Strategic tool

- ITF’s “flagship” publication – part of OECD Outlook series
- In-house models covering all modes of transport, freight and passenger – globally, nationally, cities
- Long-term development of global transport volumes and related CO₂ emissions, health impacts, SDGs
- Allows us to analyse how world could change if we choose different policies and development paths
Projecting under uncertainty

- How socio-economic changes affect transport demand
  - Population, GDP, trade, transport policies
- Relies on our understanding on how these affected transport in the past
- Uncertainty is an inherent element of future transport scenarios
  - Slowing economic growth, changing demographics, travel behaviour, technology and innovation
Global freight transport 2050

All national and international freight activity

Maritime, Air, Road, Rail, Inland Waterways

Mode choice, Network assignment

Tonnes, tkm, vkm, CO₂
Freight growth subject to significant uncertainties
Tkm to triple by 2050
Maritime continues to dominate freight
Anticipating bottlenecks and planning investment difficult
Freight movements and emissions by 2050

Most growth in Asia and Africa

Indian and Pacific Oceans
Policy scenarios: current and high ambition

Trade of coal and oil
ENV-OECD
Coal demand decreases 50% and Oil 33% by 2035

Logistics efficiency
IEA NPS
IEA EV30@30

Efficiency and EVs
IEA NPS
IEA EV30@30
2019 Edition: Focus on disruptions

- Teleworking
- Shared mobility
- Autonomous driving
- Long-haul LCC
- Energy innovation
- Ultra HSR

- E-commerce
- 3D printing
- New trade routes
- Energy innovation
- High capacity vehicles
ITF Transport Outlook 2019

Disruptions for freight transport

- E-commerce: 5%-25% increase
- 3D printing: Up to 38% reduction in trade value
- New trade routes: Central Asia, Arctic routes
- HDV energy transition: Up to 37% of activity in these systems
- Autonomous trucks: Up to 90% uptake for inter-urban
- High capacity vehicles: 5%-20% uptake
Potential impact of disruptions the largest in Freight

Massive changes in costs, activities and supply chains

Changes trade patterns, infrastructure use, logistics chains

Difficulty for investment decisions
New routes: Impact on trade flows

Move from Indian and Mediterranean to Artic

19% and 21% drop in Indian and Mediterranean compared to current ambitions

Slight rail increase and consolidation in Eurasia
Impact of E-commerce 2050

Additional increase in activity volumes and emissions

Sharper increases for Air and Urban freight (11% and 6% compared to current ambitions)

Bigger increases in East Asia
3D printing

Decrease in volumes lead to decrease in emissions compared to current ambitions

28% decrease in tkm compared to current ambitions

Sharper decreases for Air, Sea and in East Asia
Energy Transition for long-distance Road

Decrease in emissions compared to current ambitions

Modal shift from rail and inland waterways towards road by 2050 (varies by region)
Minor decrease in emissions compared to current ambitions, strong decline in costs

Increase in emissions for some regions due to Modal shift from rail towards road
High Capacity Vehicles

Minor decrease in emissions compared to current ambitions (but more than Autonomous), decline in costs (less than Autonomous)

Some modal shift does occur from rail and inland waterways towards road
Thank You

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