Lead Applicant: JumpStart, Inc.
Lead Applicant's Address: 6701 Carnegie Ave #100, Cleveland, OH 44103
Contact Person: Dean Banks
Contact Person's Phone Number: 330-790-1809
Contact Person's Email Address: sdeanbanks@gmail.com
Project Title: Occelerator – Ohio Orthopedic Accelerator
Estimated State Funds to be Requested: $21.2M
Known Collaborators: Occelerator, LLC

Introduction: This Letter of Intent is for a proposal to create the Ohio Orthopedic commercialization Accelerator ("Occelerator"), which will develop and commercialize globally sourced intellectual property through internal efforts, spinouts and across the Coordinated Ohio orthopedic commercialization ecosystem ("OccelOhio"), as depicted in Figure 1.

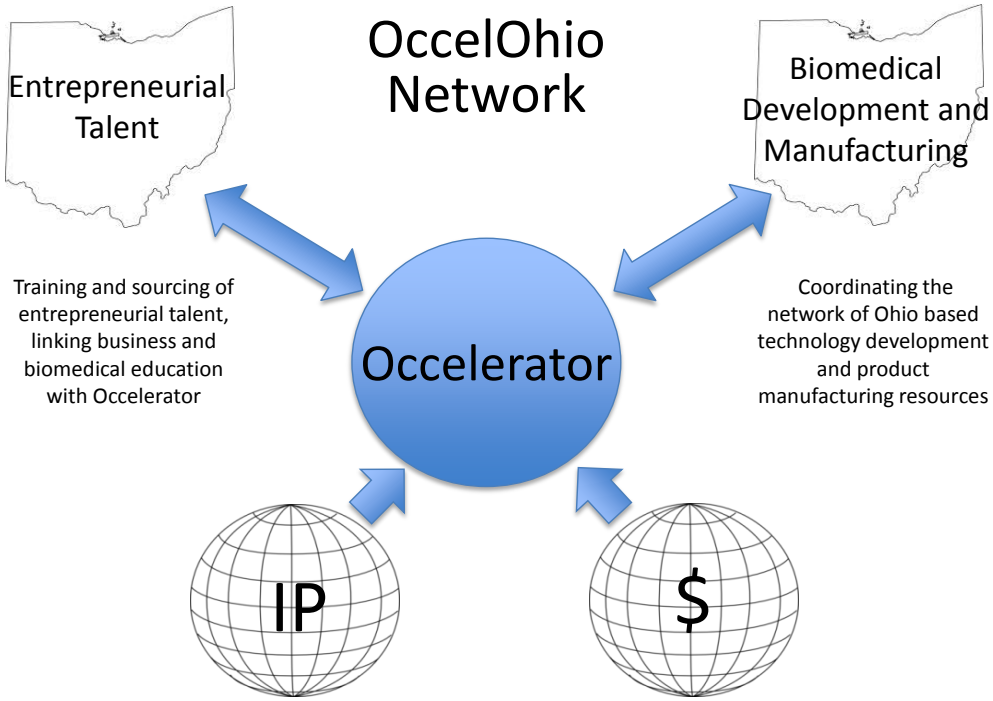

Figure 1: Through Occelerator, OccelOhio will coordinate Ohio resources, linking Ohio technology development and product manufacturing resources, and Ohio Entrepreneurial Talent training and sourcing. IP and investments from around the world will flow directly into Occelerator.

Section 1: Stature and Resources

Occelerator will deliver on 5 key themes:

1. Occelerator will attract world-class partners, talent, IP, and investment into Ohio.
2. Occelerator will coordinate existing Ohio-based resources to create an engine for new jobs in Ohio.
3. Occelerator will utilize a novel financial model to achieve sustainability with the State's investment.
4. Orthopedics is an attractive market to target because it allows rapid, capital efficient product commercialization, and it matches Ohio's existing strengths.
5. Occelerator will have sufficient financial resources to incubate new companies as economic drivers for Ohio.

Why Pursue the Orthopedic Market?

The global orthopedic market has strong short-term and long-term prospects resulting from a number of growth factors:

1. Aging population demographics,
2. Increasing incidence of obesity and diabetes,
3. Global expansion of orthopedic care, and
4. Rise in active lifestyles.

All of these factors directly relate to accelerated increase in the uses of orthopedic products and services. Furthermore, new technologies have enabled surgeons to treat an increasingly younger population, thus expanding the addressable market for many orthopedic technologies. The combination of these factors has resulted in robust market growth in the musculoskeletal sector. From 2008-2012 the market for orthopedic products grew by more than 20% to more than $43 billion globally, nearly 60% of which is generated in the U.S.

Section 2: Scale and Opportunity:

Occelerator's business model utilizes many capabilities that already exist in Ohio and others that will be brought into the State. Working in harmony, they will constitute the most comprehensive orthopedic commercialization environment in the world ("OccelOhio").

Sources of IP: Occelerator has developed, and will continue to develop, a globally sourced IP pipeline. Many partners are committing preferred IP rights, with others providing IP on a case-by-case basis. Since great ideas emerge in many locations, we have targeted sources of IP from within and outside Ohio. We will be receptive to intellectual property and product opportunities at any stage of development which can be relocated to Ohio, including existing companies that would benefit from the expertise and resources of Occelerator and OccelOhio.

Development and Testing Facilities: Essential to efficient product development is convenient access to quality Development and Testing facilities, of which Northeast Ohio has multiple high quality sources. OccelOhio will align advanced development resources, obviating the need for Occelerator to spend financial resources on capital equipment.

Ohio-Based Product Prototyping and Manufacturing: The core of Occelerator's mission is to grow and retain Ohio jobs. As part of OccelOhio, Occelerator is also coordinating a network of Ohio Suppliers that will support manufacturing, and supply the production requirements of Occelerator's developed products. These companies already have facilities, equipment, and trained employees, established in Ohio. When

Occelerator's products are developed in collaboration with this network of Ohio suppliers, the result will be to anchor the production of those products in Ohio.

Talent Development and Sourcing: High quality talent is a leading indicator of success of early stage companies. Working closely with existing programs, Occelerator will be a talent magnet and developer, ensuring that the talent base in Northeast Ohio is grown and retained over the next 10-20 years.

Leadership: Essential to the success of any project, especially something as ambitious and comprehensive as Occellerator and OccelOhio, is strong, dedicated leadership. We have assembled a world class team of leaders, who embody a commitment to deliver results in Ohio.

Section 3: Business Driven/Market Focus:

Occelerator is a stand-alone technology accelerator focused exclusively on commercialization of orthopedic products. Occelerator is comprised of 3 elements that will be responsible for realizing the project's goals:

- Board of Directors
- Market Advisory Board
- Occelerator Staff

Occelerator will be assessed on a number of key metrics; broadly speaking, the Center will have three key performance objectives:

1. Creation of Ohio Jobs
2. Economic impacts within the State of Ohio
3. Financial returns for Occelerator investors, leading to Occelerator sustainability.

Board of Directors (BOD): The BOD is made up of decision makers with proven orthopedic successes. The BOD will approve specific projects worthy of funding for further commercial development, and guide the deployment of Occelerator's resources towards those projects with the most commercial promise. Since a portion of the funds from successful commercialization will funnel capital back into Occelerator's Sustainability Trust, the BOD will play a large part in ensuring Occelerator's sustainability.

The Charter for the BOD will contain requirements to protect Ohio's long term interests:

- More than half of the Occelerator BOD members must reside in Ohio,
- 100% of the companies formed by Occelerator will be maintained within Ohio, so long as Occelerator maintains a controlling interest in the company.

Market Advisory Board (MAB): The MAB will include key-opinion-leader clinicians, market experts, and investors with specific expertise in the orthopedic industry. These members will be tasked with guiding Occelerator's strategic commercialization efforts toward markets with significant commercial potential, either by way of identifying unmet clinical needs, targeting high-growth sub-markets, vetting inbound intellectual property, or identifying opportunities that leverage resources or expertise particular to Occelerator. The MAB has a leadership team, an investment committee, and subcommittees for specialties within orthopedics. The full roster of MAB members will include 25-30 orthopedic thought leaders.

Occelerator Staff: The executive team of Occelerator will include experts in the field of orthopedic product commercialization with a combined 30+ years of experience. The Center will also employ full-time product engineers, market research, regulatory, and quality experts, each bringing orthopedic product commercialization experience to Occelerator. The Occelerator staff will be responsible for day-to-day execution of the direction provided by the BOD and MAB, as well as coordinating activities of all groups

working within OccelOhio. A key element of the Occelerator staff are the Entrepreneurs In Residence (EIRs) who will review commercialization opportunities with an eye for identifying their next new company.

Coordination of Northeast Ohio Resources: In addition to the network coordination services provided directly by Occelerator, we are benefitting from JumpStart and other groups with demonstrated exceptional performance coordinating Ohio resources.

Section 4: Service & Technology Acceleration Orientation

The organizational elements discussed in Section 3 will be deployed throughout the Occelerator product development cycle to ensure a consistent, repeatable, and efficient commercialization process. At each stage of product development depicted in Figure 2, Occelerator will have access to leading market and clinical experts to guide strategic decisions on ideation, funding, design, testing, development, and eventual commercialization.

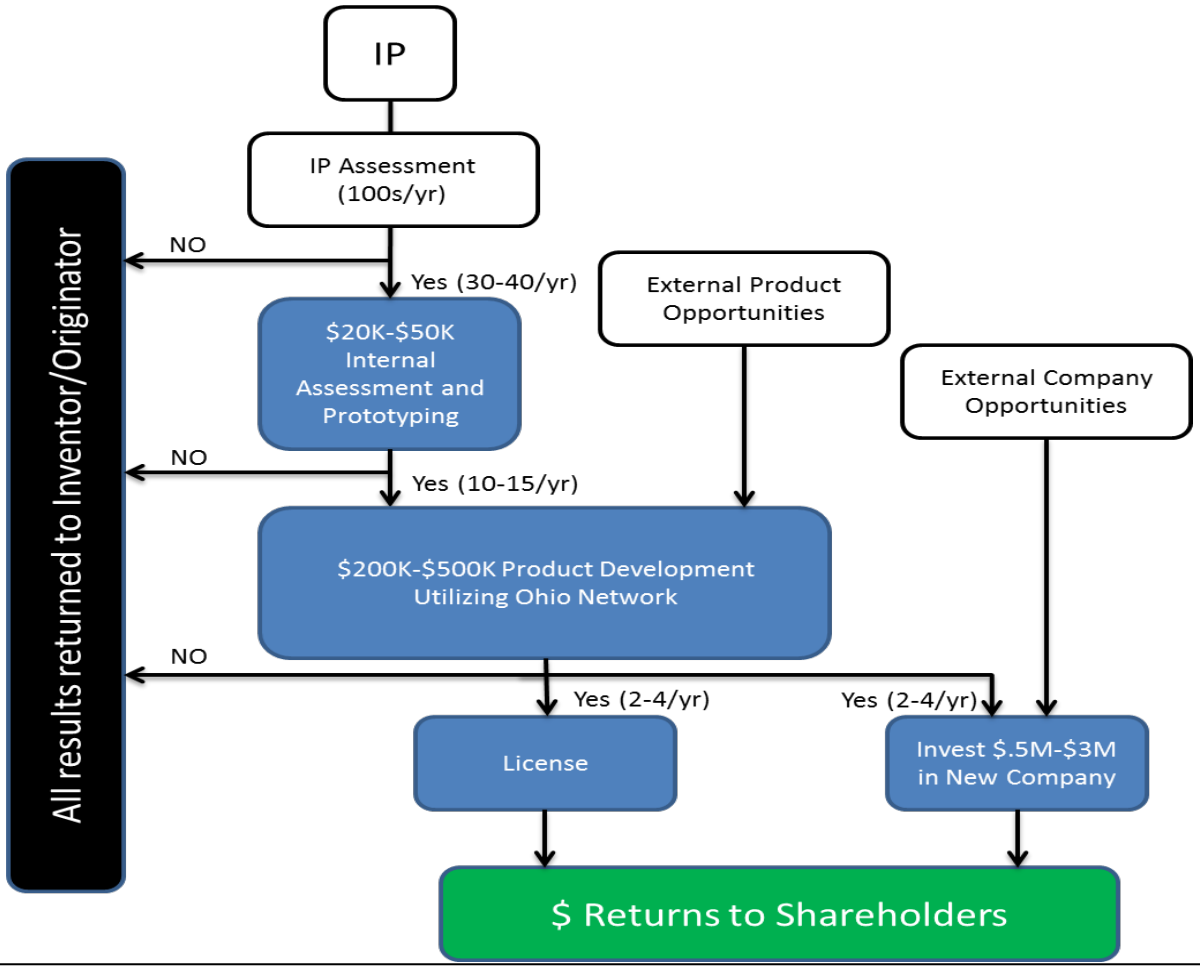

Figure 2: In Occelerator's Darwinian process, projects will compete for resources, with hundreds of invention disclosures funneling down to a few new companies and licensed projects each year.

From product testing and refinement, to regulatory guidance and business planning, Occelerator will provide very capital efficient product development. Throughout this process, the manufacturing portion of OccelOhio will be fully engaged in Occelerator product development, and preparing for the full-scale manufacturing to come.

Section 5: Validation and Sustainability

Occelerator's fundamental mission is to deliver: "Sustainability and Ohio job growth, through orthopedic commercialization success". An additional consideration that shapes the structure of Occelerator is the OTF's requirement that Cost Share must be received as cash, with more than 50% coming from private sources, deployed by the decisions of the Center's Board of Directors (BOD). The most natural way to treat this unrestricted cash Cost Share is to consider it as an investment, securing equity in the Occelerator. It follows, that an entity that receives cash investment from private groups in exchange for equity, needs to be structured as a for-profit company.

Consistent with any for-profit company governance structure, as discussed earlier, the Occelerator will be directed by its BOD to take actions to achieve its Mission. This for-profit, Board-directed structure creates the entrepreneurial environment that is necessary to successfully deliver solutions to meet orthopedic market needs.

Occelerator will achieve its sustainability through;

1. A unique financial model,
2. Applied to a robust IP pipeline,
3. Capital efficient development process,
4. Sufficient development funding to bridge the valley of death, and
5. An incredibly deep team of orthopedic clinical and commercialization leaders.

Section 6 – Projected Economic Impacts:

Table 2 below summarizes the Projected Economic Impacts for OccelOhio, which will be reported at the end of year 2, 4, and 6 after the project is initiated.

	Year 2	**Year 4**	**Year 6**
Jobs Created	46	127	369
Companies Created	6	14	22
Investment Capital Attracted to Ohio	$26M	$63M	$93M
Product Revenues	$1.7M	$22.6	$96.6M