MIRNOVA Prospectus

24.May.2018

Mirnova Academy and Foundation (programs in education and communication)

Mirnova (r)Evolution Ventures (for-profit technology company)

Mirnova Institute for Creative and Innovative Science (fundamental research)

Mirnova Holdings (asset and resource management)

This prospectus introduces and summarizes what we do, how we do it, what we offer, and how we deliver it.

MIRNOVA commenced its existence and operations in May, 2017 with the integration and consolidation of several projects, initiatives, technologies, and corporate ventures, both for-profit and not-for-profit. These components included the Institute for Innovative Study (non-profit) and TetraDyn (TETRAD Group), a suite of closely-coupled technology companies and their intellectual properties and commercial product lines.

Now, in May, 2018, we stand poised to commence significant activities that pertain to each of the four MIRNOVA components (listed above). This document simply lists what we have and what we are doing. We are seeking partners, backers, investors, sponsors, clients, customers, and active participants who may become members of our boards, executive management teams, and technical staff. Our focus is presently upon the products within the for-profit company we have initiated, Mirnova (r)Evolution Ventures, the educational and communication activities of the Mirnova Academy, and the research programs of the Mirnova Institute for Creative and Innovative Science, particularly the central project, NeoPlexus, which is a direct outgrowth and a supportive pillar for all our initiatives and goals. Our scope and range of activity and application is diversified across multiple fields of science, technology, engineering, art and mathematics. This is quite deliberate, intentional, functional, focused. In isolation, each project, each program, each technology, each product (both actual today, and potential for tomorrow) stands as a sufficient basis for an excellent, healthy, sustainable, free-standing business organization, both in the non-profit and for-profit sectors. Together, closely and intelligently combined in an organic, systemic, logical manner, these components create a powerful synergy that is stronger and more fruitful than as an individual unit, and offering secure and sustainable outcomes, for both investors and humanitarian partners, that are greater than the mere sum of the parts.

§1 Mirnova Academy has today a functioning program offering education in select STEM topics that pertain principally to agriculture ("smart farming"), energy and environment, for students of all ages and levels (from middle-school to post-graduate continuing education), and employing hands-on plus online learning, training, experimentation, and direct contact and experience through apprentice-type programs in production businesses and research laboratories. The program grows directly out of prior projects conducted by Mirnova team members, and particularly from advanced teaching methods developed in the fine arts by the International School of Visual Arts in Moscow. The program is closely coupled with other Mirnova initiatives and activities including the Cues and Cubits program (described in §2) and the EcoVita program and the AgriBrains educational product developed and marketed by Mirnova (r)Evolution Ventures (described in §5). The focus of activity is in Austria, Russia, Italy and Morocco with seed-activities underway in other countries.

§2 Mirnova Academy is today engaged in a high-growth business partnership with Vienna-based Candeed Cue. There are two major facets to this activity: (1) the provision of advanced STEM consulting services, at both management and technical levels, and (2) the production of science and art communications for both professional organizations and the general public, through the medium of electronic documents ("Cues" and Cubits) and in-person seminars, lectures, and workshops. This activity is presently highly focused upon two areas of STEM – "quantum technologies" (quantum computing, quantum communications, quantum simulation, quantum metrology) and "smart farming" (precision sensing, monitoring, control and optimization using networks of commercially-available, platform-independent and internet-enabled modular devices. Among the first of these is S-Water ("Smart Water"), which enables mobile-device monitoring and control of irrigation and its power source, water source and distribution units. The use of Cues are for both education and training across an open spectrum of learners including STEM researchers and developers and also artists and artisans.

§3 Mirnova Foundation is in the process of becoming established as a foundation dedicated to the support of Mirnova Academy and through an endowment fund and management of sponsor contributions, grants, and other sources of income that are dedicated to education, research and communication in the sciences and the broad S.T.E.A.M. spectrum supported by the Academy and the Institute. The Foundation will also engage in awarding of special scholarships and honoraria to outstanding students and mentors associated with Mirnova programs. Presently all Foundation activities are conducted directly by Mirnova Academy.

§4 Mirnova Institute for Creative and Innovative Science (ICIS; formerly the Institute for innovative Study), in conjunction with Mirnova (r)Evolution Ventures, has a special long-term project known as the LIBRARIUM. This makes use of technology developed within Mirnova entities and elsewhere, including the CUBIT architecture (described in §5), for the ongoing construction and sustaining of a digital electronic library (along with extensive physical publications including rare books), which is designed for the unique purpose of preserving and sustaining knowledge of specific scientific and technological research histories, approaches, methods, models, styles, and findings, pertaining to core technologies for civilization continuity and sustainability. The LIBRARIUM is building a resource of not only documents and assembled, collated, organized facts, but a practical step-by-step collection of training models and tools that can be used by anyone in the present or future, for "how to pick

up where anyone previously may have left off, without having to repeat the mistakes and detours but get directly into the right path leading forward to innovative results."

§5 Mirnova (r)Evolution Ventures (M_rEV) is focused upon production, marketing, sales and support of the following products:

These first four are mature and ready:

AgroIntel - modules, software and knowledge-ware pertaining to control and optimization in farming and gardening, both commercial (small and large scale operations) and private. AgroIntel is the technology product. AgroBrains is the training service component. The full scope of AgroIntel may be termed as follows: an intelligent agent-based distributed network employing the internet, cloud and synthetic intelligence, for smarter ways to plan, organize, design, and operate farms of all types and scales, by persons who are not inherently technology-specialists but farmers and food production operators. AgroIntel, along with future counterparts focused principally on smart energy (IntelErgy) and smart environmental management (IntelEco), collectively comprise a STEM family of products and services known as EcoVita.

CUBIT – knowledge constructor sets and kits consisting of informational objects ("cubits") that comprise together an open, unbounded universe of knowledge objects and the logics (relations, functions) for associating them in ways that enable the user-builders to construct imaginary, hypothetical, and plausible networks that comprise different types of knowledge engineering. Cubits can be employed for basic learning, for skill training, for research and development at all phases and levels, and for product design, engineering and implementation. Cubits include synthetic-intelligent agents that enable the discovery and invention process and assist human users. Cubits are informational, implemented through data and programs, and they also have optional physical components for creative artistic design expression, and these are known as qoins (described in the next subsection). Cubits are also the technical medium for information and control logic implementation in the entire EcoVita suite of products including AgroIntel.

Qoin – a product for the mass-market that brings a radically different approach to sharing information including thoughts, feelings, emotions, sensations, and other personal experiences. Qoin employs personalized and personalizable icon-like, symbol-rich objects that are used in people's everyday lives and without the security risks or other costs of employing conventional digital electronic devices and their technologies. Qoin enables people to have information-rich experiences that provide understanding and feeling of the phenomena associated with such STEM-intense themes as quantum entanglement, quantum superposition, and interpersonal resonance and coherence, all through the very tangible and common-sense medium of beautiful artistic objects and modes of use and communication.

STEAM-Works – Consultation services focused upon the integration and engagement of ideas from, between and among artists and scientists and other techno-engineering professionals, serving the corporate, academic, and governmental sectors with the highest quality of professionalism. This product is conducted jointly with Mirnova Academy and its partner, Candeed Cue.

These next four are in development and in order of technology readiness from short-term to longer-term:

SELDON Prediction Engine – the direct consequence of CUBIT operating on a large scale with order-10^{10} data objects and order- 10^5 cubits and order- 10^6 occasional users. Within SELDON are product elements known as predictors (these are agent-assisted functions for generating predictions directly relevant to user interests and goals) and validators (these are agent-assisted functions for validating particular data, including public-origin and internet-origin news, as being truthful or with dubious content). This product is currently within the mid-R&D stage, conducted by the Mirnova Institute (ICIS).

CryptoFutures – a system for mass-market use whereby a person may obtain options contracts for the future purchase of particular items or services that are offered for sale through commercial venues such as Amazon and Alibaba. The principles are not dissimilar from options trading in the equity shares and commodity futures markets. This product is currently within the mid-R&D stage, conducted by the Institute (ICIS).

iBank – a system for extraordinarily secure and non-decryptable banking and trading of information objects that are treated as sellable, tradable securities. The model is that of private banking as it has been historically practiced for centuries. The currency of exchange and trade value is not a formal currency, nor a cryptocurrency, but unique private blocks of information on a wide variety of topics (business, social, personal, scientific, financial, cultural, political, etc.). The function of the iBank is to preserve the safety, security, privacy and unique individual ownership and proprietary holding of the information object in trust, and to manage professional brokering and trading functions on behalf of the information-security owner, including the handling of sale transactions. Such transactions may be compared to private and anonymous auctions, bartering, and direct sales in other commodities including both traditional and non-traditional currencies. This product, currently in the mid-R&D stage, is conducted directly by the company (M_rEV).

NeoPlexus – the product goal of this mid-stage R&D project, conducted by the Institute (ICIS), is a commercial device and software, the Generalized Computing Machine (GCM). This is described in §6.

§6 Mirnova Institute for Creative and Innovative Science (ICIS; "the Institute") is conducting and coordinating a major long-term open-ended research project known as NeoPlexus. That is the project-name given to the Generalized Computing Machine (GCM), a topological-basis processing architecture designed principally to address problems of the type known as Extreme Complex Systems (XCS), characterized by uncertain or undefined state-spaces, non-linearities, superpositions, catastrophe functions, chaotic attractors, and other problem-phenomena for which Turing-type computing machines (including contemporary qubit-based "quantum computers") are not designed, or inadequately enabled, for executing and solving. NeoPlexus as a programme brings together several highly-accomplished research scientists and teams, plus research facilities, in Austria, Russia, and Italy, with additional and expected participants in other countries of Europe, Asia, and North America. The theoretical foundations for the GCM have been extensively studied and explored by the members of this progenerative team, and now the project is ready for the next phase which involves an extensive new round of simulations and experiments and the physical implementation of working prototypes. Also within the scope of NeoPlexus is the application of the GCM, in both its simulation stage and as a physical machine, to tasks using the CUBIT knowledge constructors and information resources, for next-stage development of synthetic intelligence algorithms and agents that embody and execute those algorithms.

§7 Mirnova Holdings is a private trust enterprise designed to manage assets including real estate, equipment, and other firm, fixed, permanent resources, pertaining to the other Mirnova entities and to individuals who are closely involved with Mirnova in different capacities. Currently there are several assets pertaining to real estate, fine arts and the core collection of materials comprising the physical holdings of the Mirnova LIBRARIUM.

§8 Mirnova is a family of for-profit and non-profit entities that comprises an organic suite of highly coupled, integrative and mutually supportive activities within the S.T.E.A.M. domains. The precise choice of focal areas for research, education, communication, and commercialization, and the organizational structure as described in §1 through §7, reflect years of experience, analysis, reflection, and focused vision toward goals of creating an ecosystem for science and the arts to flourish with both independence and collaboration, with no external imposed boundaries due to politics or economic leveraging, with freedom from imposition of orthodoxies and conventional thinking within the arts and sciences, and with dedication to accuracy, precision, consistency, and all aspects of truth. Mirnova is itself a project in scientific method, discipline and practice. It is a program in socioeconomics with dedication to serving and enhancing the capabilities of people everywhere to participate in the Creative Human Adventure of learning, discovery, invention, and innovation.

MIRNOVA

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