COLORADO
Office of Economic Development & International Trade

House Finance Committee
And
House Business Affairs & Labor Committee

Senate Finance Committee
And
Senate Business, Labor and Technology Committee

Advanced Industry Accelerator Grant Program Update
as of
June 30, 2020

Advanced industries (AIs) are key drivers of the U.S. and Colorado economies. Comprised of engineering and R&D-intensive companies, they deliver products and services in a wide range of markets, from aerospace to robotics to medical devices. Colorado's AIs include aerospace, advanced manufacturing, bioscience, electronics, energy and natural resources (including cleantech), infrastructure engineering, and technology and information. Together, they account for nearly 30 percent of the state's total wage earnings, around 30 percent of total sales revenue, and almost 35 percent of the state's total exports.

To ensure the progression of this vital aspect of Colorado's economy, the AI Accelerator Program was created in 2013. This initiative promotes growth and sustainability in these industries by driving innovation, commercialization, and public-private partnerships, while also increasing access to early-stage capital and creating a strong infrastructure that enhances the state's capacity to be globally competitive.

OEDIT offers four grants and two global business programs to support AI companies in their various phases of growth. The grants include Proof of Concept, Early-Stage Capital and Retention, Infrastructure Funding, and AI Export. The programs include a network of Global Consultants and export training to build export readiness and help connect Colorado AI companies to global opportunities.

Proof of Concept

Proof of Concept (POC) grants fund research with commercial applications at Colorado research universities, federal labs located in Colorado, and other Colorado labs with valid technology transfer offices. Funding helps pull technologies from the research institutions where they were discovered and connect them to the private sector where they can be developed into commercialized products. This acceleration of applied research leads to the rapid commercialization of products and services and provides significant economic impact and competitive advantage for Colorado and the Advanced Industries.

Grants support the commercialization of technologies at research institutions at two distinct stages along the commercialization pathway: Pre-Commercial Research (Phase I) and Commercialization Preparation (Phase II). Pre-Commercial Research includes proof of principle studies and other studies on intellectual property and resulting prototypes that demonstrate the utility of a technology for a specific application. Commercialization Preparation includes the process of creating a commercial opportunity assessment for a technology and the development of a commercialization plan.

In Fiscal Year 2020, 34 POC grants were awarded to researchers at Colorado research institutions, bringing cutting-edge technologies closer to market. Over 241 POC grants have been funded since the AI Accelerator Program's inception.

Early Stage Capital and Retention

Early Stage Capital and Retention (ESCR) grants fund companies using technologies developed in proof of concept or other early stage start-ups that have created viable products that meet a market need. Grants support technology commercialization by funding product development in preparation for a product launch or the advancement of a product or technology to achieve a commercial milestone that significantly increases the company's value and stability and better positions the company for follow-on investment, including through the federal Small Business Innovation Research program, angel funding, or venture capital. The resulting product or service must be manufactured or performed in Colorado.

Grant funding does not compete with existing marketplace funding opportunities, but rather supplements and fills an existing void for capital market's tendency to under-invest in early stage technologies. ESCR grants allow early stage businesses to complete commercial activity such as production, sales and distribution, and business growth. Funds can also be used for business start-up activities, market validation, and pre-production prototypes.

46 Early Stage Capital and Retention Grants helped Colorado companies further advance in Fiscal Year 2019. Since the program's inception, 232 Colorado companies have been funded.

The AI Accelerator Program's statute requires an allocation of at least 15% of funds to Proof of Concept grants, 15% of the funds to Early Stage Capital and Retention Grants, and up to 15% of the funds to Commercialization Infrastructure. The table below summarizes all grants awarded in Fiscal Year 2020.

Status	Program	# of Awards	$ Awarded	$ Spent to date	Jobs Created	Jobs Retained	New Co Created	Follow- On Capital	IP	Projected Annual Revenue
	Proof of Concept	34	$2,827,817	$2,537,016	9	14	1	$100,000	4	$20,000
Active Grants	Early Stage Capital and Retention	46	$10,543,000	$1,986,155	117	117.25	3	$75,201,249	50	$20,928,479
	Infrastructure	5	$1,720,000	$793,665	18.4	28	N/A	$12,200,000	0	$200,000
Totals		**85**	**$15,090,817**	**$5,316,836**	**144.4**	**159.25**	**4**	**$87,501,249**	**54**	**$21,148,479**

Approximately $86,506,992 from the Advanced Industry Fund has been granted since 2013. The chart above shows returns realized during the 2020 grant term and those that continue to accrue as the technologies become closer to and actually enter the market-place. To date, the program successes include the creation of 2,047 new jobs and approximately 2,198 jobs retained. Additionally, these funds have helped the technologies acquire an additional $1,658,190,925 in grants and investments to commercialize further.

The following three Fiscal Year 2020 success stories show how the Advanced Industry Grant Program has provided critical gap funding to technologies in early development:

Revel Bikes, a subsidiary of Why Cycles, Inc., Advanced Manufacturing, Carbondale, CO

Revel Bikes, a Carbondale-based advanced manufacturing company, received a $250,000 Early Stage Capital and Retention Grant. Revel Bikes has designed and developed exclusive bicycle wheel rims made with a form of thermoplastic material called Fusion Fiber. The raw material is a high performance composite polymer that is significantly stronger, lighter, and faster to manufacture than traditional epoxy prepreg carbon fiber. Fusion Fiber is a slight revision of, but very similar to, the thermoplastic material now being used in the aeronautical industry for Bell helicopters, Airbus' "wing of the future," and NASA's aerospace vehicles. Revel's Fusion Fiber wheels are superior to any other bike wheels on the market. This advanced material also has much less environmental impact than carbon fiber or any other materials used for bike frames – it is 100% recyclable.

With this grant, Revel will use the funding to complete development of a full Fusion Fiber bike frame, and work towards making the material a conventional option for bikes, accessories, and other outdoor products. Moving a proven material that is currently used in a niche industry – a material that is better for the environment and that is lighter and stronger than existing options – into the mainstream consumer market will advance the entire industry.

Leaf Global Fintech, Technology and Information, Evergreen, CO

Leaf is a global, virtual bank for vulnerable populations crossing borders. Leaf enables customers to digitally store savings, receive deposits from others abroad, and manage money from a mobile device no matter where they go- no smartphone required. Leaf protects customers' savings through blockchain technology without exposure to the volatility of cryptocurrency. By allowing customers to retain more value, Leaf ultimately creates an economic identity that customers use to establish themselves in a new country.

Leaf uses existing mobile networks to operate almost entirely virtually. 60% of conflict zones already use mobile money—a USSD-based technology that allows people to store money on their phone, pay for items, and send money without a smartphone. Thousands of kiosks convert cash in and out of mobile money but the money cannot cross borders. Leaf solves this problem by creating a digital wallet that stays with the refugee wherever they go.

With Leaf, a refugee creates an account and pulls mobile money into it through Leaf's smartphone app or USSD platform. The customer can then travel across borders without cash and check their account anytime. Identity is linked through biometric authentication so that a refugee could lose their documentation and still have access to their finances. Standard AML checks reduce the risk of fraud/terrorism. Once safe, cash is withdrawn into the new local currency through a mobile money account or used as collateral on a microloan.

Leaf Global Fintech received a $250,000 Early Stage Capital and Retention Grant Award to enable Leaf to launch a fully operational platform in East Africa while improving the user experience through app development. Leaf has been pre-revenue while in beta but can start earning revenue from transaction fees and the foreign exchange spread when fully operational. The beta phase provided valuable feedback that has been integrated into the product. Leaf's next step will be to start acquiring customers and charging for services with project funding to do a full-scale launch. Leaf will continue making improvements to the mobile wallet's user interface based on customer feedback, increase its technical team, build out its East Africa customer support team, and invest in marketing and outreach to better catalyze the word-of-mouth referral system. These activities will allow Leaf to reach the customer base needed to hit the profitability milestone in 12 months.

Impact CBS, Inc., Advanced Manufacturing, Durango, CO

Located in Durango, Colorado, Impact CBS, Inc. received a $250,000 Early Stage Capital and Retention Grant. Impact CBS, Inc. manufacturer's Impact Fenders that integrates a closed cell recycled foam interior wrapped with a PVC coated polyester shell. This all encompasses a pliable interior to mold to any hull design. Their fastening system connects with polypropylene webbing through stainless steel grommets and then finally to a custom cleat on your boat. Everything is adjustable and form fitting to your boats hull for years of protection. With these modern materials, technology and a patent pending design, Impact CBS, Inc. offers beautiful cutting edge boat protection serving the $37B boat industry. With Centurion Boats and other world class distributors, they are perfectly positioned to emerge as the category defining leader in boat protection technology.

Given the excellent product-market fit as evidenced by their strong early traction, the Advanced Industry Grant funds will be used to hire sales staff to grow their distributor network and increase their inventory as they go to market through Amazon and EBay.

Impact CBS, Inc. was awarded Best New Product at the 2019 Utah Boat Show.

Collaborative Infrastructure Grants

In order to align private industry and Colorado Research Institutes, Collaborative Infrastructure Grants help fund Advanced Industry projects that substantially build or utilize existing infrastructure to support or enhance the commercialization of Advanced Industry products, assist Advanced Industry start-ups with mentoring or access to

outside capital, or contribute to the development of an Advanced Industry workforce.

Collaborative Infrastructure grants are used to assist in the implementation and execution of action items identified in Advanced Industry Strategic Plans, as developed through the Colorado Blueprint Key Industry Network initiatives in 2013. Collaborative Infrastructure Grants may also be used to assist the implementation of newly identified action items that are needed to accelerate such Advanced Industries.

In addition, Collaborative Infrastructure grants may also be used to leverage federal funding opportunities that address a specific need of an Advanced Industry. Here is an example of a Fiscal Year 2020 Collaborative Infrastructure funding award:

Colorado Longitudinal Study (COLS), Bioscience, Aurora, CO

The Colorado Longitudinal Study (COLS) was awarded a $500,000 Advanced Industry Collaborative Infrastructure Grant. COLS is building the world's most comprehensive longitudinal collection of biological specimens matched with clinical health and social determinants of health data. This data will enable researchers to study the complex relationships that determine health, leading to unprecedented advances in health, health care, and health equity.

The COVID-19 Global Pandemic affected this globe early in 2020, including the great State of Colorado. Colorado is resilient and Advanced Industry companies in the life sciences sector have contributed to the recovery efforts through their innovations. Advanced Industry funding contributions to COVID-19 efforts are around approximately $3.3 million.

A few examples of these efforts are below:

ActivArmor, Bioscience, Pueblo, CO

ActivArmor was established in 2014, by Founder Diana Hall to revolutionize the casting and splinting market with hygienic, waterproof, breathable orthoses that are custom fit and designed. They are being used to by doctors for injuries such as breaks, sprains and chronic conditions such as carpal tunnel. They are 100% ABS plastic, so patients can enjoy lifestyle freedom - they can swim, bathe and shower with them on. Early in April, ActivArmor teamed up with the University of Maryland's Robert Fischell Institute for Biomedical Devices to join forces to bring affordable custom-fitted, reusable face masks to healthcare workers using filter material with enhanced microbial barrier bacterial filtration for Covid-19 Pandemic.

New Iridium, Bioscience, Boulder, CO

New Iridium commercializes low-cost and yet high-performance organic photoredox catalysts (PCs) to enable industrial scale photoredox catalysis by addressing the supply and cost issues. Developed from the Miyake lab (jointly at the University of Colorado Boulder and Colorado State University, their dihydrophenazine and phenoxazine organic PC products were engineered as strong excited state reductants for oxidative quenching applications. In July, New Iridium received an NSF Small Business Technology Transfer (STTR) grant to accelerate potential COVID-19 drug treatment, Remdesivir. They are using their photocatalytic technology to tackle this global issue and help treat people around the world suffering from COVID-19.

Tailwind Nutrition, Advanced Manufacturing, Durango, CO

At Tailwind Nutrition, they understand that endurance athletes invest a lot of time, energy, and money in training for an event only to have their race torpedoed due to fueling issues. Tailwind addresses these problems with products that solve stomach/GI problems and make fueling for endurance events simple and reliable, adding the "perfect protein" for rebuilding energy stores and muscle tissue. All of their products have a clean, light taste that is easy on the palate. In early April, Tailwind donated Endurance Fuel to dozens of hospitals across the country to support healthcare workers and first responders fighting the COVID-19 pandemic. In the month of April alone, they donated over 7,000 single-serve

packets to over 50 hospitals across the country.

Advanced Industry Export Accelerator

The Advanced Industry (AI) Export Grant provides financial assistance for aspiring (new to export) and current (market expansion) Colorado exporters. The grant program supports small and medium-sized AI businesses through funds to offset international business development and marketing costs. Qualified expenditures include:

- Translation services for contracts;
- Legal fees related to intellectual property protection abroad and compliance/regulatory issues;
- Conducting due diligence or credit reviews on potential buyers or distributers;
- Travel-related costs for international sales trips and trade shows;
- Costs for exhibiting at an international trade show; and
- Production and design of international marketing materials.

International business development grants provide expense reimbursements to businesses that are new to exporting or are expanding into new export markets, helping them to grow and accelerate their businesses. OEDIT reimburses up to $15,000, and Colorado businesses provide a 1:1 match for specific international export development needs.

AI Export grants were awarded to 19 Colorado companies to advance Colorado exporting in fiscal year 2020. Since the program's inception in 2013, 129 Colorado companies have been funded. The table below summarizes all grants awarded in Fiscal Year 2020.

Status	Program	# of Awards	$ Awarded	Jobs Created	Jobs Retained	Immediate Export Sales	Projected Export Sales after 1 year
Active Grants	Export Accelerator	19	$121,621	26	125	$3,861,443	$41,600,000

OEDIT tracks companies' export sales, jobs created, and the nature of the jobs created resulting from the AI Export Acceleration Program grants. Return on investment (ROI) for the state is calculated by tracking total actual export sales and dividing this by every dollar the state spends on international business development grants. As of September 2020, the program has an initial ROI of $1:$31. In addition to over $3 million in sales from companies supported in Fiscal Year 2020, previous grant recipients reported an additional $18,393,527 in sales this year as a result of receiving Advanced Industry Export funding. The three success stories from Fiscal Year 2020 below show successful international activity leading to job creation and business growth. Due to funding cuts in 2020, the Advanced Industry Export funding was eliminated.

AGETO, LLC, Energy and Natural Resources, Fort Collins, Colorado

AGETO LLC was founded to simplify the task of integrating renewable energy into power systems with the mission of accelerating the adoption of renewable energy by simplifying the integration and control of off-grid and behind-the-meter power systems. Ageto received a $5,088 AI Export grant to attend and exhibit at the HOMER International Microgrid Conference. By exhibiting at the trade show, Ageto was able to sign deals and projects in Canada and Mexico, as well as, exploring projects in Latin America, Africa and Australia and gain exposure to international customers. Attending HOMER International Microgrid Conference resulted in $125,000 in immediate export sales, and the company expects an additional $225,000 in sales over the next year as they close contracts.

ASTRA LiTe, Inc. (ASTRA, LLC), Aerospace, Louisville, Colorado

ASTRA LiTe, Inc. is a technology development company with expertise in miniaturization of electronics and development

of a wide range of sophisticated science-grade instruments. ASTRA and subsidiary ASTRALiTe have developed a LiDAR product capable of flying on a small-format UAV ASTRA LiTe used the AI Export grant for international client meetings including in Japan. The funds helped the company close sales from prior trips resulting in 3 sales with 2 purchase orders placed within weeks of the trip and additional sales and paid demos in the few months following. These additional sales resulted in the hiring of two people and the retention of 6 jobs. ASTRA LiTe's immediate sales as a result of the trip were $1,157,316 and expects sales to grow an additional $600,000 over the next year.

Mucha Brothers (Moots Cycles), Advanced Manufacturing, Steamboat Springs, Colorado

Mucha Brothers used AI Export grant funds to attend the Eurobike trade show in Friedrichshafen, Germany and international business meetings in the United Kingdom. Eurobikes is the premier trade show with the best worldwide attendance of high-end bicycle dealers and distributors who had a strong interest in their products at the show. By attending the event, they were able to form new relationships with businesses and customers in Europe. This activity resulted in $692,908 in immediate export sales, and the company expects $850,000 in sales in the next year.