

INTELLECTUAL AND MATERIAL PROPERTY PLAN

A. Intellectual Property (IP) Ownership and Management: IP ownership & management for the BioNORAD project will be governed by a formal agreement signed by all participating organizations specifying:

- 1) Ownership of any existing IP (background IP), such as Chattopadhyay, I. (2022). “Methods and systems for genomic based prediction of virus mutation” (Patent No. WO2022108965A1). World Intellectual Property Organization. URL: <https://patents.google.com/patent/WO2022108965A1>, will be retained by the originating organization.
- 2) New IP generated during the course of the project (foreground IP) will be jointly owned by the participating organizations, with the share of ownership determined by the contribution of each party to the development of the IP.
- 3) The participating organizations will identify a designated IP representative who will be responsible for managing IP issues and ensuring compliance with the agreement.
- 4) The agreement will include provisions for resolving disputes related to IP ownership and management.

B. Licensing and Commercialization: The participating organizations will develop a strategy for licensing and commercializing the foreground IP for the BioNORAD platform, considering the following factors:

- 1) Evaluation of potential markets and applications for the platform, primarily focusing on global health organizations, governments, and pharmaceutical companies.
- 2) Identification of potential licensees and strategic partners.
- 3) Negotiation of licensing agreements, including royalties and other financial terms.
- 4) Development of a patent strategy, including filing and maintenance of patents in relevant jurisdictions.

C. Commercialization Strategy:

- 1) **Intellectual Property:** The participating organizations will develop and maintain a strong IP portfolio for the BioNORAD platform. This includes filing patent applications in key markets and ensuring that the IP is properly protected.
- 2) **Market Size:** The target market for the developed technology will be global health organizations, governments, and pharmaceutical companies involved in pandemic prevention and response. This market is expected to grow significantly due to increasing awareness of pandemic risks and the need for proactive measures.
- 3) **Financial Analysis:** The financial analysis will include a detailed assessment of the potential revenues, costs, and profitability of the BioNORAD platform. This will include projections for product pricing, market share, and revenue growth, as well as estimates of development costs, manufacturing expenses, and other operating costs.
- 4) **Strengths and Weaknesses:** The commercialization plan will identify the platform’s strengths and weaknesses, as well as opportunities and threats in the market. This analysis will help the participating organizations to strategically position the platform in the market and address potential challenges.
- 5) **Barriers to the Market:** The commercialization plan will address potential barriers to market entry, such as competition, regulatory hurdles, and technology adoption challenges. Strategies will be developed to overcome these barriers and increase the chances of successful market penetration.
- 6) **Competitors:** The commercialization plan will include an analysis of the competitive landscape, identifying key competitors and their strengths and weaknesses. This will help the participating organizations to differentiate the BioNORAD platform and develop a competitive advantage.
- 7) **Management Team:** A strong management team will be assembled to lead the commercialization effort. This team will include individuals with experience in technology development, marketing, sales, and operations, as well as industry-specific expertise in pandemic prevention and response.
- 8) **Significance and Timeline:** The commercialization plan will outline the significance of the BioNORAD platform in addressing the challenges of emerging pandemic threats and the need for proactive measures. A timeline for the development and commercialization of the technology will be provided, along with milestones to track progress and measure success.

D. Intellectual Products Expected:

- ☐ Software implementations of Emergenet inference algorithm
- ☐ Generation of sequence data from the Emergenet models specyng novel strains expected to arise in future
- ☐ Patents filed by UChicago

Step-by-Step Guide for Inventors

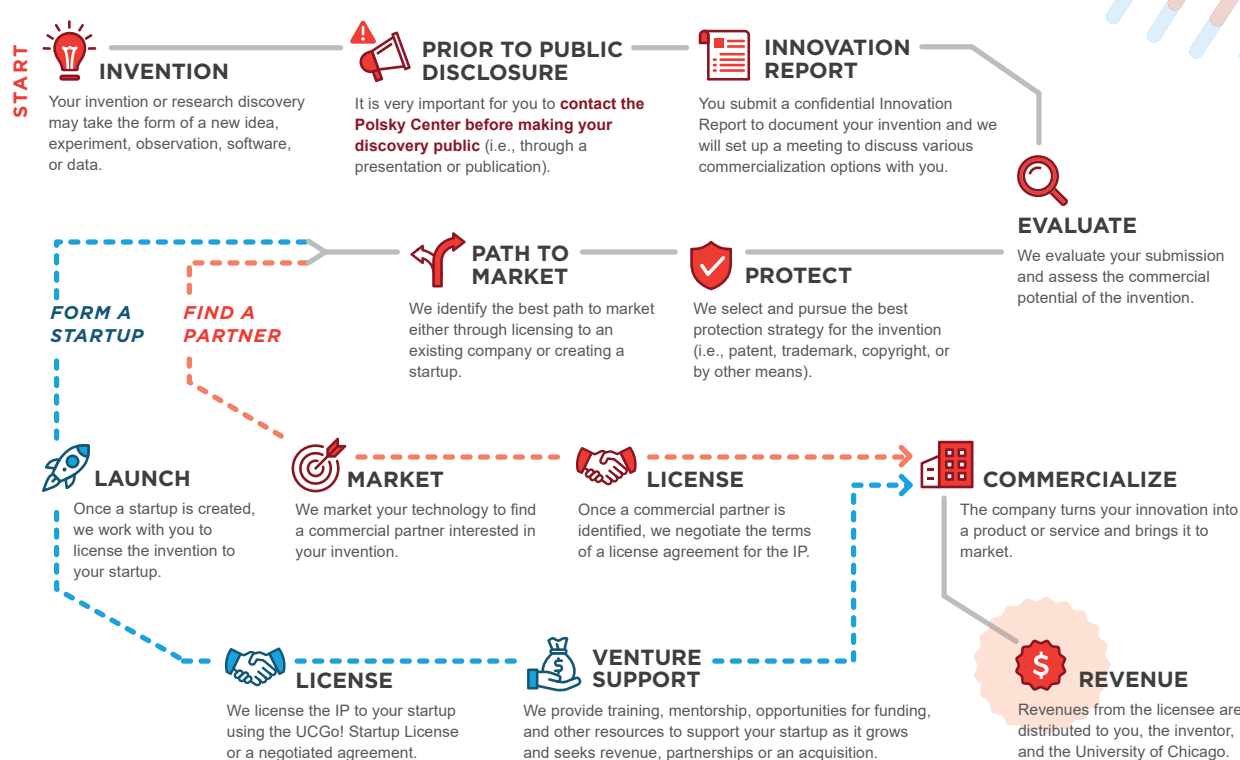


Fig. 5. Inventor pathway to commercialization at the University of Chicago

E. Inventions and IP Rights at The University of Chicago: The University of Chicago is committed to the open and timely dissemination of research outcomes. Investigators in the proposed activity recognize that promising new methods, technologies, strategies and software programming may arise during the course of the research. The Investigators are aware of and agree to be guided by the principles for sharing research resources as described, for example, in the National Institutes of Health "Principles and Guidelines for Recipients of NIH Research Grants and Contracts on Obtaining and Disseminating Biomedical Research Resources".

While the investigators expect that research tools will be freely shared with the research community, opportunities for technology transfer through commercialization will be explored as appropriate. At the University of Chicago, its Polsky Center for Entrepreneurship and Innovation manages intellectual property (IP). The Polsky Center for Entrepreneurship and Innovation manages all technology transfer operations at the University of Chicago (See Figure 5).

Our Polsky Science and Technology group serves as the central resource for transforming groundbreaking ideas and faculty discoveries into new products, services, and ventures. We have a dedicated team of scientists with deep technical expertise who are exclusively focused on managing intellectual property and negotiating partnerships and licenses for technologies developed by faculty, researchers, and staff. The Polsky Center serves faculty, staff and students by commercializing inventions, ideas and software developed at the University to ensure that new knowledge benefits society. Revenues from any commercial licenses will be shared with the inventor and reinvested in the research enterprise.