

OFFICE USE ONLY

Elect Title:

Date:

**ARROWHEAD CENTER®****OFFICE USE ONLY**

Received:

Case No:

Invention Disclosure Form (IDF)

Please complete all fields of this Invention Disclosure Form (IDF). All information in the IDF remains confidential until the invention is publicly disclosed by the inventor(s) or a Provisional Patent is filed. Please include attachments of all material referenced in this IDF and attach additional pages if more space is needed. For guidance on completing this IDF, please contact the Arrowhead Center Office of Intellectual Property and Technology Transfer at (575) 646-4965 or visit <https://arrowheadcenter.org/program/intellectual-property/>.

1. Invention Title

Provide a brief, descriptive title to identify this invention.

2. Non-Confidential Invention Summary

Provide a brief, non-confidential summary of this invention in laymen's terms that can be shared with potential commercial partners. Include the purpose, function, and main advantages of this invention.

3. Detailed Invention Description

Provide a detailed description of this invention. Please include what this invention does, what problems this invention solves, how this invention relates to existing/new processes or machines, how this invention differs from existing technology, and potential applications of this invention. Please sufficiently describe in technical detail to convey a clear understanding of the nature, purpose, operation, and the physical, chemical, biological, or electrical characteristics of this invention. Attach additional information, background documentation, and drawings/figures when submitting the IDF, such as abstracts, thesis/research papers, schematics, sketches, etc.

4. Type of Invention

Check all that apply.

- | | | | | |
|---|--|--|---|--|
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Communication | <input type="checkbox"/> Construction & Infrastructure | <input type="checkbox"/> Consumer Goods | <input type="checkbox"/> Digital Computing |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Life Sciences | <input type="checkbox"/> Machinery | <input type="checkbox"/> Materials | <input type="checkbox"/> Mechanical Components |
| <input type="checkbox"/> Medical Technology | <input type="checkbox"/> Sensors | <input type="checkbox"/> Vehicles | <input type="checkbox"/> Other: _____ | |

5. Background / Existing Intellectual Property

Describe any existing intellectual property (including patents, copyrights, or trademarks) that you or your team developed that relates to this invention.

☐ **N/A** - No intellectual property exists related to this invention

6. Invention History

Invention Conception is when the inventor(s) form(s) a definite and permanent idea of the complete and operable invention. Conception is established when the invention is made sufficiently clear to enable one skilled in the art to reduce it to practice without the exercise of extensive experimentation or the exercise of inventive skill. Include copies, if possible, of all recorded milestones.

| History | Date | Details / Comments |
|---------------------------------------|------|--|
| Invention Conception | | Has this date been recorded? <input type="checkbox"/> Yes <input type="checkbox"/> No. Where? Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Written Description | | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No |
| First Successful Demonstration | | <input type="checkbox"/> N/A - No successful demonstration has been performed |

7. Technology Readiness Level (TRL)

Technology Readiness Levels (TRLs) are a type of measurement system used to assess the maturity level of a particular technology. Each technology project is evaluated against the parameters for each technology level and is then assigned a TRL rating based on the project's progress. Please check next to each TRL that has been achieved with this invention.

- ☐ **TRL 1** - Basic principles observed and reported
- ☐ **TRL 2** - Technology concept and/or application formulated
- ☐ **TRL 3** - Analytical and experimental critical function and/or characteristic proof-of-concept
- ☐ **TRL 4** - Component and/or breadboard validation in laboratory environment
- ☐ **TRL 5** - Component and/or breadboard validation in relevant environment
- ☐ **TRL 6** - System/subsystem model or prototype demonstration in a relevant environment
- ☐ **TRL 7** - System prototype demonstration in an operational environment
- ☐ **TRL 8** - Actual system completed and qualified through test and demonstration
- ☐ **TRL 9** - Actual system proven through successful mission operations

8. Keywords

Provide a list of keywords related to this invention that may be used in a patentability search or commercialization pursuit.

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9. Internal Sponsorship / Funding

List any internal NMSU funding sources that contributed to the equipment, materials, resources, or facilities involved in the conception and/or development of this invention. Attach copies of all internal NMSU grants, awards, contracts, etc. Please include an additional page if more space is needed.

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- ☐ **N/A** - No internal sponsorship / funding contributed to this invention

10. External Sponsorship / Funding

List any external funding sources (including grants, federal awards, contracts, subcontracts, industry sponsors, etc.) that contributed to the conception and/or development of this invention. Describe any obligations to the sponsors, including disclosure responsibilities, reporting, licensing, ownership rights, etc. Attach copies of all grants, awards, contracts, etc. Please include an additional page if more space is needed.

| | Sponsorship 1 | Sponsorship 2 | Sponsorship 3 |
|-------------------------|---------------|---------------|---------------|
| Funding Type | | | |
| Agency/Company | | | |
| Contract/Award # | | | |
| Funding Amount | | | |
| Contact Name | | | |
| Contact Title | | | |
| Contact Phone | | | |
| Contact Email | | | |
| Sponsorship Obligations | | | |

☐ N/A - No external sponsorship / funding contributed to this invention

11. Collaborators, Resources, and Materials

Please identify any third-parties that provided biological materials, data, and/or equipment used in the development of the invention. List all collaborators at other educational / research institutions or companies. Attach copies of all Material Transfer Agreements (MTAs), Inter-Institutional Agreements (IIAs), Joint Development Agreements (JDAs), and any other agreements/contracts from third-parties. Please include an additional page if more space is needed.

| | Collaborator 1 | Collaborator 2 | Collaborator 3 |
|-----------------------|----------------|----------------|----------------|
| Agreement Type | | | |
| Institution / Company | | | |
| Contract Number | | | |
| Resources / Materials | | | |
| Collaborator Name | | | |
| Collab. Phone Number | | | |
| Collab. Email Address | | | |
| Obligations | | | |

☐ N/A - No third-party collaborators, resources, or materials contributed to this invention

12. Background Research / Prior Art

List any known Prior Art that relates to this invention. Prior Art may include an invention which was patented, described in an issued patent, described in a publication, or otherwise available to the public prior to the Provisional Patent filing date of this invention. Attach copies, if possible, of all known Prior Art. Please include an additional page if more space is needed.

| Details / Comments | Attached? |
|--------------------|--|
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |

13. Invention Novelty

Explain how your invention is novel, non-obvious, and distinct from the Prior Art listed in Question 12 Background Research.

14. Prior Public Disclosures

List all Public Disclosures regarding this invention. Public Disclosures include any non-confidential communication of an idea or invention. Public Disclosures may include oral disclosures, distribution or sale of materials or prototypes, public release of an academic publication, online information posting, etc. Please reference [Public Disclosure Before Patent Filing](https://arrowheadcenter.org/) for more information at <https://arrowheadcenter.org/>. Attach copies of all Public Disclosures, including slides for oral presentations. Please include an additional page if more space is needed.

| History | Yes / No | Disclosure Details / Venue / Comments |
|---|---|---|
| Have there been any publications related to this invention? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Was this invention or any derivative product offered for sale, sold, or used in the public? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Has a manuscript describing this invention been submitted for publication or dissertation? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Has it has been accepted for publication at the time of disclosure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Was a grant application of this invention submitted for review? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Has a description of this invention appeared online (conferences, abstracts, etc.)? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Was the invention disclosed to the public (poster session, presentation, lecture, etc.)? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| Are there any other Public Disclosures not previously mentioned? | <input type="checkbox"/> No <input type="checkbox"/> Yes, on date: | Copy Attached: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A NDA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |

☐ **N/A** - No Public Disclosures have been made relating to this invention

15. Planned Public Disclosures

List all planned Public Disclosures relating to this invention, including but not limited to the examples in Question 14 Prior Public Disclosures. Include planned disclosure date, venue, and whether or not an NDA is on file with the venue / attendees. Attach copies of any materials associated with the anticipated Public Disclosure, including slides for oral presentations. Please include an additional page if more space is needed.

| Date | Signed NDA | Disclosure Details / Venue / Comments |
|------|--|---------------------------------------|
| | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No | |

☐ **N/A** - No Public Disclosures are planned relating to this invention

16. Commercialization Preparation Activities

List all commercialization preparation activities you have participated in regarding product and customer discovery for this invention. Examples: Aggie I-Corps, Aggie Shark Tank, Arrowhead Business or Technology Sprints, NSF National I-Corps, etc.

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| What is the required investment to take this invention to a minimum viable product? | |
| How many months are required to take this invention to a minimum viable product? | |

17. Commercialization Potential

Explain the potential commercial applications of your invention and target markets. Please include an additional page if more space is needed.

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18. Known Competitive Products

List all known competitive products and their corresponding companies. Include an additional page if more space is needed.

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19. Competitive Advantages

Describe the competitive landscape and how this invention provides a unique advantage compared to existing/emerging solutions and capabilities, or how it addresses an unmet need. Include any technical / economic advantages this invention has.

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20. Licensing Opportunities

List any companies, entrepreneurs, or investors who might be or have expressed interest in commercializing/licensing this invention. Please include an additional page if more space is needed.

| Company | Details / Comments | |
|--|--------------------|--|
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| | | |
| Do you have plans to commercialize this technology by forming a startup company? | | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Is this technology currently encumbered? | | <input type="checkbox"/> Yes <input type="checkbox"/> No |

21. Additional Information

Provide any additional information that may be relevant to the evaluation of your invention. Please include an additional page if more space is needed.

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22. Inventors

List the names of everyone who made a significant contribution to this invention. Please list inventor names in the order that they would be published on a patent. If multiple inventors share the same percentage of contribution, traditionally the graduate student is listed first unless there is a preference otherwise. Inventor names should be complete legal names as they would appear on federal identification (such as a passport or license). Employment Status should be the employment status of the inventor at the time the invention was developed, and can include faculty, staff, and student. For students, please designate paid or unpaid graduate or doctoral student/assistant status. Contribution Types may include theory, experimental design, lab bench work, etc. Combined contributions should total 100%. Residential Address must be the address of a residence, not a commercial address. Please include an additional page for additional inventors.

| Inventor Information | Primary Inventor | Co-Inventor 1 | Co-Inventor 2 | Co-Inventor 3 |
|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Primary Contact | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Full Legal Name | | | | |
| Title / Position | | | | |
| Department | | | | |
| University / Institution | | | | |
| Employment Status | | | | |
| Contribution Type | | | | |
| % of Contribution | | | | |
| Primary Phone # | | | | |
| Alternate Phone # | | | | |
| Institution Email | | | | |
| Alternate Email | | | | |
| Residential Street Address | | | | |
| City | | | | |
| State / Territory | | | | |
| Postal Code & Country | | | | |
| Country of Citizenship | | | | |

23. Certification and Acknowledgement

By signing below, I certify that the information provided in this Invention Disclosure Form is true, accurate, and complete to the best of my knowledge. I acknowledge and agree to abide by NMSU's Intellectual Property Management and Commercialization Policy <https://arp.nmsu.edu/II-05/>.

Primary Inventor Signature: _____
Inventor Name

Date: _____

Co-Inventor 1 Signature: _____
Inventor Name

Date: _____

Co-Inventor 2 Signature: _____
Inventor Name

Date: _____

Co-Inventor 3 Signature: _____
Inventor Name

Date: _____

Return completed IDF to Office of IP / Tech Transfer, Arrowhead Center, NMSU: ip@nmsu.edu