



CO₂ Services

NTM Annual Meeting, 16 April 2015

Björn Sawilla, Product Manager



THE PEOPLE NETWORK

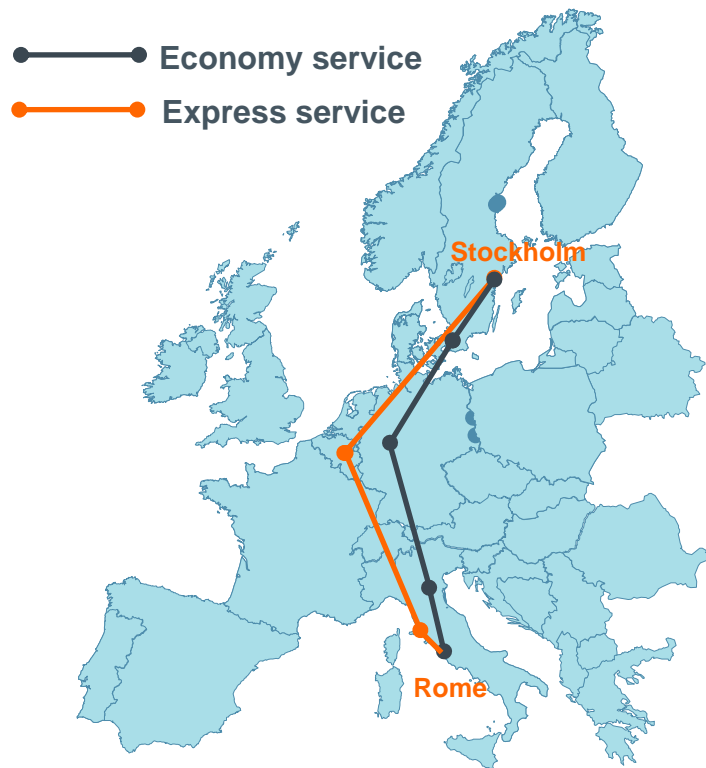
TNT IN NUMBERS

€ 6,680m	REVENUES (2014)	200+	COUNTRIES SERVED BY WORLDWIDE NETWORK
€ (86)m	OPERATING INCOME (2014)	61	COUNTRIES WITH TNT'S OWN OPERATIONS
1 million	DAILY DELIVERIES	54	AIRCRAFT IN GLOBAL AIR FLEET
Listed	ON NYSE EURONEXT AMSTERDAM	3,000+	HUBS AND DEPOTS WORLDWIDE
58,292	EMPLOYEES WORLDWIDE	82%	OF EMPLOYEES WORKING IN INVESTORS IN PEOPLE CERTIFIED SITES



Journey of a typical TNT shipment

Example: Stockholm to Rome



Operational activities



Pick-up: van/small truck



Linehaul Road: truck/trailer



Linehaul Air: TNT/commercial air



Delivery: van/small truck



Depot processing (not included in CO₂ model)

Activity based footprinting method powers 'end-to-end' CO₂ reporting solution

Activity based footprinting (ABF)

$$\text{Activity} \times \text{CO}_2 \text{ intensity} = \text{CO}_2$$

$$\text{Tonne.km} \times \frac{\text{CO}_2}{\text{tone.km}} = \text{CO}_2$$

Output

Customer Reporting
CO₂ KPIs
Company Footprint

CO₂ reporting solution

1. Data Collection

- Create CO₂ factors
- Source: TNT reported data, NTM, others

2. CO₂ Allocation

- Calculate CO₂ for transactions
- Data consolidation

3. CO₂ Disclosure

- Disclose data internally/externally
- Various channels

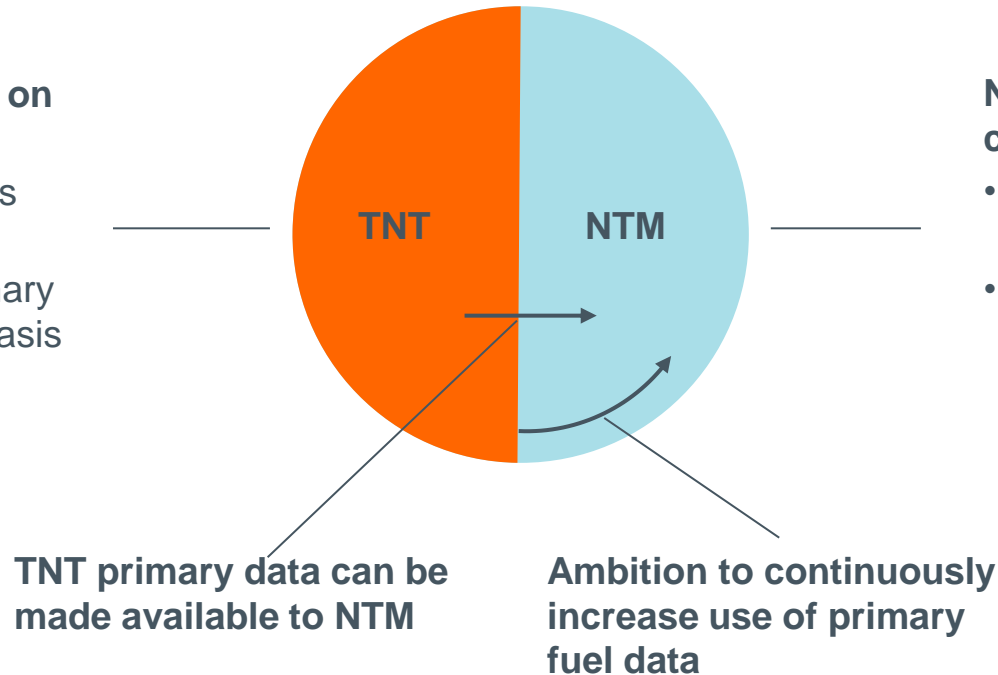
Data collection: NTM modelled data on fuel consumption complements TNT reported data

TNT reported data on fuel consumption

- Owned operations where available
- Collection of primary data on regular basis

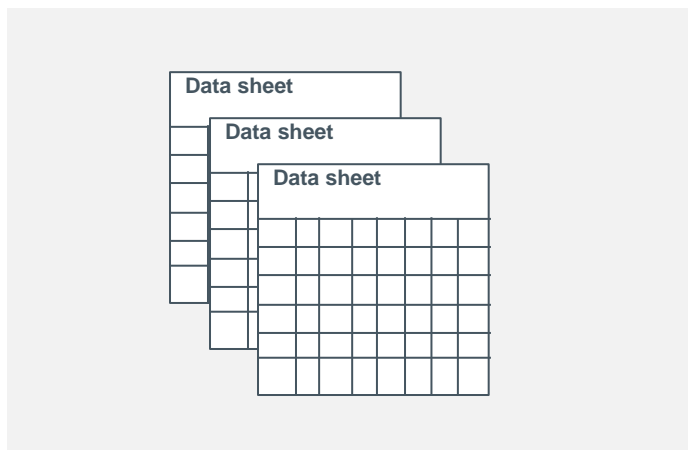
NTM modelled data on fuel consumption

- Subcontracted operations (road/air)
- TNT reports key transportation parameters such as vehicle type, load capacity, etc.



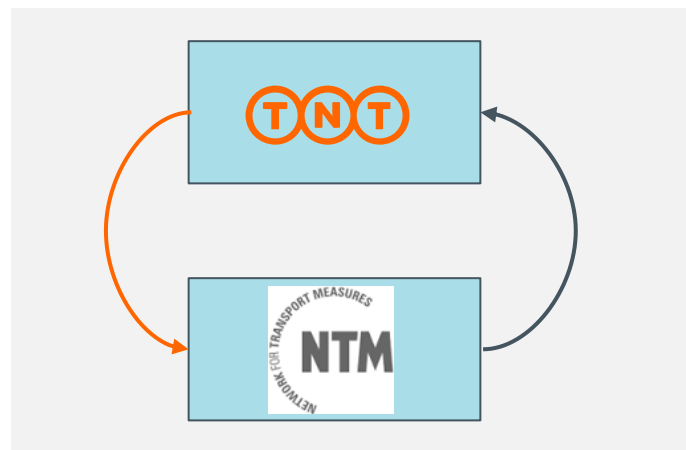
NTM data sourcing: From data extract to **web-service integration**

Data extract (ad-hoc)



- Manual activity
- Limited update cycles
- Requires data processing
- Issues with data integrity

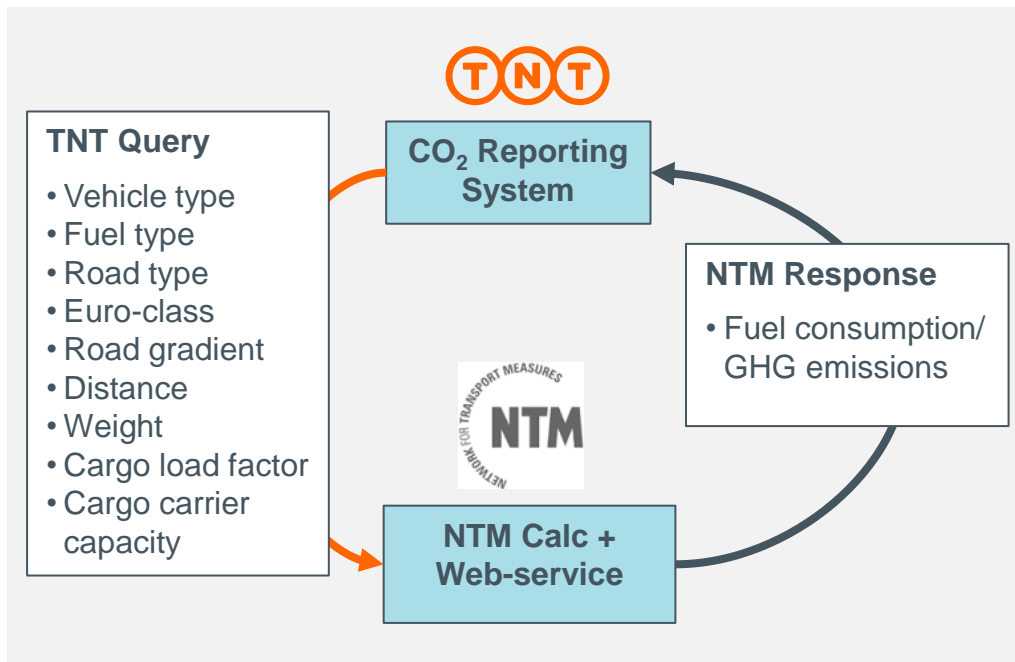
Web-service integration



- Fully automated
- Frequent updates possible
- Full integration with TNT system

Solution details: NTM web-service feeds TNT CO₂ reporting system

Solution overview



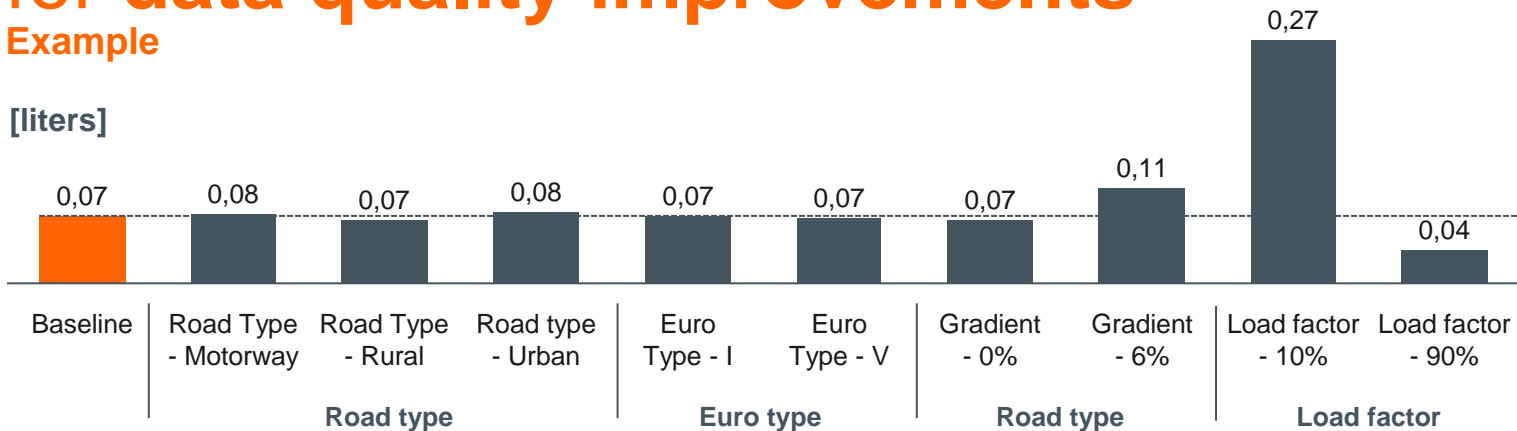
Solution specifications

- Solution based on beta version NTM web-service
- Development of dedicated web-service client to connect TNT Reporting system to NTM web-service (Java based)
- Sequential querying to optimise load balancing
- Completed successful testing with 20-30k queries (good response time)

Sensitivity analysis on CO₂ drivers: Define focus for data quality improvements

Example

[liters]

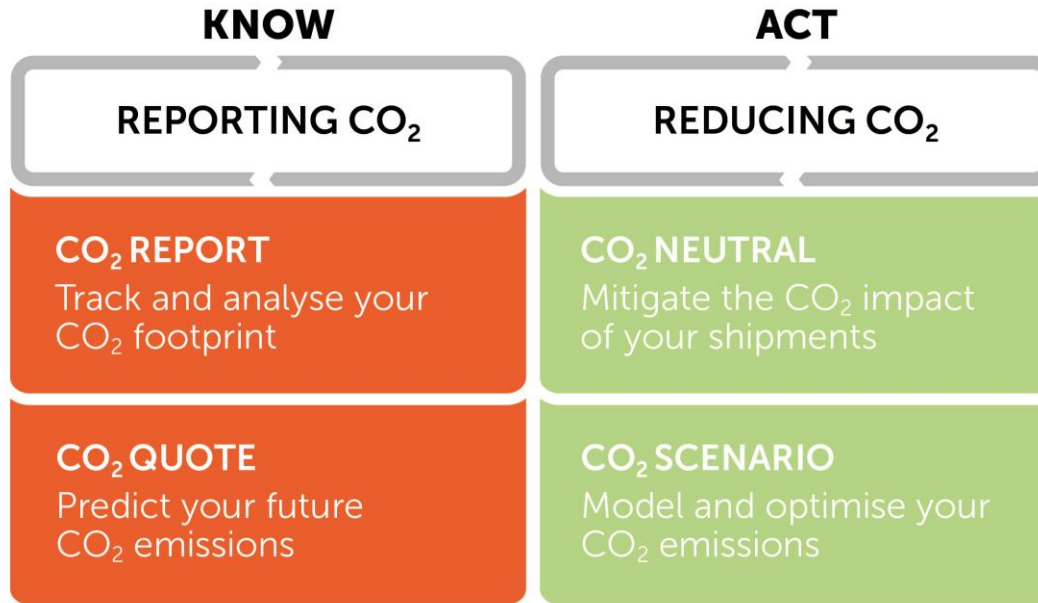


Baseline parameters

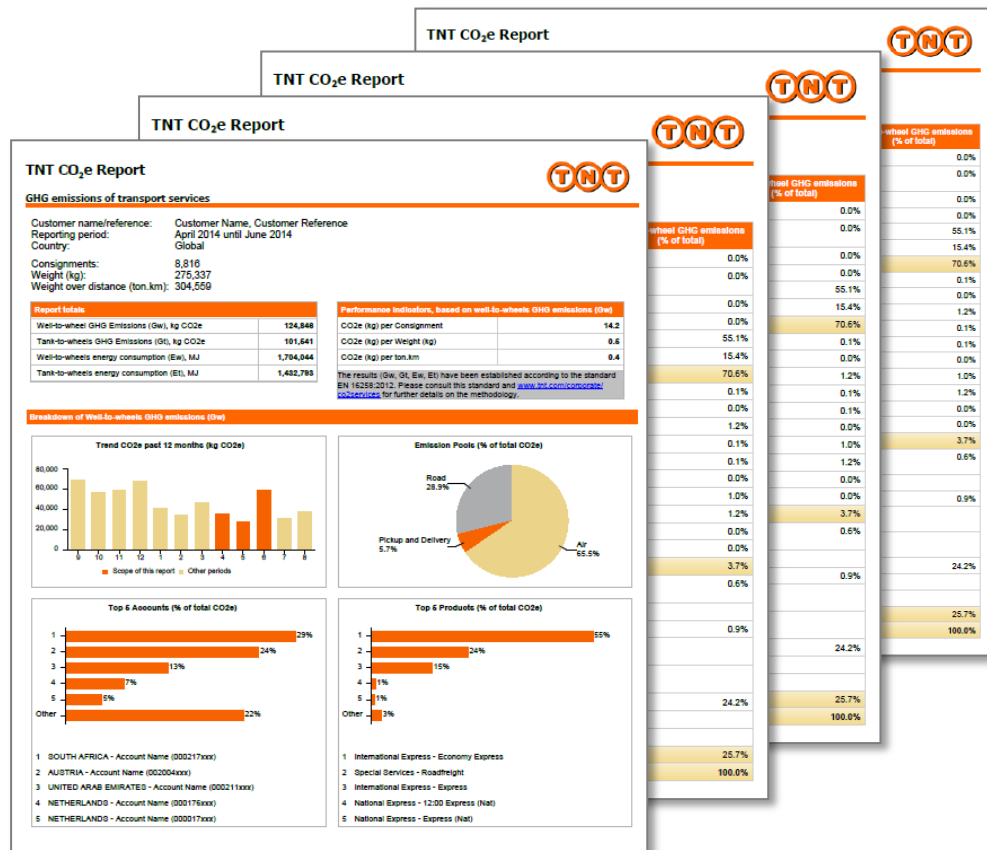
Static	
Vehicle Type:	Rigid Truck 7.5 - 12 t
Fuel:	Diesel B5 - EU
Distance:	1,000 km
Cargo carrier capacity:	6 tonnes
Shipment:	1kg

Variable	
Road Type:	Average Road
Euro:	Euro IV
Gradient:	2%
Cargo load factor:	40%

TNT Portfolio of CO₂ Services



TNT CO₂ Emission Report





THE PEOPLE NETWORK

THANK YOU