

Sensor Collaborative

Development Plan

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I. OVERVIEW.

There is a stockpile of existing technologies and intellectual property locked in the labs and archives of universities and corporations. Without a clear path to commercialization, additional research will simply bloat this stockpile of idle assets. To unlock the possible social benefits and potential economic impact of past, present, and future research, a greater focus on commercialization is needed.

Sensor Collaborative is a collaborative technology commercialization organization comprised of academic, entrepreneur, investor, and industry partners committed to solving important social and economic problems through innovative sensor technologies. Sensor Collaborative's unique commercialization process identifies unmet industry, consumer, or social needs, matches them with idle technology or intellectual property, and collaborates with researchers where specific technology or manufacturing gaps are impeding immediate commercialization.

Sensor Collaborative serves the international transportation, energy, manufacturing, agriculture, and health industries. At launch, Sensor Collaborative's first major innovation initiative will bring its unique commercialization approach to Population Health with a goal of addressing the most pressing social and economic issues facing federal and state governments, employers, families, and individuals. Sensor Collaborative is working with leading national healthcare systems to integrate sensor technologies into accessible solutions that empower the individuals in their communities to more effectively self-manage their own health, wellness, and wellbeing. It's the foundation for a sustainable partnership to improve health outcomes, reduce healthcare costs, and increase quality of care and quality of life.

Sensor Collaborative's analysis of national community health needs is in-progress and will be complete in Q3-2016. An initial pilot study suggests key areas of need are actionable biometrics and more granular tracking of outcomes for diabetes, cardiac disease, behavior health, and health behaviors; all areas are sensor-rich applications ideally suited for Sensor Collaborative.

Sensor Collaborative serves its industry, university, entrepreneur, investor members, and the public through a variety of programs and resources.

II. PROGRAMS.

For the startup, early, and growth stage clients of the Sensor Collaborative's Commercialization Programs, we provide access to the capital, people, programs, and resources necessary to evolve their sensor technologies into products, and grow those products into sustainable businesses. The Commercialization Program covers three critical stages in the business lifecycle: Innovation, Incubation, and Acceleration.

- 1) **Innovation.** Built around a unique discovery, reverse pitch, and product design process, the ICAAM Innovation Program connects innovators, entrepreneurs, intellectual property, and capital to address problems identified among our industry partners that represent

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larger market opportunities. The Innovation Program is detailed in Appendix N: Sensor Collaborative Commercialization Program Operating Plan, it includes the following major components:

- a) Identification of Unmet Needs
 - b) Application Identification.
 - c) Requirements Analysis & Documentation.
 - d) Technology Research
- 2) **Incubation.** For startups, including those graduating out of the Sensor Collaborative Innovation Program or transferring out of corporations or universities, the Sensor Collaborative Incubation Program provides guidance and support through formation, seed capitalization, product development, and initial commercialization stages as companies seek first customers, revenue, strategic partners, and workforce. The Incubation Program is detailed in Appendix N: Sensor Collaborative Commercialization Program Operating Plan, it includes the following major components:
- a) Sensor Design.
 - b) Sensor Prototyping.
 - c) Sensor Testing.
- 3) **Acceleration.** For early stage companies, including those graduating out of the Sensor Collaborative Incubation Program, the Sensor Collaborative Acceleration program provides guidance and support to get the company across the chasm and scale up revenues. The Acceleration Plan is detailed in Appendix N: Sensor Collaborative Commercialization Program Operating Plan.

III. MEMBER & CLIENT RESOURCES

- 1) **Sensor Lab.** In addition to general office space, Sensor Collaborative will provide space and equipment for sensor prototyping and testing to its members and clients. The Sensor Collaborative Sensor Lab will open on or before Sensor Collaborative's first companies are admitted into the Commercialization Program. Initial space for the Sensor Lab is estimated at 2,000SF, increasing to 6,000SF in 2019.
- 2) **SensorBase.** During the course of scouting, evaluation, and commercialization operations, Sensor Collaborative will encounter and catalog a broad array of sensor technologies, in all stages of development, and from a variety of sources. Available to Sensor Collaborative Members, Sensorbase is the world's largest physical library and digital platform for sensors and related intellectual property. For innovators and entrepreneurs, Sensorbase offers the building blocks necessary to assemble world change products, applications, and solutions. For universities and corporations it provides a path to commercializing IP assets. Early mapping of the SensorBase database schema suggest the following classification and application typing:
 - a) **Sensor Classification Typing.** Sensor classifications are divided into 4 major types (EPOC): Electrical, Physical, Optical, and Chemical.

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- b) **Sensor Application Typing.** Sensor applications typing may include environment, biometric, and more.

Additional scope of SensorBase is partially outlined in Appendix L: Sensor Collaborative Development Bin.

- 3) **Standards.** An initiative to address biometric data standardization has been outlined in collaboration with ASU BioDesign Institute and the MEMS and Sensor Industry group. A summary of the data standardization initiative is provided in Appendix D - Data Standardization Initiative: Biomedical Diagnostics Applied Projects Program 2017 (Overview) and Appendix E - Data Standardization Initiative: Diagnostics Data Standards (A General Approach).
- 4) **Technical, Business, and Regulatory Advisory Network.** The Sensor Collaborative ecosystem includes a robust network of carefully vetted local and national researchers, engineers, advisors, consultants, workforce, service providers, and manufacturing partners, necessary to move rapidly through research, concept, capitalization, development, and launch. The Sensor Collaborative plays a critical role in matching talent to technology and companies, which generates an important stream of revenue funding Sensor Collaborative operations. Resource areas include:
 - a) Advisors.
 - b) Management.
 - c) Workforce Development & Recruiting.
 - d) Engineering.
 - e) Marketing.
 - f) Business Development.
 - g) Sales.
 - h) Information Technology.
 - i) Legal.
 - j) Finance.
 - k) Administrative & Back Office.
- 5) **Funding Platform & Investor Development.** Because funding is a critical part of the commercialization process, Sensor Collaborative will have its own exclusive online funding platform, offering investors from Wall Street, Sand Hill Road, and Main Street all the same opportunity to invest in Sensor Collaborative's startup, early stage, and growth stage companies.
 - a) **Funding Portal & Investor Directory.** A strategic partnership has been outlined with the non-profit Arizona Collaboratory, providing Sensor Collaborative with access to innovation, incubation, and acceleration funding portals for use by Sensor Collaborative portfolio companies in raising capital. A directory of active local and national investors is also available for license. Details of this partnership will be documented in an agreement and executed during Sensor Collaborative's Pre-Launch phase.

- b) Investment Fund. This Sensor Collaborative operating plan has been developed to operate in close collaboration with the proposed \$5M-\$10M Greater Phoenix Seed Capital Fund (GPS Fund).
-

IV. PLANNING

- 1) Business model canvas.
 - a) Corporate Membership Program.
 - i) Corporate Membership Pilot Program. See details in Appendix J: Pilot Program Corporate Membership Agreement (Outline)
 - ii) Annual Corporate Membership Program. See details in Appendix K: Annual Corporate Membership Agreement (Outline)
 - b) Commercialization Programs. (Under Development)
 - i) Sensor Technology, IP, or Product Conceptual Development Program.
 - ii) Startup Sensor Business Incubation Program.
 - iii) Early Stage Sensor Business Incubation Program.
 - iv) Growth Stage Sensor Business Acceleration.
- 2) Financial modeling. A five-year financial model is provided in Appendix M: Sensor Collaborative Summary Financial Statements
- 3) Operating plan.
 - a) Labor.
 - i) Sensor Collaborative team.
 - (1) Executive.
 - (2) Operations.
 - (3) Legal. City
 - (4) Technology & Scouting.
 - ii) Advisory, Consultant, and Workforce Network.
 - (1) Recruitment.
 - (2) Registration.
 - (3) Engagement.
 - (4) Management & Administration.
 - b) Materials.
 - i) Annual Market Needs Analysis.
 - ii) Sensor Lab/ Library/ Database Development.
 - c) Facilities.
 - i) General Business.
 - ii) Sensor Prototyping.
 - iii) Sensor Testing.

- d) Equipment.
 - i) Sensor Prototyping.
 - ii) Sensor Testing.

- e) Processes. A plan detailing Sensor Collaborative’s core operating functions and processes is provided in Appendix N: Sensor Collaborative Commercialization Program Operating Plan, it includes the following major sections:
 - i) Innovation.
 - ii) Incubation.
 - iii) Acceleration.

V. CAPITALIZATION STRATEGY & PLANNING.

1) Seed Funding Requirements. Initial capital requirements of \$150,000 cover a 6-month ramp up period. The Sensor Collaborative has been engineered with low capital requirements through strategic partnerships, on-demand management, and rapid revenue growth through member acquisition. The segmentation represents potential local funding sources for the Sensor Collaborative, examples are provided for illustration only and do not represent a complete list:

- a) **Greater Phoenix Economic Development Organizations.**
 - i) **Regional.**
 - (1) Greater Phoenix Economic Council (GPEC)/ Partnership for Economic Innovation.
 - (2) Arizona Commerce Authority.
 - (3) Maricopa Association of Governments (MAG)
 - (4) East Valley Partnership
 - ii) **Municipal.**
 - (1) City of Phoenix Chamber of Commerce/ Community & Economic Development
 - (2) City of Tempe Economic Development,
 - (3) City of Scottsdale Economic Development
 - (4) City of Chandler Economic Development
 - (5) Glendale Economic Development
 - (6) Goodyear Economic Development
 - iii) **Incubator & Accelerators.**
 - (1) Center for Entrepreneurial Innovation
 - (2) BioAccel
 - (3) BioInspire
 - (4) SeedSpot

- b) **Philanthropic.**
 - i) **Arizona Community Foundation.**
 - ii) **Flinn Foundation.**

- c) **Corporate Sponsors.** Interviews with two major local advanced technology employers suggest that human resources departments within these types of companies might be the most willing supporters as they seek to address employee recruitment and retention issues in which an estimated 80% of all employees significant others work in the same or similar field and unable to find local employment.

- d) **Private Investors.**
 - i) Venture Capital.
 - ii) Family Office.
 - iii) Private Equity.
 - iv) Accredited Investors.
 - v) Non-Accredited Investors.

V. APPENDICES

- A. Population Health Overview
- B. National Community Health Needs Assessment Market Analysis
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APPENDIX A
POPULATION HEALTH OVERVIEW

Sensor Collaborative will initially focus on the application of sensor technology within population health. Population health is defined as **the health outcomes of a group of individuals, including the distribution of such outcomes within the group.** (Kindig and Stoddart 2003) These groups are often geographic populations such as nations or communities, but can also be other groups such as employees, ethnic groups, disabled persons, prisoners, or any other defined group. The health outcomes of such groups are of relevance to policy makers in both the public and private sectors.

The inherent value of a population health perspective is that it facilitates integration of knowledge across the many factors that influence health and health outcomes. Many health improvement models have identified two broad outcome goals: increasing overall or mean population health and eliminating disparities within the population. Simply put, one goal of population health improvement is to increase years of life and the quality of those life years. Another goal is to reduce the differences or disparities in these health outcomes among different subgroups in the population.

Health outcomes, however defined and measured, are produced by determinants or factors. They often are sorted into the following five categories:

1. **Health care determinants** generally include access, cost, quantity, and quality of health care services.
2. **Individual behavior determinants** include choices about lifestyle or habits (either spontaneously or through response to incentives) such as diet, exercise, and substance abuse.
3. **Social environment determinants** include elements of the social environment such as education, income, occupation, class, and social support.
4. **Physical environment determinants** include elements of the natural and built environment such as air and water quality, lead exposure, and the design of neighborhoods.
5. **Genetic determinants** include the genetic composition of individuals or populations.

Measuring, integrating and analyzing this diverse data set and using the data to impact outcomes is the goal of Sensor Collaborative's first sensor development initiative.

David Roman, Senior Equity Research Analyst, US Medical Technology, at Goldman Sachs Research says "healthcare has been relegated to a series of innovations that have been about preserving the status quo and helping existing participants expand their business. Where the Internet of Things becomes interesting is it has the potential to totally change the way US healthcare works. What happens when the slow-to-change US healthcare system embraces the Internet of Things? A potential \$30 billion industry is born." Mr. Roman in the following short video explains where we may see connected care take hold and how it could improve efficiency and outcomes. http://www.goldmansachs.com/our-thinking/pages/iot-meets-health.html?cid=PS_02_21_07_00_01_16_01













APPENDIX B
NATIONAL COMMUNITY HEALTH NEEDS ASSESSMENT MARKET ANALYSIS

[In development]

APPENDIX C
TECHNOLOGY & BUSINESS LIFECYCLE

EXHIBIT 3

Characteristics of Small Business at Each Stage of Development

	Stage I Existence	Stage II Survival	Stage III-D Success- Disengagement	Stage III-G Success- Growth	Stage IV Take-off	Stage V Resource Maturity
Management style	Direct supervision	Supervised supervision	Functional	Functional	Divisional	Line and staff
Organization						
Extent of formal systems	Minimal to nonexistent	Minimal	Basic	Developing	Maturing	Extensive
Major strategy	Existence	Survival	Maintaining profitable status quo	Get resources for growth	Growth	Evaluation investment
Business and owner*						

*Smaller circle represents owner. Larger circle represents business.

[In development]

APPENDIX D

DATA STANDARDIZATION INITIATIVE - BIOMEDICAL DIAGNOSTICS APPLIED PROJECTS PROGRAM 2017

(OVERVIEW)

Arizona State University (ASU) offers a Master of Science degree program in Biomedical Diagnostics (BMD) through the International School of Biomedical Diagnostics (ISBD). This program is a one-year online curriculum which focuses educating and training the future leaders in biomedical diagnostics and allied fields. Currently there are 47 students in the program and it is expected to have 80-100 students for the coming academic year starting in the Fall 2016 term. The culminating experience for students in the BMD program is the Applied Project. The Applied Project consists of two contiguous courses – BMD 592 Research and BMD 593 Applied Project. Students are placed into teams (typically between 3-5 students per team) which are representative of how many larger and more complex projects conducted in the real world. Each team will have a mentor from either industry or academia with relevant experience to provide guidance through the duration of the entire project. The BMD 592 course starts with training in project management which prepares the students and their teams to develop their project plans. Upon successful completion of their project plans, the teams engage in research through the second half of the BMD 592 course and well into the BMD 593 course. The main deliverable of the Applied Project is the Research Report which is written in the format utilized for scientific research manuscript that are submitted for publication in a peer-reviewed journal.

An overview for the 2017 Applied Project Program is listed below:

- 1) Teams will consist of 3-5 students having no more than 25 teams total
- 2) Each team will have one mentor
 - a) Mentors will be primarily recruited from companies in the biomedical diagnostics industry
 - b) Mentors must be committed to spending 0.5-2 hours/week for a period of 4 months for mentoring students
- 3) There will be a panel of 4-5 experts from industry and academia plus the instructor to establish the research theme for the Applied Projects
 - a) The general theme will be standardization in biomedical diagnostics – further focus on specific aspects of diagnostics will be determined by the expert panel
 - b) This panel will likely become the judging panel to evaluate the top Applied Project team submissions
- 4) The key Applied Project outcomes will include the following:
 - a) Provide a on overview of the current status of standardization in the relevant area(s) of diagnostics
 - b) Determine what needs to be standardized within the area(s) of interest and the value proposition associated with it
 - c) Define the challenges associated with the development and implementation of standardization processes/products
 - d) Propose a course of action to develop and implement the processes/products for standardization

- 5) Competition
 - a) The Applied Projects research reports will be graded and the top 3-5 reports will be determined by instructor (possibly with assistance from a small panel of experts other than those in the judging panel)
 - b) There will be a competition day, most likely a Saturday at a venue in the metro Phoenix area
 - c) The members of the top teams, judging panel, instructor and VIPs will be invited to attend. Team members with their mentor and judges from out of town will have their travel and lodging costs covered.
 - d) The competition day will start with oral presentations to the judging panel (the panel will have the research reports provided to them prior to the event) by the top teams. This will be followed by a luncheon during which the awards will be announced.
- 6) Benefits
 - a) Students
 - i) Provide an in depth understanding of the existing standards in diagnostics
 - ii) Understand the value of standardization
 - iii) Develop analytical skills to characterize process inefficiencies and determine root causes of poor practices
 - iv) Develop creative or novel potential solutions to difficult problems
 - v) Develop writing and presentation skills
 - vi) Possible entrepreneurial opportunities may become evident through their Applied Project
 - vii) Possible opportunity to publish research in a peer-reviewed journal
 - b) Mentors/Judges
 - i) Interacting with students who could become future employees for their company
 - ii) Developing a keener understanding of standardization in diagnostics
 - iii) Mentors have the opportunity to assist in the education of their student team members

APPENDIX E

DATA STANDARDIZATION INITIATIVE - DIAGNOSTICS DATA STANDARDS (A GENERAL APPROACH)

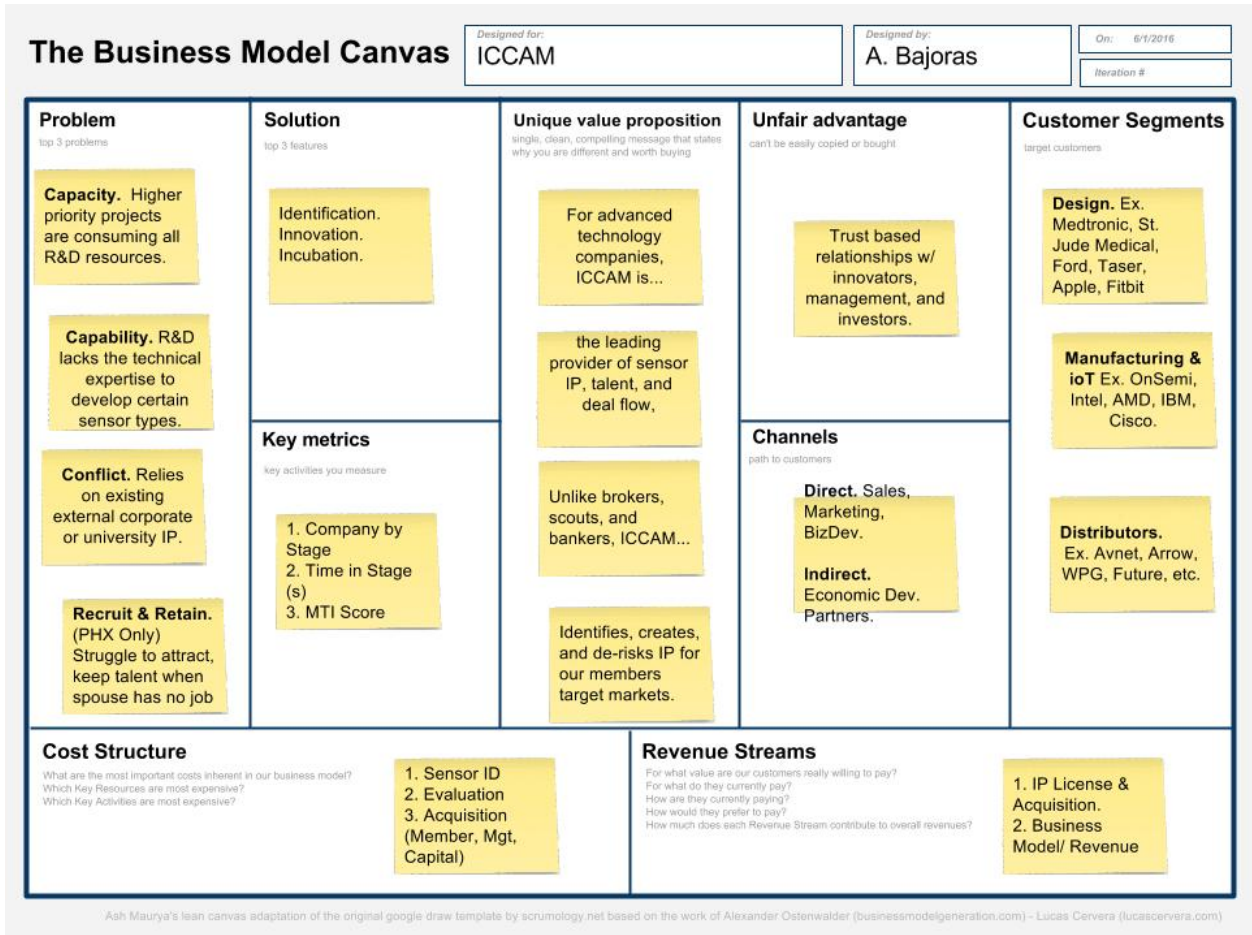
Biomedical diagnostics is heavily reliant on data from the many tests and devices used in this highly impactful area of healthcare. The data from diagnostics impacts 60-70% of health care decision-making yet data obtained, encoded, displayed, transmitted, stored, analyzed and retrieved in a multitude of ways. Ideals such as interoperability, standard metrics for diagnostic data and analytical results, universal security and privacy requirements are for the most part mere fantasies today. This creates a major challenge in today's world of health care which is seeking to be able to obtain, manage and analyze data in a seamless and global fashion due to the mobility and diversity of the world's population. However this presents opportunities to those who have the foresight and means to move the diagnostics data field towards standardization.

The first key major challenge is to provide a snapshot of where we are with respect to standardization in the diagnostics data arena. There are individuals with expertise in specific aspects of this problem but very few, if any who have the breadth of knowledge to enable them to solve this problem. One can bring in a number of experts to meet for a up to a few days to discuss the matter but after the meeting, typically little effort is applied towards the objectives set out through the meeting. These meetings often don't have the time to put together many ideas for solutions to the problem since they tend to focus on first defining the problem and the challenges which takes up most of the time. An alternative approach is recommended which is low cost and puts the minds of over 100 individuals on to the task for about 4 months. This can be achieved through the Applied Projects performed by students in the Master of Science degree in Biomedical Diagnostics program offered by ASU's International School of Biomedical Diagnostics.

- 1) Teams will consist of 3-5 students having no more than 25 teams total
- 2) Each team will have one mentor
 - a) Mentors will be primarily recruited from companies in the biomedical diagnostics industry
- 3) The key Applied Project outcomes will include the following:
 - a) Provide an overview of the current status of standardization in the relevant area(s) of diagnostics
 - b) Determine what needs to be standardized within the area(s) of interest and the value proposition associated with it
 - c) Define the challenges associated with the development and implementation of standardization processes/products
 - d) Propose a course of action to develop and implement the processes/products for standardization
- 4) There will be a competition to further motivate the students to excel in their research
 - a) The Applied Projects research reports will be graded and the top 3-5 reports will be determined by instructor (possibly with assistance from a small panel of experts other than those in the judging panel)

- b) There will be a competition day, most likely a Saturday at a venue in the metro Phoenix area
 - c) The members of the top teams, judging panel, instructor and VIPs will be invited to attend. Team members with their mentor and judges from out of town will have their travel and lodging costs covered.
 - d) The competition day will start with oral presentations to the judging panel (the panel will have the research reports provided to them prior to the event) by the top teams. This will be followed by a luncheon during which the awards will be announced.
- 5) Benefits
- a) This effort will provide a comprehensive overview of the status of diagnostics data standardization
 - b) It will point to opportunities, including entrepreneurial ones for development of processes, services and other products which can lead towards standardization through a rational approach.

APPENDIX F
CORPORATE MEMBERSHIP BUSINESS MODEL CANVAS



APPENDIX G
SENSOR COLLABORATIVE POSITIONING STATEMENT

Sensor Collaborative is a sensor technology research, development, and commercialization center focused on enabling products, services, and solutions across the health, transportation, energy, agriculture, and manufacturing industries. Sensor Collaborative was founded in 2016 as a collaboration between university researchers, innovators, entrepreneurs, investors, corporate partners, and government agencies around an initial mission to address population health by empowering consumers to better manage their own health, healthcare, and wellness.

Sensor Collaborative's innovation initiatives focus on health and wellness applications and are driven by Flow, our proprietary commercialization process. Flow engages industry clients and consumer populations to identify major pain points, resource draining inefficiencies, and critical problems that can be solved using readapted, un-commercialized, or newly developed sensor technologies.

Because funding is such a critical part of the commercialization process, Sensor Collaborative is paired with an exclusive funding platform and investment fund, offering investors from Wall Street, Sand Hill Road, and Main Street all the same opportunity to invest in Sensor Collaborative's startup, early stage, and growth stage companies.

The Sensor Collaborative ecosystem includes a robust network of local and national researchers, engineers, advisors, consultants, service providers, and manufacturing partners necessary to move rapidly through product concept, capitalization, development, and launch.

Strategically located in Phoenix, Sensor Collaborative has direct access to key clients across the 5 target industries, strong research connections into ASU, UA, and NAU, and a workforce motivated to build the future of technology. Arizona's unique population demographics make it an ideal test market for health, healthcare, and wellness applications.

Phoenix is central in a regional technology cluster that includes: BioTech and Defense in San Diego; Life Sciences, Aerospace & Defense, and Energy in Utah; Agriculture and CleanTech in Colorado; Life Sciences and Semi-Conductor in Austin, Transportation and Manufacturing in NV; and Energy, Aerospace, and Defense in NM. Proximity to Mexico places Phoenix close to near-sourced manufacturing resources.

Sensor Collaborative is currently accepting new members and sensor related technologies and companies. Visit www.Sensor.center for more information.

APPENDIX H

INNOVATION PROGRAM - OPPORTUNITY & REQUIREMENTS ANALYSIS SUMMARY

The Sensor Collaborative Innovation Program provides access to innovation professionals, entrepreneurs, advisors, consultants, and companies experienced in identifying to root cause of complex problems, framing the market opportunity, and integrating existing technology or creating innovative new technology to deliver novel solutions. The ICAAM Innovation Program includes Problem Identification & Requirements Analysis, Reverse Pitch, and Innovation Challenge described below:

Problem Identification & Requirements Analysis

1. **Discovery.** Meet with Client to discuss, document, and prioritize pain points, includes follow up review with Client to confirm or clarify. (4 hours deliverable: Pain Point Statements)
2. **Investigation.** Research, onsite observation, and interviews to identify root cause, includes follow up meeting with Client to review findings/ conclusions. (8 hours deliverable: Root Cause Analysis)
3. **Problem Statement(s).** Building on information in Discovery and Investigation, form a problem statement or collection of prioritized problem statements with relational mapping or hierarchy, includes review w/ Client to confirm or clarify prioritization. (6 hours deliverable: Problem Statement)
4. **Requirements Analysis.** Document any additional information, constraints, and considerations that might be relevant or necessary for individuals or teams to design, build, and implement a solution. (8 hours deliverable: Requirements Document)
5. **Market Analysis.** Unless an industry partner is willing to foot the bill for a custom solution, someone will need to identify the market opportunity in order to move entrepreneurs, existing firms, and investors toward action. Sensor Collaborative will conduct initial primary market research to estimate size the market based

APPENDIX I
INNOVATION PROGRAM - TECHNOLOGY & MARKET ANALYSIS SUMMARY

Technology Analysis.

Market Analysis.

Competitive Analysis.

APPENDIX J
PILOT PROGRAM CORPORATE MEMBERSHIP AGREEMENT (OUTLINE)

Sensor Collaborative

Outline of Corporate Membership Agreement for the Pilot Program

Background

Sensor Collaborative’s mission is to develop a connected ecosystem comprised of researchers, members of industry, innovators, entrepreneurs, and investors (and other capital sources) to support the development and commercialization of sensor technologies.

Sensor Collaborative’s objectives include:

- Identifying unmet market needs that may be solved using sensor technology
- Identifying sensor technology with commercial potential
- Fostering technology development,
- Procuring and directing research funding for issues impeding commercialization
- Fostering the provision of capital to innovators and entrepreneurs in the sensor technologies industry,
- Advising and managing portfolio companies through the conceptualization, launch, incubation, acceleration, and exit stages of the commercialization process
- Developing a pipeline for talent,
- Stimulating job creation, and
- Increasing the regional economic health and competitiveness of the State of Arizona.

The Sensor Technology Commercialization Program

- Sensor Collaborative’s initial program will be the Sensor Technology Commercialization Program (the “STC Program”).
- The objective of the STC Program is to identify [and enable the commercialization of] sensor technologies that address the identified technology needs and interests of its Member companies [-or-- present valuable commercialization opportunities].
- Companies can become members of the STC Program by entering into a 90-day membership pilot program agreement with Sensor Collaborative.
- The STC Program will have [6] membership levels. The membership fee and the number of memberships for each level for the pilot program are:

Level	Pilot Program Fee	Number of Members
1	\$50,000	1
2	\$25,000	1
3	\$15,000	1

4	\$10,000	1
5	\$5,000	1
6	\$2,500	Maximum of 10

Member's rights [consist of]:

- Based on its Member Class, the right to receive the Disclosure Package for Offered Technologies at the time and in the order set forth in Section [·].
- During the applicable Initial Review Period, the right to elect to enter into negotiations with the Technology Sponsor to secure commercialization rights (or other investment rights) for the Offered Technology.

A Member's responsibilities include:

- Paying its Membership Fee,
- Signing and observing a Confidentiality Agreement with respect to any Offered Technologies it evaluates,
- Responding to commercialization opportunities with respect to Offered Technologies within the applicable time periods,
- Paying a commercialization deposit for Offered Technologies it pursues in accordance with the STC Program agreement.

Sensor Collaborative's rights include:

- Operating the STC Program,
- Selecting companies to invite to become Members,
- Developing agreements and policies to operate the STC Program, including but not limited to Membership Agreements, Confidentiality Agreements, Conflict policies, indemnification agreements and interpreting such agreements and policies,
- Entering into agreements with Technology Sponsors,
- Entering into agreements with third parties to evaluate technologies,
- Entering into agreements with third parties for any other purpose,
- Indemnifying board members, advisors, etc. against liability arising from Sensor Collaborative activities,
- Enforcing or waiving the terms of Membership Agreements,
- Obtaining and maintaining insurance

Sensor Collaborative's responsibilities consist of operating the STC Program in the manner contemplated by the STC Program Description.

STC Program Description. Sensor Collaborative will:

- Solicit information from Members about areas of sensor technology that are of commercial interest to them,
- Develop and operate a robust program to identify sensor technologies that have been identified as meeting the needs of its Members or that may otherwise be appropriate for commercialization,
- Solicit sensor technologies for evaluation from a variety of technology sponsors (inventors, companies, universities and other technology sponsors, collectively, “Technology Sponsors”)
- Identify and engage qualified individuals to assist in the evaluation of technologies,
- Develop a due diligence protocol to rapidly confirm the legal power and authority of Technology Sponsors to offer technologies for commercialization,
- Develop and make available information to Members and Technology Sponsors about market terms on which technologies are being commercialized]
- Facilitate commercialization discussions between Technology Sponsors and Members
- Develop a protocol to evaluate the scientific basis and commercial opportunities technologies presented by Technology Sponsors
- For each technology that is accepted for offer to Members (an “Offered Technology”), conduct due-diligence in order to confirm the right and authority of the Technology Sponsor to commercialize the Offered Technology:
 - Prepare a Disclosure Package for each Offered Technology (subject to the successful outcome of the due diligence process in Paragraph viii above),
 - The Preliminary Disclosure Package will describe in general terms:
 - The intended and/or potential application of the Offered Technology,
 - The status of any patent application or other intellectual property protection applicable to it,
 - The ownership of the Offered Technology,
 - The terms on which the Technology Sponsor is willing to make the Offered Technology available for commercialization (sale, license, investment in a company, etc.).
- Sensor Collaborative will disseminate the Disclosure Package for each Offered Technology to Members pursuant to Technology Offer Schedule described below.
 - Technology Offer Schedule. The Disclosure Package for each Offered Technology will be made available on an exclusive basis to Members based on their membership level.
 - Each member will have a period of [·] days (its “Initial Review Period”) to review the Disclosure Package to determine whether such Member is interested in pursuing the Offered Technology.
 - If, at the end of the Initial Review Period, the Member elects to pursue the Offered Technology, it will have a period of [·] days to complete a commercialization agreement with the Technology Sponsor.
 - If, at the end of the Initial Review Period, the Member does not elect to pursue the Offered Technology, the Disclosure Package will be made available on an exclusive basis to the Member in the next membership level and the process set out in paragraph a will be repeated until each Member in Levels 1-5 has been offered an Initial Review Period

- A Member not electing to pursue an Offered Technology will return all Confidential Information it has received from the Technology Sponsor
- If none of the Members in Levels 1-5 elect to pursue the Offered Technology, then the Offered Technology will be offered to remaining Members [process description to come].

APPENDIX K
ANNUAL CORPORATE MEMBERSHIP AGREEMENT (OUTLINE)

Sensor Collaborative

Outline of Corporate Membership Agreement

Background

Sensor Collaborative’s mission is to develop a connected ecosystem comprised of researchers, members of industry, innovators, entrepreneurs, and investors (and other capital sources) to support the development and commercialization of sensor technologies.

Sensor Collaborative’s objectives include:

- Identifying unmet market needs that may be solved using sensor technology
- Identifying sensor technology with commercial potential
- Fostering technology development,
- Procuring and directing research funding for issues impeding commercialization
- Fostering the provision of capital to innovators and entrepreneurs in the sensor technologies industry,
- Advising and managing portfolio companies through the conceptualization, launch, incubation, acceleration, and exit stages of the commercialization process
- Developing a pipeline for talent,
- Stimulating job creation, and
- Increasing the regional economic health and competitiveness of the State of Arizona.

The Sensor Technology Commercialization Program

- Sensor Collaborative’s initial program will be the Sensor Technology Commercialization Program (the “STC Program”).
- The objective of the STC Program is to identify [and enable the commercialization of] sensor technologies that address the identified technology needs and interests of its Member companies [-or-- present valuable commercialization opportunities].
- Companies can become members of the STC Program by entering into a 90-day membership pilot program agreement with Sensor Collaborative.
- The STC Program will have [6] membership levels. The membership fee and the number of memberships for each level for the pilot program are:

Level	Pilot Program Fee	Number of Members
1	\$500,000	1
2	\$250,000	1
3	\$150,000	1

4	\$100,000	1
5	\$50,000	1
6	\$25,000	Maximum of 10

Member's rights [consist of]:

- Based on its Member Class, the right to receive the Disclosure Package for Offered Technologies at the time and in the order set forth in Section [·].
- During the applicable Initial Review Period, the right to elect to enter into negotiations with the Technology Sponsor to secure commercialization rights (or other investment rights) for the Offered Technology.

A Member's responsibilities include:

- Paying its Membership Fee,
- Signing and observing a Confidentiality Agreement with respect to any Offered Technologies it evaluates,
- Responding to commercialization opportunities with respect to Offered Technologies within the applicable time periods,
- Paying a commercialization deposit for Offered Technologies it pursues in accordance with the STC Program agreement.

Sensor Collaborative's rights include:

- Operating the STC Program,
- Selecting companies to invite to become Members,
- Developing agreements and policies to operate the STC Program, including but not limited to Membership Agreements, Confidentiality Agreements, Conflict policies, indemnification agreements and interpreting such agreements and policies,
- Entering into agreements with Technology Sponsors,
- Entering into agreements with third parties to evaluate technologies,
- Entering into agreements with third parties for any other purpose,
- Indemnifying board members, advisors, etc. against liability arising from Sensor Collaborative activities,
- Enforcing or waiving the terms of Membership Agreements,
- Obtaining and maintaining insurance

Sensor Collaborative's responsibilities consist of operating the STC Program in the manner contemplated by the STC Program Description.

STC Program Description. Sensor Collaborative will:

- Solicit information from Members about areas of sensor technology that are of commercial interest to them,
- Develop and operate a robust program to identify sensor technologies that have been identified as meeting the needs of its Members or that may otherwise be appropriate for commercialization,
- Solicit sensor technologies for evaluation from a variety of technology sponsors (inventors, companies, universities and other technology sponsors, collectively, “Technology Sponsors”)
- Identify and engage qualified individuals to assist in the evaluation of technologies,
- Develop a due diligence protocol to rapidly confirm the legal power and authority of Technology Sponsors to offer technologies for commercialization,
- Develop and make available information to Members and Technology Sponsors about market terms on which technologies are being commercialized]
- Facilitate commercialization discussions between Technology Sponsors and Members
- Develop a protocol to evaluate the scientific basis and commercial opportunities technologies presented by Technology Sponsors
- For each technology that is accepted for offer to Members (an “Offered Technology”), conduct due-diligence in order to confirm the right and authority of the Technology Sponsor to commercialize the Offered Technology:
 - Prepare a Disclosure Package for each Offered Technology (subject to the successful outcome of the due diligence process in Paragraph viii above),
 - The Preliminary Disclosure Package will describe in general terms:
 - The intended and/or potential application of the Offered Technology,
 - The status of any patent application or other intellectual property protection applicable to it,
 - The ownership of the Offered Technology,
 - The terms on which the Technology Sponsor is willing to make the Offered Technology available for commercialization (sale, license, investment in a company, etc.).
- Sensor Collaborative will disseminate the Disclosure Package for each Offered Technology to Members pursuant to Technology Offer Schedule described below.
 - Technology Offer Schedule. The Disclosure Package for each Offered Technology will be made available on an exclusive basis to Members based on their membership level.
 - Each member will have a period of [·] days (its “Initial Review Period”) to review the Disclosure Package to determine whether such Member is interested in pursuing the Offered Technology.
 - If, at the end of the Initial Review Period, the Member elects to pursue the Offered Technology, it will have a period of [·] days to complete a commercialization agreement with the Technology Sponsor.
 - If, at the end of the Initial Review Period, the Member does not elect to pursue the Offered Technology, the Disclosure Package will be made available on an exclusive basis to the Member in the next membership level and the process set out in paragraph a will be repeated until each Member in Levels 1-5 has been offered an Initial Review Period

- A Member not electing to pursue an Offered Technology will return all Confidential Information it has received from the Technology Sponsor
- If none of the Members in Levels 1-5 elect to pursue the Offered Technology, then the Offered Technology will be offered to remaining Members [process description to come].

APPENDIX L
SENSOR COLLABORATIVE DEVELOPMENT BIN

The following items requiring further analysis, development, and/ testing in Pre-Launch or later phases.

- 1) Additional Programs.
 - a) Innovation Sponsorship Program.
 - b) Research Partner Program.
 - c) Investor Program.
 - d) Workforce Development Program.
- 2) Who are our customers? Are the member companies, portfolio companies, or both? If both, which is primary and which is secondary? (member companies are our primary customers/ targets because they represent both membership revenue and are likely sources of investment capital for portfolio companies)
- 3) Market Analysis. Is it worth defining the total available market, serviceable addressable market, market segments, target market, beachhead market, and pilot customer.
- 4) The Opportunity.
 - a) Members. IoT applications have increased demand for new sensor technologies that outpace the speed of innovation at universities and exceed the capacity or core competencies of corporate R&D teams. Additionally, corporate R&D budgets and public funding for university research are shrinking* (source?)
 - b) Portfolio Companies. The development and testing of sensor technologies typically requires experienced scientists and engineers, or teams of experts. Few of these scientific and engineering experts have the business experience or relationships necessarily to attract capital and execute their business plan.
- 5) Offerings.
 - a) Member. The value proposition for our member companies is privileged access to sensor IP for licensing and professionally managed companies for strategic investment or acquisition to complement internal R&D and investment efforts.
 - b) Portfolio Companies. The value proposition for our portfolio companies is access to capital: i) investment capital - through the 'Catalyst Fund', 'Innovation Funding Portal', and investor network; ii) human capital - experienced advisors, management, and workforce necessary to attract capital and execute on the business plan; and iii) social capital - relationships with potential strategic partners, customers, researchers, and more.
- 6) Competitive Analysis. Each iteration on the MVP can create shifts in market size, segmentation, accessibility, and competition. Accordingly, it's recommended that more detailed and comprehensive competitive analysis be completed following any major re-engineering or pivots in the offering.
- 7) SensorBase. Need to define the data fields and systems that will be used to manage this sensor database. User access also needs to be defined and enforced according to

membership access levels (visibility must progress through the membership tiers).

Collection process needs to be defined and may include:

- a) Active Search. This would be cataloging that occurs during the course of a tech/ ip scan/ search/ scouting to address a specific and high priority unmet market need. It seems that this should be where the bulk of our cataloging resources should be allocated. It may include:
 - i) Outbound - Sensor Collaborative initiated outreach and managed cataloging.
 - ii) Inbound - open invitation to outside parties to 'self-catalogue' and submit on their own, probably with publishing subject to approval by Sensor Collaborative.
- b) Passive Collection. General collection/ cataloging not directly or immediately relevant to unmet market needs. Most of these efforts are probably going to happen through the inbound process described above.

[CONTINUED ON NEXT PAGE]

APPENDIX M
SUMMARY FINANCIAL STATEMENTS

APPENDIX N

SENSOR COLLABORATIVE COMMERCIALIZATION PROGRAM OPERATING PLAN