



The purpose of this document is to provide interested third party investors a detailed overview of the current business plan and prospects for Nanocopoeia. The Company has also developed detailed financial models depicting their forward looking fiscal performance over the span of the next five years. The biographies of Senior Management and Board members along with the aforementioned financial model are included in the Companies full business plan, which is available upon request.

Company Description

Nanocopoeia is a drug delivery company developing a nanotechnology enabled portfolio of fast – to – market dermal and transdermal therapeutic products. Our business model is to enhance the value and performance of off-patent, already-proven drugs by creating novel nanoformulations optimized for delivery into and through the skin. The two lead products are **Meloxicam Transdermal Patch**, a non-steroidal anti-inflammatory drug (NSAID) nanoformulated for topical delivery of systemic pain relief and **Minocycline Topical Gel**, an antibiotic nanoformulated for treatment of chronic, inadequately controlled acne.

These drugs and the target indications were selected because they (1) use the unique capabilities of the company's nanoscale material production technology to reformulate the drugs, delivering them in new ways, and making them work better for their intended purpose (2) address substantial unmet clinical needs and (3) represent an opportunity for an accelerated path to market using the 505(b)2 FDA approval process.

The Company's business development strategy is to:

- Identify fast-to-market opportunities for topical drug formulations of drugs already in clinical use (previously approved by the FDA),
- File the necessary preclinical and manufacturing data for each drug formulation candidate product to support clinical testing under an Investigational New Drug (IND) application, leading to a New Drug Application (NDA), using the 505(b)2 pathway and previously filed data of the original developers, and
- Advance the drug product into Phase II clinical trials prior to out-licensing the drug to a pharmaceutical partner for commercialization.

This strategy is based on the premise that significant step-ups in valuation occur when innovative products with strong intellectual property (IP) and active INDs advance along a defined path to regulatory approval—providing Nanocopoeia the opportunity for a much higher return on investment in a shorter timeline for this product development strategy.

Critical to this strategy is the identification of the appropriate drug candidates. The cost of development for a new drug formulation NDA and the time to filing can be minimized via use of data already in the possession of FDA regulators. This development strategy recognizes the reality that in the current pharmaceutical marketplace, major pharmaceutical companies actively seek pipeline products to license from development companies like Nanocopoeia. Those large pharmaceutical partners will acquire the products and carry them from Phase II to approval and into the market. In exchange for the higher value placed on those compounds and the companies developing them, the pharmaceutical licensing partners demand that the products they acquire must have substantial risk removed prior to licensing. Demonstration that solid, tangible development milestones have been achieved, in most cases through Phase II clinical trials, is required.

Nanocopoeia's product development program is supported by a strong technology base. We are commercializing a pipeline of therapeutic compounds using the pharmaceutical applications of our superior ElectroNanospray™ (ENS) nanoparticle production technology. Exploiting this proprietary production technology, together with our systems for enhanced topical delivery, creates a portfolio of new therapies for skin and special needs conditions poorly treated by traditional delivery routes. The company will differentiate itself in the market by demonstrating the flexibility of its nanoformulation and skin delivery technology to speed improved versions of established drugs to market. Time to market will be substantially shortened by focusing on generic drugs in reformulated delivery versions that can be rapidly submitted as an IND filing for clinical trials and approved as a NDA using the FDA's 505(b)2 pathway, leveraging prior investments by others in demonstrating the drug's safety and efficacy.

We produce novel formulations of drugs previously proven in clinical use but not available for delivery via topical preparations.

- **Meloxicam Transdermal Patch, our lead product, addresses the \$5.7billion market opportunity targeting the systemic treatment of chronic pain.** It represents a new treatment option that takes advantage of nanoformulation and Nanocopoeia’s demonstrated capability to engineer rapid-releasing, drug-eluting films via the ENS process, to provide faster onset of action. This works together with our enhanced dermal penetration patch technology to optimize both rapid and sustained release of meloxicam.
- **Minocycline Topical Gel, our second product, targets the \$ 5 billion market opportunity for treatment of acne.** This product addresses chronic, poorly controlled acne with a novel formulation of the antibiotic minocycline. This will represent a new treatment alternative for poorly controlled acne before advancing to oral minocycline or potent retinoids like isotretinoin (Accutane®, Roche) and their associated toxic side effects.

The combination of these first products will demonstrate Nanocopoeia’s ability to deliver new formulations of existing drugs both to and through the skin (dermal and transdermal products). It also delivers first products to an NDA regulatory filing within three years.

Technology (Production Techniques)	Representative Companies	Approximate Lower Size Limitation of nano-materials produced	Other Characteristics
<i>ElectroNanospray™</i>	<i>Nanocopoeia</i>	<i>30 nm</i>	<i>Coated particles Purity Uniformity</i>
Super Critical Fluid	CritiTech, Nektar , Aphios	100 nm	Requires secondary processing for sizing and coating
Wet Milling	Elan, Nektar, Acusphere,	100 nm	Requires secondary processing for sizing and coating
Synthesis with lipids/liposomes	Azaya Therapeutics Northern Lipids, Tekmira	60 nm	
Self Assembly	Intradigm Starpharma, Insert Therapeutics	50 nm for these techniques	Generally multistep processes to remove the organics
Carriers	pSivida, Keystone Nano	pS - Not reported KN – 5 nm	Silicon and calcium phosphate carriers
Solvent Precipitation	Baxter (Nanoedge)	300 nm	Multistep process; microprecipitation followed by homogenization to reduce size
Specialty	Bind Biosciences	50 nm	Has active and passive targeting.
Inkjet atomization	Picoliter, HP, Canon	1 µm	Large particle sizes

Nanocopoeia is seeking a \$10.0 million Series “A” round of financing that enables the rapid development of a pipeline of re-formulated therapeutic products. These products are designed to address current and future markets representing large unmet drug delivery needs with a fast time to market. The Company’s business plan lays out the development path for the first in a series of products Nanocopoeia intends to develop in the execution of our drug delivery business model.

The use of proceeds from this financing will support the entry of these two lead products into clinical trials under an IND, including staffing and facilities, and out-sourced development services wherever these can be used. The senior management team will be expanded by recruiting additional executive staff with pharmaceutical business development expertise. Key personnel from the team for nanoparticle production development will be complemented with the technology team that developed the skin delivery technology, as well as other key additions to support the necessary quality systems. The facility resources will be expanded with a clean room addition, scaled-up manufacturing equipment and the necessary supporting quality-control analytical tools.

Item	(\$000's)
Facilities	\$500
Equipment	\$500
Product Development	\$2,000
Intellectual Property Protection	\$300
Testing and Clinical Trial	\$5,000
Regulatory	\$500
Staffing	\$500
Other Working Capital	\$700
Total	\$10,000

The near-term, strategy of moving the first two products rapidly forward into a time- and cost-efficient clinical development pathway proves the value of the delivery technology for both topical and systemic delivery of drugs and creates early harvest opportunities for the lead compounds.

The long-term value proposition of this investment is represented by the breadth and scope of the market opportunities addressable with the company’s unique delivery technologies. Nanocopoeia can become a product development engine creating a robust pipeline of products improving drug performance and new delivery options based on our core technology.

Company History and Overview

Nanocopoeia, Inc. was originally founded to exploit commercial applications for ElectroNanospray™ (ENS), a nanoparticle production technology developed at the University of Minnesota. The technology uses an electrospray process to produce remarkably uniform, ultra-small, nanoparticles. These particles, ranging in size from 20 - 200 nm (a nanometer is 1 millionth of a millimeter), exhibit novel physical, chemical and biological properties compared to larger particles produced by existing industrial processes. The potential benefit of drugs that are formulated into nanoparticles include 10-fold or greater improvements in bioavailability, increased speed of action, and the possibility of new, more convenient delivery routes than traditional oral or intravenous administration.

Nanocopoeia has the exclusive worldwide rights to commercialize this enabling nanoparticle creation technology through a fully paid up license granted by the University of Minnesota. In addition to the existing patents, Nanocopoeia owns outright all improvements made to the technology developed in the Company labs by the terms of that agreement and the additional patents and patent applications that have been directly filed in the Company’s name.

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Nanocopoeia is currently located in 6,000 square feet of mixed laboratory and office space in a technology incubator facility in St. Paul, Minnesota. The space is expandable as needed and it is anticipated that this facility will be sufficient to accommodate operations for the foreseeable future. A clean room addition to the existing facility is planned as a use of proceeds from this round of investment.

Since their incorporation in 2001, Nanocopoeia has received approximately \$4.0 million in seed and bridge funding from local investors, the founders, and the University of Minnesota. This investment capital has been leveraged with \$2.3 million of Small Business Innovation Research (SBIR) grants from both the National Science Foundation (NSF) and the National Institutes of Health (NIH). This money has been used to advance the technology and develop the production process to a pre-commercial scale and proof of technical practice. We are now poised to begin implementation of our product development strategy.

Corporate Focus and Strategies

Nanocopoeia's mission is to become a drug delivery company specializing in nanoformulation of therapeutic drug products. Nanocopoeia's corporate strategy is to develop a pipeline of proprietary, fast-to-market, therapeutic drug products, formulated using our proprietary ElectroNanospray™ (ENS) process and a skin penetration enhancement system. We enhance the value and performance of off-patent, already-proven drugs by creating nanoformulations optimized for delivery into and through the skin.

We differentiate our business by leveraging our team's process expertise and technology solutions to create high value formulations with a straight-forward, rapid path to regulatory approval and market launch. This represents a strong, strategic value proposition where Nanocopoeia develops its pipeline of products demonstrating the flexibility of our nanoformulation and skin delivery technology to speed improved versions of established drugs to market. A return on this investment is created through (1) acquisition of individual products via licensing at Phase II or beyond in clinical development by a large pharmaceutical company or (2) acquisition of the company at the point when Nanocopoeia has established a viable portfolio of drugs that expand the product pipeline of an acquirer. Both scenarios are supported by moving products forward through initial regulatory filings and into clinical development.

Creating nanoformulations of therapeutic drug compounds is recognized throughout the pharmaceutical industry as a means to enable alternative routes of delivering drugs for therapeutic purposes. At the core of Nanocopoeia's business model is our ability to create novel formulations of drugs using our proprietary ENS process. Our ENS process is capable of producing nanoparticles of any material that can be put into solution or suspension. The technology platform and its capabilities are described in detail in the complete business plan. This nanoformulation platform technology and our enhanced skin penetration system becomes the engine for executing Nanocopoeia's business strategy and exploiting our product development pipeline.

With funds generated in the proposed "Series A" round of financing, management's strategy is to complete production of additional high throughput devices capable of supporting proprietary product development efforts and to expand our core team of highly skilled technical personnel with additional expertise in pharmaceutical business development, medicinal chemistry, particle physics, and hardware engineering. Continued development of our nanotechnology formulation platform, along with expansion of internal business and technical resources, will enable Nanocopoeia to provide a credible, proprietary, fast-to-market pipeline of products based on our strategy of enhancing the performance and value of off-patent, already-proven drugs with novel nanoformulations optimized for delivery into and through the skin.

Nanocopoeia's product development and regulatory strategy is to:

- Identify fast-to-market opportunities for topical drug formulations of drugs already in clinical use (previously approved),
- File the necessary preclinical safety, chemical, manufacturing, and control (CMC) data for each drug formulation candidate product to support clinical testing under an IND application.
- Establish the required regulatory dossier for an NDA application for each product using the 505(b)2 pathway that utilizes previously filed data of others where possible, and
- Advance the drug formulation candidate product into Phase I and perhaps Phase II prior to out-licensing to a pharmaceutical marketing partner.

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Over the long term, there is also a clear opportunity to use the power of this product development platform to formulate newly discovered drug compounds and other proprietary active agents with therapeutic promise that have not been pursued due to issues with solubility and formulation. These opportunities typically have a much longer path through regulatory approval and ultimately to market. For these reasons, the Company has chosen to initially focus first on reformulations of off-patent, existing compounds that already have demonstrated efficacy and safety with a development cycle time to regulatory approval filing in 3 to 3.5 years.

Current Industry Dynamics

The pharmaceutical industry is currently operating in an extremely challenging set of business and regulatory circumstances. It is faced with an unstable economy, unprecedented patents approaching expiration, weak development pipelines, increasing FDA scrutiny and slow turnaround for new drug application approvals. For decades this industry enjoyed double digit growth but is now experiencing its slowest growth rate since 1961.

Instead of growth, for the first time in over 40 years, the industry expects annual revenue to actually decline by 2 - 6% by 2012 (Datamonitor). Merger activity is increasing as companies seek measures to find synergies, increase efficiencies, cut costs and accelerate their development pipelines.

Reformulation and the combination of existing drugs into drug cocktails are a key ways pharmaceutical companies are filling R&D pipelines with products that have quicker time to market, less cost and shorter FDA regulatory paths.

The creation of new drug formulations based on nanoscale materials (nanoformulation) is one method being explored to create these new formulations and delivery methods. The opportunity for a nanoformulation technology to impact the global pharmaceutical market exists in the areas of:

- Drug delivery – enabling alternative delivery methods such as dermal, transdermal, transmucosal, and coated particles for targeted delivery (\$40 billion spent in R&D on drug delivery challenges each year)
- Protecting the value of patent expiring drugs (\$67 billion in drug revenues - about half of US big pharma's sales - are expected to be lost to generics due to patent expiration by the year 2012)
- Drug development – improving solubility, bioavailability, and speeding onset of action; enabling the application of materials that were previously active candidates but failed in development due to insolubility

Nanocopia's business model exploits our unique ability to create nanoparticles to address these drug formulation opportunities. Nanocopia will use our proprietary formulation technology tools to develop drugs that can benefit from nanoformulation and enhanced delivery to (dermal/local) and through (transdermal/systemic) the skin.

Nanocopia plans to develop its pipeline of newly formulated products into Phase II testing, at which point the products

- Achieve a significant increase in value and
- Become prime targets for licensing and commercialization by pharmaceutical companies.

Furthermore, the strategy creates an opportunity for presenting an improved and expedited R&D development engine to the pharmaceutical industry partners that will ultimately license our developed products.

Pharmaceutical companies are increasingly looking outside their own organizations for new products, particularly as their product portfolios are challenged by expiring patents. They either bring in new products that fulfill their pipeline needs or invest in maintaining the revenue from an established, aging product. Introducing a new version of a product at the end of its patent life protects the franchise the company has created around it and helps to preserve a revenue stream. Improvements in the drug's formulation or delivery format represent an important tool for this.

The magnitude of this challenge is daunting: between 2004 and 2008 \$40 billion of pharmaceutical revenues (from only 19 products) in the US alone were eroded due to patent expirations. Between the years of 2005 and 2012, it is estimated that almost 40 blockbuster drugs with revenues in excess of \$67 billion will go off patent. Pharmaceutical companies look outside the company for innovative solutions. Despite the formidable internal resources available to companies like Pfizer and Merck, 80-90% of their formulation work is currently being done by outside resources. The providers of key enabling technology for new formulation and delivery mechanisms, can now command substantial royalty percentages.

Summary

Nanocopoeia is a drug delivery company developing a nanotechnology-enabled portfolio of fast-to-market dermal and transdermal therapeutic products. We focus our efforts on enhancing the value and performance of off-patent, already proven drugs by creating nanoformulations that are optimized for delivery into and through the skin. This strategy exploits our proprietary technology tools to provide enhanced drug delivery capabilities to the pharmaceutical market. Initially, we will focus on providing new delivery options for established drugs with proven efficacy, because this provides a streamlined regulatory pathway and faster route to market.

In the pharmaceutical industry, value creation and defending market share are key driving forces pushing the big companies to look outside of their own R&D labs for solutions that can expand their opportunities. Nanocopoeia is positioned to solve their difficult solubility and delivery challenges for both old and new drugs. It also provides improved dose forms and alternate delivery routes for established drugs. Solving these critical issues for pharmaceutical partners enables development of additional intellectual property protection and extends patent life for drug compounds.

We have identified a rigorous selection matrix for identifying candidate drugs with high potential value in a new dose form and delivery format. We will develop these products in their new delivery format through to a regulatory filing with the FDA. At that point, the value of the products we are developing has been substantially increased and they are ready for licensing to pharmaceutical industry partners for commercialization.

The upside potential for Nanocopoeia and our investors in this market is limited only by the number of established drugs coming off patent and the number of new drugs discovered.