JOINT CORRIDORS OFF-ROAD

Topsector Logistiek

MASTERCLASS SYNCHROMATURITY MATRIX

JOINT EXCHANGE OF ROAD TRANSPORT FOR RAIL AND WATER

Synchromodal transport (1)

Definition

Synchromodal transport is the transport of goods - ***without changing the loading unit*** *- in which* ***real-time changes*** *can be made with regard to the flexible and sustainable use of* ***different transport modes*** *in a* ***network****, in this* ***the logistics service provider is in control*** *in order to offer optimized* ***integrated solutions*** *for all parties.***(KennisDC Logistiek Limburg, 2014)**

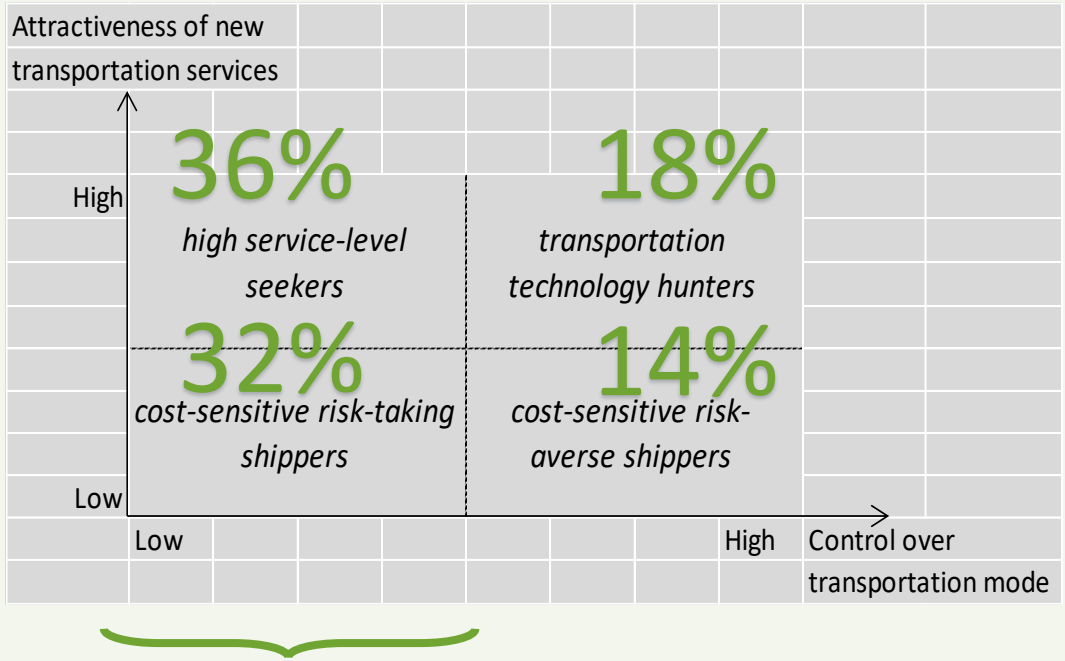
Synchromodal transport (5)

The overall goals behind synchromodal transport

- For customers synchromodal transport is an opportunity to optimize their (hinterland) transport
- For service providers a next step in transport network optimalization

Synchromodal transport (4)

Focus on customer



Half searches for better service, half lower prices

Majority wants to book a-modal, against right conditions

Source: Khakdaman, 2019

Synchromodal transport (4)

Digitalization

Digital services

Booking platforms

Artificial Intelligence

Truck platooning

IoT

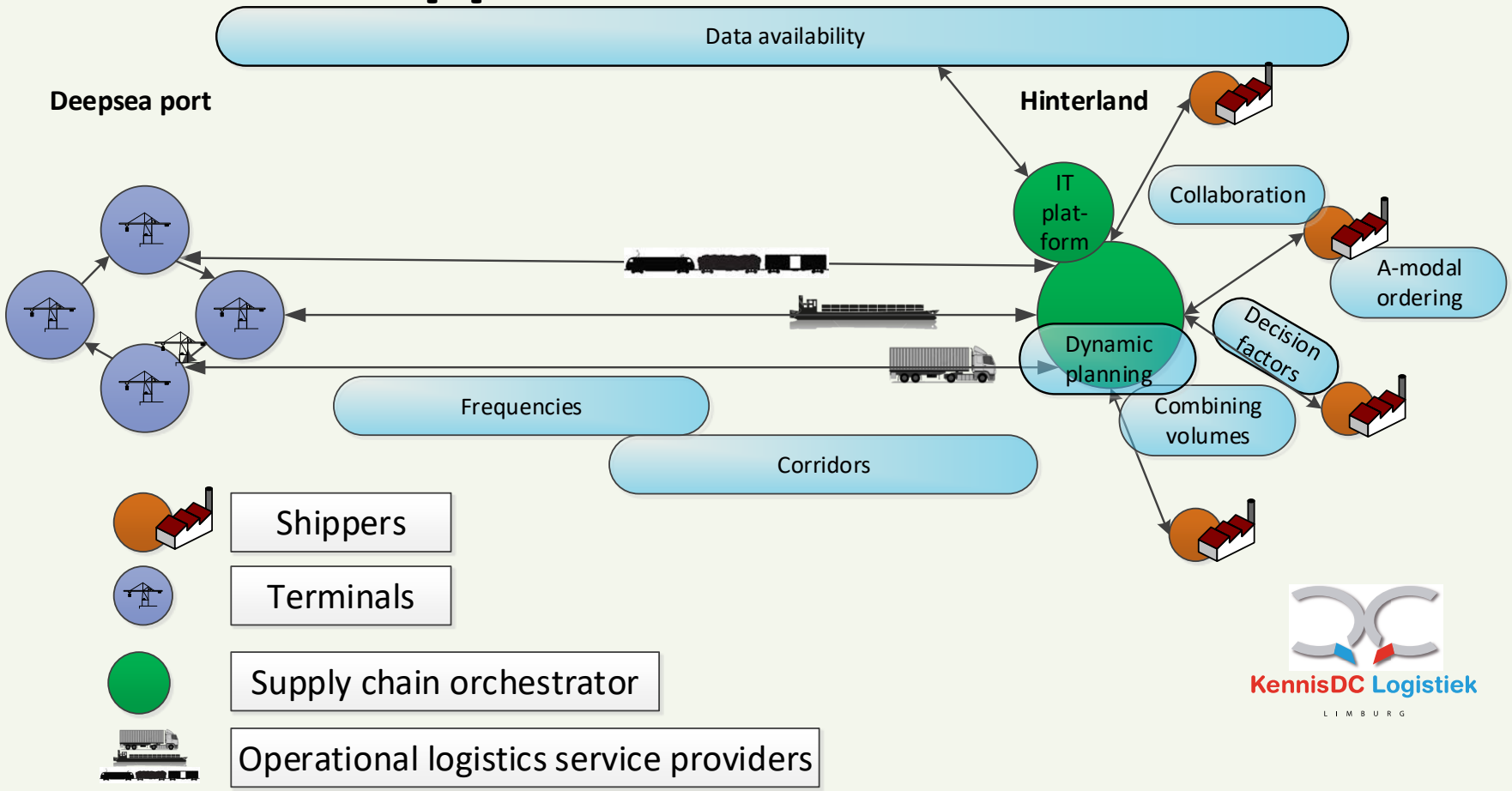
Smart Shipping

Sensors

Nextlogic

Synchromodal transport (6)

Conditions for application



KennisDC Logistiek
LIMBURG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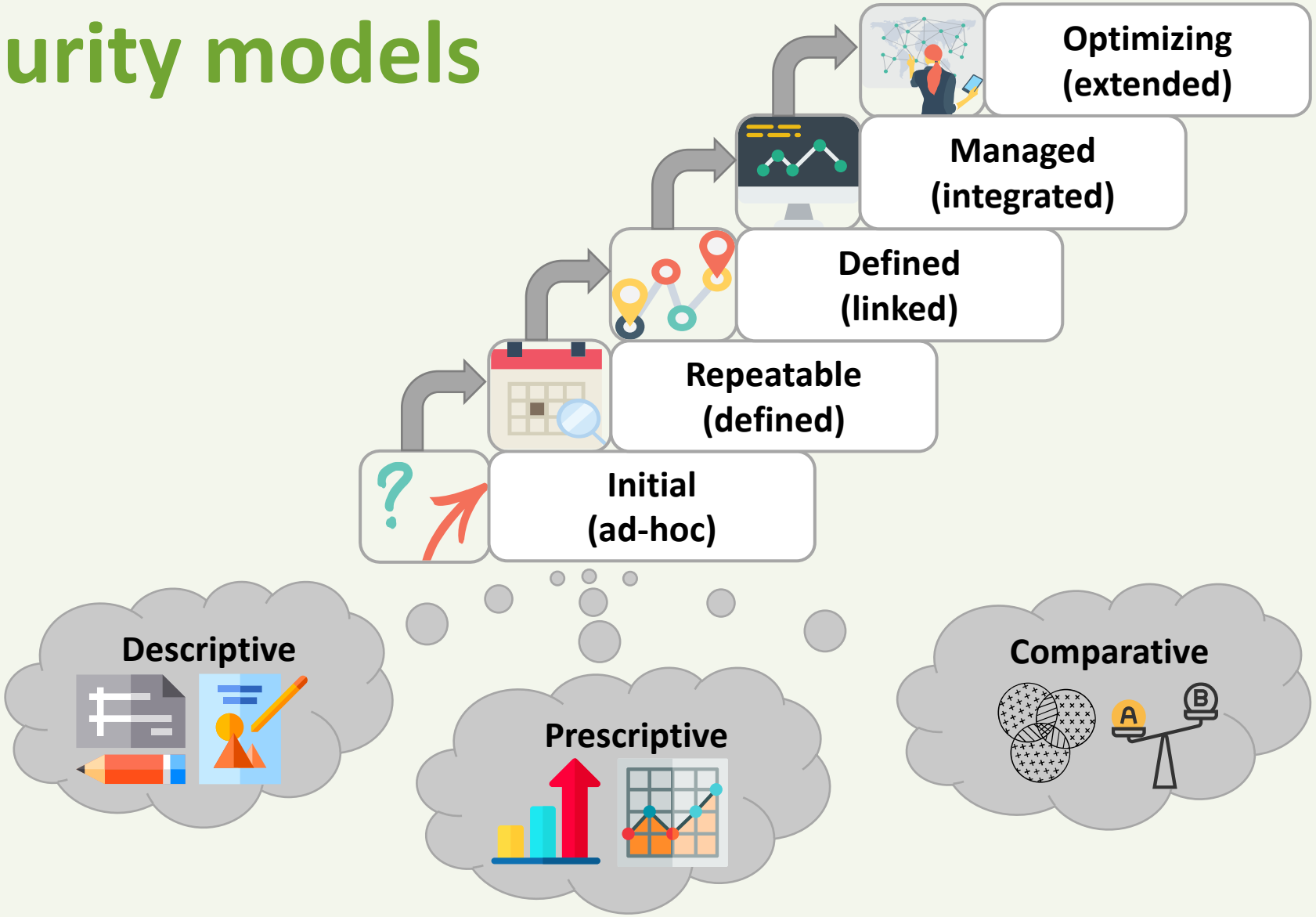
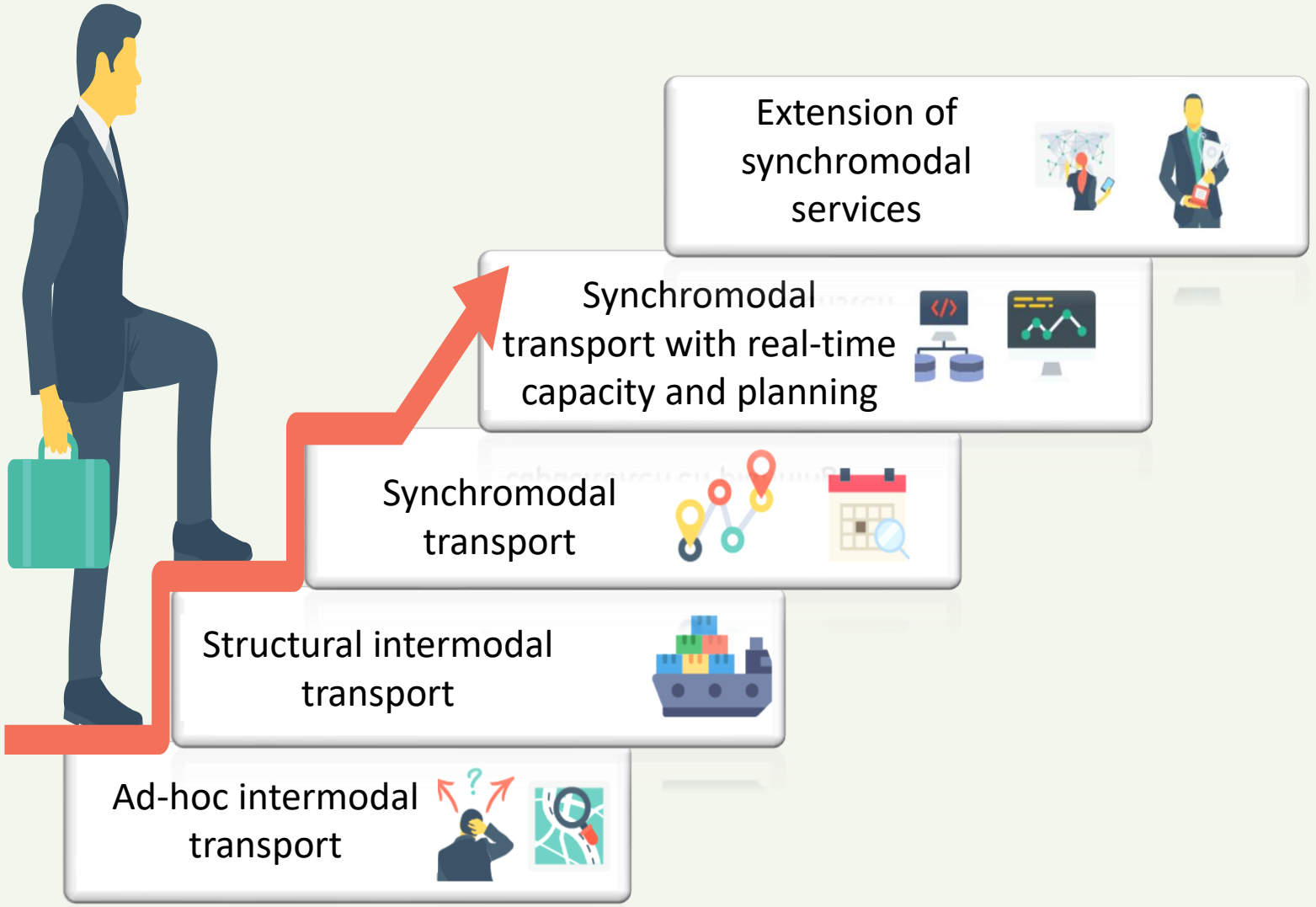
Maturity models



Maturity model synchromodal transport (1)



Maturity model synchromodal transport (2)

Execution of transport

Transport planning

Data exchange

Key performance indicators

Decision-making power

Type of relationship

Pricing

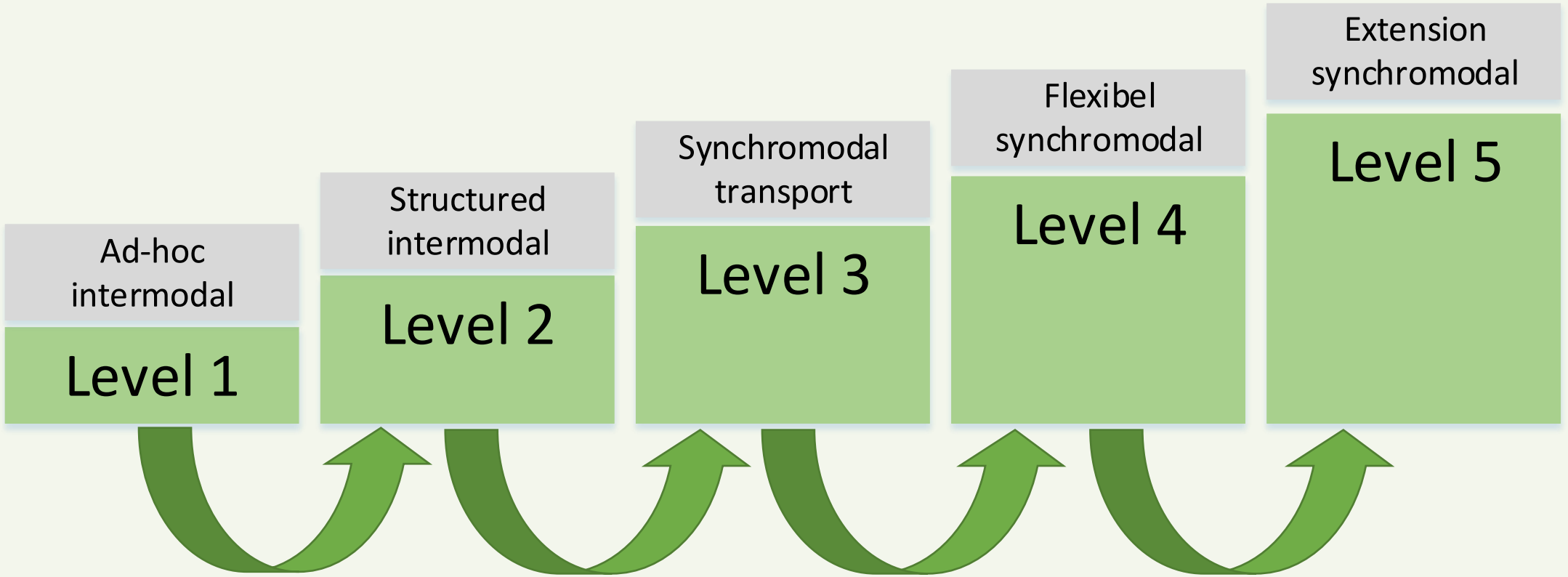
Maturity model synchromodal transport (3)

	Ad-hoc intermodal transport 	Structural intermodal transport 
Execution of transport	Main transport by truck, ad-hoc use of train and barge.	Main transport by train or barge, pre- and after haulage by truck.
Transport planning	Ad-hoc capacity request based on current needs.	
Data exchange	Per container operational data.	
KPIs	Price and time needed per shipment.	
Decision making power	Decision-making power lies with the shipper.	
Type of relationship	Transactional relationship.	Limited vertical collaboration between logistics service provider and shipper.
Pricing	Based on spot market prices, payment afterwards per container	

Maturity model synchromodal transport (4)

	Ad-hoc intermodal Level 1	Structural intermodal Level 2	Synchromodal transport Level 3	Real-time synchromodal Level 4	Extension synchromodal Level 5
Execution of transport	Truck => 80%	**Train or barge => 40%**	Train or barge => 60%	Train or barge => 80%	Train or barge =100%
Transport planning	Ad-hoc, no forecast	0-40% planned based on forecast	41-100% planned based on forecast	**Real time orders in supply chain**	**Real time orders and stock levels**
Data exchange	Per container	Forecast per customer	Forecast per customer	**Control tower to share data with more parties**	Control tower + real time stock levels
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 81-100% of orders	More than 20% a-modal booking by other party	**Orders shared in supply chain**	Real time orders in supply chain	Real time stock level in supply chain
Type of relationship	Transactional	**Limited vertical**	Intensive vertical, limited horizontal	Intensive vertical and horizontal	**Intensive vertical and horizontal + real time stock levels**
Pricing	Spot market	Alignment on tariff (tender)	**Tariff per modality and a-modal booking**	**A-modal booking and a modal pricing**	A-modal booking, a modal pricing and real time stock levels

From intermodal to synchromodal transport



- + **More intermodal and less truck**
- + Limited vertical collaboration
- + Organizational development at same level

- + A-modal booking
- + Forwarders decision-making power
- + More focus at on-time delivery
- + **Simplifying data exchange**

- + **Introduction of real-time planning**
- + Introduction of control tower
- + Integral tariff
- + **Horizontal collaboration**

- + Increased stock level visibility
- + Intensive long term collaboration

Online questionnaire

18. Which KPIs are used for transportation? *

- [ ] Price/costs
- [ ] Lead time
- [ ] Delivery reliability
- [ ] Utilization of modality
- [ ] Service level based on stock levels
- [ ] Reliability of the trajectory
- [ ] Andere

19. Do you measure the chosen KPIs and know the overall performance? *

- ◯ Yes, I measure them and know the overall performance
- ◯ No, I do not measure them and do not know the overall performance
- ◯ I do not measure the performance but I have a feeling

20. Who is in charge of choosing the transport mode and/or route? *

A-modal booking means that the transport mode and/or route is not specified up front. Select the closest percentage and make sure you select an answer for each supply chain party.

	0%	1 - 20%	21 - 40%	41 - 60%	61 - 80%	81 - 100%
Logistics service provider (A-modal)	◯	◯	◯	◯	◯	◯
Shipper or manufacturer	◯	◯	◯	◯	◯	◯
Hinterland operator (A-modal)	◯	◯	◯	◯	◯	◯
Forwarder (A-modal)	◯	◯	◯	◯	◯	◯
Shipping line (A-modal)	◯	◯	◯	◯	◯	◯

Way of working