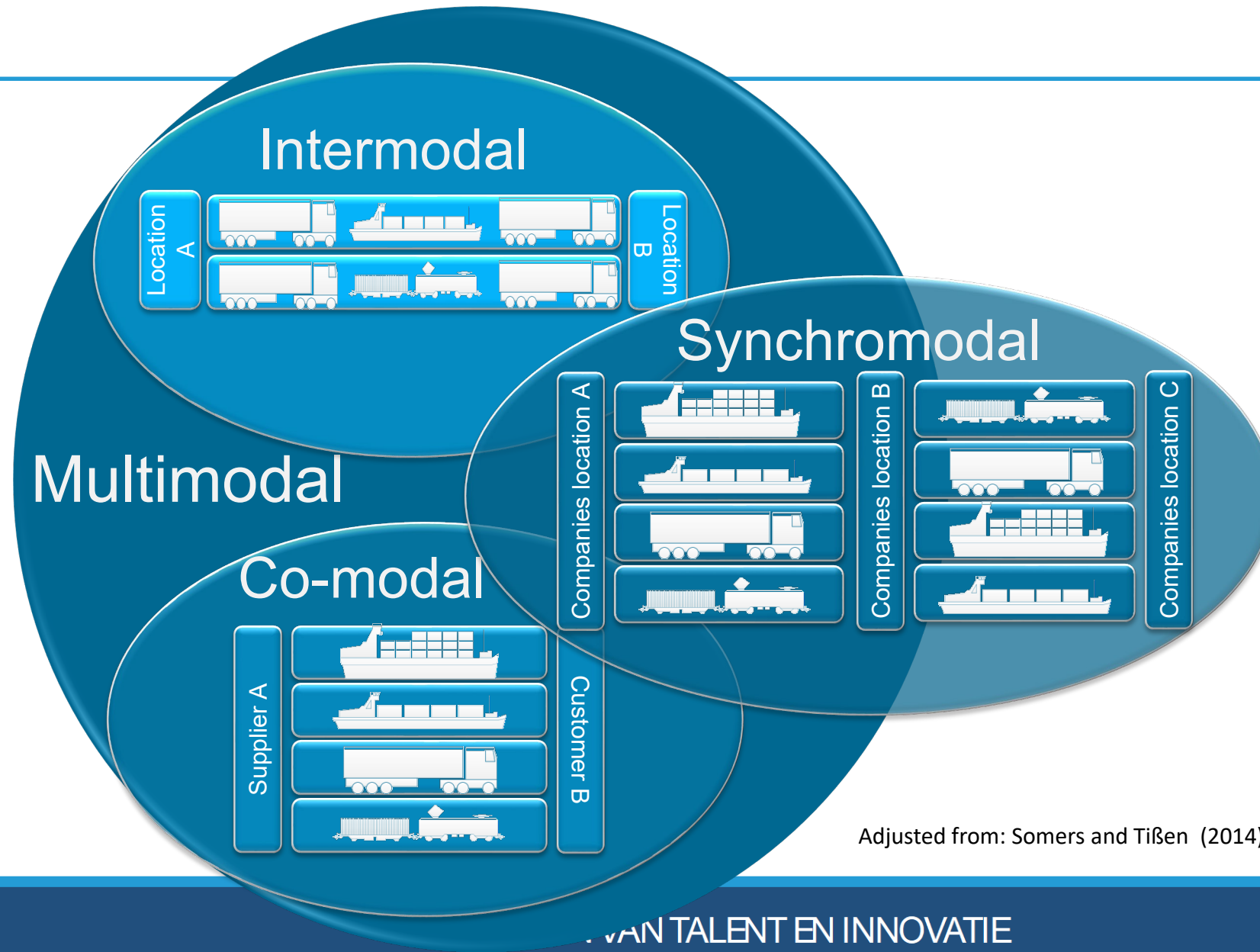


KennisDC Logistiek

MOVING FROM INTERMODAL TO SYNCHROMODAL TRANSPORT: A MATURITY MODEL APPLIED TO A CASE STUDY IN NORTHWESTERN EUROPE

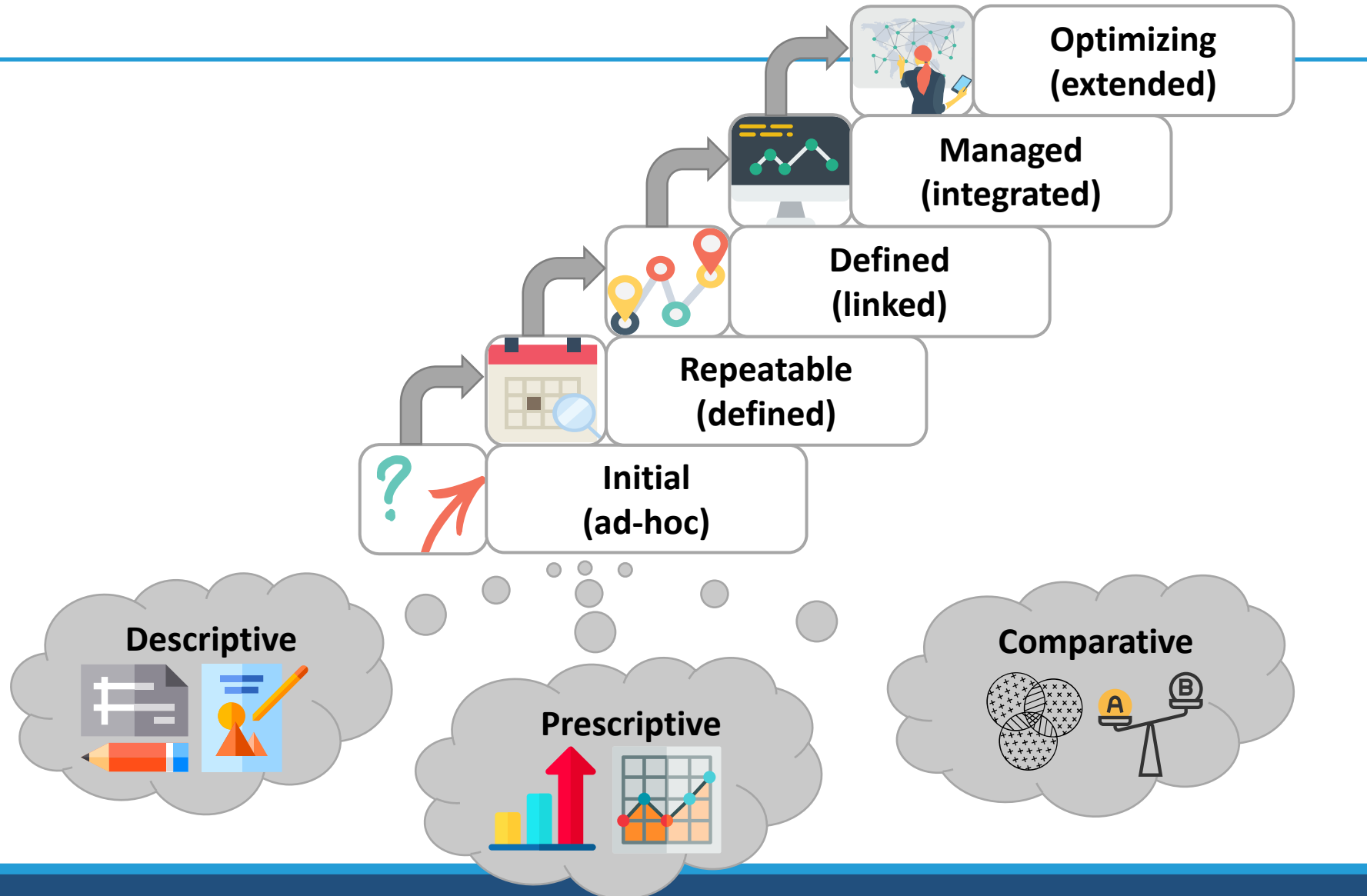
Kristel Alons, Guy Somers & Ron van Duin

Synchromodal transport

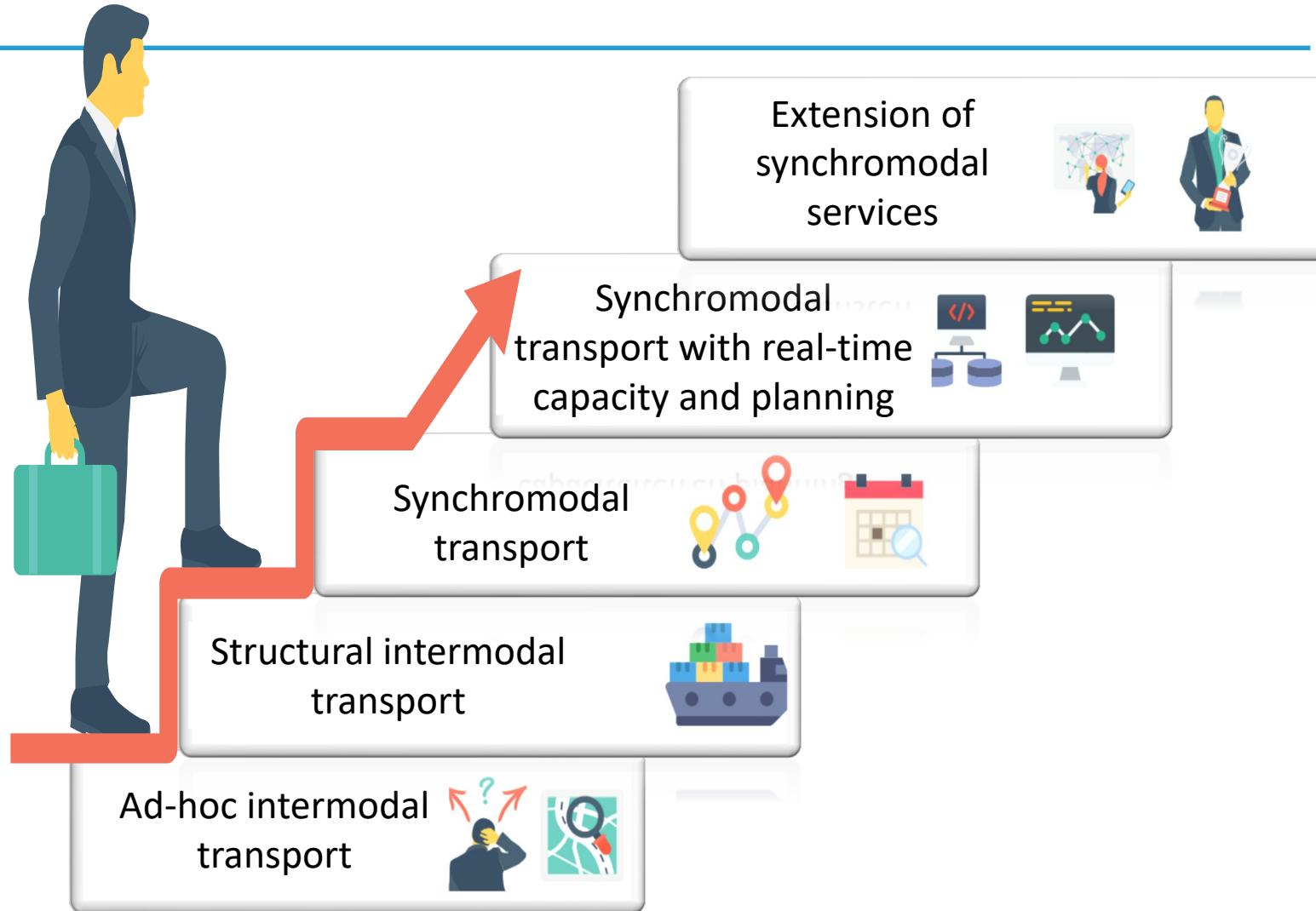


Adjusted from: Somers and Tißen (2014), & Singh, van Sinderen, and Wieringa (2016).

Maturity models



Maturity model synchromodal transport



Key process areas

Execution of transport



Transport planning



Data exchange



Key performance indicators



Decision-making power



Type of relationship



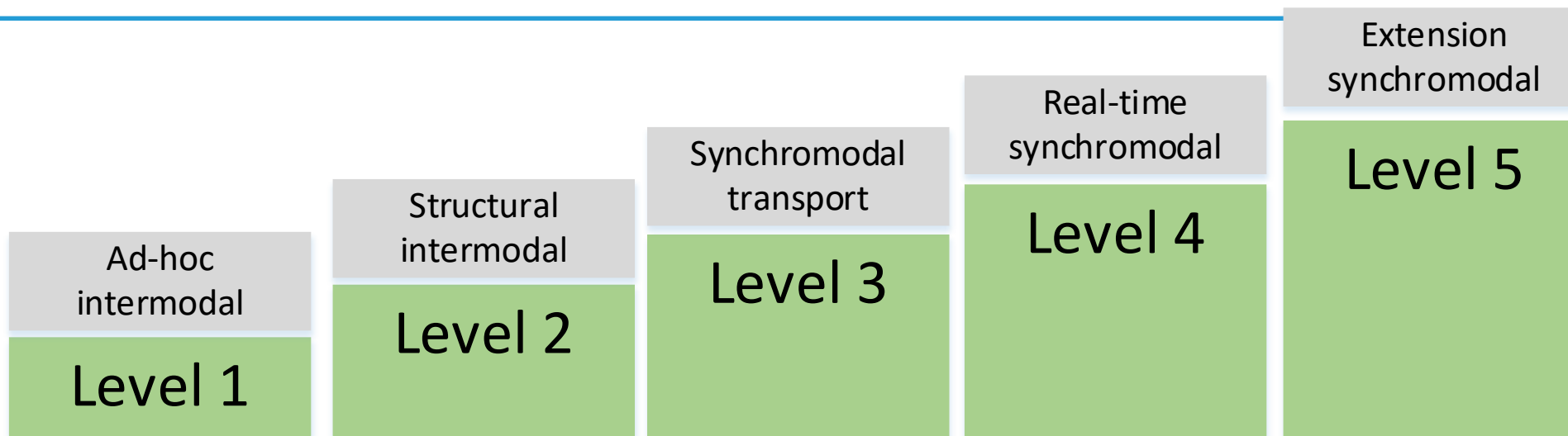
Pricing



Maturity model synchromodal transport



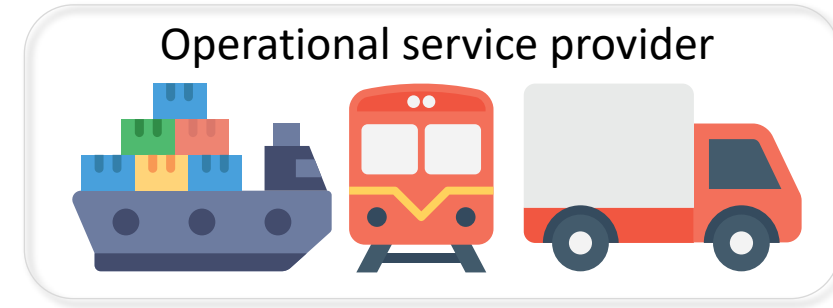
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Execution of transport	Truck	Train or barge	Train or barge	Train or barge	Train or barge
Transport planning	Ad-hoc	Upfront reservation	Upfront reservation	Real time	Real time and stock
Data exchange	Per container	Forecast per customer	Forecast per customer	Control tower	Control tower
Key performance indicators	Price and time	Price and time per modality	Price, time, reliability	Price, time, reliability and utilization degree	Price, time, reliability, utilization degree and service level
Decision making power	Shipper	Shipper	Logistics orchestrator	Logistics orchestrator	Logistics orchestrator
Type of relationship	Transactional	Limited vertical	Intensive vertical, limited horizontal	Intensive vertical and horizontal	Intensive vertical and horizontal
Pricing	Spot market	Alignment on tariff (tender)	Tariff per modality	Integral tariff	Integral tariff

Application maturity model

- SYN-ERGIE project → in-depth interviews in West Flanders and Limburg
- KennisDC → together with Rotterdam university of applied sciences
- Online tool development
- Advise and benchmark companies
- More widespread application of intermodal and synchromodal transport




- Based on 15 in-depth interviews in the Netherlands and Belgium
- Majority of transport at structural intermodal level
- All companies excel in one or more key process areas
- Differences between continental and intercontinental goods flows
- Specific infrastructural needs hinder the use of synchromodality
- Data exchange and horizontal collaboration require most attention
- All parties need to have the same level of organization → a supply chain is as strong as the weakest link

- Structured questionnaire developed based on maturity model
- +/- 70 students
- More than 70 companies approached
- 25 interviews at 25 companies conducted
- 7 teachers, 3 researchers, 1 lector, 2 universities and 3 minors
- Raise awareness about possibilities synchromodal transport
- Contribute to more intermodal transport
- Help companies with an individual advice and benchmark based on maturity model

First outcomes


Shipper



- 
- + Long term contracts
 - + Shared forecasts
 - + Focus at on time delivery
 - + Flexibility in route and modality
 - + Focus on simplifying data exchange
 - Similar organizational level
 - High preference for trucking

Logistics service provider



- 
- No horizontal collaboration
 - Freight forwarders impact
 - Price focus
 - Ad-hoc short term planning
 - Minimal data exchange

Operational service provider



Moving from intermodal to synchromodal transport

