

CASE STORY

SUPPLY CHAIN ASSESSMENT AND BUSINESS DEVELOPMENT

THE TASK

Amminex is a fast growing Danish clean tech company. They are the inventors of the “hydrogen pill” and the Ammonia Storage and Delivery System (ASDS), a cutting edge technology which enables a significantly more efficient NOx reduction of exhaust gases from cars and trucks than any other known technology. In 2009 Amminex took a great leap forward in making the ASDS technology a commercial success by signing a contract with Navistar, a North American manufacturer of International brand commercial trucks.

SCOPTI was engaged during this period to:

1. assist Amminex in building credibility towards global truck and car manufactures and gaining an edge at the negotiating table by increasing insight into future commercial setups.
2. to optimize and uncover the capital investment needs by elevating their financial models to also include product and production design and costs.

More specifically we assisted Amminex in taking the first steps in the transition from being a research company to a global full-scale manufacture by solving these tasks:

- Business scenario simulator connecting manufacturing network and plant design with product design and economic consequence evaluations.
- Board presentations related to investment scenarios and return on shareholder value.
- European production, distribution, and regeneration/aftermarket network (year 1-10)
- Financial model, budget and control system for commercial company setup 2010.

APPROACH

The project was carried through in two steps. *Firstly*, we carried through a comprehensive situational analysis of Amminex and how their future supply chain would be affected by e.g.:

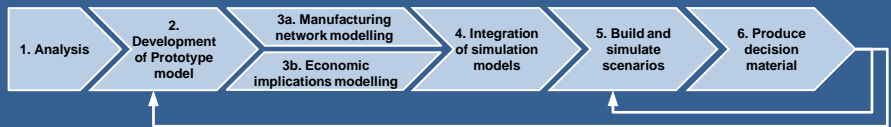
- Product & market characteristics
- Customer demands & buying behaviour (first-fit customers and the aftermarket)
- Reverse logistics options
- Factory characteristics & production setup
- Material costs, availability, and supply proximity.
- Geographical conditions in terms of employee efficiency and cost, tax levels, etc.

Secondly, based on the situational analysis – we developed two simulation tools. One mainly addressed Amminex’ first customer, Navistar, and enabled Amminex to simulate the implications of their demands and expectations in a combined financial and production planning model. The other simulation tool addressed the potential EU-market and enabled Amminex to simulate and uncover the challenges of building the optimal production and distribution network for fulfilling the demand in this market. Both simulation tools enabled Amminex to assess what the implications of changes in e.g. product design, factory & production process design, demand characteristics, factory location, capacity allocation, and internal & external situational

SOLUTION AND RESULTS

Via the physical and economical modelling and the MS Excel simulation tools developed for Amminex, we enabled them to simulate the transition from being a research company to a global full-scale manufacture and assess the full implications of establishing the needed supply chain. This supported Amminex in appearing more credible and capable of handling the transition to commercialization towards potential customers and business partners; and gave them an edge at the negotiating table. Furthermore this ensured transparency in the strategic decision making and enabled company executives and owners to minimize risks and maximise profits.

Applied method for development of simulation tool



SCOPTI build and leveraged an advanced simulation system in MS Excel that enabled senior executives to assess the implications of various changes in the Amminex’s supply chain, e.g. alternative product design, factory & production process design, customer demand, factory and inventory location, capacity allocation, would be on:

- Annual profit and loss statement over a period of 20 years.
- Annual balance sheet, investment size and timing, pay-back period.
- Annual cash flows and NPV of investment.

factors would be on:

- The annually profit and loss statement over a period of 20 years
- Investment size, time of investment, pay-back period
- Cash flows and net present value of investment

We worked closely with Amminex’ top management in order to gather all the relevant data on the technology, the production and process requirements, and furthermore we gathered both qualitative and quantitative information from a long list of sources and actors in the automotive industry:

- Diesel Particulate Filter producer
- Catalyst recycling researcher
- Car parts distributor
- Car repair shop
- Logistics providers
- Industry organizations
- Automotive industry specialists
- Actors in other comparable industries
- Governmental institutions

AMMINEX’ RESPONSE

Jens E. Hinnerskov, CEO of Amminex, responded that:

- “The SCOPTI consultants have a rare ability to combine complex supply chain scenarios with financial and strategic business thinking; and to illustrate this in a relevant and applicable fashion.”
- “SCOPTI was a key enabler during the strategic phase where we selected and engaged with partners, customers, and investors, and took decision on very large investments in Amminex.”
- “The SCOPTI consultants quickly understood and adapted the characteristics of the automotive industry, and applied this professionally directly towards our partners and customers.”
- “SCOPTI Management Consulting helped us appear trustworthy and professional in our view of the future.”

FOR MORE INFORMATION

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