

Mobility Use Cases of the 5G Living Lab in the Mobility Region Braunschweig-Wolfsburg

*Anna Schieben, Institute of Transportation Systems
German Aerospace Center*

5G matchmaking event, 20th April 2023



Konsortium



Gefördert durch:

aufgrund eines Beschlusses
des Deutschen Bundestages

The 5G living-lab at a glance

Definition and key facts

Funding

- **12 Million Euros for 12 sub-projects** as part of the **5G-Innovation program** of the Federal Ministry of Digital Affairs and Transport (BMDV), Germany

Consortium leader

- Anna Schieben; German Aerospace Center, Institute of Transportation Systems

Project duration

- 01.12.2019 bis 31.12.2022, extension till June 2023

www.5g-reallabor.de

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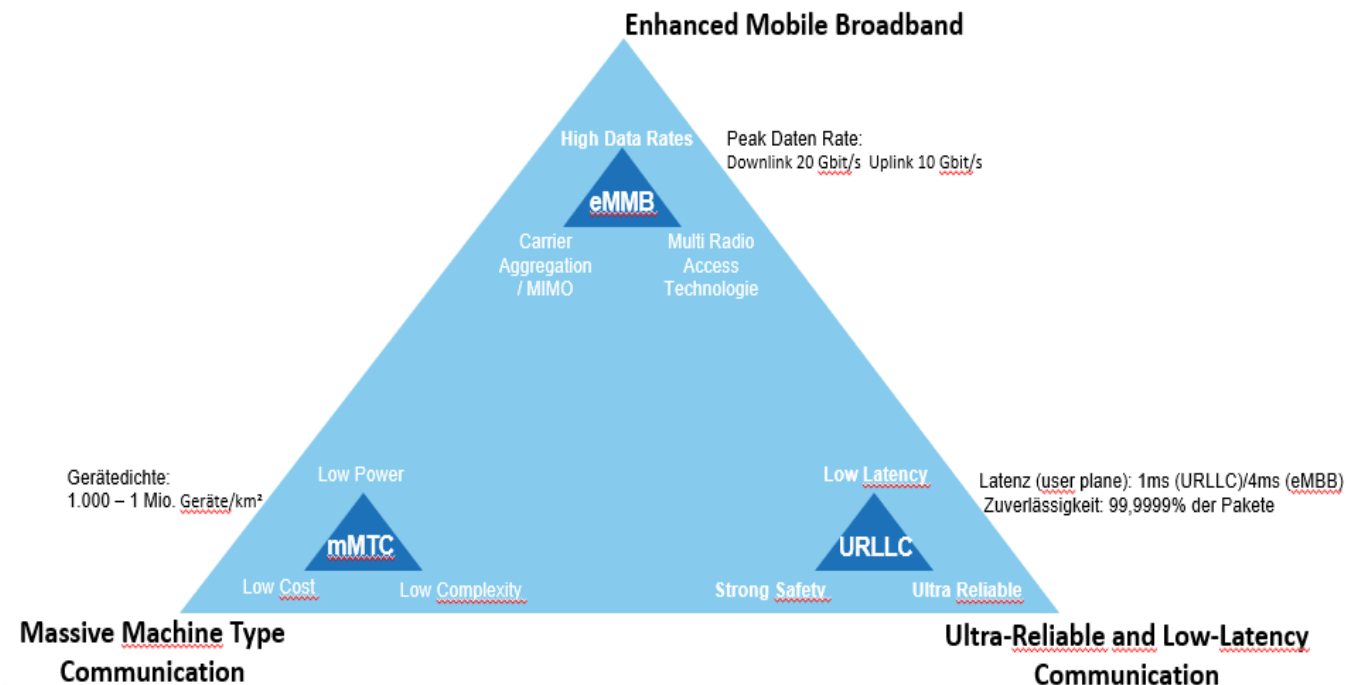


5G living-lab in the mobility region Braunschweig-Wolfsburg

Integration of public 5G live network and regional research infrastructures

Goal, concept and implementation

- Research, presentation and evaluation of the **practical benefits of 5G as a key technology** in the context of a smart city/smart region, accompanying the **5G roll-out of the public live network.**

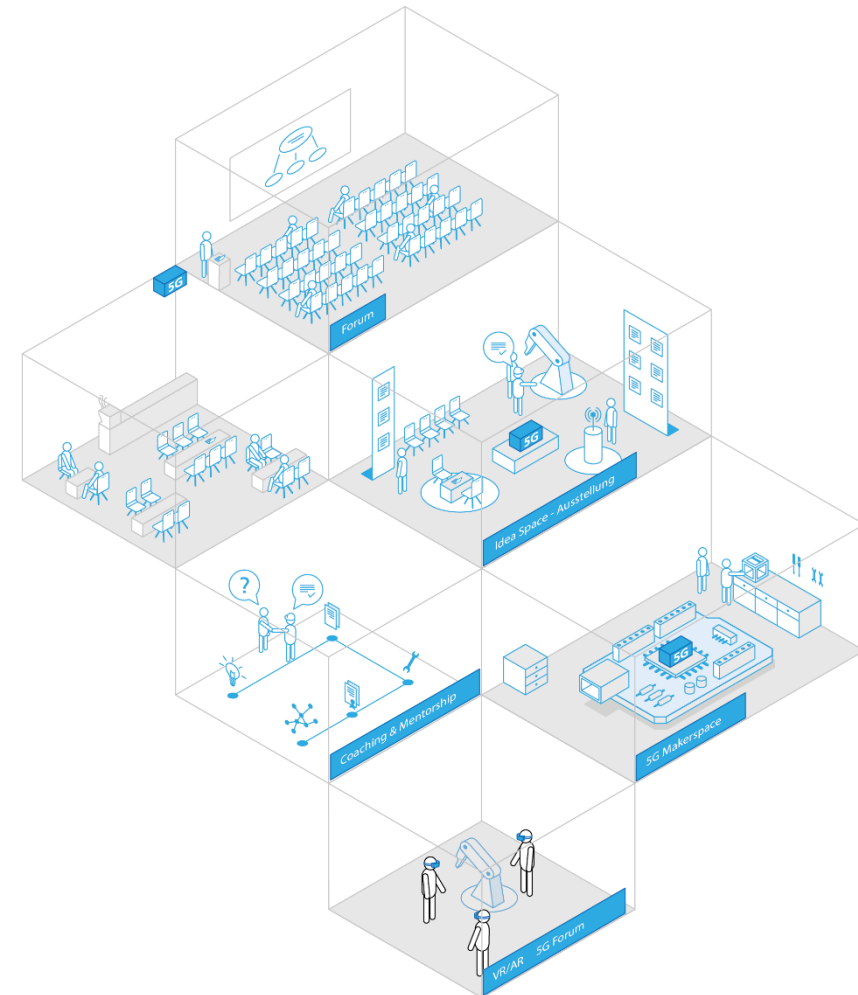


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- Concept of an open **5G living-lab for regional actors** from politics, business, science and administration.

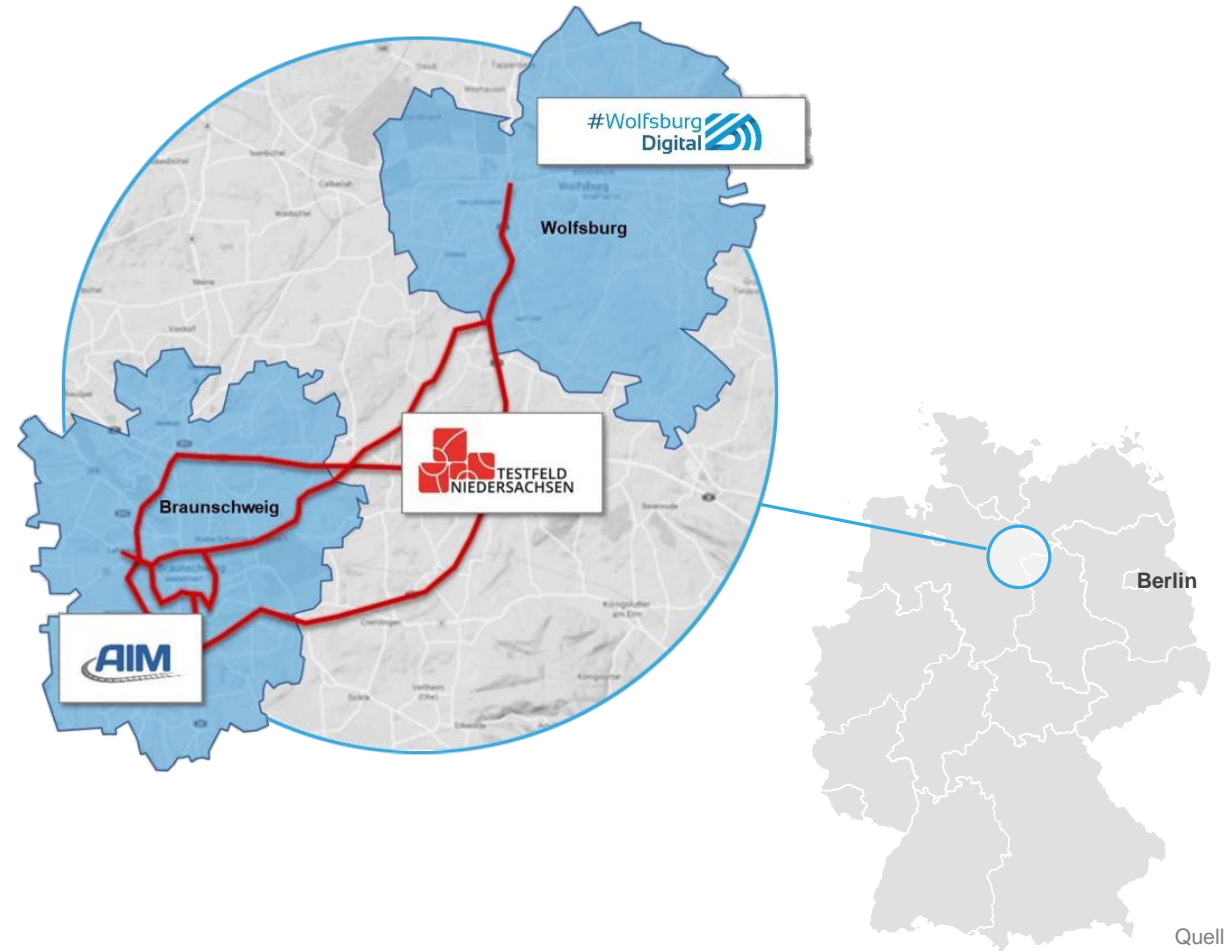


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- Concept of an open **5G living-lab for regional actors** from politics, business, science and administration
- **Integration with regional research infrastructures** → long-term, open **5G real laboratory** → regional added value along the new digital infrastructures



Quelle: DLR

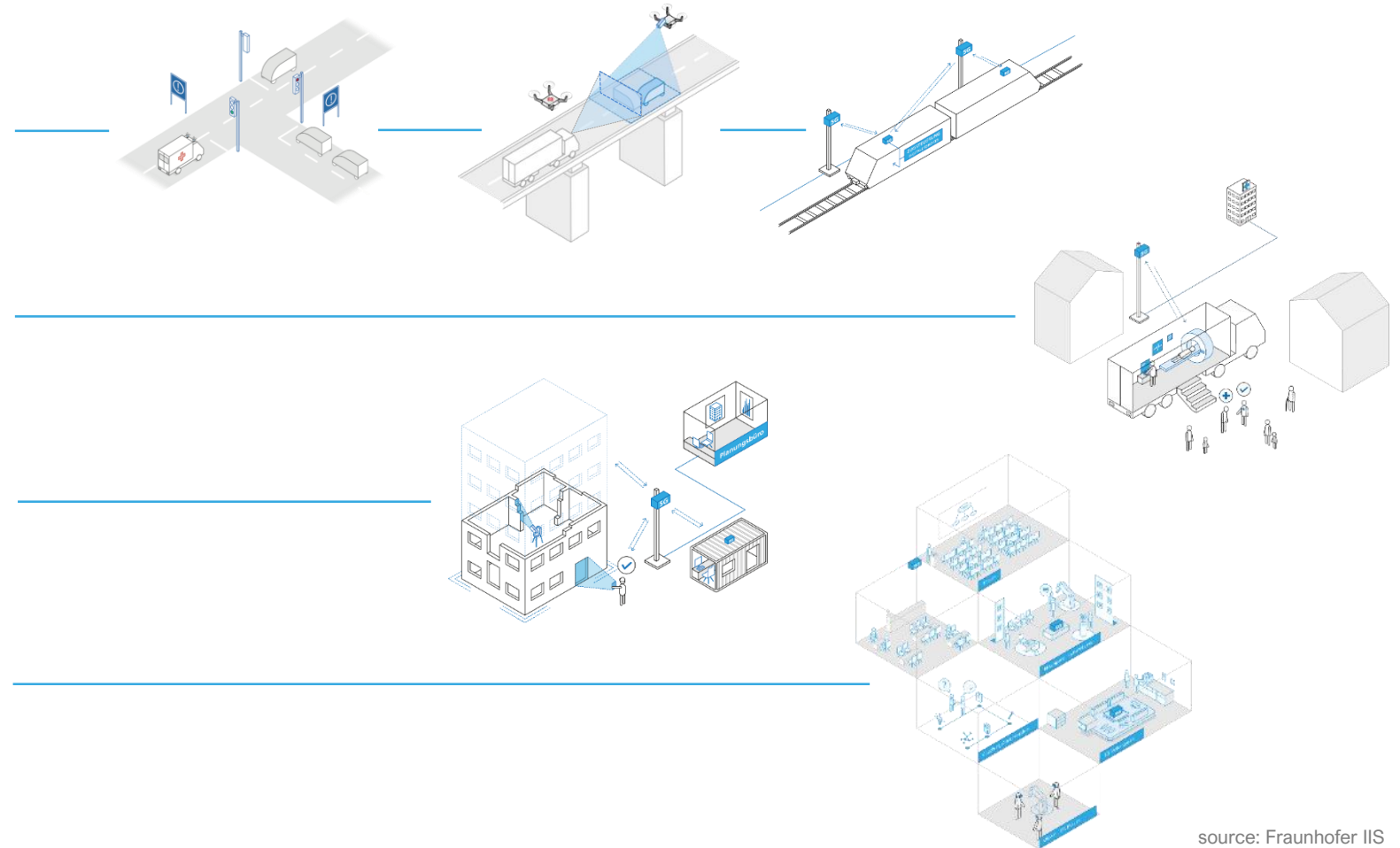
12 sub-projects in the 5G living-lab Braunschweig and Wolfsburg

Mobility
Road, Air, Rail

eHealth
mobile diagnostics

Smart Construction

Smart-City-Services
Cross-cutting activities and technology
assessment



source: Fraunhofer IIS

Integration of 5G living-lab in the mobility region Braunschweig-Wolfsburg

From research project to 5G living-lab

Mobility

Road, Air, Rail

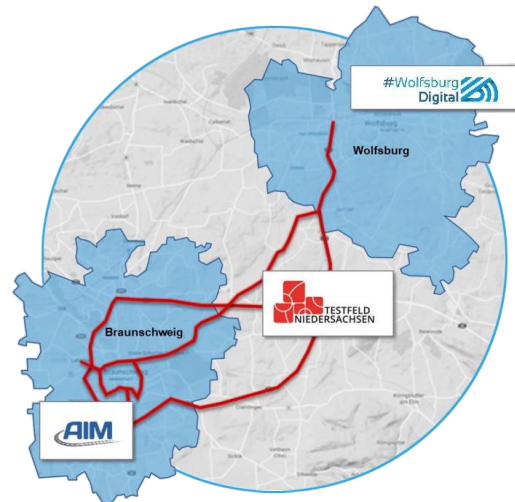
eHealth

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From research project to 5G living-lab

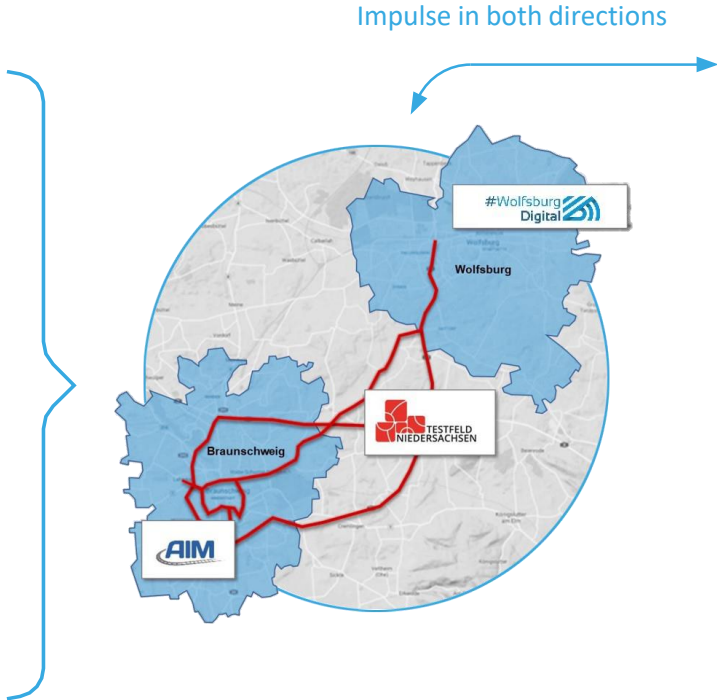
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Impulse in both directions



project extern advisory board



Amt für regionale Landesentwicklung
Braunschweig

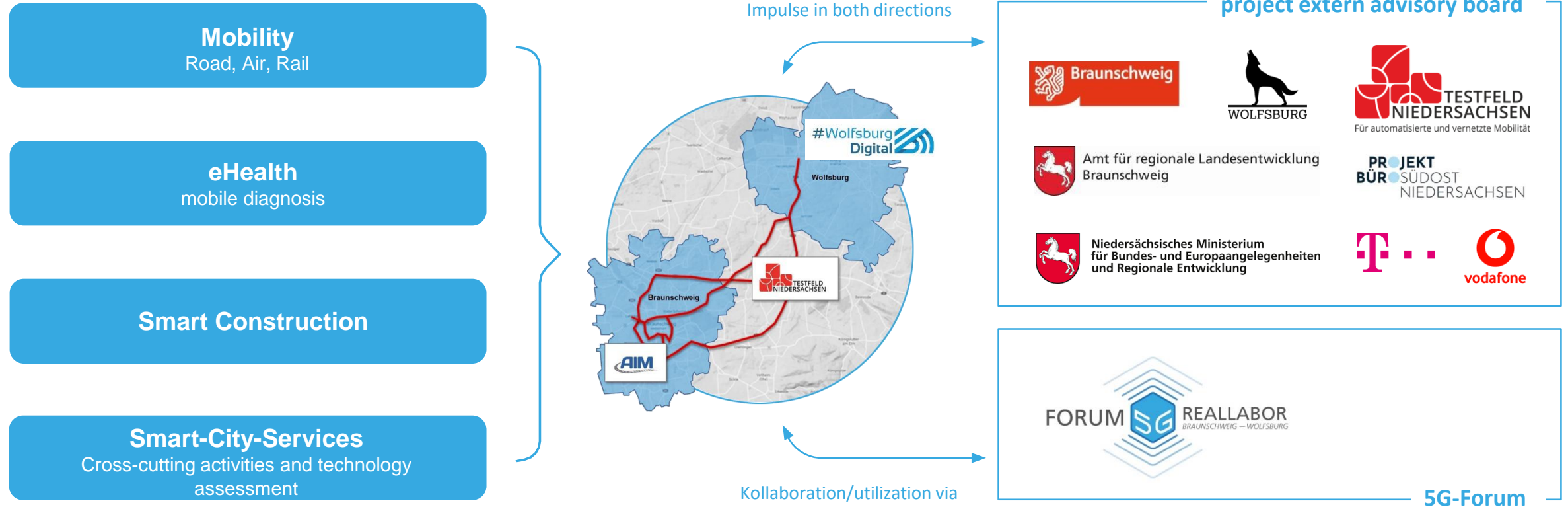


Niedersächsisches Ministerium
für Bundes- und Europaangelegenheiten
und Regionale Entwicklung

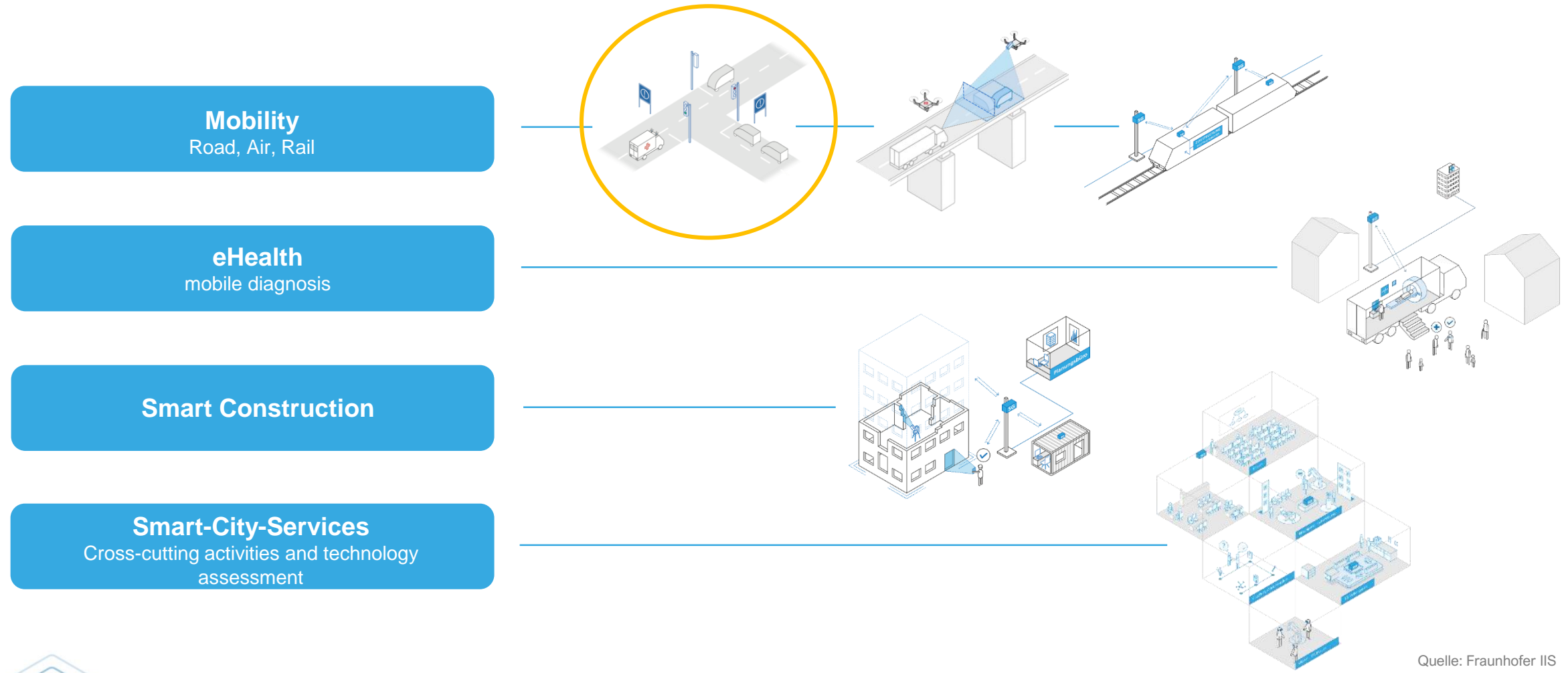


Integration of 5G living-lab in the mobility region Braunschweig-Wolfsburg

From research project to 5G living-lab

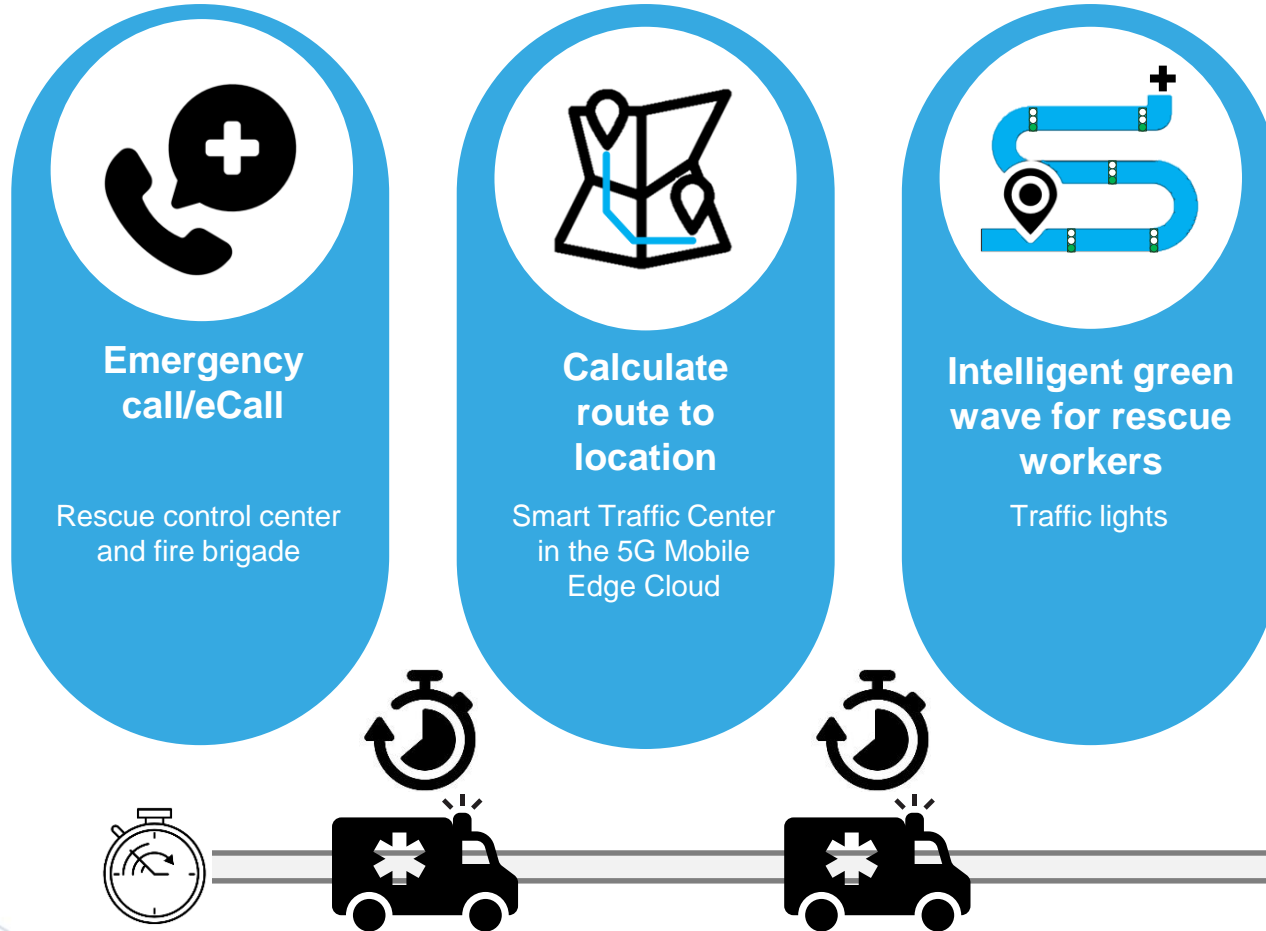


Example: Improvement of rescue mobility



Rescue mobility - scenario

Motivation and goals of this subproject



1 Reduce help times (travel time to destination)



Quelle: youtube.com, barnim112, 20.06.2019



Rescue mobility - scenario

Motivation and goals of this subproject



Emergency call/eCall

Rescue control center and fire brigade



Calculate route to location

Smart Traffic Center in the 5G Mobile Edge Cloud



Intelligent green wave for rescue work

Traffic lights

2

Minimize the risk of accidents



Quelle: <https://www.wochenblatt.de/>, Abruf 09.11.2020



Rescue mobility - scenario

Motivation and goals of this subproject



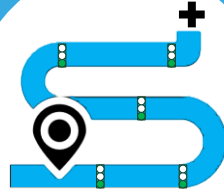
**Emergency
call/eCall**

Rescue control center
of fire brigade



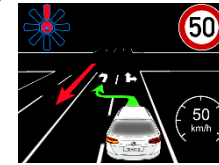
**Calculate
route to
location**

Smart Traffic Center
in the 5G Mobile
Edge Cloud



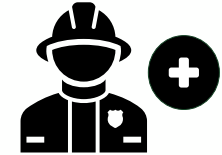
**Intelligent green
wave for rescue
work**

Traffic lights



**Information of
the road users**

APP



**Assistance at
the
destination**

destination



Rescue mobility - scenario – Equipped intersections in Braunschweig and Wolfsburg

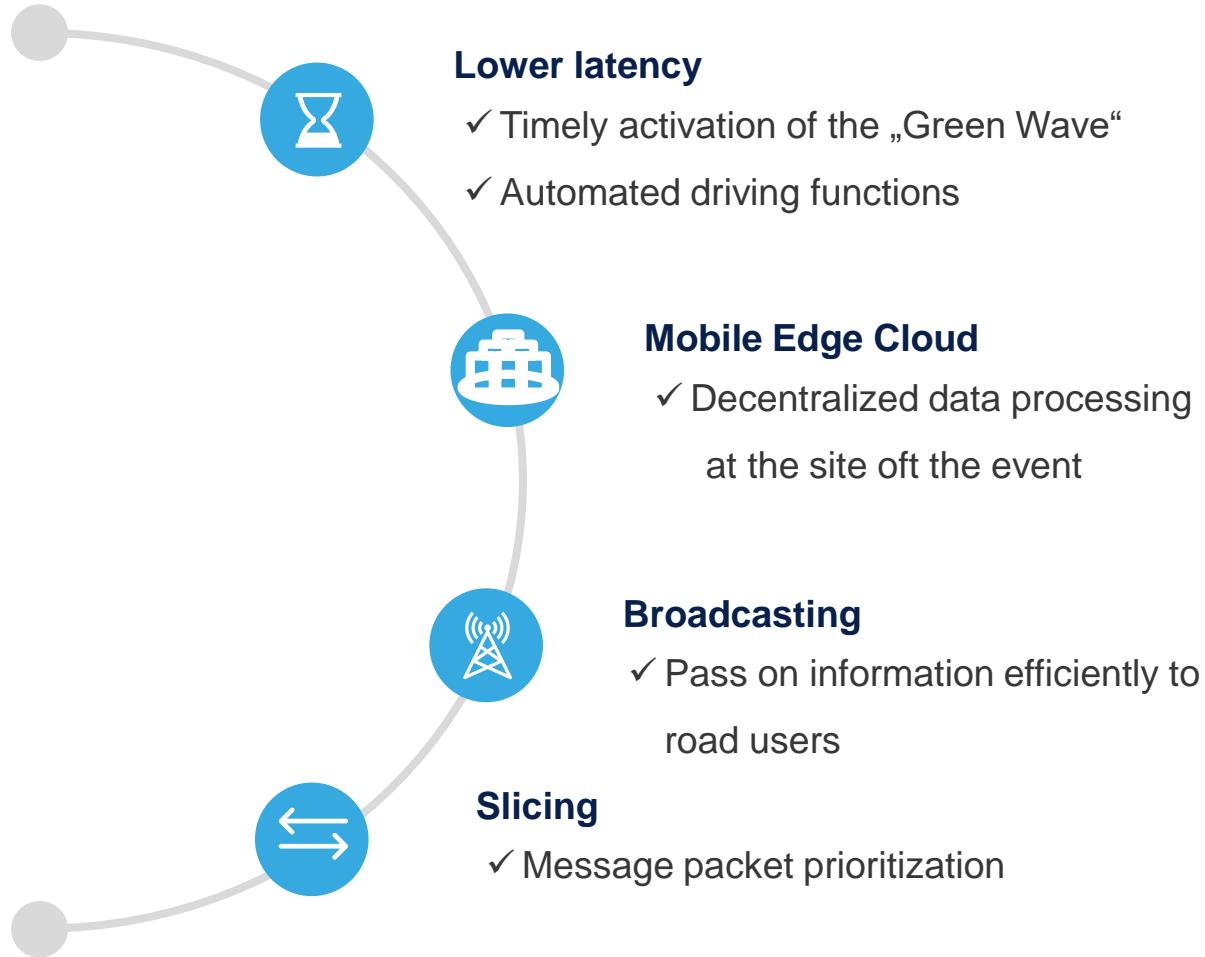


Planned research crossing in Braunschweig (Kartenmaterial OpenStreetMap)



Planned test field in Wolfsburg (Kartenmaterial OpenStreetMap)

Rescue mobility - Why 5G?



Fire engine of the fire brigade Wolfsburg (pic: design 112 GmbH)



Communications hardware on the fire engine of the fire brigade Braunschweig (pic: DLR)

5G living-lab

Integration in the 5G service layer



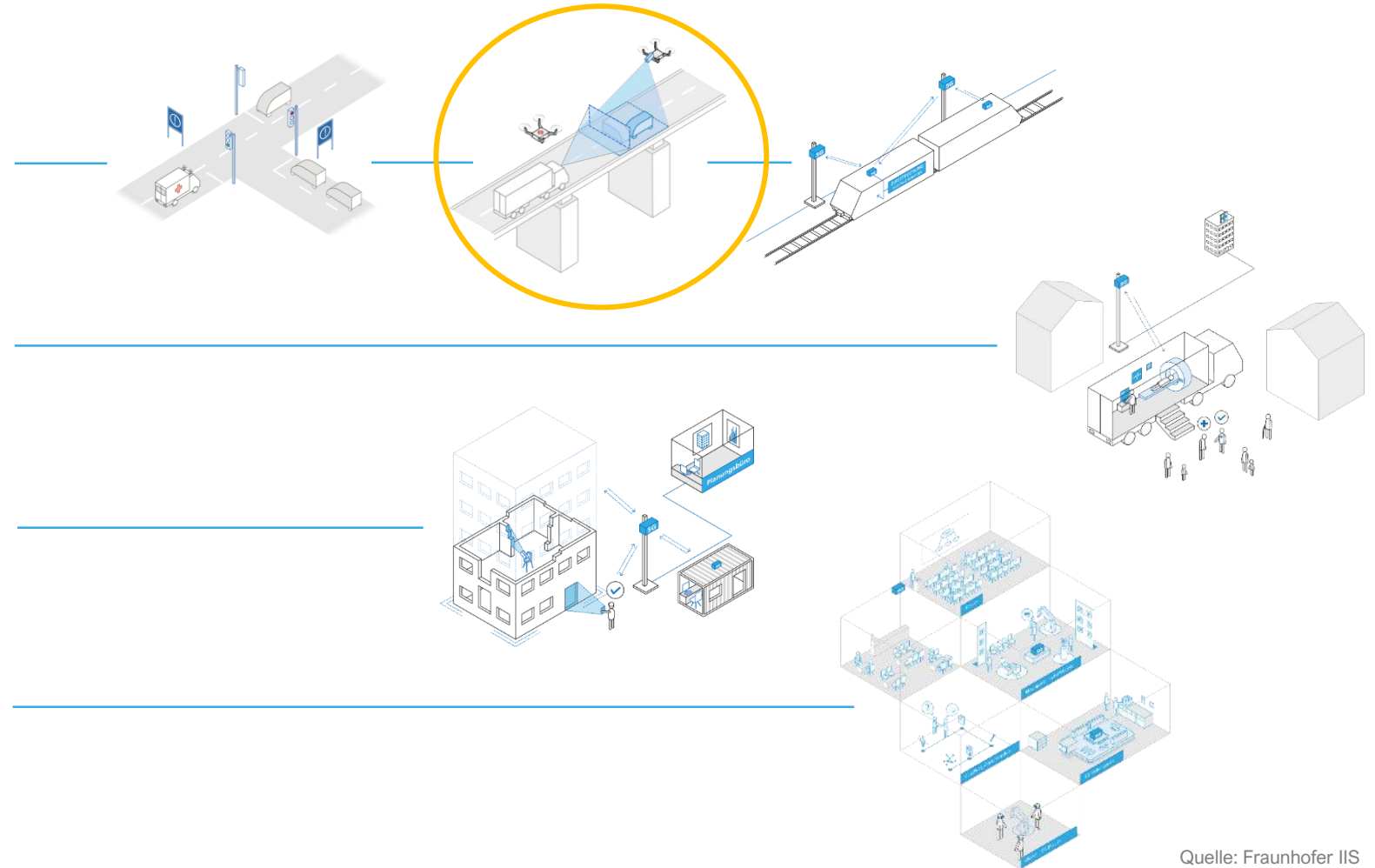
Example: Rescue drone

Mobility
Road, Air, Rail

eHealth
mobile diagnosis

Smart Construction

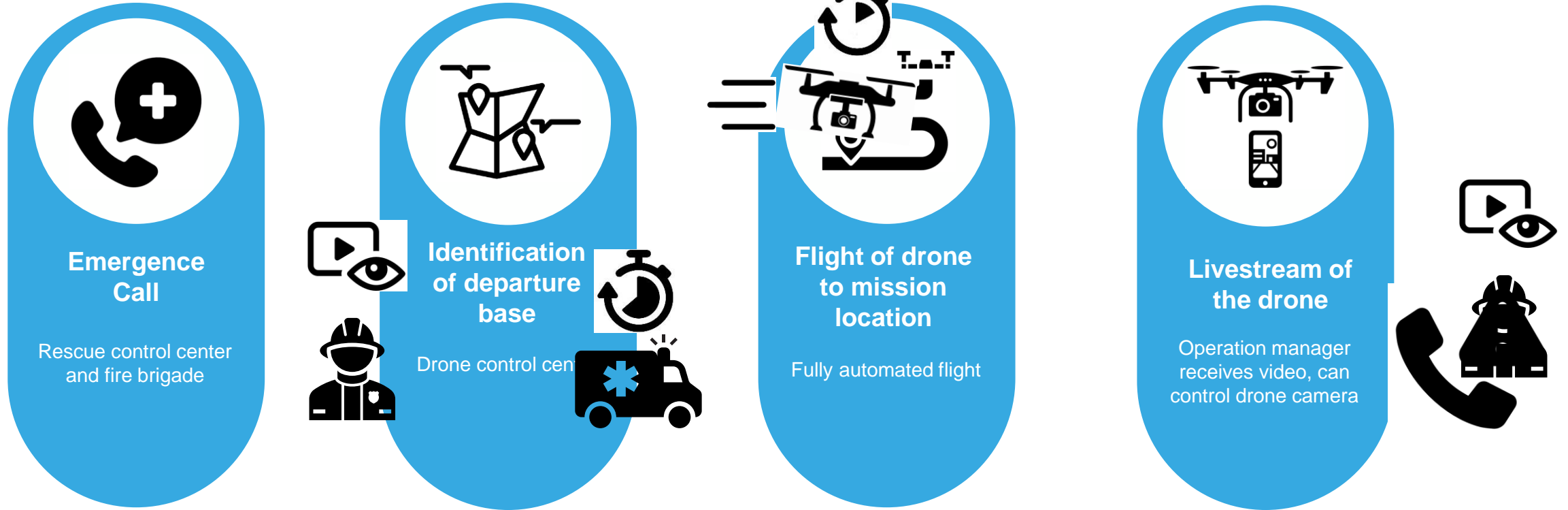
Smart-City-Services
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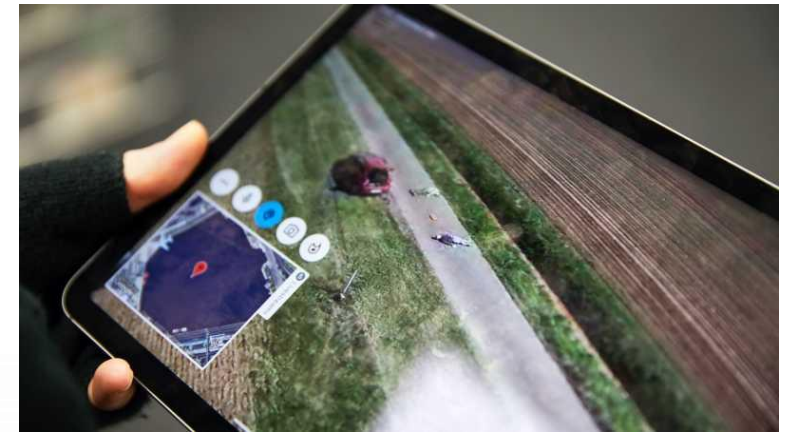
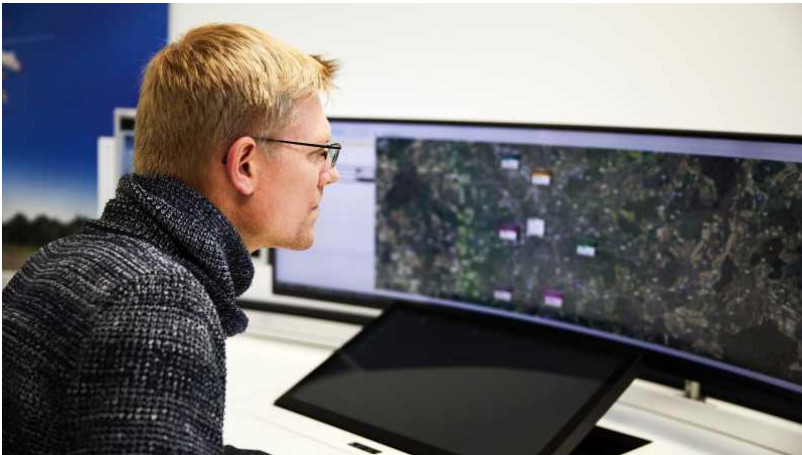
Quelle: Fraunhofer IIS

Rescue drone - Scenario

Motivation and goals of this subproject



Some impressions of rescue drone use case



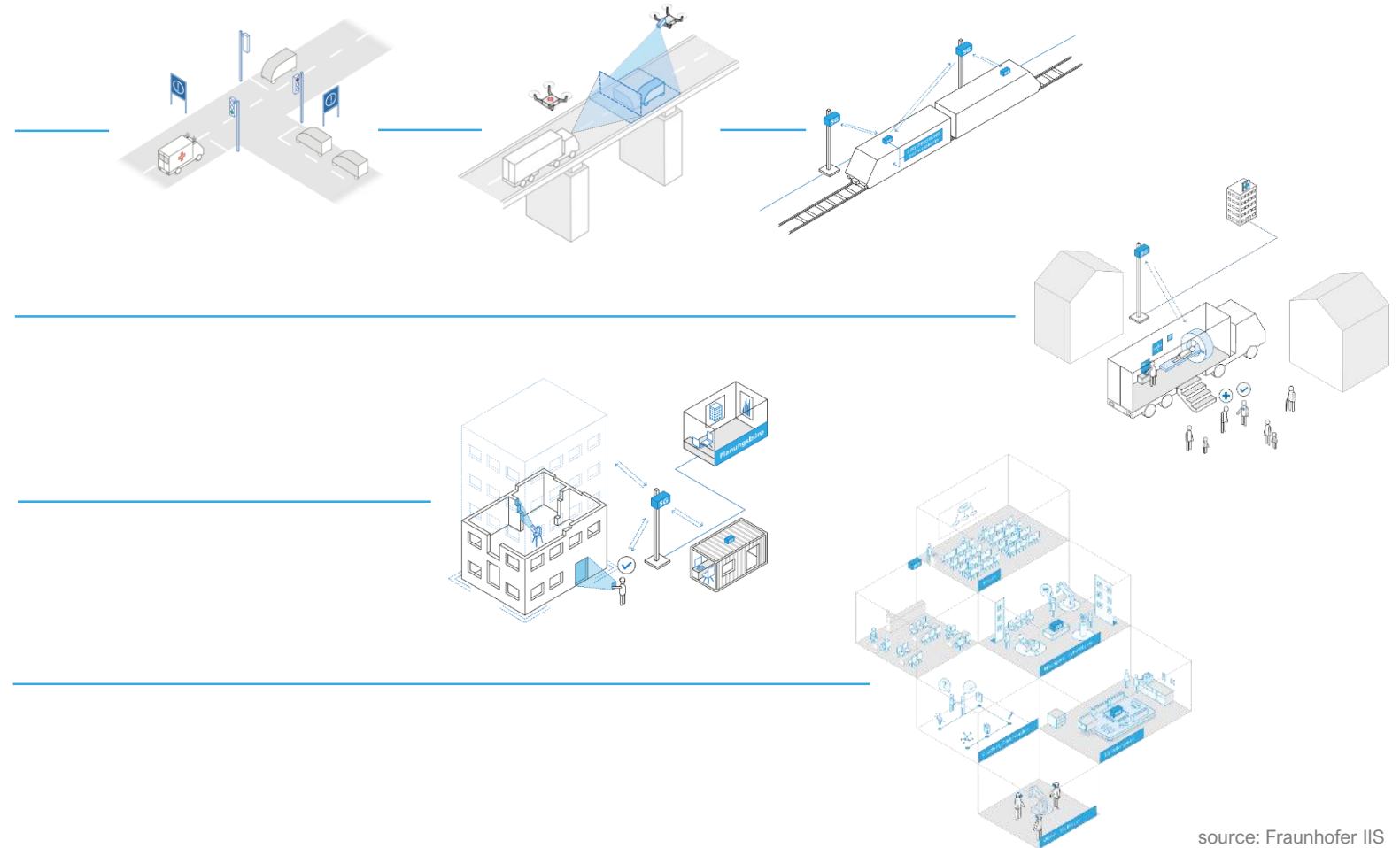
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source: Fraunhofer IIS

Thank you for your attention!



Further information:
www.5G-Reallabor.de

Contact us:
5G-Reallabor@dlr.de

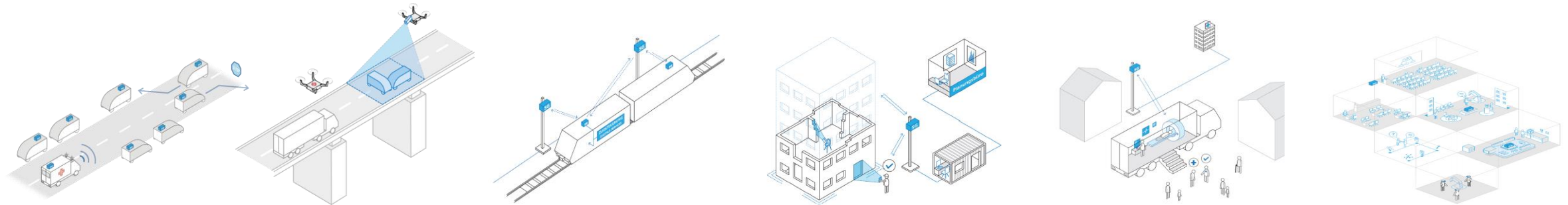
Contact details

Anna Schieben (DLR e.V.)
Project lead 5G living-lab in the mobility region Braunschweig-Wolfsburg
Deutsches Zentrum für Luft- und Raumfahrt e.V.

Anna.Schieben@dlr.de

+49 531 295 3426

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