

# NextETRUCK Meeting

Efficient and affordable Zero Emission logistics through NEXT generation Electric TRUCKs

**NextETRUCK pilots: Use Cases and demonstration plan**

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NextETRUCK | Reference Group / Advisory Board Meeting  
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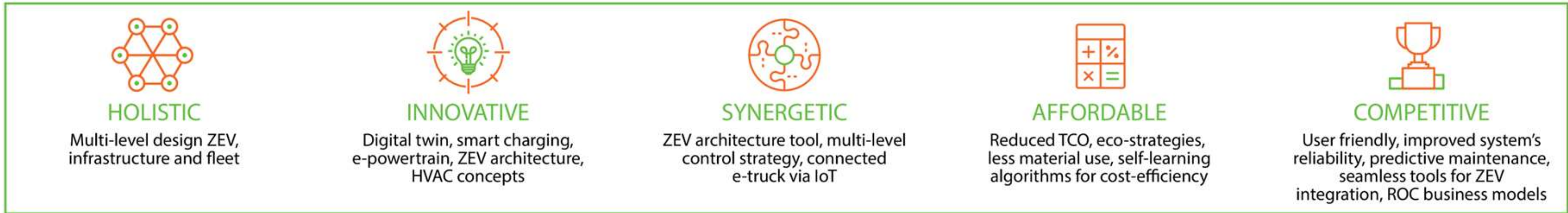
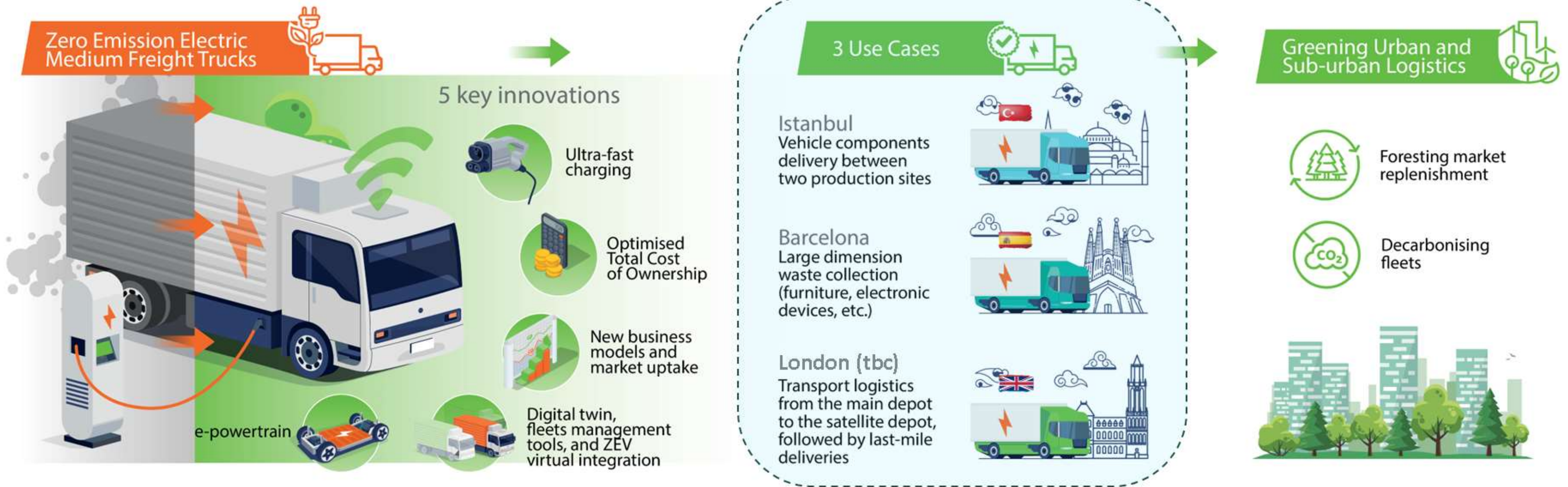
# NextETRUCK Pilots: Use Cases and Demonstration plan

## Agenda

1. Concept overview
2. Use cases: one per Demonstration site and ETRUCK manufacturer
  - Istanbul
  - Barcelona
  - *London (tbc)*
3. KPIs & Data collection
4. Demonstration plan elements
5. Demonstration timeplan and next steps

# 1. Concept overview

## Efficient and affordable Zero Emission logistics through the NEXTgeneration of Electric TRUCKs





# NextETRUCK Pilots: Use Cases and Demonstration plan

## 2. Use Case Istanbul

**OEM:** Ford Otosan (Turkey)

### Challenge

*Development of lightweight and modular electrical born platform for N3 type trucks.*

### Mission

Demonstrate at least 200 km average daily operation between Eskisehir and Golcuk plants to demonstrate **intercity and urban transport scenarios**. This mission represents 100% of ICE truck usage

**Charging:** DC overnight

### Truck main characteristics

- Vehicle segment: Urban Delivery Truck
- Vehicle type: N3 ( 16t)
- 0,86 kWh/km energy consumption

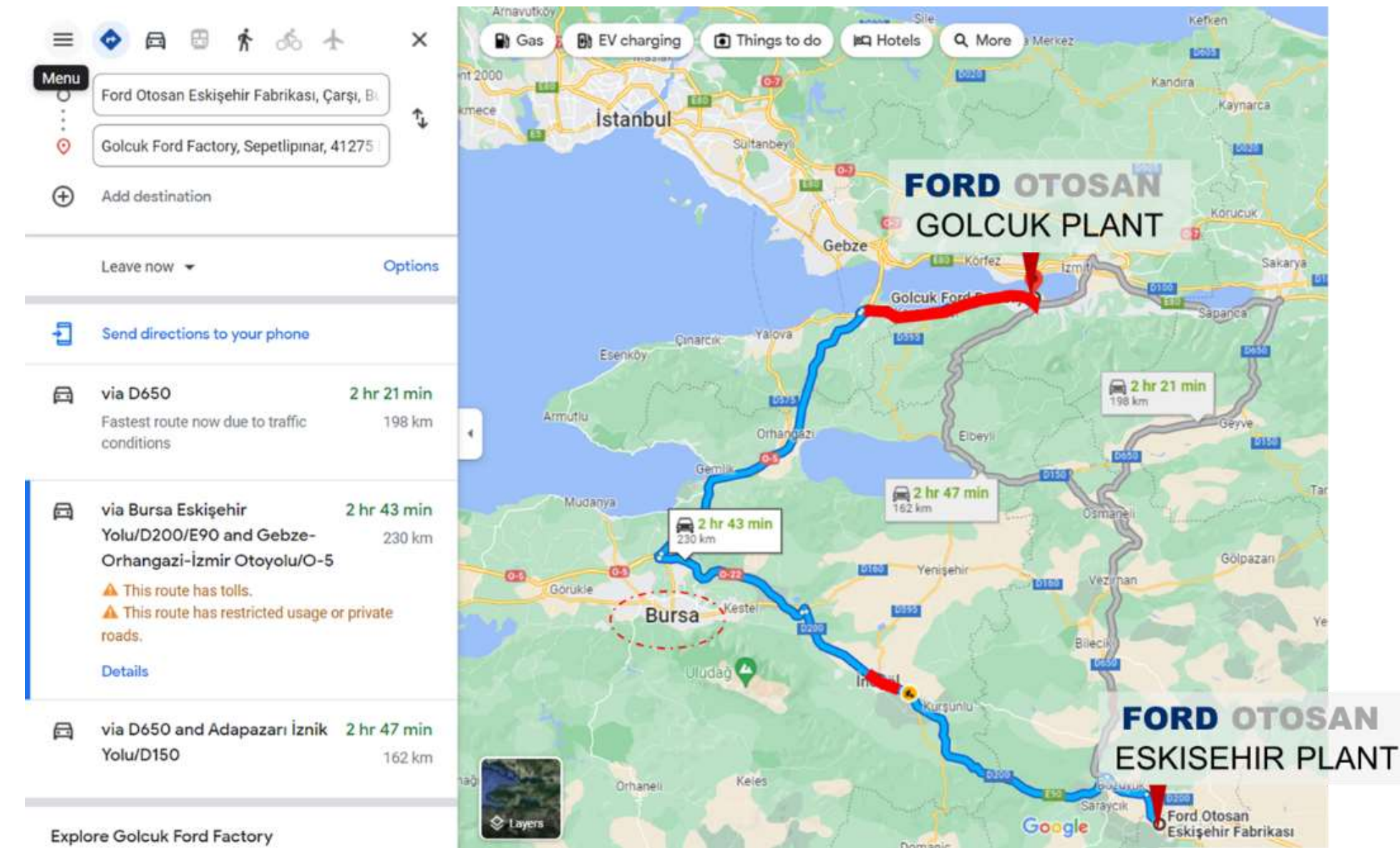
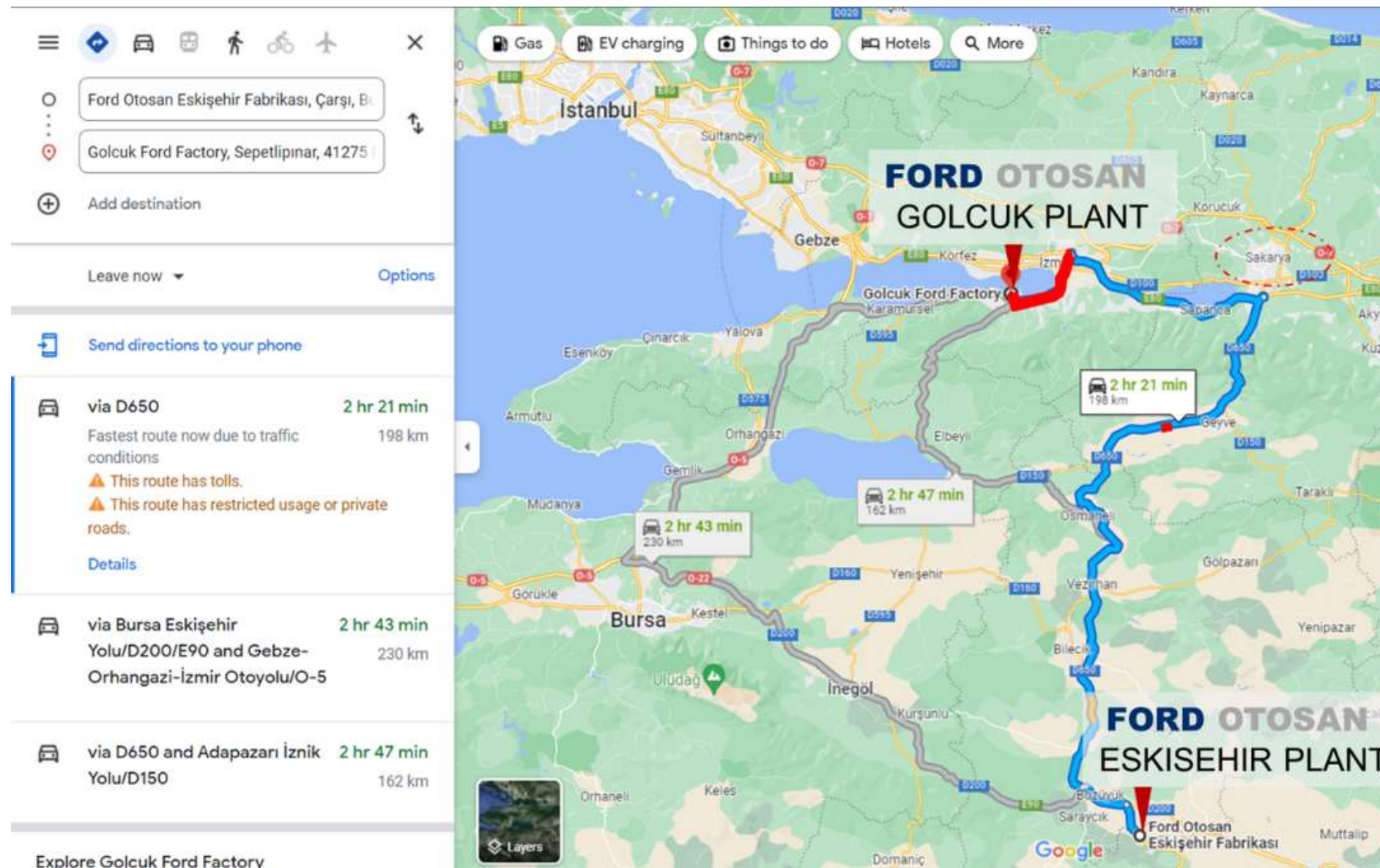


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## 2. Use Case Istanbul

**Route #1** is between FORD Otosan Golcuk and Eskisehir plants. This route includes 10% urban roads and 90% is intercity road. Route length is 198 km

**Route #2** is between FORD Otosan Golcuk and Eskisehir plants. This route includes 15% urban roads and 85% is intercity road. Route length is 230 km





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## 2. Use Case Barcelona

**OEM:** IRIZAR (Spain)

### Challenge

*90% ICE truck payload with a range >200km*

### Mission

- Large dimension waste collection (furniture, electronic devices, etc.)
- It is not a repetitive route, and is based on demand. It could be that the route does not reach 200km

**Charging:** DC overnight, with Megawatt Charging System

### Truck main characteristics

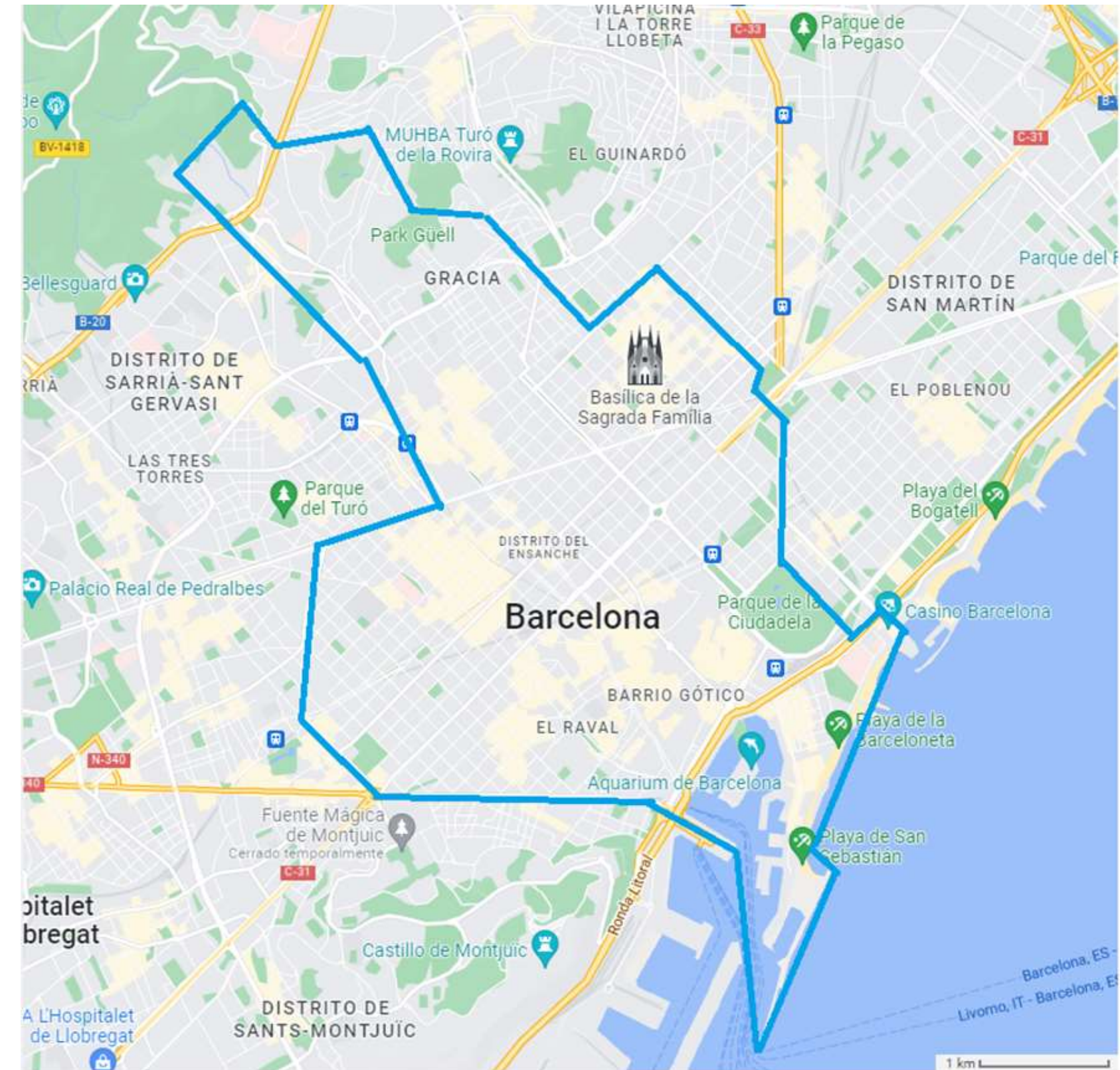
- Vehicle segment: Heavy Duty Truck, Refusal Truck
- Vehicle type: N3 ( 16t)
- 10% overall system efficiency improvement



# NextETRUCK Pilots: Use Cases and Demonstration plan

## 2. Use Case Barcelona

- The vehicle will operate in Barcelona in l'Example, Gracia and Ciutat Vella neighbourhood or areas
- The **route will depend on the daily demand**
- The vehicle will start the operation from the depot based in the south of the city every day.
- It will **drive towards the mentioned areas** with an approximated **10 km drive**
- It will make a route of **10-20 voluminous goods pick up** and will drive to the goods/waste treatment facilities.
- It can **repeat this sequence for 4-5 times per journey**





# NextETRUCK Pilots: Use Cases and Demonstration plan

## 2. Use Case *London (tbc)*

**OEM:** TEVVA Trucks (UK)

### Challenge

- *Zero emissions zone from 2025; displacement of current diesel truck fleet at affordable TCO.*
- *Replacement of existing diesel truck with 8t ZEV*

### Mission

Transport logistics, parcels' distribution for logistics customer

**Charging:** A/C charging required as truck returns to base each night (16A or 32A sockets)

### Truck main characteristics

- Vehicle segment: Heavy-duty (Class 8)
- Vehicle type: Rigid Chassis
- 10% overall system efficiency improvement

**Route:** *London region, still TBC, depending on the logistic operator*





# NextETRUCK Pilots: Use Cases and Demonstration plan

## 3. KPIs & Data collection

### Main KPIs related to NextETRUCK objectives and outcomes

- [KPI-1] Payload capacity and Efficiency increase.
- [KPI-2] Thermal management system efficiency
- [KPI-4] Realization of fleet management system
- [KPI-6] TCO reduction of ZEV.
- [KPI-8] Vehicle thermal efficiency
- [KPI-10] TCO reduction of charging
- [KPI-12] Charging experience

### 6 KPIs related to 2Zero assessment were added

- *KPI-20 Reduction in operational CO2 emission*
- *KPI-21 Operating hours*
- *KPI-22 Charging rate*
- *KPI-23 Charging time*
- *KPI-24 Driving to charging time*
- *KPI-25 Average driving speed*



# NextETRUCK Pilots: Use Cases and Demonstration plan

## 3. KPIs & Data collection

### ***KPI Description and Assessment Method (D8.1 Evaluation plan)***

- Clear definition of the KPIs relevant to the evaluation of NextETRUCK vehicles.
- Establish appropriate assessment methods including procedures, tools, and techniques to be employed in measuring and evaluating the identified KPIs.

### ***Data collection***

- Data to be collected during the demonstration phase are related to the KPIs
- A data collection process per pilot will be set-up by each OEM, and uploaded on a regular basis on a centralised system.
- This process will start from the beginning of the demonstration phase enabling early exploitation of the collected data for the assessment phase.



# NextETRUCK Pilots: Use Cases and Demonstration plan

## 4. Demonstration plan elements

### ***Permission requirement and implementation***

- Each OEM has to obtain permission to operated their demo truck during 6 Months.
- This permission / authorisation is country dependant

### ***Baseline definition and data collection***

- Baseline truck will operate same type of mission as for the demonstration (i.e. same type of roads, etc). Ideally should be the same mission.
- Data will be collected the same way and will be similar to the KPI data to be collected

### ***Process for data collection and management***

### ***Questionnaire to the driver***

### ***Demonstration reporting: Daily diary (log book)***



# NextETRUCK Pilots: Use Cases and Demonstration plan

## 5. Demonstration timeplan and next steps

### Demonstration timeplan and assessment

Ramp-up    Demonstration

Activities	Year	2023												2024												2025																						
		Month												Month												Month																						
		6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12																
Project Month	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42																	
Leader																																																
<b>WP7: Use-cases and Demonstration</b>	ERTICO	[Bar]												[Bar]												[Bar]																						
Task 7.1: Demonstration planning, procedures, ramp-up and pilot	ERTICO	[Bar]											7.1	[Bar]											10	[Bar]											11	[Bar]										
Task 7.2: Delivery Truck Demonstration in Turkey	FORD	[Bar]												[Bar]												[Bar]																						
Task 7.3: System demonstration of modular vehicle architecture structure for urban use ele	IRIZAR	[Bar]												[Bar]												[Bar]																						
Task 7.4: Goods distribution Urban electric truck demonstration in the Netherlands	TEVVA	[Bar]												[Bar]												[Bar]																						
Task 7.5: Data collection and processing	CENEX UK	[Bar]												[Bar]												[Bar]																						
<b>WP8: Evaluation, Impact Assessment and upscaling strategy</b>	CERTH	[Bar]												[Bar]												[Bar]																						
Task 8.1: Evaluation plan	CERTH	8.1	[Bar]											[Bar]												[Bar]																						
Task 8.2: Validation	TNO	[Bar]												[Bar]												[Bar]																						
Task 8.3: Scaling up and Impact Assessment	VUB	[Bar]												[Bar]												[Bar]																						
Task 8.4: Exploitation and recommendations	ERTICO	[Bar]												[Bar]												[Bar]																						
		Deliverable												Milestone																																		

### Next steps

- 31.12.2023: D8.1 Demonstration plan.
- During 2024: Fine-tune the demo plan, get the final authorisation from public authorities
- 01.01.2025: Ramp-up phase
- 01.03-31.08.2025: Demonstration phase, with iterative exploitation of the data collected



Thank  
you



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