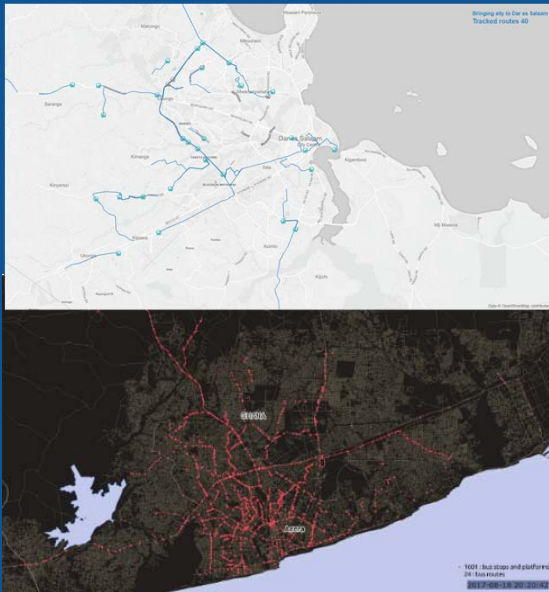




Applications and case studies in digitalization applied to transport



Introduction to Digitalisation for Infrastructure

Sergio Oliete Josa, Team Leader Transport, DEVCO.C5
Brussels, 10th December 2019





INTERNATIONAL PARTNERSHIPS

Transport sector

Green Deals

Green and smart cities

Urban mobility

Sustainable energy

Cleaner vehicles

From farms to forks

Rural mobility

Alliances for Sustainable Growth and Jobs

Sustainable investment and de-risking, including key enable infrastructure

Roads, railways, ports, airports, ...

*Creation of decent jobs
Education and skills*

Transport industry

Business environment and investment climate

Transport industry

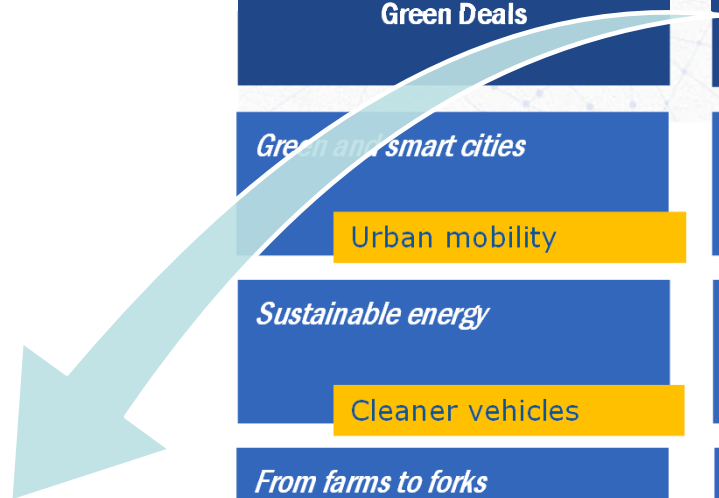
Regional economic integration, trade and connectivity

Transport facilitation, corridors

Digital and Data Technologies

E-services, e-governance

Logistics, urban mobility, ...



Africa-Europe Alliance for Sustainable Investment and Jobs

Task Force on Transport and Connectivity:

- Connectivity and infrastructure
- Road safety
- Aviation

Back to the basics and beyond

- Back to the basics:
 - **Projects and maintenance** (project preparation and implementation, maintenance, load control,...)
 - **Transport corridors** (investment plans, observatories, border facilitation, smart corridors,...)
 - **Rural transport** (unlock production areas, decentralised road management, vulnerable groups,...)
- Beyond (emerging issues):
 - **Urban mobility**
 - **Road safety**
 - **Railways**
 - **Cleaner vehicles**
 - **Air and maritime transport**

Digital is in our blood !

Transport is not (only) infrastructure...

Investments & asset management

Roads

quality projects, road databases, road maintenance, axle-load control, decentralized rural road management, ...

Urban

infrastructure

tramway, metro, BRT, pedestrian walkways and footbridges, flyovers, ...

Railways

Ports, Waterways

Airports

Mobility & transport services

Urban mobility

public transport, informal and semi-formal modes, traffic flows, street mapping, vehicles for hire, car sharing and pooling, home delivery,...

Rural mobility

agro-pastoral production basins road planning, accessibility indices, access to basic services, cross-border artisanal transport,...

Road safety

road accident databases, safety management systems, observatories, infrastructure improvement, traffic police, vehicle standards, registration and technical inspection, driving licenses, professional drivers, non-motorized transport, post-crash care...

Transport facilitation

Connectivity

Road&Belt Initiative, PIDA, TEN-T extension, regional master plans,...

Corridor management

observatories, inter-modal connectivity, corridor authorities...

Platforms interface

urban congestion, dry ports,...

Logistics

trucking industry, freight forwarders, terminal operators,...

Legal & regulatory framework

IT for Trade, Transit, one-stop or joint BP,...

Cross-cutting transport issues

Air pollution

cleaner vehicles, fuel quality, long-term health impact, ...

Gender in Transport

Access to services and to jobs

Motorbikes

moto-taxis, youth employment, armed groups, pollution, industry, safety, ...

Making more green, resilient & inclusive investments

Accompanying measures beyond ESIA legal requirements

Investments & asset management

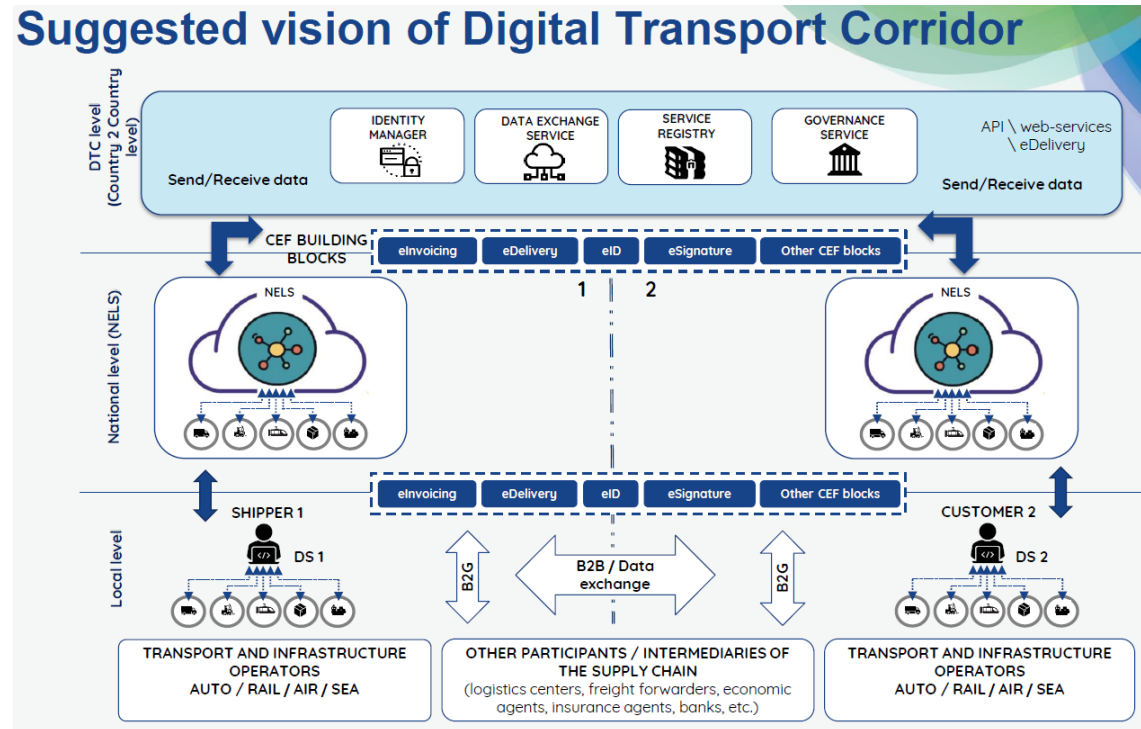
- *Engineering software (structural calculations, CAD,...)*
- *Cost-benefit analysis and multi-criteria decision-making tools*
- *Geographic Information Systems (GIS) including roads inventory and road condition surveys*
- *Quality infrastructure (e.g. SOURCE)*
- *Vehicle counting and axle-load control (weigh-in-motion)*
- *Analysis, planning, management and appraisal of road maintenance (e.g. HDM-4)*
- *Monitoring of structural integrity of large scale structures (bridges)*

Mobility & transport services

- *Vehicle registration and technical inspection*
- *Driving licenses (Digital ID)*
- *Insurance brokering*
- *Mapping, navigation (OpenStreetMap, Galileo)*
- *Vehicles with driver (e.g. Uber), vehicle sharing (cars, bikes, scooters, etc.), car pooling, mini-buses location and route selection (eg. Swvl)*
- *Home delivery*
- *Vehicle and spare parts markets*
- *Railway traffic management systems*
- *Urban traffic management (traffic lights)*
- *Rural accessibility indices*
- *Road accident databases*

Transport facilitation

- *Transport observatories/Smart corridors*
- *e-Customs, e-logistics*
- *Load tracking and driver behavior control*
- *Freight services allocation*



Example 1: Weigh-In-Motion (WIM)



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Transportation Research Part A

journal homepage: www.elsevier.com/locate/tra



Cost-effectiveness of enforcing axle-load regulations: The Douala-N'Djamena corridor in Sub-Saharan Africa^{☆,☆☆}

Antonio José Torres Martínez^a, Sergio Oliete Josa^{a,*}, Francesc Magrinyà^b, Jean-Marc Gauthier^c

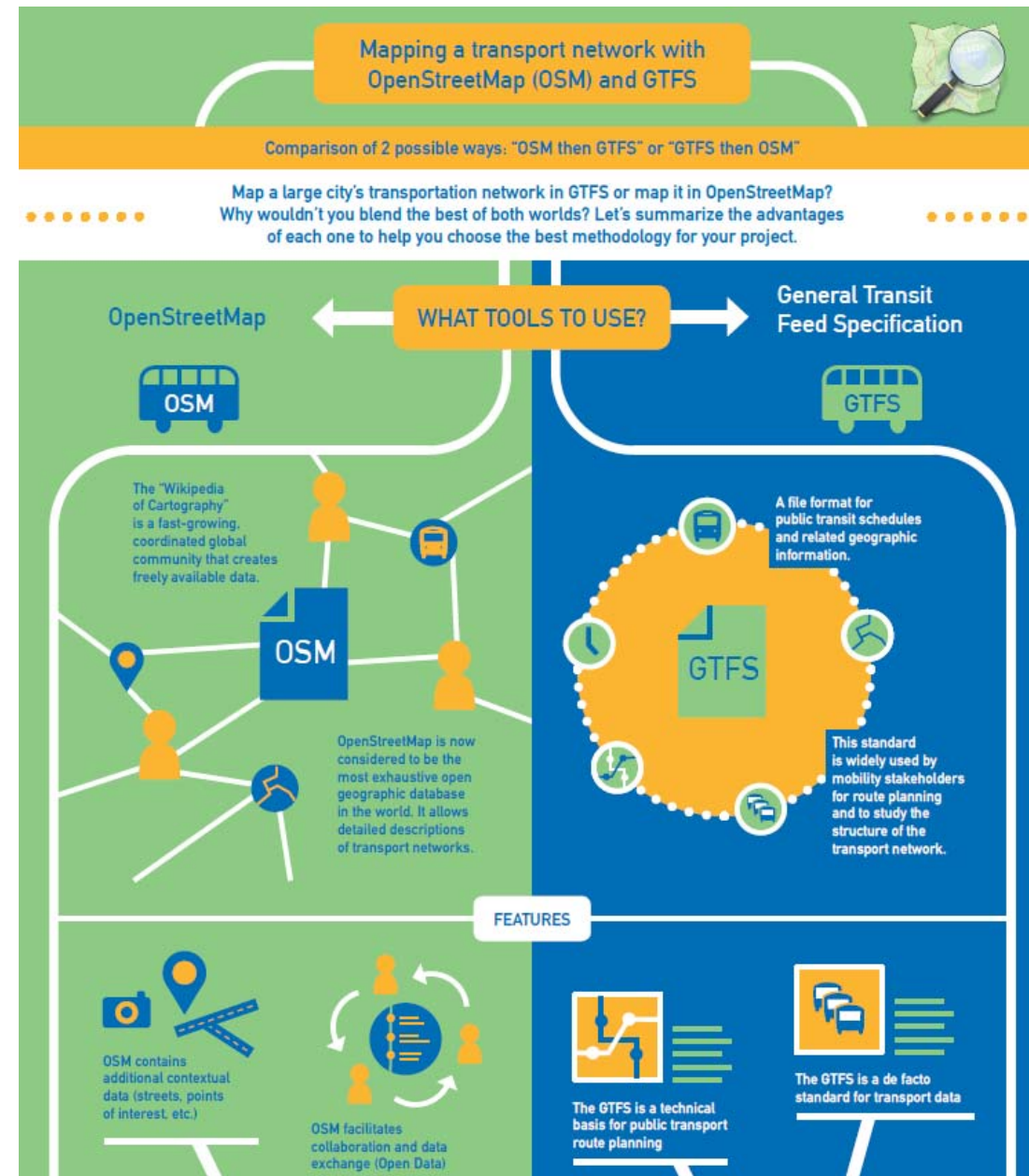


Example 2: mapping public transport

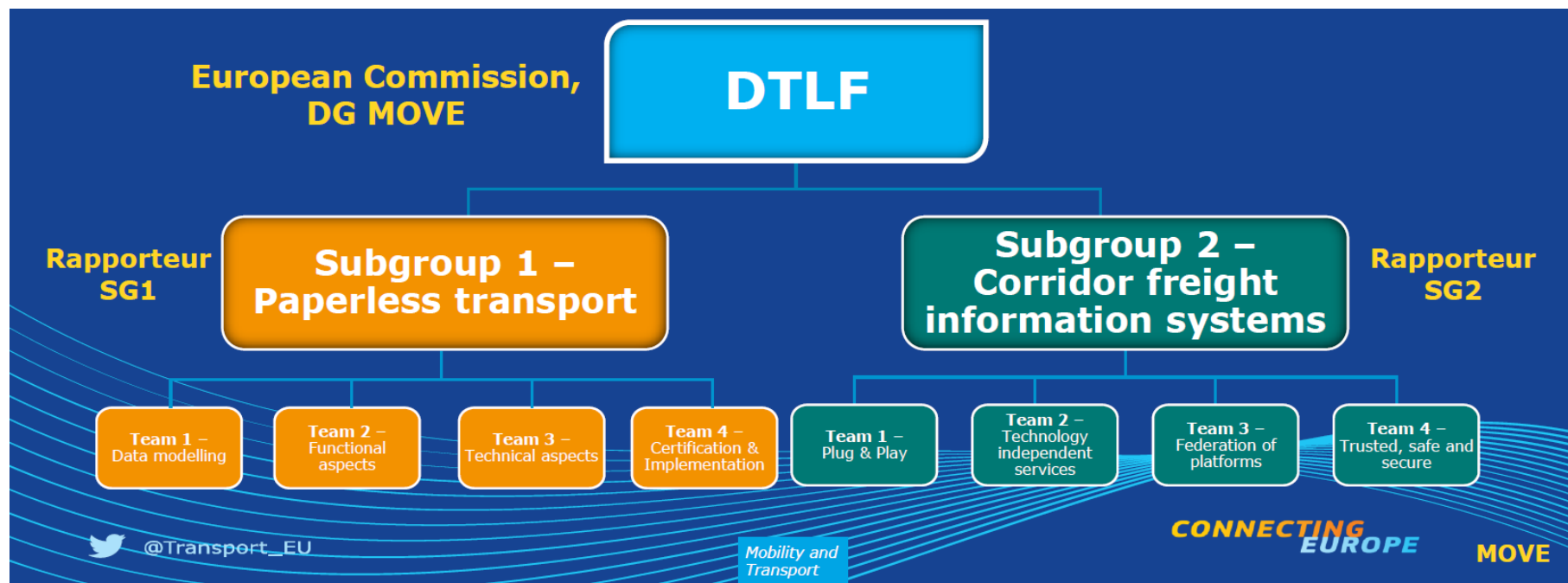
- *#DigitalTransport4Africa*
- *digitaltransport4africa.org*



Attention: GTFS (General Transit Feed Specification) is a Google standard, while we in the EU promote EU standards such as Transmodel, Netex and Siri. Please see Commission Delegated regulation (EU) 2017/1926 on multimodal travel information services.



Example 3: Digital Transport and Logistics Forum



Conclusions

- *Business as usual for an engineer, but need to be up to date.*
- *Link to the basics (axle-load control, road maintenance,...).*
- *Do not reinvent the wheel in Africa. Strengthen collaboration with other DG (MOVE, NEAR, etc.)*

Questions

- *Can you share successful experiences from your Delegation?*
- *Is there any specific area where you see high potential in your country?*
- *What would be the specific training needs in your Delegation?*