ELISA

Electrified, Innovative Heavy Freight Transport on Highways

ELISA eHighway Hessen Pilot Project Management & Control

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18th of February 2021
WebConference
Indo-German Workshop: IChargeHDV

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Hessen is a Leading Transport Hub for Europe

Average traffic load of motorways
in the Frankfurt RheinMain Area:
approx. 130.000 veh/day

Hessen: 72.000 veh/day (DTV 2018)
Germany: 61.000 veh/day (DTV 2018)

347.000 veh/day
at Frankfurter Kreuz
(Frankfurt interchange)

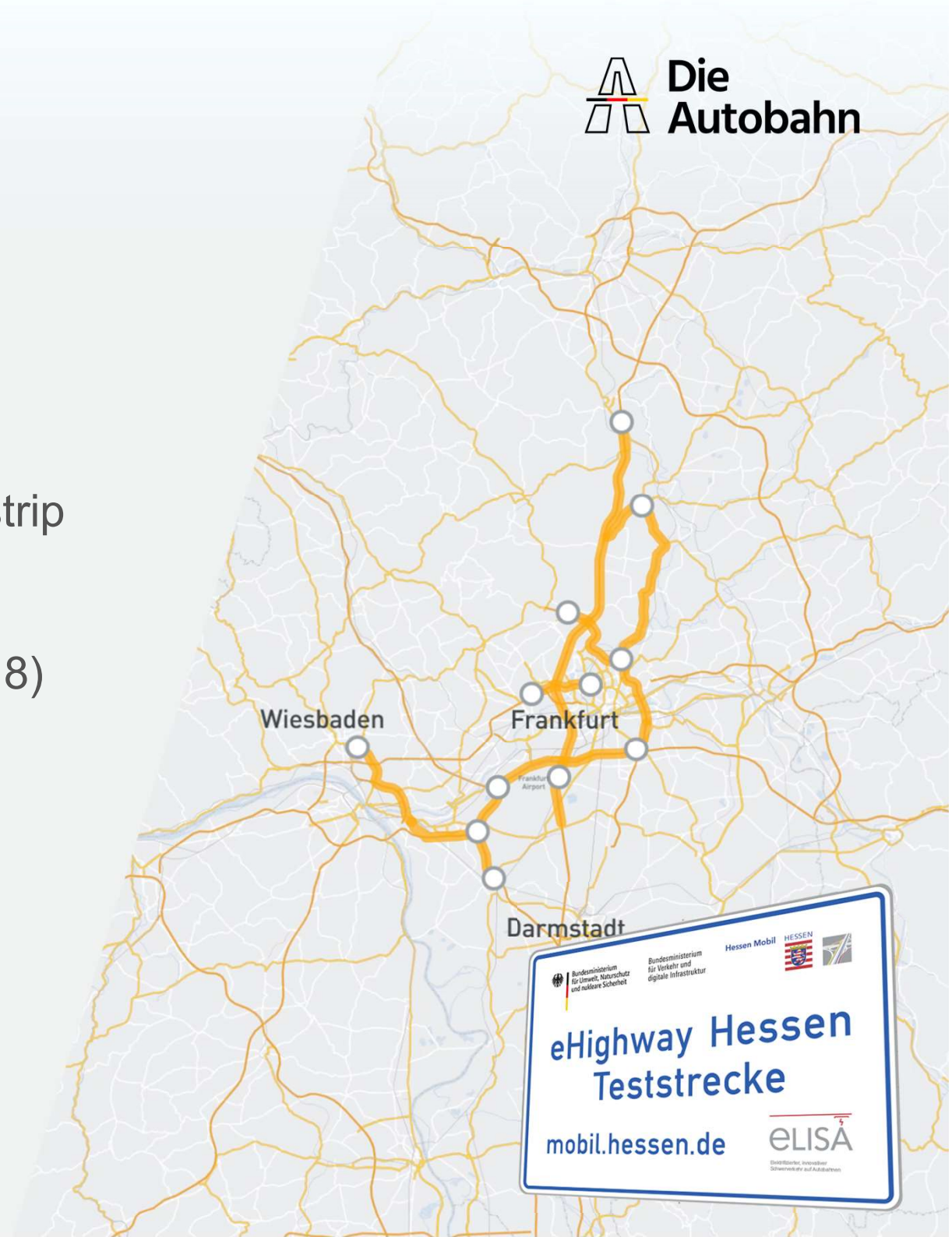
ELISA Trial Track

Highway Link
A5 Frankfurt – Darmstadt

4 lanes + hard shoulder / side strip
per direction

134,000 vehicles/day (DTV 2018)
Proportion of HDV traffic:
approx. 11,5%

Overall length:
10 km electrification
of the right lane



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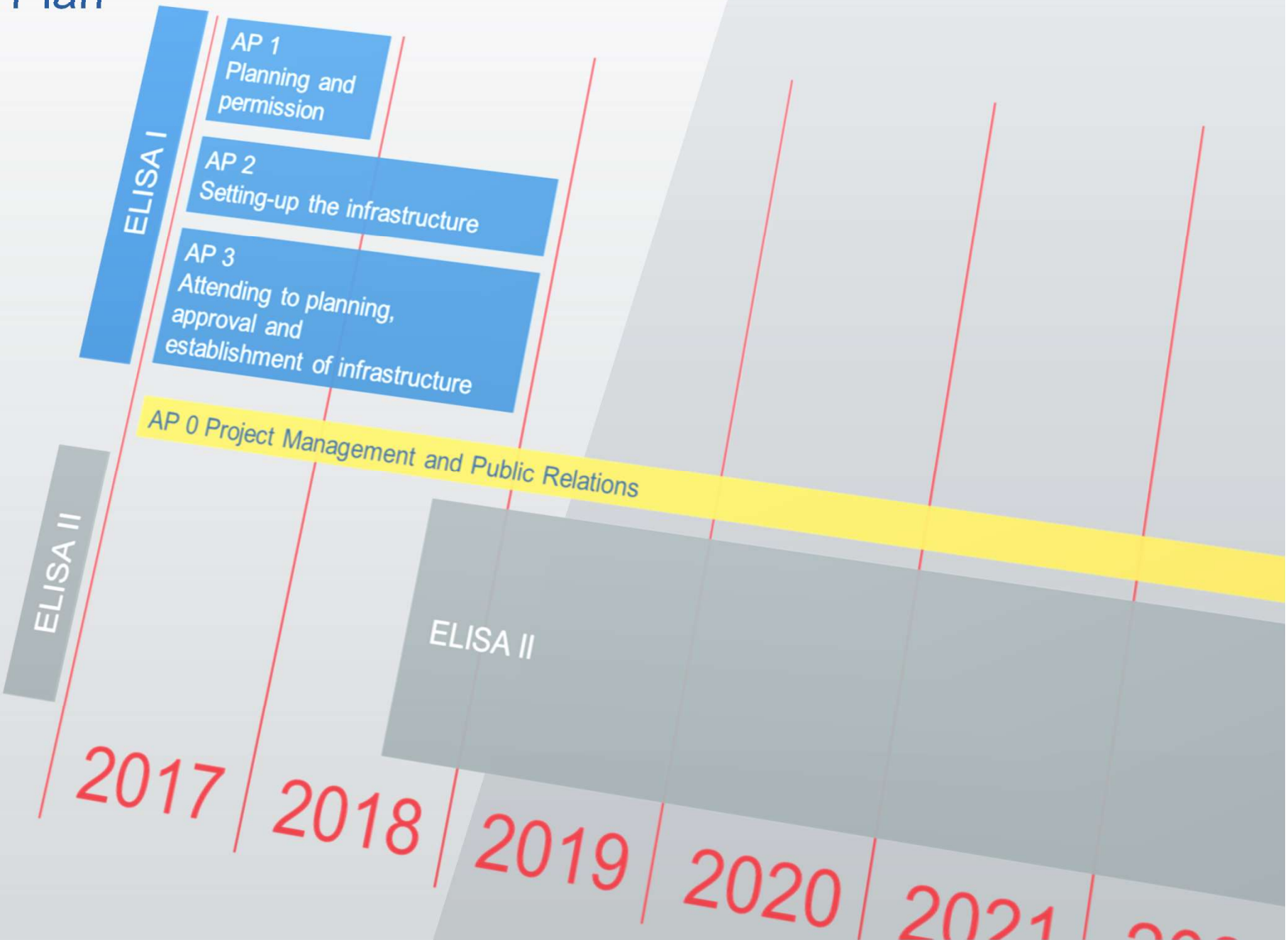
Project Plan



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Special Challenges

System to be planned, approved, commissioned, constructed, accepted and started-up operative within two years after funding notification

Legal building permission procedure and tendering procedure for the catenary to be finished within 7 months

→ Both processes to be executed simultaneously

No system specification available

→ Call for tenders based on a functional description

→ Negotiation procedure to optimize system design within the tendering procedure

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Planning and approval process

The system was legally defined as „road accessory“

In order to achieve an abridged project approval it had to be ensured:

- consent of all shareholders and competent authorities
- existing prior rights remain protected
- no further rules or formalities that explicitly demand a more extensive project approval procedure

The proactive involvement of shareholders continued all throughout the approval and construction phase

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Milestones

28. Jul 2017:	Building permission
1. Aug 2017:	Execution planning and construction contracted
22. Dec 2017:	Execution planning approved
6. Mar 2018:	Start of construction

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Milestones

6. Mar 2018: Start of construction

24. Apr 2018: Installation of first mast

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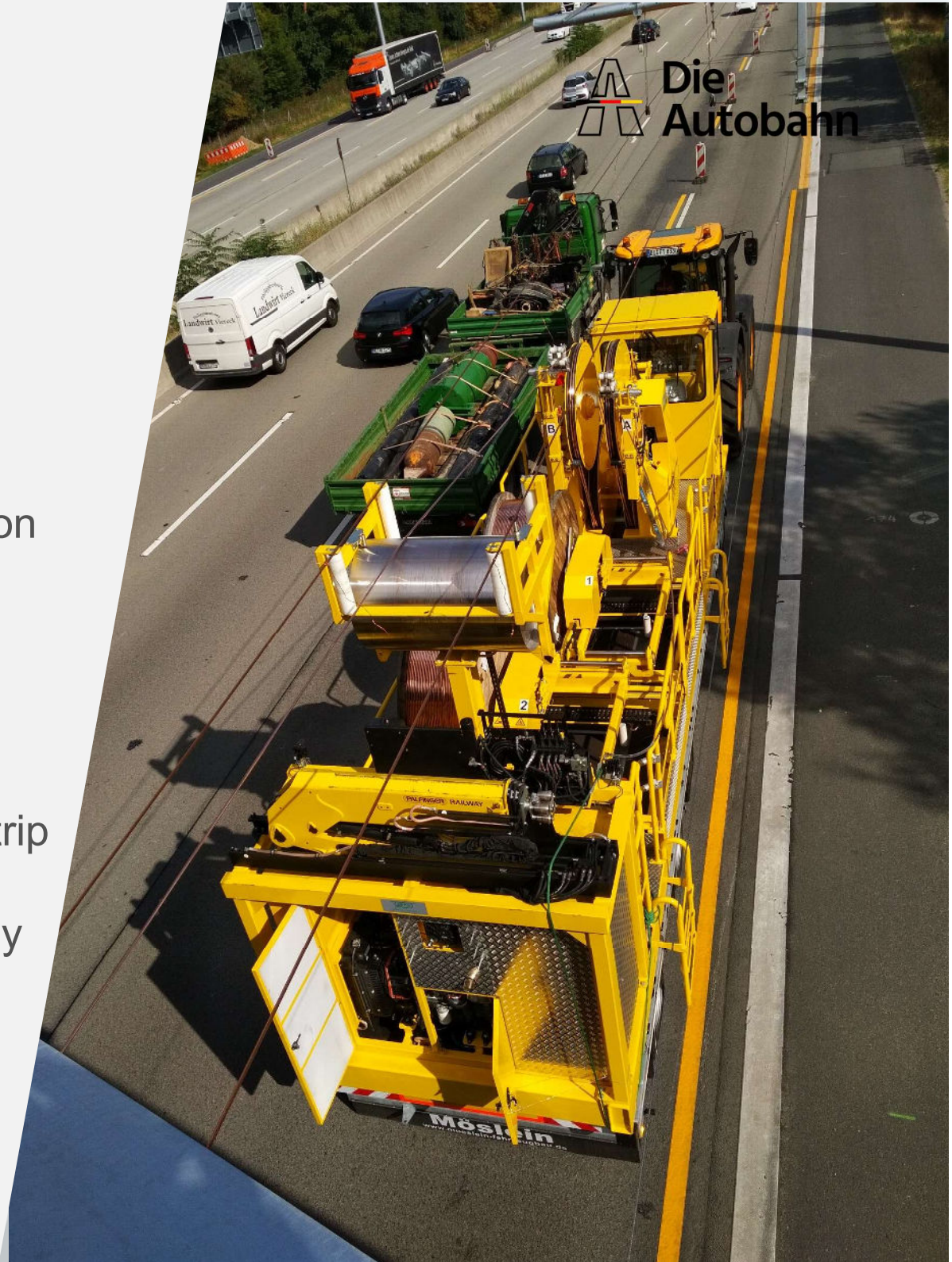

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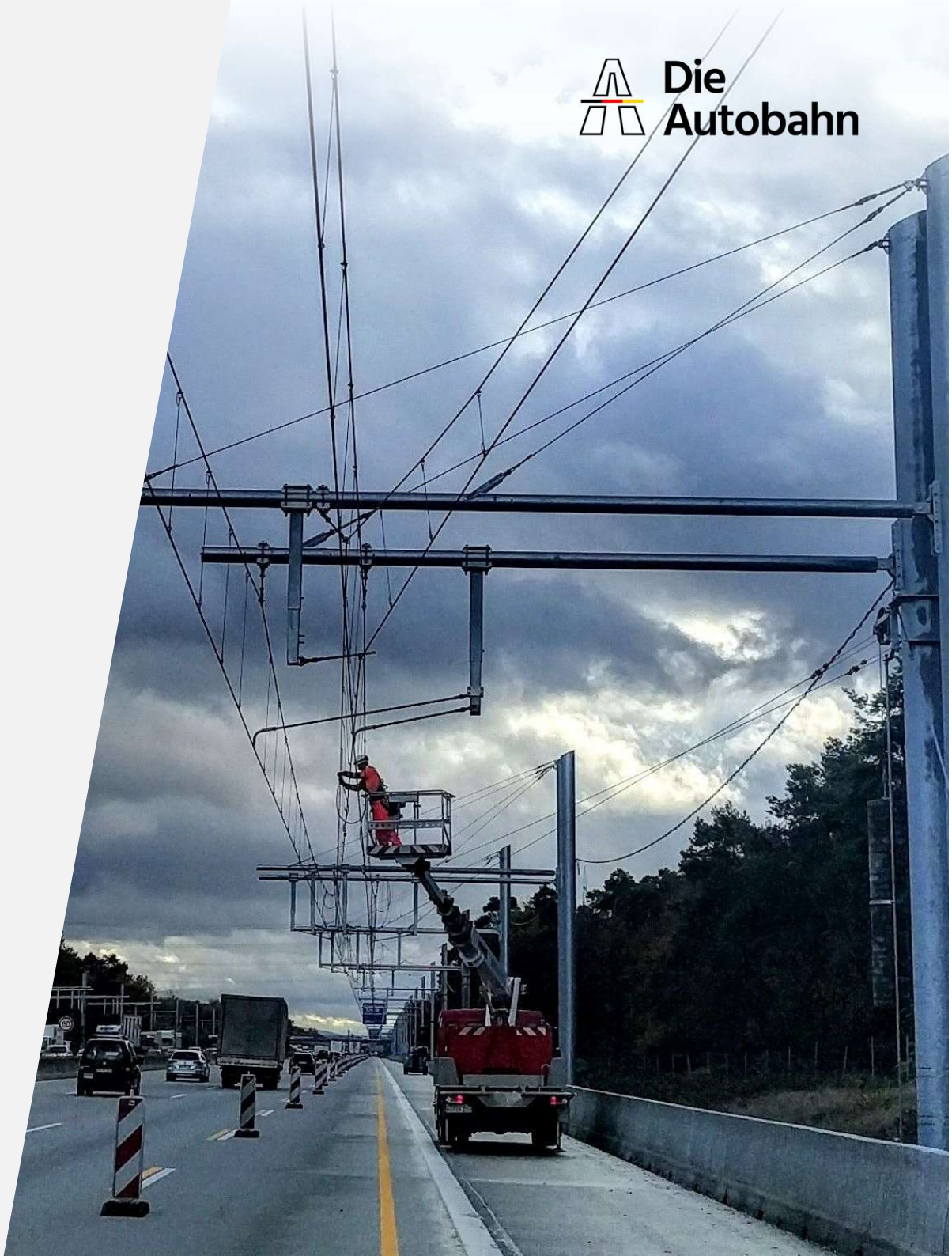

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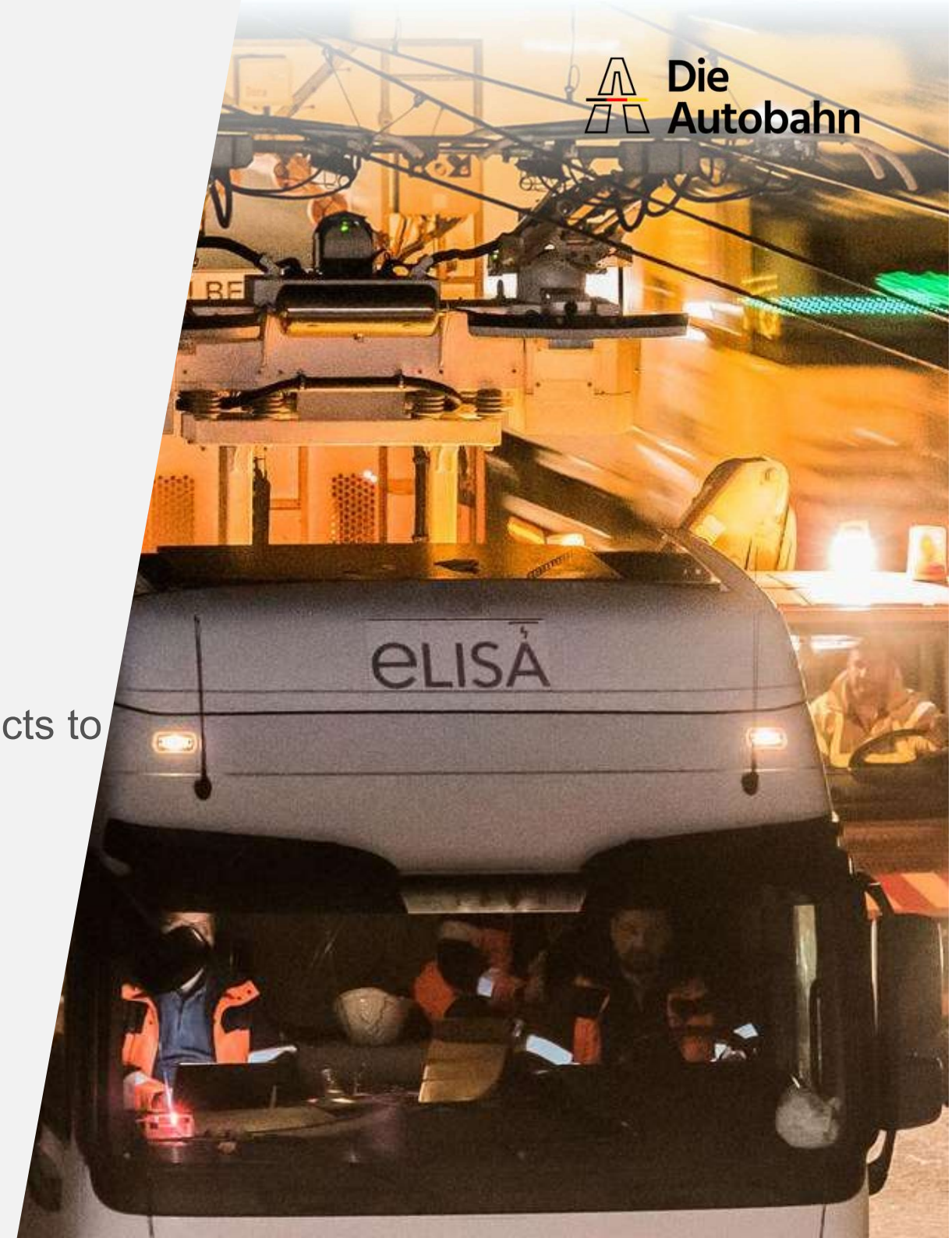
27. Nov 2018: Press event: First truck connects to catenary



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After Commissioning

Introductory phase until mid-2019

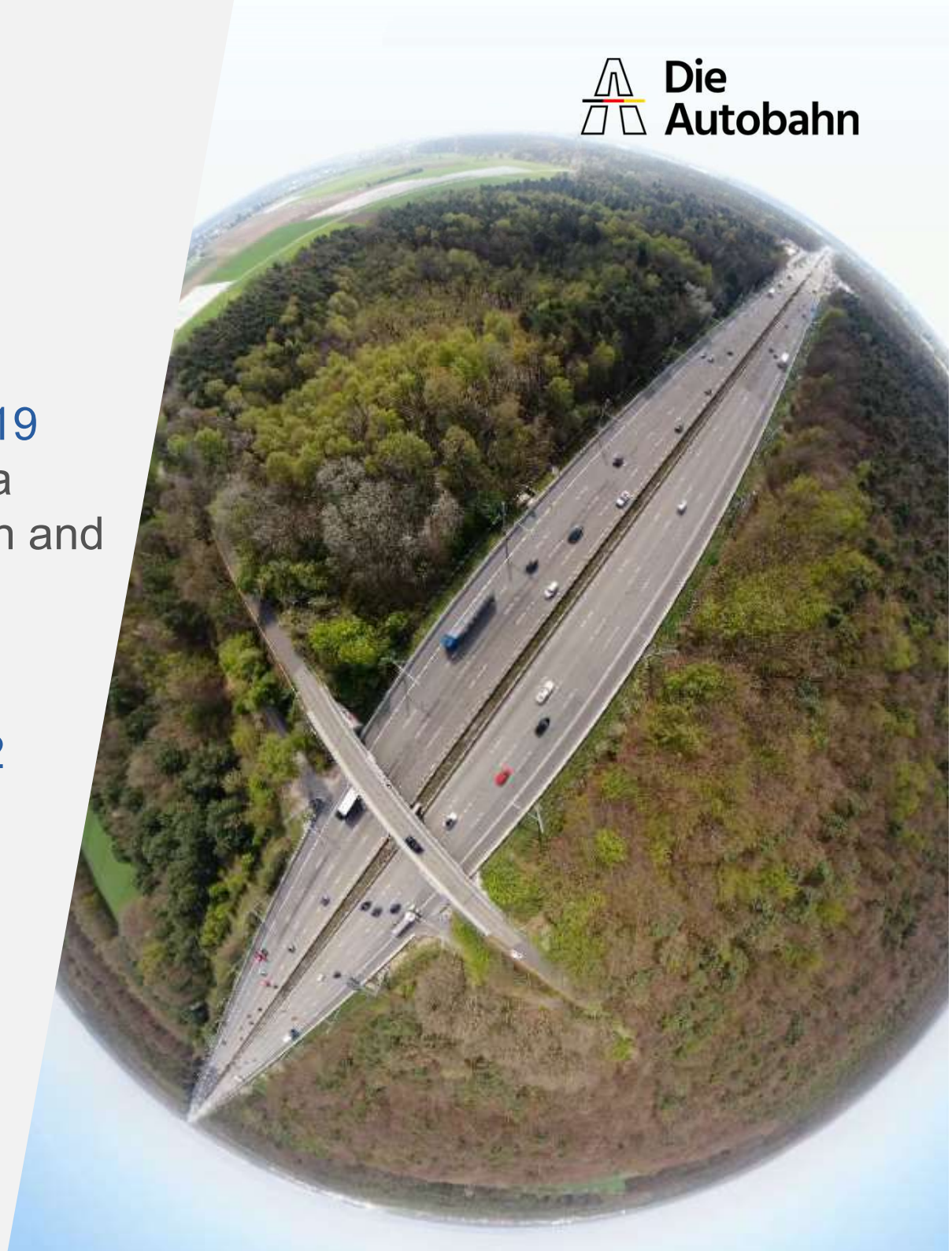
Test runs for preparation of data acquisition, operation, education and public relations

Standard operation from mid-2019 until end of 2022

for delivery vehicles of logistic partners. 24/7 operation and scientific monitoring

Delivery of vehicles

all 5 vehicles delivered to logistics partners



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Operating the ELISA system

The ELISA control station is integrated into the control room of the Traffic Center Germany

24/7-monitoring by qualified personnel

De-energising and grounding the system in case of emergency: automatically by security systems or manually by personnel

Siemens restoration team in case of damage within 2 h on the ground

Operating the ELISA system

Incident management subject to **early consulting and agreement** with emergency forces

Training installation for short-circuiting and grounding the system

Training of emergency workers and drivers

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Extension of the ELISA Trial Track

Total electrified route: up to 17 km, of which up to 12 km in direction of travel Darmstadt

Project objectives: extension of the test scenarios to a longer charging distance

Corresponding: duration extension of the field test, additional vehicles and vehicle types

Project duration:
July 2020 – December 2022

Project partner:
Autobahn GmbH

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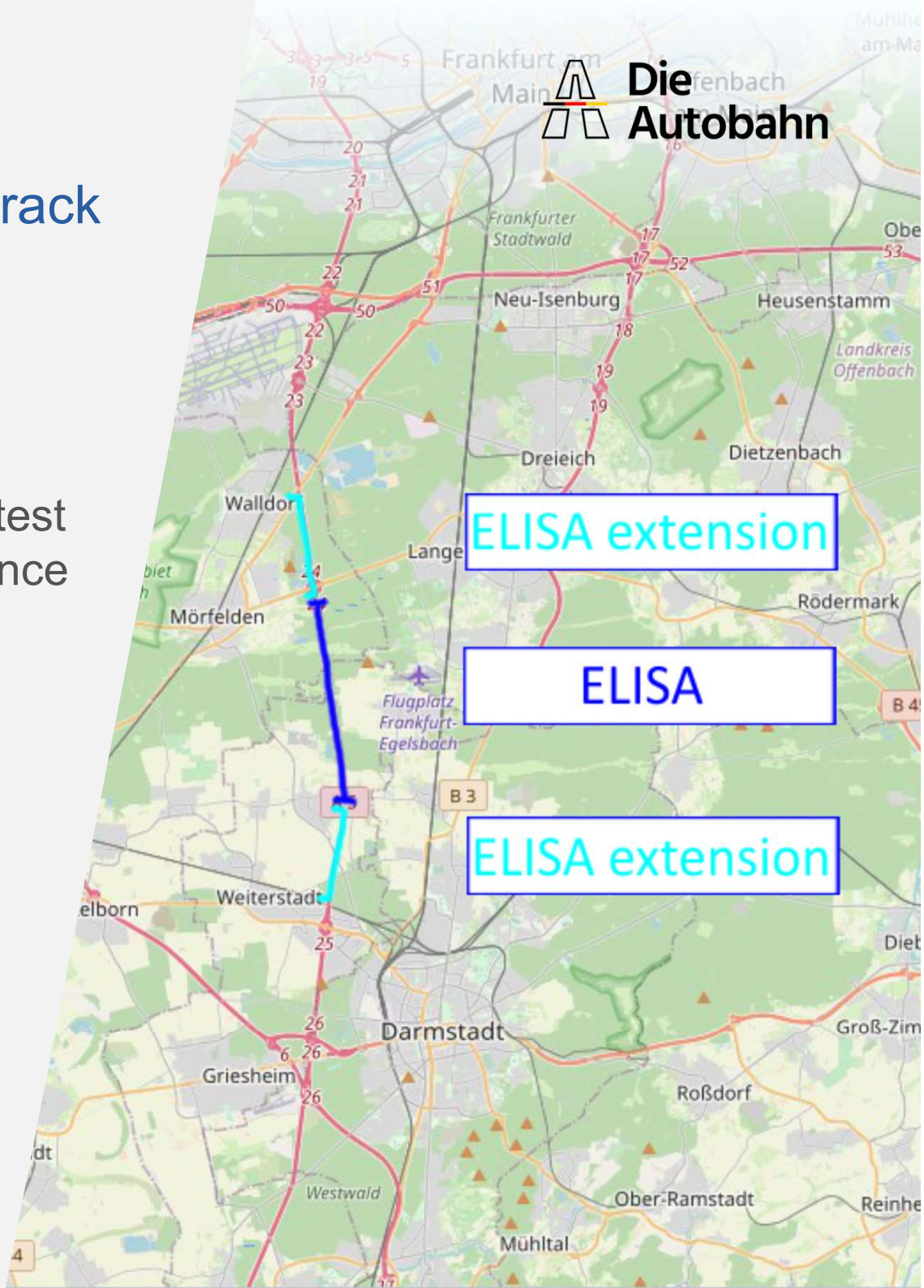

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Elektrifizierter, innovativer Schwerverkehr auf Autobahnen