



Executive Summary

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Company Overview

Knowbella Tech is an open science collaboration platform that makes researchers lives better and helps technology companies build and source extraordinary talent in science, technology, engineering, and math (STEM). We accomplish this by matching researchers to intellectual property (IP), collaboration tools, grant funding, lab equipment, manuscript development tool, preprint server, and Helix tokens that help them advance their careers in ways otherwise not possible. The Knowbella Platform™ will provide economic incentives for researchers to contribute, collaborate and open source IP for discoveries and innovations.

Key strategic partnerships are under development with many institutions that will provide significant IP. There are agreements underway with scientific organizations that will add value to their millions of members by creating awareness to the Knowbella Platform. These partnerships will fuel and rapidly accelerate the Knowbella Platform's growth.

Problem and Market Opportunity

Due to a shortage of science, technology, engineering, and math (STEM) researchers, universities and companies are struggling to fill critical positions within their organizations. One estimate says, "60 percent of U.S. employers are having difficulties finding qualified [STEM] workers to fill vacancies at their companies."¹ This creates a market that should favor scientists, but frequently does not.

With a global shortage of STEM workers, technology companies are in fierce competition to attract world-class talent and can no longer afford to recruit in an on-demand or a just-in-time process. Just as professional sports teams start scouting for star players months and years in advance, tech companies must start scouting and recruiting their future star players years in advance or risk losing to the competition. Current professional networks (like LinkedIn®) have mostly passive users with stale profiles, only updating when they are looking for a new opportunity. Compounding this problem, there is a trust problem since users are free to promote any persona they wish to the network, which can severely encumber the recruiting and vetting process.

From a market perspective, global annual R&D spending is approximately \$2 trillion.² Billions of dollars are wasted each year to solve problems that have already been solved and to conduct experiments that have already been conducted. Additionally, much of research is conducted in corporate and institutional silos, and information sits behind large publisher paywalls denying access to the underserved researchers (especially in Asia, Latin America, Africa, etc.). Furthermore, there is an estimated \$4 trillion of idle intellectual property languishing in institutions, universities, and companies around the globe.³ Knowbella's open science platform will address these issues primarily through unlocking the global idle IP and knowledge and providing researchers the tools and opportunities to work together to advance science, their careers, and create a significant social impact.

Product

The Knowbella Platform freely provides IP, tools, and services that enable scientists to, connect, share, and collaborate. Users will opt-in and be paid in Helix tokens to build and enhance their professional profiles through Knowbella's proprietary profile modeling tool (solving the previously mentioned "LinkedIn®" stale profile and trust problem). The

Platform provides researchers an ability to gain access to IP and areas of research that they are passionate about. The Platform also gains them exposure to key thought leaders and other researchers they otherwise may not have access to.

Just as GitHub® provides the global developer community tools and services to collaborate on open source software projects, Knowbella provides the global research and STEM community tools and services to collaborate on open source technology projects. Scientists can start with existing IP and develop it (or “fork” it) into new directions and applications. The IP remains open and may be developed further thereby expanding the potential and value of the original IP with a network effect.

By providing open IP on the Knowbella scientific crowdsourcing platform, researchers can work together to advance science, collaborate with like-minded scientists, gain exposure to the areas of science they are interested in, and attract companies that they would like to work at. This is especially valuable when a researcher wishes to expand their career in a different direction than their current employment.

The Knowbella Platform puts the researcher at the center of research and provides economic rewards (Helix tokens). Researchers are highly incentivized to help grow the network through our Helix token rewards system. They are rewarded for referring colleagues to the Platform, adding content, starting and working on projects, publishing to the preprint server, etc. The Helix tokens and grant funding are managed by smart contracts and the underlying Ethereum blockchain technology. Researchers accumulate Helix through collaborating on the platform and can use it as an in/out of network currency for goods and services, or they can trade for fiat currency on a U.S. Securities and Exchange Commission (SEC) regulated alternative trading system (ATS) exchange. The Helix token is tied to Knowbella equity where users can gain company shares (equity) and participate in a positive Knowbella liquidity event. Thus, researchers are highly invested and incentivized to grow the Platform to increase their Helix holdings value.

Business Model

Our platform business model will provide a scientific ecosystem that attracts users and producers to interact and develop valuable data, analytics, and innovations. The “open” model has proven to be successful with other industries such as Redhat® and Linux in open source computer programming. The Knowbella Platform will be an open repository for IP (as GitHub® is with open source projects); and, as a platform, we match IP producers (inventors/authors) with IP consumers (researchers/scientists).

There are other similar models. For example, Wikipedia™ enables anyone to participate in the creation and update of encyclopedia entries. The entries are vetting and accepted, modified, or rejected by the community. Unlike Wikipedia™ and similar to GitHub®, Knowbella’s business model offers researchers and companies a choice: They can use the collaborative platform for free as a place to further IP and technology development, or they can pay to use it behind a private wall. The private area is part of Knowbella's white-label product where enterprises can develop proprietary technologies that form part of a commercial product or service. However, in the case of white-label Platform version, the enterprises are not free to work with the open IP covered under the CC TOS. Any IP freely offered to the community must remain open and free to use to the entire community.

The enterprise white-label version involves clients gaining a private version of scientific collaboration Knowbella Platform that lives locally on their own servers. It can be priced in the millions of dollars per year. Enterprise clients could include Boeing®, Intel®, 3M®, Proctor & Gamble®, and any company that has research efforts.

Once we have collected the users within the Knowbella Platform, the Company seeks to (1) provide match-making services between corporate recruiters and scientists who have chosen to be recruited (OPT-IN), 2) analytics for sale to for-profit companies (“what science is ‘hot’”), and (3) strategically select and further develop assets from the community.

Revenue Model

Although the Platform is free to all users, technology companies that innovate and hire STEM talent will purchase access to the Knowbella Platform. With access to the Platform, they can source current talent as well as build brand, nurture relationships, and pipeline future STEM talent. Knowbella will also generate revenues through ad sales (job board, product, and services, enterprise white-label product, as well as through spin-off companies emerging from technologies developed on the Platform.

Core Team

Mark Pohlkamp (CEO); BSME, University of Missouri; MBA, Xavier University

He has over 25 years of engineering technology sales in early-stage and pre-revenue start-up companies as well as 8 years in IT staffing, recruiting and consulting. He was a top-producer consistently breaking revenue records, leading and evangelizing new tech sales. His experience in closing multiple large-scale deals up to \$12M, building and managing large-scale teams helped him launch and exit a healthcare IT recruiting & staffing firm that achieved \$60 million in revenues within four years. His experience includes an Autodesk spin-off (engineering collaboration tools) and an innovative research reference materials start-up that went on to be acquired by Elsevier for \$20M+. Mark started his career as a mechanical and aerospace engineer for Boeing Airplane Company. Knowbella is the capstone of his career capitalizing on his extensive experience in the software engineering, research, and human capital industries. Mark attended the University of Missouri on a swimming scholarship and graduated with a bachelor's in mechanical engineering. He went on to earn an MBA in marketing and sales from Xavier University.

Jason E. Barkeloo (COO and Founder)

The Founder and Board Chair of Knowbella Tech and its sister company, Open Therapeutics. He developed the concept of crowdsourcing the global scientific community nine years ago after two previous startups and exits. Knowbella Tech was founded in 2016 with the mission of crowdsourcing non-therapeutic scientific intellectual properties. He completed a US Army career including as laboratory operations officer of the Walter Reed Army Institute of Research; BA, Ohio State University; MA, Antioch University. Ph.D. work, but departed before dissertation to launch his first startup.

Martin Koistinen (Consulting Director, Software Engineering)

Martin has 25 years of software engineering experience spanning areas such as; Biometrics, Blockchain, Cryptography, Information Security, Machine Learning, Risk Management and more. Holds a US patent related to smart cards and PKI and has more patents pending. He has led cutting-edge projects for the public sector (US and European) as well as for multinational and Fortune 500 companies across the Telecom, Energy, Financial, and Travel sectors. Martin attended Austin College as an honor student and studied Mathematics, Physics and Computer Science.

Laura Cannon (Consulting Project Manager)

A start-up specialist with over twenty years of experience in media and technology, with a career defined by leading edge emerging technologies from the early days of the web to digital payments. She brings an exceptional blend of strategic, creative, and organizational proficiency that has been instrumental in the success of innovative organizations and their clients. She thrives on solving problems, making connections, finding creative solutions, and bringing separate elements together into something that did not exist before. BA, University of Colorado, Boulder.

Competition

Knowbella has a few competitors (and validators) that offer components of our Platform such as peer review tools, manuscript development tools, innovation challenges, collaboration tools, etc., but there is no one-stop shop that offers an end-to-end ecosystem with free IP and a Helix reward system. We see many opportunities to partner with potential competitors since each has a focus on unique niche areas. See Table 1.

Company	Their Core business	How we are different /better
Innoget®	innovation challenges for developing IP	Free IP, Helix tokens, end-to-end scientific ecosystem
Research Gate®	Enables collaboration around post-published papers	Free IP, Helix tokens, end-to-end scientific system
Biowebspin SA	scientific, biographical information	Free IP, Helix tokens, end-to-end scientific eco system
ScienceRoot	blockchain-based scientific research ecosystem; token issuer	Free IP, lab equipment, manuscript development tool preprint server
Frankl	blockchain-based scientific data archive; token issuer	Free IP, grant management, lab equipment, manuscript development, preprint server
Katalysis	blockchain-based peer review process	Free IP, Helix tokens, end-to-end scientific ecosystem
ARTIFACTS	blockchain-based for proving IP ownership	Free IP, Helix tokens, end-to-end scientific ecosystem
Open Science Framework (OSF)	Scientific collaboration and manuscript development	Free IP, Helix tokens, grant management tool, lab equipment, preprint server

Table 1: Competition and Market Validations

Financing and Milestones

Through a Regulation A+, Tier 2 offering, Knowbella will offer \$50,000,000 in Helix security tokens. Knowbella will limit the public offer of only \$16,700,000 to global investors and reserve the balance \$33,000,000 of Helix tokens to reward IP users and their activities that grow the platform. Below is an overview of our financing rounds. See Table 2.

Round	Closing	Runway Through	Amount	Status	Milestones
Pre-seed	May 28, 2018	August 2018	\$205K	Closed	SEC Reg A filing, financials, audit, website, whitepaper, advisory board
Seed	Mid-July 2018	Sept 2018	\$795K	Open	Alpha launch, MVP, CF prep and offering
Reg CF*	Sept 2018	Feb 2019	\$1M	Future	Platform development, Marketing/PR Reg A offering
Reg A	Feb 2019	2021	\$16.7M	Future	Reg A offering, continued platform development; attract IP and users

*Reg CF round will cover any shortfall in the seed round raise

Table 2: Financing and Milestones

Comparables

Platform business models have the highest multiples (average 8-10x for mature platforms and 20-30x+ for an early stage with high user growth rates). Sixty-percent (60%) of “unicorn” companies are platform business models.

The Knowbella Platform combines many of the existing platform business models such as professional networks (LinkedIn®), open source collaboration (GitHub®), social platform (Facebook®), content sharing platform (YouTube®), and asset sharing platforms (Uber® and Airbnb®). We were unable to find open science platform businesses that were recently acquired. Open scientific platforms are a new space with enormous potential, especially when leveraging IP and blockchain technologies. Listed below are “comparable” platform business models and their acquisition multiples. Also, listed are platform businesses that have not yet been acquired and their current valuations and/or capital raise amounts. See Table 3.

Acquirer	Acquired	Acquisition Price	Revenue at Acquisition	Revenue Multiple	Acquired	Product Category
Microsoft®	LinkedIn®	\$26B	~\$2.99B	8.69	June 2016	Professional network platform
Microsoft®	GitHub®	\$7.5B	~\$110M	68	June 2018	Open source platform
Google®	YouTube®	\$1.65B	~\$15M	110	Oct 2006	Content sharing platform
Google®	Waze®	\$1.3B	~\$50M	30+	Aug 2015	Crowdsource mapping
Yahoo®	Tumblr®	\$1.1B	~\$12M	92	June 2013	Social networking blogging
Facebook®	Instagram®	\$1.3B	\$0	∞	April 2012	Social platform

Table 3: Comparables

Other Platform Comparables and Valuations

(*Based on professional estimates)

Company	Year	Valuation	Revenue	Revenue Multiple	Category
Beamery®	2018	\$35M funding	N/A	N/A	CRM for recruiting a future workforce
Research Gate®	2017	\$660M	\$5M*	132	Scientific research and publishing platform
Upwork®	2017	~\$1B	\$100M*	10	Freelance gig worker platform
Uber®	2017	\$70B	\$7.5B	10	Transportation sharing platform
Airbnb®	2017	\$31B	\$2.6B	9.3	Lodging sharing platform
Fiverr®	2017	\$700M	\$20M*	35	Freelance gig worker platform
Facebook®	2017	\$500B	\$40B	12.5	Social media platform

Citations

¹ STEM Education Coalition, STEM Education, Good Jobs and American Prosperity; Recommendations to President-Elect Donald J. Trump and the Transition Team, November 2016. Accessed July 6th, 2018, at <http://www.stemedcoalition.org/wp-content/uploads/2016/11/Note-Memo-to-President-Elect-Trump-Transition-on-STEM-Issues-11-28-16.pdf>.

² Zuber, Maria T., Souvaine, Diane L., Science & Engineering Indicators, 2018 Digest, National Science Board, 2018 at <https://www.nsf.gov/statistics/2018/nsb20181/assets/1407/digest.pdf>.

³ Hovis, Jeff. “Orphan” Technologies...Leaving Four Trillion Dollars in Value on the Shelf, ISPIIM Innovation Insights, Product Genesis, April 2014. Accessed at <https://drive.google.com/file/d/0B-Q3IOKo9thgMDkxcmhDMFFJZHM/view>.