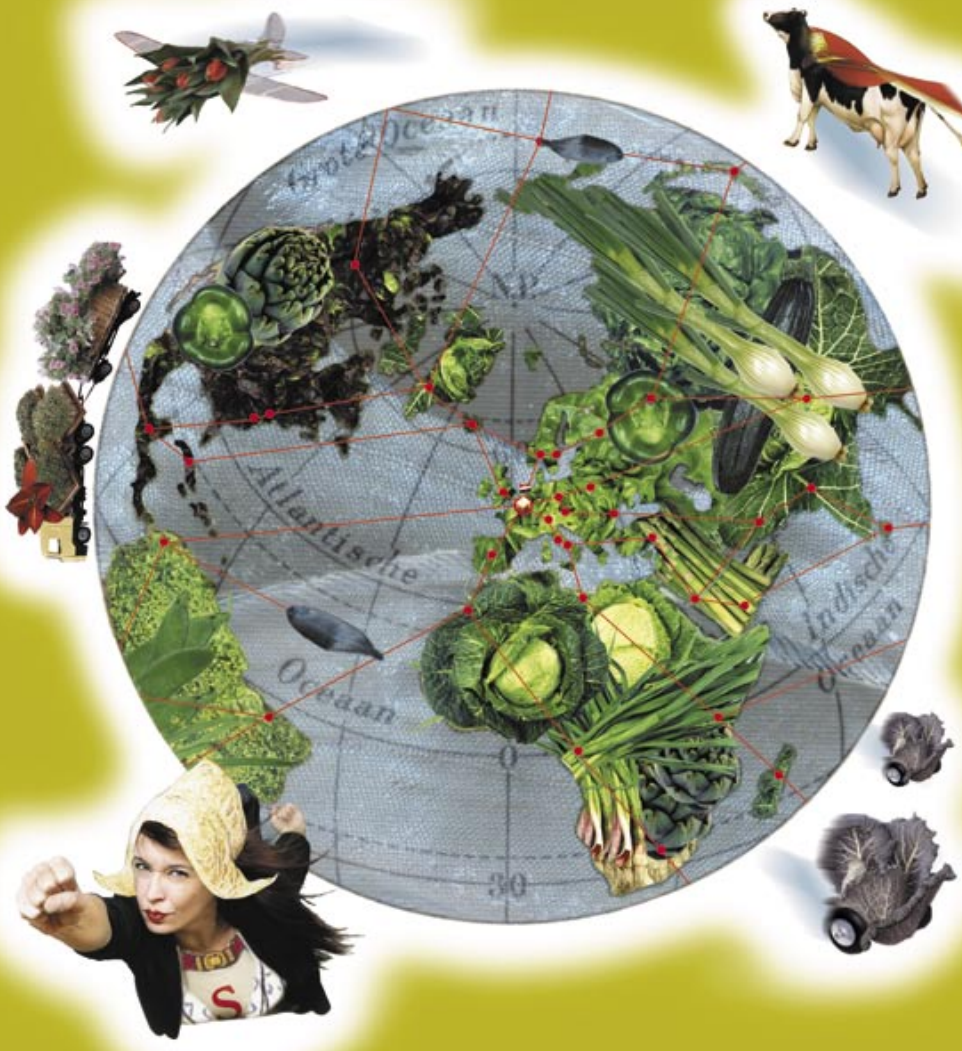
PLATFORM
Agrologistics
cluster connect direct



Improving logistics for the agricultural industry

Agrologistics **Improving logistics for the agricultural industry**

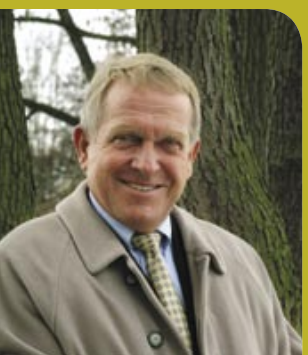
Not long ago agricultural produce was transported to the marketplace on a farmer's wagon. Barges and other types of ships were also widely used by Dutch market gardeners. Nowadays haricot verts arrive in the Netherlands by air from Africa, bananas are delivered in refrigerated containers by sea from Central America, and palm oil seeds arrive by bulk carriers from Asia. Flowers that pass through the Dutch flower auctions in the morning will be on sale that same evening in New York and bought by customers in Tokyo the next morning.

Apart from the growing distances between primary producers and consumers there is an increasing diversity of products on offer. Consequently the number of kilometres travelled by agricultural products and food is increasing. Over the last twenty years, for example, the amount of agricultural produce and food products transported by road has doubled. If this trend continues, these will double again over the next twenty years. Resulting in an increase in traffic leading to more congestion in cities and bigger traffic jams on the motorways.

In the Netherlands agricultural entrepreneurs, logistics companies and knowledge providers, such as universities and research institutes, have joined forces to tackle the problem in a government-supported initiative known as 'Platform Agrologistics'. The Platform challenges the different players in the field – including farmers, the food processing industry, retailers and logistics suppliers – to come up with innovative solutions to improve logistics efficiency. Ideas will play a key role. The Platform will support good ideas not by means of funding, but by providing good advice.

The projects adopted will be assigned to mentors who will offer valuable support to project participants throughout the development process. This will help to ensure that their embryonic ideas will grow and thrive. The mentors will also offer help to overcome obstacles – such as contradictory regulations – to guarantee that good ideas are able to come to fruition.

INTERVIEW **Frans Tielrooij, chairman Platform Agrologistics**



'You can't ban people from driving a truck. If you want to tackle the increasing congestion, you have to tackle the underlying processes. Not by rules and regulations, but by challenging those involved to come up with potential solutions themselves.

'A leap forward demands that all those involved look beyond the borders of their own gardens'. Only then can you see ways to improve farm-to-fork efficiency. Experience has shown that the producers involved gain by this approach'.

'Platform Agrologistics' activities are designed to support the 'Vision Agrologistics', published in 2001 by both the Ministry of Agriculture and the Ministry of Transport. Key to achieving the ambitions expressed in this vision and to improve the efficiency of logistics are:

Clustering

Combining activities to prevent the spatial scattering of the primary production, processing and distribution of agricultural produce and foodstuffs. As well as minimizing the need for transport, clustering will also promote the development of 'industrial ecology' by providing companies with opportunities to re-use each other's by-products. Reducing the movements of plants and animals will also greatly reduce the risk of spreading disease.

Connectivity

Combining the transport links used for the supply of raw materials between clusters and those used for the removal of products and by-products. These 'fat' supply lines require fewer kilometres per vehicle and offer the opportunity to deploy other means of transport, such as trains, boats or pipelines.

Directing

Directing, managing and organizing agricultural product flows, which do not necessarily pass through the Netherlands. Modern information and communications technologies open up opportunities for new ways of cooperation on a European and even global scale, thus improving not only efficiency, but also food safety.

Dairy Park

The DOC Cheese Cooperative, based in the northeast of the Netherlands, is a medium-sized business that processes 600 million litres of milk annually to produce cheese, milk powder and whey. The largest proportion of the cheese produced is crustless cheese, which is further processed elsewhere into pre-packed slices. DOC Cheese also produces naturally ripened cheeses.

Until 2003 the process of cheese ripening was carried out at various locations around the town of Hoogeveen. From a logistical perspective, this was far from ideal and also restricted growth opportunities. As a result, DOC Cheese decided to consolidate its activities to an area adjacent to the motorway hence enlarging the accessibility to its customer base including Germany.

Building new premises also made it possible to set up production more efficiently in terms of logistics, water and energy use. There are plans to improve efficiency further by attracting related businesses, such as a slicing and packing company, to the site. Consolidating and shortening the various links in the cheese production chain have significantly decreased transport needs. The new set up offers environmental benefits too. For example, the water used in the cheese production is obtained from the by-product whey by membrane separation. In addition, to optimize the energy use a heat-power generator was implemented on the new premises which allows heat, released during the production process, to be re-used.

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Agriport A7

In the northwest of the Netherlands the fields exhibiting the straight-line symmetry of green and white cabbages alternating with the more frivolous curly kale and broccoli display an attractive visual canvas of Dutch wealth.
By establishing the Agriport A7 cluster the companies involved try to ensure that this canvas is attractive in both environmental and economic terms. The aim is to collectively sort and package the vegetables grown on farmland and in surrounding greenhouses and transport them 'just in time' to suppliers.

Because the activities of the companies involved are spread out over various locations, empty boxes, crates and other packing materials need to be transported. By bundling their activities and creating an Agripark – a business park where related businesses could also find a home – the companies hope to reduce this unnecessary burden to the environment, while at the same time improving their own efficiency and reducing their costs.

Clustering activities reduces transport by an estimated 20 percent. As well as the environmental and economic advantages, this also results in a significant decrease in the number of trucks that thunder through the small villages in the area. Combining the various product flows will also minimize the order-to-delivery time for supermarkets. In addition, the collaboration between different companies makes it possible to combine certain activities, such as washing crates or folding boxes automated, resulting in cost reductions for the producers.

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Flora Holland

When it comes to growing flowers, pot plants and trees, the northeast of the Netherlands and the neighbouring areas in Germany are an emerging region. Although Germany and Scandinavia are important markets for these products, producers currently have to travel to auction houses in the western part of the Netherlands to sell their wares. This results in a large number of 'empty kilometres' on the road between the north and the west of the Netherlands.

The auction organization, FloraHolland, together with producers' collectives, logistics suppliers and regional governments, are looking for ways to make this transport to and from the north of the Netherlands more efficient. The average load of trucks currently stands at a modest 70 per cent and sometimes even less. Shuttle services designed to improve the transport stream need to be enhanced.

Achieving this requires effective management. Central planning will initially lead to an improvement of logistics efficiency by around 15 percent. This could be further improved by collaboration with suppliers and customers dealing with different agricultural products. The FloraHolland auction in Eelde forms a link in the chain of logistics suppliers for ornamental plants. In the near future it will also provide a location where the plants can be processed, inspected and packed.

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Fresh Logistic Network

The Netherlands is an important producer of agricultural products, such as flowers, meat and dairy products. Further it is also a significant player in the trade of both home-grown and imported produce. The Netherlands supports a very strong agricultural cluster, which forms a link between primary producers worldwide and European customers such as large supermarket chains.

The Fresh Logistic Network aims to strengthen the role the Netherlands plays in the trading of agricultural produce and to improve the efficiency of food transport by separating the information stream of the movements of goods from the actual flow of goods. The agricultural produce can travel directly from the supplier to the client, but the information continues to travel via the Netherlands.

The quality and efficiency of the flow of goods will be improved by the development of 'consolidation centres'. In these centres the products can be stored, under refrigeration if necessary, packaged, graded by quality and inspected for plant diseases. The consolidation centres will be located both in the producing regions and at the consuming markets. In addition, a virtual network for the exchange of trade information between suppliers, customers and export managers and for the processing of orders, will be installed and maintained.

The separation of the product and information flows will lead to a massive decrease in transport requirements, while at the same time allowing farmers from the developing world easier access to the European market.

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The Oil Ferry

The south bank of the river Nieuwe Maas, in the heart of Rotterdam, has been home to the Unilever margarine and oil factory for over one hundred years. Over 200,000 tonnes of margarine – corresponding with 600 million tubs – are produced here annually. An important raw material is rapeseed oil, which is supplied to the plant by oil producer, Archer Daniels Midland, based in Europoort situated about 15 kilometres to the west of Rotterdam.

In the past, trucks delivered roughly 55,000 litres of rapeseed oil annually. This meant around 3000 truck movements a year – nearly 10 a day – in this busy area, increasing congestion. In order to minimize the numbers of vehicle movements, Unilever decided to deliver the rapeseed oil by ship and the idea of an oil ferry was born. In order to provide docking for the ship the quay was upgraded and 400 metres of pipeline were installed to aid the unloading of the rapeseed oil cargo. In addition, two 250-tonne capacity storage tanks were constructed on the site of the margarine factory.

The Oil Ferry – a ferry-operated shuttle service that delivers 500 tonnes of oil between Europoort and the centre of Rotterdam twice a week – began sailing in April 2005. It has proved to be a success in both economic and environmental terms. Not only has its deployment resulted in a reduction in the number of vehicle movements in the area it also improved living conditions in the southern part of Rotterdam. Carbon dioxide emissions have been reduced by the equivalent of 50 households.

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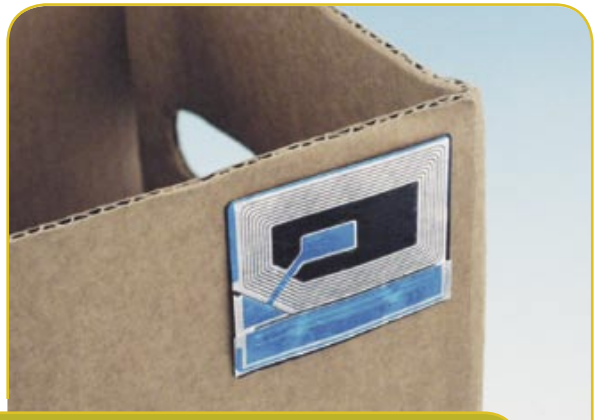

Quality Oriented Tracking & Tracing

Around ten percent of fresh produce is lost through spoilage as it travels from producer to consumer. In order to reduce this wastage the Quality Oriented Tracking & Tracing project is exploring the use of electronic tags to track and trace the progress of food shipments. The electronic tags will use the same radio frequency identification device (RFID) technology often used to identify and trace expensive consumer products. Now the costs of RFID technology are dropping rapidly it should soon be economically feasible to use RFID technology to track food shipments.

The Quality Oriented Tracking & Tracing project involves the implementation of a unique RFID label, which is attached to crates and boxes. This label makes it possible to determine the time lapse associated with the transportation of the fresh produce from the supplier to the store and to record the detours and the congestions that occurred.
To predict the quality of the produce, the crates and boxes are also fitted with a data logger, which continuously records the temperature and humidity levels to which the product has been exposed, along with the exposure times. These variables significantly affect the in-store shelf life of particular products.

Along with tracing bottlenecks in the supply chain, which could affect the quality of the product delivered, the project aims to develop a computer program. Retailers to monitor the amounts of a fresh product put on display can use this program.

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Other projects supported by the Platform Agrologistics

Check Trade

As a major importer and exporter of agricultural produce from around the globe, the Netherlands also has to deal with 'stowaways' such as insects, fungi and other pathogens. Check Trade aims to develop intelligent inspection methods based on risk profiles.

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Poultry Meat Chain

Poultry farming is a highly specialized industry, with different companies involved in different stages of the production chain. Shortening the poultry meat chain will bring all these activities together in a single location in order to minimize the need for transport and to improve animal welfare.

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Clustering Pork Production

Four or five family-run businesses located in a single business park will be working together to manage the entire pig farming process, from breeding to fattening pigs for meat production. The aim is to minimize transport needs and develop opportunities for centralized processing of manure.

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Four-leaf Clover

The project 'Four-leaf Clover' works to balance the economic and spatial developments involved in creating new areas for greenhouse farming in the south of the Netherlands. The project combines investment in a railway terminal with the development of a 'fresh food park' where products can be traded and processed.

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Protein corridor A1

Production and processing of animal protein are concentrated in a number of places along the A1, the main motorway to Germany and beyond. The project aims to minimize the transport burden and optimize energy and water use by combining activities. It will also lead to opportunities which make use of by-products.

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New Mixed Farming

A poultry company has teamed up with farms breeding pigs and growing mushrooms and vegetables to create a new type of mixed farming. Working with an installation company to create a healthy industrial ecosystem by reducing energy use, waste and use of materials, the business aims to operate in harmony with the surrounding area.

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UnitNet

Road, water or rail. Each mode of transport has its strong points. UnitNet aims to make the best possible use of the transport options by coordinating the various forms of transport through applying modern information and communication technologies. For example importing fruit by ship from Spain and distributing it further inland by waterways and roads.

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The Agrologistics Platform stimulates innovative projects initiated by the agricultural industry to improve the effectiveness and sustainability of the logistics of agroproducts and animals.

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