

transport logistic Munich Trade Fair | May 11, 2023



# CargoSurfer

Digital Logistics platform for the optimization of unused loading capacity in passenger and goods transport.

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# Udo Steinmeier

Head of «New Mobility»

Trapeze DACH

- Mobility Enthusiast
- Living near Hannover
- With Trapeze for 20 years

# Trapeze at a Glance

- Leading supplier of public transport solutions
- International company with 40+ offices worldwide
- Active in more than 20 countries
- 2,000+ customers: public and private passenger transport companies
- 50+ years of experiences with technology projects in public transport



Public Transport

Mobility on Demand

Rail Solutions

- Planning & Operations
- Operations Control Systems
- Passenger Information
- On-board Systems
- Fare Management
- Communication Solutions
- Electromobility
- Autonomous Mobility

# Background

## LOGISTICS GAP IN RURAL AREAS



LOCAL  
ECONOMY



- > Gap in the transport offering: small goods & very small quantities
- > High transport costs for locations in ‚rural nirvana‘
- > High organizational effort due to lack of market transparency



LOCAL  
LOADING  
SPACE

- > Lack of honest cost calculation:  
Actual transport costs seen as ‚anyway‘ costs
- > Free loading space capacities for the local market

LOGISTIC



- > Low contribution margin on the last mile due to non-utilization
- > Low Degree of digitization
- > Increasing e-commerce demands new corporate strategies
- > Driver shortage leads to fewer journeys and therefore less marketable cargo space

# CargoSurfer

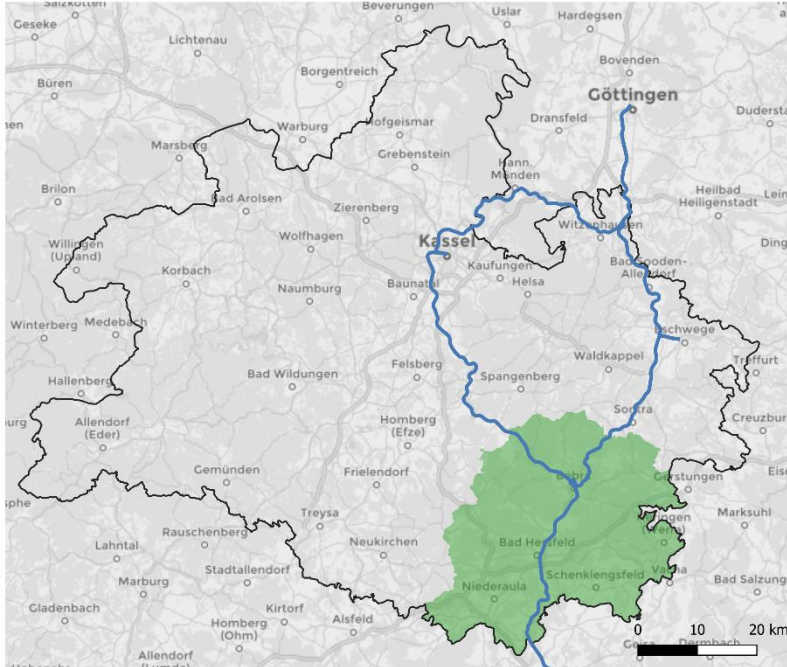
## A THEMATIC INTRODUCTION

- Project Description
  - Development of an AI-supported online platform for the mediation of free transport capacities in local passenger and freight transport in rural areas
- Project Profile
  - Project duration: November 2021 to October 2024
  - Project partners: 8 from 2 project regions
  - Total project budget: 2,7 million euros
  - BMDV grant: 1,8 million euros



# Project regions

## NORTH HESSE | COUNTRY OF HERSFELD-ROTENBURG

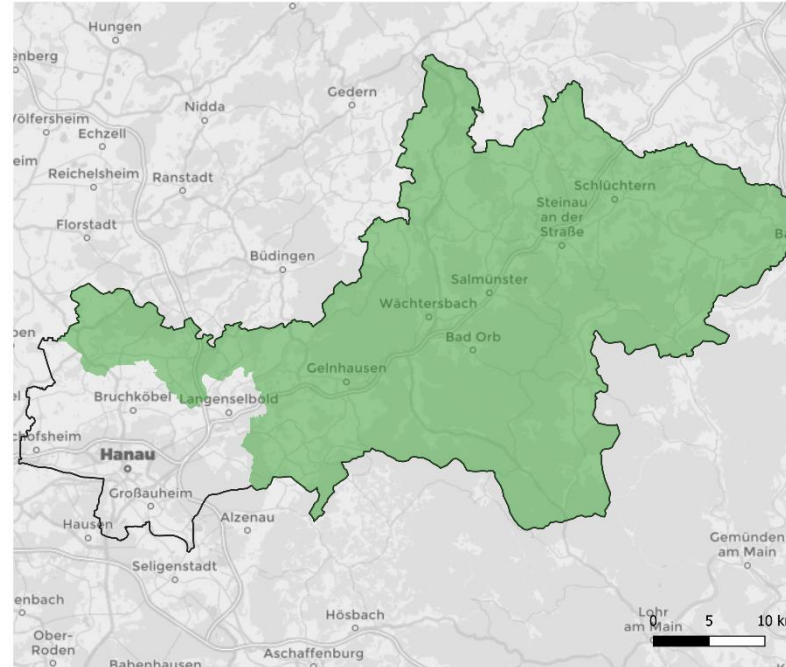


**Legende**

- Nordhessen
- Landkreis Hersfeld-Rotenburg (Waldhessen)
- cantus-Netz

Waldhessen	
Area:	1.097,75 km <sup>2</sup>
Population:	120.163 (31.12.2021)
Population density:	109 Inhabitants. /km <sup>2</sup>
Source: Wikipedia	

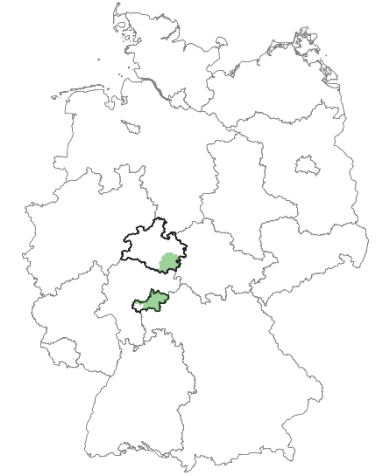
## SPESSARTREGIONAL | MAIN KINZIG DISTRICT



**Legende**

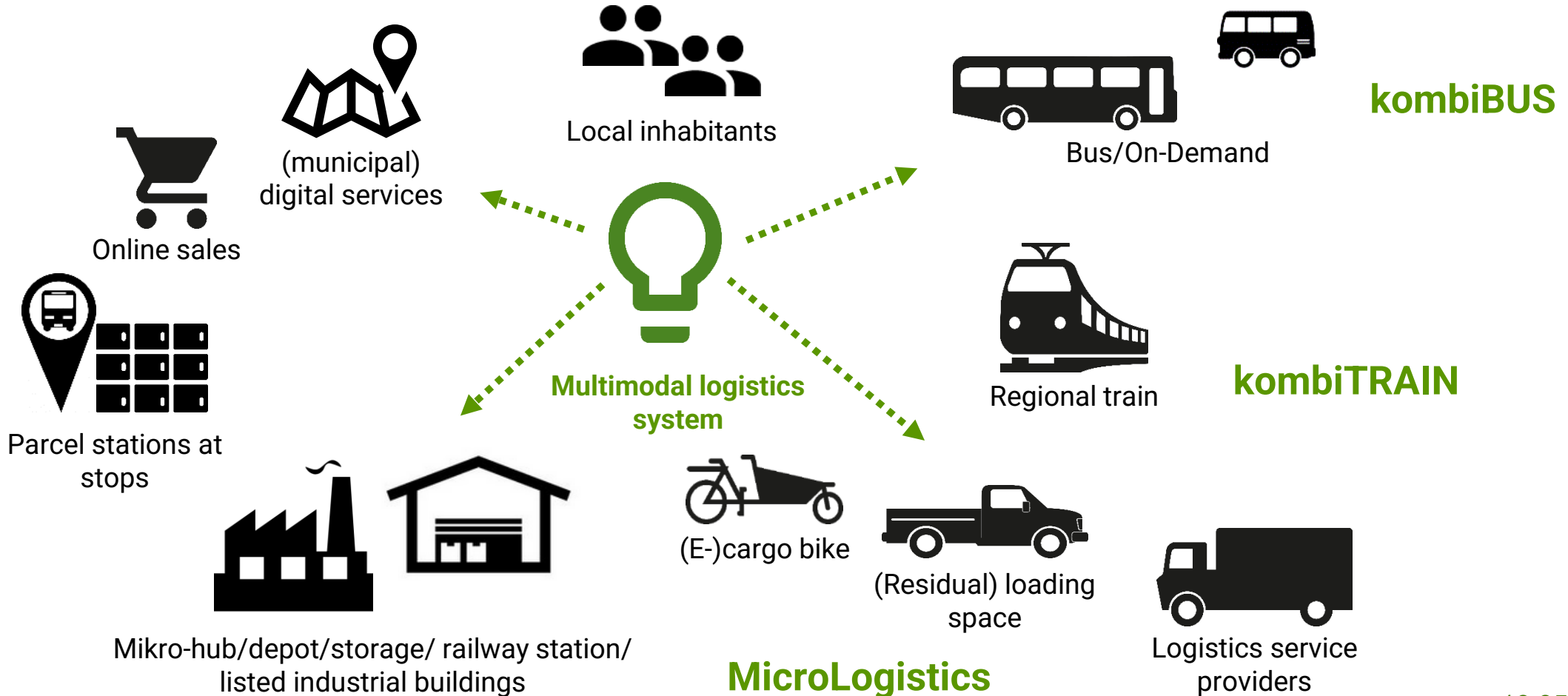
- Main-Kinzig-Kreis
- SPESSARTRegional e. V.

SPESSARTRegional	
Area:	1.162 km <sup>2</sup>
Population:	200.538 (31.12.2021)
Population density:	173 Einw./km <sup>2</sup>
Source: SPESSARTRegional e. V.	



# The ingredients

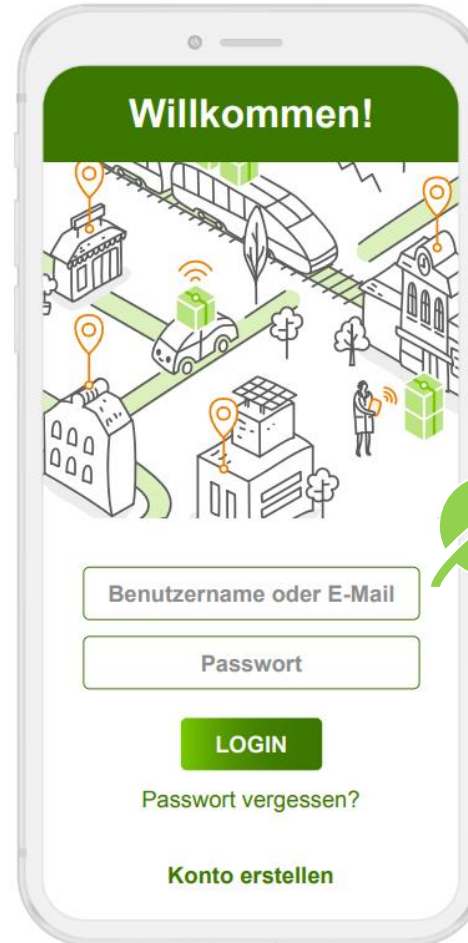
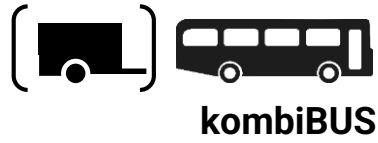
UTILIZATION & NETWORKING OF EXISTING CAPACITIES





# The »CargoSurfer«

ACCESS TO LOADING SPACE POTENTIAL



**Residual capacities of producers, traders**



**Residual capacities of logistics companies / courier services**



**Residual capacities of other service providers (e.g. publishers, printers, meals-on-wheels, etc.)**





# The systemic approach

## TRAFFIC REDUCTION AND MODAL SHIFT

### Logistics in Fläche

- last mile
- Rural area



### Combined transport

- Urban space
- Long-distance traffic
- Rail freight traffic
- Inland waterway transport



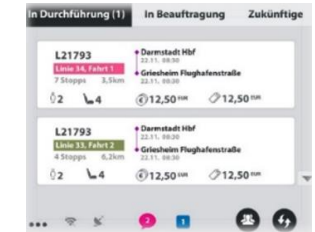
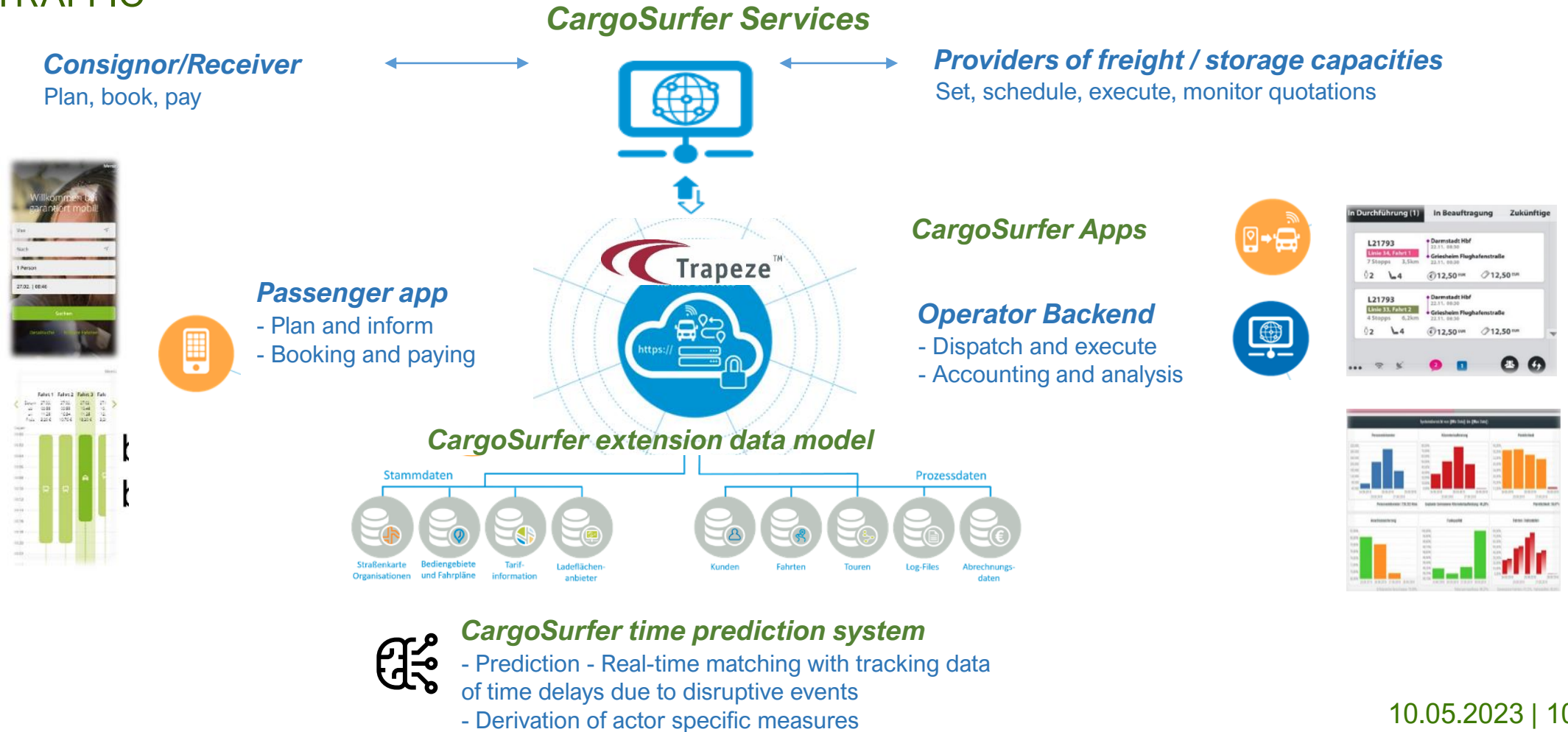
### Intercontinental logistics

- Container logistics
- Rail freight
- Sea & Air freight



# CargoSurfer platform

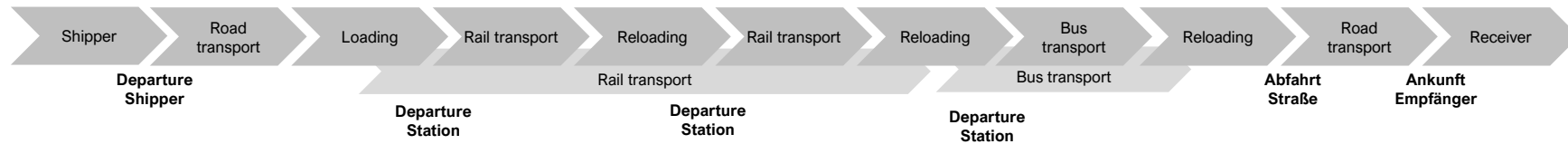
BOOKING PLATFORM FOR FREIGHT TRANSPORT IN PASSENGER AND FREIGHT TRAFFIC



# Time prediction system

## BASIC MODEL OF THE FORECAST MODELING

- Time forecasts from loading to receipt for multi-stage transport chain
- Control system with actor-specific action measures in response to delays



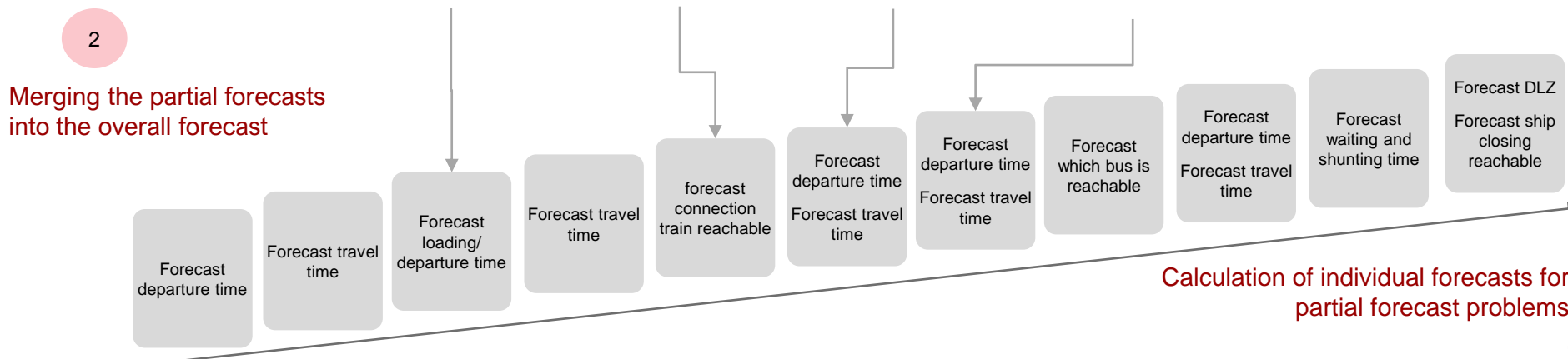
Sample questions:

When does the train leave the station?

How long does the reloading take?

Can the connection be reached?

When does the train reach the bus station?



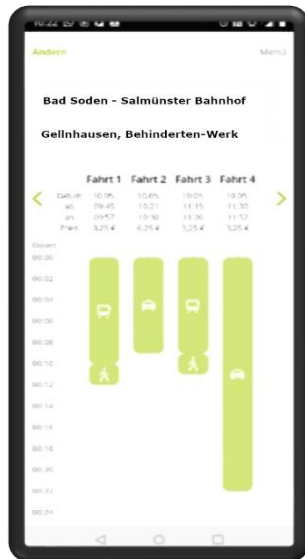
Merging the partial forecasts into the overall forecast

Calculation of individual forecasts for partial forecast problems

# Mobile Frontend for everyone

CARGOSURFER APPS FOR ALL STAKEHOLDERS (ACCESSIBLE)

## Shipper of goods



- ✓ **Transport order management:**
  - Overview of all transport offers
  - Booking of local transports
  - Navigation to your next drop-off station
  - Tour information management
  - Information fault management
  - Billing management & Statistics
  - Chronicle of all transport orders, incl cost overview

## Provider of load capacities



- ✓ **Fleet management** (create, manage, pause and delete vehicle profiles)
- ✓ Assign and manage **loading area capacities**
- ✓ **Tour management** (create, manage, pause and delete fixed tours)
- ✓ **Transport cost calculator** for determining »real« logistics costs
- ✓ **Journey management**

## MicroHub operators



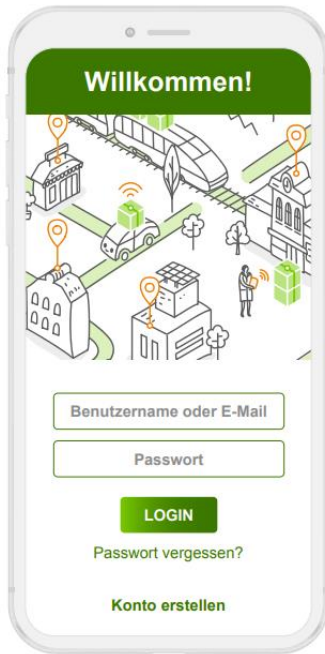
- ✓ **MicroHub management**
  - Typification of the MicroHub
  - Deposit contact details
  - Opening hours
  - Create, manage, pause and delete storage capacities
  - Warehouse capacity management
- ✓ **Enter the logistics tariff**

# Usability – Accessibility

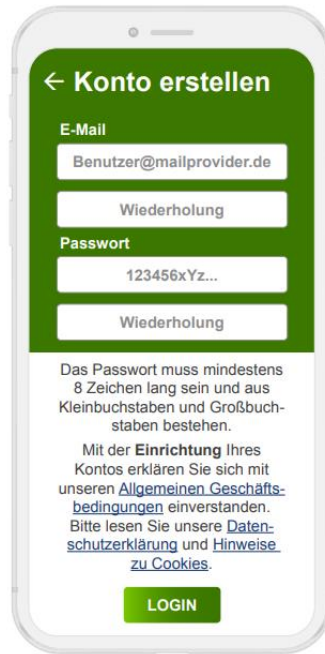
## CURRENT DESIGN STATUS



App lädt



Login + Konto erstellen



VARIANTE 02 Konto erstellen  
(farbiger Hintergrund = hoher Kontrast)



STARTSEITE  
Hinweis: Erst jetzt fand ein Login statt/wurde ein Konto angelegt und die Navigation der App wird sichtbar. Mit den roten Zahlen können wir auf Nachrichten, Fehler in Profil ... hinweisen.



NAVIGATION  
Befindet man sich z.B. auf Start, so ist auch dieses Icon vollfarbig. Unten: Schnellnavigation (optional)



WAREN VERSENDEN

VERSAND



LADEFLÄCHEN

TRANSPORT



MIKROHUB

LAGER

AUSWAHL ICONS  
Variante 01

EINFACHE SPRACHE?  
-> leichter verständlich, optional auch englische Begriffe aus der Navigation nehmen (News, Login...)?

# And what do you gain?

A WIN-WIN SITUATION FOR ALL USERS

# Added value

## FOR MUNICIPAL DECISION-MAKERS USING THE EXAMPLE OF CARGOSURFER

- **Economic Development:**

- Strengthening the retail businesses by the development of a local logistics system
- Motivation for building new business models

- **Public Transport**

- Transportation of goods: additional contribution margins, image gain
- Challenge 49,- euro ticket > Freight transport bridges behavioural change process with offer expansion for everyone

- **Ensure local supply for the population and guests:**

- Same-day delivery for regional products
- Opportunity for local stores, hospitality sector and gastronomy

- **Improving the company's own climate protection strategy**

- **(Logistical) re-use concept for selected infrastructure**

- Area, site restoration, good locations, etc.
- Multifunctional use: local supply & gastronomy, co-working, Logistics hub, (tourist) services



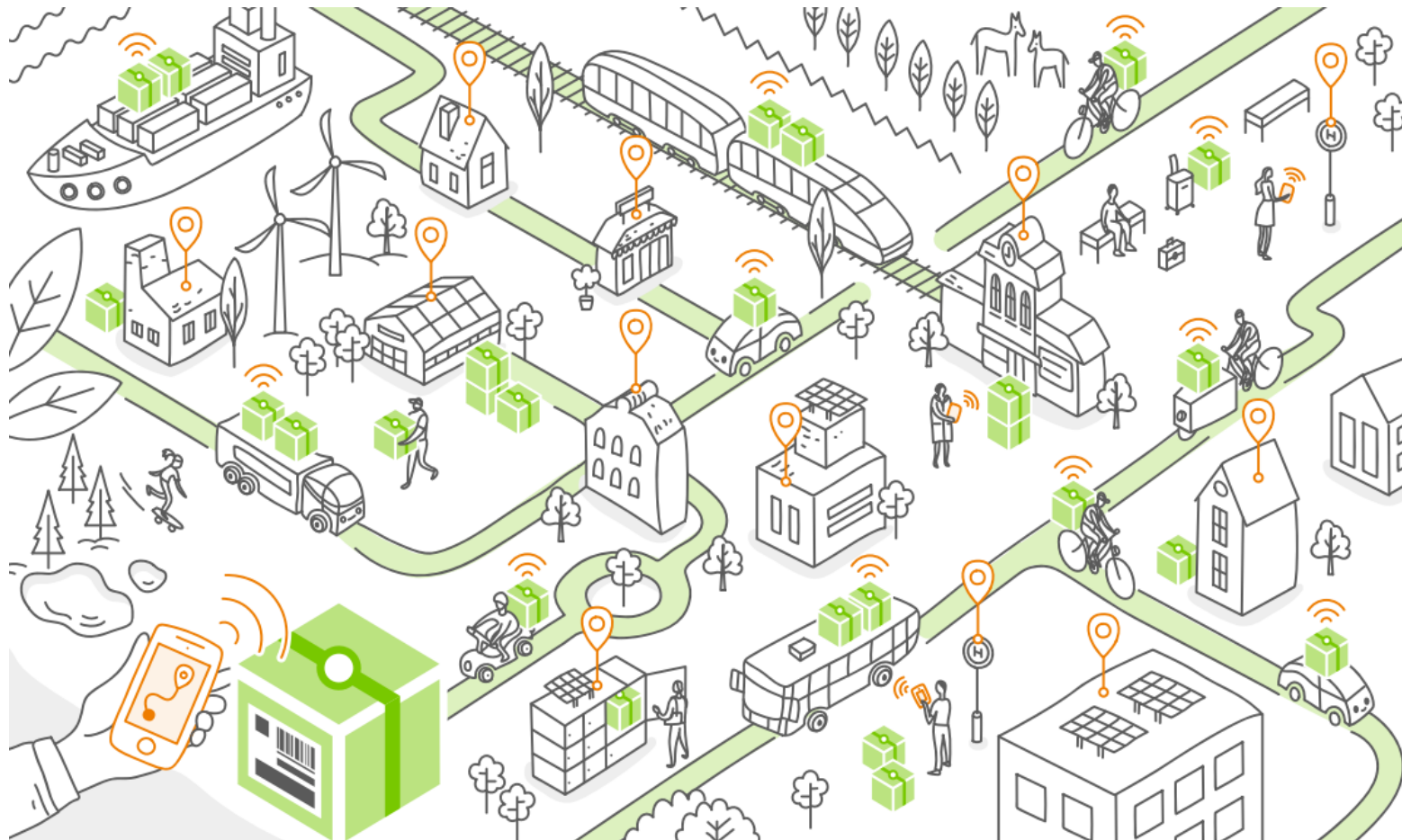
# Added value

FOR COMPANIES & ENTERPRISES USING THE CARGOSURFER

- **For the sender**
  - Transparent overview of spare capacities (in realtime)
  - Reduction of administrative work
- **For the providers of free transport capacity**
  - Additional contribution to reduce own transportation costs
- **For the MicroHub operators**
  - Increase customer visits (Example: Corner Shop)
  - Improve utilisation of own storage space (Example: Logistics Service Provider)
- **For the consignees**
  - Improved delivery options – amenities

# CargoSurfer is online...

[WWW.CARGOSURFER.EU](http://WWW.CARGOSURFER.EU)



- Project
- Project partner
- FAQ
- News
- Contact
- Information in English

# Contact

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