



COLORADO

**Office of Economic Development
& International Trade**

House Finance Committee
And
House Business, Labor and Economic Workforce Development Committee

Senate Finance Committee
And
Senate Business, Labor and Technology Committee

Advanced Industry Accelerator Grant Program Update
as of
June 30, 2016

Advanced Industries (AI) are prime drivers of the U.S. and Colorado economies, comprised of engineering and R&D intensive companies that deliver products and services in industries ranging from aerospace to medical devices. Colorado's Advanced Industries include: Aerospace, Advanced Manufacturing, Bioscience, Electronics, Energy and Natural Resources including CleanTech, Infrastructure Engineering, and Technology and Information. The economic impact of these industries accounts for nearly 30% of the state's total wage earnings, nearly 30% of the total sales revenue across all industries within the state, and nearly 35% of the state's total exports.

The AI Accelerator Programs were created in 2013 to promote growth and sustainability in these industries by driving innovation, accelerating commercialization, encouraging public-private partnerships, increasing access to early-stage capital and creating a strong infrastructure that increases the state's capacity to be globally competitive.

As part of the statewide strategy to support these critical industries in their various phases of growth, OEDIT offers four types of grants and two global business programs. The four targeted grant types available are: Proof of Concept, Early-Stage Capital and Retention, Infrastructure Funding, and AI Exports. A network of consultants and an export training program are also available as part of the AI Global Business Programs to support these industries as they strive for worldwide markets.

Proof of Concept:

Proof of Concept (POC) grants help fund research at Colorado Research Institutions with commercial applications. Grant Funding is used to identify and pull technologies from research institutions where they were discovered and connect them to the private sector where they can be developed into commercialize-able products. These grants provide significant economic impact or competitive advantage for Colorado and the Advanced Industries by accelerating the pace of applied research and leading to the rapid commercialization of products and services. 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). In Fiscal Year 2016, the program awarded 48 grants to researchers at Colorado research institutions to bring their cutting-edge technologies closer to market. Over 131 grants have been funded since the program's inception. These grants are usually matched by funds from the technology transfer offices to allow the investigators to reach commercial milestones.

Early Stage Capital and Retention

Early Stage Capital and Retention (ESCR) grants provide Early Stage development grants to support technology commercialization 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 SBIR, angel funding or venture capital. The resulting product or service must be manufactured or performed in Colorado.

Under the Early Stage Capital and Retention Grant Program, 26 grants helped Colorado companies further advance in fiscal year 2016. Since the program’s inception, 77 Colorado companies have been funded. Early Stage Capital and Retention 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.

The 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 2016.

Status	Program	# of Awards	\$ Awarded	\$ Spent to date	Jobs Created	Jobs Retained	Companies created	Follow-On Capital	IP	Projected Annual Revenue
	Proof of Concept	48	\$7,709,866	\$3,352,101	13.7	24.2	4	\$4,500,000	5	\$900,000
Active Grants	Early Stage Capital and Retention	26	\$4,835,002	\$2,593,616	43.25	91.2		\$12,150,000	20	\$11,033,000
	Infrastructure	10	\$8,206,636	\$2,816,544	55	9	N/A	\$2,383,333	10	\$2,400,000
Totals		84	\$20,751,504	\$8,762,261	111.95	124.40	4	\$19,033,333	35	\$14,333,000

Approximately \$40,773,560.79 from the Advanced Industry Fund has been granted since the inception of the program in 2013. The chart above shows returns realized during the 2016 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 492 new jobs and approximately 593 jobs retained. Additionally, these funds have helped the technologies acquire an additional \$200,353,734.29 dollars in grants and investments to further commercialize these advanced technologies.

Below are two success stories that show how the Advanced Industry Grant Program has provided critical gap funding to technologies in early development.

Synkera Technologies, Inc

Synkera developed a tiny surface mount gas sensor suitable for integration with mobile devices, wearable accessories, and other wireless and portable applications. The first product in this line was a sensor that can detect carbon monoxide, breath alcohol, and Indoor Air Quality (IAQ), depending on the mode of application. The second product in the line can detect the state of health and fat burning of an individual, using breath analysis. A third product supports

commercial building air quality. Silicon Valley semiconductor firm Integrated Device Technology Inc. (Nasdaq: IDTI) acquired the Longmont-based Synkera Technologies Inc. in September. The company will remain in Longmont to grow the Colorado footprint. A Seattle startup is already using Synkera nanosensors for a device that measures acetone levels in users' breath to monitor their bodies' fat-burning state and aid in achieving weight-loss goals.

Clear Comfort

Clear Comfort manufactures and sells sustainable water disinfection systems for pools and spas with headquarters and manufacturing in Colorado. While the technology was originally developed for industrial applications, Clear Comfort has adapted this chlorine alternative for commercial and residential pool treatment.

Clear Comfort is the only nontoxic chlorine alternative pool sanitation solution with a two-stage process that destroys contaminants on contact and residually, in addition to the chlorine-resistant *Cryptosporidium*.

Their grant goals were to leverage the incremental markets and take advantage of the base level activities across multiple regional markets. The company has successfully sold and installed over 300 residential systems in more than 23 States. They have also increased their install base on commercial accounts and have more than 18 commercial systems installed and operating.

The company has grown from 9 full-time employees as of August 2015 to 15 full-time employees as of June 2016.

Infrastructure Grants

In order to align private industry and Colorado Research Institutes, Commercialization 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.

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. Infrastructure Grants may also be used to assist in the implementation of newly identified action items that are needed to accelerate such Advanced Industries.

In addition, infrastructure grants may also be used to leverage federal funding opportunities that address a specific need of an Advanced Industry. Here are a few examples of Infrastructure funding awards:

Alliance for the Development of Additive Processing Technology (ADAPT) establishes a world-class characterization center for additive materials at Colorado School of Mines, ADAPT's physical headquarters, and also funds the first year of technical efforts aimed specifically at improving nickel-based and titanium-based alloy 3D printing. The R&D in ADAPT is carried out by Mines students and post-docs, directed by Assistant Professor's Aaron Stebner and Douglas Van Bossuyt together with Assistant Research Professor, Branden Kappes.

Founding industry members Fauston Tool, Ball Aerospace & Technologies Corporation, and Lockheed-Martin Space Systems provided the initial demand and vision for ADAPT, as well as over \$4 million in cost share to secure the OEDIT infrastructure grant. The breakdown for the contributed matching funds consists of: Lockheed Martin, \$3.1 million; Ball Aerospace, \$445,000; Fauston Tool, \$900,000; and Colorado School of Mines, \$1,030,000. \$2.5 million was awarded to the ADAPT Center in November 2015. The ADAPT Center offers a discounted membership to Colorado companies.

Commercialization infrastructure funds have supported Colorado's involvement in one national manufacturing initiative, best known as the Institute for Advanced Composite Innovation (IACMI).

The Institute for Advanced Composites Manufacturing Innovation (IACMI) is the fifth Institute in the National Network of Manufacturing Innovation, and is supported by the US Department of Energy's Advanced Manufacturing Office (AMO) and the investments of industrial, state, university, and other partners. The Institute is a public-private partnership committed to increasing domestic production capacity, growing manufacturing and creating jobs across the US composite industry. Development efforts focus on low-cost, energy efficient manufacturing and recycling of fiber reinforced polymer composites targeting continuous or discontinuous, primarily carbon and glass fiber composites with thermoset or thermoplastic resin materials. These composites are broadly applicable and pervasive in multiple industries and markets with potentially transformational economic impact. The innovative composites manufacturing approaches developed by IACMI partners will help US industry meet cost and production targets that not only lower energy consumption and greenhouse gas emissions, but accelerate realization of life cycle energy efficiency targets for fiber-reinforced polymer (FRP) composite applications in vehicles, compressed gas storage and wind turbines.

IACMI's Wind Turbines Technology Area, located in Boulder, Colorado is focused on lowering the cost of wind energy while increasing the reliability of wind turbines. \$731,000 was awarded to the National Wind Technology Center, run by the National Renewable Energy Lab, to set up a wind composite manufacturing scale-up facility.

Global Consultant Network

The Global Consultant Network provides a network of international consultants who connect Colorado companies to global opportunities. Colorado companies have access to international consultants in major markets including Canada, Mexico, Brazil, UK, Ireland, France, Germany, Japan, UAE and China that provide valuable in-country market research.

These consultants can assist Colorado companies to:

- Understand the opportunity for a product or service in their international market
- Navigate the local regulatory and business environment
- Identify potential in-market partners
- Set meetings with potential partners and attend meetings upon request

Colorado companies pay \$500 for services provided by the Global Consultant Network and OEDIT covers the remaining amount of the services. In fiscal year 2016, 23 companies used the Global Consultant Network to conduct 34 activities. The cost to OEDIT was \$47,500 while the cost to Colorado companies was \$7,900.

AI Export Accelerator Grant

The Advanced Industries (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.

Grants are capped at \$15,000 per business to reimburse for costs associated with projects, activities or services. Approved applicants pay for the project up front, then submit proof of payment to be reimbursed 50% of the approved expenses.

AI Export grants were awarded to 12 Colorado companies to advance Colorado exporting in fiscal year 2016. Since the program’s inception in 2013, 42 Colorado companies have been funded. In addition to international activities such as trade missions and trade shows, companies can use funds for activities such as translation services for a contract or official document, intellectual property protection, conducting due diligence or credit reviews on potential buyers or distributors, and production and design of international marketing materials. The table below summarizes all grants awarded in fiscal year 2016.

Status	Program	# of Awards	\$ Awarded	Jobs Created	Jobs Retained	Projected Export Sales after 1 year
Active Grants	Export Accelerator	12	\$116,742.29	6	23	\$8,514,414

