

Proposition

Supply chain coordination

Summary

February, 2016



Proposition Supply Chain Coordination

to logistics chain operators

“ Dutch Supply Chain Coordination solutions enable your service organization to improve system availability and reliability and reduce operational costs through intelligent and optimized planning, direction and execution of transport flows “

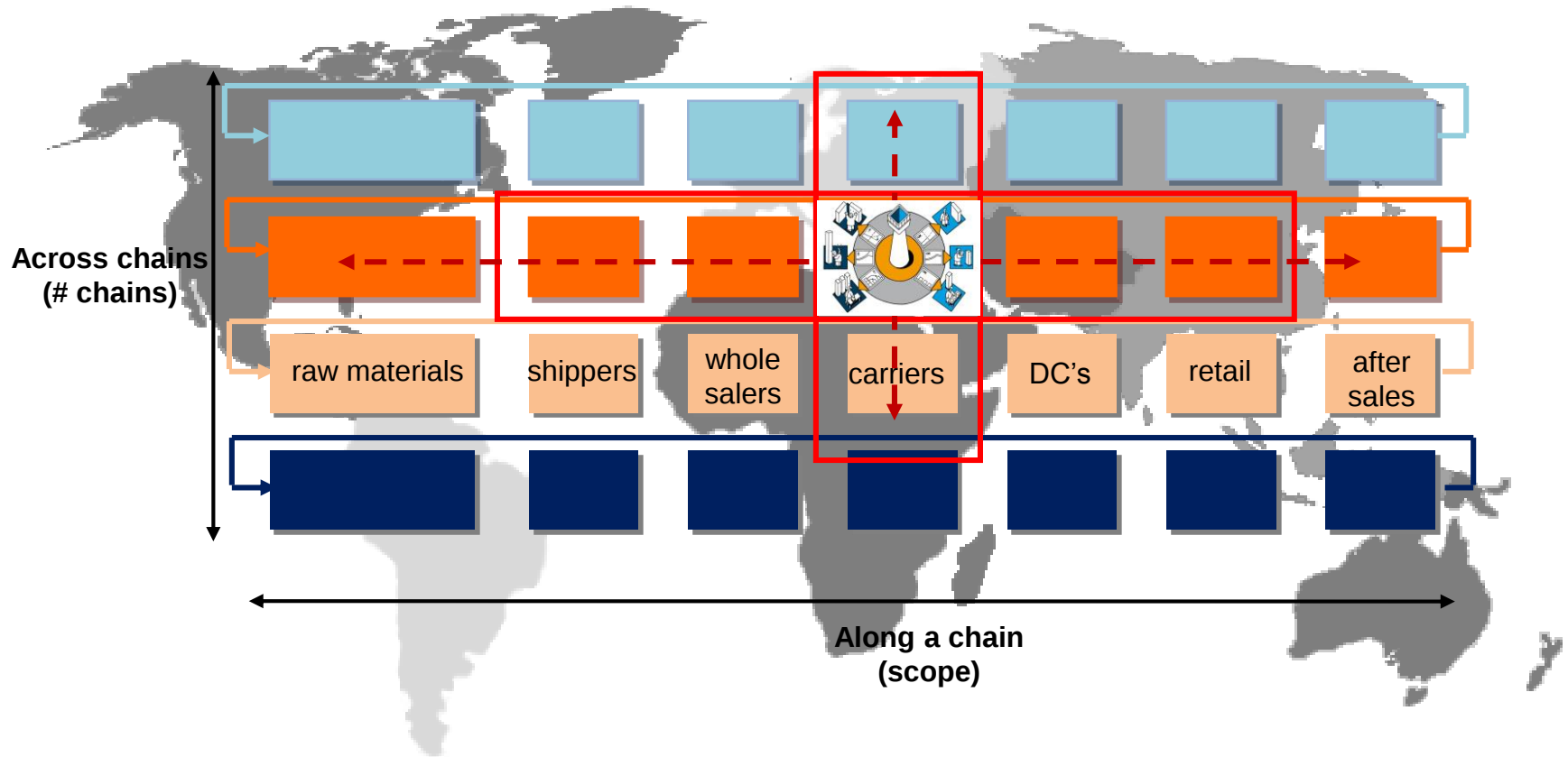
to shippers

“Dutch Supply Chain Coordination solutions enable your organization to improve customer satisfaction by increased system availability and reliability and reduce operational costs through intelligent and optimized planning, direction and execution of transport flows .”



Supply chain coordination

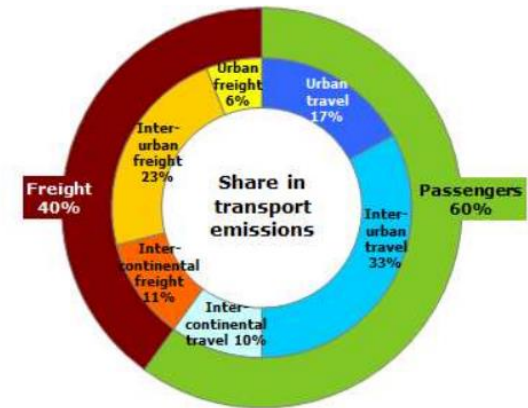
Along and across chains: thinking in networks



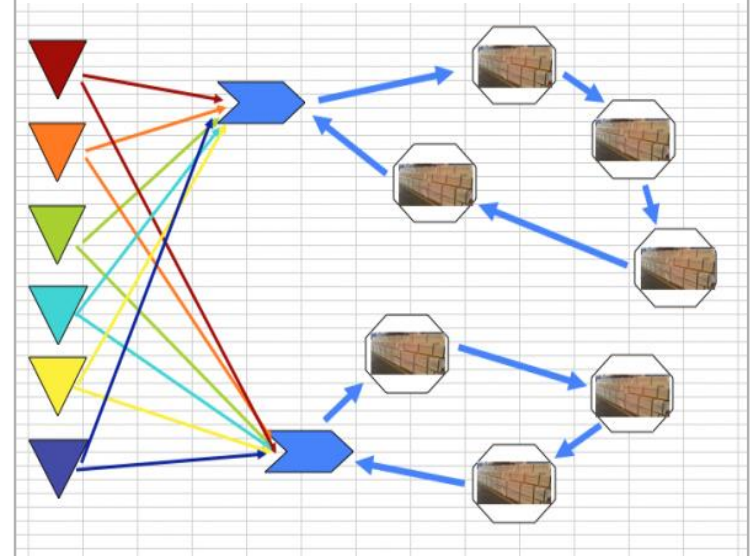
Drivers

for supply chain coordination

- Logistics business optimization
 - Decreased operational transport costs
 - Optimize service level to customers
 - Decrease carbon footprint
- Climate change challenges for companies and society
 - Use less energy; improve load factors
 - Use cleaner energy
 - Exploit efficiently a multimodal, integrated and intelligent network



Source: PRIMES-TREMOVE and TREMOVE



Drivers and solutions for supply chain coordination



Shippers perspective

- Low Price
- reliable time of delivery
- Right Quality (also safety, sustainability)



Logistic service provider perspective

- Optimization of asset use
- Efficiency in performance
- Flexibility of activities



Supply chain Solutions

- Network of service providers
- Scalable IT systems
- Available Infrastructure
- Network business models
- Trust in supply chains



Benefits

of supply chain coordination



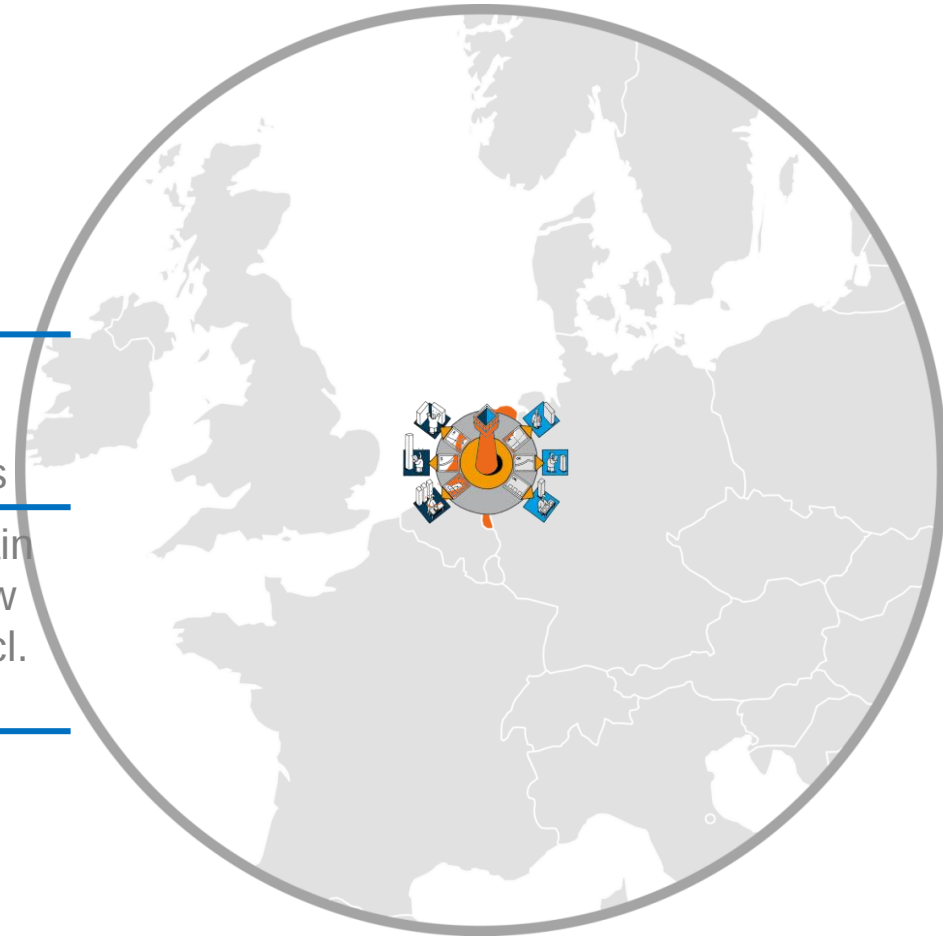
Improved coordination of transports in involved chains, leading to better harmonization and bundling of activities



Additional savings in costs and decreased pressure on the environment by combining loads



Development of new supply chain coordination knowledge and new profitable business activities (incl. new jobs);



Execution

through Cross Chain Collaboration Centers (4C)

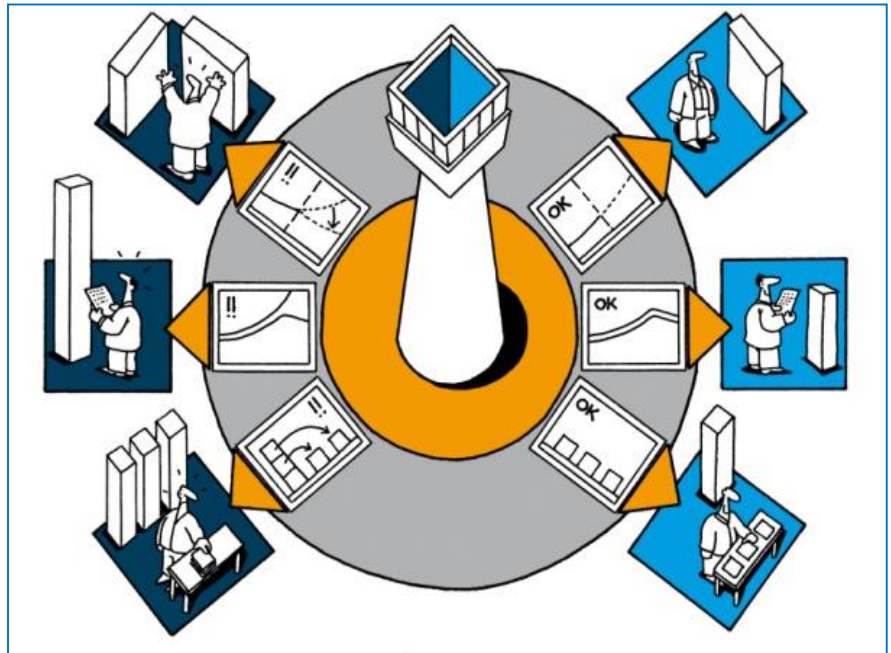
Cross Chain Coordination Centers (4C) are advanced centers where several complex worldwide supply chains are coordinated and directed.

This concerns the bundling, coordination and control of:

- physical goods flows,
- information flows,
- and financial flows.

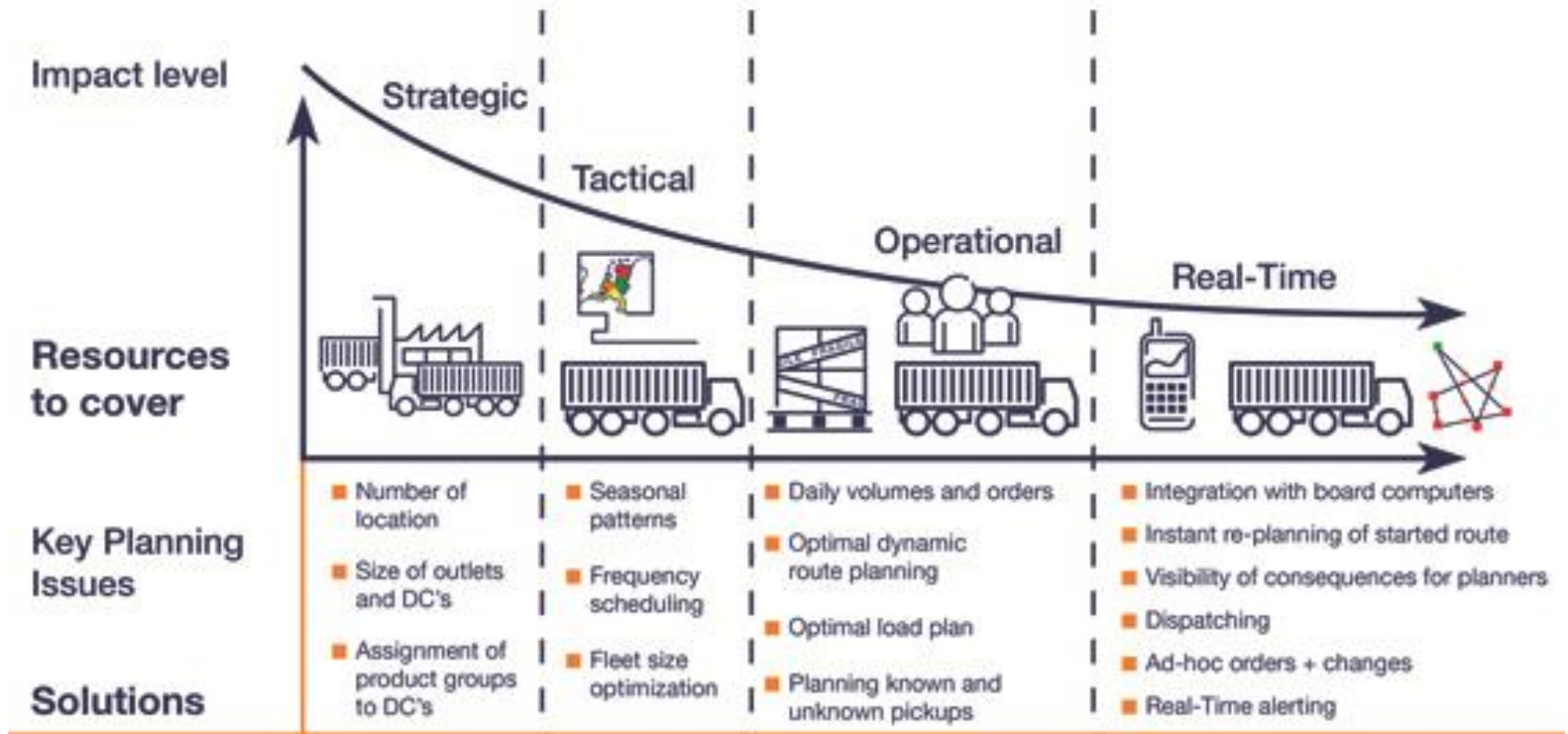
Key words:

- Cooperation among multiple companies
- Bundling, realizing economies of scale in the operations
- Sharing information



Logistics planning

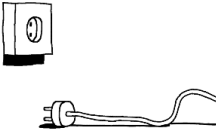
different levels for supply chain coordination



Source: ORTEC

Main Trends & Development

for logistics supply chain coordination planning

 • E-fulfilment & Omnichannel • Closely knit distribution • More returns • Complex planning	 • Internet of things • More data sources • More opportunities for planning optimization
 • System integration • Plug & Play • Collaborative Planning	 • Real-time data • Reliable planning • Increased service level
 • Planner 2.0 • Control Tower environments • Other skills	 • Paperless transport • Documents coupled to logistics

The Netherlands = Logistics



Geographical position as gateway to Europe



Availability of Mainports (Rotterdam, Schiphol/Amsterdam)



Excellent hinterland connections (road, rail, barge, shortsea)

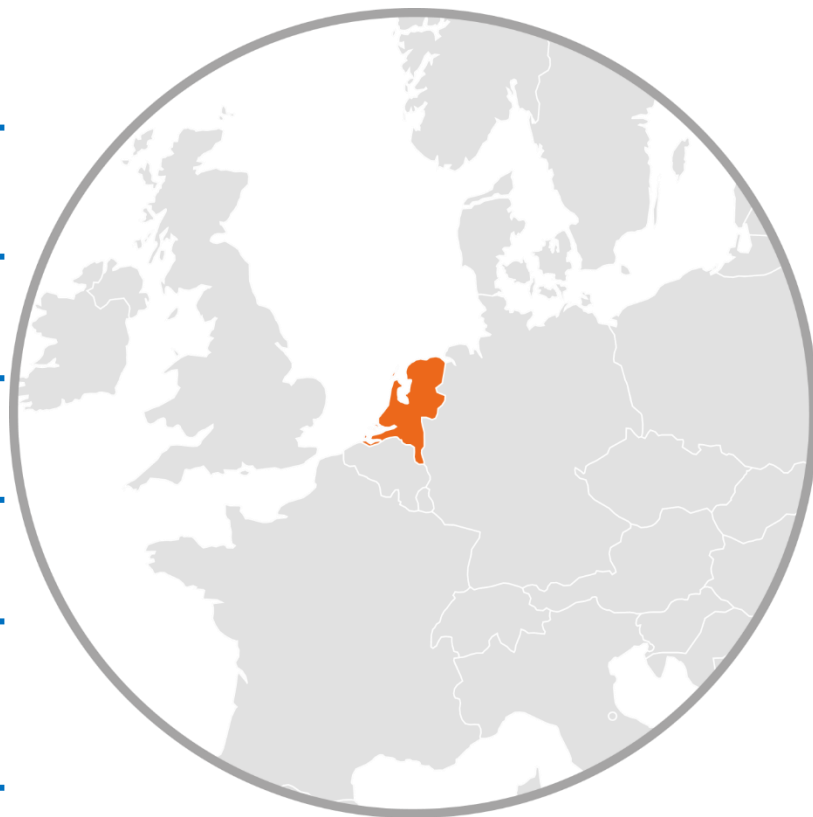


Many Logistics Service Providers (1PL-4PL)

Hassle-free legislative framework & customs



High level of knowledge:
8 research universities and 11 Universities of Applied Sciences specialized in logistics,



Logistics/transport related GDP in 2012)

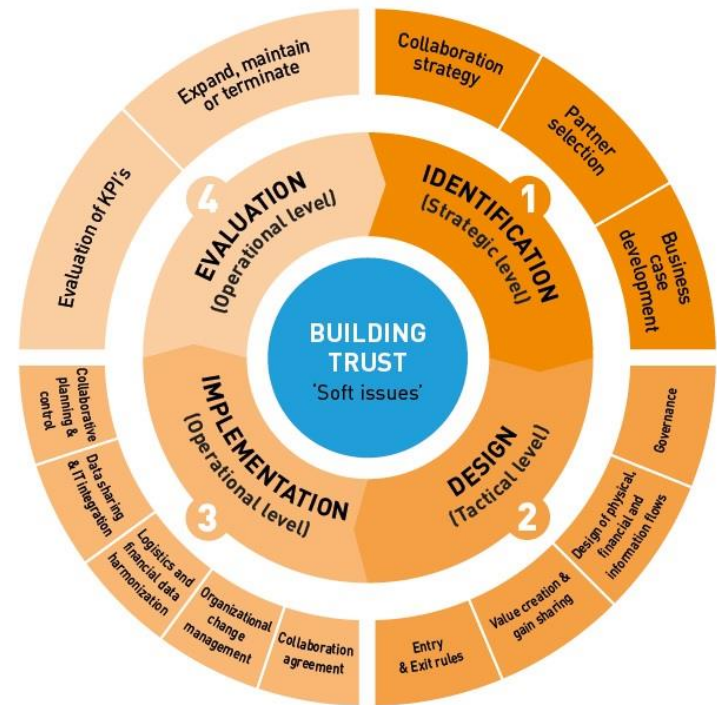
55 billion euro of added value (10% of GDP); 813,000 jobs (12% of Dutch workforce)

Knowhow of Supply Chain Coordination

The Netherlands

The Netherlands: high level knowledge and innovation on how to develop and operate supply chain coordination

- Plan from collaboration
- Operational aspects
- Integration of IT, Plug&play
- Collaborative planning



Supply Chain Collaboration tool, TKI Dinalog

Examples of expertise supply chain coordination

The Netherlands



LSP's offering supply chain coordination services and control towers for European and worldwide supply chains



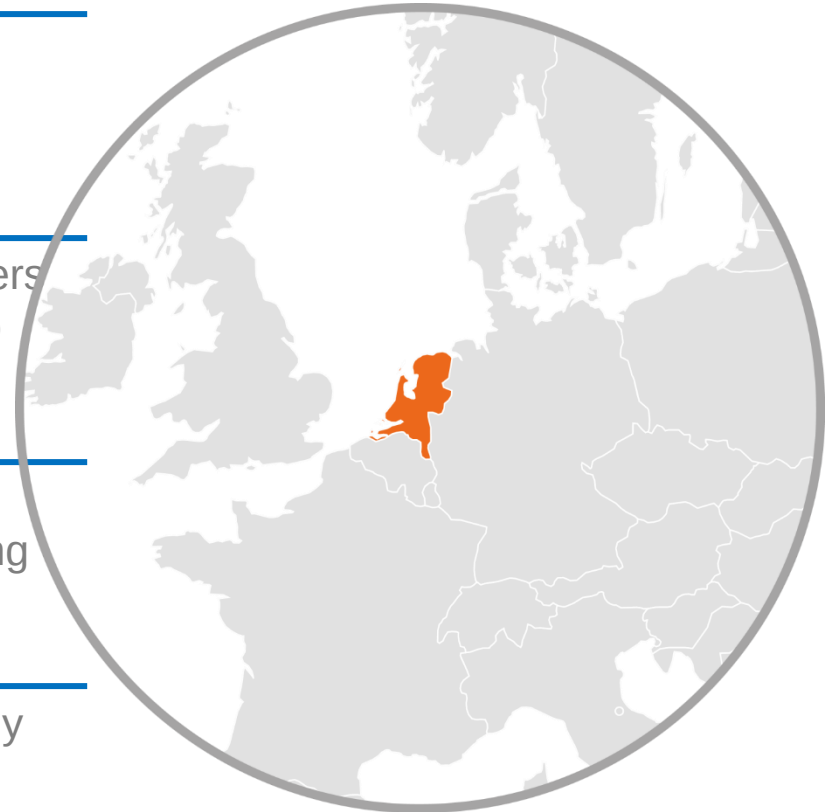
IT Companies, including global players offer a broad range of IT solutions to manage supply chains.



Dutch universities together with industry have carried out trend setting research leading to knowledge intensive practical solutions.



Dutch education institutes offer highly skilled graduates.

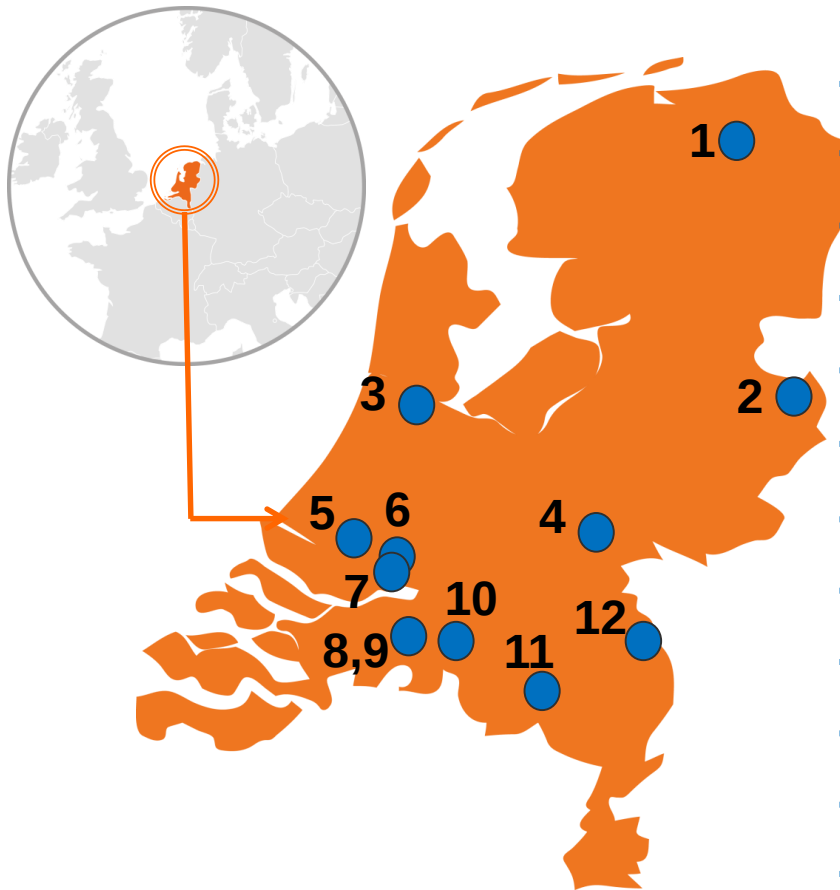


Examples of Supply chain coordination expertise in The Netherlands

Type of company	Supply chain role	Examples in the Netherlands
Logistic Service Provider	Control Tower coordination and transport and warehouse operations	Seacon, DSV, CEVA Logistics, Samskip van Dieren, Ewals, Greenway
IT suppliers	Development of supply software and services for logistic cooperation and optimization	ORTEC, Centric, Blue Rock Logistics, Quyntess
Network controllers	Develop and maintain platforms for exchange of logistic data and chain direction	Caroz, IDS, SIMACAN, Spierings Smart Logistics



Major knowledge institutes and universities for supply chain coordination in the Netherlands



1. University of Groningen

2. University of Twente

3. University of Applied Sciences Amsterdam

4. University of Applied Sciences Arnhem Nijmegen

5. Delft University of Technology

6. Rotterdam University of Applied Sciences

7. Erasmus University Rotterdam

8. University of Applied Sciences Breda (NHTV)

9. Dutch Institute for Advanced Logistics (Dinalog)

10. Tilburg University

11. Eindhoven University of Technology

12. University of Applied Sciences Venlo (Fontys)

Innovation roadmap supply chain coordination

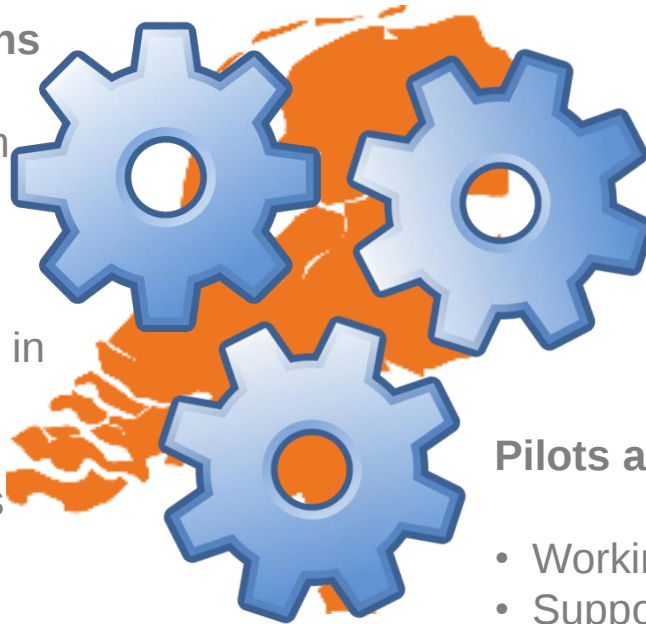
Overview of collaborative research and development

- The Netherlands has set up a special innovation program for supply chain coordination, based on knowledge in the Netherlands, driven by the Dutch Institute for Advanced Logistics.



Focus on supply chains

- Strategic level: design of supply chain networks
- Tactical level: coordinating activities in chains
- Positioning of supply chain directors



Improving Tools & Models

- Focus on Cooperation
- Take care of Governance
- Set up of Business Models
- Designing Control Tower

Pilots and communication

- Working on Mental shift
- Support changes in supply chains

Solutions

for improved supply chain collaboration

1. Design of Plug & Play Cross Chain Collaboration Centers
2. Construction and execution of control towers to support supply chain coordination activities
3. Supply chain collaboration for city distribution

