Section 1: Executive Summary

The Western North Carolina (WNC) Futures Factory, a 70,000-square-foot advanced manufacturing innovation facility, will take the region back to its roots of innovation and determination, allowing economic opportunity to thrive once again. As the top-ranked state for manufacturing, North Carolina boasts the Southeast's largest manufacturing workforce. There are more than 860 manufacturers within the disaster area of Western North Carolina alone. This center will deliver both immediate economic recovery and long-term strategic advantage for manufacturing in the Southeast. The WNC Futures Factory will accelerate digital adoption, modernize supply chains, and solve critical manufacturing challenges – directly enabling the rapid onshoring of American production the Administration prioritizes. By connecting North Carolina's world-class manufacturing workforce of more than 450,000 employees to top tier research institutions, community colleges, and our private regional industry, we will not only create the innovation infrastructure needed to grow American manufacturing jobs but will improve wages and the standard of living across Western North Carolina.

Before Hurricane Helene struck, Western North Carolina was on the cusp of a manufacturing resurgence. With a skilled workforce, supportive infrastructure, and a business-friendly climate, the region was gaining national attention. Overnight, Helene upended lives and livelihoods, sending Buncombe County's unemployment rate soaring from the state's lowest at 2.5% to 10.8%; the largest unemployment change in the entire nation.

In the aftermath of Hurricane Helene, Western North Carolina showcased the resilient American spirit as communities united to rebuild. Neighbors cleared debris, businesses adapted to provide aid, and major industries supported recovery efforts. From churches and synagogues to electrical workers, health systems to helicopter pilots, a diverse network of responders brought help to even the most remote mountain families. The outpouring of generosity came from across America – volunteers from every state, donations from every corner of the country, and assistance from local and regional businesses supported recovery efforts. This wasn't just charity; it was recognition Western North Carolina represents the backbone of American communities and the heart of American values. Western North Carolina is the embodiment of American resolve and the response to disaster proved what resilience looks like when tested by adversity. The spirit of creating opportunity in adversity dates back to the days of the Vanderbilts and Broyhills, who partnered with local craftsmen to provide families with the skills they needed to not just survive but thrive.

Western North Carolina represents a strategic opportunity to advance America First initiatives of manufacturing while rebuilding a stronger, more robust Appalachian economy. This cross-sector innovation center will directly support three key Trump Administration priorities: reshoring American manufacturing, strengthening national security, and revitalizing rural America. This is not a region seeking a handout – this is a region ready to lead America's manufacturing renaissance with a partnership investment**.** We have the infrastructure foundation, the workforce talent, and, most importantly, the proven resilience to become a cornerstone of the American industrial excellence. Western North Carolina doesn't just deserve investment; we've earned it through our ability to bring the boardroom and workroom together, our demonstration of determination and unwavering dedication to the American Dream.

Section 2: Disaster Impact

Before the storm, Western North Carolina had a diversified economy anchored by resilient institutions and a skilled workforce ready for transformation. Between 2000 and 2010, Western North Carolina suffered the loss of 50.6% of its manufacturing jobs**.** North Carolina was deeply impacted by NAFTA and

China’s entry into the World Trade Organization, resulting in the loss of more than 300,000 manufacturing jobs to globalization, leaving gaping employment holes in our mountain towns.

As a result of the loss, Western North Carolina built a robust service economy that demonstrated the adaptability and entrepreneurial spirit of Appalachian communities, supporting over 47,000 workers with nearly 20,000 in Buncombe County alone. Ranking fifth nationally in visitors, this $3 billion annual industry demonstrated the region's ability to create complex service operations, develop hospitality excellence, and maintain high customer satisfaction standards—skills directly transferable to advanced manufacturing. The region's manufacturing base evolved around anchor employers like Thermo Fisher Scientific, Pratt & Whitney, GE Aerospace, BorgWarner Inc., Eaton, and Kearfott Corporation, providing a steady foundation that helped communities weather economic transitions.

Prior to Hurricane Helene, Buncombe County's 2.5% unemployment rate demonstrated exceptional workforce engagement and economic vitality, positioning the region for strategic growth. Western North Carolina’s competitive labor costs, combined with a workforce proven reliable and adaptable across multiple industries, represented a strategic advantage for manufacturing investment rather than a weakness.

The Breaking Point That Changed Everything

Hurricane Helene devastated Western North Carolina on September 27, 2024, claiming over 100 lives with 30+ inches of rainfall. The storm damaged 73,000 homes, 145 healthcare facilities, 6,900 road and bridge points, and 44 emergency facilities, creating $53 billion in damages—one of the state's most economically devastating disasters. The workforce impact was immediate. Buncombe County's unemployment rate skyrocketed from 2.5% to 10.8% in one month, transforming it from having one of the nation's lowest rates to among the highest. The Asheville Metropolitan Statistical Area (MSA) lost nearly 5% of its workforce by December. Tourism revenue losses reached $1.8 billion in fall 2024, exposing the region's over- dependence on this sector.

A February 2025 survey of 1,000+ businesses revealed lasting damage: 90% projected revenue losses, with over 30% estimating losses exceeding 51%. Businesses continue facing financial strain, uneven recovery, and persistent demand challenges.

Yet this crisis revealed Western North Carolina's true strength and poise for manufacturing leadership. Overwhelming support from employers, organizations, and citizens demonstrated this region's commitment to long-term stability. This foundation provides exactly what manufacturing operations need for sustained growth. The same resilience and collaborative spirit that enabled rapid disaster response will drive manufacturing excellence and innovation.

Section 3: From Disaster Response to Manufacturing Renaissance

The WNC Futures Factory channels Appalachian resilience into long- term growth, moving the region’s 860 manufacturers from Industry 3.0 to 4.0 while repairing Helene’s labor-market shock. Before the storm, these manufacturers anchored ten counties; afterwards unemployment swung from the state’s lowest rate to its highest. The WNC Futures Factory reverses that damage through three integrated tracks that both restore pre-disaster employment levels and exceed the region's previous economic trajectory.

The WNC Futures Factory will be a 70,000-square-foot, pre-engineered metal-frame building rising on a 13- acre site, valued at $4M+, donated by Biltmore Farms in Buncombe County. Roughly three-quarters of the floorplate—52,000 square feet—will be high-bay program space with 28-foot clear heights, bridge- crane capacity, and flexible partial-height demising walls that let the layout evolve as technology changes. These bays will house modular applied-research labs, reconfigurable pilot-production lines, and a glass-walled demonstration arena where local manufacturers can test and witness Industry 4.0 toolchains such as co-bots, augmented-reality work instructions, additive manufacturing platforms and cyber-secure machine monitoring. The remaining quarter—about 18,000 square feet—will form a two- level office and classroom block. Open-plan offices, collaboration pods, and hot-desk areas will host WNC Futures Factory staff, visiting university researchers, and LIFT / MxD project teams, ensuring that research and development (R&D), production pilots, and workforce curricula share a single ecosystem. Collectively, the new facility will function as a seamless platform—applied laboratory, pilot plant, demonstration stage, and training center—where ideas advance from concept to commercialization and workers move from classroom to high-skill careers, all under one resilient roof.

Technology testbed. A shared facility integrates university research, prototyping labs, and a pilot production line to commercialize new processes for regional manufacturers. Companies of every size can pilot digital manufacturing capabilities such as, twinning, additive manufacturing cells, advanced- materials processes, and other Industry 4.0 tools. Six University of North Carolina campuses, national institutes LIFT and MxD, and industrial partners supply the R&D foundation.

Talent pipeline. A-B Tech will execute and deliver curricula, co-designed with LIFT and MxD, on-site and ultimately transition curricula to the remaining regional community colleges to upskill 800 learners annually by FY 2035, producing digitally and cyber-aware technicians.

Business engagement. A dedicated unit converts WNC Futures Factory capabilities into revenue through market intelligence, proposal writing, membership recruitment, and outreach—especially to the U.S. Department of Defense and the regional supply base—tracked by funded R&D, project backlog, and ecosystem expansion.

An economic impact analysis conducted by the North Carolina Department of Commerce underscores how these three tracks translate into recovery and growth. Using the IMPLAN model, the Department found that the WNC Futures Factory core staff of projected 100 research-and-training employees will catalyze 1,100 additional manufacturing jobs across the region by 2035 – a 11-to-1 amplification driven by faster technology adoption, tighter supply-chain linkages, and a constant flow of upskilled talent**.** When indirect and induced effects are included, western North Carolina gains 2,747 total jobs (3,150 statewide), of which 500 are classified as high-wage positions paying at least 130% of average compensation regionally.

On a $41 million startup budget, the center is projected to add $359 million to regional GDP by 2035, a **nearly 9-to-1 return** that compounds as firms reinvest productivity gains into further hiring. In short, by embedding Industry 4.0 capabilities in hundreds of small- and mid-sized manufacturers, the WNC Futures Factory turns a strategic federal grant into a permanent engine of high-quality jobs, durable wage growth, and supply-chain resilience.

A fit-for-purpose nonprofit organization will be developed to enable disciplined execution of the WNC Futures Factory ecosystem and to achieve stated goals, outputs and outcomes. An independent

community board of directors comprised of industry executives, regional leaders, and innovation experts safeguards mission and fiduciary health, while a CEO seconded from a national manufacturing institute imports proven playbooks. Three operating units translate strategy to action: (1) Technology unit integrates u niversity research, prototyping labs, and pilot lines to commercialize new processes; (2) Talent unit maps skill gaps, builds stackable credentials, and orchestrates apprenticeships; (3) Business Development unit secures R&D contracts, memberships, and government partnerships that sustain revenue and broaden reach.

Progress will be tracked against a 2025 baseline and reviewed in 2030 and 2035, using the following success metrics.

Goal 1 – Strengthen the Western North Carolina workforce: Workers trained annually, certifications awarded, job placement rates, manufacturing employment concentration increases, wage growth, and manufacturing's share of total employment.

Goal 2 – Establish an innovation to production pipeline: Applied research transitions from universities, advanced technology insertions into regional manufacturing, patents awarded, linked higher education R&D expenditures, and external R&D leverage ratios.

Goal 3 – Scale for national impact: New manufacturing company cluster growth, GDP growth, R&D award value and volume, project backlog metrics, startup capital raised, and existing business expansion investments.

Rather than treating diversification as a post-disaster necessity, Western North Carolina is leveraging its $3 billion tourism economy, existing manufacturing assets, and institutional stability to build a permanent advanced-manufacturing engine. By coupling proven Industry 4.0 tools with a synchronized talent strategy and resilient governance, the WNC Futures Factory will restore pre-Helene employment levels and propel the region toward higher wages, stronger supply chains, and long-term economic security.

Section 4: Regional Manufacturing Readiness Through Unified Vision

The WNC Futures Factory emerges from a foundation of unprecedented regional collaboration – not born from crisis but forged through the proven Appalachian tradition of neighbors working together to build something greater than themselves. This project represents the convergence of two comprehensive economic development strategies: the Asheville-Buncombe County Economic Development Coalition's AVL 5×5 (2025-30) and the Land of Sky Regional Council's Comprehensive Economic Development Strategy (CEDS), both developed through extensive community engagement that demonstrate our region's readiness to lead America's manufacturing renaissance.

A. Comprehensive Stakeholder Engagement Process: AVL 5×5 Strategic Development

The Asheville-Buncombe County Economic Development Coalition and the Asheville Area Chamber of Commerce demonstrated their commitment to data-driven planning by launching a six-month engagement process that tapped into the region's deep manufacturing expertise:

- Executive Leadership Interviews: More than 40 C-suite regional leaders across manufacturing, technology, healthcare, and tourism sectors provided strategic insights on capital deployment, supply chain optimization, and talent pipeline development. These industry veterans – representing companies that weathered economic storms and emerged stronger – shared their vision for next-generation manufacturing infrastructure.

- Sector-Specific Focus Groups**:** Four intensive, half-day workshops brought together specialists in advanced manufacturing, mobility solutions, software/IT, and professional services. These sessions didn't just identify challenges – they showcased the region's existing expertise and readiness to scale into Industry 4.0 applications.
- Community and Investor Survey**:** More than 260 venture philanthropists, stakeholders, residents, and community associations engaged in the public survey, prioritizing infrastructure needs including broadband, childcare, and housing that support a world-class manufacturing workforce.
- Land of Sky Regional Council CEDS Development: Simultaneously, the Land of Sky Regional Council executed a parallel engagement strategy across four counties, leveraging established networks of manufacturing excellence.
- CEDS Advisory Committee: County managers, municipal planners, workforce development leaders, and small-business owners – the backbone of Appalachian economic development – met regularly to analyze regional data and refine strategic goals that position WNC as a national manufacturing destination.
- Industry Roundtables**:** Three specialized roundtables focused on manufacturing, outdoor gear production, and agribusiness brought together sector leaders who understand the competitive advantages of Appalachian manufacturing – skilled workforce, strategic location, and collaborative business culture.
- Regional Recovery Survey**:** A systematic, 15-county assessment conducted at 12- and 18-month intervals tracked business continuity capabilities, consistently identifying "advanced manufacturing infrastructure" as the region's top opportunity for competitive advantage. The first administered from January to March 2025 resulted in more than 1,200 completed surveys.

B. Synthesized Stakeholder Feedback: A Blueprint for Manufacturing Excellence

The engagement process revealed remarkable consensus across diverse stakeholder groups, confirming Western North Carolina's readiness to anchor America's manufacturing resurgence:

- Manufacturing Infrastructure Readiness: Business leaders and Western North Carolina stakeholders consistently identified the lack of shared R&D assets as the primary barrier to scaling existing manufacturing excellence. The feedback identified the specific infrastructure investment needed to unlock the region's full manufacturing potential.
- Workforce Development Opportunity**:** Stakeholders highlighted digital skills gaps not as deficiencies, but as clear pathways for workforce advancement that would elevate regional wages while strengthening America's manufacturing competitiveness.
- Supply Chain Resilience**:** National industry leaders emphasized the need for diversified supply chains and climate-resilient infrastructure – positioning Western North Carolina as a solution to national supply chain vulnerabilities through strategic geographic positioning and proven industrial capabilities.
- Innovation Ecosystem Gaps: Manufacturers, community colleges, and universities identified opportunities to accelerate technology transfer and intellectual property commercialization, building on existing research strengths to create competitive advantages.

C. Strategic Integration: From Feedback to Implementation

The WNC Futures Factory directly operationalizes stakeholder priorities, demonstrating how community engagement translates into actionable manufacturing leadership:

- Shared R&D Infrastructure: The WNC Futures Factory's Technology Business Unit directly addresses the most frequently cited need – providing shared advanced manufacturing equipment, testing capabilities, and pilot production lines that individual companies couldn't justify independently but collectively will drive regional competitiveness.
- Workforce Pipeline Integration**:** Stakeholder emphasis on digital skills development shaped the
  WNC Futures Factory's Talent Business Unit structure, creating stackable credentials through the North Carolina Community College System and hands-on training programs that place graduates directly into high-wage manufacturing careers.
- Supply Chain Diversification**:** Business leader feedback on supply chain vulnerabilities informed the WNC Futures Factory's Business Development Unit, which will help regional manufacturers diversify supplier networks while attracting complementary industries that strengthen the overall ecosystem.

D. Sustained Regional Leadership Through Governance
The WNC Futures Factory governance structure institutionalizes the collaborative spirit that emerged during the planning process:

- Community Board of Directors**:** Regional manufacturers, educators, and civic leaders who participated in the engagement process will provide ongoing oversight through annual "strategy audits" that ensure Factory programs continue advancing AVL 5×5 and CEDS goals.
- WNC Futures Factory Roundtables and Design Workshops: The same manufacturing leaders and educational institutions that informed the strategic planning will maintain direct input on lab layouts, pilot projects, and equipment purchases, ensuring the WNC Futures Factory remains precisely aligned with shop-floor realities.
- Technology Steering Council**:** Led by an executive from a national manufacturing innovation institute, this council will translate national Industry 4.0 roadmaps into Western North Carolina technology "sprints" that keep the region at the forefront of manufacturing innovation.

This project transforms stakeholder feedback into manufacturing leadership, community collaboration into competitive advantage, and Appalachian determination into American industrial strength. The WNC Futures Factory will serve as a national model for how community-driven economic development can restore America's manufacturing preeminence while creating pathways to prosperity that keep families and talent rooted in the communities that shaped them.

Section 5: Commitments
The WNC Futures Factory is more than a concept – it is a signed-on coalition whose members have each formalized a slice of responsibility and meet frequently as a working group to shape strategic vision and keep milestones on track.

Asheville-Buncombe Technical Community College (A-B Tech) provides matching funds (20%) and additional funding post-construction for operations and facility management. **Biltmore Farms, LLC**, serving as strategic partner, stands ready to execute a land-transfer agreement that donates a 13-acre site valued over $4M and provides a chair for the working group sessions. The **Asheville-Buncombe County Economic Development Coalition**, backed by a 1,700-member Chamber network, is committing staff and institutional knowledge to start up the 501(c)(3) that will operate the facility

and run continuous manufacturer-listening sessions so R&D roadmaps, equipment buys, and training menus reflect front-line gaps.

Backed by a $500 million state endowment and $25 million in private capital, **NCInnovation** (NCI) can directly support applied-research transitions that turn campus breakthroughs into market-ready products. To date, NCI has already deployed $4 million toward Western-campus research and another

$8.8 million across six university projects that feed WNC Futures Factory commercialization pipelines. NCI will synchronize Factory technology "sprints" with the applied-research portfolios of across the UNC System, ensuring a bi-directional flow of Intellectual Property while opening the Factory's doors to university "hub" labs across the 17-campus UNC System. Six (6) partnering **North Carolina Universities** have pledged faculty time, lab capacity, and the creation of Industry 4.0 engineering and management curricula, synchronized with WNC Futures Factory strategic planning and technology roadmaps, that flow directly into the region's labor shed.

The North Carolina Community College System will translate the WNC Futures Factory technology and workforce development roadmaps into stackable certificates and credentials, co-authoring curricula with the operating partner and then delivering hands-on training both on campus and in the Factory's training center. **LIFT**, a premier U.S. Government supported national manufacturing innovation institute, will serve as the operating partner. In a signed letter of commitment, LIFT agrees to work in collaboration with regional stakeholders including the North Carolina Community College System, NCInnovation, the local chamber of commerce, and a robust network of industry and academic leaders. LIFT's role will be to provide national expertise, operational infrastructure, and technology capabilities to help reduce startup risk and enable immediate impact. **MxD**, the Nation's Digital Manufacturing Institute and National Center for Cybersecurity in Manufacturing, will help drive digital adoption and cyber resilience across the regional manufacturing base. Key collaborations between MxD and WNC Futures Factory include: co-developing strategic guidance and best-practice playbooks for standing up digital-use-case demonstration lines; connecting the WNC Futures Factory with MxD's national network of partners, manufacturers, software providers, and federal programs; sharing curriculum modules and train-the- trainer resources for cybersecurity and digital manufacturing workforce programs; and exploring joint R&D projects that leverage the WNC Futures Factory's physical assets and North Carolina's academic strengths. Through these key partnerships with LIFT and MxD, we can position western North Carolina as a model for resilient, digitally-enabled manufacturing growth—one that merges national innovation leadership with deep regional impact.

Together, these stakeholders have moved from intent to execution: land for transfer identified, nonprofit formation underway, memorandums of understanding drafted with universities and community colleges, and operating commitments in hand. The working group structure formalizes accountability, while each partner's dedicated resources – Biltmore Farms' land and development expertise; Economic Development Coalition's business intelligence; NCI's research network; university labs and curricula; community college training infrastructure; LIFT's national technology platform in advanced materials and past performance in operations; and MxD's ability to drive digital adoption and cyber resilience across the industrial base – create an integrated delivery system that will keep the WNC Futures Factory on schedule and ensure its programs reflect real industry demand from Day 1.