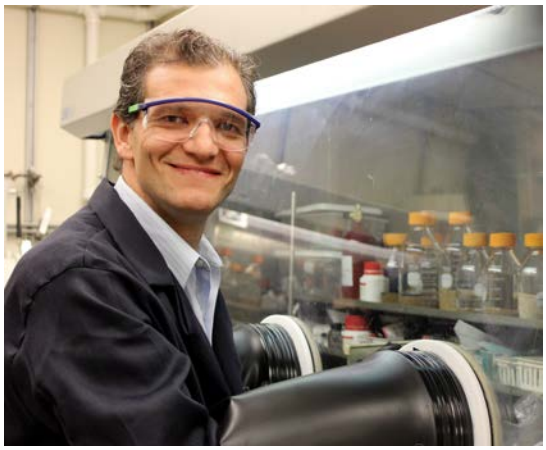
Spensa Technology is now growing rapidly. In 2013, Spensa Technologies placed 1st in the Indianapolis BioCrossroads New Venture Competition and 1st in the Louisville Village Capital/VentureWell Competition. In total, Spensa Technologies has received more than $4.5 million in funding. In February of 2016, AgReliant Genetics, the third largest seed corn company in the world, launched a beta version of its precision agriculture platform in collaboration with Spensa. Spensa currently employs 12 full-time staff members full-time and has announced that 43 new employees will be hired by the end of 2019.

Spensa is only one example of the Purdue Foundry's and PRF's many successes (Files 1, 2 and 3). Dr. Mahdi Abu-Omar founded Spero Energy in 2013 when he was a Purdue professor of Chemistry and Chemical Engineering. Spero Energy Inc. is dedicated toward developing cost competitive conversion of non-food biomass feedstock to high value chemicals (HVCs) and renewable fuels. In June 2016, Spero Energy Inc. received a two-year Phase II SBIR grant from the U.S. Department of Energy totaling $1 million. Previously, Spero Energy received Phase I SBIR grants from the DOE and the NSF and a $50,000 grant from Elevate Ventures.

The Foundry was recognized for its effectiveness when it was awarded the 2014 Incubator Network of the Year by the National Business Incubation Association. It has 116 current clients and 38 past clients in the commercialization and development of intellectual property.

A distinctive effort of the Purdue Foundry is the Anvil, a student-run co-working space located on Purdue's Main Campus. The Anvil provides a cutting- edge creator space open 24-hours a day, seven days per week for students and community members to collaborate. In 2016, the student membership at the Anvil increased from 130 students to over 200. The Anvil remains the largest student-run co-working space in the world, both in terms of square footage and total

membership. Additionally, the Anvil coordinates an 8-week student accelerator competition called "The Boiler." The Boiler competition awards individual mentorship, workshops and funding for no equity to student-created startups, and cash prizes as high as $5,000.



A major component of the success of the Purdue Foundry is its partnership with Elevate Ventures. Elevate Ventures helps develop emerging and existing high-potential businesses into high-performing, Indiana-based companies.

In addition to the development of innovative ideas and the execution of successful business plans, the Foundry provides a variety of platforms to connect entrepreneurs. The Purdue Foundry Exchange (FoundryX) invites major industry players to join technological experts at Purdue University to serve as advisors, mentors, employees, executives, or even co-founders. FoundryX events have collectively included over 200 participants. In total, Foundry activities have included 3,478 total visitors in fiscal year 2015-2016.

Promoting start-up companies is a priority for PRF. Additional entrepreneurial activities and services offered by The Foundry include the following:

• LaunchBox is a program that gives clients the opportunity to explore potential markets, customers and financial models to help determine if it makes sense to continue moving forward.
• Foundry Grounds features networking opportunities, an entrepreneurial speakers, and a practice pitch for Foundry startups.
• Mentorship support is available to start-up companies through the Foundry's Entrepreneurs-in-Residence (EIR) program, increasing access to experienced entrepreneurs.

Several other services – such as grant writing, legal advice, and MBA consultations – are also all available.

Purdue's commitment to empowering entrepreneurs is so great that, according to the Association of Technology Managers World Rankings for University Startups, Purdue ranks third in the nation among all universities for its number of startups – just behind the University of California system and the University of Texas system. By giving innovators access to the resources they need for their business to thrive, Purdue is simultaneously advancing science and strengthening the marketplace.