

Central Washington Data Analytics Technology Zone *Business Plan*

EXECUTIVE SUMMARY

Background & Emerging Opportunities

Over the last three years, the greater Wenatchee area has seen an unprecedented level of collaboration as our community has come together to address several big challenges, including a restructuring economy, generational poverty, low education levels, low wage structures, and rising housing prices.

Geographically, this federally designated metropolitan area is divided by the Columbia River, with multiple governmental jurisdictions and economic infrastructure on either side of the river: two counties, two cities, two port districts, two business parks, two public utilities, two school districts. Historically, this has made decision-making and economic growth for the good of all a long, difficult, and sometimes impossible task. Well-meaning public and private entities have unwittingly operated in silos, unaware of the needs of the broader community. In the last few years, leaders all across the valley have committed to breaking down these artificial barriers, and we've seen tremendous success as public organizations, businesses, and private citizens have come together to define our future and actively build the pathways that will take us there.

Through the 'Our Valley, Our Future / Nuestro Valle, Nuestro Futuro' grassroots, community-building initiative, we see considerable support for many of the planned outcomes for this Innovation Partnership Zone. Over 3,400 residents invested over 5,800 hours into developing a broadly-supported action plan, including two 'Game-Changer' projects which directly connect to the proposed IPZ: A Technology & Innovators Hub that will place innovation at the center of Our Valley's economy; and the further development of our Research and Innovation Center that will integrate with educational institutions, new industries, local economic development programs, and business development and incubator efforts. In addition to these big projects are 'Action Items' that will also bring significant benefit:

- High-Value Agriculture Investment in Research & Development
- Innovative Use of Public Power
- Job Creation Based on Innovation
- Broadband-Based Businesses
- Career and Technical Education Programs
- Economic Gardening Program

With such focus, the potential for future economic development and growth in the community is immense. Due to the presence of mainstay industries (e.g. agriculture and hydropower) and Washington State University's Tree Fruit Research & Extension Center, the greater Wenatchee area already has a well-established capacity for science and research. Capitalizing on new opportunities, such as emerging applications for technologies like blockchain, and building and nurturing sound partnerships will generate new economic activity through research, collaboration and innovation. Meanwhile, we need to maintain our

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natural resource base, which is fundamental to our economy and is a major economic driver. From the agricultural and hydropower points of view, preservation of our natural resources is critical and will require significant research and innovation in the future.

With strong support from the community, and with committed partners who have already signed on to fulfill the actions we have set before us, we have a solid foundation for the success we expect with the IPZ.

Project Overview

The Central Washington Technology Zone, in collaboration with their partners WSU, Stemilt, Giga Watt, and Van Doren, are developing technologies to assist in data collection, processing, and analytics that will benefit our tech, agriculture, and energy industries.

We have targeted 10 different outcomes, with 55 specific activities that will ensure we reach them. This appears to be ambitious for an initial four-year IPZ designation; however, we are planning with intention for efforts that will endure well past this timeframe. Certain actions will require a longer investment and have been included in our planning from the beginning, alongside our immediate work, so we do not lose sight of the long-term developments. The connective tissue for those continuing efforts will be built through each year's foundational activities, with network collaboration as a large component of our first phase. We already have a solid, functioning core of partners, and we have significant research happening with financial support behind it, so progress is being made already.

Partner Summary

The IPZ begins with a strong team of 15 strategic partners at the application stage, including two private businesses, one research institution, one workforce education institution, and 9 other organizations that are critical to the success of this work. A network of supporting partners has been identified, and participation from those entities will increase as formal action on the plan begins.

There are existing synergies with these supporting partners that bring additional strengths to our network. For example, Washington State University's Tree Fruit Research & Extension Center, the research partner, is co-located with a federal partner, USDA-ARS (Agricultural Research Service) and houses 13 WSU and 5 ARS scientists, along with about 100 technical and support staff. This is a world-renowned center with leading programs in a range of biological sciences. This collaboration brings greater strength to the research done within our IPZ, and having the USDA as a supporting partner in the future broadens the possibilities.

Private partners will continue to be recruited, with some solid, research-connected relationships already in existence that will open the door to the conversations for more collaboration.

A list of our partners follows below, and additional details can be found in the Organization and Structure section of this plan.

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Zone Administrator	Dave Petersen	Executive Director	WDC & SkillSource
Zone Advisor	Ron Cridlebaugh	Business & Economic Development Director	Port of Douglas County
Strategic Planning & Operations	Lisa Parks	Executive Director	Port of Douglas County
	Shiloh Schauer	Executive Director	Wenatchee Valley Chamber of Commerce
	Allison Williams	Executive Services Director	City of Wenatchee
	Steve King	Economic Development Director	City of Wenatchee
	Karen Francis-McWhite	Executive Director	NCW Economic Development District
	Steve Maher	Project Coordinator	Our Valley, Our Future
	Stacy Luckensmeyer	Business & Industry Liaison	Wenatchee Valley College
	Linda Haglund	Executive Director	Wenatchee Downtown Association
	Kirk Hudson	Managing Director, Generation & Transmission	Chelan County PUD
	Jenny Rojanasthien	Executive Director	GWATA
Private Partners	Bret Pittsinger	President & Owner	Van Doren Sales
	Dave Carlson	CEO	Giga Watt, Inc.
Research & Commercialization	Jim McFerson	Director	WSU Tree Fruit Research & Extension Center

MISSION

Mission Statement:

The mission of the Central Washington Technology Zone is to create new opportunities for innovation and partnership by building relationships between public and private entities in agriculture, energy, and technology that will result in new research, new economic partnerships, new business ideas and opportunities, and new products to be marketed globally that will assist in data collection, processing, and analytics, growing the local gross domestic product.

ORGANIZATION AND STRUCTURE

Administration:

The Workforce Development Council was specifically chosen to be the zone administrator because its boundaries cross all of the jurisdictional lines that often challenge our area. We have two cities, two ports, two counties, two public school systems, and two higher-education institutions that historically haven't collaborated as much as they could. After concerted efforts to change this, it seemed counterintuitive to designate an administrator that would once again bisect the region. Naturally, the WDC was the best fit.

Leadership:

Under the administration of the Workforce Development Council and the leadership of our steering committee, the 15 partner establishments have designated at least one representative that will act as the liaison between the IPZ and their respective entities. As part of their duties, they will:

- Ensure active participation of their organizations in the areas where they are uniquely suited to contribute and fulfill the mission and actions;
- Share information regularly with other partners and submit requested information in a timely manner to help the administrator fulfill the annual reporting requirements easily and accurately;
- Participate in regularly scheduled meetings and assist in inviting representatives to ad-hoc meetings of larger stakeholders and organizations in support of the IPZ;
- Develop defined roles and responsibilities, as well as create an accountability and sustainability plan.

Private Partners: *Involvement and Investment*

The zone currently has two private partners: Van Doren Sales, Inc. and Giga Watt, Inc. Both of these companies are located within the IPZ boundaries and have successful operations in global markets.

Van Doren has a track record of cutting-edge innovation that has the agriculture industry and they continue to research and innovate to further streamline sorting and packing operations through advanced analytical sorting and processing systems.

Giga Watt has operated here for about five years and has grown tremendously, now investing in a \$20-million infrastructure project in the Port of Douglas' business park. This supports the company's current expansion and also makes room for the research and development that they have planned in relation to data processing and analytics. To date, they are a leader in the blockchain industry worldwide and maintain that position through continued innovation.

The entities in the IPZ will continue to educate and recruit additional private partners. Stemilt, for example, has a close connection with our research partner and we anticipate full support and participation from this business in the future. There are additional businesses and organizations that are working on innovations which closely connect to the proposed Research & Innovation Center's goals, and these will naturally fold into our efforts as we begin to build awareness locally of our IPZ.

Research Partner: *Involvement and Investment*

In 2017, scientists at the WSU Tree Fruit Research & Extension Center conducted research on 55 projects with over 10 million dollars in external funding and grants. This significant

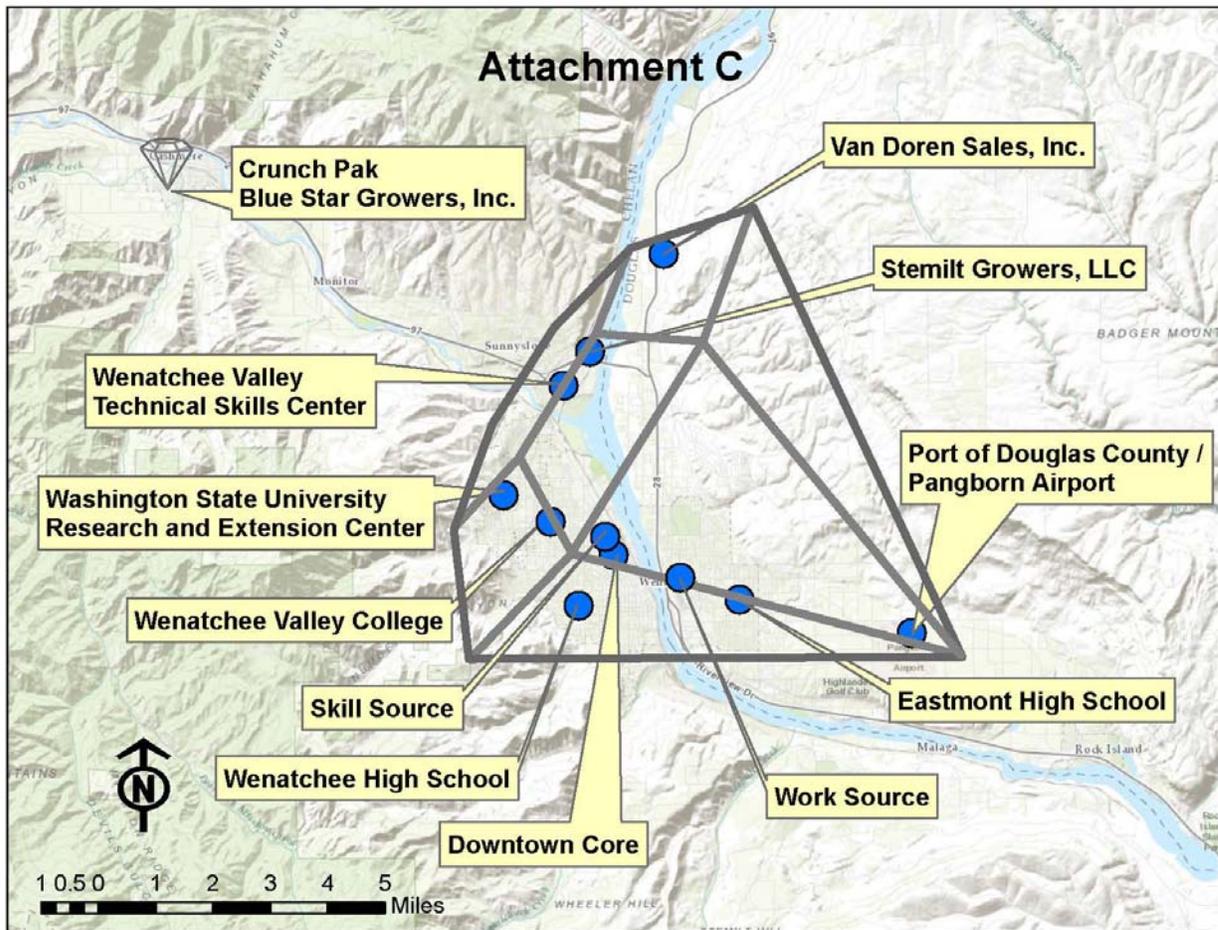
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investment is expected to grow with WSU's Drive to 25 Initiative, an effort to become one of the top 25 public research institutions in the United States by 2030. Themes in this initiative for future development and investment directly align with our proposed IPZ: ensure a reliable, efficient power supply, sustain our natural resource base, developing and implementing environmentally-friendly crop production practices (including superior new tree fruit varieties with cutting edge genetics and genomics research), and develop new computing capabilities through data analytics research. A central goal of the initiative is a transformative student educational experience and enhanced social equity. It's evident that the benefits that will follow include new commercialization opportunities, new outside markets, new business opportunities, etc.

The Chelan County PUD has recently become a partner in the efforts of the proposed IPZ through a considerable research project they have in development. A summary of their plan is included in Attachment C2.

Boundaries:

The IPZ boundaries were selected with the intention of bridging the artificial divides caused by multiple jurisdictional lines. With thoughtful consideration of where our greatest opportunities and committed partners reside, we have designated an area that will promote greater collaboration and intentional development in several specific locations.



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Within the largest boundary area lie the research partner, two private partners, two business parks and potentially one more, the downtown corridor, where significant networking and entrepreneurial development is designated, and the higher-education workforce partner. Our largest high schools and the technical skills center are also included in the area to help create the workforce pipeline that's needed.

A second location, just ten minutes from the first, includes two potential private partners with whom our research partner works with already and sees significant potential for research and commercialization opportunities. Adjacent to one of these businesses is Chelan County Port property which is a main focus for development.

This configuration should increase awareness on both sides of the river and spur development in business parks and our downtown corridor, while eliminating the perceived divide that has held us back.

Sustainability:

With the aforementioned investments from our private and research partners, the future of the IPZ is already very stable. The development of the full sustainability plan is scheduled for the first year, as you'll see in the Outcomes section below.

OUTCOMES

Outcome #1: Create active collaboration and networking between research, education, public, and industry partners

Action: Coordinate meeting-of-the-minds events to share current research between scientists, students, and industry.

Action: Establish research exchange opportunities among scientists, graduate, and undergraduate students.

Action: Increase opportunities for education, mentoring, and internships that will support workforce efforts.

Action: Build a research community that is more self-aware and creates its own identity, that can share its stories and successes.

Action: Create a forum for commercializing research.

Outcome #2: Support and facilitate growth for existing zone businesses

Action: Build stronger communication channels with zone partners to share and respond to private industry needs and leverage business development opportunities.

Action: Develop local sources of traditional and non-traditional funding, for both existing business expansion as well as new innovations, including an investment network.

Action: Secure air service to San Francisco. (Critical to several outcomes and listed in each.)

Action: Encourage the growth of an active development community prepared to facilitate business hosting and expansion.

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Outcome #3: Recruit and expand our business portfolio with complementary businesses and industries, including start-ups specializing in emerging technologies

Action: Secure air service to San Francisco (critical to existing and new business development.)

Action: Develop white papers that determine where market gaps exist, etc.

Action: Continue to explore and develop complementary research and business development.

Action: Develop a local network to share leads and identify opportunities.

Action: Facilitate recruitment with the augmentation of local sites and investment funding.

Outcome #4: Foster new innovations through establishing an entrepreneurial and innovation-driven business climate

Action: Develop funding sources, i.e. a local investor network

Action: Create support for WSU's Tree Fruit Research & Extension center expansion:

- a. Assist with recruitment of researchers and technical staff.
- b. Build community connections with WSU, demonstrating support and providing more widely-available STEM experiences.
- c. Increase collaboration to share resources across the community; for example, group meeting areas, lab bench space, and student internships.

Action: Identify gaps in the ability to fulfill needed industry research and seek solutions.

Action: Build deeper communication channels to coordinate efforts between entrepreneurial support organizations and entrepreneurs.

Action: Support the development of maker spaces and co-working spaces.

Action: Position our downtown area for a Creative District Designation.

Action: Integrate science research, entrepreneurship, commercialization of ideas into the K-12 Network and beyond to grow the next generation into our developing business culture.

Outcome #5: Increase the GDP

Action: Improve siting of new businesses necessary to complement innovation.

Action: Increase active business retention and expansion efforts.

Action: Develop applications to use blockchain technologies; for example, to analyze data and facilitate agricultural transactions and others for streamlining supply chain management.

Action: Explore further potential uses for blockchain technologies.

Outcome #6: Assist property owners in developing and marketing their properties for beneficial and symbiotic purposes

Action: Build awareness of the growth areas within the IPZ.

Action: Support land use changes and code changes needed for development opportunities.

Action: Simplify access to property information for both regional and outside parties.

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Action: Develop communication channels with property owners.

Action: Network to realize redevelopment/development opportunities.

Outcome #7: Train tomorrow's workforce for the needs of our local agriculture, energy, and tech industries

Action: Growing targeted education beginning in the K-12 system to support business labor force needs and research opportunities.

Action: Growing on-site and off-site education opportunities to upskill the existing workforce and bridge language barriers.

Action: Bring science and technology experts into the public schools and community college, and/or students out into the research.

Action: Create youth and college-level apprenticeship opportunities with zone businesses.

Action: Develop industry-specific programs at WVC to meet emerging needs.

Action: Enhance 2+2+2 opportunities with WSU (associate degrees to bachelor's degree to master's degree and Ph.D.)

Action: Establish a retention strategy to keep talent. (Critical to multiple outcomes.)

Action: Pursue an REU.

Outcome #8: Build worldwide awareness of our research assets through collaboration and sharing

Action: Advertise and market innovation that is occurring and the partnerships within the IPZ that make this possible.

Action: Develop a forum to share research, educate the public, and provide opportunities to hone research presentations and business pitches.

Action: Use place-based practicum to augment research presentations.

Action: Establish a retention strategy to keep talent.

Outcome #9: Establish the structure needed for a healthy and enduring IPZ

Action: Develop a solid communication plan for the IPZ partners to include regularly scheduled formal and informal meetings and needs-based information chains.

Action: Regularly engage in plan analysis and updates, tracking areas of improvement and identifying emerging opportunities.

Action: Coordinate with other IPZs to share best practices, identify potential issues, and develop strategies in advance.

Action: Pursue local, state, and federal partnerships for both the IPZ itself and for the implementation of specific strategies.

Action: Fulfill all state requirements for our IPZ.

Action: Develop and implement a marketing plan that will utilize multiple platforms to:

- a. Market the IPZ within our own region to educate the community on the work being done
- b. Coordinate multiple marketing plans and develop unified messaging
- c. Market the IPZ outside of the region

Action: Develop a sustainability plan.

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Action: Develop a financial plan for specific projects as they emerge, addressing prioritization and strategic resource sharing.

Action: Use the IPZ as leverage for local, state, federal, and private funding opportunities.

Outcome #10: Infrastructure improvements

Action: Address housing needs:

- a. For WSU's Tree Fruit Research & Extension Center staff and students
- b. For the next generation of employees to accommodate growth

Action: Support the update of WSU's research facilities for well-equipped distance educational communication capabilities, incubator space, and networking spaces.

Action: Identify existing infrastructure needs/gaps and develop a strategy to prioritize and coordinate funding resources.

ENTREPRENEURIAL ECOSYSTEM

Our region has always had a supportive entrepreneurial climate, but we are reaching new levels that are expanding the possibilities. The convergence of ideas, funding, and committed individuals and organizations is redefining what the business climate will look like moving forward. Many of the outcomes in our plan include specific activities that will build out innovative spaces and will provide more opportunities for great minds to come together. For example, the focused efforts of some public and private partners are preparing us for a Downtown Creative District with a maker space, a co-working collaborative, and possibly incubator space. Bringing business, technology, and the arts together is an excellent mix that will spur on idea generation that can provide innovative and marketable solutions towards real-world data analysis issues.

COMMERCIALIZATION PLAN

The WSU Tree Fruit Research & Extension Center's Cosmic Crisp™ apple launch last year was the first time they've brought such a significant product to market. Van Doren has done this multiple times in the past, as has Giga Watt. We have great strength in commercialization knowledge with our private partners, but our public partners do not yet understand how the process works or how we can support and advance such efforts. We will be creating a forum where we can learn about the opportunities and systems involved, and then we will develop better support systems for commercialization so we can provide support as each organization is best suited and share this knowledge with other businesses to further innovation.

LONG-TERM MARKET GROWTH

The Cosmic Crisp™ example mentioned above has already generated a significant return for WSU. They are charging a \$1.00 royalty on each tree and will be collecting 4.5% of the wholesale sales from the growers. Already, 700,000 trees were grafted in 2017, and 1.3 million are scheduled to be grafted in 2018. WSU plans to replicate this success with continued research and product development across a range of technical areas: new tree fruit varieties and practices utilizing DNA technologies and diagnostics, supply chain components (storage,

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packaging, marketing, logistics, quality control, traceability and food safety), agricultural economics, organic systems, internet-based decision assist systems, integrated pest management. Across these areas, a common need exists for data management and application, from collection to processing to analytics, and significant opportunity for the expansion of sustainable industry clusters.

In our energy industry, there's a focus on developing sensor technology and improving data analytics capabilities. Says Kirk Hudson with Chelan County PUD, "With enhanced data analytics capabilities, Chelan PUD is interested in new sensor technology development to improve predictive capabilities on the operating conditions of its turbines and generators. There are significant revenue implications associated with forced outages and, as a result, utilities are very interested in investing in those areas that can reduce forced outage durations." With thousands of utilities across the nation, the developments from industry right here have an extensive market.

With emerging blockchain applications through Giga Watt, Inc's research and development, new ways to apply secure processing techniques can greatly change the cyber security world in addition to data collection, processing, and analytics.

Bringing technology, agriculture, and energy together in a final example: Fish Counters. Currently, PUDs are required to count fish returning upstream every year and to ensure the populations remain healthy. Scanning technology that is currently being used in agriculture to assess the size and quality of every individual piece of fruit that comes down the sorting lines can be applied to this process, identifying every fish by type, size, and any number of data points deemed necessary. There is great potential for this type of innovation in data analytics in the hydropower energy industry, and across other industries as well.

MEASURING AND REPORTING PLAN

The strategic partners have identified key success factors that will guide us as we monitor, track, and maintain awareness in four specific areas, outlined below. This information will help us understand where we are, helps us identify areas that need attention, and help us make intelligent decisions that will get us where we want to go.

Employment & Education/Training:

- Employment by sector
- Educational attainment by sector
- # of new jobs in startups
- # of students receiving degrees or certificates OR in training-related employment
- Job Creation in existing businesses and in relocated businesses

Innovation:

- \$ in venture capital
- Total R&D Dollars
- # of startups, patents, licensing deals
- # of 'open innovations' reported
- # of research awards and journal articles
- Private Sector Expansion: Physical footprint, employment base, new revenue from outside markets
- New Product Development
- Employment #s in research

Infrastructure Investment:

- Office, retail, housing occupancy rates
- Increase in mixed use
- Increase in upper floor uses
- Presence of social destinations that attract workers and residents
- New Business Recruitment
- # of new anchor tenants

Community & Business Engagement:

- Effectiveness of IPZ Partnerships:
 - # in attendance at meetings
 - # of events that expand collaboration between research, workforce, private
 - # of additional IPZ partners
 - # of hosted events by IPZ partners
- # of non-hosted events owned by innovators and supported by IPZ partners
- Efficiency Gains: Partnering and Collaboration with One-Stop Partners
- Networking Opportunities and Participation

CONCLUSION

More and more data is generated every day, and our contributions to the field of data analytics will benefit our valley, the state, and beyond. The details included in our business plan show that we have significant strengths and assets in technology, in our partners and partnerships, and in the infrastructure that supports future growth. With this foundation, we are poised to capitalize on the opportunities in front of us that will create an even better network of entrepreneurs and innovators, which will advance the research that has fueled our industry successes to date, and that will significantly improve the economics and quality of life in our region.