

How to do more with less trucks in the automotive supply chain?

Ruud Vossebeld, Groningen, June 2018

INFORM | Leader in Optimizing Automotive Logistics

Specialty: logistic **mathematical optimization**

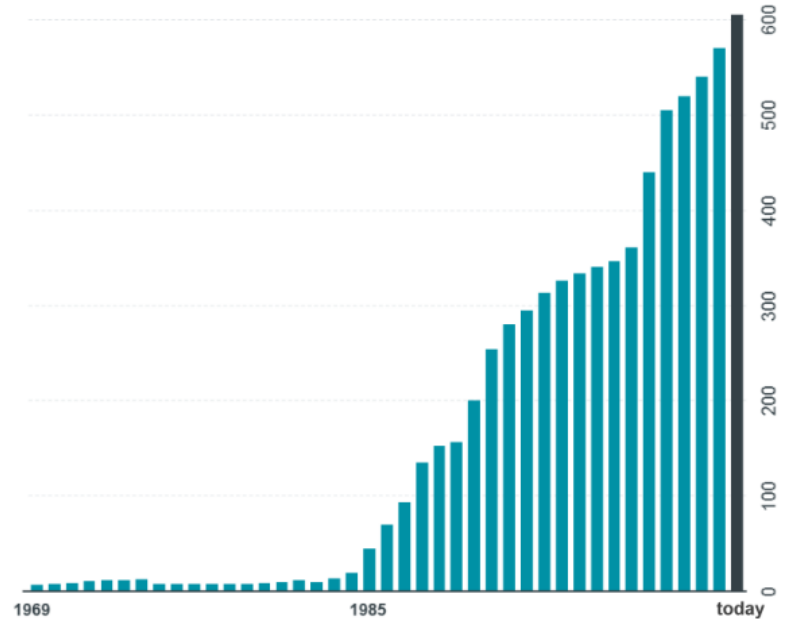
A leading global optimization company

More than 750 employees

- global projects
- focus on automotive logistics

HQ in Germany; revenue in 2017 €75 million

Many automotive customers like





INFORM »advanced optimization«


Combining Inbound and Outbound in Automotive?

Challenges in logistics today....

Trucks in vehicle logistics are 40-50% empty in many places in the world.....

Containers are 40-50% empty in many places in the world.....

How can we solve this problem?



**20 BILLION KGS
OF NEEDLESS CO₂ IS
EMITTED INTO THE ATMOSPHERE
EVERY YEAR BY THE AUTOMOTIVE SECTOR ALONE**

CARBON EMISSIONS

KILOGRAMS OF CO₂ NEEDLESSLY WASTED TODAY:

00,000,000,000



CONVERT IT.

CONTAIN IT.

CONTROL IT.



New technologies: convertible trailers

TURN AND



~~BURN~~
EARN!
MAKE BACKHAULS PAY

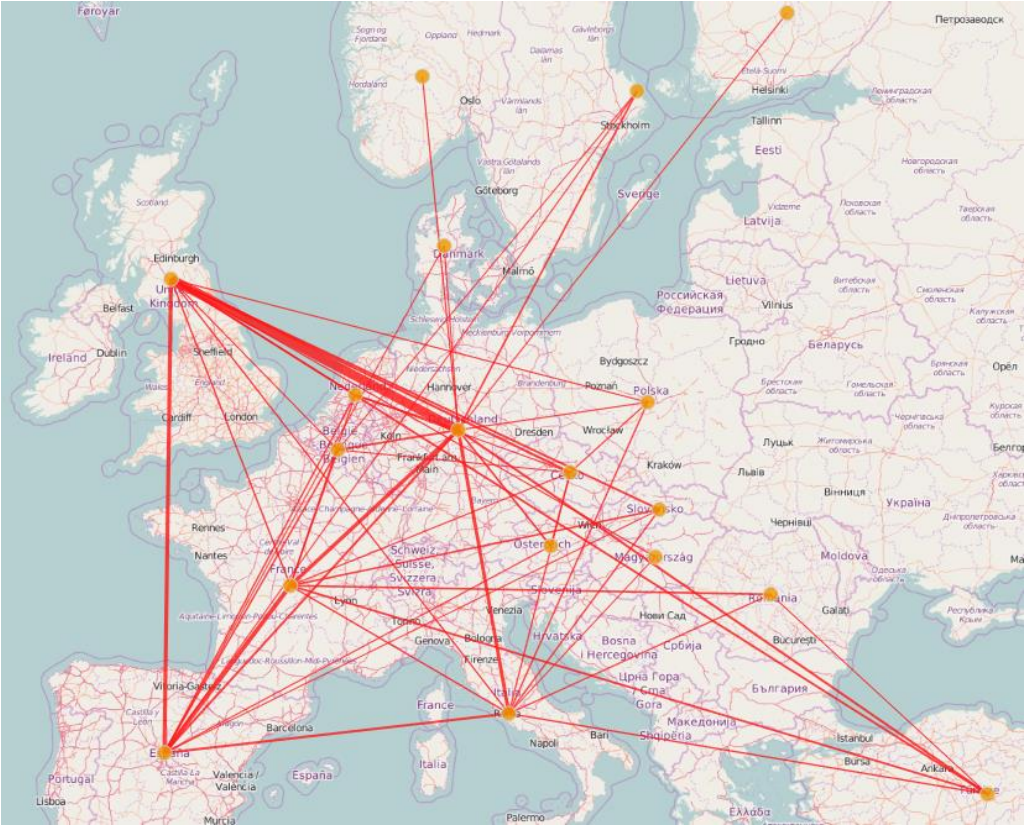
Convertible trailers | Further optimization possibilities



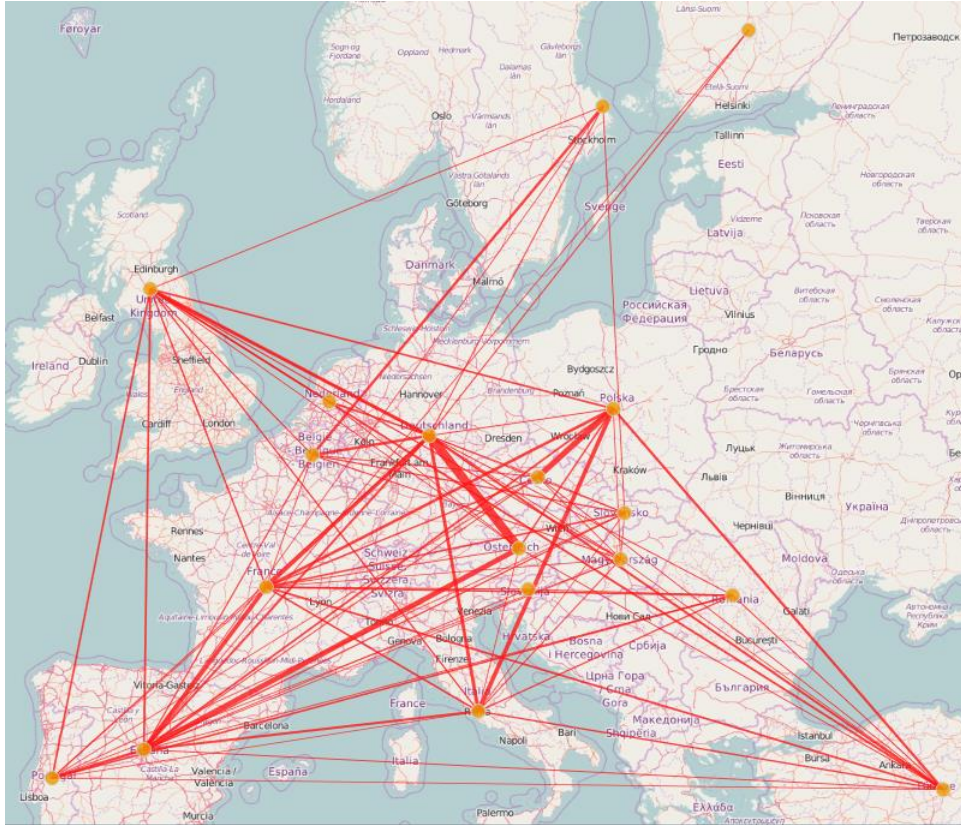
Big Data in Automotive **Outbound flows in Europe**



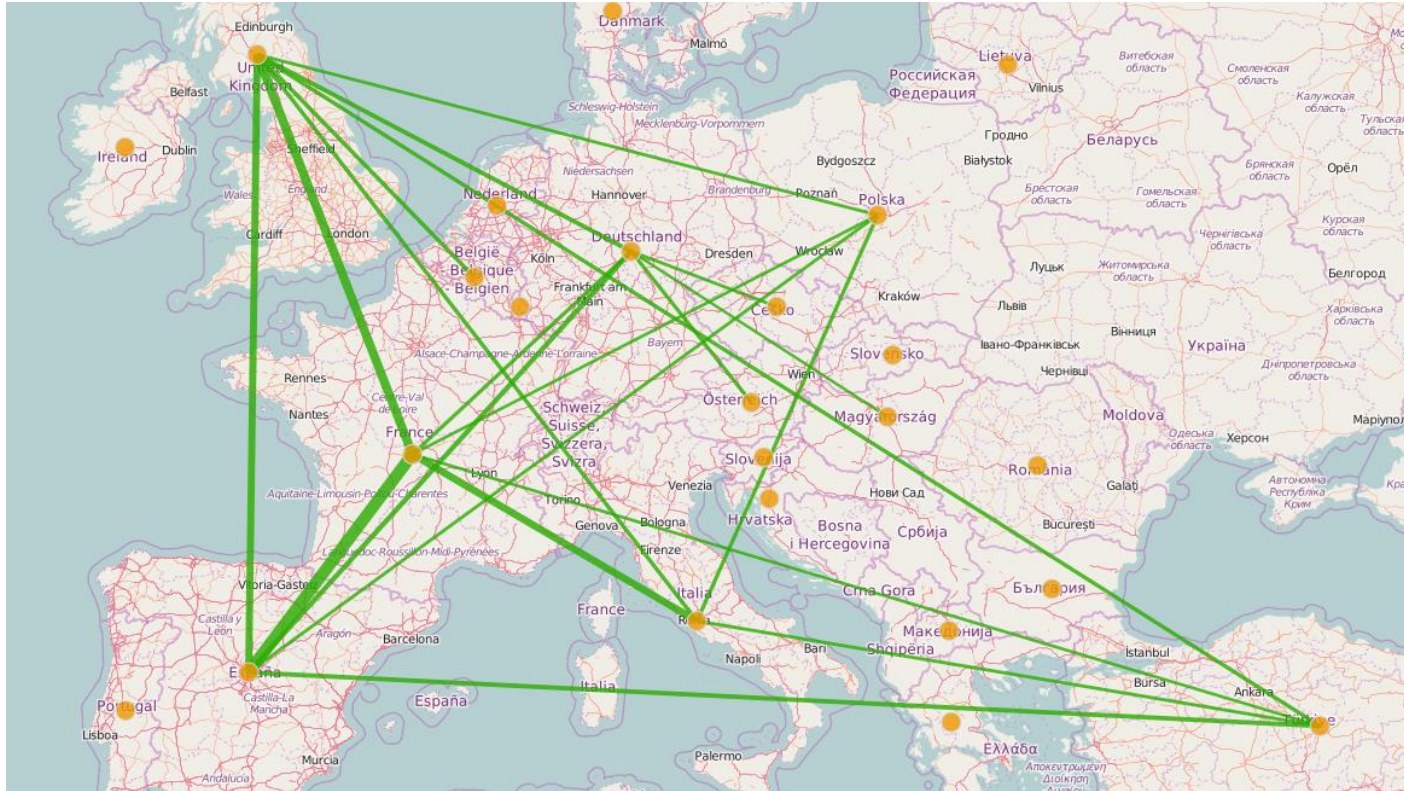
Big Data in Automotive **All OEM imbalances in Europe over all brands**



Big Data in Automotive Inbound flows in Europe (engines and transmissions)



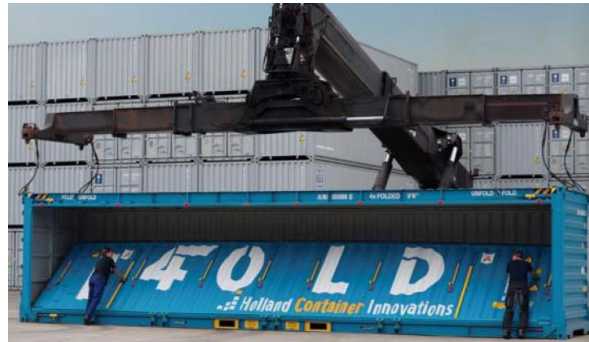
Big data in Automotive | Where can convertible trailer help to reduce empty driving?



New technologies | **Foldable Containers**

Stop with transporting empty containers:

Use foldable containers



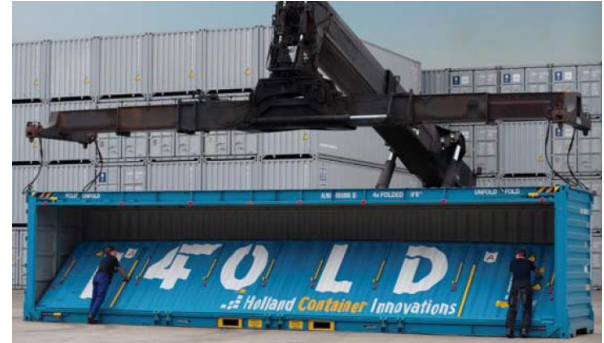
Innovation | Combine Foldable Containers & Convertible Trailer

Stop with empty trucks in finished vehicle logistics



Stop with transporting empty containers:

Use foldable containers



Convertible and foldable concept

TURN AND



~~BURN~~
EARN!
MAKE BACKHAULS PAY





● Rectangular Snip



Convertible Trailer+Folded Container | More than 40% potential?

Trip 1: trailer filled with cars from factory to port

Trip 2: trailer filled with filled container from port to factory

Trip 3: trailer filled with cars from factory to port

Trip 4 trailer filled with filled container from port to factory

Trip 5: trailer filled with cars from factory to port

Trip 6: trailer filled with filled container from port to factory

Trip 7: trailer filled with cars from factory to port

Trip 8: trailer filled with filled container from port to factory

Trip 9: trailer filled with 4 folded empty containers from factory to port

Summary:

Traditional

4 trips with cars+4 times empty back

4 full container trips+4 times back with empty container

16 trips needed _____ versus _____ 9 trips needed

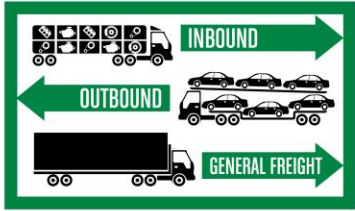
Convertible trailer+ foldable container

4 trips with cars+4 trips back with filled containers

1 trip with folded empty containers

More than 40% saving on kilometres!

THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS.



INBOUND
OUTBOUND
GENERAL FREIGHT

+

HARDWARE

+

SOFTWARE

+

SPECIALIZED
CONVERTIBLE PROCESSES

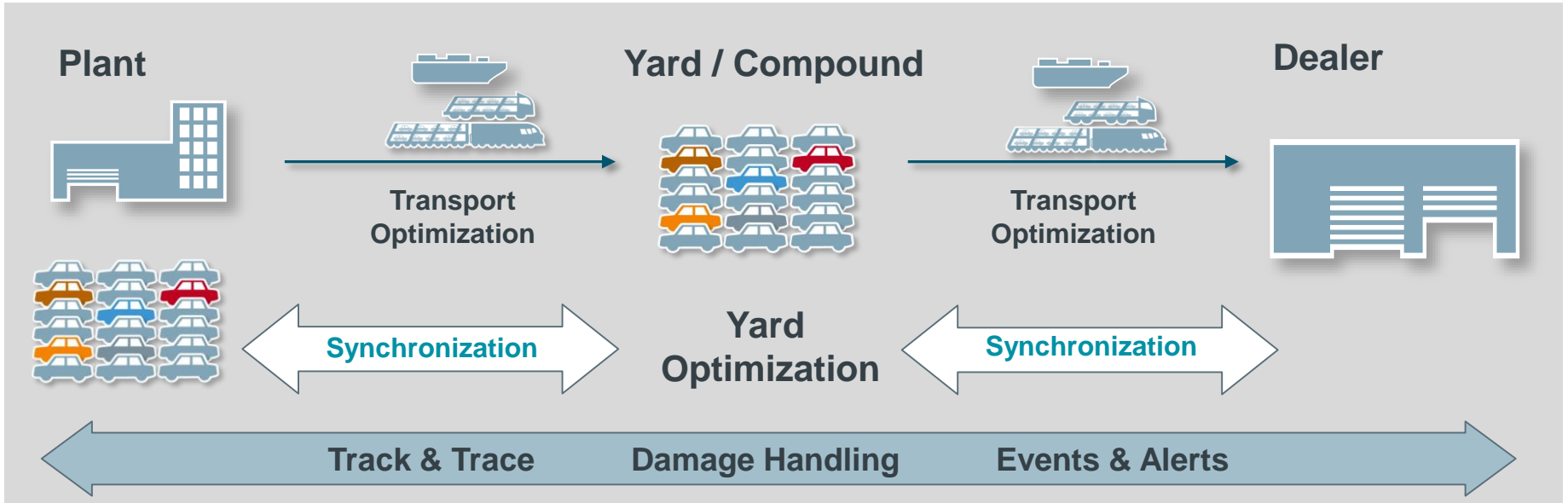
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FUTURE
CONVERTIBLE
SOLUTIONS

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More information?



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Thank you !



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