



5G BLUEPRINT

Business Models for 5G-enabled Teleoperated Transport

5gblueprint.eu

WHY ASSESS BUSINESS MODELS AND PROSPECTS?

The business model analysis analyses the relevant value network, existing market, potential business models, business case prospects and feasible use cases in time across realistic deployment scenarios, with the objective to:



Understand commercial prospects & monetization channels

Grasp the impact on the economy and current operations



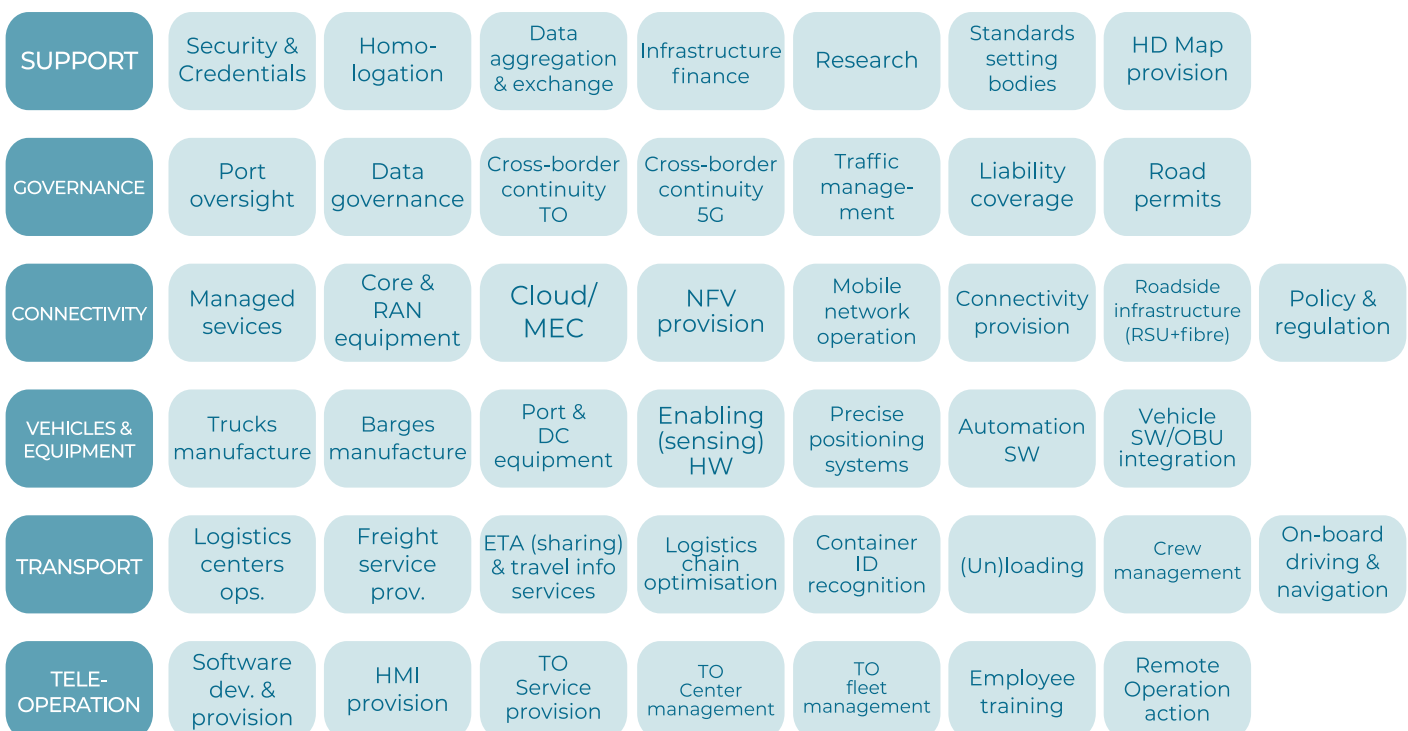
Incentivize deployments

Provide a blueprint for assessment in other EU areas



WHAT ARE THE KEY ROLES IN THE TELEOPERATION ECOSYSTEM?

Sensible business models must take into account the entire business ecosystem that will play a role in the deployment of or be impacted by 5G-based teleoperation. We provide a comprehensive map of key business roles and responsibilities, allocating each role to those stakeholders that are capable to fulfill them. We also plot the main necessary interactions amongst stakeholders in terms of liability shifts and data flows and identify potential bottlenecks.



STEPS OF THE ANALYSIS

Market analysis

As a first step, we mapped the commercial market for (developing) teleoperation services, comparing the features of the services and the business models of each company.

Feasible business models

We identify business model options at the levels of 5G connectivity and TO services, defining different business models across 5 deployment scenarios, mapping the roles for investment and service provision and monetization channels.

Business case

Incentivising adoption requires reducing the perceived risk from an uncertain profitability. Our tool allows to estimate the business case of deploying TO use cases in a given scenario and area, including all main cost elements to show if and how a positive business case can be achieved. Potential profitability is already present at a small scale where current inefficiencies are substantial but investments remain high. The figure below provides an example deployment of teleoperated trucks for shuttle runs around a small port area.

Salary costs	-€ 624.312	-€ 792.396	-€ 960.480
TO equipment costs	€ 169.300	€ 163.500	€ 160.600
Vehicle equipment	€ 205.857	€ 196.500	€ 187.143
Operational business case	- € 249.155	- € 432.396	- € 612.737
TO center infrastructure costs	€ 95.072	€ 88.472	€ 81.872
5G subscription costs	€ 348.853	€ 348.853	€ 348.853
Total business case Sc. L2	€ 194.770	€ 4.929	-€ 182.012

Who will start and orchestrate initial investments?

Facing uncertainty and high upfront expenditures, stakeholders need to find incentives to invest in early deployments.

We discuss which parties should help orchestrate initial deployments and propose revenue-sharing and co-investment agreements among actors that stand to benefit from TO: site owners, transport companies, MNOs and authorities alike.

LESSONS LEARNED

Start small and slowly scale up

Scenarios limited to a logistics site already offer economic benefits and provide a less complex setting with clearer business models. Scaling up will require technological advances.

Leverage related innovations

TO and automation complement each other: TO enables AD in complex environments and AD provides a safety fallback on public roads, while boosting uptime and economic benefits.

Share efforts and investments

The feasibility of multiple business models relies on cooperative agreements for the uptake of key roles regarding investment, revenue sharing, responsibility distribution and service provision

Understand specific needs

Each region has its own traits and challenges. Grasping the value of TO, actor incentives, business models and the flexible business case tool will allow the formulation of a deployment strategy for each area.

**MORE DETAILS ARE AVAILABLE
IN DELIVERABLES D3.2 & 3.4-->**

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