

VISION FOR WESTERN NEW YORK'S ADVANCED MANUFACTURING CLUSTER

Section 1: Project Vision

REGIONAL GROWTH CLUSTER: Western New York (WNY) consists of the state's five westernmost counties with a population of 1.4 million. Representing 10% of the regional economy, the Advanced Manufacturing (Adv. Mfg.) sector has 61,360 workers across 1,581 firms, paying an average wage of \$85,474 (2020). Adv. Mfg. includes goods-producing sectors in NAICS 31-33 that rely more heavily on automation, technology, and advanced processes and materials, and contribute to innovation, economic competitiveness, and exports. WNY Adv. Mfg. is 29% more specialized than the U.S., with a location quotient of 1.29 (2020), including 800 self-employed manufacturers and specializations in electrical, medical equipment and industrial machinery. About half of WNY Adv. Mfg. jobs are in growing sectors. About one-third are growing faster than the U.S. average (*Newmark study, prepared for InBN*). Data shows that Adv. Mfg. became more specialized from 2019 to 2021, indicative of growing regional strength. (*EMSI, ACS-1Yr*).

The US Cluster Mapping methodology identifies eight subsectors where WNY has its highest Regional Competitiveness and Specialization compared to the U.S.: Lighting & Electrical Equipment; Upstream Chemical Products; Vulcanized & Fired Materials; Biopharmaceuticals; Food Production & Manufacturing; Metalworking Technology; Production Technology & Heavy Machinery; and Aerospace Vehicles & Defense. Representing \$6.4B in GRP, this Regional Growth Cluster employs 30,034 individuals with an average salary of \$91,378 (2021). WNY's BBB efforts will boost these growing, high-value subsectors.

NEED STATEMENT: Adv. Mfg. is an industry threatened by hard-to-fill positions, an older workforce, looming retirement cliffs, low racial diversity, employment decline at young manufacturing firms, aging infrastructure and limited industrial sites. Over 19,100 workers are 55+. Workers of color would have to *more than double* to meet the national average. The pandemic intensified the need for a strong, highly skilled workforce pipeline, stronger supply chains and innovation. With shutdowns and supply chain disruptions, some manufacturers saw a drop in revenues and others had to cut labor costs.

NEEDS AND OBJECTIVES IN THE REGIONAL ECONOMIC DEVELOPMENT PLAN: In 2011, WNY formed the WNY Regional Economic Development Council (WNY REDC). The coalition, made up of government, business and community leaders developed "*A Strategy for Prosperity*", a regional plan for cohesive and targeted economic development. The plan is regularly updated and continues to drive the region forward. Based on the strength of the plan and the region's potential, New York State (NYS) made a historic commitment to invest \$1.5 billion in the region's economy including in Adv. Mfg. as a key regional sector poised for growth. Since then, coalition members, industry leaders and equity partners collaborate to: improve Adv. Mfg. competitiveness, issues of equity/access and productivity; increase innovation through applied research and scaled testing; expand the market for products through export assistance; reclaim industrial land for Mfg. facilities, especially in areas of environmental justice and low income; and prepare a skilled and diverse workforce to meet Adv. Mfg. labor needs.

Build Back Better (BBB) funding will scale up existing Adv. Mfg. strategies through projects that spark **innovation**, advance inclusive **workforce development**, and develop **infrastructure for Adv. Mfg.**

Innovation: Since 2011, WNY worked to fill innovation ecosystem gaps focused on equity and economic growth. Assets such as **UB Innovation Hub**, **43North**, **Launch NY** and **WNY Incubator Network** attract start-ups and foster growth through R&D, business support, funding, and access to incubators/equipment.

Buffalo Manufacturing Works innovates to promote business competitiveness and growth. We will build the region's unique specializations and capitalize on strong but underused materials-sciences R&D infrastructure. *Our innovation projects will increase equitable access, growing capacity of manufacturers.*

Workforce Development: Regional stakeholders are designing employer-driven training programs for the underrepresented and underemployed that align skills to industry demand, form career paths to upskill job seekers and diversify the workforce. The region encourages a holistic approach that includes recruitment, assessment, wrap-around services, and job placement/retention. Regional assets working together toward these goals include **Northland Workforce Training Center, Goodwill of WNY, community colleges, BOCES** and **Burgard High School's Adv. Mfg. program**. *Our projects will increase supply and diversity of workers with in-demand skills and expand the geographic reach of programs to low-income areas.*

Infrastructure: Reversing environmental degradation left by our industrial past is core to WNY's smart growth strategy. Redevelopment of brownfields stops sprawl, addresses environmental justice issues, uses existing infrastructure, revitalizes neighborhoods and attracts investment and jobs where people live. Examples: NYS and the EDA invested in cleanup and reuse of Lackawanna's former **Bethlehem Steel** plant property now actively used by several companies. The Buffalo Urban Development Corporation with funding provided by NYS purchased 35 acres of underused property in Buffalo's **Northland Corridor** and is transforming it into an Adv. Mfg. hub with Northland Workforce Training Center and Buffalo Manufacturing Works as anchors. *Proposed infrastructure projects reverse environmental degradation through reuse in low-income areas; build on the vision of Northland Corridor as a signature regional demonstration project and explore sites to meet demand for Adv. Mfg. growth.*

COMPONENT PROJECTS AND COALITION MEMBERS

➤ **Innovation Projects**

Hardware Startup Acceleration/ University at Buffalo Business & Entrepreneur Partnerships (UB BEP): This project will leverage and augment significant manufacturing assets and expertise to develop a robust hardware startup ecosystem to increase the specialization, diversity, and resilience of WNY's manufacturing landscape and produce equitable opportunities for job and community wealth creation. UB BEP will lead an established coalition to create a three-stage hardware accelerator program that identifies potential hardware founders and supports them through the product development lifecycle. The program will help entrepreneurs validate the market need for their products, create prototypes, design alpha and beta versions of their products, develop manufacturing processes, and attract venture capital investment.

Small & Medium Sized Manufacturer (SMM) Manufacturing Technology Program/ Buffalo Manufacturing Works (BMW): This project will create a cycle of technology innovation where SMMs can access supports to overcome barriers to successful technology implementation, promoting a more economically diverse region. BMW will build an Industry 4.0 ecosystem that leverages four years of partnerships and work with SMMs including hands-on training for incumbent workers and high schoolers; original equipment manufacturer interactions and networking events. A mobile collaborative robot (cobot) platform will also be developed to help SMMs implement new technologies on their manufacturing floors.

➤ **Workforce Development Projects**

WNY Clean Energy Infrastructure and Manufacturing Regional Partnership/EDG Inc., dba Northland Workforce Training Center (NWTC): Through educational partners like Alfred State College and SUNY

Erie, NWTC upskills workers (especially underrepresented populations) and creates economic on-ramps to training, co-ops, internships, apprenticeships, and permanent employment for WNYers seeking high-paying Adv. Mfg. careers. Building on this successful model, a new regional collaborative will increase NWTC's existing training capabilities within the clean energy sector and expand the Northland "high touch" model (including recruitment, assessment, and wraparound, job placement and retention services) beyond Erie County. Training will address industry needs, close skill gaps, and expand career pathways regionally.

Goodskills Career Builder (GCB)/Goodwill of Western New York (Goodwill): Working in partnership with employers and trainers, Goodwill will expand Adv. Mfg. career onramps, focusing on underrepresented individuals and underserved communities in urban and rural areas. GCB will move individuals from un/underemployment into careers with recruitment, assessment, training, job placement/retention and wraparound supports. Proposed project features: a data-driven, dual-customer approach to bridging the gap between workers and employers; preparing adults for higher paying careers; partnerships with 50+ employers, trainers and community organizations; and expanded recruitment in low-income rural areas.

➤ Infrastructure Projects

Northland Corridor Redevelopment Phase 3/Buffalo Urban Development Corporation (BUDC): The project will scale up NWTC and BMW successes and meet growing site demand by creating an Adv. Mfg. hub along the Northland Corridor on Buffalo's East Side. BUDC will redevelop two significant industrial buildings, complete a Clean Energy Microgrid, and enhance infrastructure to create leasable space for local manufacturers and workforce training opportunities; grow new jobs/businesses; and provide low-cost electricity to promote equitable development in a distressed community.

Accelerating Local Manufacturing Expansions/Invest Buffalo Niagara (InBN): The project will accelerate growth in local Adv. Mfg. companies by fostering innovation, commercialization, and market potential through a cohesive site readiness and economic gardening program to fill demand for developable manufacturing space and grow local SMMs. The site readiness initiative will provide guidance to economic developers through creation of a Standard Operating Procedure (SOP) for site assessment and infrastructure studies. Economic gardening will build capacity and develop a WNY Manufacturing Supplier Network and WNY Manufacturers Purchasing Collective to fuel product demand and strengthen supply chains.

➤ Governance, Coordination and Implementation

Project Implementation Team (PIT)/Empire State Development (ESD) Western New York Regional Office & Western New York Regional Economic Development Council (WNY REDC) in partnership with University at Buffalo Regional Institute (UBRI): The PIT will play the role of coordination, collaboration and communication to ensure a strong cohesive coalition connected to industry and led by the principles of equity and sustainability; to build the capacity of coalition organizations; and strengthen the collective network. The PIT will lead a coalition governance structure and implement an integrated work plan for projects including program and strategy development; evaluating and reporting; leveraging funding; convening partners; and providing peer assistance and best practices.

ADDITIONAL PARTNERS THAT MAKEUP THE REGIONAL GROWTH CLUSTER

Innovation: 43North, Insyte Consulting, Launch NY, University at Buffalo Center of Excellence in Bioinformatics & Life Sciences (CBLs) & Incubator @CBLs, University at Buffalo Center of Excellence in

Materials Informatics, University at Buffalo Incubator @ Baird, University at Buffalo School of Engineering and Applied Sciences & The Center for Industrial Effectiveness, Western New York Incubator Network, University Buffalo Innovation Hub.

Workforce: Alfred State College, Burgard High School Adv. Mfg. Program, Jamestown Community College, Niagara County Community College, SUNY Erie Community College, Buffalo Public School District, Chautauqua County School District, Buffalo Employment and Training Center, and the Buffalo and Erie County Workforce Investment Board.

Manufacturing: Buffalo Niagara Manufacturing Alliance, Manufacturing Association of the Southern Tier, Buffalo Niagara Partnership

Public Sector: County Industrial Development Agency, Erie County Industrial Development Agency, National Grid, New York Power Authority, New York State Electric and Gas Corporation, Niagara County Department of Economic Development, Niagara County Industrial Development Agency, START-UP NY, Buffalo Sewer Authority, Niagara Frontier Transportation Authority, Jamestown Board of Public Utilities.

We received 97 support letters from industry, equity, innovation, public sector and philanthropic partners.

METRICS OF SUCCESS: see Outcomes in Section 7

TIMELINE FOR IMPLEMENTATION

Phase 1 – Year 1 (October 1, 2022 - Sept. 30, 2023)

- Conduct outreach and assessment to identify first cohorts for all innovation programs.
- Build ecosystem, design programs, purchase equipment, launch innovation programs.
- For workforce projects—assess, scale up, outreach, training, job placement.
- Engage with industry, plan and design new programs for energy manufacturing training.
- Continue pre-development activities at Northland; begin construction on infrastructure.
- Hire Site Readiness Coordinator; begin planning and budget development for new sites.
- Hire Program Manager; recruit and support SMMs through NCEG's programming.

Phase 2 - Years 2-3 (October 1, 2023 - Sept. 30, 2025)

- Complete microgrid infrastructure and begin construction on Northland Corridor buildings.
- Ongoing workforce development projects—assess, outreach, training, job placement.
- Recruit students; launch the new energy manufacturing programs at NWTC.
- Outreach and innovation programming is ongoing; startups and SMM grow and expand.
- Develop a WNY Manufacturing Supplier Network and Manufacturers Purchasing Collective.
- Advance improvements on eight sites through feasibility, environmental, utility, road studies.

Phase 3 - Years 4-5 (October 1, 2025 – May 31, 2027)

- Construction is complete and new/expanded businesses move to Northland Corridor.
- Eight sites in three counties are expansion ready; new/expanded businesses move in.
- Outreach and innovation programming is ongoing; companies grow and expand.
- Ongoing workforce projects—assess, scale up, recruitment, training/job placement.

Section 2: Project location and region

PRIMARY SERVICE AREA: The primary service area is the five county WNY region: Allegany (36003), Cattaraugus (36009), Chautauqua (36013), Erie (36029), and Niagara Counties (36063). Congressional Districts NY-023, NY-026, and NY-027.

COMMUNITIES SERVED: The project will focus on economically vulnerable urban and rural communities. Workforce development projects are located on Buffalo's East Side where 95% of residents live in concentrated poverty. Partnership with Alfred State College, Jamestown Community College, Niagara Community College and Manufacturers Association of the Southern Tier (MAST), will expand successful models to rural counties. BMW will partner with Buffalo Niagara Manufacturers Alliance (BNMA) and MAST to serve manufacturers throughout the five counties and with Chautauqua County School District and Jamestown Community College to expand programming in Chautauqua. UB BEP will utilize the region's network of business incubators to deliver services to startups in Buffalo, Niagara Falls, Lockport, Fredonia, Olean, and Alfred. Infrastructure projects will expand Adv. Mfg. site readiness in Lockport, Niagara Falls, Dunkirk, Jamestown, Eden, Lackawanna and Buffalo's East Side.

TARGET PARTICIPANTS SERVED

- 1.) **Traditionally underrepresented workers, such as women and people of color:** We have a tightening labor pool with a lack of diversity. Across WNY, more than 42,000 lower-wage jobs were lost due to COVID-19. (Urban Institute, WNY, August 2021) Manufacturing accounts for only 3% of jobs lost due to COVID-19, and has jobs with starting salaries of \$40,000 for less than a four-year degree and two years of experience. (Urban Institute, EMSI, WNY, August 2021) At 3.3% unemployment, we have the lowest unemployment rate and fewest numbers of workers seeking a job than any time on record (NYS DOL, LAUS, December 2021). We need 2x more workers of color to meet the national average in terms of diversity (EMSI, BLS, 2021).
- 2.) **K-12 students:** Nearly one in three manufacturing workers in WNY is age 55+ and may soon retire (EMSI, BLS, 2021). Expanding educational pipelines will address retirement cliffs and offer opportunity to diversify WNY's Adv. Mfg. workforce by building career pathways for underserved students.
- 3.) **SMMs especially MWBEs:** We have limited growth of startups and entrepreneurs. From 2019-2020, jobs at young manufacturing firms in WNY declined by 16% (compared to 10% in the U.S.) (US Census, QWI, 2019-2020). The pandemic devastated MWBEs in many places, including WNY, exacerbating already substantial gaps in the number, size, and growth potential of these firms. (Katz et al. Jan. 2021) There is also insufficient infrastructure for companies to grow with 66% less available manufacturing space than peer regions (Newmark, 2021).

STAKEHOLDERS ENGAGED: With a focus on holistic ecosystem building, stakeholder engagement has been consistent, growing, and ongoing since 2011 with the WNY REDC. The coalition reaches out to manufacturers, employers, workforce trainers, educational partners, economic development organizations, nonprofits, community leaders, academia, philanthropy, residents in low-income areas, state agencies, municipalities, real estate professionals, researchers, and national best practice models across the country.

MANUFACTURING ASSETS: The region has many key Adv. Mfg. assets to leverage which capitalize on initial investments and scale for maximum regional impact, including: a skilled workforce, ready infrastructure for innovation, developable sites and a strong workforce development ecosystem. Manufacturing employment in WNY is driven by major companies like General Motors, Moog Inc., Siemens Energy, Ford, and Tesla, all employing 1,000 workers or more in WNY (Buffalo Business First, 2021). The clustering of these and other manufacturing firms gives WNY access to talent, supply chains, and services. Situated on an international border near major cities and global shipping networks, WNY provides quick

access to market for manufactured goods. The region has strategic sites equipped with infrastructure for manufacturing, including Brownfield Opportunity Areas in Buffalo and Niagara Falls, along with developable sites fit for manufacturing operations. Another asset is low-cost power, including hydroelectric from New York Power Authority (NYPA) Niagara Power Project, which provides reduced rates to local manufacturers.

The quality of partners in the regional workforce development ecosystem is another key asset for manufacturing. It contains over 200 training providers including NWTC, Goodwill of WNY, community colleges, BOCES, and the Burgard High School Adv. Mfg. program. The region also has 21 colleges and universities, including the University at Buffalo, a top 40 public US university (*US News & World Report*) and SUNY Alfred State, which offers nationally ranked manufacturing related programs. WNY higher education institutions produced over 24,000 college degrees in 2020 including 6,400 in engineering, production, business, and manufacturing related degrees (*IPEDS, 2020 via Emsi*). This locally grown talent can fuel an advanced-level talent pipeline and drive innovation in a variety of manufacturing sectors.

Section 3: Participation by private sector

To date the coalition has secured nearly \$16 million in matching funds from NYS, industry partners, coalition members, local foundations, City of Buffalo, and SUNY.

WNY REDC's Adv. Mfg. strategy is driven by the needs of private employers. Local manufacturers have lead roles on workgroups—at strategy and implementation levels. Coalition members have a strong track record of engaging industry partners and will grow these collaborations as new projects proceed. As part of BBB Phase 1 funding, the Coalition just held a Resilient and Innovative WNY Manufacturers Roundtable with 20 manufacturers to provide industry leadership and oversight as BBB Phase 2 was developed.

Innovation Engagement: *Providing Industry with the Resources to Innovate:* Innovation industry partners identify and address barriers to commercialization and product development. More than 250 business, civic, and academic leaders helped develop the vision for BMW. A key component, its Founders Council, is comprised of local Adv. Mfg. advisors. Through existing programs, BMW engaged 250 SMMs who are candidates for the proposed program. BNMA, MAST and the economic gardening project, will identify companies for the two proposed SMM projects. UB BEP works with industry partners in medical products and materials advancements and connects hundreds of manufacturing companies to equipment, facilities and faculty expertise. For the new Hardware Startup Acceleration program, it will use this industry knowledge base to grow and advance hardware startups.

Workforce Engagement: *Filling the Pipeline Equitably to Meet Industry Labor Needs:* Industry partners are engaged in curriculum development, apprenticeships, and job placement. Local industry's needs will be captured in an updated Labor Market Assessment (funded by Phase 1 BBB funding). NWTC is one model for industry-driven, public-private partnerships. Private sector partners include MAST and BNMA and its 160 members with 3,000+ job openings. Businesses access NWTC candidates by becoming an "Industry Sponsor" or using NWTC's placement partner, Remedy @ Northland. NWTC will engage with green energy manufacturing businesses who plan to employ ~1,000 local residents. Goodwill's existing business relationships and successful placements with employers are incorporated into all programmatic elements—recruitment, career readiness training post-placement support, and upward mobility.

Infrastructure Engagement: *Giving Industry Room to Grow with Infrastructure Investments:* InBN and BUDC continuously engage industry to address site needs for expansion/relocation. On the Northland Campus, companies invested in physical build-outs and employ 50+ FTEs and 50+ PTEs. Manufacturers

are part of the Northland Stakeholders Advisory Group. As three additional properties are redeveloped, BUDC will work with industry to fill the growing demands for the Campus. InBN engaged business partners in the WNY Industrial Real Estate Development Strategy to determine future manufacturing-capable sites; and will continue outreach to inform site improvements for new or growing manufacturers.

Section 4: Sustainability

Sustainability within the cluster depends on scaling up and growing successful models. NYS made initial significant, large-scale investments in infrastructure and operations of many coalition members (leveraging public, private and foundation support) with a goal that these organizations would be self-sustaining. The BBB grant will help ensure sustainability while expanding our efforts—scaling up to serve more workers and businesses, broadening the base of financial support—through nearly \$16 million in matching funds and increased programs/projects. The PIT's coordinated, aggregated strategic approach and a strong Adv. Mfg. ecosystem that builds networks of diverse funding among partners is key to sustainability.

Sustainability in Innovation - *Innovating to Increase Competitiveness*: Sustainability in innovation builds the ecosystem that supports Adv. Mfg. entrepreneurs from idea to venture formation to private funding. Existing ventures need to keep up with technology to stay relevant, sustain operations and remain globally competitive. To become financially sustainable following the initial support from BBB, UB will provide base funding for entrepreneurship as an institutional priority. Industry-based partnerships with regional manufacturers will create corporate startup support/venture studios and investment from industry to support and sustain the program. Through the two SMM manufacturer programs led by BMW and InBN, BBB funds will help companies become productive, resilient and competitive by implementing new technologies. A revolving loan fund, cost share with participants, additional grants and philanthropy funding, and commercial sales investment will lead to financial sustainability.

Sustainability in Workforce - *Planning for Equity and Growth in Our Regional Workforce*: Pathway to sustainable workforce training includes: aligning skills to industry demand; forming career pathways from entry level to higher-skilled positions to rapidly upskill underserved communities and targeting the unemployed, underemployed and underrepresented. The region encourages a multi-pronged approach to workforce training which includes recruitment and assessment, wrap-around services (success counseling, transportation, childcare, etc.) and job placement and retention; and encourages locations that are accessible to those most in need. Our long-term financial sustainability plan includes lease payments from educational partners and others for use of equipment and space, industry sponsorships, placement fees, revenue from customized trainings and social enterprises, and state, federal local foundation grants.

Sustainability in Infrastructure - *Building the Infrastructure to Accommodate Sustainable Growth*: Given the limited inventory of manufacturing sites in WNY, an investment from BBB in shovel-ready land and turnkey buildings on the Northland Campus and regionwide will add 600 jobs, a necessity for meeting industry's expansion needs locally and for regional competitiveness. Our strategy for site selection focuses on locations that catalyze community revitalization and remediating environmental justice issues through brownfield redevelopment. We will invest in sites that offer important connections to employment hubs; are located near workforce training assets; have an accessible labor force, existing employers, good walkability and community services. This holistic approach to site redevelopment, job creation, workforce training and neighborhood revitalization will spur private investment to sustain business expansion.

Section 5: Engagement with CBOs and Labor Unions

Our coalition includes two equity anchors (Goodwill and NWTC) with the support of a dozen core equity partners, from churches to small business development centers in distressed communities, non-profit service providers, K-12 providers, and government agencies. BBB funding is an opportunity to strengthen these partnerships and narrow equity gaps while ensuring workforce training and business development is driven by the community. Equity partners include: Blackstone Launchpad, City of Buffalo, Erie County Department of Social Services, Northland Corridor Stakeholder Advisory Committee, Operation SNUG, Second Change Church, Back to Basics Re-entry Ministry, Group Ministries, Access VR, EforAll.

Similarly, relationships gained with a broad base of CBO and labor unions on prior efforts will help inform our efforts. For example, for the Northland Corridor Redevelopment, inclusive of the historic restoration to house NWTC and BMW, a proactive community involvement process was implemented to make residents, block groups, and CBOs active partners in the planning and development. These efforts yielded greater-than-average workforce and contractor diversity goals, living/prevaling wage requirements, and targeted efforts to ensure that actual community residents/companies took part in the benefits provided by the construction and long-term operation of facilities.

These types of community goals/benefit agreements were also built into unique Project Labor Agreements (PLAs) negotiated with local building and construction trade unions for the construction of both NWTC and BMW. These PLAs also established a union pre-apprentice program for city residents and set up a process to assure minorities, women and City residents were afforded every opportunity to participate, as well as a process for unions/contractors to prioritize hiring employees from an inner-city workforce center that focuses on underserved populations. Similar outreach efforts would be applied for this application, including PLAs where appropriate in terms of project scale/amount, to ensure local underserved communities and workers best benefit from component projects in this application.

Section 6: Equity

- 1) **Grow good-paying Adv. Mfg. jobs throughout the region, especially in communities in WNY that are disproportionately impacted by COVID and/or communities historically underserved.** Our Communities Served (see section 2) directly reflect this equity goal.
- 2) **Train a diverse body of students for higher-paying jobs in high-growth Adv. Mfg. sectors through partnerships with community-based organizations and by removing barriers that residents face to training and employment.** Our projects will ramp up Adv. Mfg. training for underserved adults. With career readiness training from Goodwill of WNY and technical training at NWTC hundreds of underserved adults will receive employer-driven training for a higher-paying job in Adv. Mfg. Trainees will receive comprehensive wraparound services to address common barriers such as transportation, childcare, affordability, and academic readiness. The presence of SUNY Alfred State College and SUNY Erie at NWTC, and partnerships with Jamestown Community College, Niagara County Community College create opportunities to expand Adv. Mfg. training in economically vulnerable rural areas of WNY.
- 3) **Connect job seekers with hiring employers through stronger industry-trainer partnerships.** There can be a disconnect between the demands of employers and the skills of employment-seekers. For example, BNMA currently has 3,000 job openings, while 1 in 8 African Americans are unemployed (NWTC). Proposed projects will ramp up effective best practice programs such as NWTC, where women and people of color represent 61% of program graduates and emphasize strong connections to industry for curriculum development, co-ops, internships, apprenticeships and job placement. This will ensure closer alignment of supply and demand while closing equity gaps.

- 4) **Strengthen the K-12 pipeline into Adv. Mfg. for underserved students.** Recognizing the need to build the pipeline at younger ages, BMW's proposed STEM Learning Lab, exposes underserved students in Buffalo City Schools and Chautauqua County School District to Adv. Mfg. careers.
- 5) **Support entrepreneurs of color and small businesses owned by persons of color.** SMMs are a catalyst for creation of generational wealth. The proposed economic gardening program offers high impact supports for MWBEs who have fewer business mentors and smaller networks. Technical assistance and implementation funding to UB BEP will catalyze hardware startups with minority and women founders.
- 6) **Focus on projects that build on recent successes and continue to tie economic development to placemaking in underserved communities.** Recent investments on Buffalo's East Side reflect community-driven development and ecosystem building efforts in one of WNY's most economically vulnerable communities. BBB funding would leverage and scale up these successes to serve more residents. Northland Corridor Project Phase 3, which will rehabilitate two additional structures at the Northland Campus and implement an emerging solar microgrid, will create an additional 100 FTE jobs paying \$40,000/year in a neighborhood that is 80% African American.
- 7) **Engage and strengthen partnerships with equity leaders and anchors in the region.** (See section 5)

Section 7: Metrics of Success

Outcome 1: Grow new manufacturing jobs and revenue through increased productivity and competitiveness for SMMs, revitalized brownfields for company expansions near population centers, and new startups. We will *increase*:

- Number of manufacturing jobs in the region;
- Total wages in manufacturing jobs in the region;
- Total number of manufacturing firms; total manufacturing SMM firms;
- Total manufacturing output in the region;
- Exports in the region;
- Square-footage of available industrial space;
- Public capital improvements related to manufacturing production;
- Private investments for manufacturing;
- Total economic impact (direct and secondary impacts on jobs, labor income and output).

Outcome 2: Partner with industry to fill existing and forecasted job openings in manufacturing by building the K-12 pipeline and upskilling existing workers with in-demand skills. We will *increase*:

- Adults completing manufacturing training at different levels (certificate, associate's degrees);
- Adults placed in jobs after completing manufacturing training;
- Outreach to manufacturing careers for K-12 students;
- Industry leadership in training curricula, work & learn models, internships, and investment.

And *decrease*

- Manufacturing job openings going unfilled; and
- The gap between available candidates and forecasted manufacturing job openings due to retirements

Outcome 3: Generate wealth and greater economic equity, inclusion and impact through higher-paying jobs in manufacturing for underrepresented populations and in underserved areas. We will *increase*:

- Manufacturing jobs held by women, people of color, those living in underserved areas;
- Total wages across jobs held by women, people of color, those living in underserved areas;
- Number of manufacturing companies in underserved areas;
- Number of manufacturing companies owned by women and people of color;

And *decrease*:

- Families living in poverty in underserved areas.

Outcome 4: Strengthen the manufacturing ecosystem so that there is better connectivity and coordination among assets, and expanded capacity to leverage these connections. We will ensure project progress and completion aligns with the targeted timeline and *increase*:

- Public, private and philanthropic funds leveraged as a result of EDA funding;
- Stakeholder engagement and recruitment especially in underserved communities;
- New public/private partnerships and initiatives in manufacturing;

Section 8: Phase 1 Activities

UB BEP: Developed an outreach plan to attract hardware startups with a focus on MWBEs. Designed a formal three-stage, 24-month hardware accelerator program that identifies hardware founders and supports them through the product development lifecycle. Engaged with industry and university partners to understand needs, and began preliminary design of the rapid prototype lab.

BMW: Engaged with industry partners through roundtable with InBN and NWTC, meetings on the Northland campus, and UB BEP to understand ecosystem building needs around educating SMMs on the implementation of automation technologies. Developed SOW for Insyte Consulting and Launch NY.

NWTC: Engaged with industry partners to understand needs in equipment, training, curriculum, work & learn models. Engaged with workforce trainers and sector partners to adopt a regional sector partnership model responsible for aligning education with industry, developing career pathways, and raising awareness of relevant careers. Identified trainers to provide green energy manufacturing training. Partnered with Goodwill to develop outreach to underserved populations.

Goodwill: Conducted outreach to additional industry (BNMA and MAST) and training partners (NWTC, JCC, and NCCC) to expand programming to the five counties, align education with industry needs, develop career pathways and raise awareness.

BUDC: Pre-development of 644 Northland is complete and updated cost estimates were received for 631 Northland, 537 E. Delavan and 777 Northland. Identified additional state, federal tax, philanthropic funds. Conducted outreach to private sector to attract new manufacturers. Two businesses have expressed interest in 631 Northland.

InBN: The Labor Market Assessment (LMA) is not included in Phase 2. It will be completed with Phase 1 funds and additional resources. To date, InBN distributed an RFP for an LMA contractor; reviewed proposals; interviewed applicants; is developing SOW for finalist firm for April 2022 start; developed community facing LMA dashboard mockup; and contracted with national dashboard firm to start March 2022. InBN met with IDAs to review needs, costs and timelines at publicly-owned sites.

PIT (UBRI and ESD): Provided research support and coordinated application material for final submission for BBB Phase 2; and began planning for implementation of BBB Phase 2.