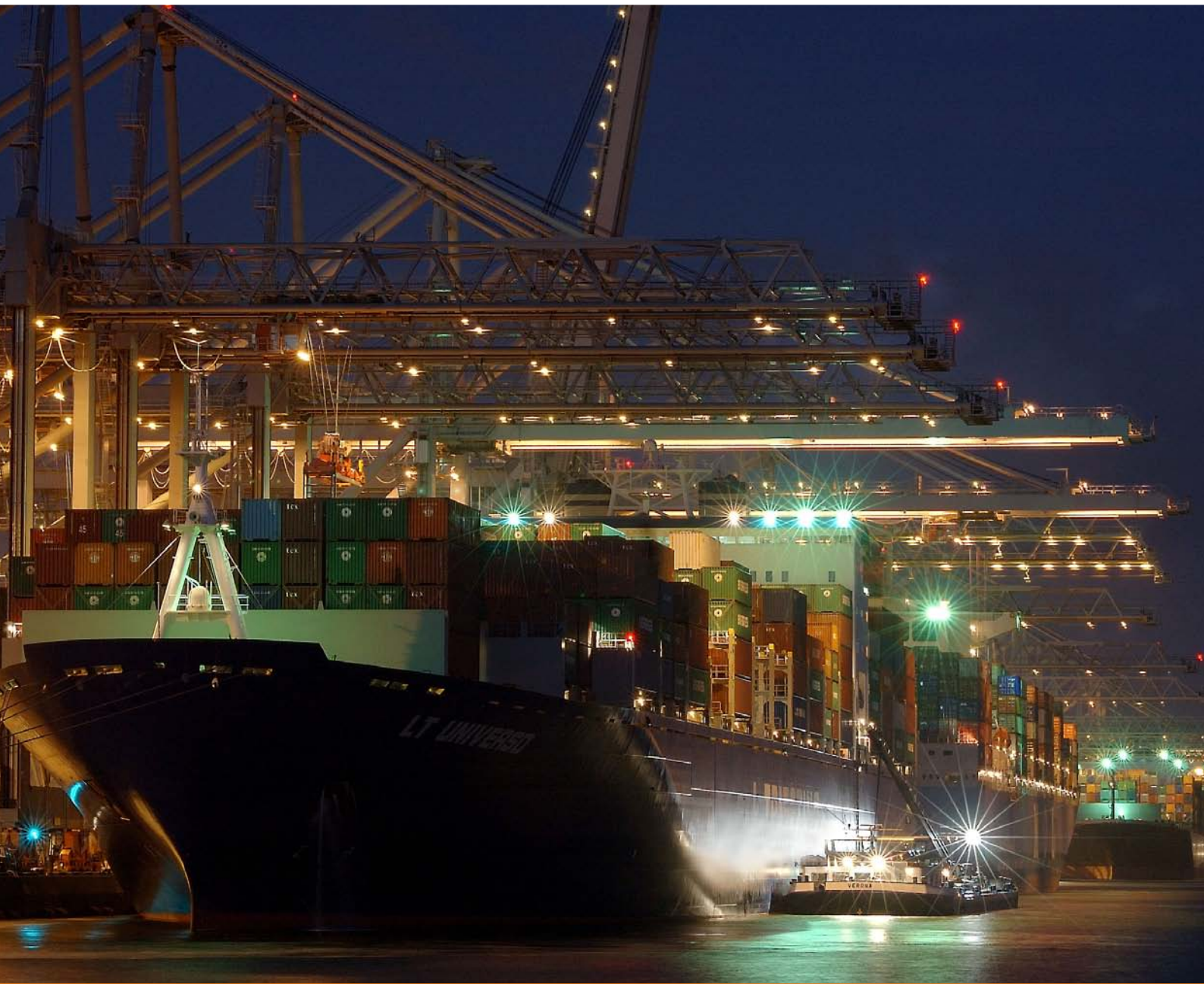


# MADE IN HOLLAND LOGISTICS

Sustainability in transport • Worldwide network • Schiphol  
Smart cooperation • Infrastructure • CO<sub>2</sub> reduction





## The Dutch Way

Photo: ANP Photo



### Logistics creates prosperity

Millions are spent on logistics. Logistics is the backbone of trade, making sure that whatever has to be delivered actually reaches its destination. A single consignment may include life-saving medicines, a birthday present to a distant friend, or the future hopes of an emerging company in the form of a unique prototype. DHL, into which the Dutch company Van Gend & Loos was incorporated in 2002, is well aware it is not just a matter of taking packages from A to B. Logistics creates prosperity, transports health, strengthens growth, brings joy. DHL connects people on a daily basis and improves their lives. [www.dhl.nl/en](http://www.dhl.nl/en)

# Welcome

The Netherlands is an open economy. The country has a long-standing tradition of international trade and it has become an important player in the world economy as a result. The position of the Netherlands in the world is unique. The presence of three closely-coordinated main ports (Schiphol, the Port of Rotterdam and Amsterdam) makes the Netherlands a unique gateway to Europe. Logistics is by definition international, which is why the Netherlands targets continuing optimisation of the world-wide supply-chain system. Good international accessibility and efficient customs facilities also encourage companies to set up their headquarters in the Netherlands. And since the Netherlands has a logistics system that provides top quality and service within its borders, Dutch chain control companies have become a desirable logistics partner in all worldwide flows of goods. Connect to our network; we would be happy to show you the quickest route.

## MADE IN HOLLAND LOGISTICS

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Ministry of Foreign Affairs

[www.hollandtrade.com](http://www.hollandtrade.com)



## In the spotlight

Source: Toolkit RVO.nl







Photo: ANP

## Biggest cocoa dock in the world



ICT helps logistics companies in the Netherlands to go one step further in improving their logistical processes. It leads to genuinely 'smart' logistics. Apart from optimal physical handling of the goods, specialised software applications also lead to synchronised modalities. A flexible and sustainable connection between the flow of goods and the flow of information raises the level of efficiency to unprecedented heights. Many people are unaware that the Amsterdam Cocoa Dock has been the biggest cocoa dock in the world for hundreds of years now. The primary concern of the dock is to coordinate all the facilities and services for the transport

of cocoa. This is a huge task, involving specialised customs control and the inspection of all cargo by the Netherlands Food and Consumer Product Safety Authority. More than 20,000 tons of cocoa can be stored at any one time in the dry warehouses at the dock. More than 600,000 tons of cocoa beans arrive here by ship each year. This is about one sixth of global production. Apart from making chocolate, the cocoa is also used in the cosmetics sector and the pharmaceutical industry. [www.portofamsterdam.nl](http://www.portofamsterdam.nl)



## Laying logistical hubs

The high-value Dutch infrastructure provides fast, reliable and sustainable connections. Qualities that allow asparagus in Venlo, for example, to be flown to the other side of Europe in just half a day. So that it stays fresh all the way to the dining table. But without additional services a lot of potential would be lost. The solution is to create a flexible coupling of modalities, networks and connections, such as the one realised by European Gateway Services at the European Container Terminal (ECT). This system provides a wide range of customised and additional services, including intermodal connections and inland terminals. ECT guarantees shipping companies,

forwarding agents, hauliers and shippers comprehensive services to facilitate optimal transportation of containers between deep-sea terminals in Rotterdam and the (immediate) European hinterland. The top priority for enterprises is, after all, to ensure that every consignment arrives at its final destination on time and at the right price. The future growth of the container terminal is assured thanks to the construction of the Second Maas Plain, while new agreements with other Dutch seaports and the Port of Antwerp further reinforce the connection. [www.ect.nl/node/262](http://www.ect.nl/node/262)

## In the spotlight

Source: Interface

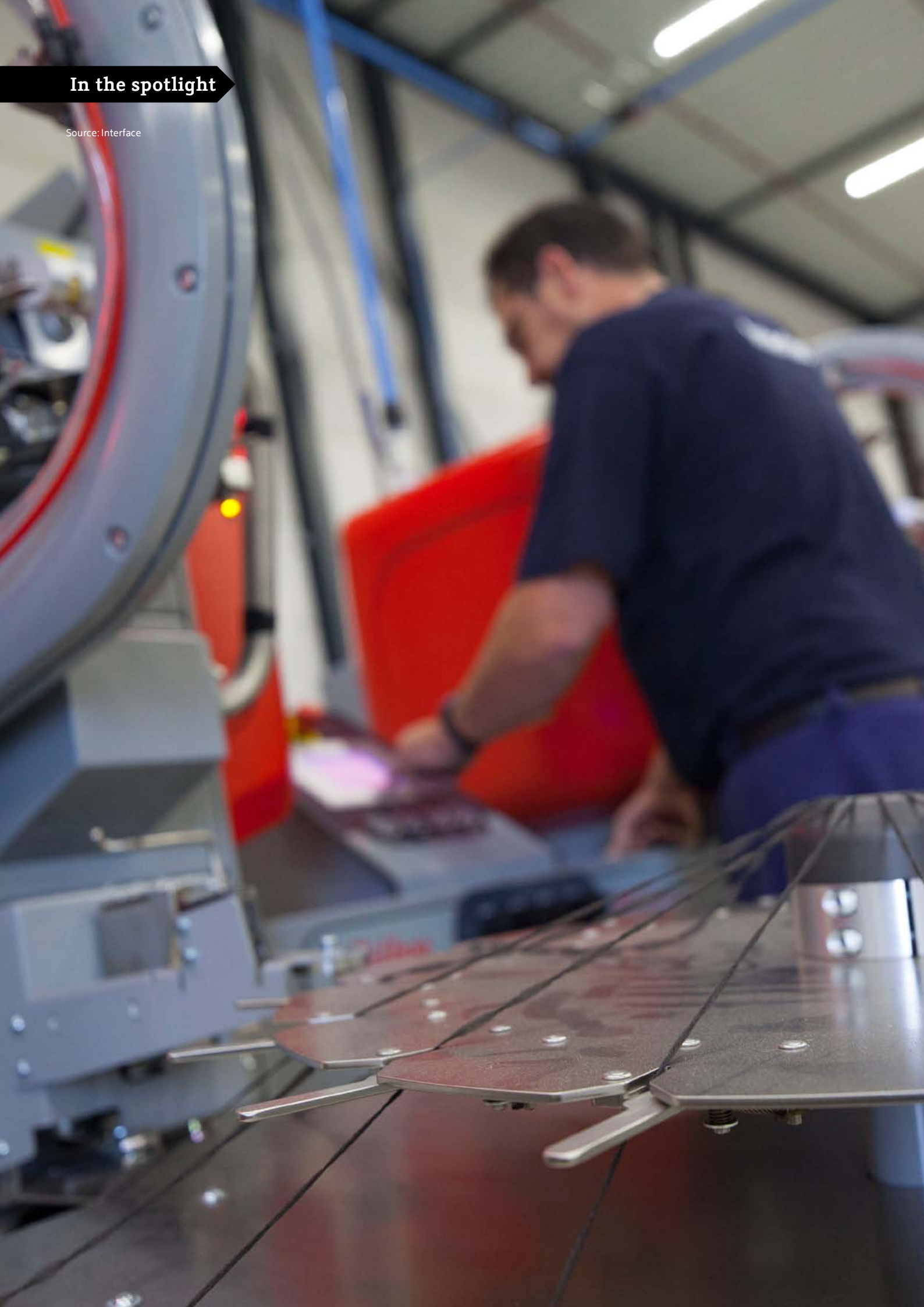






Photo: Hollandse Hoogte/ Elmer van der Marel

## All the way to the front door



Stocking up shops in the city centre is difficult and time-consuming. These areas are generally unsuitable for the robust flow of twenty-first century traffic. Lorries spend more time standing still than in motion. Local authorities try to keep trucks and lorries out of their city centres to reduce emissions of CO<sub>2</sub> and particulates. By grouping the various flows of goods however, shippers are very successful at supplying businesses in the city centre. The benefits of grouping are clear; goods are transported more efficiently, more sustainably and more cheaply. Economies of scale occur when several parties combine their strengths and their logistical expertise through what are known as 'Cross Chain Control Centres'

(4Cs). A 4C is a control centre where several complex European and worldwide supply chains are controlled and coordinated simultaneously. All the way to the front door. This involves combining and directing the flows of physical goods, information flows, financial flows and data management. 4Cs lead to better organisation, better coordination and an optimal combination of activities. They also deliver savings on supply chain costs by combining loads and reducing the pressure on the environment, not to mention the new job opportunities they create.

[www.dinalog.nl/nl/about\\_us/communities/4c\\_\\_cross\\_chain\\_control\\_centers/](http://www.dinalog.nl/nl/about_us/communities/4c__cross_chain_control_centers/)



## Return logistics: Return to maker

Raw materials are becoming scarcer and therefore more expensive. Recycling is a matter of growing importance. The linear economy is being replaced by the circular economy. In this sustainable economic model the reuse of raw materials is the key. Materials that used to be regarded as waste are now valuable building materials. Interface is a front runner in this circular economy. In its ReEntry 2.0 programme, Interface collects old carpet tiles for reuse as a source of energy and raw materials. But without efficient, well-organised return logistics, circular logistics will never get off the ground. These processes will only run smoothly if return

logistics are perfected to the last detail. Logistical partners have to be able to make the connection between social challenges such as logistical efficiency and sustainability on the one hand and (business) economic benefits on the other. Dutch logistics companies must play their part in the circular economy by further improving the organisation of both their supply logistics and their return logistics.

[www.interfaceflor.nl](http://www.interfaceflor.nl)

Photo: Sanne Paul

# Flying, sailing and driving Dutchmen

The Netherlands plays a key role in our globalized economy by connecting producers and consumers worldwide. Our success is based on cutting-edge infrastructure, world-class service providers and a coastal location in the heart of Europe.

## 1602

The year in which the Dutch East India Company was established, one of the first large-scale logistics companies in the world. The Dutch East India Company imported spices from overseas, a logistical operation which made a major contribution to the nation's 'Golden Century'.

The Port of Rotterdam is Europe's largest port by far. Some 30,000 ocean going ships and 100,000 inland vessels moor in this maritime hub every year. This makes it the **4th largest port in the world**

## 52,6 million people

Amsterdam (Schiphol) Airport is a major European aviation hub. Apart from 52.6 million people, 1.5 million tons of freight pass through Schiphol Airport annually.

*The Dutch have plenty of room, boasting the second-largest*  
**cooling** *and deep-freeze storage capacity in Europe.*



# 1,000

More than 1,000 American and Asian companies have centralized their European distribution activities from the Netherlands. The country hosts over 19 million square meters of distribution centres (about 3,000 football/soccer fields).

# 813,000 jobs

The transport industry provides jobs for 813,000 people. Transport services (goods and persons) account for around 22 percent of Dutch service exports and 4.2 percent of the total export value.

# 24 hours

*From the Port of Rotterdam all the major industrial and economic centres of Europe can be reached within a day.*

The Netherlands makes extensive use of IT to deliver optimal supply chain solutions in time-critical areas like food and cut flowers. The country is a **pioneer** in the development of environmentally sustainable logistics and 'silent' logistics.



“We want to be a front runner in sustainable transport”







**Aad Veenman (1947)** is the figurehead of Topsector Logistics and the Strategic Logistics Platform. He was formerly CEO of Stork and chairman of the board of directors of the Dutch Railways.



<http://www.topsectorlogistiek.nl>

# Without logistics everything would grind to a halt

For years he was in charge of one of the busiest and most close-knit railway networks in the world. The entire Netherlands - politicians, transport companies, travellers - watched his every move. If anyone knows how to combine logistical objectives with social challenges, that person is Aad Veenman. "The Netherlands is a well-oiled machine; the interconnection between rail, road and water transport is that good. Now we want to be a front runner in the field of sustainable passenger and goods transport. And that involves a great deal more than simply deploying economical trucks."

## You referred to the Dutch logistical network as a well-oiled machine. Is there anything that could be improved?

"Logistics plays such a vital role in the Dutch economy you never really stop thinking about it. It affects everything we do. Without logistics everything would grind to a halt. Of course you can always make improvements. The Netherlands is a leading player when it comes to logistics. We are in second place on the World Logistics Performance Index (LPI) 2014. We have our customs, the rapid discharge times in our ports, the positive role of government and the quality of our infrastructure and logistical services to thank for that. We do all of those things very well and will put our resources to even better use in the future. The Netherlands as the Gateway to Europe can become a world leader in safe, rapid and sustainable passenger and goods transport by the year 2020."

## Efficiency and sustainability. How do you achieve both?

"By always aiming to be the best and by tackling major social challenges such as traffic congestion and CO2 emissions seriously. We also try to save money. We are reducing the costs of transport and the kilometres travelled. There is also a growing demand for green logistics. The Netherlands has a close-knit network of canals and rivers which is extremely well-connected to other forms of transport. The customer, a shipper or haulier for example, is offered an integrated solution to his transport needs. From the port to the hinterland by road, rail or inland waterways. Heineken beer travels by inland waterway from the moment it leaves the brewery in Zoeterwoude. We refer to this kind of flexible, sustainable deployment of our transport options as 'synchromodality', a word you will hear me use often."

## So sustainable logistics is above all a matter of smart planning.

"Precisely. The Dutch network is improving all the time. If combined loads lead to fewer half-empty trucks on the road,

this helps both the transport sector and its customers to meet their environmental objectives. The Neutral Logistics Platform (NLIP) gives the Netherlands a head start in Europe, enabling businesses and government to provide and share information in a smart, effective way. We can plan better because the chain is transparent. Chain control and the combining of different flows of goods make the logistics more efficient. Means of transport are better utilised and the regulatory and administrative burden is reduced. That improves the competitiveness of our importers, exporters and logistical service providers as well as enhancing our reputation as a guiding country in the field of logistics."

## Should competitors get around the table?

"They should and they do. Success or failure depends on cooperation, trust and openness. The entire logistical chain benefits, including shippers, main ports, system suppliers and knowledge institutes. The ICT infrastructure is increasingly connected to that chain. By means of e-fulfilment for example, robots that compile orders during the night, and border management compliance whereby loads can be inspected at a distance in advance."

## Why are more and more international companies setting up headquarters in the Netherlands?

"We have one of the best logistical networks in the world, plus Schiphol Airport and the Port of Rotterdam. Everyone can benefit and it is ready for use. Our combined reputation as the Gateway to Europe and a country of inland waterways has been further enhanced by European Gateway Services, an expanding network of terminals in the European hinterland. We guarantee container transport by rail and inland shipping from Rotterdam to the front door, anywhere on the continent."

## Best Practices



Source: maximate

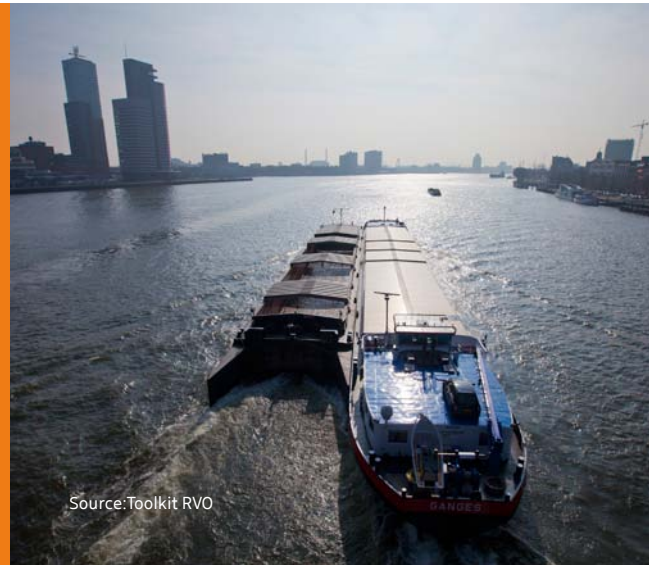
## Stacking pallet loads more compactly

Rather than transporting cubic metres of empty space above your pallets from A to B, why not make the most of that space and convert it into profit? Using the Maximate system, two, three or even four times as much freight can be transported on a single pallet location. All with the same footprint! Hauliers who carry numerous partially filled pallets can benefit enormously from this Dutch invention. It consists of a set of four aluminium angle sections with two cross beams and two taut bands. The device is fitted around each pallet so that as well as being easier to stack, they can be stacked much higher without becoming unstable. This raises the load factor in lorries and also allows loaded pallets to be stacked more compactly in the warehouse. Eight patents have been granted for the system worldwide.

[www.ati-maximate.com](http://www.ati-maximate.com)

## Economic transport by ship to the hinterland

Is container transport using inland shipping uneconomic? Not any more! The Lean and Green Barge (with point to point connections between container terminals) has solved the problem! It allows container transporters to combine their flows with the flows of other shippers. Such horizontal cooperation makes it far more realistic and affordable to transport containers by inland shipping. It also leads to better mutual and regional cooperation and a greater demand for new operational services, such as the planning of flows between several shippers, shorter journeys at greater frequency, the deployment of multiple modalities and reserve road-transport capacity. Launched in January 2013, the project has been a great success. Growing numbers of shippers and service-providers are taking advantage. There are five lanes for Lean and Green Barge currently under development. [www.synchromodaliteit.nl](http://www.synchromodaliteit.nl)



Source: Toolkit RVO

## More freight, less CO<sub>2</sub>

Longer and heavier lorries (LHLs) improve the efficiency of goods transport. This form of transport is already deployed in the Netherlands by kitchen specialist DMG (The Mandemakers Group). What are the advantages? They are relatively cheap and reduce fuel costs by 30% in comparison to standard lorries. This ties in very well with DMG's ambition to reduce its CO<sub>2</sub> emissions by 20% before 2016. De LHL is 25.25 metres long and it can take two semi-trailers each of 10.6 metres in length. Only minor adjustments to the planning were needed before deploying the LHL.

[www.keukenman.nl/dmg-geeft-het-goede-voorbeeld-met-inzet-lzv](http://www.keukenman.nl/dmg-geeft-het-goede-voorbeeld-met-inzet-lzv)



Source : Keukenman/ Barletti

## Retail meets e-tail

In contrast to many other franchise formats, the typically Dutch department store Hema is a front runner when it comes to e-commerce. They offer the same brand experience to customers online as they do to customers in the shop. Hema already has a complete infrastructure of stores as well as a logistical network. Many e-tail orders ultimately end up in the retail supply chain so that customers can collect their order from the shop. Another smart innovation is their window stickers for products, which customers can scan and order with their smartphones while standing outside the shop. [www.hema.nl](http://www.hema.nl)



Photo: Nationalebeeldbank.nl





Source: NLIP

## Transparent sharing of information through a platform

For Schiphol Airport and the port authorities of Amsterdam and Rotterdam, the transparent exchange of information is a matter of great importance. The Neutral Logistics Information Platform (NLIP) can give the logistics sector in the Netherlands a head start in Europe. The NLIP allows information to be delivered and shared throughout the entire chain. That makes Dutch logistics efficient, predictable and competitive, thereby creating a more reliable product. The platform also leads to fewer waiting periods, more efficient planning, earlier completion, fewer inspections and a higher load factor. The entire logistical chain benefits as a result. [www.nlip.org](http://www.nlip.org)

## 65 percent saving on administrative charges

The import of fresh cut flowers, plants, bulbs, cuttings, vegetables and fruit through Schiphol Airport involves numerous administrative charges. Businesses and the government bodies operating inside this import chain came to the conclusion that these expenses could be reduced by as much as 65 percent. By combining government controls, the business community saved 3,5 million Euros per year and the fees could be lowered. One successful example is the CLIENT project in relation to phyto-sanitary inspections in which Kuehne + Nagel took part. In this digital process the declaration is made before arrival at Schiphol Airport, so that the NVWA and customs can decide in time whether they need to inspect the goods. This saves time and money. [www.kuehne-nagel.com](http://www.kuehne-nagel.com)

## PHYTOSANITARY INSPECTION POINT



Photo: Herman Wouters



Source: Toolkit RVO

## Creating seamless connections

Airlink is a pilot project in the Seamless Connections innovation programme, a joint initiative by Schiphol Group, Cargonaut, Air Cargo Netherlands, SADC and InHolland. It focuses on accelerating, connecting and promoting logistical chains in the Amsterdam region. ICT solutions (digitisation) play a significant role in this project. Seamless Connections enables the Amsterdam Metropolitan region to improve its current and future performance in terms of speed, safety and reliability, lower costs and sustainability. One specific achievement of Airlink is the eLink digital pre-registration system for the transfer of export cargo between shippers and handlers at Amsterdam Airport. By using eLink, part of the logistics process (reporting to the handler's office) can be omitted, allowing cargo to be delivered faster. Get an impression of eLink in 90 seconds.

[www.youtube.com/watch?v=SBAz79BIOK4](https://www.youtube.com/watch?v=SBAz79BIOK4)


## Anticipating major repairs

Customers are increasingly demanding when it comes to service logistics. In principle the systems should never break down. There is also a strong focus on the Total Cost of Ownership. The partners in the research project ProSeLo are working to improve the performance of services, among other things by taking a closer look at preventive maintenance. Crisp-machine manufacturer ASML wants to offer customers a proactive maintenance system. Rather than waiting until repairs are actually necessary it is better to service the machine in advance, as a precautionary measure. This extends the useful life of the machine and reduces the repair costs substantially.

[www.dinalog.nl/en/projects/r\\_d\\_projects/proselo/](http://www.dinalog.nl/en/projects/r_d_projects/proselo/)



Source: Dinalog



Into the future

Source: Schiphol Cargo

## An airport for Europe

“By the time I start an afternoon lecture at a conference abroad, I have probably heard Schiphol mentioned at least three times that day. Schiphol has become a benchmark in cargo.” Does that sound arrogant? Enno Osinga, Senior Vice President Cargo of the Schiphol Group, just back from the Air Cargo Forum in Seoul, can do nothing about it if it does. “Once again people came from all over the world to meet the Dutch delegation and to hear about our successes with public-private partnership.”





**Enno Osinga**, Senior Vice President Cargo, Schiphol Group. Schiphol is the third biggest cargo airport in Europe and is located in the heart of the Randstad conurbation, one of the largest conurbations on the continent. Schiphol Group employs more than two thousand personnel.



[www.schiphol.nl](http://www.schiphol.nl)



[osinga\\_e@schiphol.nl](mailto:osinga_e@schiphol.nl)



[@NLAirCargo](https://twitter.com/NLAirCargo)

Thanks to that partnership Schiphol can get its projects off the ground quickly, according to Enno Osinga. Projects designed to reduce the number of administrative charges on businesses for example, or to optimise the accessibility of the airport to freight traffic. “But what does *quickly* mean?” laughs Osinga. “I work in freight transport; for me ‘tomorrow’ is often too late.”

### Not the biggest, certainly the best

Schiphol is not the biggest airport in terms of cargo. In Europe Frankfurt and Paris are bigger, and on a global scale the Dutch national airport (with 1.5 million tons of cargo in 2013) is sixteenth. A good place to be according to Enno Osinga. “We are growing faster than our competitors. But it is not our ambition to become the biggest. When we refer to ourselves as *Europe’s preferred cargo airport*, we are referring to our ongoing efforts to develop and modernise the supply chain at Schiphol. And those efforts get noticed; fifty percent of all European distribution centres are located here.”

### International port just down the road

Why do these companies come to the Netherlands? Osinga: “This is the gateway to Europe.” Less than a hundred kilometres away from the third largest cargo airport in Europe (with 267 destinations in 90 countries) is Rotterdam, with the largest port on the continent. Even closer is the Port of Amsterdam, third largest in Europe. Add to this the close-knit network of roads, railway lines and waterways connecting the Netherlands to the European hinterland and you can see what Osinga means. The Netherlands is one big distribution network. “For foreign parties it is increasingly attractive to transport goods through the Netherlands using several modalities, *inbound or outbound*.”

### Fewer administrative charges

This brings us back to that partnership which makes Schiphol so interesting to our professional colleagues. Thanks to the good relationship with the national and provincial authorities there has been substantial investment in the road network around Schiphol, particularly between the airport and Aalsmeer where many flower cultivators are based. “That has virtually put an end to traffic jams slowing down freight traffic. Then there is the proactive approach of Customs, who ask ‘How can we do our job in a way that least interferes with the operations of your business?’”

Under the name of ‘Schiphol Smart Gate Cargo’, public and private parties look at the air cargo chain as a whole. “We integrate supervision and security in the logistical process. This reduces the number of administrative transactions for companies, whereby Customs is still able to perform its enforcement tasks and maintain control. It is no coincidence that we work at the same location - we genuinely work together. That makes Schiphol distinctive.”

### Remote scanning

In 2014 the first international hauliers started ‘remote scanning’ of air cargo. Companies scan consignments selected by Customs in their own warehouse, and give Customs *real time* access to the results. “If necessary Customs will come to the company with a mobile scanner. We no longer take all the cargo to a single, central scanner, because it only slows down the flow.” Cargos can be inspected at any time. Through a central system, aviation parties and government agencies can determine in advance whether a particular consignment should be inspected prior to arrival or departure. “It is all about the exchange of transparent data and its availability. This is the secret behind everything we do at Schiphol. Within the logistics sector we extend this principal of transparent data to a national Neutral Logistics Information Platform (NLIP) which gives us access to all the logistical flows in the Netherlands.”

### China loves Schiphol

The branch organisation Air Cargo Nederland (ACN) also deserves particular attention because it is unique in the world, according to Enno Osinga. Among those represented by the ACN are airports, airline companies, hauliers, handling agents, air cargo truckers and even insurers and employment agencies. “In 2020 we want to reduce the throughput time for incoming export goods to Schiphol by a quarter. This is not something the management of the Schiphol Group can decide and implement on its own. All the parties involved have to stand behind that ambition. We are also in continuous dialogue to see how things can be improved.”

Osinga believes logistics is ‘in the genes’ of the Dutch people. “From our point of view it may seem to go without saying, but we understand how international trade works. Almost all the Chinese airlines have set up their European headquarters here, not without reason.”



Source: Marel Stork

### ◀ Less stock, more service

Why spread stock over two locations when one location is enough? Marel Stork Poultry Processing (MSPP) came to that conclusion during the Planning Services project. The company sells poultry slaughterhouse equipment worldwide, equipment that has to remain in continuous operation. If a customer needs a new part, MSPP must be able to deliver it quickly. That means holding a lot of stock. It turned out however that the stock locations in Gainesville (VS) and Boxmeer (NL) could be merged. That led to a 22 percent reduction in stock, but not to the detriment of service. The service level even went up, from 97.3 to 98.6 percent. Thanks to a new planning tool, personnel now have access to detailed data about sold and available stock. <http://marel.com>

### Fully stocked stores without inconvenience ▶

How do you deliver a continuous supply to retailers without choking Dutch inner cities with lorry traffic? In the project *4C4D: City distribution* the retail trade and carriers worked out the solution together. By combining deliveries, thereby reducing the number of lorries needed in the inner city. Ahold started a partnership with local hubs to supply the stock requirements of shops and catering establishments in one delivery. The retailers now have regular supply and not too much stock, and the city has as little inconvenience as possible from lorry traffic. The project takes into account all the regulations regarding times, weight, noise, emissions and safety in the transport sector. The Dutch company ORTEC developed two tools during this project to assess and substantiate business cases. [http://www.dinalog.nl/en/projects/r\\_d\\_projects/4c4d\\_\\_city\\_distribution/](http://www.dinalog.nl/en/projects/r_d_projects/4c4d__city_distribution/)



Source: Ortec



PhotoCopyright: Aeroview b.v.

### ◀ New land in the sea

The biggest port in Europe is growing. The *Maasvlakte 2* project has extended the Port of Rotterdam by creating 1000 hectares of new industrial terrain in a part of the sea that used to be covered by 17 meters of water! The modern port is immediately adjacent to the deep shipping lanes of the North Sea, which makes it very accessible. The construction of Maasvlakte 2 has created a high-value top location in the heart of the European market. For this large-scale project sustainability was also high on the agenda, both during construction and during the selection of companies permitted to set up their businesses there. Environmental considerations, such as the amount of air pollution or the way the transfer of containers to the hinterland is organised, were also weighed up in this selection. [www.maasvlakte2.com/en/](http://www.maasvlakte2.com/en/)





Source: Toolkit RVO

## Venlo as logistical hotspot

The Dutch horticultural sector has designated six areas as 'Green Ports'. These areas have a high concentration of strongly linked companies and in them, activities related to agro-food, horticulture and agro-logistics are encouraged and developed. Venlo as the most versatile horticultural region in Europe is naturally one of those areas. There is a unique partnership in the region between entrepreneurs, government, research scientists, education and the environment. The goals are clear: raise economic value from 1 to 2 billion Euros, competitive advantage for companies through sustainable enterprise and the creation of high-value job opportunities. It is not surprising that Venlo has been chosen six times now as the logistical hotspot of the Netherlands. [www.greenportvenlo.nl](http://www.greenportvenlo.nl)

## Together is cheaper



Strong and stable companies are indispensable to the smooth operation of the logistical chain. If one company fails, the rest of the chain comes to a halt as well. The production processes of other companies are endangered. The best way to keep things in financial order is by mutual cooperation. Supply chain finance is a funding structure to ensure the smooth running of financial processes between companies. It is really a combination of financial models. The result? Lower costs, a greater spread of risk and good cooperation between the companies. Supply Chain Finance has already been embraced by large companies such as Philips and Unilever. [www.dinalog.nl/en/themes/supply\\_chain\\_finance/](http://www.dinalog.nl/en/themes/supply_chain_finance/)



Photo: Shutterstock.com



Source: CTT (Combi Terminal Twente)

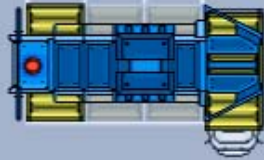
## Superfast throughput

Combi Terminal Twente BV (CTT) carries sea containers mainly over water, but also by road where necessary. In the course of daily operations they encountered a long throughput time. The SIEEG project led to improvements in both the efficiency and the visibility of the logistical chain. Using hundreds of new sensors the partners, shippers and receivers had 24-hour access to important data about the handling and transport of the goods. Thanks to this innovation the throughput time was substantially reduced. All the safety and reporting procedures before the project took about 15 minutes, now they take about 65 seconds! But that is not all. CTT was the first of 16 companies to be awarded a Lean & Green Star for a 32 percent reduction in CO<sub>2</sub> emissions. [www.ctt-twente.nl/en](http://www.ctt-twente.nl/en)

Score : 5908

## Global Issues

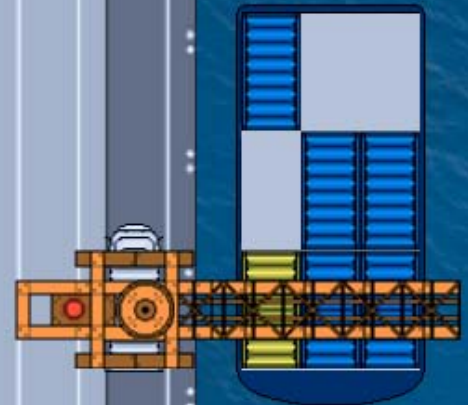
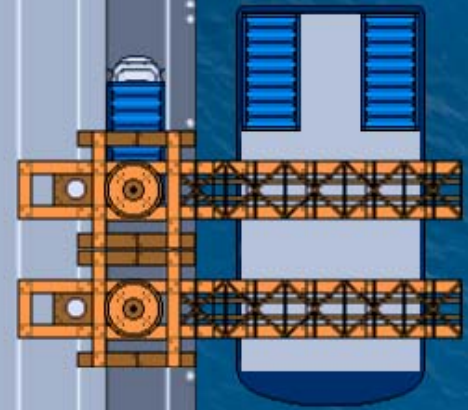
Source: Inthere



322



323



## The aim of the game

In a port terminal everything is about transit times. Where should you put containers to allow the transfer and further transport of cargo to proceed as efficiently as possible? Near the crane, or on that empty spot at the end of the yard? In the Port of Rotterdam, where thirty thousand ships deliver millions of containers each year, the planners have no room to experiment. “The container terminals are under tremendous pressure”, says Daan Groen, developer of serious games for change and learning programmes at InThere. “If the process is not quick and smooth, the container ships will switch to a competitor port on their next visit.”





**Daan Groen** is the founder and creative director of InThere. The company in Delft develops MicroGames, in co-creation, to accelerate learning and change programmes inside organisations.



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There developed *Yard Crane Scheduler*, a series of games which replicate the situation at a container terminal. "There is not much space on which to put a container at any port", says Daan Groen. "The cranes are in continuous use. And the hustle and bustle, the lack of a clear overview due to the quantity of information and the sheer scale of the operation, mean that planners do not always make logical choices." InThere teaches planners to deal with unexpected situations and make better choices.

### Tetris but with cranes and trucks

Yard Crane Scheduler is not a large-scale, realistic copy of a port where you can almost hear the cries of the seagulls in the background. It is a set of simple, clear computer games for several players. The graphics are similar to the popular building-block game Tetris, except that the player now controls ships, cranes and trucks.

"This is precisely what is lacking in the bustle of daily practice: a clear overview", says Daan Groen. "Which is something I noticed immediately when I visited the port. Everything is automated and the planners have access to more information than ever, but the helicopter view is lacking. There is no clear picture of how the roles are allocated among the various planners."

### Small mistakes, big delays

The aim of the game in Yard Crane Scheduler is to unload ships as quickly as possible and deploy cranes as efficiently as possible. To that end the player has to coordinate the different tasks at the container terminal as well as he can. How do you set the yard up? In what order do you load and unload? Where do you position the different types of crane? You start off playing a single role and the computer does the rest. In the next game you take on several roles. This is followed by a multi-player game played with up to five other people on the internet.

"The MicroGames may not be visually realistic but they are certainly realistic in terms of consequences and the actual process", emphasises Daan Groen. "The players of Yard Crane Scheduler discover how mistakes have consequences for the work of others. Small mistakes can lead to big delays. It is important to share information so that planners can respond effectively to changing circumstances such as the late arrival of a ship. So that unforeseen disruptions can be dealt with promptly and extra costs avoided."

### Awareness of your role in the chain

Until recently Daan Groen had never actually visited a

container terminal. "Before I started this project I knew as much about logistics as an average Dutchman. What I am good at is creating serious games." Everyone should do what they are good at, be aware of their role in the chain, and exchange information. This is also one of the ideas behind Yard Crane Scheduler.

Logistical expertise is brought in by the other partners in the SALOMO umbrella project. SALOMO is short for *Situational Awareness for Logistic Multimodal Operations in container supply chains and networks*. In SALOMO several training methods and support tools have been developed for port planners, including Yard Crane Scheduler. Apart from the Delft University of Technology (TU Delft) and APM Terminals Maasvlakte 2, the Dutch Institute for Advanced Logistics (Dinalog) also takes part in the project and is responsible for the financing.

### Scientific view of games

InThere has strong ties with TU Delft, where Daan Groen worked for many years. In 2008 he set up the Delft Centre for Serious Gaming at the Faculty of Industrial Engineering and Management. He developed games for research purposes and in 2010 he started his own company to market his vision of MicroGames. The TU provides a scientific perspective and validation of the projects in which InThere is involved.

One unusual feature of InThere approach is that the company calculates a fixed price for the development of a game. "We only develop as much as is necessary to achieve the learning objective", explains Daan Groen. More games developed by the company involve logistics, such as synchromodal transport in Colombia and the Port of Amsterdam.

### It is all about cranes

InThere deliberately chooses short MicroGames that take about 15 minutes to play and have a single learning objective, as Daan Groen explains. "MicroGames are easier to integrate in the work process. They can be played on normal computers and laptops so that no special terminals are needed."

The players on the Rotterdam terminal are enthusiastic. Daan Groen: "They soon notice how critical the deployment of cranes is. If you schedule the containers in such a way that you don't have to keep moving the cranes around all the time, the entire process runs much more smoothly." In the course of the game the players of Yard Crane Scheduler have to deal with *uncertainty handling, real time planning, forecasting and cross partner collaboration*. "But above all, people enjoy playing the game."

## Around the World

Source: Port of Rotterdam



### Sharing knowledge in Oman



The Netherlands knows a lot about developing and operating seaports and airports. This has led to a long-term partnership between the Rotterdam Port Authority and the Oman government to develop the port of Sohar. With an area of 6,500 hectares this port has so far attracted US\$ 15 billion worth of investment, making it one of the fastest growing port and free zone developments in the world. The Sohar Industrial Port Company is a 50-50 joint venture between the Sultanate of Oman and the Rotterdam Port Authority. With 45 million tons of goods passing through the port each year, SOHAR is now one of the Top 100 ports in the world. [www.portofrotterdam.com](http://www.portofrotterdam.com)





Photo: Vincent Basler Source: Van den Berg Rozen Kenia

## Kenyan roses at the flower auction



The Dutch FloraHolland is one of the world's biggest auction companies for cut flowers and plants. Out of the 750 foreign enterprises in the cooperative, 90 are from Kenya. They get the best market price against a low commission and they also have a say in the policy of the cooperative. Xpression Flora Limited is one of them. This company has grown substantially in recent years. FloraHolland gives them access to the most sophisticated flower and plant market in the world, in combination with a highly developed distribution and auctioning system.

[www.floraholland.com/en/](http://www.floraholland.com/en/)



Source: Douane Belastingdienst

## The Customs professional of the future



The field of customs is changing rapidly. New legislation and changes in worldwide logistics have brought new concerns into play. There is a growing need for professionals with expertise. Government, the business community and the academic world have taken action in this regard, and in September 2013 the Executive Master in Customs and Supply Chain Compliance was set up. There are three universities involved in the course. Erasmus University Rotterdam is responsible for the legal component, Eindhoven University of Technology for trade facilitation and logistics, and Delft University of Technology for business information systems and compliance. [www.rsm.nl/customs](http://www.rsm.nl/customs)



Sef Maas, Corporate Manager Air & Ocean at Ewals Cargo Care

In Europe alone some 1800 people work for Ewals Cargo Care. The family business is based in the Dutch city of Tegelen and has an annual turnover of more than 500 million Euros. Ewals provides intermodal transport services throughout Europe, carrying freight to and from (among other places) China, India and North and South America. Ewals Cargo Care devises total solutions for door-to-door transport. "We control the logistical chain. We do it flexibly, efficiently and sustainably. We like to make life easy for our customers."



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# "This is the model of the future"

### Why has nobody thought of it before?

**Sef:** "They have of course. Optimising the flows of goods is our job after all. If you happen to see the winter collection of a store delivered in five or six stages, with all the uncertainty and extra disruption that brings, the idea occurs to you automatically. But who takes the first step? The preliminary process is daunting; a clothing brand may have forty or fifty manufacturers and suppliers. They all have to be persuaded to do business with just a single carrier."

**Matthijs:** "There is also a lot of pressure on small and medium-sized businesses in the Netherlands. They fear something may go wrong with their supply. Supply is the lifeline of any business. In 2011 we were able to start a pilot in China with financial assistance from Dinalog, the Dutch Institute for Advanced Logistics and the preliminary work of Greenway Logistics. Thanks to the success of that pilot we were able to persuade our members. It was not easy but we were able to demonstrate that it works in practice."

### Convince us

**Sef:** "The first effect of grouping at the source is lower costs. You only need to send one container instead of ten pallets, all of which had to be separately handled at your expense. And now the order goes straight to the shop instead making a detour to the warehouse."

**Matthijs:** "You do the *pick and pack* in the vicinity of the production location. This is useful if the numbers ordered turn out to be incorrect on shipment. Sef already mentioned cost, but there are many other advantages as well. This way you have much more control over the flow of goods."

### Please explain

**Sef:** "There are always unpredictable factors like weather conditions, but there are also other factors you can deal with and improve efficiency. There are fewer parties involved in this model. We control delivery from door to door. That means customers are better informed about the progress of their order. The clothes are in our boxes, we manage the freight, and we can keep the customer properly informed before and





## Matthijs Crietee, consultant and former deputy manager of Modint

About 750 companies are members of Modint, the employers' organisation for manufacturers, importers, agents and wholesale traders of clothing, fashion accessories, carpet and (interior) textiles. Together they have an annual turnover of 9 billion Euros. "Modint undertakes and connects. We do so by working with our members to create a valuable future. We offer innovative, visible business representation and services not only in the field of logistics, but also in relation to business development, purchasing and production."

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They call it 'grouping at the source', getting consignments ready for the shop in production countries. *Pick and pack* on location is well-suited to companies in the clothing sector for example, which may have dozens of suppliers in a particular country. Now everything is received in a single consignment instead of on ten pallets and it comes straight to the shop. That means lower costs, less work and more control.

during the transport. Quicker delivery of the goods is guaranteed if they are already paid for. This leads to a better liquidity position. That may not sound very significant, but in a sector where the margins are small it all adds up. The inconvenience to receivers in the inner cities is also reduced."

### Is this the logistics model of the future?

**Sef:** "We certainly plan to roll it out on a wider scale. Grouping at the source can be applied to other sectors as well, not just the textile industry. Take automotive for example, where you have large flows of goods that are often comprised of numerous small shipments. There too we can remove the fear of a halt in production through greater control of the logistical chain. We can show the success we have achieved in fashion to our *key accounts* in the automotive sector. Nor is the model limited to transport from China to West-Europe; it can equally be applied from the United States to Europe, or from India to Russia."

**Matthijs:** "The members of our trade association expect us to come up with innovative solutions and show the way in *lean and green* transport. In that regard we recommend grouping at the source to our members. We tried it out in China with success, now we plan to roll it out to other important countries such as Turkey."



Source: Toolkit RVO

#### Doing business with the Dutch

The portal to doing business with the Netherlands. Here you can find information about Holland, markets, rules and regulations. The information centre will help to match you up with interesting Dutch partners.

[www.hollandtrade.com/business-information](http://www.hollandtrade.com/business-information)

#### Dutch diplomatic missions and Business Support Offices

These can provide you with useful business leads and contacts through their international networks. Staff will assist you with your trade requests and introduce you to the various trade programmes.

[www.minbuza.nl/en/services/tradeinformation/trade-information.html](http://www.minbuza.nl/en/services/tradeinformation/trade-information.html)

#### Network of Innovation Attachés

Innovation Attachés act as liaison officers during international collaboration with Dutch top sectors. They are posted at embassies and consulates.

<http://english.rvo.nl>

#### Netherlands Foreign Investment Agency

The NFIA is the first port of call for foreign companies wanting to set up business in the Netherlands and take advantage of the Dutch business environment as a strategic base for doing business in Europe.

[www.nfia.nl](http://www.nfia.nl)

#### Dutch Top Sectors

These are the sectors in which the Netherlands excels globally and which receive high government priority. They are as follows: Logistics, Agri-food sector, Horticulture and starting materials, Water, High Tech, Energy, Creative Industry, Life Sciences and Chemicals.

[www.government.nl/issues/entrepreneurshipandinnovation/investing-in-top-sectors](http://www.government.nl/issues/entrepreneurshipandinnovation/investing-in-top-sectors)

#### Top Sector Logistics

The Strategic Logistics Platform (SPL), set up in 2009, serves as the Logistics Top Team. Carriers, logistical service providers, the main ports of Rotterdam and Schiphol, shippers, scientists and the Dutch government (the so-called 'golden triangle') are represented.

[www.topsectorlogistiek.nl](http://www.topsectorlogistiek.nl) and [www.topsectoren.nl/logistiek](http://www.topsectoren.nl/logistiek)

#### TKI Logistics

Dinalog, NWO and TNO have joined forces in a Knowledge and Innovation Top Consortium (TKI) to boost innovation in the Top Sector Logistics. The objective is the structural realisation of the private-public collaboration in particular areas of research in top sector logistics.

[www.tki-logistiek.nl/tki/en/home/](http://www.tki-logistiek.nl/tki/en/home/)

#### Dutch Institute for Advanced Logistics (Dinalog)

Dinalog supports the cooperation between companies and knowledge institutes by facilitating time, space, networks, knowledge, and funding opportunities. All for the sake of redefining the 'new' in new business.

[www.dinalog.nl/en/home/](http://www.dinalog.nl/en/home/)

#### Transport en Logistiek Nederland (TLN)

TLN, the employers' association for the transport and logistics sector, represents the interests of about 5600 members from that sector. It also supports entrepreneurs and targets sector development.

[www.tln.nl](http://www.tln.nl)

