COLORADO
Office of Economic Development & International Trade

ADVANCED INDUSTRIES ACCELERATOR GRANT PROGRAM

Annual Report Fiscal Year 2023-2024

Advanced industries (AI) are key drivers of the U.S. and Colorado economies. They are engineering and R&D-intensive companies, and 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% of the state's total wage earnings, around 30% of total sales revenue, and almost 35% 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.

The AI Accelerator Program offers five funding assistance opportunities to support AI companies in their various phases of growth. They include the Proof of Concept Grant, Early-Stage Capital and Retention Grant, Collaborative Infrastructure Grant, Export Accelerator Grant, and the Global Consultant Network.

PROOF OF CONCEPT GRANTS

Proof of Concept (POC) grants fund research with a commercial application 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 and commercialization preparation. 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 FY 23-24, 52 POC grants were awarded to researchers at Colorado research institutions, bringing cutting-edge technologies closer to market. Since the program's inception, 422 POC grants have been funded. Below are examples of two success stories.

UNIVERSITY OF COLORADO BOULDER, FERROELECTRIC NEMATIC MATERIALS FOR ELECTRONIC ELECTRO-OPTICS APPLICATIONS

This project, led by the University of Colorado Boulder Co-Inventor Matthew Glaser, was awarded a $93,750 POC Grant in FY 21-22. The aim of the project was to develop ferroelectric nematic liquid materials for use in photonics devices. The combination of strong nonlinear optical effects, easy macroscopic polar alignment, thermodynamic stability of the polar state, and proven compatibility with cheap and scalable manufacturing processes make these materials ideal candidates for high-speed electro-optic photonics applications.

Broomfield, Colorado company Polaris Electro-Optics, Inc. was formed by the research team at the University of Colorado Boulder to commercialize this technology, and they have obtained an exclusive license to existing and future patents on this technology. Polaris Electro-Optics was awarded a $250,000 Early Stage Capital and Retention Grant in FY 23-24 to continue the technological development and commercialization.

COLORADO SCHOOL OF MINES, ADDITIVE MANUFACTURING OF HIGH-PERFORMANCE SOLID ROCKET PROPELLANT

This project, led by Colorado School of Mines Associate Professor Veronica Eliasson, was awarded a $150,000 POC Grant in FY 22-23. The aim of the project is to build a cost-effective, multi-material additive manufacturing process to deposit selective porosity propellants, thereby increasing the maximum possible loading density, enabling control over burn profiles, and increasing overall system efficiency.

Since receiving the grant funding, the additive manufacturing platform has been assembled and continues to be modified and tailored for manufacturing energetics. The research team has obtained $2.1 million in federal funding to support the development of the technology, and plan to generate and deliver componentry for other energetic additive manufacturing systems.

EARLY STAGE CAPITAL AND RETENTION

Early Stage Capital and Retention (ESCR) grants fund companies commercializing proven, disruptive technologies 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 as the market's tendency is 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 be used to support direct project expenses.

In FY 23-24, 59 ESCR grants helped Colorado companies further advance their commercialization efforts. Since the program's inception, 474 Colorado companies have been funded. Below are examples of two success stories.

DRIVEN PLASTICS, PUEBLO, COLORADO

Ecologic Materials, LLC dba Driven Plastics was awarded a $500,000 ESCR Grant in FY 20-21 to commercialize an asphalt binding technology for high-performing, cost effective, and sustainable roadways. This proprietary process repurposes three tons of single-use plastic waste per lane mile of road, solving the toxic plastic waste problem while accelerating the ability to deal with crumbling and costly road infrastructure.

To date Drive Plastics has collected 120 tons of plastic waste in the County of Pueblo, which is equivalent to 19 million grocery bags. Of this plastic waste, 56 tons have been transformed into ten roads and three parking lots. Driven Plastics is expected to recycle 250 tons of plastic waste in 2024, and projects recycling 600 tons in 2025.

IONTRA INC, CENTENNIAL, COLORADO

Iontra was awarded a $250,000 ESCR Grant in FY 21-22 to commercialize a breakthrough charge control algorithm that significantly improves the performance, cost, and safety of all lithium and zinc battery systems. It enables the battery system to achieve up to four times faster charging and up to three times longer cycle life.

In April 2024 Iontra and Salom Europe Limited, a global leader in supply solutions and battery chargers, announced a strategic partnership to bring Iontra's technology in Salom charger designs. This partnership will enable broader adoption of Iontra's technology. Additionally, Iontra has raised $80 million in private investment to date. Most recently the company raised $67 million in Series B funding.

COLLABORATIVE INFRASTRUCTURE GRANTS

In order to align private industry and Colorado Research Institutes, Collaborative Infrastructure Grants help fund projects that substantially build or utilize existing

infrastructure to support or enhance the commercialization of AI products, assist AI start-ups with mentoring or access to outside capital, or contribute to the development of an AI workforce.

Collaborative Infrastructure grants are used to assist in the implementation and execution of action items identified in Advanced Industries 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, and to leverage federal funding opportunities that address a specific need or gap in the industry.

In FY 23-24, two Collaborative Infrastructure grants were awarded. Since the program's inception, 47 Collaborative Infrastructure grants have been funded. Below is an example of a success story.

INNOSPHERE VENTURES, FORT COLLINS, COLORADO

Innosphere Ventures was awarded a $500,000 Collaborative Infrastructure Grant in FY 20-21 to develop a 7,500 square foot lab space in Northern Colorado for startups in the advanced manufacturing, bioscience, and energy and natural resources industries. This specialized laboratory space filled an acute need in the region for tech-based startup companies.

With the grant funding, Innosphere Ventures completed the lab and reached 100% occupancy within three months of finalizing the construction and receiving their certificate of occupancy. The companies occupying the lab lease 420-500 square feet of private laboratory space at a subsidized rate. They also have access to a shared equipment room. In the FY 23-24 reporting period, the companies created 16 jobs, retained 50 jobs, and leveraged $1,200,000 in private investment and federal grants.

GRANTS AWARDED

The AI Accelerator Program's statute requires an allocation of at least 15% of funds to POC grants, 15% of the funds to ESCR grants, and up to 15% of the funds to Collaborative Infrastructure grants. The table below summarizes all grants awarded in FY 23-24.

Grant	# of Awards	$ Awarded	Jobs Created	Jobs Retained	New Companies Created	Follow-On Capital	IP	Projected Annual Revenue	Capital Investments
Proof of Concept	52	$5,488,487	11	21	5	$1,900,000	12	$500,000	$849,851
Early Stage Capital and Retention	59	$14,447,568	40	98	1	$24,359,000	8	$7,393,677	$1,485,010
Collaborative Infrastructure	2*	$1,999,789	0	0	0	$0	0	$0	$0
Total	**113**	**$21,935,844**	**51**	**119**	**6**	**$26,259,000**	**20**	**$7,893,677**	**$2,334,861**

**This grant was awarded but not executed in FY 23-24, therefore there is no data for the FY 23-24 report.*

Since the program's inception in 2013, $172,820,269 in Advanced Industries grants have been funded. To date, the program successes include the creation of 5,888 new jobs and approximately 6,011 jobs retained. Additionally, these funds have helped the technologies acquire an additional $3,453,328,254 in grants and investments to commercialize further.

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:

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

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.

Additionally, AI Export funding is used to support the Global Consultant Network (GCN). GCN provides a network of international consultants who connect Colorado companies to global opportunities. Colorado companies have access to international consultants that provide valuable in-country market research for major strategic markets, including Australia, Brazil, Canada, France, Germany, India, Indonesia, Japan, Malaysia, Mexico, the Netherlands, Philippines, Spain, Thailand, and the United Kingdom. These consultants can assist Colorado companies to:

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

AI Export funding offsets the cost of the services for eligible Colorado companies.

AI Export grants and GCN services were awarded to 32 Colorado companies to advance Colorado exporting in FY 23-24. Since the program's inception in 2013, 210 Colorado companies have been funded. The table below summarizes all grants awarded in FY 23-24.

GRANTS AWARDED

Status	Program	# of Awards	$ Awarded	Jobs Created	Jobs Retained	Immediate Export Sales	Projected Export Sales after 1 year
Active Grants	**Export Accelerator**	32	$154,596	15	75	$1,078,487	$11,191,250

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 2024, the program had an initial ROI of 1-7. The three stories below show successful international activity leading to job creation and business growth.

FISCHER MEDICAL, WHEAT RIDGE, COLORADO

Fischer Medical produces Cardiac Simulators and is based in Wheat Ridge, Colorado. They used the AI Export Grant to attend the Heart Rhythm Society trade show in May of 2024.

They obtained HealthCanada regulatory clearance of their latest device and were able to make their first sales into the market. While at the show, they were able to meet with Latin American customers, one of their target markets, and furthered their partnership with a Dutch-German company, which could lead to EU market entry. Additionally, they shipped their first new system to a Canadian hospital and are pursuing additional Canadian accounts.

Fischer Medical's actual sales from this AI Export funded activity were $198,838 with a projected figure of $256,250 in the next year.

RESOURCE WEST, INC, GRAND JUNCTION, COLORADO

Resource West, Inc is a wastewater evaporation equipment company that assists in the mining industry. They are based in Grand Junction, Colorado.

They used the AI Export grant to attend the EXPONOR trade show. Due to the show, they have shipped out a unit to a mine in Santiago, Chile that will be looking at purchasing 40-60 more units in the future. Resource West has strategically placed distribution centers in Chile to assist in providing high-quality evaporation equipment around the world and will be creating their own distribution center in Chile.

Resource West's actual sales from this AI Export funded activity were $50,000 with a projected figure of $2,000,000 in the next year.

CLICK MEDICAL LLC, STEAMBOAT SPRINGS, COLORADO

Click Medical is based in Steamboat Springs and produces RevoFit Lamination Kits that are fabricated into prosthetics.

They utilized the Global Consultant Network for lead generation at the Arab Health trade show in 2024. As a result of these leads, they were able to introduce their products to the middle east region and secured new orders. This experience also helped them understand the process of importing medical devices in the region.

Click Medical's actual sales from this activity were $40,000 with a projected figure of $100,000 in the next year.