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FuzeHub Announces Grant Awards to Foster Collaborative Advancements in Manufacturing throughout New York State

FuzeHub's Manufacturing Grants Program awards nearly \$700,000 in grants to facilitate research and development, industrial innovations and creative solutions for New York State manufacturers.

(Albany, NY – June 22, 2021) – FuzeHub, a not-for-profit organization providing small to medium-sized manufacturers with guided access to an extensive network of industry experts, programs and resources to solve business growth challenges, recently awarded fourteen collaborative projects through the Jeff Lawrence Innovation Fund.

The Innovation Fund, supported by Empire State Development Division of Science Technology and Innovation (NYSTAR), works to spur technology development and commercialization across New York State. To date, the Fund has awarded nearly \$6 million in funding.

As part of the fund, FuzeHub offers Manufacturing Grants to New York State not-for-profit organizations, which are proposing innovative projects to be undertaken in partnership with a New York State small to medium-sized manufacturer. Project categories cover adoption of new technology to enhance a process and/or product, prototype development, design for manufacturing, proof-of-concept manufacturing, certain equipment purchases, manufacturing scale-up, and other projects to advance manufacturing capabilities. In addition, the fund is used to provide assistance to early-stage companies through an annual commercialization competition.

ESD Senior Vice President and NYSTAR Executive Director Matt Watson said, "This is a powerful program that links small manufacturers and promising start-ups to valuable expertise at New York State's many innovation assets. ESD congratulates the winners and looks forward to seeing them continue to drive economic growth in our strategic industry sectors."

“In the current climate, the Jeff Lawrence Innovation Fund Manufacturing Grant awards are a vital resource to the companies that are supported in these projects” said Elena Garuc, Executive Director of FuzeHub. “The awards are allowing companies to stimulate the economy and further bolster manufacturing in NYS.”

Awardees:

ITAC / New York Embroidery Studio \$48,900

ITAC is partnering with New York Embroidery Studio (NYES) and we are working with RIT’s Golisano Institute for Sustainability, Precision Textiles, Vartest Laboratories and NYS Workforce Development Institute, to bring the ECOSAFE biodegradable gown to market. This gown is the first of its kind medical use biodegradable product manufactured from US made fabric that is cut and assembled in the NYC region. As used PPEs become a Medical Waste nightmare, the ECOSAFE medical gown made by NYES decomposes to water and harmless gas in a fraction of time versus the single use gowns currently being used. All gown components have been developed by our local supply chain which avoids the global logistical disruptions and cost surcharges that have kept erupting since early 2020. This makes our project transformative not only for its impact on the environment and the local economy, but also for its ‘total cost of ownership’ competitiveness with foreign made products.

Hudson Valley Textile Project Inc / Battenkill Valley Fibers Inc \$50,000

Hudson Valley Textile Project is partnering with Battenkill Fibers Carding and Spinning Mill to implement a wool scouring line operation. In order for the Hudson Valley's farm to fabric supply chain to expand to meet growing demand for locally-sourced materials, the Hudson Valley Textile Project has determined that commercial-scale scouring capability is needed in the region. Consumer interest in local fibers was rising prior to the pandemic; and since shipments have become unreliable and fluctuations in quality of materials sourced overseas are more pronounced, the demand has increased more. In addition to short term jobs needed to install the new equipment and renovate the building space, the commercial-scale scouring line is expected to create three new permanent jobs as well as contribute to considerable cost savings in fiber processing.

Stony Brook University, College of Engineering / SuperClean Glass Inc. \$50,000

Large-scale solar power plants are present in many parts of the world. In many cases, they are located in the areas of the highest solar intensity, which often include desert regions. Dust on solar panels can reduce energy output by up to 25% in desert regions and up to 100% during dust storm events. The technology developed by Stony Brook University and Superclean Glass Inc. removes dust from solar panels and regains up to 98% of lost energy. This project will lead to substantial improvements in Manufacturing Readiness Levels and create a pathway for a large-scale manufacturing of this novel technology in the NY State.

Arc of Monroe / ArcWorks a division of Arc of Monroe \$50,000

ArcWorks, a division of The Arc of Monroe, will partner with NextCorps to develop the LVCM Lab (Low Volume Contract Manufacturing Lab), a flexible, low volume assembly facility to enable rapid assembly /build of pre-EP and EP (Engineering Prototype) hardware. ArcWorks' integrated and diverse workforce including those with intellectual and developmental disabilities will be empowered to build new

technology devices on the forefront of IOT, Climatetech, and other sectors. The LVCM Lab at ArcWorks will be an ideal first step for companies participating in NextCorps and NYSERDA incubator and scale up programs that need to develop hardware and build processes, but are not quite ready for full high volume CM partnership.

Cornell University, Institute of Biotechnology / Inso Biosciences Inc \$50,000

Inso Biosciences Inc. (“Inso”) is a startup from Cornell University and a Client Company of Cornell’s Kevin M. McGovern Family Center for Venture Development in the Life Sciences incubator. Inso is developing a technology platform—originally invented at Cornell University-- that can automate sample preparation for subsequent DNA sequencing or optical-mapping analysis. As “first generation” prototypes, Inso’s proprietary microfluidic systems extracted, purified, and prepared nucleic acids with speed and accuracy far superior to current standard manual methods. The goal of Inso’s FuzeHub project is to fund design and prototyping of “second generation” devices, associated controls and packaging. This would enable scale-up of manufacturing for initial Inso commercial sales to early adopters and “beta” testers. With this early commercial experience and validation in hand, Inso expects to attract and close their first significant investment. This, in turn, will enable Inso to hire on additional staff, and establish its initial manufacturing operations in the Company’s Ithaca NY location.

SUNY Polytechnic Institute / Lux Semiconductors Inc. \$49,967

Lux Semiconductors is developing a high performance, thin, and flexible platform for electronics called System-on-Foil, which represents a leap forward for printed circuit boards. The System-on-Foil platform will enable more durable, lightweight, and flexible electronics for a wide range of industries, including aerospace, defense, clean energy, medical wearables, and Internet-of-Things. Lux is preparing to install its upcoming pilot-scale manufacturing tool at SUNY Polytechnic Institute in Albany, NY, allowing the company to increase the quality and throughput of its proprietary crystalline thin-film silicon, a key component of its System-on-Foil platform. This FuzeHub sponsored award, in collaboration with SUNY Poly, while leveraging Lux’s relationships with SUNY Poly’s hosted New York State Center for Advanced Technology in Nanomaterials and Nanoelectronics (CATN2) and New York State Center of Excellence in Nanoelectronics and Nanotechnology (NYS CENN), will accelerate the company’s path toward commercialization by facilitating the pilot tool installation and process development.

Clarkson University, Shipley Center for Innovation / Reset Water, LLC & Square One Coating Systems, LLC \$50,000

This project will accelerate the commercialization of technology developed at Clarkson University to address the growing problem of harmful algal blooms (HABs) in New York State and around the world. HABs have existed for many years, but in recent decades the scope of the problem has increased dramatically as runoff from nutrient rich fertilizers works its way into our freshwater systems, and as global climate change has increased average temperatures around the world. Through the generous funding provided by FuzeHub, startup company Reset Water, LLC will launch a prototype boat outfitted with "HABs Terminator" technology licensed from Clarkson. This technology applies a proprietary electrochemical oxidation process to treat waters affected by HABs, removing both the visible blooms as well as their toxic side effects. This boat, the second prototype that will be launched by Reset Water in 2021, will be outfitted with components sourced from another NYS manufacturer, Square One Coatings of Oriskany. The project will enable both of these companies to increase revenue with a new product

line, ultimately leading to new manufacturing jobs that help to solve one of New York State's most pressing environmental challenges.

Brooklyn Navy Yard Development Corporation / Clip.Bike \$50,000

The Brooklyn Navy Yard Development Corporation (BNYDC) partnered with Clip.bike to launch the Clip project and democratize access to e-bike technology. This project consists of producing CLIP, the world's first portable propulsion device that can be attached to any bike to instantly upgrade it to an e-bike. The first pre-production series of CLIPs will occur at the New Lab of the Brooklyn Navy Yard, leveraging BNYDC and its tenants' manufacturing expertise and advanced equipment. Once completed, the Clip project will be the first commercial project combining AI and additive manufacturing to produce customers' electronics devices in New York State.

Rochester Institute of Technology, College of Science, Center for Imaging Science / Aktiwave LLC \$49,898

Associate Professor Jie Qiao of Rochester Institute of Technology's Chester F. Carlson Center for Imaging Science, is partnering with Aktiwave LLC to develop a Femtosecond-Laser-Based Welding System prototype, which provides epoxy-free bonding of optical, electronic, mechanical components, and medical devices. Aktiwave is a growing, ultrafast laser-based company. The Aktiwave-RIT team is aligned with the goals of the FuzeHub innovative manufacturing program. The project leverages Qiao's femtosecond laser expertise and facility at RIT and the ultrafast lasers and the laser-based manufacturing knowledge of Aktiwave. This collaboration aims to open the path for flexible, high-precision, and autogenous fabrication and integration of photonic/medical devices and sensors with improved instrument lifetime and reliability.

Rochester Institute of Technology, Department of Packaging Science / Cinterest LLC \$49,585

Researchers at Rochester Institute of Technology (RIT) are partnering with Cinterest to develop alternatives to conventional packaging solutions by combining biochar with various plant-based and bioplastic materials that offer a pathway to significantly reduce cost and net greenhouse gas emissions. Cinterest is a technology company that designs, develops, and licenses a variety of closed-loop production processes and products focused on carbonizing underutilized organic materials. Carbonizing organic residues in high temperature, low oxygen conditions can significantly reduce the amount of volume of biomass while producing valuable co-products including heat, bio-oil or syngas and biochar, a material with durable carbon sequestration opportunities. Cinterest's initial product focus is on protective packaging materials, specifically temperature-controlled packaging used for shipping vaccines, food and other temperature sensitive materials.

Seneca Cayuga Yates Counties Chapter NYSARC, Inc. / Natural Beauty Breast Prosthesis, LLC \$50,000

Finger Lakes Textiles is proud to partner with woman-owned, Natural Beauty Breast Prosthesis, LLC, to manufacture an organic, all-natural fiber, external breast form for women who have had mastectomies without reconstruction. This project will create 10 new hires over the next three years. Many of these new hires will be individuals with disabilities. The two businesses expect to increase production capacity by 300%. This collaboration will provide thousands of women with breast forms they can wear with comfort and give them peace of mind knowing that what they are wearing is safe as well as comfortable.

Long Island High Technology Incubator, Inc. / Unique Electric Solutions \$50,000

Funded by the New York State Energy Research and Development Agency (NYSERDA), the CEBIP at Stony Brook University, a program of the Long Island High Technology Incubator (LIHTI), has been in operation since October 2011 providing assistance and resources for developers of renewable and clean-energy technologies. Under this FuzeHub program, CEBIP has partnered with Unique Electric Solutions (UES) to establish a pilot electric vehicle (EV) battery cell laser welding energy storage system (ESS) manufacturing production line. As a pathway to a larger New York State-based battery manufacturing facility, this effort will also enable local job creation and support New York State and United States EV adoption goals. Through the expertise, business acumen and technological resources of CEBIP's management team, advisory board, researchers at Stony Brook University and other extensive partnerships, CEBIP helps bridge the gap between innovation and market with a full commitment to helping entrepreneurs develop and commercialize clean-energy technology. CEBIP's goal (as supported by this program) is to develop a successful clean-energy economy on Long Island, creating high-paying "cleantech" jobs, industry within Long Island and New York State and supporting the LIHTI's mission to support and stabilize early-stage high-risk high-tech businesses.

Binghamton University, Center for Advanced Microelectronics Manufacturing (CAMM) / Aincobio LLC \$50,000

Bacterial infections that spread into the bloodstream can be lethal in a few hours, but current lab tests used to determine the most effective antibiotic drug(s) can take 2-5 days. This time delay contributes to high rates of mortality and morbidity, and often makes bloodstream infections one of the most expensive conditions to treat. In this project, the Center for Advanced Microelectronics Manufacturing (CAMM) at Binghamton University and Aincobio LLC, based in Syracuse, New York, are teaming up to produce new additively printed, conductive-ink microelectronic biosensors capable of quantifying the antibiotic resistance of bacterial pathogens in less than one hour. Although this technology has the potential to improve clinical outcomes by empowering physicians to provide patients with higher efficacy drug(s) in less time, current production costs are prohibitively high. By applying less costly state-of-the-art, high-volume additive-manufacturing techniques, the CAMM and Aincobio hope to reduce the cost of these rapid lab tests by 10x or more, thereby enabling the commercialization of this life-saving technology.

SUNY Polytechnic Institute / StemCultures, LLC \$50,000

SUNY Polytechnic Institute's ability to leverage vast resources, including the New York State Center of Excellence in Nanoelectronics and Nanotechnology (NYS CENN) and New York State Center for Advanced Technology in Nanomaterials and Nanoelectronics (CATN2), along with nano/micro fabrication facilities and industrial partnerships, will underpin Professor of Nanobioscience Dr. Yubing Xie's collaborative efforts with StemCultures to advance novel control release sutures for advanced wound healing. While many are familiar with receiving stitches that often lead to impaired wound healing, infection, and/or scarring, by further developing microstrings that act as control release sutures, the sutures can avoid such issues through time-release growth factors and an inhibition molecule that can greatly expedite the healing process. This award from FuzeHub's Jeff Lawrence Innovation Fund is expected to support optimization, validation, and commercialization of this promising biotechnology.

About FuzeHub

FuzeHub is a not-for-profit organization that connects New York's small to medium-sized manufacturing companies to the resources, programs and expertise they need for technology commercialization, innovation, and business growth. Through our custom assessment, matching, and referral platform, we help companies navigate New York's robust network of industry experts at Manufacturing Extension Partners centers, universities, economic development organizations, and other providers. FuzeHub is the statewide New York Manufacturing Extension Partnership Program (MEP) center, supported by Empire State Development's Division of Science, Technology & Innovation.

For more information on FuzeHub, visit www.fuzehub.com.

About Empire State Development's Division of Science, Technology and Innovation (NYSTAR)

Empire State Development's Division of Science, Technology and Innovation (NYSTAR) mission is to advance technology innovation and commercialization in New York State. NYSTAR's programs are designed to enable new and existing businesses to become more competitive through the use of innovative technologies, and emphasize the importance of working with industry to leverage the state's technology strengths. Through funded programs that support world-class technology research at colleges and universities, NYSTAR works to promote a robust network of industry-university partnerships throughout the state. It administers the New York Manufacturing Extension Partnership, which provides direct technology assistance to small to-medium sized manufacturers.

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