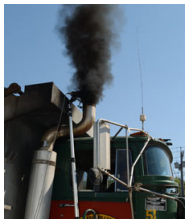
# Eliminating waste in Logistics

## Mix Move Match – 2 years on

GS1 Event Rome, October 2014
Presenter: Jaco Voorspuij

# Logistics Chains abound with waste



Waste comes in many shapes and forms:

- Wasting fuel

- Doing unnecessary duplicated work/activities:
  - Relabeling pallets and cartons by various parties involved in end-to-end movement of Goods
  - Rekeying of information already captured elsewhere
  - Correcting errors and solving confusion resulting from above wasteful practices.

- Simply not utilising available transportation capacity due to various structural decisions made by key players in the Supply Chain.

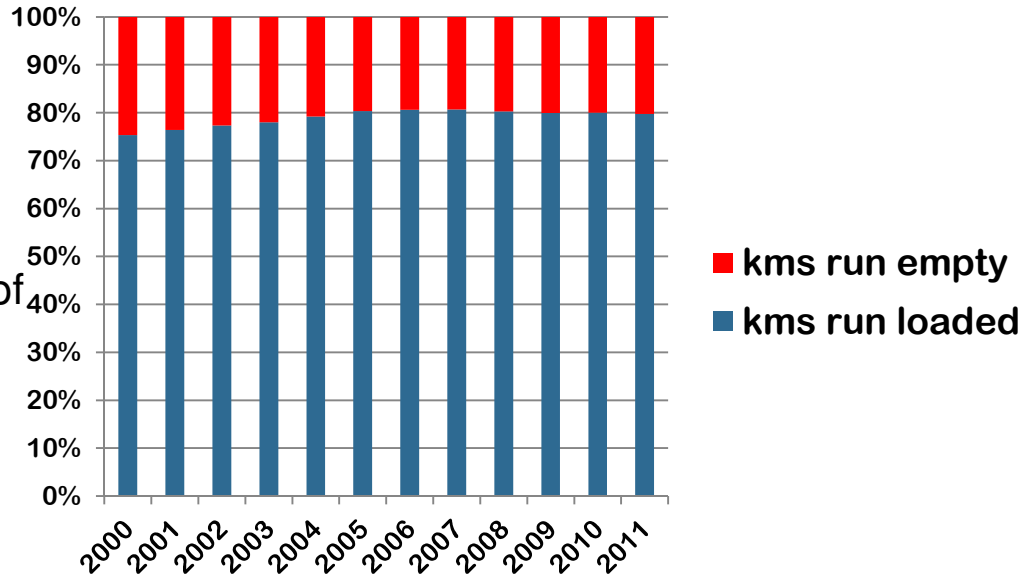
# How bad is the structural waste actually

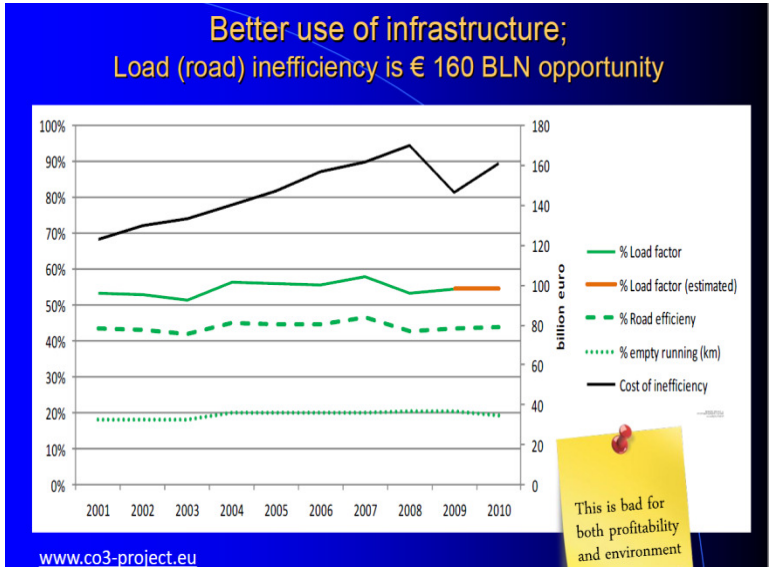
About 20% of vehicle kilometres driven in the EU-27 are performed by empty trucks.

*1 in 5 trucks completely empty.*

On average trucks are half empty !!
Average load factor of trucks (in terms of weight) is only 56%.

*Trucks on average HALF full*




*Wasted Space* in transport logistics circa *EUR 100 – 300 billion* per annum.

Source: www.co3-project.eu

## Two main ways to attack the structural waste

- **Mix Move Match**
  Avoid Transporting Air (even when working for a single Shipper) over long distances.

- **Engage in Collaboration** with Multiple Shippers and/or Multiple Logistics Service Providers (LSP).

# Mix Move Match – The Challenge

**Customer order**

## BEFORE

- on customer request
- retail: pallet/product
- stacking / labelling requirements

**Impact truck**

## AFTER

Build Customer Pallets as close as possible to Delivery

- less AIR – long distance
- only 3M !! WHY ??

Pick by product
Pack by Order
Label each box

Despatch on huge mixed pallets

Order Reconstruction

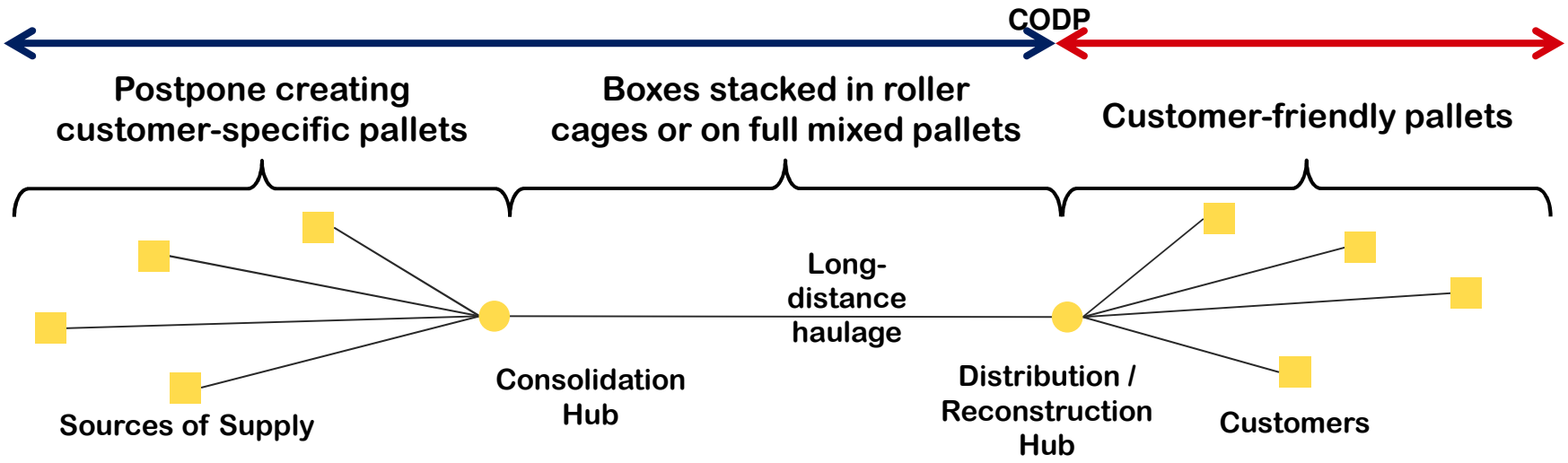
Customer

Customer

Customer

# Mix-Move-Match - The Concept

- **Customer Order Decoupling Point (CODP) is as close to the final delivery point as is possible.**
- **Downstream from CODP the Order is the entity being managed**
- **Upstream from the CODP Logistic Units (Pallets and Cartons) are the entities being managed**

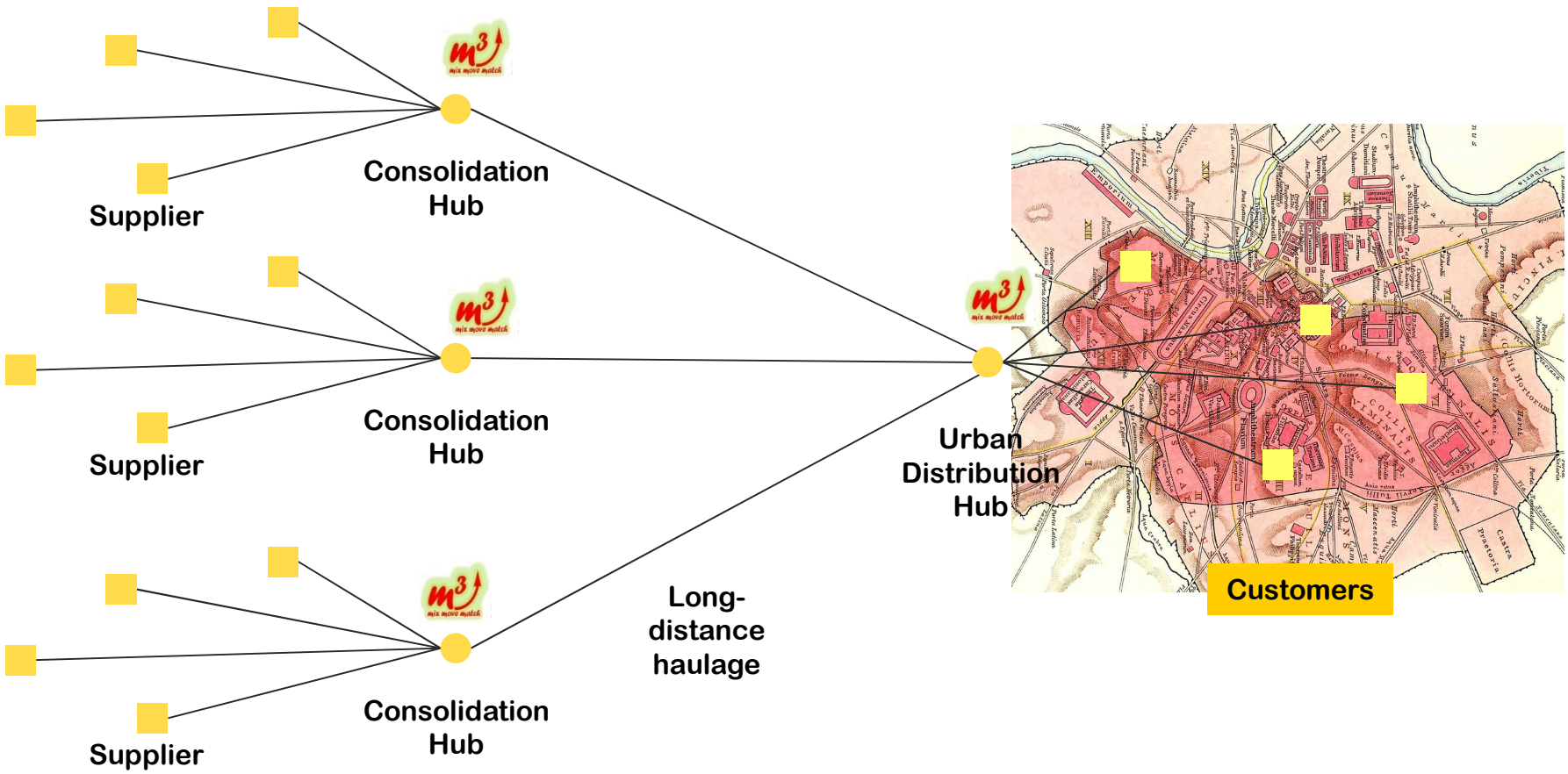



**FULLY loaded trucks driving long distance reducing trucks on the road:**

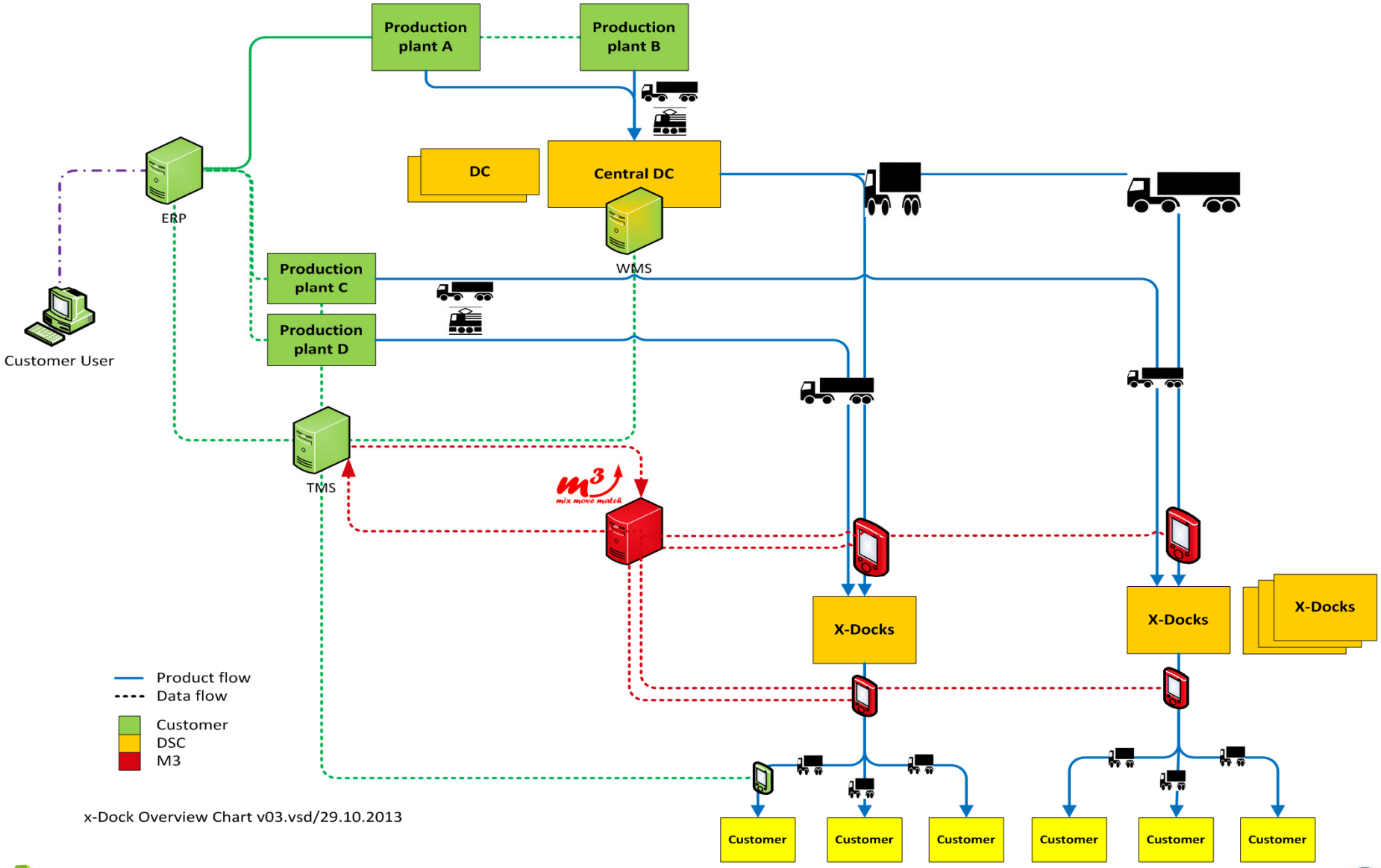
- Radically reducing Total Supply Chain costs through high utilisation of <transportation> resources
- Radically reducing Carbon Footprint of Supply Chain.
- Enabling reallocation of activities across the end-to-end Supply Chain.

# Applied to Urban Transport

## Cargo from different shippers consolidated in urban distribution hub



# M3 - closes the gap that WMS and TMS leave in the SC



# Why are Reconstruction Hubs different from traditional cross-docks?

Input

**Each Carton/pallet (Logistic Unit - LU) is uniquely identified by barcode (SSCC).**
During Inbound each one is checked by RF-scanning to confirm Receipt.
Shipper will send EDI in advance of LU to be handled by the Recon Hub.
Discrepancies are immediately captured and corrected
(in collaboration with the Shipper)

Inbound Validation

Order/Product Reconstruction

Outbound Validation

**Sorting done based on pre-planning that applies business rules** for reconstructing cartons/pallets from multiple inbound Receipts (from same or multiple shippers).
**Entire process is strictly controlled by RF-scanning** of each LU to avoid errors whilst ensuring execution is highly efficient.

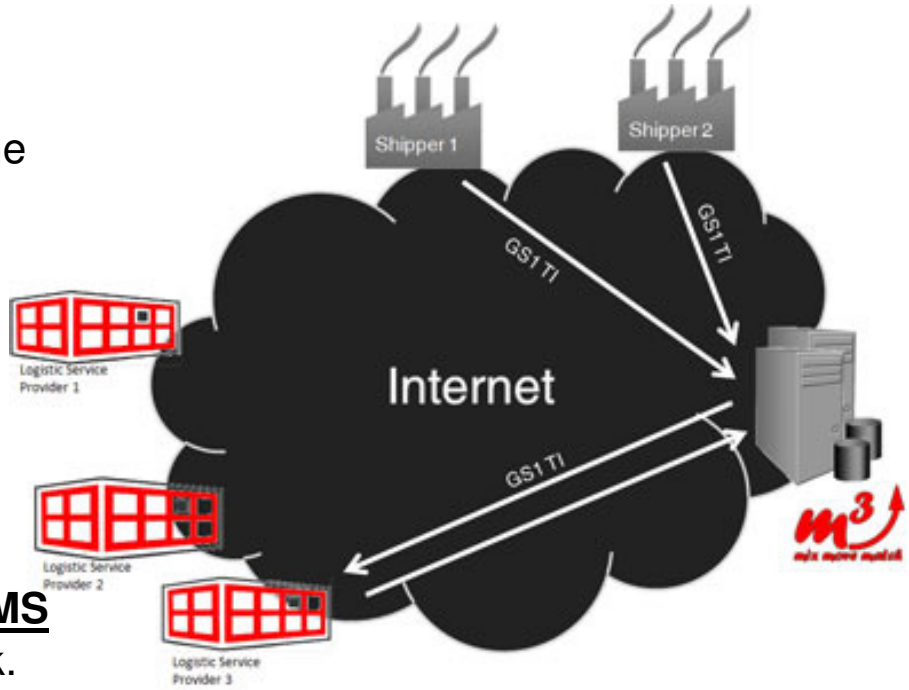
Output

Reconstruction Hubs deliver fully controlled operations down to box level

# Mixmovematch.com SAAS

MixMoveMatch.com makes this possible by applying ***Open Standard*** identifiers and ***Open Standard*** messages.

- Creates a network of connected hubs which will enable shippers to choose the best possible route for getting their product from factory to client.
- Only at the final hub closest to the end-customer would products be reconstructed into orders using standard process and tools.
- Designed to be **complementary to WMS and TMS** already in use in the Network. It does *not* replace a TMS or WMS.



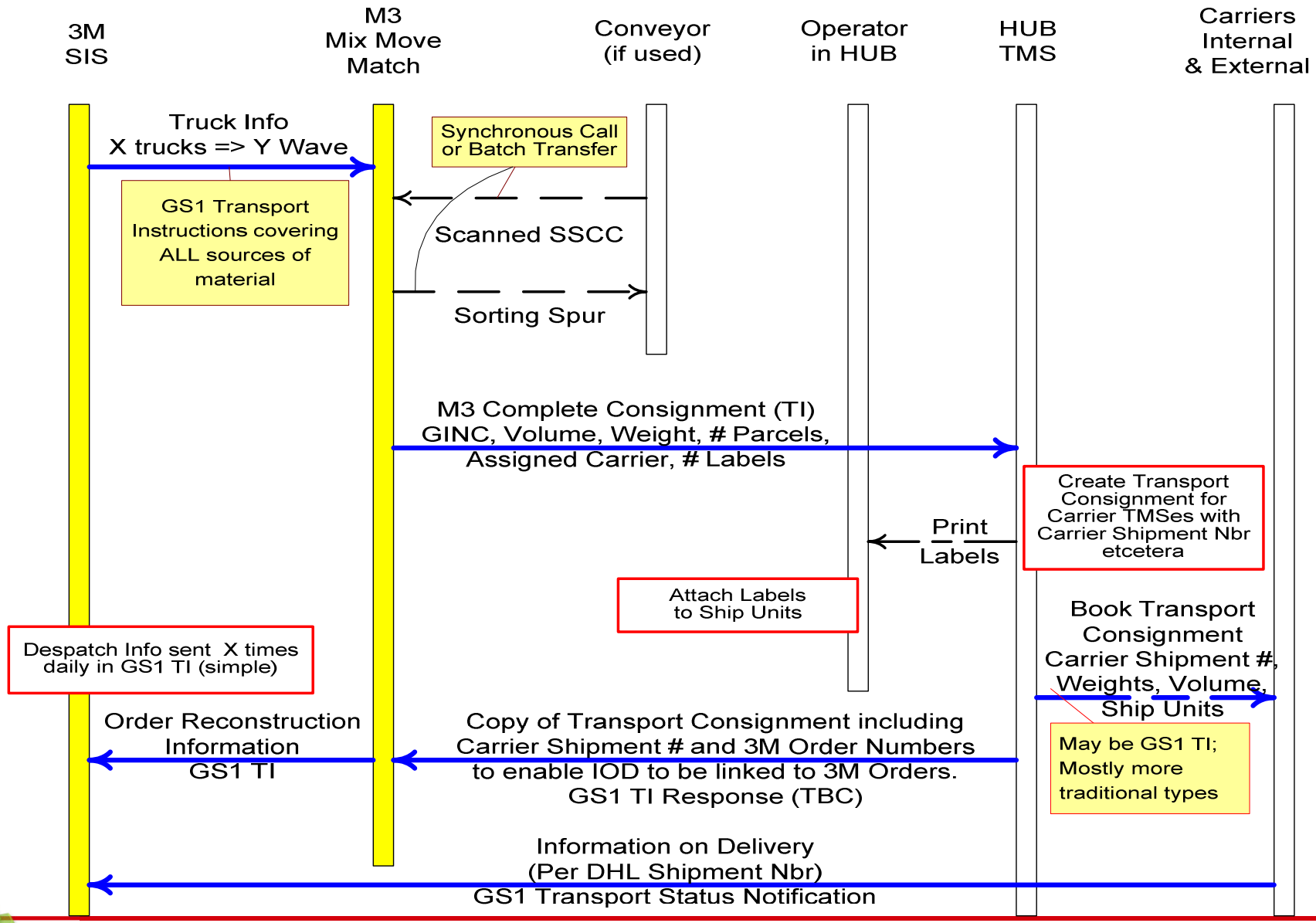

**M3 is designed from the ground up to be independent of any LSC or LSP.**
Processes, Identifiers, Messages are all chosen to be generically applied.

# Mix Move Match is based on the GS1 System of Standards

- All loading units are identified by SSCC
- Parties are identified by a GLN enabling easy and error-free optimisation across multiple shippers (and even multiple ship-from locations for a single shipper).
- Shipments and consignments are identified by GSIN & GINC allowing the same ID to be used across multiple LSP handling parts of the Logistics Network
- Interfaces are based on GS1 XML messages
  - Transport Instruction (several applications)
  - Transport Status Notification
  - Invoice (not yet implemented)

Avoidance of any proprietary ID and messages *enables shared use* of the Collaborative Network made up of many LSC and many LSP.

# Use of XML Transport Messages



# Deployment activities

Completed or on-going:

- 3 DHL sites (BE, NO, SE)
- Four 3M sites (ES, IT, FR, PL)
- Hubs live for DPD (parcel focused) and CEVA (Ocean consolidation focus)
- 3M Carrier Hubs of LSP like Kleine, Sidler

# On-Going and Upcoming activities

Upcoming

- Complete the Financial Settlement Systems Integration with 3M.
- Video on the M3 concept jointly with 3M, Marlo (as part of iCargo deliverables).
- DHL has engaged with or targeted a number of Clients for Mix Move Match deployment
  - World wide Consumer Electronics brand (similar challenges as 3M). Looking for Transport AND Warehousing optimisation improvements
  - Well-known Toy Manufacturer looking for Transport savings but equally important improved control to increase OTIF both during peak and off-peak season.
  - Electronics giant faced with challenge similar to 3M
  - A Collaboration of two consumer electronics brands to (partly) bundle their supply chains and achieve Transport optimisation as well as Customer Service improvements.
  - A Collaboration of a Consumer Packaged Goods Manufacturer and an Industrial Manufacturer to bundle parts of their Supply Chains to achieve Transport optimisation and increased Customer Service levels.

Mix Move Match is proven ready for use right here, right now.
A wide array of companies believe it may drastically improve their SC

# Suitable Application areas – selection criteria

**Companies running business processes with:**

- Large Number of Small Customer deliveries.
- *"Issue" with fill rates* (empty miles).
- Customer delivery Quality issues (OTIF).
- *Combine multiple sources for Customer delivery.*
- Delivery Documents issues.

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**Shipper Companies willing**

- and able to barcode label cartons/pallets and provide EDI in advance.
- to allow combination of their Goods with other Clients for single delivery to common Customer.

**Receivers** allowing mixed deliveries to be made (containing goods from several shippers).

# Mix Move Match – Recap

- Build Customer-specific Delivery Units as close as possible to the Customer .
- Greatly increase flexibility in Supply Chain configuration.
- Combine materials from multiple origins onto a single Delivery (Unit).
- ***SHIPPER-INDEPENDENT***.
- *Minimise empty miles and maximise fill factors on transport from Origin to Customers.*
- ***Hub Network*** typically operated by ***multiple LSP***
- Based on open GS1 System of Standards.
- The actual reconstruction activities in the Hubs require a specialised application.
- Jointly developed by 3M, DHL (and other LSP) as part of iCargo programme.

**THE PRIZE is GREAT**
**Optimized fill rates on (long distance) Transport**

✓ With 3M *50% fewer trucks* long haul and *30-35% total Logistics Costs reduction*.

✓ Much *reduced Green House Gas emissions*.