ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Technische Universität München

Final presentation: globalDrive PRT

Munich, 15th of September 2022

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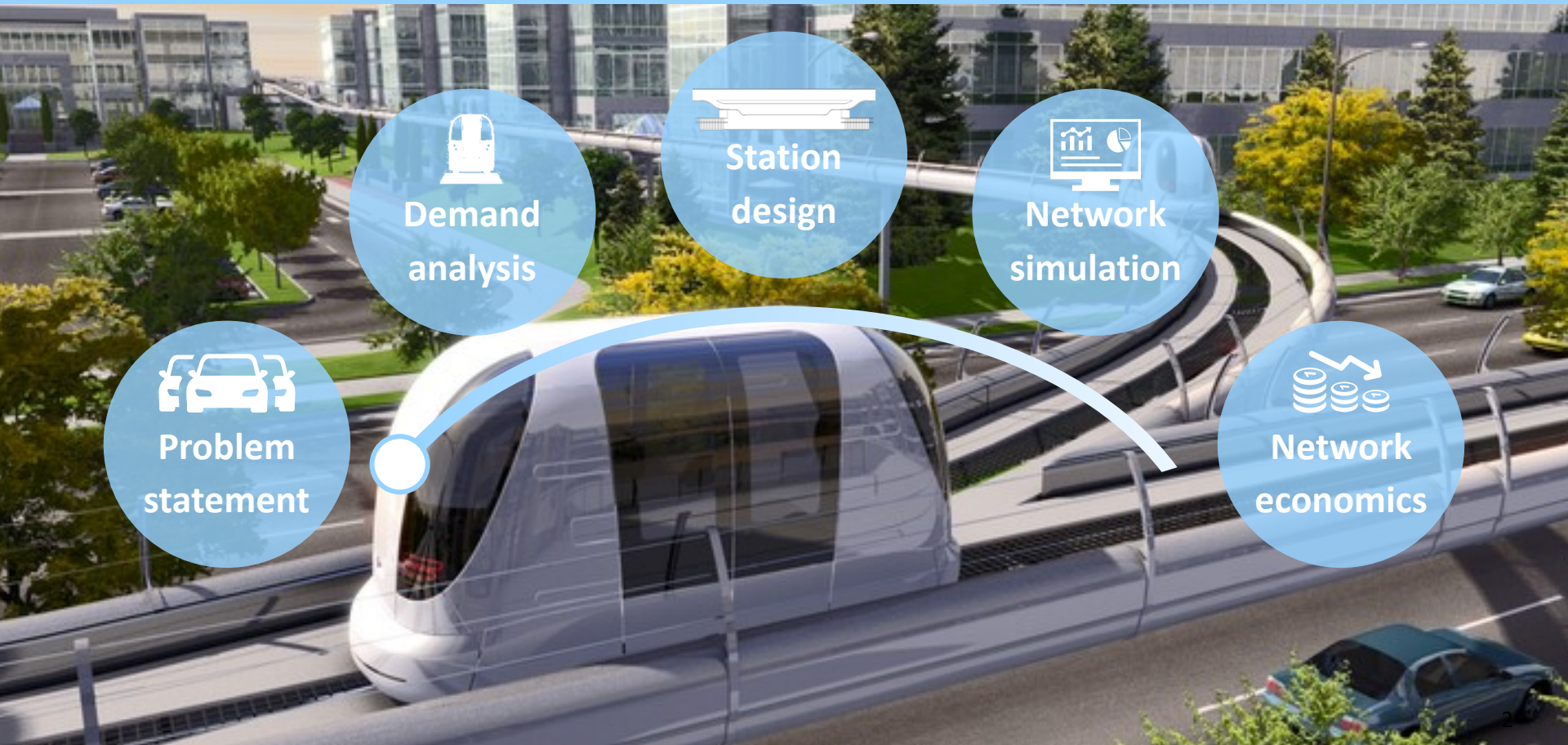
globalDrive

Agenda – our workflow in the past months



The problem in Freiham: insufficient mobility plan for the high demand in the area

High density area for living, retail, and workspaces

New retail shop center

25,000 new inhabitants

15,000 new workspaces

High risk of **traffic congestion** in current mobility concept

Mobility plan to **decrease number of at-grade parking** spaces

Poorly connected by public transport (bus with headway of 20min)

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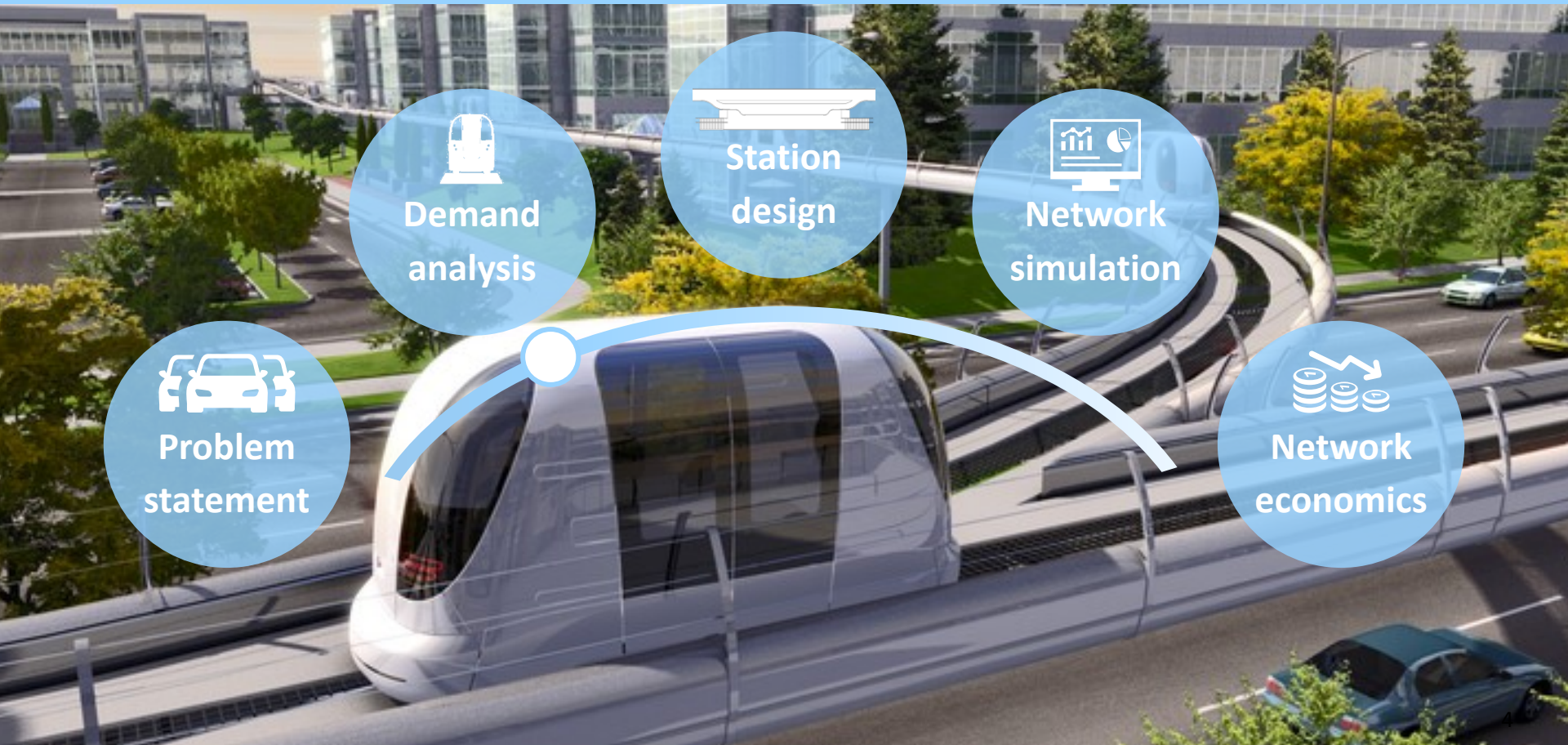
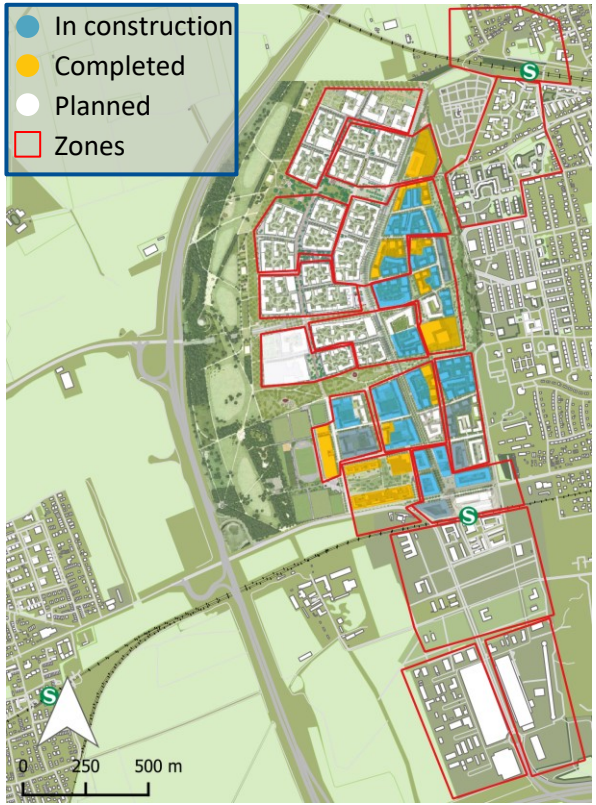


PRT as the mobility solution tailor-made for the demand in Freiham: demand analysis



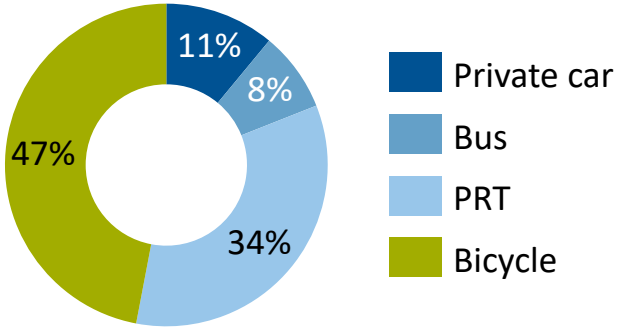
Transport demand modeling

84.771 trips/day
are generated

Freiham station:
highest demand

28.814 trips/day
with PRT

PRT ridership from stated preference (SP) survey



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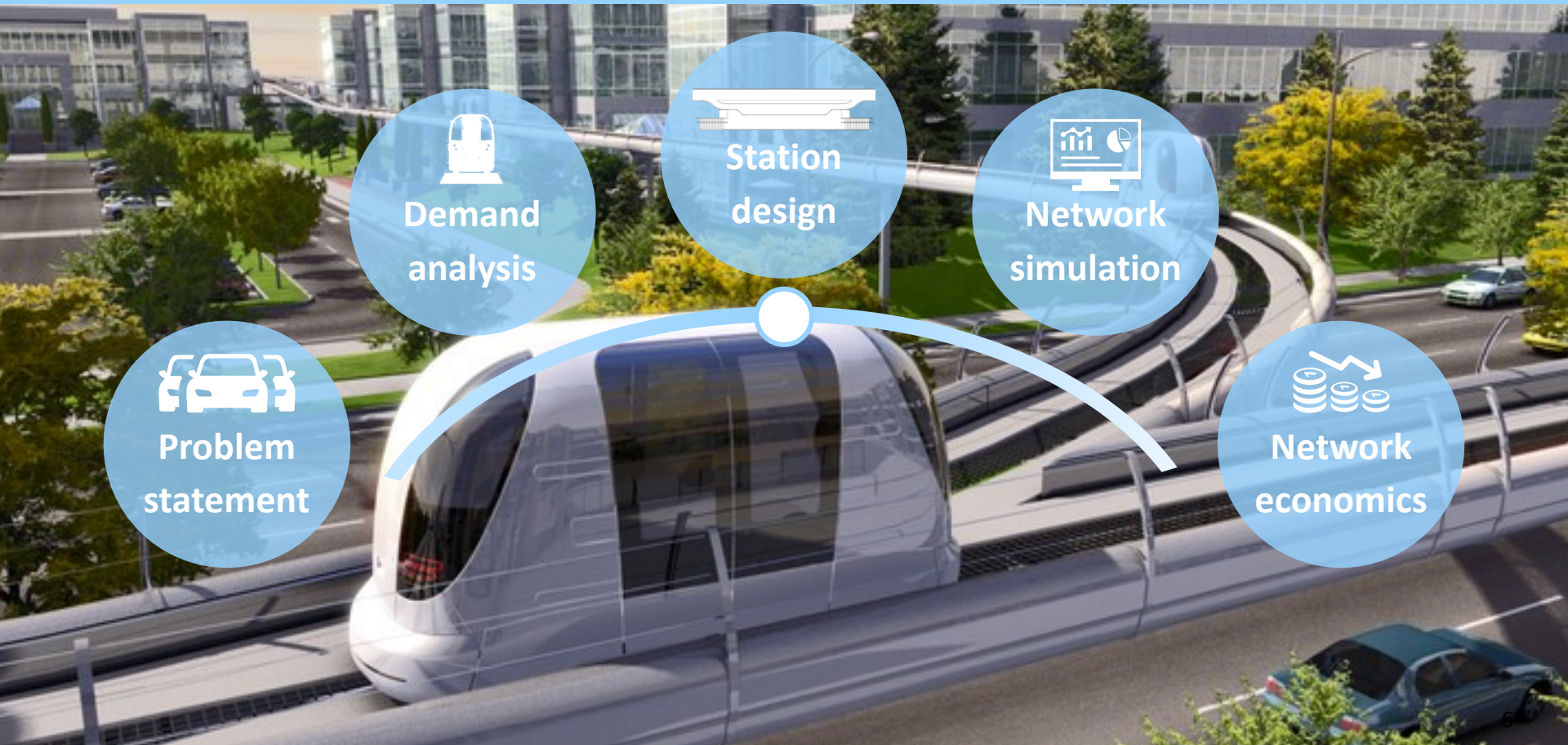
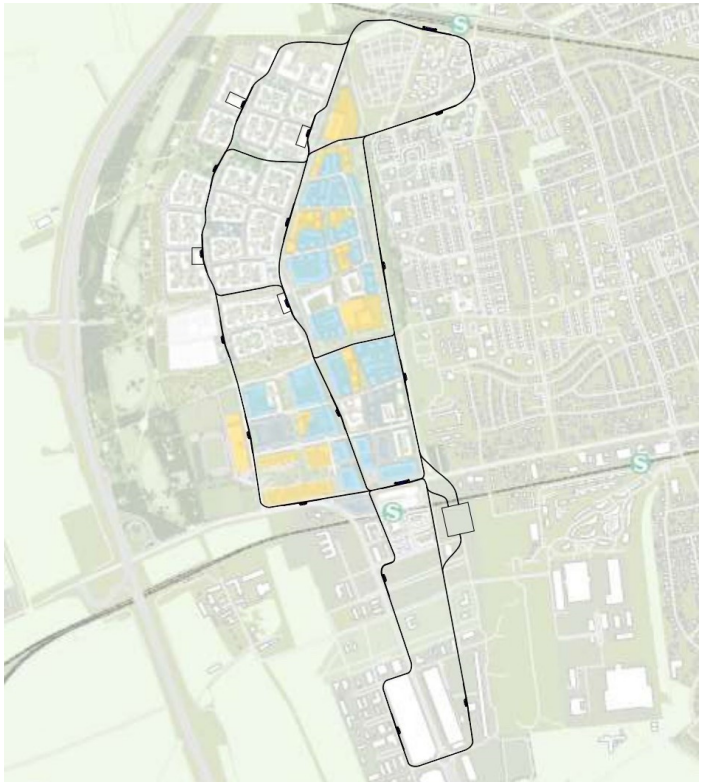


The critical system component for inter-modal trips with high demand: the PRT station



Station design

Flexible design

Elevated structure

Integrated design

Data on PRT stations and network:

10,2 km network with 18 stations

24,5 % of network length covered by stations

49 People board and alight each berth at peak hour

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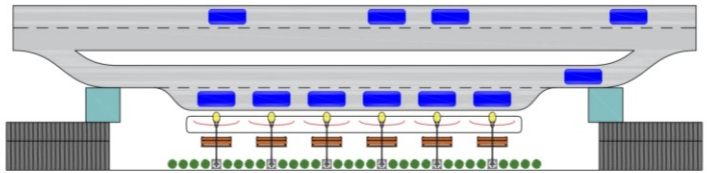

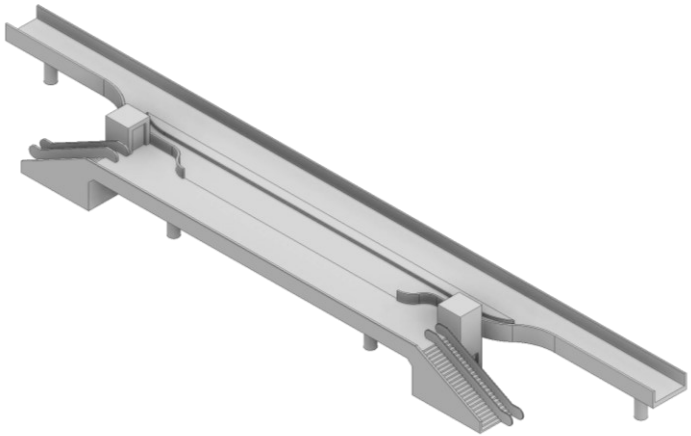

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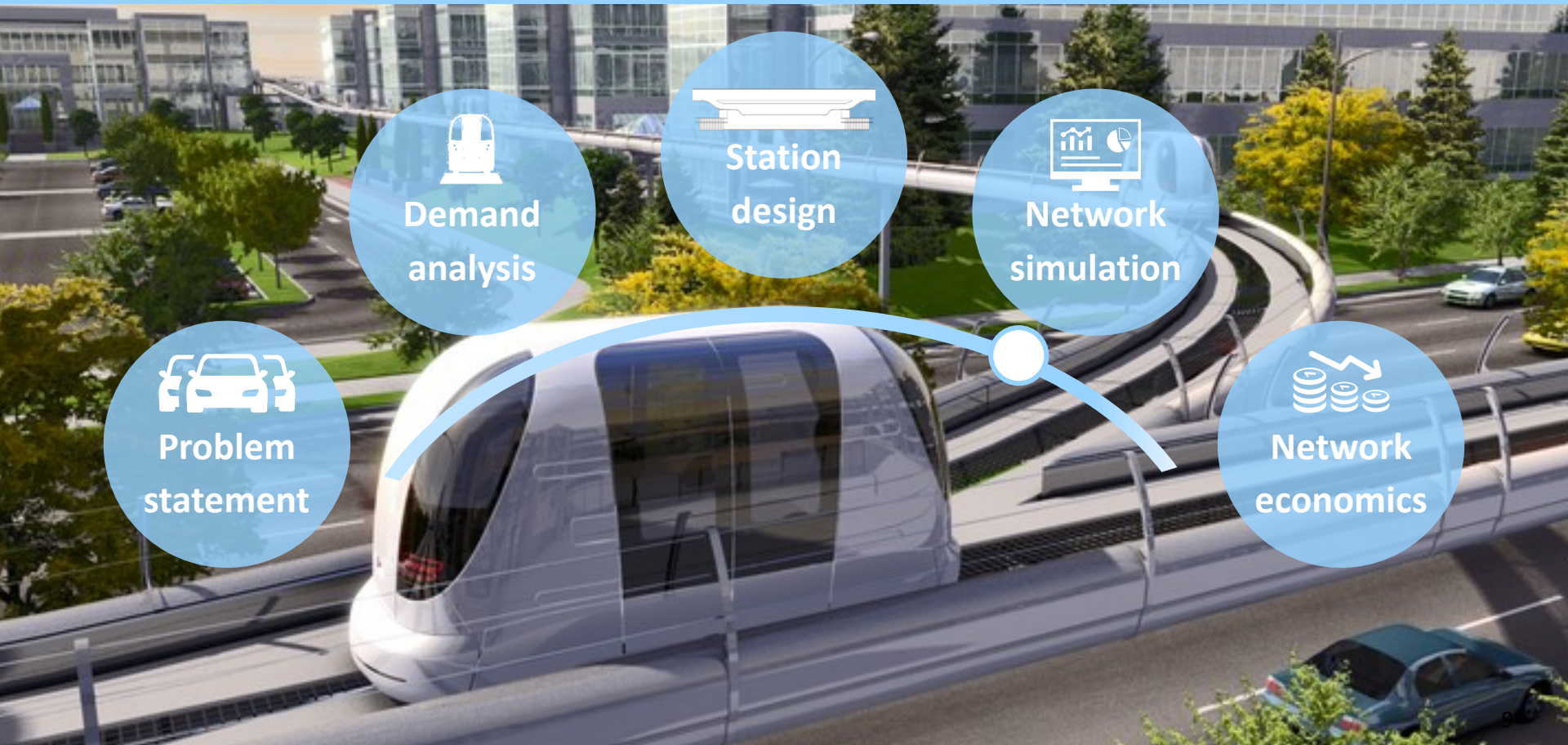
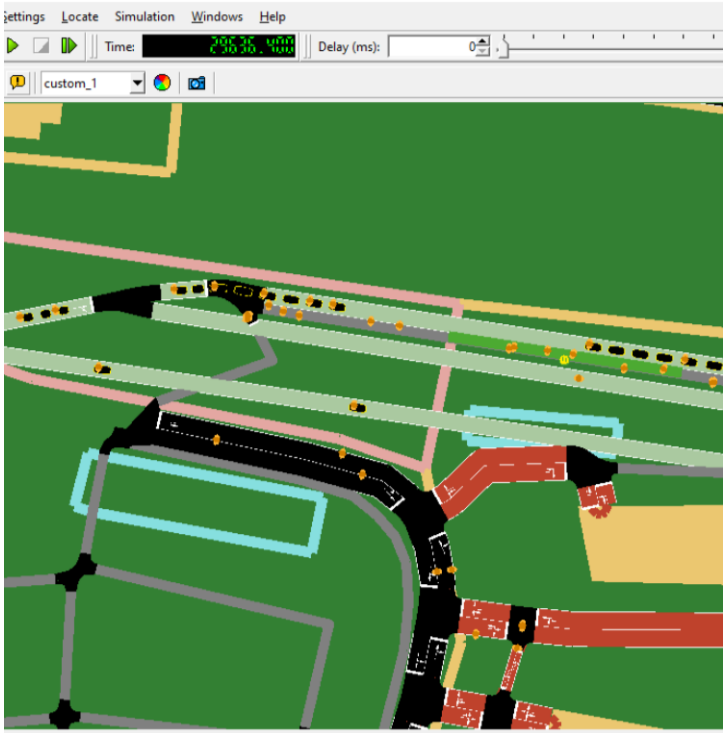


Validation of our proposed system via detailed microsimulation: system is fit for demand



Microsimulation in SUMOPy

- **Detailed replica** of the land-use plan and PRT network
- **Accurate interaction** between PRT system and user
- **System is fit for demand**

Data from the simulation

3 min average wait time

1 min wait time at S-Bahn

250 vehicles needed

30 km/h average lane speed

Come by to our stand and see for yourself!

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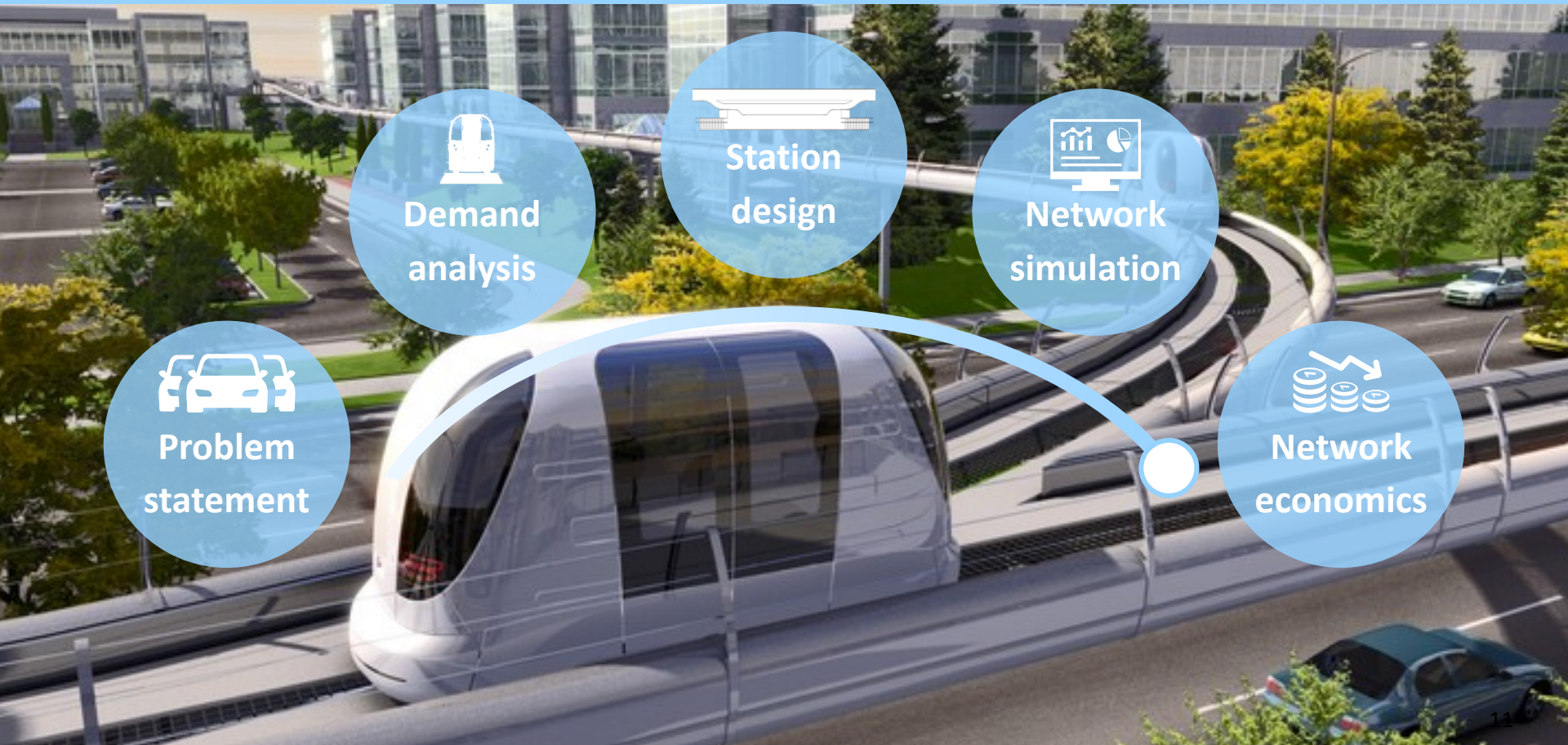

Economic analysis: The total costs of the system can be covered by the ticket fare

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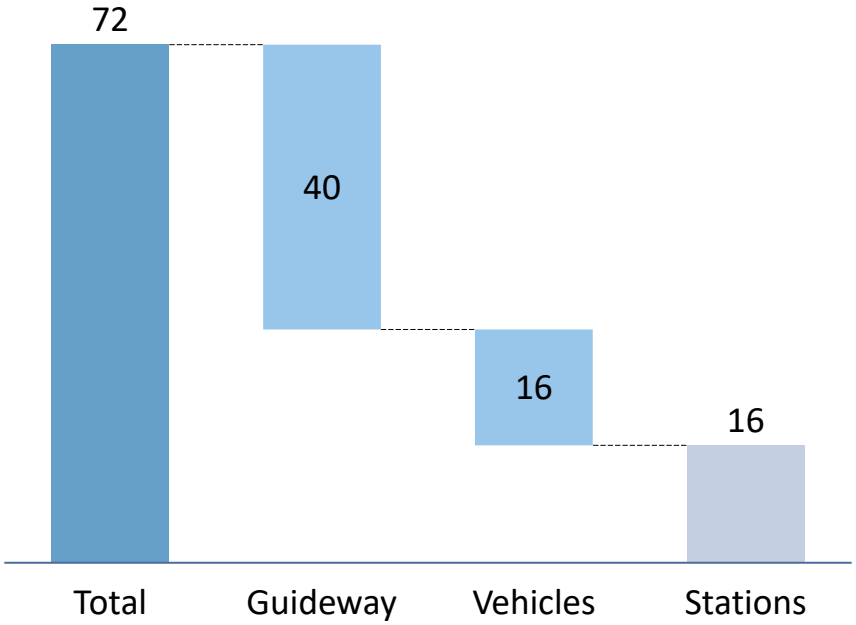
CAPEX

Million EUR, 2021



Costs and revenues per person-kilometer

EUR, 2021

0,19	CAPEX
+	
0,17	OPEX[1]
+	
0,03	External costs
=	
0,39	Total social costs
0,50	Potential ticket fare from price sensitivity survey

globalDrivo

[1]Yearly OPEX assumed at 3% of CAPEX, 30-year depreciation period

Thank you for your attention! Any questions?

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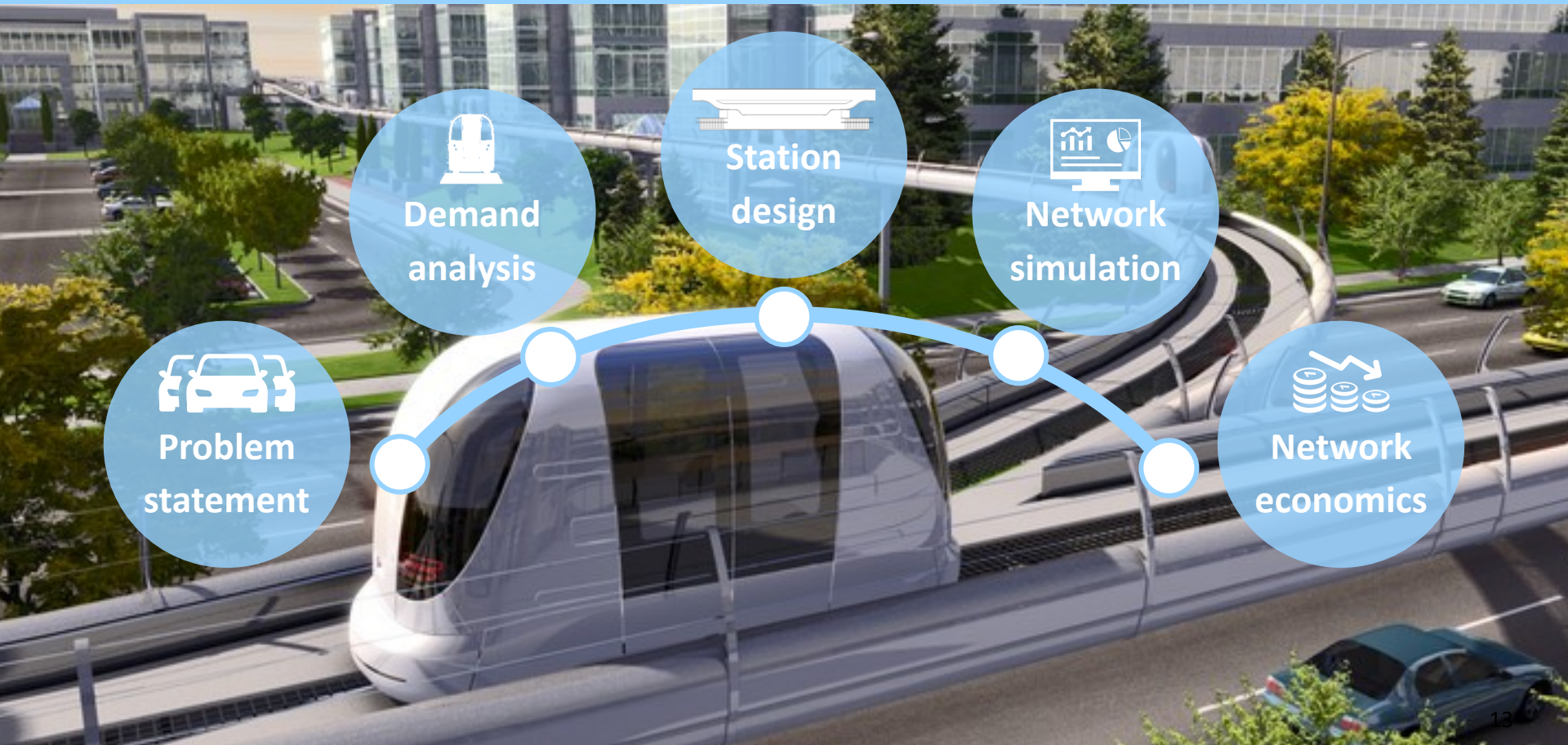
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