

Public MCS: Are they a game changer for road transport electrification?

Insights from FLEXMCS & MACBETH



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Grant Agreement numbers
101192657 (FLEXMCS) and
101192466 (Macbeth)

Alice Scotti - ALICE | 30 May 2025

HDV electrification isn't Plug-and-Play



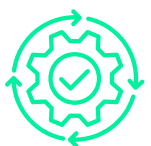
Difficulty to find competitive TCO:



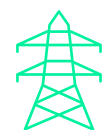
Charging infrastructure gaps: scarce availability of public high-power chargers suitable for HDVs.



Operational constraints: long-haul operators need to minimize downtime—charging must align with mandatory breaks



Business model uncertainty: financial sustainability of public/semi-public charging hubs is still a challenge



Grid readiness: ultra-fast charging requires massive local grid upgrades.

What is for you the most important limiting factor for adoption of Heavy Duty Electric trucks today and in the next 3 years? Vehicle availability, Infrastructure availability, renewable energy availability, TCO or integrated logistics operational model

TCO and logistics operational model

64%

Charging Infrastructure

40%

Grid Capacity

20%

All of them need to be in place, it is not a matter of importance!

12%

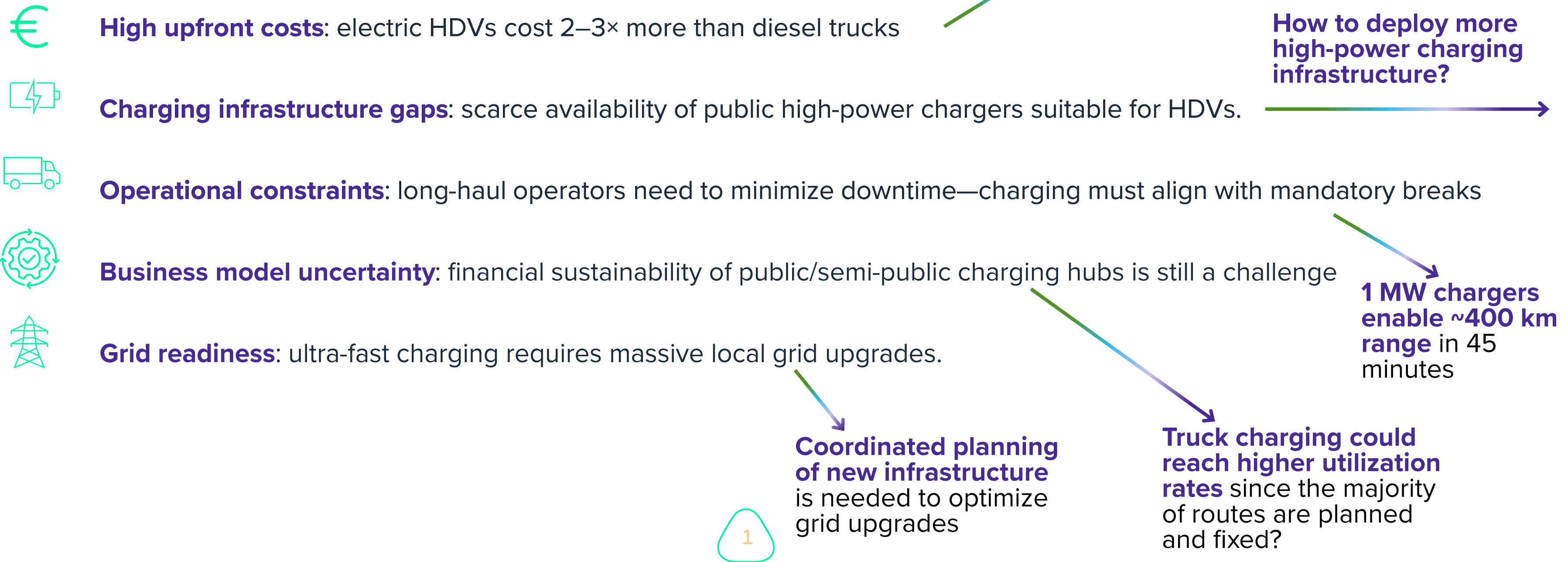
Vehicle availability

8%

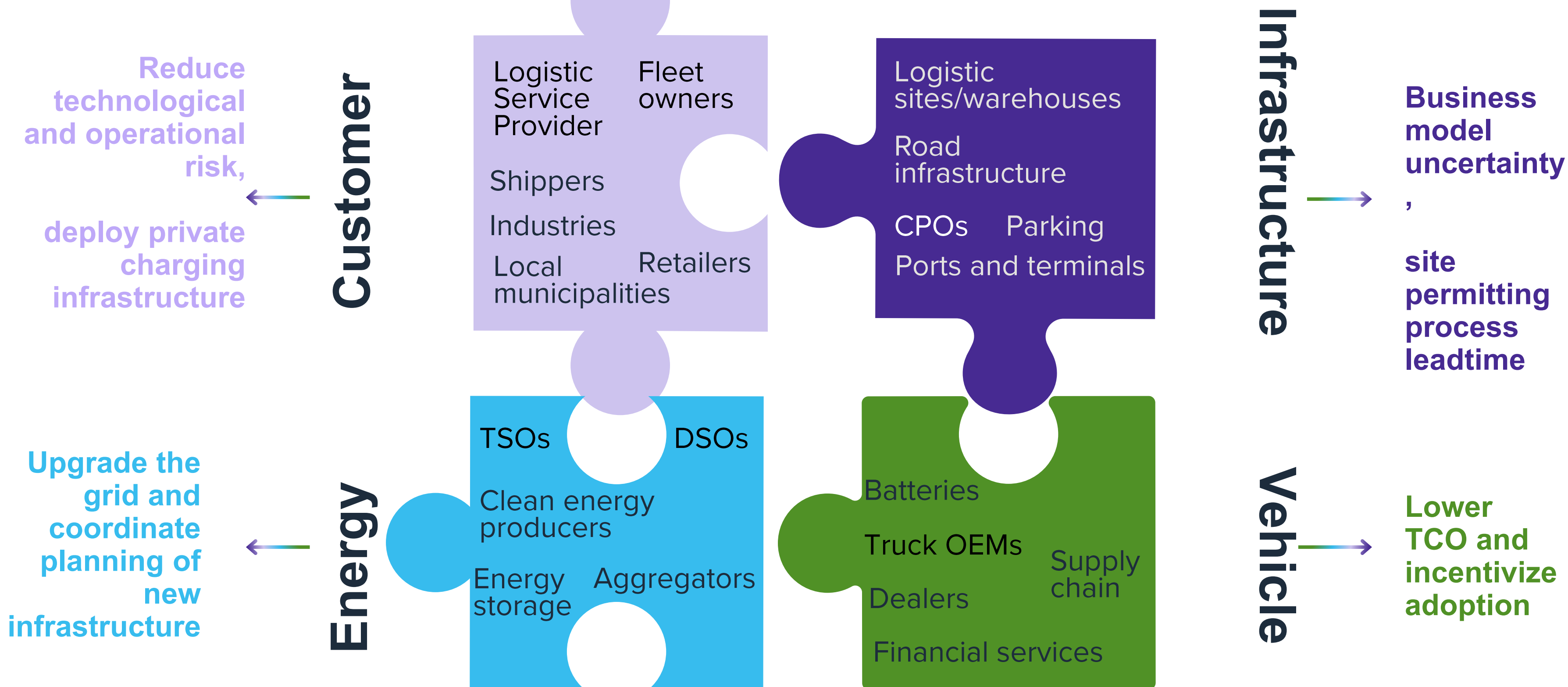
Renewable electricity availability

0%

Is MCS the solution?



A complex, multi-stakeholder ecosystem



How to put all the puzzle pieces together : Assess and address stakeholder needs



FLEXMCS Survey on operational requirements and business needs for new MCS locations



MACBETH Interviews on deployment and scale-up challenges, possible use cases for MCS in logistics

Activities Overview

2025 Timeline

**FLEXMCS
Survey
collection**

15 June ● 2025

**Respondent
workshop on
results**

8 July ● 2025

**MACBETH
Interviews
execution**

Sept - Nov ● 2025

**Parallel session
on results at
MCS Symposium**
30 Sept ● 1st October

**Follow-up and
validation
workshop**
January ● 2026

These inputs will impact:

-  **The layout and design** of **Bosch secure charging hub** in Karlsruhe (FLEXMCS) and **Milence site in Belgium** (MACBETH)
-  **The features and capabilities of software and tools** aimed at optimizing **planning, operation and performance of MCS hubs**:
 - Reservation and booking systems of charging slots;
 - Optimal location planning of new charging stations;
 - EV route planning that integrates charging in the FMS;
 - Business case assessment tools;
-  **Deployment strategies** for the installation and upscaling of new high-power charging infrastructure.
-  **Policies, incentives and collaboration initiatives needed** to overcome existing barriers

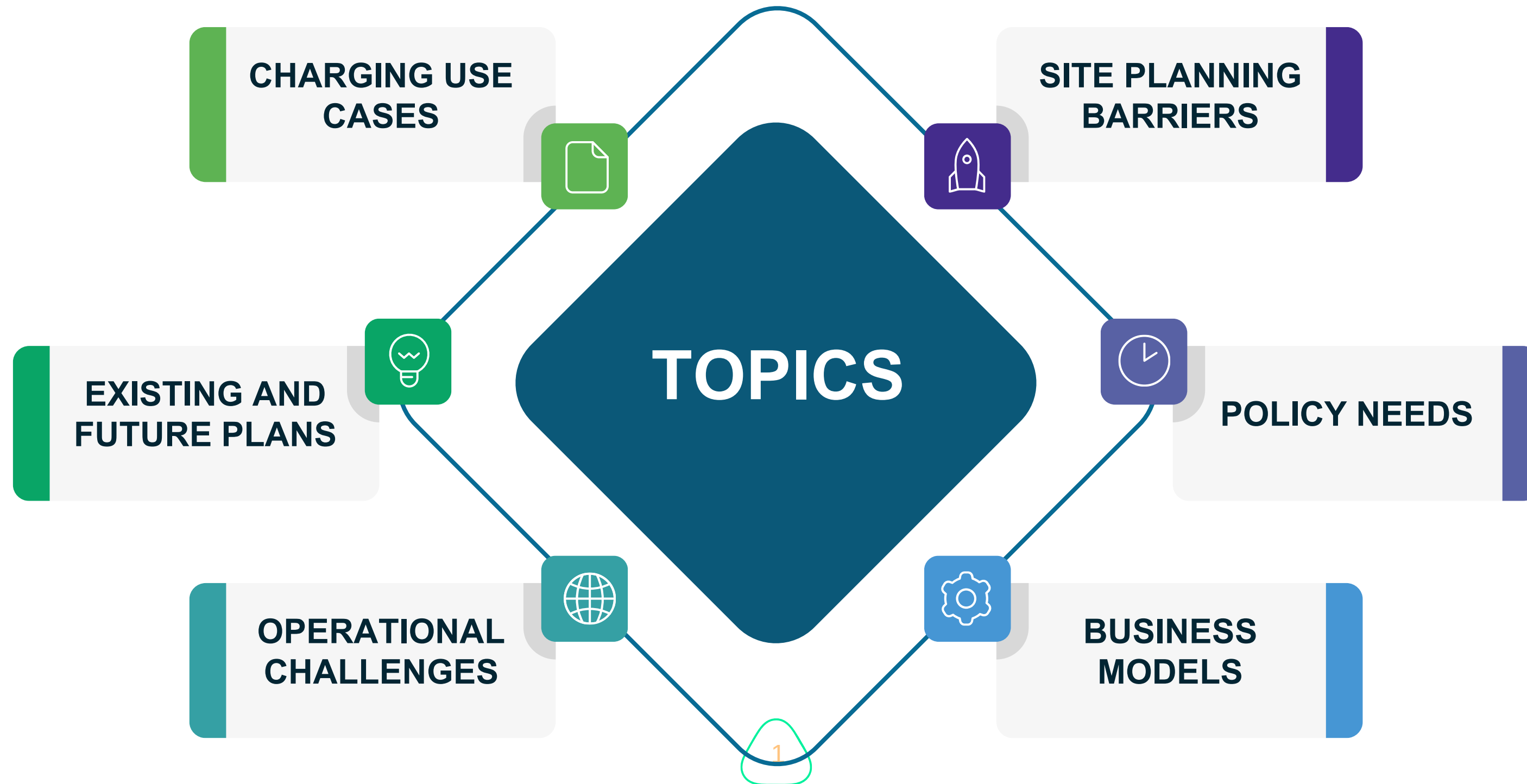
FLEXMCS Survey: **Who**, What, Why

TARGET

I work for the following organization/institution: *(Required)*

- ☐ Logistics Service Providers (LSPs) / Fleet Owner
- ☐ Charging Point Operator (CPO)
- ☐ Secure parking owner
- ☐ Logistic site owner or operator (e.g. distribution center, warehouse, terminal)
- ☐ Truck manufacturer & OEM
- ☐ Distribution System Operator (DSO)
- ☐ Transmission System Operator (TSO)
- ☐ Charging infrastructure supplier
- ☐ Policymaker and Government body
- ☐ National/EU Industry Associations

FLEXMCS Survey: Who, What, Why



FLEXMCS Survey: Who, What, Why

OUR GOAL:

Map real-world needs for MCS implementation
and scaling from a multi-stakeholder perspective

Participate in the definition of
needs!

 Fill out the Survey

 Receive results in the Workshop (July 8th)

 Be part of MACBETH Interviews (Sept–Nov)



Disclaimer



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