

**MINOLOGY**  
*the science of analytics*



# Strategic Business Plan

CONFIDENTIAL DOCUMENT

This is not an offer to sell securities. This is a confidential internal document that describes the management strategies of Minology, LLC. This document is for internal management planning purposes only and not for disclosure to anyone outside the company for any reason.

Dr. Ragnar Lesch  
Chairman & Chief Technology Officer  
Minology, LLC  
7847 E Severn Pl  
Denver, CO. 80230  
Phone: +1 (415) 462-6603  
Fax: +1 (415) 462-6570  
email: rlesch@minology.com

# Table of Contents

- 1.0 Executive Summary .....1
- 2.0 Introduction/Overview ..... 3
  - Minology Services..... 3
- 3.0 The Management Team ..... 5
  - Dr. Ragnar Lesch CEO & CTO ..... 5
  - Dr. Maha Aledan, M.D. .... 6
- 4.0 Market Analysis..... 7
- 5.0 Growth Strategy ..... 8
- 6.0 Professional Advisors ..... 8



- **DATA WAREHOUSING**
- **DATA MINING**
- **PREDICTIVE MODELING**
- **CUSTOMIZED ANALYTICS**
- **BUSINESS INTELLIGENCE**

## 1.0 EXECUTIVE SUMMARY

### Introduction/Overview

Minology is a predictive modeling consulting company. The company consults with clients during the whole life cycle of a predictive modeling project, which includes the following phases:

- System Analysis
- Requirements Gathering
- Solution Design
- Exploratory Data Analysis
- Model Building
- Model Evaluation
- Integration

Minology also offers workshops and seminars to educate clients about particular techniques and approaches in the modeling domain.

The company is dedicated to providing the highest quality workmanship, meeting the agreed delivery dates, and executing the work exactly in accordance with the project's scope.

### The Company

Predictive modeling technologies represent a major new trend in information technologies. The industry is growing at the rate of 10%-20% per year. The company expects this trend to continue for some time to come. Minology markets its services primarily to medium-sized companies in the financial and insurance industry.

The company is a Limited Liability Company and has been organized as a Nevada corporation for nearly 3 years. The company has extensive experience in business process planning and predictive model development and analytics. The company recently moved its operation to downtown Denver Colorado .

### The Company's Services

Minology delivers sophisticated data mining, analytics and predictive modeling services to medium-sized financial services and insurance companies who are interested in understanding their data better, reducing their risks and increasing their profits. Because of Minology's unique expertise we are able to demonstrate to clients how to preprocess and clean data, how to build and evaluate models and how to interpret and utilize previously undiscovered patterns in the client's data. Then we help our clients to integrate these insights into their business processes.

Minology specializes in guiding our clients through the process of building analytical and predictive models with their existing software tools and data. We help our clients to leverage their existing resources and staff in all areas of data mining, including the preparation of the project, choosing the right data, project management, preprocessing technology, interpretation and visualization of the data and revising business processes to take advantage of the new insights discovered to reduce risks and increase profitability.

We assist clients in developing a suitable modeling environment and we aid in evaluating the resulting models in terms of stability and accuracy.

We have no significant out-sourcing costs because the data analysis and model creation is performed with the client's data, software and equipment. This also ensures a smooth integration of the solutions into the client's business processes.

### The Market

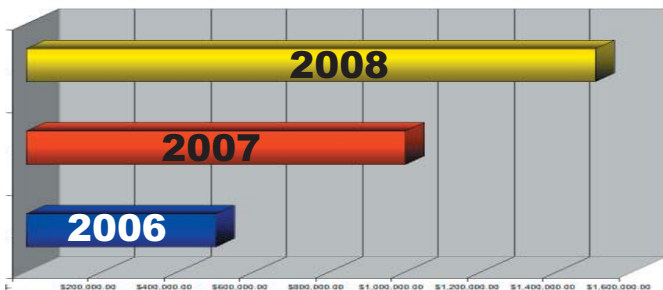
Although the market for data mining, analysis and predictive modeling consulting services cannot be determined exactly it is huge, due to the universally acknowledged trends in the market:

- 1) Explosive growth in data warehousing, making available vast amounts of data about the business process which can then be used to optimize it,
- 2) Growth in sophisticated and complex modeling techniques, tools and applications which enable companies to analyze their data in a better way than before,
- 3) Growing awareness that utilization of predictive modeling techniques leads to competitive advantages, cost and time savings which forces companies to look into those tools even if they don't have necessarily yet enough expertise in the domain.

These trends have created an unusual opportunity for Minology to help companies to help themselves understand their data better than ever before. Because of our unique approach and experience, we are in an ideal position to assist our clients with their data mining and predictive modeling needs.

### Financial Considerations

The company projects that it will double its revenues during the current year. Current engagements average approximately \$100,000.00 each and typically last about 12 months. The company does not carry any debt. The company plans to expand its markets by reinvesting a significant portion of its profits to finance growth. The company also plans to expand its staff to allow it to serve even more clients. The company expects to generate over \$500,000.00 in 2006 and over \$1 million in sales revenues in 2007, all with very little overhead.



### Management

Dr. Ragnar Lesch serves the company as Chairman of the Board and Chief Technology Officer (CTO). Prior to founding Minology, Dr. Lesch served as Senior Predictive Modeler for Valen Technologies, Technology Director for Kosmedix and Quantitative Research Scientist for Quantlab Financial.

Dr. Lesch received his PhD in Neural Computing in Finance from Aston University in Birmingham, England. While at Aston University he was selected for a teaching assistantship. In this position he undertook cutting edge research involving real life problem solving while advancing scientific research. He held full responsibility for teaching undergraduate classes in Computer Science and Applied Mathematics including preparing lectures and coursework, as well as grading and evaluating students. Dr. Lesch also holds a Master in Computer Science and Psychology from the University of Erlangen-Nuremburg in Germany. Dr. Lesch belongs to the following organizations:

International Institute of Forecasters (IIF)

Institute of Electrical & Electronics Engineers (IEEE)

Association of Machine Computing (ACM)

Some of his publications include the following:

Lesch, R. H., Caille, Y. and Lowe, D.: "**Component Analysis in Financial Time Series**", Proceedings of the IEEE 1999 Conference on Computational Intelligence for Financial Engineering (CIFEr '99)

Lesch, R. H. and Lowe, D.: "**Towards a Framework for Combining Stochastic and Deterministic Descriptions of Nonstationary Financial Time Series**", Proceedings of the 1998 IEEE Signal Processing Society Workshop: "Neural Networks for Signal Processing"

Dr. Lesch is assisted in the management of the firm by Dr. Maha Aledan, who serves as Vice President of Marketing. Dr. Aledan was the founder and C.E.O. of Kosmedix in San Francisco. Prior to that she served as Chief Physician and Director of Management at FutureShape Medical Center in Riyadh, Saudia Arabia where she was responsible for overall management of the center, which specialized esthetic medicine and plastic surgery.. Prior to that, Dr. Aledan served as a Marketing Consultant for Areza Trading Corp in Riyadh.

Dr. Aledan received her M.D. degree from King Saud University, KSA. Dr. Aledan also holds a Diploma in Dermatological Sciences and a Master in Dermatology from the University of Wales in the United Kingdom.

## 2.0 INTRODUCTION/OVERVIEW

### MINOLOGY SERVICES

Minology provides consulting services for data mining projects ranging from requirements analysis, designing and implementing the underlying data warehouse support, creating a modeling framework, building a model and evaluating the model's performance.

Specifically, the company manages the process of obtaining the data from the client's external and internal sources in real-time or offline, normalizing, loading, cleaning and validating the data.

Beyond fundamental data warehousing the company consults in the analysis of the data and creating actionable systems and processes to support the best business decisions. Our data analysis includes creating models and simulations based on the data. Advanced techniques are used such as neural networks for statistical pattern recognition, cluster analysis, nonlinear regression, decision trees and Bayesian analysis. Minology delivers predictive modeling services that help companies make better core business decisions by accurately predicting outcomes that increase profitability.

- We empower companies to accurately predict risks and evaluate all possible variables affecting the core business processes, activities or issues in order to make the most profitable business decisions.
- We assist our clients in their data mining projects from start to finish to create business intelligence systems that create added value.
- We consider every available data variable at the most granular level to provide decision-makers with the most accurate decision recommendations possible.
- We use a scientific, proven approach, based on statistical learning theory and customized algorithms which reveal critical insights from our client's data.
- We create analytical models that our clients can use to accurately predict and minimize risks and increase profits.
- We work within the constraints of our client's systems to interface with legacy data sources and applications within data warehouses.
- With Minology systems and services our clients no longer need to base their decisions on estimations or guesswork. We take companies to a higher level of predictability, unavailable from other vendors.
- For insurance carriers, Minology can ensure correct underwriting decisions on a policy-by-policy basis and can reduce loss ratios by analyzing and modeling all significant internal and external data elements.
- Minology identifies previously undiscovered patterns and risk relationships in existing data to provide comprehensive models that underwriters can use to assess risks.



- We help insurance and financial service companies to assess risks more accurately by simultaneously analyzing more risk factors than previously possible, providing a much more accurate risk assessment methodology.
- We create customized analytical systems and processes to help our clients reduce risks and increase profits.

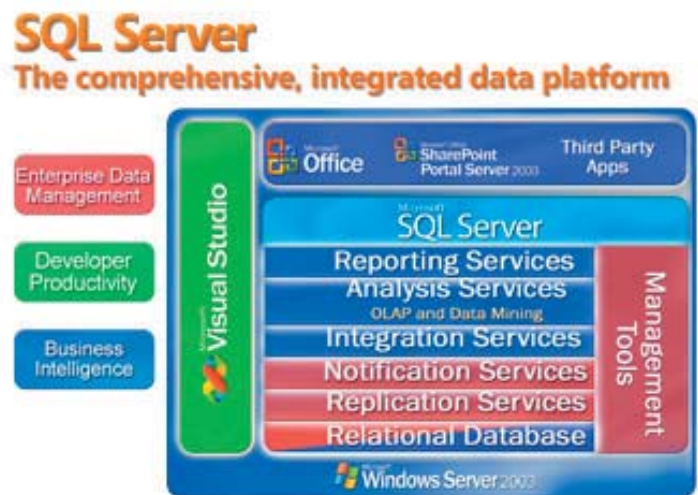
An example of our services is the work that we are currently involved in for Valen Technologies, a Denver based managed services company providing risk classification of worker's compensation and commercial auto insurance policies for insurance companies. Here we are involved in:

- Creating a Dataspec (which includes a semantic description of all data provided by the client, external sources and derived variables, the target risk to be modeled, the availability of the data, performance measures and others),
- Exploratory data analysis,
- Data cleaning,
- Analyzing potential segments of coherent risk characteristics,
- Creating models with an in-house software application,
- Performing post-analysis of the resulting model with recommendations as to the integration of the results in the client's business process.

We then created a model which predicts for a policy 90 days prior to expiry its risk for the next term by classifying it into one of five risk categories. Based on this the client is then able to perform a modification of the premium price or to exercise loss prevention activities.

Two additional examples of the power of our approach include the creation of risk classification models of worker's compensation insurance policies for Utica National Insurance Group and Pinnacol Assurance. We used current and historical policy data from the client. We then created a model which predicts for a policy up for renewal 90 days prior expiry its risk for the next term by classifying it into one of five risk categories, based on whether the client is able to perform premium price modifications prior to inception. The cost for the proof of concept model for Utica cost only \$35,000. Another analysis for Pinnacol included the proof of concept and a production model for \$250,000.

Our methodologies are proprietary and involve a process to collect, prepare and analyze the data with an in-house built application, which can be used for any risk prediction task. It is furthermore scalable in the conceptual sense. For example, in the case of models for worker's compensation or commercial auto insurance clients, the system can acquire more and more domain knowledge and leverage this for future risk analysis or for new clients.





### 3.0 THE MANAGEMENT TEAM

#### Dr. Ragnar Lesch - Chairman of the Board and Chief Technology Officer



##### TECHNICAL EXPERTISE:

Matlab, Visual C++, Java, SQL, PHP, Density Estimation, Factor models, PCA, ICA, Kalman filter, State space models, Bayesian Techniques, Simulated Annealing, Monte Carlo Sampling, Bootstrap, Nonlinear Regression, Neural Networks

##### PROFESSIONAL EXPERIENCE:

**VALEN TECHNOLOGIES** – Denver, Colorado - 2005 - **Senior Predictive Modeler**

Designed and implemented an automated solution to load client's data into a database and clean the data in order to prepare the modeling process. Performed exploratory data analysis to select model approach, data segmentation for sub-models, created predictive models for several clients to predict incidents and insurance risk and derived actions regarding insurance rate adjustment or loss prevention.

**KOSMEDIX, INC.** – San Francisco, California 2003 – 2005 - **Technology Director**

Designed and implemented a database system in SQL for quantitative marketing for a client in the consumer product industry. This included product and customer databases as well as an advertising campaign database to store the data from various test and full campaigns across various media such as TV, print, radio and promotional events. Matching the events with their responses allowed improving their effectiveness significantly, with concrete results such as the creation of a more accurate customer profile, a better targeting of the customer with product promotions via the different media and regions and a significant cost reduction for the cost-per-sale.

**QUANTLAB FINANCIAL** – Houston, Texas

1999 – 2003 - **Quantitative Research Scientist**  
Recruited to overhaul procedures for derivatives-based predictive modeling in a research and development Company that designs, develops and applies advanced modeling technology for the financial markets operating a \$100 million hedge fund. Held full responsibility for data activities including the support of operational procedures.

Provided the company with a standardized tool for fast and efficient model design, implementation and testing by creating a research platform in Matlab containing e.g. a C++ interface to databases with daily and intra-day equity and option data, the calculation of the Implied volatility and other statistics as well as a visualization of relationships between variables relevant in the model building process.

Made possible the use of 96% of published data with more accurate derived statistics and reduced the runtime by conceiving and implementing sophisticated and efficient procedures for data cleaning and aggregation into database.

Fine-tuned and expanded previously existing basic strategies, facilitated the design and testing of more complicated strategies, enabled a more reliable and successful predictive signal used in trading, and improved the overall quality of option signals by creating a C++ program suite based on a strong class hierarchy to process equity options including:

- Cleaning and merging of options data and treatment of missing and corrupted options data,
- Predictive models for the underlying equity based on the option matrix utilizing Black-Scholes.

**ASTON UNIVERSITY** – Birmingham, England - 1997 – 1999 - **Teaching Assistant**

Selected for a teaching assistantship by one of the top universities in Great Britain with a reputation for undertaking cutting edge research involving real life problem solving while advancing scientific research. Held full responsibility for teaching undergraduate classes in Computer Science and Applied Mathematics including preparing lectures and coursework, as well as grading and evaluating students.

## EDUCATION

**ASTON UNIVERSITY** – Birmingham, England 1999  
**PhD, Neural Computing in Finance**

Thesis: "Modeling Nonlinear Stochastic Dynamics in Financial Time Series"

**UNIVERSITY OF ERLANGEN-NUREMBERG** – Erlangen, Germany - 1996

**Master in Computer Science and Psychology**

Thesis: "Applying Nonlinear Methods to Analyze Heart Rate Variability"

## PUBLICATIONS

Lesch, R. H., Caille, Y. and Lowe, D.: "**Component Analysis in Financial Time Series**", Proceedings of the IEEE 1999 Conference on Computational Intelligence for Financial Engineering (CIFEr '99)

Lesch, R. H. and Lowe, D.: "**Towards a Framework for Combining Stochastic and Deterministic Descriptions of Nonstationary Financial Time Series**", Proceedings of the 1998 IEEE Signal Processing Society Workshop: "Neural Networks for Signal Processing"

## MEMBERSHIPS

**International Institute of Forecasters (IIF)**

**Institute of Electrical & Electronics Engineers (IEEE)**

**Association of Machine Computing (ACM)**

**Dr. Maha Aledan, M.D.**  
**Vice President of Marketing**



## EXPERIENCE

2001-2005 **Kosmedix, Inc.**, Denver, CO (until 2005 San Francisco, CA)

**Founder and Chief Executive Officer**

- Developed the core vision, business and marketing plan for Kosmedix, Inc.

- Created and managed a team of sales and marketing professionals along with other supportive contractors such as accountants, designers and PR specialists.

- Prepared, presented and negotiated business agreements with retailers.

- Worked with Marketing Manager on marketing programs and implemented initiatives that resulted in a significant increase in brand awareness and sales.

1995-2000 **FutureShape Medical Center**, Riyadh, Saudi Arabia  
**Chief Physician and Director of Management**

- Responsible for the overall management of the center, which specialized in Esthetic medicine including dermatology and plastic surgery. The Center was developed with FutureShape International a British company pioneering several patented technologies to the medical and dermatological arena with over 140 centers worldwide.

- Responsible for managing the all marketing responsibilities for the company.

1996-2000 **Areza Trading Corp**, Riyadh, Saudi Arabia

#### **Marketing Consultant, Nutraceuticals, dermatological and Skin Care Products**

- Trained marketing personnel and introduced new products to the local market.
- Created marketing strategies for new products with a focus on increasing brand visibility and revenues.
- Made recommendations for new products that resulted in significant increase in earnings.

## **4.0 MARKET ANALYSIS**

The data mining market consists of software vendors offering tools that extract predictive information from large data warehouses, which can then be analyzed to enhance corporate data resources and generate predictions regarding business trends and behavior. Specifically, these tools provide and utilize powerful data mining models and/or algorithms for analyzing massive quantities of data. Data mining tools provide both developers and business users with an interface for discovering, manipulating, and analyzing corporate data.

The market for data mining, predictive modeling and risk analysis is very fragmented and there are no clear leaders in this niche. The market is served primarily by large software providers who may or may not provide services to support their own products. (source: Metagroup)

[http://www.metagroup.com/us/metaSpectrum.do?fileName=DataMiningTools\\_mktOverview](http://www.metagroup.com/us/metaSpectrum.do?fileName=DataMiningTools_mktOverview)

The primary software vendors in this space include:

- Angoss
- Computer Associates
- Fair Isaac
- Genalytics
- IBM
- Insightful
- KXEN
- Oracle
- Quadstone
- SAS
- SPSS

A large number of smaller companies exist that provide more generic or industry-specific support services but no clear market leaders have evolved in this space.

Minology provides a unique suite of services that differentiates the company from other service vendors in this market space.

We expect the data mining market to expand 10%-20% annually during the next few years, with services growing at a commensurate pace.

The data mining market is mature, with a relatively high number of players. New entrants find the current market crowded with experienced analytics providers, many of which boast impressive customer bases already. Specialty, niche-based offerings will continue to find their place without threatening established market leaders, though this will not last forever. Consolidation looms, particularly for the younger, smaller, and niche-focused vendors, which may emerge as attractive acquisition targets. (source: Metagroup)

## 5.0 GROWTH STRATEGY

The company plans an aggressive Public Relations and Marketing strategy to quickly grow the company's reputation in the industry. Dr. Lesch will be publishing articles in the trade publications to establish and reinforce the Minology brand and expertise in the marketplace. The company also plans to expand its presence through its web site to communicate to the world its unique capabilities.

The firm also promotes itself through its membership on various professional services promotion sites on the Internet to expand its market for data mining projects.

The company furthermore plans to outsource its marketing and sales efforts to marketing and sales professionals who specialize in serving their respective markets.

## 6.0 PROFESSIONAL ADVISORS

### ACCOUNTING SERVICES

Jane Olmstead, CPA, Denver, CO, 303.368.1538,  
jane.o@comcast.net

### BUSINESS MANAGEMENT SERVICES

C. E. Weeks, III of InfoCentre - Traverse Mountain, UT 1-888-392-2775  
skip@infocentre.biz

