



***Achieving more efficient
and sustainable logistics
solutions:
a shippers' Perspective
Michelin in Europe***



Agenda

- Supporting EMS : why MICHELIN ??
- MICHELIN Europe Logistics
- Needs of a shipper
- Inter-modality issues
- Delivery costs and delays
- Dilemma and solution
- Proposed experimentation in France



Supporting EMS : why MICHELIN ?

- **MICHELIN manufactures & supplies truck tyres to OEMs & Haulers**
- **Tyre RR plays an important part in fuel consumption of trucks**
- **MICHELIN is a customer of all transport modes, as**
 - ◆ an importer of raw materials, and
 - ◆ an exporter of finished products.
- **MICHELIN also organizes its own logistics**
 - ◆ on itineraries between some plants.
- **MICHELIN endeavours contributing to sustainable development and mobility**
- **MICHELIN is looking for opportunities of innovation, which will comfort its competitiveness, and, as a consequence, keep labour in Europe**



MICHELIN Europe Logistics

2 millions tons of finished products
transported yearly

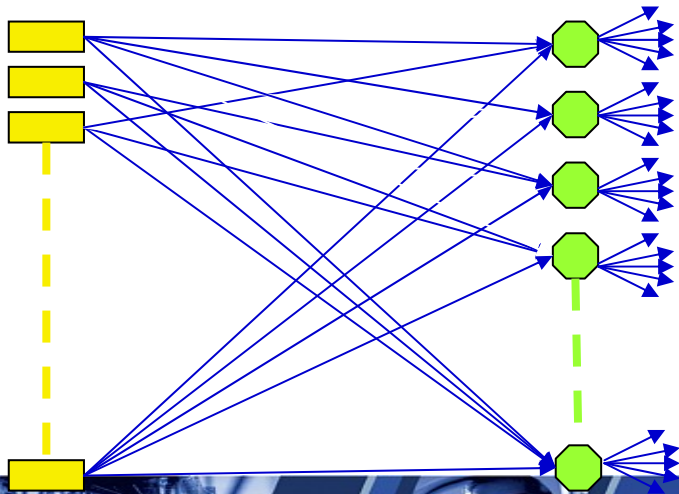
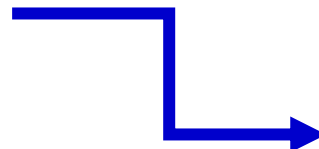
14000 product references



43 plants



26 gen. stores



60 000 delivery points

2000 to 2500 trucks / day

600 containers / day

More than **360 000 voyages** in 2004

More than **220 ME** purchases

More than **500 transporters**

Transports by **truck, train, ship & plane**

More than 1000 routes



MAIN NEEDS OF A SHIPPER

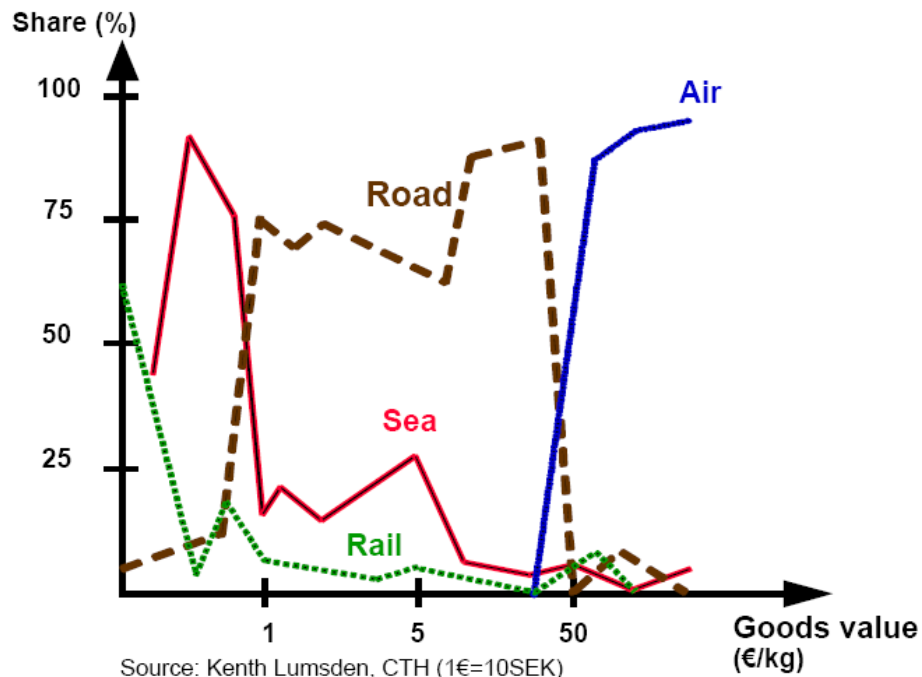
- Raw materials ?
 - => MICHELIN is the second customer of Le Havre harbour and rail line there from
- Semi-finished and finished products ?
 - => transport cost and delivery delay
(delay, because goods value decreases with time)



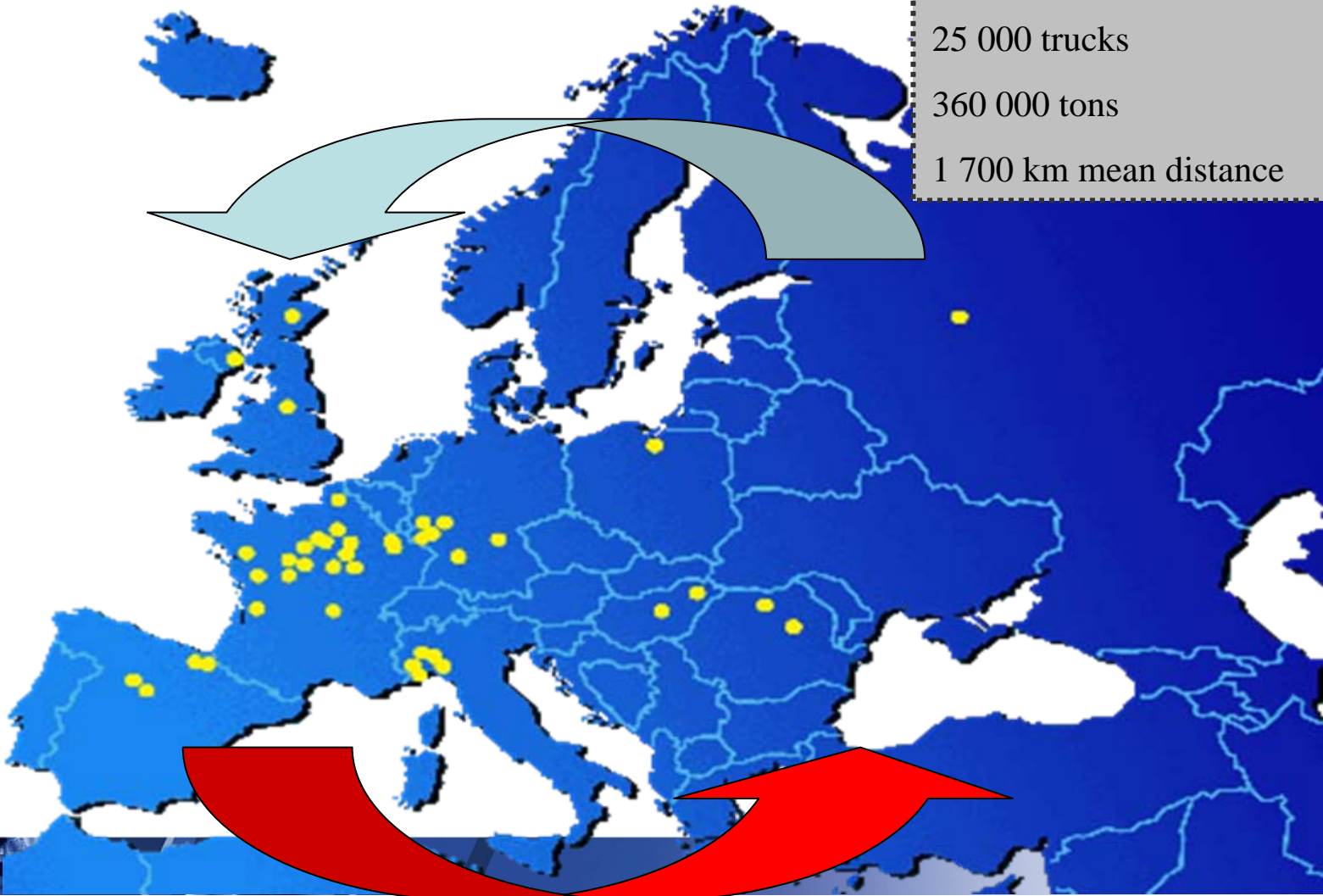
NB: VALUE OF GOODS AND TRANSPORT MODES

Value of the goods is an important criterion for the selection of the mode of transport to be used

The value of goods in relation to transport modes



HORIZON 2010



Annual volume :
25 000 trucks
360 000 tons
1 700 km mean distance



INTER-MODALITY ISSUES

SHIPPERS' EXPECTATIONS

Competitive costs

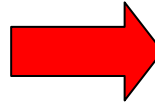
Lasting offer

Adapted delivery delays

Regular frequencies

Reliable service

Limited environmental impact



... OBSTACLES that MUST be overcome

High cost of combined transport

Long delivery delays

Disparaged infrastructures

National habits

Saturation

Dilution of responsibilities

Too many documents

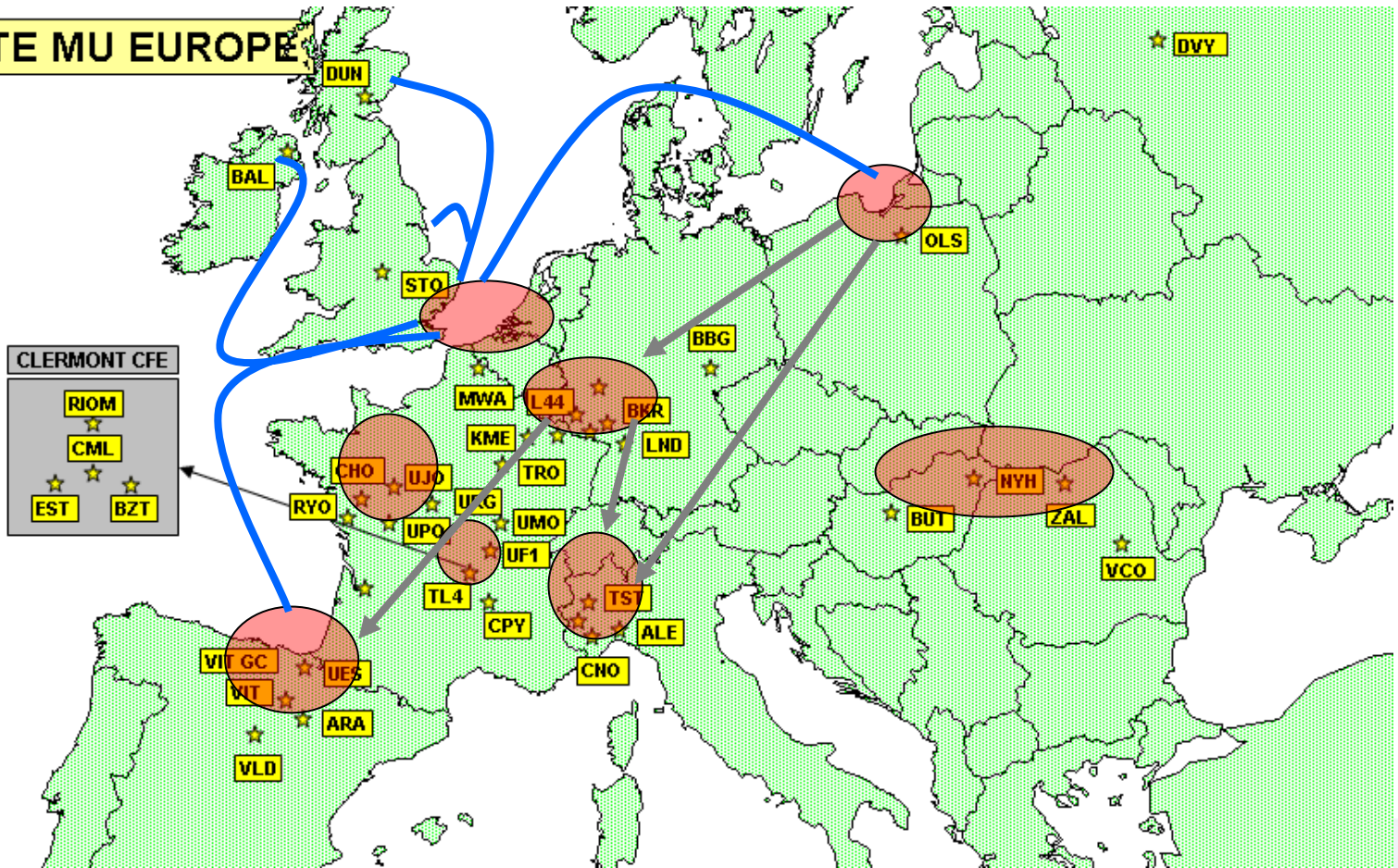
No harmonized offer of combined T

Lack of initiative of CT actors



DELIVERY COSTS & DELAYS : example

CARTE MU EUROPE



SEA + ROAD :

RAIL + ROAD :



Ex. : COST & DELAY COMPARISON : Poland - NL



DILEMMA ?

- **To achieve the next years' two main challenges:**
 - ◆ Contribute to bringing GHG emissions down
 - ◆ Keep the EU economical machine running
- **The best way should be to help all transport modes:**
 - ◆ Those which are not efficient enough should be helped to improve
 - ◆ Those which are deemed too energy-voracious should be allowed to propose and implement solutions



SHORT TERM SOLUTION ?

- **The “European Modular System” has been experimented and used in Scandinavia, Netherlands, Germany**
- **Advantages are well known, constraints and limitations of use have been recognized**
- **EMS will not roam on any road**
- **Why not let it live on selected EU motorways ? and provide opportunities of innovation ?**

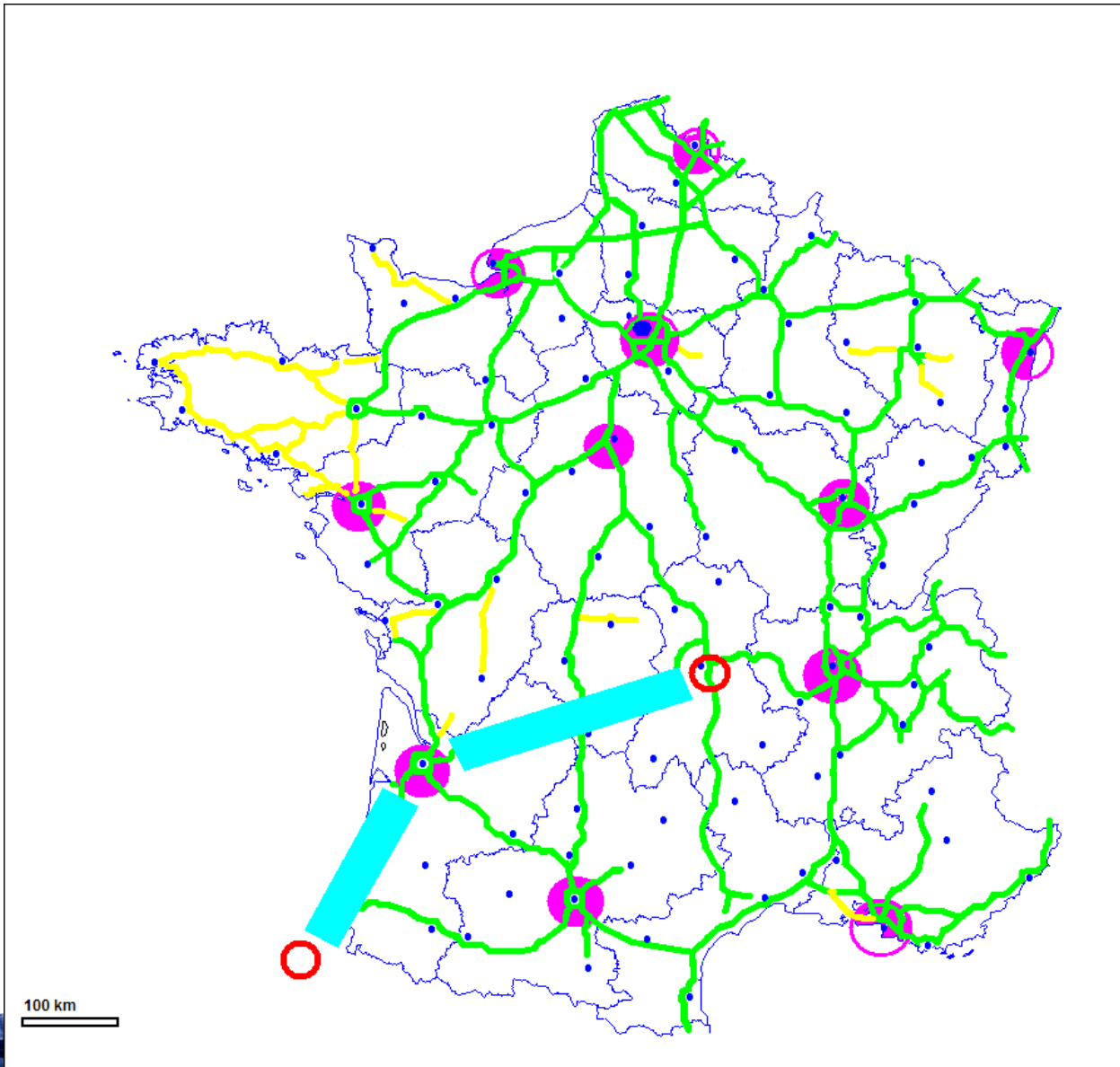


PROPOSED EXPERIMENTATION in FRANCE

PRACTICAL CASE STUDY : logistic route between two groups of plants : Clermont-Fd → Oïartzun

- Favourable, in terms of distance and present organisation
- Assumption : 3 “maxi-code” are replaced by 2 EMS
- Short term cost : exchange or renting of lorries i.o. tractors, purchase of dollies, reorganisation of deliveries





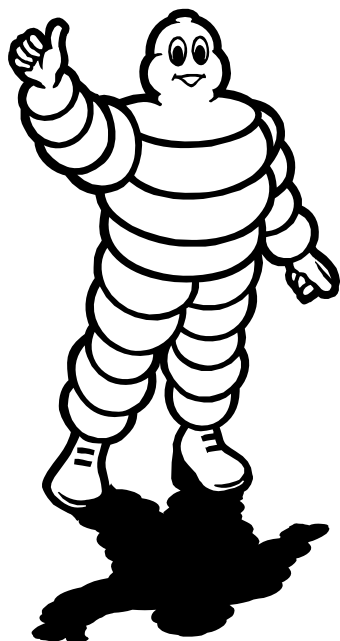
CO2 impact ?

a priori evaluation : replacing « maxi-code » trucks by EMS

route Clermont - Oiartzun		present	future
distance	km	626	626
number of trucks, both ways	# / d	9	6
daily distance	km/j	11 268	7 512
fuel conso increase			15%
fuel consumption	l/100	34	39
fuel used	l / j	3 831	2 937
fuel mass (d=0,845)	t / j	3.24	2.48
yearly working days		230	230
yearly mass of fuel	t/an	745	571
yearly economy	t		-174
conversion to CO2 tons			2.65
yearly CO2 gain (tons) :			460



**When shall we be allowed
to start experimenting EMS ?**



Thank you

