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Project reference case

Realisation of worlds largest RFID enabled Real Time Locating System (RTLS) at Broekman Automotive

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The largest site of the Broekman Automotive Division is located in the Port of Rotterdam offering a complete range of tailor-made car handling services. The last years the storage capacity of this site increased with 40% up to 35.000 cars with a total throughput of 300.000 cars per year.

With a focus on future business developments and to guarantee expected growth, Broekman Automotive decided to implement an RFID enabled Real Time Locating System (RTLS) to track, trace and locate the vehicles on site. Broekman Automotive selected Mieloo & Alexander Business Integrators as the System Integration partner to design, build and implement this new RTLS solution based on WhereNet technology.

Overview Broekman Automotive

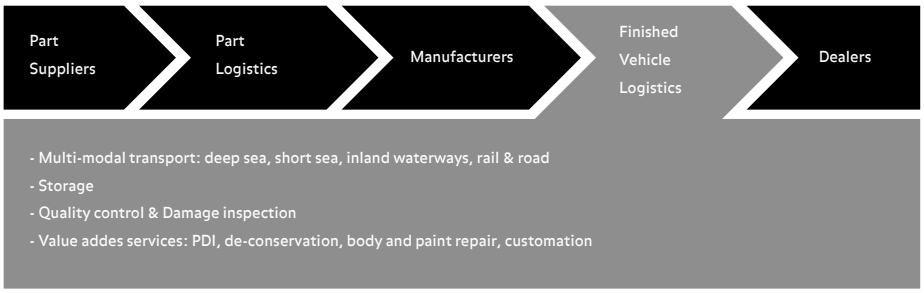
Increased competitiveness in the Automotive Industry

The past 10 years have seen a significant increase of competition in the automotive industry. Car manufacturers have responded by consolidating their operations and by adopting new product design and manufacturing strategies.

Car manufacturers have consolidated to become global players: currently only 9 OEM's account for 80% of car production. At an even higher rate, the same is happening to their suppliers: it is anticipated that in 5-10 years the number of independent automotive suppliers will reduce with an unprecedented 90%.

In combination with economic growth in new markets, consolidation has led to the establishment of new production plants in low cost countries. These serve not only to meet local demand, but also as a launch pad for export to more mature markets in Europe and the US.

Although demand has risen in the emerging markets, the established markets have been in decline or stagnant in real terms over the past few years. This has resulted in severely increased competition, placing great pressure on manufacturers to constantly improve efficiency and productivity – the operational excellence – of their entire value chain.



Automotive Supply Chain

Next to consolidation, OEM's had to adopt new product design and production strategies. Consequently, the new plants have been able to respond better to flexible production and built-to-order strategies. But to meet the demand of the individualised customer and his desire for customisation, manufactures have reverted to customising vehicles downstream in their supply chain.
The consequences for finished vehicle logistics providers
All this, in conjunction with the enlargement of the EU, has led to an increasing number of movements of new and used vehicles and to major changes in traffic flows. This has created more time sensitive and complex supply chains of finished vehicles, and has resulted in a more important and larger role for specialised finished vehicle logistics providers (see figure above).

Although the pressure for operational excellence has always been of major importance in logistics, it has now become an even greater challenge for finished vehicle logistics providers to continuously improve productivity and quality, reduce lead-times and reduce cost.

RFID tag

Business requirement / need

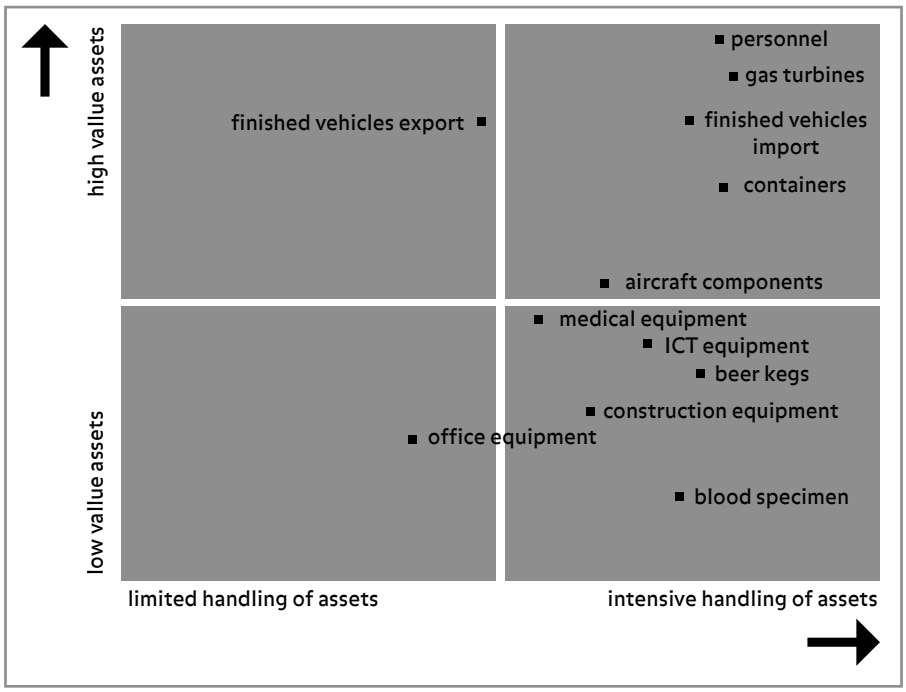
Competitiveness in the automotive industry has increased significantly, requiring all players in the value chain to drive continuously for operational excellence. As the role of finished vehicle logistics providers is becoming more important, they are increasingly faced with the challenge to improve service levels and to bring their cost down further. Radio Frequency Identification (RFID) enabled Real Time Locating Systems, currently implemented primarily in plant based car logistics, are able to deliver significant benefits to finished vehicle logistics operations.

Key features of Real Time Locating Systems (RTLS):

- Locating: graphical display of the location of each vehicle on site at slot level
- Identification: read Vehicle Identification Number (VIN) or internal identification numbers without line of sight or close proximity

Business benefits:

- Productivity improvements and labour savings resulting from reduced search time from hours to seconds
- Improved accuracy of operational planning and scheduling
- Improved goods flow, reduced lead-times and reduced claim on working capital
- Reduced damage control and rework
- Reduced possibility for human error, improved data accuracy and improved customer service



Evaluation of the benefits of RTLS solutions in industry verticals (source Mieloo & Alexander)

Key challenges / project assignment

Mieloo & Alexander were selected as the system integrator responsible for the implementation of this largest RTLS solution in the world. The project was initiated in 2005 and was symbolically called the Brains project (Broekman Automotive Identification and Networking System).

After an extensive assessment phase during which the business case was verified as well as a technical feasibility study was performed, Mieloo & Alexander carried out the implementation project in approximately 8 months.
During this period Mieloo & Alexander acted as a 'one stop shop' for Broekman and were responsible for delivering this largest mission critical RTLS solution in the world.

Mieloo & Alexander were responsible for the following key challenges during this engagement.

- Project- and change management
  Mieloo & Alexander were responsible for the overall project- and change management of the entire project, managing various project teams (i.e.: business process redesign team, ICT infrastructure team, WhereNet configuration team, middleware integration team, etc.) as well as third party contractors for example for the physical installation. Due to the multi disciplinary nature of these large scale technology enabled business improvement projects a thorough project – and change management approach is required.

- Business improvement approach rather than technology push
  Mieloo & Alexander's implementation approach is very much focussed on achieving business improvement enabled by the RTLS technology. Mieloo & Alexander therefore redesigned the business processes together with Broekman Automotive, leveraging the RTLS technological capabilities.

- Business and technology design
  Mieloo & Alexander provided an integrated approach designing business processes and technology requirements.

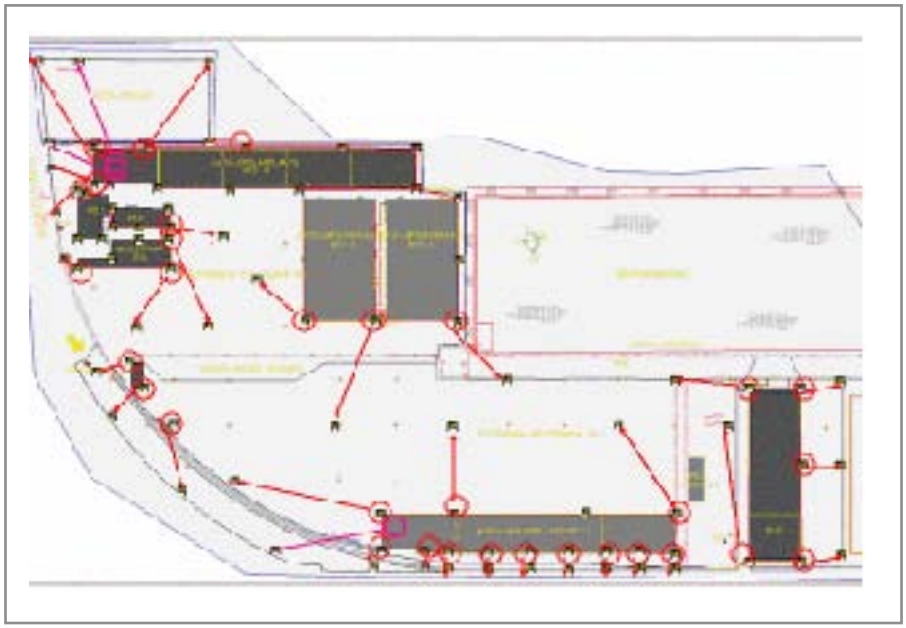
- Integration platform
  Mieloo & Alexander designed and developed the integration platform (based on Microsoft .Net) between the RTLS solution and the back-office of Broekman Automotive. This integration platform was particularly challenging due to the high volumes of data involved.

RTLS solution

Mieloo & Alexander selected the RTLS solution based on WhereNet technology. The solution components involved are illustrated below:

WhereNet RTLS solution

The figure below provides an overview of the Locating Access Points deployed throughout the Broekman site, which are used to provide the triangulations for locating the vehicles on the 850.000 square metre compound.



Overview RTLS solution

Benefits realized / results:

With the implementation of this RTLS solution the following benefits were realised within Broekman Automotive:

- Productivity improvements and labour savings resulting from reduced search time from hours to seconds as the RTLS system graphically displays the location of every tagged vehicle on-site at slot level. And by also 'tagging' the operators, dynamic operational planning becomes a possibility, with a huge potential to further reduce processing times.
- Reduced lead-times and reduced claim on working capital.
- Reduced damage control and rework, as vehicles can now be identified without operators having to open doors to read the VIN and therefore are less likely to incur "dings" during processing.
- Improved operations by minimizing the possibility of human error, improved data quality and improved accuracy of customer information and service.
- By extending the closed loop up and downstream, 3PL's have the opportunity for advanced collaboration and to tighten the relationship with the customer, in the meantime reducing the costs of the RTLS solution by spreading the usage over multiple players.
- Better customer service that provides a competitive advantage in the automotive logistics market and results in higher customer satisfaction and new business.

Overview Broekman Automotive

Customer information

The Broekman Group was founded in 1960 as "Scheepvaartmaatschappij Broekman Motorships N.V." after taking over Altrex International Forwarders B.V. and Farha International Services Europe B.V., the Broekman Group also purchased the holding company "Over de Tjonger B.V."

Including management and staff, the group of companies currently employ around 900 people.

The Broekman Group currently operate from four divisions:

- Shipping division (liner agencies, forwarding, and logistic inland services)
- Automotive division (logistic services for the automotive industry)
- Forwarding division (national and international freight forwarding)
- Corporate Services (IT support and administrative services)

Customer testimonial

"Mieloo & Alexander did a great job in implementing this RTLS solution for Broekman Automotive and are possibly one of the few companies currently in the world capable of deploying mission critical RFID solutions on a large scale, providing an integrated approach with technological and business process knowledge."

Wim Milder
General Manager ICT Broekman Group

About Mieloo & Alexander

Mieloo & Alexander Business Integrators is a consulting firm that specializes in technology enabled supply chain improvement, with a focus on supply chain management and visibility through the use of innovative information technology (RFID). The highly trained consultants design, plan and implement advanced supply chain solutions that focus on RFID Electronic Product Code (EPC) and real-time locating solutions (RTLS). Mieloo & Alexander has customers throughout Western Europe that include multinationals such as: Sony, Akzo Nobel, KPN, ASML, Broekman Automotive, TNT and Hitachi. Mieloo & Alexander is headquartered in Hoofddorp in the Netherlands.

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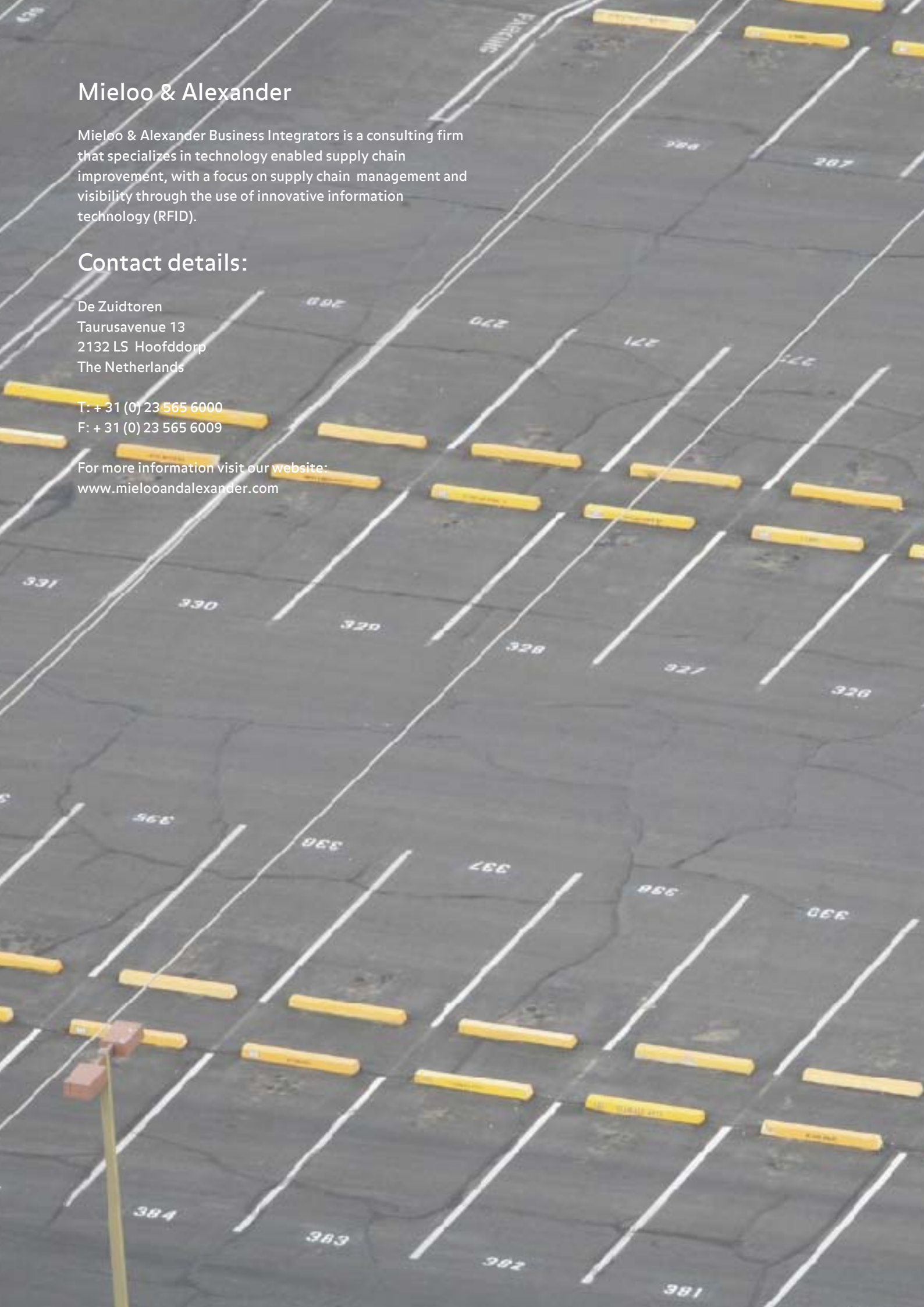

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