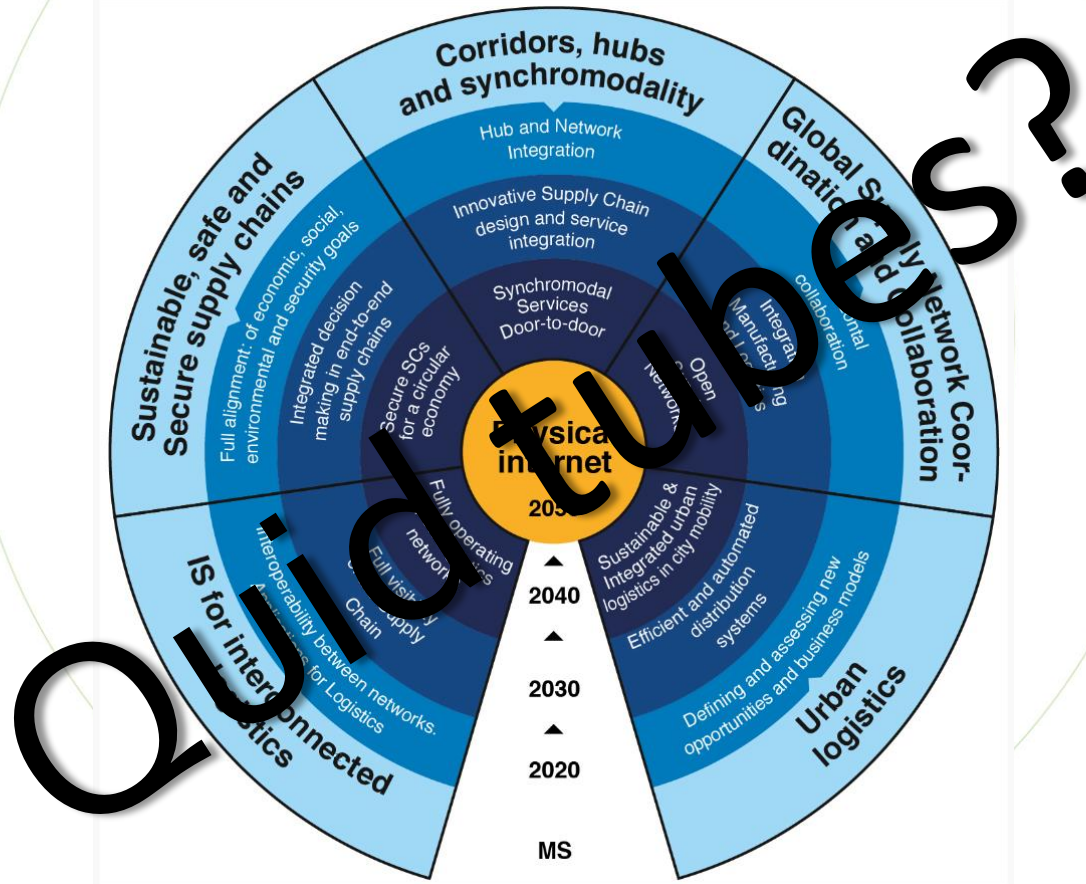
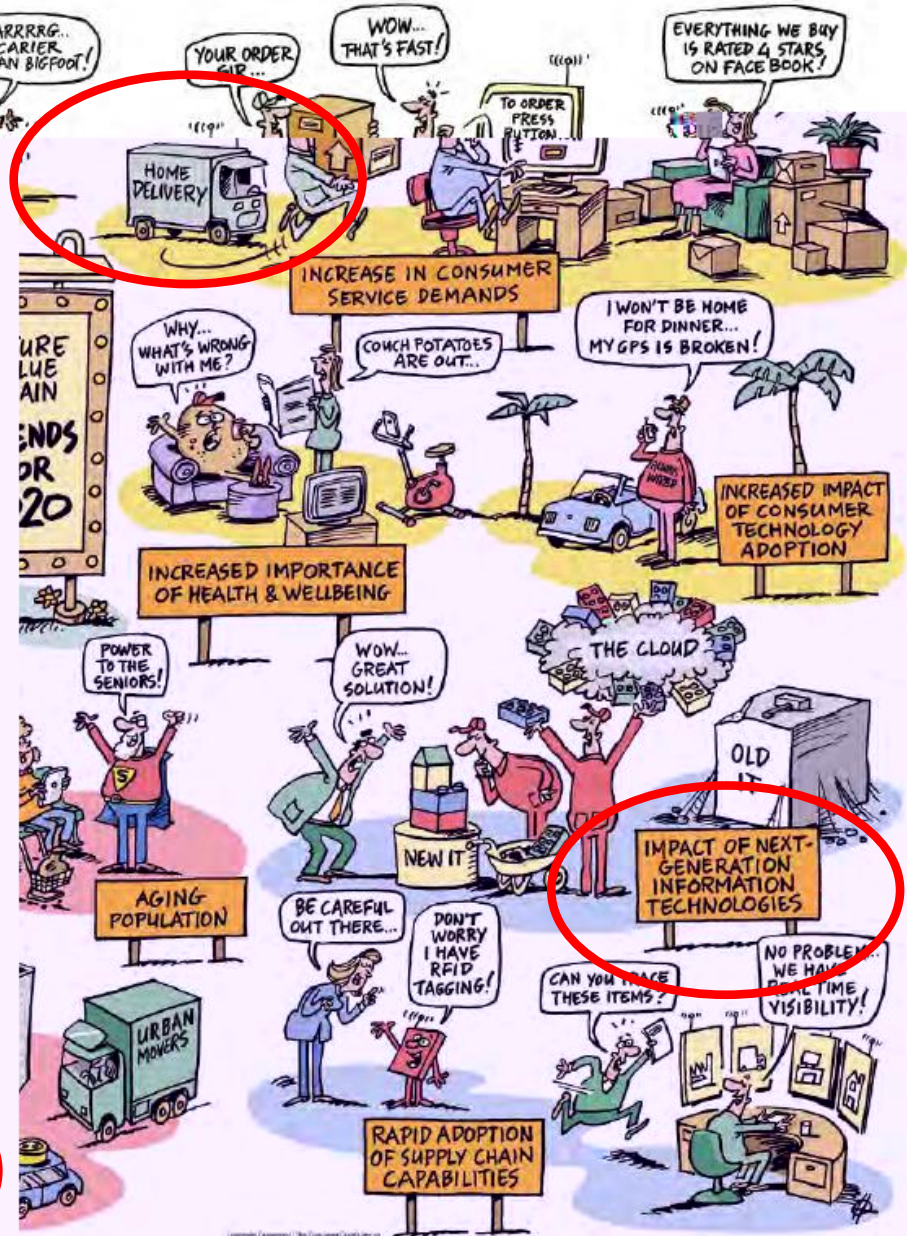
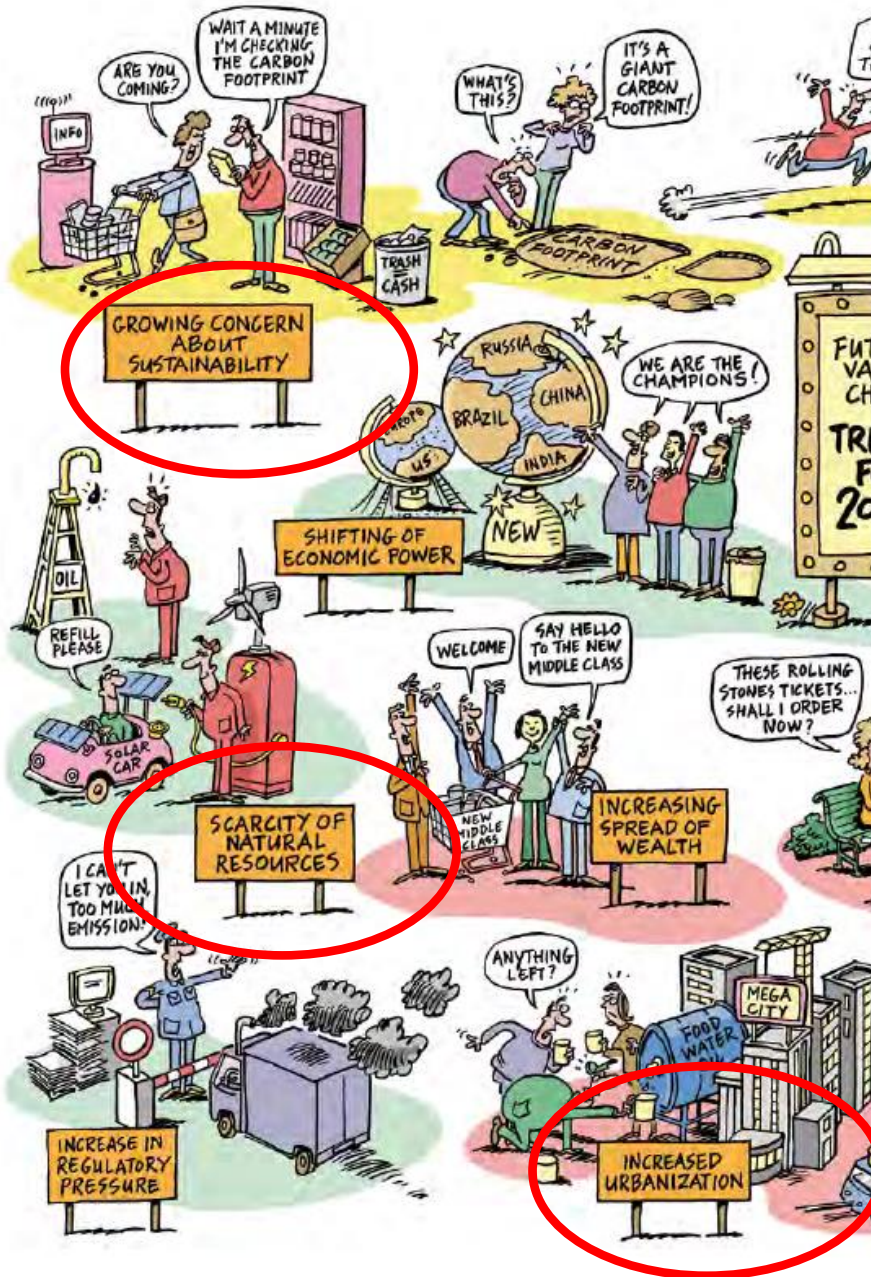


New governance models to integrate tubes in a multimodal transport system

Revisiting Transport of Goods Modes: Pipelines, Tubes and Hyperloop

Dr. Ir. Bart Vannieuwenhuyse
Chairman Working Group BIG - Mobility
FPTI - TRI-VIZOR





Supply Chain Studies

World Economic Forum

- ≡ 24% of good vehicles in the EU are running empty
- ≡ Average loading of the rest is 57%
- ≡ Overall efficiency: **43% (!)**
- ≡ Flow imbalance could only explain half of this loss

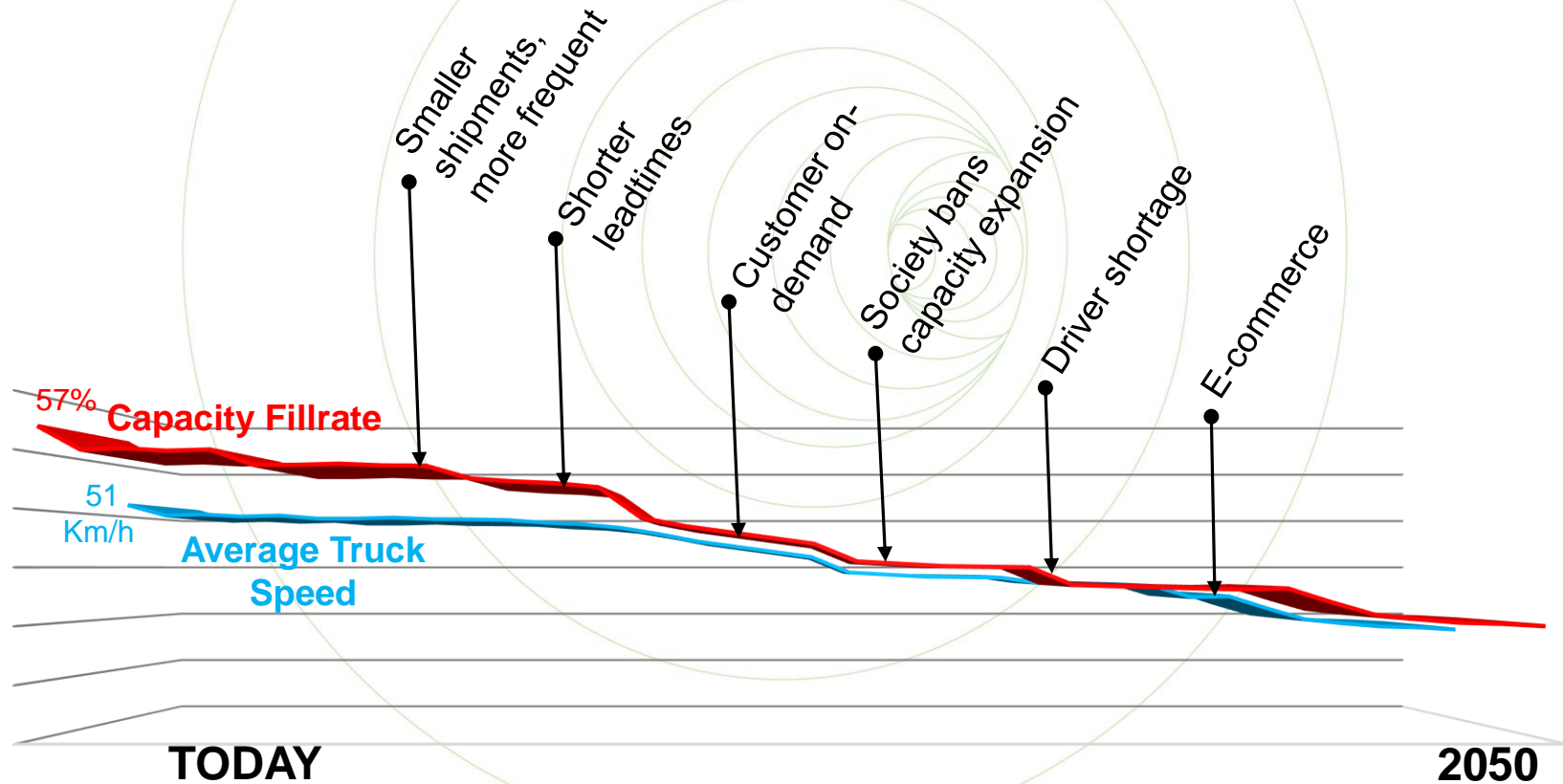
Transport Paradox

How long can this continue?

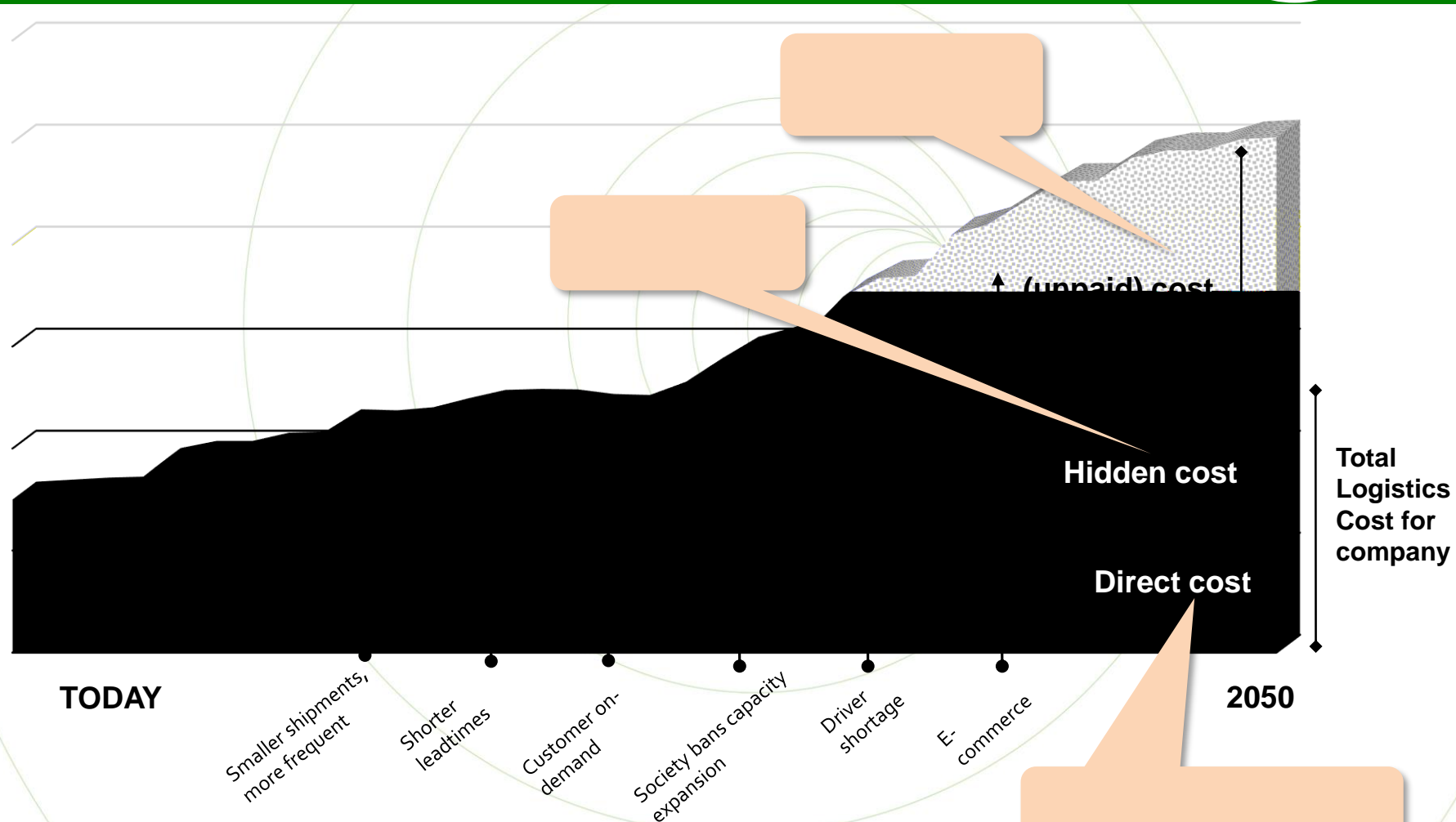
- ≡ Transport and logistics responsible for 14-20% of global *carbon footprint*
- ≡ Growth in transport generates more and more capacity problems - congestion



Why current business models will fail very soon



If we keep going, this will happen!



Current transport system under pressure



Can be improved by:

- Pricing policy – smart and fair road pricing system;
- Efficiency – vertical and horizontal collaboration;
- Smart logistics – “design for logistics”;
- Multimodality > Co-modality > Synchromodality;

≡ Innovation – adding extra capacity through a new transport mode

≡ ULS : the fifth full transport mode

Physical Internet



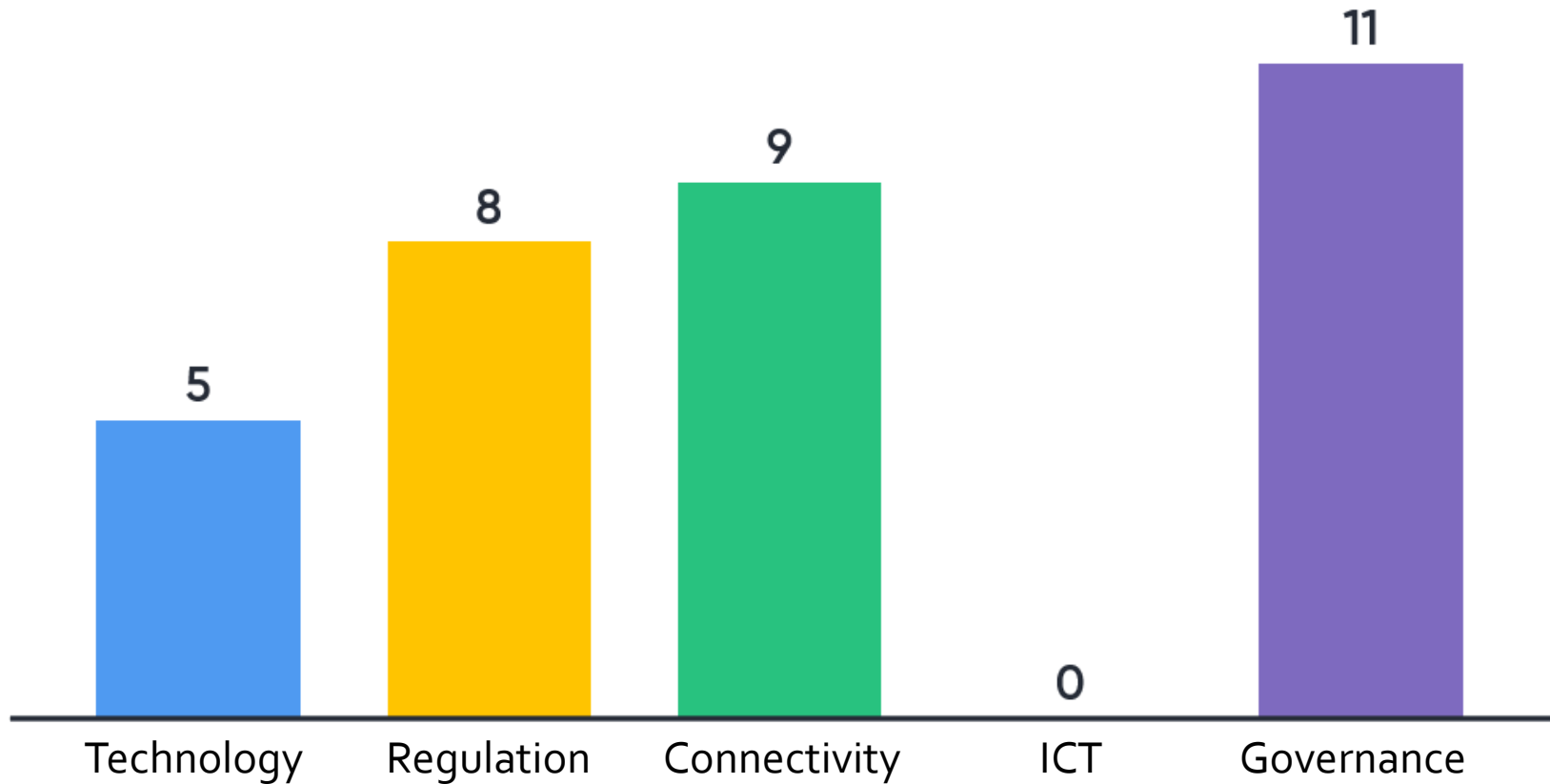
Aspiring a 'perfect' transport system, in terms of

- Automation
- Standardization
- Integration
- Connectivity
- Open access

Towards a smart, hyperconnected era of **efficient, effective and sustainable** logistics, supply chains and transportation

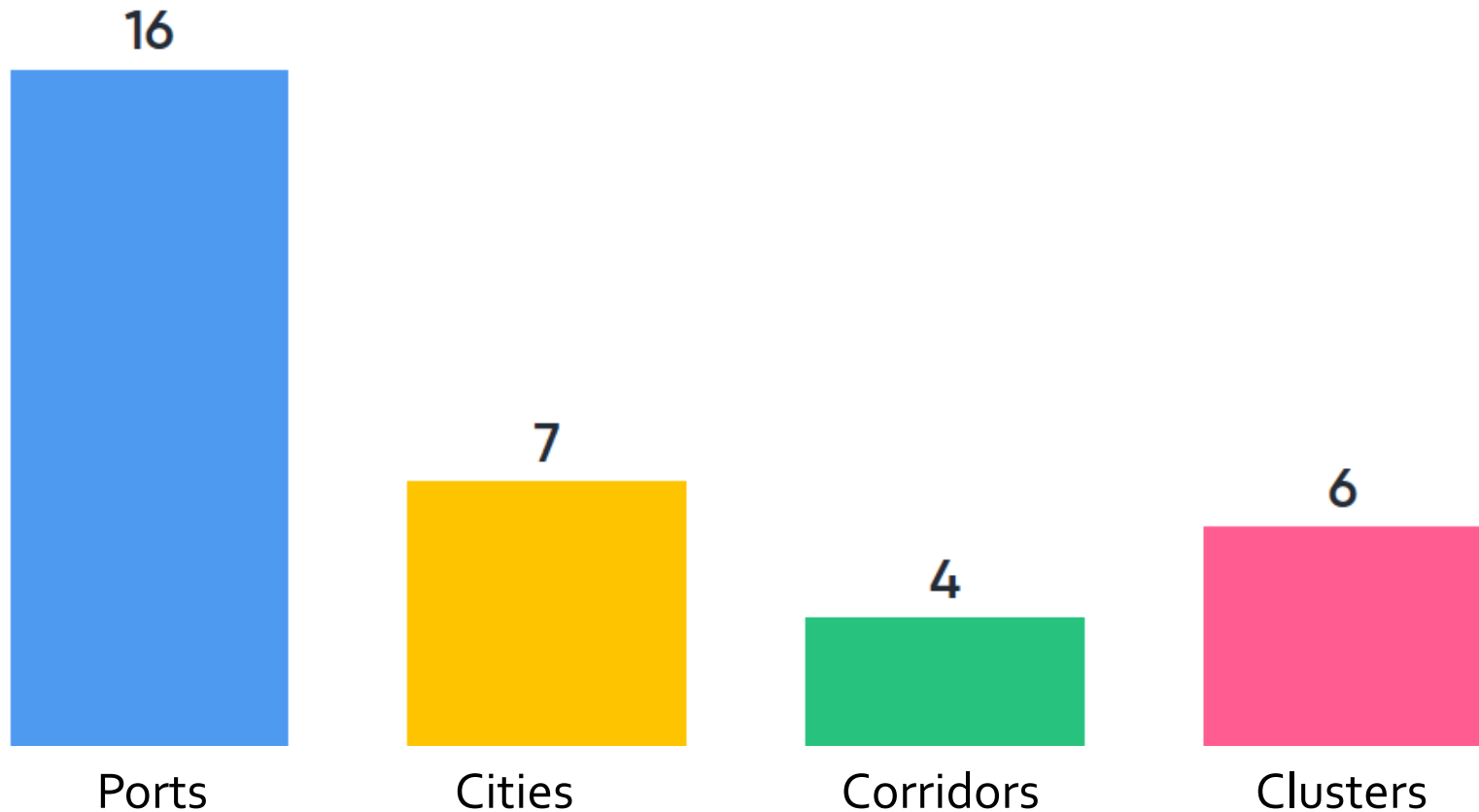
Future proof transport – focus points

Cfr. BIG workshop, 19-06-19

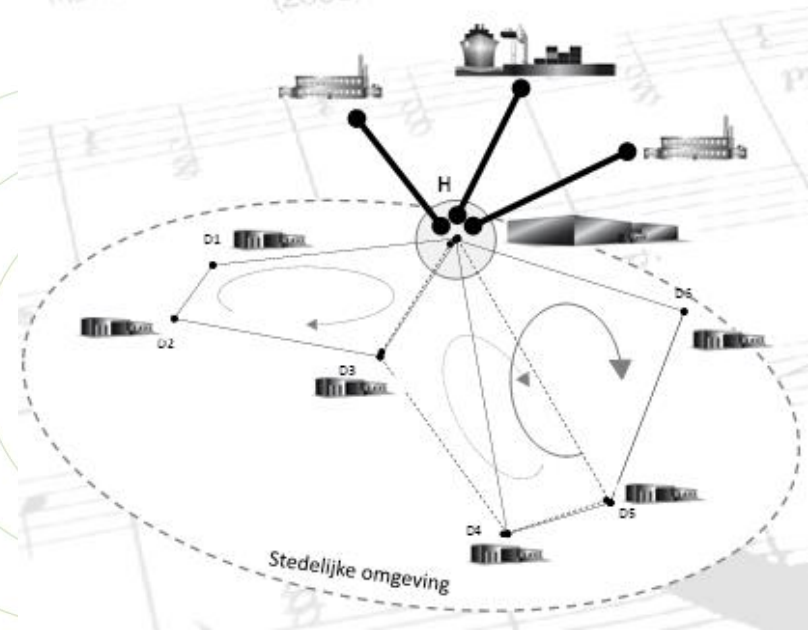
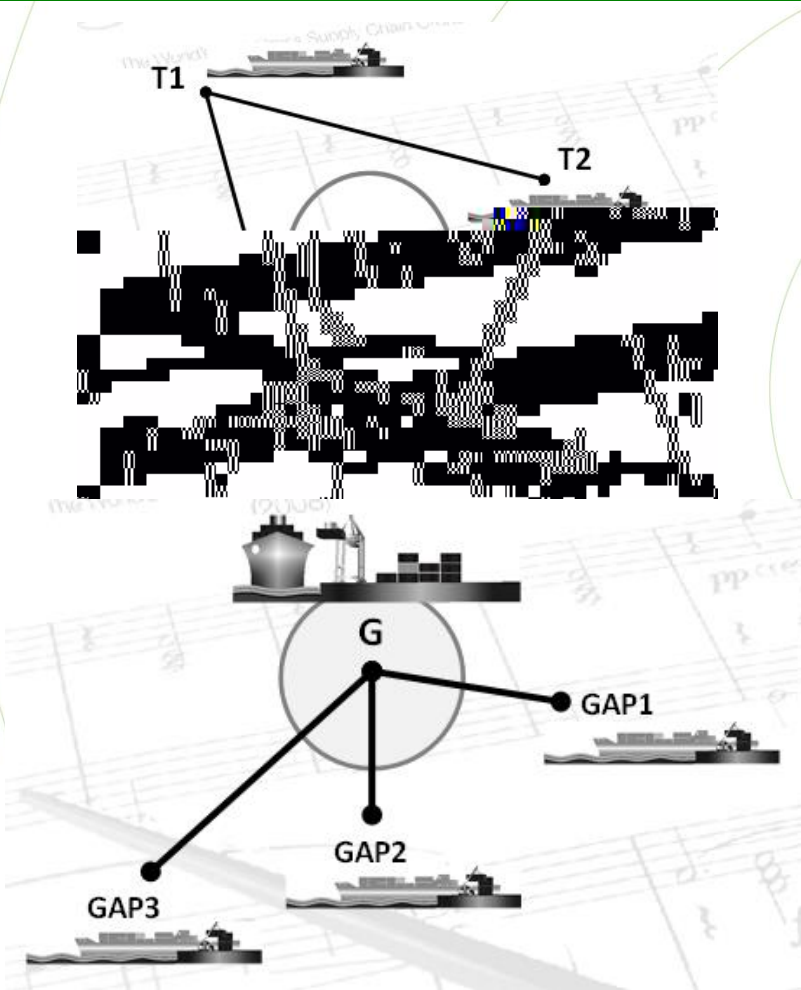


Future proof transport – focus areas

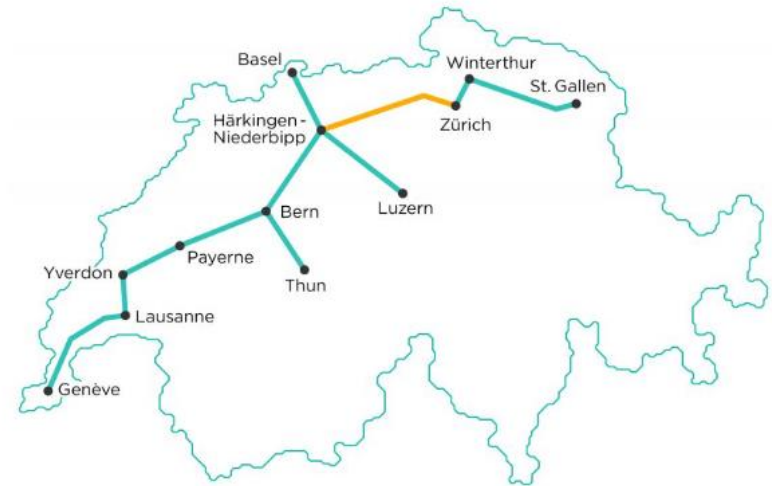
Cfr. BIG workshop, 19-06-19



Underground Logistics Systems



Inspiring case: Cargo Sous Terrain



SBB CFF FFS Cargo

BKW die Mobiliar

RHENUS LOGISTICS

Zürcher Kantonalbank

SQS

SAP

coop

MIGROS

DIE POST

ecos

swisscom

hyperloop one

CargoTube

mettler2invest

Wir erden Ideen.

CSD INGENIEURE+
VON GRUND AUF DURCHDACHT

helvetia

Lessons learned about *governance*



- ≡ Traditional one-to-one models fail;
- ≡ Through collaboration one can bundle flows;
- ≡ Need for cross sectoral collaboration in order to share the risks (and the gains) in development of new transport systems;
- ≡ Need for public-private alignment;
- ≡ Need for a multi-stakeholder approach.

Contact



Bart Vannieuwenhuyse

