Knowledge Fund Investment

Funded by Nevada Governor's Office of ECONOMIC DEVELOPMENT

6
Programs Supported

$11,795,668
Total Direct Knowledge Fund Funding

$5,928,740.53
In salaries paid to more than 80 researchers and staff

4
Start-Up/Spin-Out Organizations

14
Patents/Pending

The Road Ahead: Commercialization

With the Knowledge Fund's support, DRI initiated a two-year program to stimulate the transition of ideas from DRI's atmospheric, Earth and ecosystem, and hydrologic science research labs to the marketplace. Our approach builds on our recent success in spinning out technology and engaging with corporate partners. The project aims to achieve three objectives over the two-year project period:

- Increase the level of sophistication, knowledge, and interest in commercializing research products (primarily from DRI faculty)
- Identify, support, and evolve several promising ideas that are already in the DRI research portfolio
- Emplace a structure that can support a commercialization ecosystem beyond the project period

DRI's strategy includes targeted support for interested faculty to explore the commercial potential of their research output, as well as strategic partnerships with experts from the entrepreneurial community in Nevada to help bridge the knowledge gap between research expertise and commercialization skills. We have formalized this strategy into a new "Commercialization Fellowship Program" for faculty which aims to provide: limited support for active exploration of commercialization of an idea; training in some key aspects of practicing commercialization; and access to experts for consultation on their specific challenges to commercialization. We are also providing matching funds to SBIR/STTR grant funds coming to DRI as an incentive for faculty to collaborate in commercial research and development. Finally, we are actively building strategic partnerships with commercialization and entrepreneurial experts from within the state and beyond to help guide our overall approach to supporting technology transfer at DRI and to help individual faculty be successful in their efforts at commercializing their research. It is our intent to sustain these activities over the coming years as an ecosystem for commercialization that strengthens over time.

RESEARCH WORKS FOR NEVADA DRI UNLV University of Nevada, Reno NSHE

Learn more at researchworksfornevada.org

Commercialization Fellowship Program

Projects involved in the DRI Commercialization Fellowship Program include:

Climate Engine – Climate Engine is a startup company founded by a DRI faculty member in 2014 with a grant from Google to leverage Google's Earth Engine technology to deliver products based on processed Earth observing data from NASA and USGS satellites. This startup has an ongoing relationship with DRI for continuing research and development of commercially viable products for the agricultural and water resource management sectors. The DRI founder of Climate Engine is working on further business development of this venture.

Activated biochar for water purification – A DRI faculty member has developed a new activated biochar material suitable for removing contaminants from storm water runoff more efficiently than commonly available granulated materials. A provisional patent is being submitted and the DRI faculty inventor is being supported by Knowledge Fund resources to work on developing a partnership with an existing company to perform further research and development of a product based on this technology, potentially through SBIR/STTR funding.

Biopassivization – Two recent patents issued to DRI researchers describe how genetically engineered organisms can be integrated into a passivation reactor to render explosive ordinance less explosive and/or non-explosive. This technology is broadly applicable in the national defense sector for safe handling of ordinance. The two DRI inventors of this technology, one who is now partially supported by Knowledge Funds to work on commercializing this technology, are currently raising venture capital funding for a new startup company.

Monitoring of coal mine dust – A DRI team has developed new components for devices that monitor the exposure of mining personnel to total coal dust particulate mass and crystalline silica particulates, which are a serious health risk to miners and under regulatory control. A provisional patent is being submitted and the DRI faculty member leading this team is being supported by Knowledge Funds to seek a pathway to commercialize this technology in partnership with a leading manufacturer of personal dust monitoring equipment used in the mining industry.

Knowledge Fund Project Updates: WaterStart Makes a Difference

WaterStart: Using technology to save water

The successful WaterStart program was launched in 2013 via a partnership between DRI, the Southern Nevada Water Authority, and the Governor's Office of Economic Development. WaterStart is a non-profit collective of globally recognized leaders who are adapting to change by scaling up new solutions to water challenges. After successfully spinning out of DRI in 2020, WaterStart has continued to grow and now includes water utilities and other large consumers of water across the globe, including the McDonald's Corporation.

WaterStart's technology priorities identified by a global membership continues to grow and includes priorities related to building resilient water treatment and delivery systems in the face of climate change. Since inception, WaterStart has funded/facilitated 45 pilot projects of new technologies demonstrating actual solutions to some of the most pressing challenges. WaterStart and its members have invested over $3.2 million in new solutions, which are estimated to have provided a return of $30 million.

WaterStart has two new projects, one with the Metropolitan Water District of Southern California to develop an engagement strategy for Olympic Games preparation, and a contract with Klir, one of WaterStart's successful technology portfolio companies, to find subject matter experts in drinking and wastewater regulations to assist in refining their technology applications and services.