

**Diamond Head** Associates, Inc.



**SUPPLY CHAIN ANALYTICS:  
OPTIMIZE PLANNING,  
PERFORMANCE, AND INVESTMENT**

CAPABILITIES OVERVIEW 2011

# Supply Chain Analytics: Optimize Planning, Performance and Investment



*By applying advanced Operations Research modeling tools to analyze complex systems, such as this container terminal operation at the Port of Los Angeles, we help clients to optimize system performance and minimize costs.*

## Our World

The **supply chain** (or, for a service firm, **service network**) is one of *the most* important, yet highly complex aspects of running a business entity today. In most companies, the supply chain structure is not designed - it simply evolves over time as the firm grows, and can become very inefficient. By providing clients with a quantitative way to plan, test and validate structural and operational improvements to their supply chain prior to implementing, we can help them reduce risks, realize significant improvements in current operations,

and provide a framework for strategic planning of future operations.

Most organizations can't afford to maintain these capabilities internally. That's where we come in.....

## Who We Are

**Diamond Head Associates, Inc.**, is a consulting firm composed of senior consultants and analysts with direct operational and executive supply chain strategy, design, and analysis experience. Cumulatively we have over 150 years of hands-on industry experience in planning, designing, analyzing, and improving an array of operational, facility, and structural components of supply chain networks and facilities.

## Our Services

We are experts with **business analytics tools**, such as **simulation** and **optimization**, and use these to help clients plan improvements, solve complex problems, and improve financial and operational performance in their physical supply chain, and key components – production, distribution, and transportation. These tools allow us to forecast future performance with quantifiable results, and produce compelling business cases that support critical decisions. We are also Authorized Distributors for **AutoMod**, **Simio**, and **Supply Chain Guru** analytical software products.

# SERVICES & PRACTICE AREAS



## **Strategy Development**

Strategy and business case development for supply chain planning, structure, and operations.

## **Network Modeling & Analysis**

Supply chain network design and analysis using advanced simulation and optimization tools.

## **Simulation Modeling**

Performance analysis for mfg., distribution, & logistics systems. Simulation software selection, training, consulting and support.

## **Transportation Analysis**

Rail and intermodal systems capacity and throughput planning, modeling and analysis, mode and vendor selection.

## **Operations Analysis**

Modeling & analytics-based consulting to optimize supply chain systems & facilities design and operation.

## **Software Sales & Support**

Starting in April 2010, Diamond Head is now the only **Authorized Distributor** for **AutoMod** in the United States. See us for sales, training, and consulting!

### **Strategy Development**

A company's supply chain is a very complex environment, with lots of moving parts and variables that interact, and is absolutely key to running a business today. We work with senior managers to help them understand the impact of strategic and operational changes to their supply chain by considering all key performance variables, - not just a few. This can produce a dramatic difference, with compelling and quantifiable business case results.

### **Network Modeling & Analysis**

Understanding how changes will impact this interconnected system is quite challenging; this is where advanced modeling tools, such as **Supply Chain Guru**, can help. Traditionally used to analyze only operational level problems, we have extended these techniques to also include top-level, company-wide strategic issues and their impact on bottom-line financial performance.

By providing clients with a quantitative way to plan, test and validate any changes prior to making the investment and potentially disrupting operations, we can help them optimize their process or facility, reduce risks and realize tremendous savings and advantages in the marketplace.

### **Simulation Modeling**

Within the global supply chain network, inside a production or distribution facility, detailed simulation models can be used to analyze new systems or equipment such as material handling and storage devices, fine tune operations, and optimize staffing and scheduling rules. We have extensive experience with simulation modeling in a wide variety of business and industrial markets, using some of the most powerful and well-known simulation products on the market today including, **AutoMod**, **AnyLogic**, and **SIMIO**.

### **Software Sales and Support**

We select and use only what we consider "best of class" analytical software products, including **Automod**, **Simio**, and **Supply Chain Guru**. We are also Authorized Representatives for these products - see us for sales, consulting, technical support - and help with selecting the right product for your needs.

### **Practical Solutions**

Analytical models can provide continual results for a wide variety of forward-looking "what if" operational and strategic questions relating to your supply chain.

A project methodology, based on validated models to provide compelling, quantifiable, practical solutions for critical problems...

*....thats what we do.*



# Our Team

*We do just a few things, and do them very well. Our consultants have a minimum of 20 years of experience. The firm is founded by principals who are among the most senior leaders in the modeling and simulation industry, with a combined 50+ years of experience in modeling & supply chain analysis. They are supported by a team of Senior Associates with unique experience to support project needs.*

## **Principals**

### **Randall Gibson**

Mr. Gibson has over 25 years of professional experience in the design, implementation, and simulation modeling of production, distribution, and transportation systems, and is considered one of the senior leaders in the simulation industry. He has authored numerous articles on practical aspects of simulation modeling and analysis as applied to business and industrial problems, and is a frequent speaker and author at industry conferences. He was previously founder of Automation Associates Inc., a recognized simulation consulting firm focused on

modeling of supply chain applications, which was acquired in 2005, where he served as Senior Vice President / Principal in the Management and Supply Chain Consulting division. He holds an MS in Electrical Engineering and Computer Science and a BS in Applied Physics from the University of California.



**Randall Gibson**

### **Dr. Ricki Ingalls**

Ricki G. Ingalls, Ph.D. is a Principal with Diamond Head Associates Inc., and an Associate Professor in the School of Industrial Engineering and Management at Oklahoma State University. Dr. Ingalls frequently consults for corporations and government agencies in business strategy, business modeling, resource planning, labor planning, and freight modeling. Dr. Ingalls joined Oklahoma State in 2000 after 16 years in industry

with General Electric, Motorola, SEMATECH, and Compaq where he was responsible for strategic supply chain planning. At OSU, he has developed a graduate program in Supply Chain Engineering where he teaches Supply Chain Strategy, Supply Chain Modeling, Simulation and Optimization. He holds a Ph.D. from the University of Texas, an MS in Industrial Engineering from Texas A&M, and a BS in Mathematics.



**Dr. Ricki Ingalls**

## **Academic Associates / Trainers**

### **Dr. Steven Roberts**

Professor - North Carolina State Univ., Dept. of Industrial & Systems Eng.

### **Dr. Jeff Joines**

Associate Professor - North Carolina State Univ., Textile Engineering Dept.

## **Senior Associates**

### **David Scott**

40 years of IT experience; network modeling and optimization.

### **Ken Farnsworth**

29 years of experience in simulation software design and development. Original developer of AutoMod.

### **Paul Eckard**

30 years of experience in simulation modeling - mfg., distribution, network models.

### **Todd Lebaron**

20 years of experience in simulation modeling - mfg., distribution, and electronics.

### **Larry Goins**

20 years experience in simulation modeling, Mfg., and lean operations.

### **Mike Norman, PE**

22 years of experience in simulation modeling - mfg. and automation systems.

### **Ken Asztalos**

30 years of experience in trucking, rail, and 3PL operations & distribution.

### **Chris Graver, PE**

25 years of experience in supply chain, distribution systems and operations.

### **Gerry Mayer**

40 years of experience in logistics and supply chain transportation management.

### **Mike Shamrell**

30 years experience in distribution operations.

# Clients

## Our Clients

....are senior managers responsible for key decisions affecting the supply chain and operations of a \$100+ MM corporation or division, and operations management responsible to run major facilities.

They engage us to help them solve critical problems quickly, efficiently and with the confidence borne from compelling and quantifiable business cases. Shown on this page are a few of the more recognizable clients that we have worked with.



Diamond Head Principals developed a detailed simulation model to help Rite Aid validate the design of a major new centralized distribution facility.



Diamond Head Principals built a global supply chain modeling tool which allowed Compaq to streamline North American operations, including significant cost reductions.



We assisted Hasbro with understanding the impact on their supply chain performance and costs of sending production to Asia, and how to manage the impact on holiday season inventory of longer lead times.



We assisted Revlon operations management in analyzing and understanding the impact of adding inventory and production operations to the Phoenix facility from another location which was to be closed.



We worked with Hallmark operations management to plan for increased automation at their central U.S. distribution facility to handle a new and innovative approach to resupplying the stores in their retail network. Simulation models helped plan the operational procedures for the automation, as well as optimizing the staffing and scheduling for the system.



We worked with the founders of this leader in on-line grocery delivery services to validate the design for their NY operations and order fulfillment facility, and later to pinpoint improvements needed to grow the facility throughput.



We helped Oxford, the world's oldest publisher, solve key throughput limitations in their Central European distribution center, and identified the correct level of automation.

# Contact Us

For current information, including simulation software training class schedules and locations, see our website:

[www.Diamond-Head-Associates.com](http://www.Diamond-Head-Associates.com)

## **Diamond Head Associates, Inc.**

204 N. El Camino Real #E504

Encinitas, CA 92024

Office: 760-942-3711

Email: [info@Diamond-Head-Associates.com](mailto:info@Diamond-Head-Associates.com)

## Principals

Managing Principal:

Randall Gibson

[randall.gibson@diamond-head-associates.com](mailto:randall.gibson@diamond-head-associates.com)

Dr. Ricki Ingalls

[ricki.ingalls@diamond-head-associates.com](mailto:ricki.ingalls@diamond-head-associates.com)

