



New Frontier Solutions – Management Resultants

New Frontier Solutions is a Management Resultant firm. The phrase ‘resultant’ expresses our philosophy that we provide practical solutions to our clients’ needs. We provide advisory services and customized end solutions in the field of logistics services.

Logistics services in the view of NFS means that we assist you to efficiently, and against minimal costs, move resources from one location to another through the supply chain. Resources may include goods, people, trucks or other transportation means.



The needs of our clientele are diverse. While some of our clients needed a soundboard to make decisions on a strategic supply chain level, e.g. leasing or owning trucks, building or hiring inventory facilities to store products, or needed advice on supplier contract agreements. Other clients are in need for assistance at the operational supply chain level with e.g. advise on optimal routing schedules, production scheduling and daily inventory management to avoid stock-outs.

In the first case, we deliver excellent consultants with an extensive background in handling strategic supply chain management challenges, supported by logistics modelers. In the latter case, we implement a NFS proprietary software solution. The implementation is led by a group of logistics consultants, supported by our IT staff and logistics modeling staff.

NFS started as a financial and logistics engineering company, a firm employing best in class modelers with a background in operations research, financial and logistics econometrics, applied mathematics and statistics. To meet the clients’ demand for end solutions, NFS has expanded into a 1-stop-shop for the logistics service industry. Besides logistics modelers we employ logistics consultants, IT specialists and business consultants. The diversity in disciplines allows us to take a holistic view on the clients’ needs and to successfully provide and implement the right solutions to your needs.



We believe that the key to success is the understanding and adoption of the principle that the business requirement is driving the needs. The formulation of the exact business requirements may be complex in the agile and fast moving supply chain of today. We tailor the solution to your specific needs.

Our core services

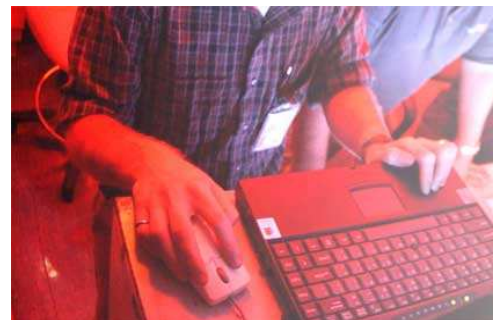
To provide solutions to our clients' needs, NFS has a set of core services to offer.

1. Logistics modeling

Our logistics consultants will sit together with you to clearly describe the logistics issues that you are facing. From the common understanding, we will put the various issues into a framework, i.e. describing which decision problems have a clear strategic, tactical or operational nature. Whereas strategic decisions may include decisions on certain investments to be made, tactical challenges involve managing uncertainty in the supply chain, operational issues may require our logistics consultants to advise and assist in the field of operations management.

2. Data-mining

In case you have the availability of extensive business data, our modelers can assist in providing tools to unlock the hidden information in your dataset. For example; we can assist to improve demand forecasting. NFS employs reputable statistical experts with significant experience in the industry.



3. Logistics consulting



Our logistics consultants can bring extensive logistics knowledge to the table in the areas of

- Transportation planning– and scheduling
- Production planning – and scheduling
- Demand forecasting & inventory management
- Sourcing decisions in the supply chain

4. System implementation

Once our clients have been advised on tackling their logistics planning and scheduling issues, the clients would like to continue to use the offered solutions on a daily base. For instance, an optimal route planning is different on a daily base, due to various unforeseen events as traffic jams, rainfall, order cancellation, resource capacity uncertainty, unforeseen demand increases, etc... In this case, NFS provides automated or semi-automated planning and scheduling systems, tailored to the client's specific needs.

Our case studies

To give you an insight in which type of projects New Frontier Solutions has been involved in, we have added two case studies of projects carried out by NFS.

Case studies Passenger shipment

A large consulting firm in Indonesia was advising their client, a passenger shipping firm, on the best shipping network to meet all passenger travel demand and simultaneously to minimize costs. Our consultants developed a logistics model that allowed the client to determine

1. Which routes to include in the commercial network of the shipping firm;
2. Which ports to be used for harboring the vessels for maintenance
3. Time-tables to meet the passenger demand

Using advanced mathematics, we were able not only to calculate the best solution for the Client, but also to simulate “WHAT-IF” scenarios. These “WHAT-IF” scenarios prepared the client in their operations by knowing which decisions to



make in case of increased fuel price, decreasing passenger demand and other unforeseen factors. Moreover, the client was able to make such strategic decisions, as which vessel type should be purchased in the future to maximize its net present value, given the anticipated passenger demand and fuel prices.

File View Optimize Tools Window Help

Optimize

Optimization Result

Max Profit : 17,765,054,814.82
The model is sub-optimal

Variables Values

Alloc (t, h)	Assign (t, r)	Freq (t, r)	Pax (l)	Pax_Upper (l)	Pax_Economy (l)
Alloc(t,h)	Home Base h				
Vessel Type t	1	2	3	4	5
1	1	0	0	0	2
2	2	2	0	5	0
3	9	1	0	0	3

The model was translated into a Decision Support System that allows for periodical studies. For example: the left screen shows that Location 1 should harbor 9 vessels with a capacity of 2000 passengers (vessel type 3). For each port, the optimal solution is calculated.

File View Optimize Tools Window Help

Optimize

Optimization Result

Max Profit : 17,765,054,814.82

The model is sub-optimal

Variables Values

Alloc (t, h) Assign (t, r) Freq (t, r) Pax (l) Pax_Upper (l) Pax_Economy (l)

Freq(t,r)									
Vessel Type t	2	3	4	5	6	7	8	9	10
1	0	0	0	0	0	0	0	0	0
2	0	0	0	1	0	1	0	4	0
3	0	0	0	0	0	0	1	0	0

On the left side, it is seen that route number 2 (should be eliminated from the network). This insight allowed the client to significantly reduce costs, while still being able to re-route the passengers. A requirement from the client was that the

alternative route should not increase the travel time. Such constraints can be adopted in the logistics model.

Case study Improving rig move efficiency

Management of a large oil company realized the need for improving the efficiency of rig moves in remote areas and called upon the services of NFS. Rig moves are expensive and complex, and were never on time or on budget. Depending on the location, decisions may need to be made which transport units to deploy and to determine the optimal move schedule to realize the fastest spud date.



During a 10-day assessment period, NFS consultants visited the sites and held numerous discussions with rig superintendents, company men, drilling engineers, logistic coordinators and several other people that play an important role during a rig move.

Using techniques from the field of Operations Research we quantified and prioritized various bottle-necks, based on the observations of the different stakeholders. Next, together with the customer, NFS consultants suggested a comprehensive approach to improve the efficiency of the rig moves. The approach focused both on planning – and execution of activities with respect to the movement of assembled and disassembled rig-



and drilling equipment, communication between various users and stakeholders who required customized reports, and issues related to asset tracking.

The model was directly implemented during an actual rig move and proved to be successful, with the rig move being right on schedule and on budget.

The projects that our consultants have carried out are numerous and above only gives a snapshot of the last projects that we are recently involved in. Should you be interested in any of the other projects we have been involved in, or would you like to know more about our services, do not hesitate to visit our website www.nfs-asia.com and contact us for further information. You can find the details on the last page.

Our team

NFS' logistics team consists of logistics consultants, business consultants, logistics modelers and IT specialists. The core of our logistics team is formed by the following team members:

Management / consultants:

Peter Serhalawan. Peter is co-founder of NFS and holds a master degree in Econometrics from the Erasmus University Rotterdam, the Netherlands. He has been practicing Operations Research and econometrics over the past 20 years and participated in an extensive number of consulting projects in the areas of finance, insurance, aviation, oil & gas, manufacturing and logistics.

Dr. Nilotpal Chakravarti received his PhD from the University of Waterloo, Canada, in the field of Operations Research. Within NFS, Nilotpal Chakravarti is responsible for the solution methodology and quality assurance on the optimization components. He has extensive experience on numerous consulting projects in the area of optimization and has published extensively in international journals.

Paul van de Coterlet is a logistics expert and holds a master degree in Logistics Management from the Erasmus University Rotterdam, the Netherlands. Paul has extensive experience in the distribution sector, oil sector and airline industry. He held previous positions at the Rotterdam School of Management, KLM Royal Dutch Airlines and Shell. His main focus is on distribution optimization and the applicability of IT in supply chain processes.

Bob Anderson has over 32 years experience in the oil & gas industry and has worked for a number of drilling companies, among them Nabors Drilling and Deutag Drilling. Before turning to consulting, Bob last worked as a Rig Superintendent. Bob has worked in the Middle East, Russia, Azerbaijan, South America, Australia and Indonesia.

Some of our clients

Over the years, New Frontier Solutions has provided services to a wide variety of customers. Some of our clients include:



Contact us

If you would like to know more about our products and services, do not hesitate have a look at our website or contact our offices in Singapore, Jakarta or Sydney. We are more than willing to provide you with any additional information.

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