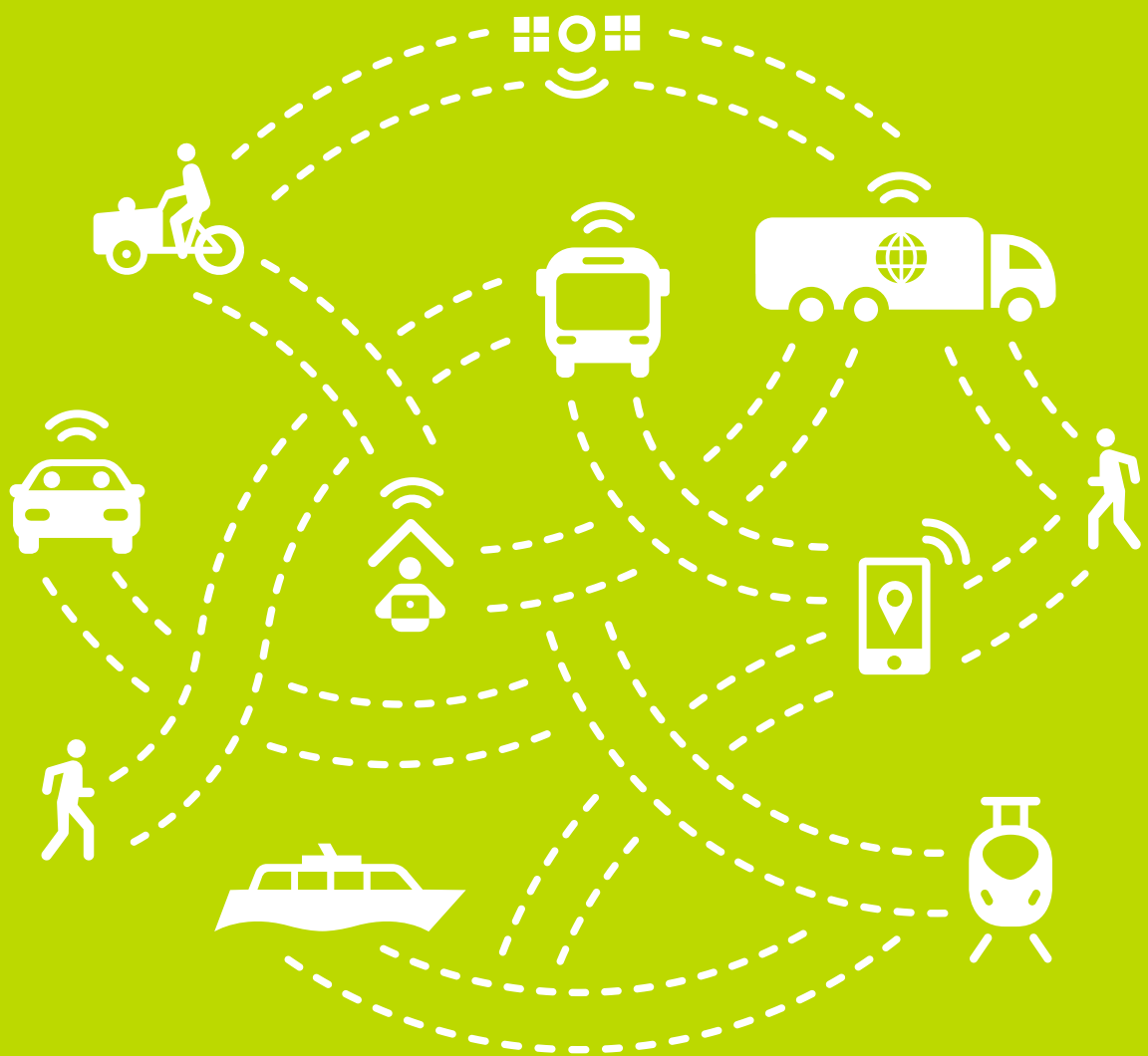
smart transport

Together. Connected. Mobile.



deutscher mobilitätspreis

Content

“The corona pandemic is an opportunity: it promotes innovative ideas and accelerates technological progress – including in the field of digital transformation and connectivity. In the mobility sector, in particular, digital connectivity presents enormous opportunities. We would like to strengthen public awareness of this. With the German Mobility Award, we therefore honour projects and ideas that push forward digital connectivity and enable real innovation.”

Andreas Scheuer MdB
Member of the German Bundestag Federal Minister of Transport and Digital Infrastructure
Patron of the German Mobility Award

Opening address

Tiny viruses, large effect: the coronavirus has turned our everyday life upside down, has forced us to give up habits and has brought our mobility almost to a standstill. Suddenly, we have had to deal with questions such as: How can we best protect ourselves against infection? How can we safeguard the supply of medicines and food? How can we maintain the stable transport of passengers and freight?

In search of answers, we have had to change our habitual ways of doing things, think differently, adapt to the new situation – and be inventive in many areas. This creates scope for new thinking, promotes innovative ideas and accelerates technological progress. Digital transformation and connectivity have already been of great service to us during the crisis and have made working from home, web conferences, homeschooling or keeping in touch with family and friends possible.

Digital connectivity also provides enormous opportunities in the mobility sector. We would like to strengthen public awareness of this. Together with "Germany – Land of Ideas" as well as our partners Deutsche Bahn and the Association of German Transport Companies, we thus decided that the slogan for this year's Award will be "Smart transport: Together. Connected. Mobile".

Many companies, start-ups and research institutions in our country have already discovered many and varied opportunities of digital connectivity for future mobility – and are implementing them in innovative projects. The swarm intelligence of connected mobility, for instance, is used to optimize traffic flows in agglomerations. Another example is the development of mobility platforms that bring together supply and demand in freight transport and logistics. This allows an optimum utilization of capacities and avoids empty runs. Connected and digital services in passenger and freight transport enhance the efficiency and reliability of our mobility system. The available data make it possible to interlink tailored services and create multimodal mobility chains in real time. Connectivity not only creates innovative solutions but also opens up new perspectives and widens horizons beyond industry boundaries. Because the development of applications beyond the respective field of competence works best with the right partner.

This is the fifth round of the German Mobility Award. Every year, I am time and again impressed by the innovative capacity, creativity and courage to think in visionary ways of all participants in the competition. They are pioneers and lay the foundations on which our country can build for the mobility of tomorrow. Thank you very much for this great commitment. I would like to express my warmest congratulations to the winners of the 2020 German Mobility Award. I wish you all the best and hope that you will continue to come up with so many great ideas. Keep up the good work.

I hope you very much enjoy reading this publication.

Andreas Scheuer
Member of the German Bundestag
Federal Minister of Transport and Digital Infrastructure
Patron of the German Mobility Award

Preface

Dear Readers,

Most of you would surely agree with me when I say: What a rollercoaster ride we have had this year. And what a test for mobility, as well. Rarely in the past have we experienced so intensely how essential, efficient, and safe mobility is for our society – and for our economy. Seldom were the requirements so complex. We were particularly keen to announce the German Mobility Award 2020 because of the importance of developing innovative solutions for the current and future challenges facing our country.

Together with the Federal Ministry of Transport and Digital Infrastructure (BMVI) we are proud to reflect upon four successful rounds of the German Mobility Award. The focus of this year's competition is on various aspects of connectivity. The need to take into account the experience of the corona pandemic was clear from the outset.

In these uncertain times, no one could have predicted the outcome: We received over 300 best-practice submissions from across Germany, the second-largest number of applicants in the competition's history. Ten of these advanced to the ranks of award winners. Starting on page 12, you can find out which projects rose above strong competition.

Inspired by the high caliber of applicants, we unanimously decided to award, for the first time, a special prize to a project that excels in its outstanding civic commitment. Learn who the winner is on page 34/35.

The ideas competition of the Mobility Award was open to all German citizens. Under the motto "Crisis as opportunity: Together. Connected. Mobile", we looked for creative conceptual pitches and innovative ideas. Discover the three winning ideas on page 36.

What expectations do Germans have for connected mobility? And how has the Corona pandemic influenced Germans' mobility behavior? We conducted a survey with the forsa institute to find out. The results can be found on page 10/11.

Of course, nobody knows with certainty whether or not we will have to prepare for the kind of periodic disruptions we observed this year. But I can say, and with the greatest confidence, that Germany is and will remain a country of ideas, of innovators, and of creative minds. The future of mobility is in very good hands.

In this spirit, let the following pages inspire you!

Sincerely,

Ute E. Weiland
CEO, "Germany – Land of Ideas"

German Mobility Award 2016–2020

The innovation competition was launched in 2016. In each competition year, innovations and ideas relating to a key topic of intelligent mobility are awarded in two phases.

2016: Participation

In 2016, the German Mobility Award premieres innovative ideas and projects that promote the digital transformation of mobility in a way benefiting everyone and enabling them to participate in social life.

2017: Safety

Being mobile poses fewer risks than ever before – but how can digital innovations ensure that the risks of mobility continue to decrease in the future?

2018: Sustainability

The focus is on the question of how our mobility can become even more efficient, clean, and sustainable in the future.

2019: Equal living conditions

The competition awards prizes for innovative ideas and projects that use opportunities offered by digitalization to connect living environments and enable participation in society.

2020: Connectivity

The motto for the German Mobility Award 2020 is "Smart travel: Together. Connected. Mobile." It aims to show how intelligent connectivity helps make mobility even safer, more efficient, and more sustainable.

2021

Connected mobility offers innovative alternatives for efficient, safe, demand-oriented mobility. We asked people from a range of backgrounds what they expect from connected mobility.

Statements about the competition

"I wish for a new basic understandig for life in urban areas: flexible, temporary, nomadic."

Jonas Schorr, Co-Founder, Urban Impact

"I hope connected mobility raises inclusion to a new level."

Kristina Vogel, former German track cyclist, two-time Olympic champion, three-time world champion

"I would like to see connected mobility produce cars that finally drive smarter than their drivers."

Prof. Dr. Philipp Bouteiller, Managing Director, Tegel Projekt GmbH

"I hope that connected mobility ushers in the emission-free conquest of the third dimension in cities. Intersection-free elevated- and cable cars and passenger drones could quickly and efficiently supplement the public transportation system and relieve the ever-tightening space on and below ground."

Thomas Willemeit, architect, GRAFT

"I would like to see additional increases in efficiency through the connectivity of all modes of transport – also for the benefit of the environment."

Axel Plaß, President, Bundesverband Spedition und Logistik (DSLV)

"What I would like to see from connected mobility: less traffic and less space taken up by vehicles."

Prof. Dr. Richard David Precht, philosopher and author

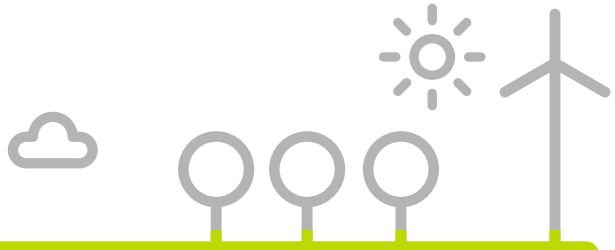
"I want to see connected mobility connect EVERYONE: Young and old, healthy and handicapped, urban and rural, and to offer everyone a choice in designing their own paths, perhaps even freeing us from privately owned cars."

Katja Diehl, She Drives Mobility

Survey: Trends in mobility

How is Corona changing mobility in Germany? What expectations do Germans have when they are asked about the potential of connected mobility? And do people in this country feel secure when it comes to protecting their own data? Answers are provided by a representative survey commissioned by the initiative "Germany – Land of Ideas," which the forsa institute conducted in July–August 2020.

Where do you see the potential of connected mobility[1]?



71% in increased efficiency, e. g. fewer solo trips or saving time on daily routes

69% in improved traffic safety

67% in optimized on-demand mobility

57% in contributing to sustainability / climate protection goals

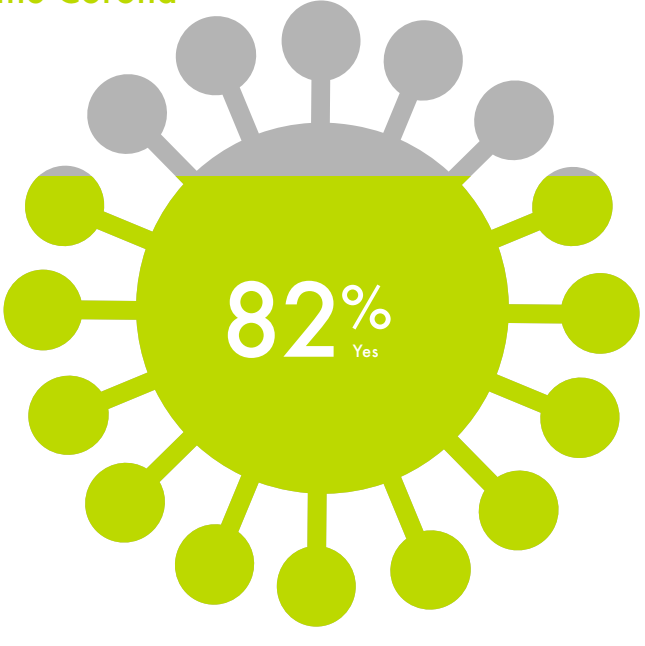
70% city sizes: under 20,000 inhabitants

47% city sizes: over 500,000 inhabitants

70% 18–29 year olds

55% over 60 years

All in all, did you travel less frequently due to the Corona pandemic?



84% western German respondents

68% eastern German respondents

93% 18–29 year olds

77% 30–44 year olds

Commissioned by "Germany – Land of Ideas", forsa Politik- und Sozialforschung GmbH conducted a representative survey for the German Mobility Award 2020. In the course of the survey, a total of 1008 men and women age 18 and over – selected via a systematically randomized method – were interviewed in the Federal Republic of Germany. The survey was conducted from July 31 to August 5, 2020, using computer-assisted telephone interviews.[2]

Considering the Corona pandemic, do you plan to change your mobility behavior in the next six months?

Do you want to cycle more often?

35% Yes

Do you want to drive more often?

16% No

53% Unchanged

21% Yes

The distribution is telling: younger people tend to drive a car; older people tend to ride a bike.

Do you want to use public transportation?

respondents aged 18–29

37% responded Yes

respondents over age 60

35% responded Yes

Do you use car-sharing- or carpooling offers?

Sharing

84% responded No

Car-Pooling

86% responded No

Have you ever been concerned that your data has been used improperly or fraudulently in any of the following cases?

Online shopping

82% responded Yes

89% 18–29 year olds

Public space

61% responded No

49% 18–29 year olds

65% over 60 years

Navigation apps on mobile devices

50% responded Yes

65% 18–29 year olds

45% over 60 years

On-board computer

75% responded No

1 The results obtained from this survey may be applied to the entire adult population in Germany with the error tolerances permitted in all sample surveys (in this case, +/-3 percentage points).

2 Connected mobility refers to the technical development and integration of information- and communication systems in vehicles so that vehicles can be connected to each other and to the traffic infrastructure.

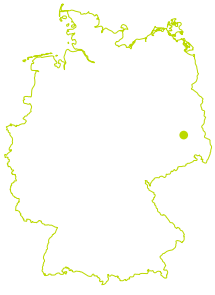
Winners 2020
Best Practice

In the competition's best-practice section, awards go to ten innovative flagship projects that use the potential of digital connectivity for the future of mobility.

The competition was open to Germany-based companies, start-ups, cities and municipalities, and universities and research institutions.

App speeds up train dispatching procedures from A to Z

With the prize-winning app, procedures to prepare train departure can be completed right next to the train without paperwork. To do so, the app uses all data from the electronic wagon order.



Initiator
ZEDAS GmbH, Senftenberg (Brandenburg)

Website
www.zedas.com/de

Project description

Railway undertakings and railway infrastructure companies are faced with great challenges: Cost pressure and fierce competition, digital transformation, shortage of skilled labour, documentation requirements and verification. With the zedas®cargo solution, logistics management in rail freight is digitalised, automated and analysed. With the Train Check app, procedures to prepare train departure can be completed right next to the train without paperwork.

Moreover, the project makes it possible to enter and forward information on damaged wagons on mobile devices: If, during inspection, the train preparer detects damages on a wagon, this is documented and the wagon keeper is informed. In addition, the app automatically identifies possible brake positions, calculates the brake weight and takes the path requirements into account. The solution also offers the digitalization of the processes between railway undertakings and railway infrastructure companies: Before the train can depart, it must be registered with its wagon data with the infrastructure manager. The interfaces for automatic data transfer are already integrated in the solution.

Good to know

- From ZEDAS, nine staff members from consulting, software development and quality management were involved in the project, in addition to the staff of our client, of course.
- In 2018, we started planning the app and laying down the specifications for it, together with our client. In 2019, we implemented the idea.

Further information
www.german-mobility-award.com/app-speeds-up-train-dispatching

Interview with
Marcel Lehmann

Senior Business Consultant, ZEDAS GmbH

How did you come up with the idea for your project?
Our aim is to continuously improve logistics management. With this app, we have completed our logistics management software for rail freight. Thus, a further piece of the jigsaw has been digitalized and integrated into the ongoing flow of information.
One of our Swiss clients was the co-initiator for the implementation. He was in need of a mobile solution that enables digital train dispatching services directly on the ground and thus helps to save time and costs.

What challenges did you face during implementation?
The greatest challenge was to give a clear and platform-independent overview, on a smartphone display, of the wealth of information required by the wagon inspector to check the trains. Not being a stand-alone app, but an element of the large zedas®cargo system, the app had to be linked up accordingly. For example, the data from the wagon order are used for all subsequent steps. All staff members can thus easily document processes and all the information can be accessed at the train control centre in real-time.

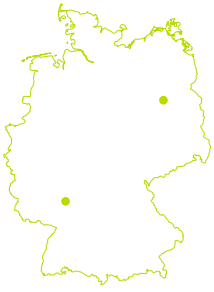
Where do you see your project in five years?
We believe that our app will be widely used as it will help to considerably speed up and simplify a very time-consuming task in rail freight. The app for train inspections will significantly reduce the railway undertaking staff's workload – both on the ground and at the train control centre – by automating recurring manual tasks, such as performing brake calculation and preparing mandatory documents.

What is your advice for others who have a good idea and want to translate it into action?
We live in the "Land of Ideas" – innovative solutions must be brought to life in order to contribute to shaping the world of tomorrow. Therefore, our advice is: DO IT!

> We want to digitalize, future-proof and revolutionize the rail processes of this world because it is in our DNA. With the prize-winning application, the Train Check, we have now tackled another element of logistics management and integrated it into the digital chain.
>
> Marcel Lehmann, Senior Business Consultant, ZEDAS GmbH

Carré Mobility

Carré Mobility offers smart mobility services provided by and for the neighbourhood community.



Initiatoren
Carré Mobility GmbH
(Berlin and Rüsselsheim/Main, Hesse)

Website
www.carre-mobility.de

Project description

Carré Mobility connects the inhabitants of a neighbourhood with their destinations and needs, offers different vehicles for differing mobility needs and takes the whole product range of shops conveniently to the customer's home: spontaneously, transparently and via one single platform. Carré Mobility users can see which mobility services are available in their immediate surroundings (their quarter) and can also make different mobility-related requests in the community. Carré Mobility distinguishes between the following three categories of services: delivery services, ridesharing services and general sharing services. Via sharing services, commercial sharing vehicles (for example cargo bikes, electric scooters, electric cars, etc.) or communally used private vehicles available in the neighbourhood can be booked for journeys. The delivery service enables inhabitants to select everyday goods from the product range of local shops and consolidate them in a digital shopping list using the Carré Mobility platform.

The result is a marketplace for the neighbourhood where all residents and local shops can benefit from using the platform. In times of COVID-19, in particular, the platform offers a solution for protecting at-risk groups while supplying them with vital everyday goods.

Good to know

- The organization was founded in 2019. Since then, the growing team, which today consists of 13 mobility and Carré enthusiasts, has been working with different intensity on realizing its vision of sustainable and social mobility in residential neighbourhoods.
- Carré has multiple meanings: 1. care (in the sense of looking after each other) 2. Carrée (in the sense of a quarter), 3. Car-e (electric car) as well as 4. Karre (German slang for car)
- The project collaborates with many and varied partners: h3ko, Mobileeeee, NIU / super socco, noca, GoUrban, Velo City, local partners from the housing industry (gewobau, GBG Mannheim etc.), municipal authorities (e.g. city of Rüsselsheim), Science (Frankfurt University of Applied Sciences) as well as local players/initiatives (e.g. insel-projekt.berlin, BVMW). Julian Rowley, who as a generator of ideas had already been awarded first prize of the German Mobility Award in 2017, has been part of the team from the very beginning. He has been avidly supporting Carré Mobility as an advisor since its foundation.

Further information
www.german-mobility-award.com/carremobility

Interview with
Franziska Weiser

Founder and CEO, Carré Mobility UG

How did you come up with the idea for your project?
The project was born from my passion for the "mobility of the future" and the lessons I learned as an inhabitant of a multi-party house in Rüsselsheim. Irregular local public transport services, very few sharing schemes and gaps in the supply of everyday goods are challenges facing my quarter. Particularly in case of illness or for older people, a convenient supply of goods is difficult for anyone without a car of their own. By bringing together the ingredients of municipal cohesion, sharing services and platform technology, we want to achieve improvements for quarters like ours.

What challenges did you face during implementation?
We are living in a world of information overflow. A challenge we had to overcome was to break down relevant information and business features to make it easier to convince residents and business people of our idea. After this learning effect, we changed our approach. Now we always start with one feature only and build up further features together with residents and business people.

Where do you see your project in five years?
In five years, there will be many neighbourhoods across Germany strengthened by Carré Mobility, where residents support each other through mobility and are directly connected with local businesses. All neighbourhoods offer an individually tailored range of mobility services but are also linked up at a higher level through the standardized Carré Mobility platform. This is how we want to make a contribution to a transparent and sustainable community where everyone learns from the others.

Was raten Sie anderen Menschen, die eine gute Idee haben und sie in die Tat umsetzen wollen?
Challenge and discuss your idea, the MVP, the first product, with as many people as possible – ideally with people you trust and who have different backgrounds. Take the feedback seriously and steadily work on improving your approach. Look for people who believe in your idea and work together to realize the vision – the way is even harder if you are alone.

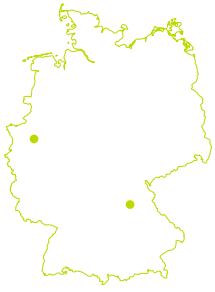
"By opening up new ways and offering new, sustainable mobility, Carré Mobility has the potential to connect people from Mierendorff-INSEL with each other and with local businesses. This can be an important contribution to building up a community across generations, ensuring the security of supply and promoting sustainability."

Rolf Mienkus, Managing Director, insel-projekt.berlin UG

The RRX

digital and optimally linked up

An intelligent maintenance and repair system extends the life cycles of Rhine-Ruhr express trains and thus improves services for passengers.



Initiator
Siemens Mobility GmbH Erlangen (Bavaria) und Dortmund (Northrhine-Westphalia)

Website
www.mobility.siemens.com/global/en.html

Project description

Since 2018, the operators of the Rhine-Ruhr Express (RRX) have been following a new approach for safeguarding their mobility services. They rely not only on Siemens trains of the Desiro HC type but also on intelligent maintenance and repair. The works are controlled via a platform developed by Siemens and are realized in an intelligent maintenance depot in Dortmund.

For this purpose, the 84 RRX trains deployed include a number of sensors that continuously send status data to the maintenance depot. This makes it possible to take measures and provide spare parts in advance. The problem can then be fixed quickly and smoothly as soon as the train arrives. In addition, calculated on the basis of the amount of work that is to be done, skilled workers are deployed so that the trains will be available for passengers on time the next day. Siemens Mobility thus ensures an availability rate of 99 percent and has been able to report significant improvements in punctuality.

Good to know

- The Rhine-Ruhr region with its around 10 million inhabitants and numerous transit lines is one of the largest agglomerations in Europe.
- For the RRX project, Siemens Mobility has developed its own platform that is used to realize this digitalized maintenance format.
- Since 2018, 77 trains have been handed over and maintained.

Further information
www.german-mobility-award.com/the-rxx

Interview with Stefan Hahn and Sascha Guth

Head of Customer Service Rolling Stock, Siemens Mobility GmbH

How did you come up with the idea for your project?
The idea was to develop rolling stock that can be easily maintained and is energy efficient, offering benefits in terms of sustainability to customers, manufacturers and also the environment. Account was taken of all mechanical issues (lightweight design, aerodynamics) and energy consumption, and full use was made of digital connectivity with the individual systems. As a result, information on the condition of components can already be obtained while the train is moving and optimum use can be made of maintenance times and availabilities.

What challenges did you face during implementation?
We faced a large number of challenges. On the one hand, we had to develop the rolling stock by the required deadline and to the agreed specifications, on the other hand we had to complete the construction of the depot including the complete digital connectivity with the trains – both at the same time – to guarantee the punctual start of operations. And we had to comply with the requirement to design, for the first time ever, trains with such an intensive IT connection to the landside and to create a benefit for manufacturers, operators and passengers.

Where do you see your project in five years?
In five years, the developed, connected and digitalized maintenance system will guarantee stable, punctual and comfortable train operations and be a standard for future projects. The issue of digital, optimized services will have been evolved to raise comfort in the trains to the next level.

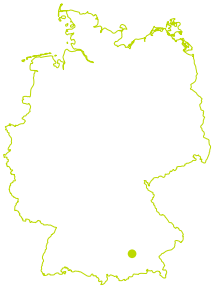
What is your advice for others who have a good idea and want to translate it into action?
Just do it!!! Do not allow your own doubts to distract you. Carefully consider the market requirements, question the benefit, pursue your goal with motivation and convince others of your idea.

> "Thanks to innovative solutions focusing on sustainability, availability and passenger comfort, the RRX is not only a means of locomotion but also much more – a travelling experience. A train with a feel-good factor."
>
> Janina Schreiber, Subproject Manager RRX, Siemens Mobility

Fernride

A driverless future through teleoperation

With its teleoperations solution, Fernride makes it possible for driverless vehicles to be a reality today.



Initiator
Fernride GmbH, Munich (Bavaria)

Website
www.fernride.com

Project description

Fernride is developing a teleoperations platform with which driverless vehicle fleets can be remotely controlled by human teleoperators over long distances, including across national borders, via the mobile communications network. This means that the potential inherent in driverless means of freight transport and mobility is already being harnessed today. The teleoperations platform can be integrated into any vehicle (from forklift trucks through shuttle buses to heavy goods vehicles). One of its major features is a first-class human-machine interface, which enables the teleoperators to master even complex scenarios. User experience for the teleoperator is the crucial factor for safe and efficient remote control and is thus the principal focus for Fernrider's developers, in order to ensure that the teleoperators have optimum situation awareness.

Critical fundamental functional modules, which distinguish Fernride's solution, are additionally a reliable connectivity plus cyber security and functional safety in automotive quality (complying with ISO 26262), in order to ensure safe remote control even in the most difficult situations and environments.

Good to know

- Fernride was founded by Hendrik Kramer, Maximilian Fisser and Jean-Michael Georg in 2019 and already has a staff of 20.
- Teleoperation is the remote control of driverless vehicles via the mobile communications network over long distances. Driverless shuttle buses, remotely controlled by Fernride's teleoperators from Munich, are already in operation today in Estonia.
- Fernride's teleoperations technology is based on ten years of research at Munich University of Technology.
- Alongside functional safety and cyber security, the centrepiece of the technology is the sophisticated human-machine interface, which was developed on the principles of human-centred design and enables the efficient and stress-reduced teleoperation of vehicles.

Further information
www.german-mobility-award.com/fernride

Interview with
Hendrik Kramer

Co-Founder and CEO, Fernride GmbH

How did you come up with the idea for your project?
For the past five years, Jean-Michael Georg has been writing his doctoral thesis on the subject of teleoperation. The automotive engineering experts in his department realized at an early stage that teleoperation would make it possible to unlock the potential inherent in driverless means of freight transport and mobility independently of the development of autonomous technologies. In 2019, he joined up with Hendrik Kramer und Maximilian Fisser, and together, they decided to found a start-up out of the research, Fernride, and make vehicles driverless today.

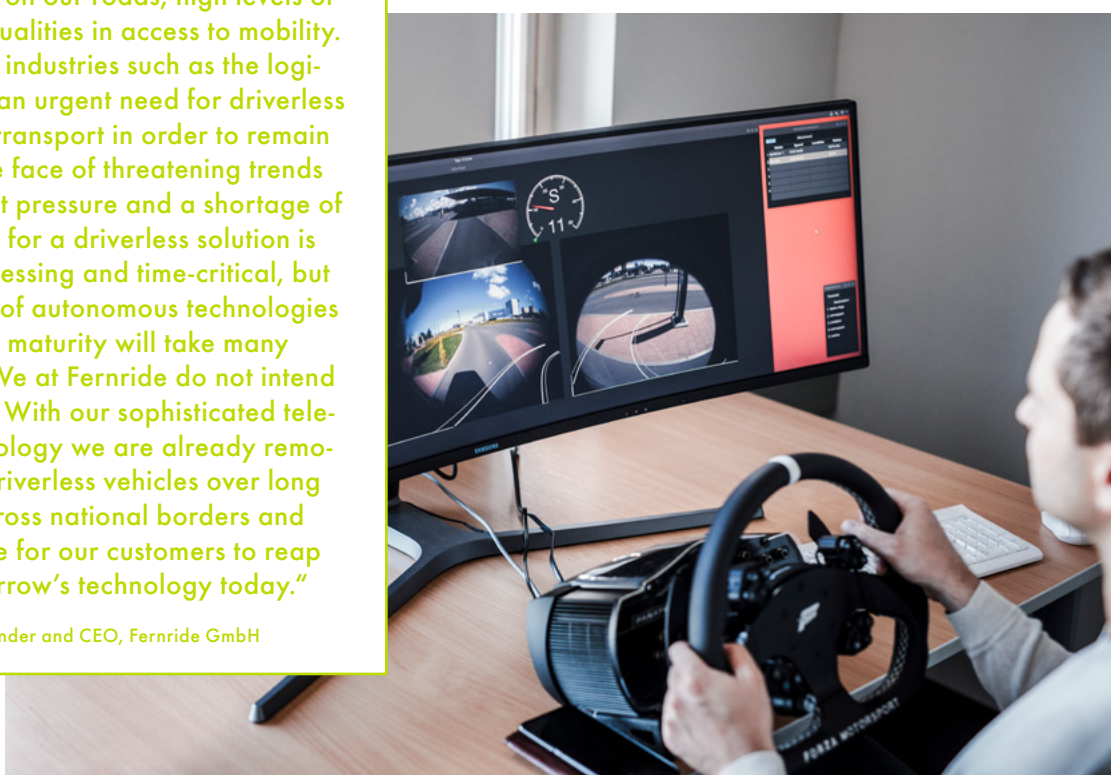
What challenges did you face during implementation?
There are thousands of possible use cases for our teleoperations platform – from yard logistics through autonomous shuttle buses to small delivery robots. Because of the high level of complexity, we have to evaluate, for each use case, what technological developments are necessary for implementation, what safety requirements have to be met and what costs will be incurred.
Another challenge we face is finding, among the numerous possible fields of application for teleoperation, the ideal use case that will get Fernride up and running as quickly as possible (strategically) and at the same time as appropriately as possible (in the long run).

Where do you see your project in five years?
In five years' time, Fernride will be operating large driverless fleets on private sites, such as logistics and factory sites but also universities, and the first vehicles controlled by Fernride will also be deployed on public roads.

What is your advice for others who have a good idea and want to translate it into action?
Assemble a team whose members complement one another and prepare yourselves for a fascinating time. Because the time you have will be limited, it is absolutely essential, especially at the start, that you set clear priorities and focus squarely on the project and one thematic area (while also knowing why you are focusing on this very niche and not on another). And then you need to demonstrate stamina and conduct tests with potential customers and users as early as possible.

"The technology of autonomous driving justifiably fascinates many people. Driverless vehicles have the potential to solve some of the greatest problems facing humanity, such as serious accidents on our roads, high levels of emissions or inequalities in access to mobility. In addition, huge industries such as the logistics sector have an urgent need for driverless means of freight transport in order to remain competitive in the face of threatening trends such as rising cost pressure and a shortage of drivers. The need for a driverless solution is thus extremely pressing and time-critical, but the development of autonomous technologies up to commercial maturity will take many more years yet. We at Fernride do not intend to wait that long. With our sophisticated teleoperations technology we are already remotely controlling driverless vehicles over long distances and across national borders and making it possible for our customers to reap the fruits of tomorrow's technology today."

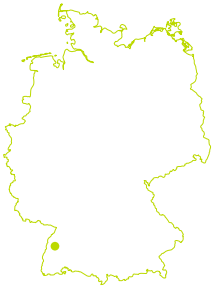
Hendrik Kramer, Co-Founder and CEO, Fernride GmbH



h-aero

Rotate. Float. Fly.

An innovative hybrid aircraft combines the advantages of a drone and a balloon to enable versatile and safe operations



Initiator
Hybrid-Airplane Technologies GmbH,
Baden-Baden (Baden-Wuerttemberg)

Website
www.h-aero.com

Project description

h-aero is a hybrid airplane that, as an LTA-UAV (lighter than air unmanned air vehicle), for the first time combines the proven physical flight principles (airplane, helicopter, airship) and minimizes energy consumption by combining static and dynamic uplift. The unique technological feature position of all current h-aeros is illustrated by the fact that nobody else in the world is able to make smaller LTA-UAVs fly. The secret is an extremely lightweight construction and the knowledge of design algorithms for a clever system layout. h-aeros differ from drones in having significantly longer operating times and very low levels of acoustic and electromagnetic signatures.

They can be deployed in many and varied fields – from aerial advertising through nature and earth observation to the mapping of areas or the exploration of inaccessible areas. h-aeros include a wide range of special sensors and technology and communicate via 4G/5G satellites. A h-aero is thus a floating cybernetic robot for aerial data collection. In addition, the systems are so safe that they have received a safety certificate to fly indoors over crowds of people.

The development potential of h-aeros does not end with the current product family. It is restricted neither in terms of dimension, load-carrying capacity or velocity nor in the altitude it can reach.

Good to know

- Hybrid-Airplane Technologies GmbH was founded by Dr Csaba Singer in 2016 as a Stuttgart University spin-off.
- The company works mainly with freelancers who support the company with their enthusiasm.
- It was not founded in a garage but in the head of its founder, accompanied by the practical work and collective skills, knowledge and encouragement of his co-workers.

Further information
www.german-mobility-award.com/h-aero

Interview with
Dr.-Ing. Csaba Singer

CEO, CTO and Co-Founder, Hybrid-Airplane Technologies GmbH

How did you come up with the idea for your project?
The origin of my idea was that I was dreaming of energy-efficient flying that uses the static uplift provided by helium. But, in contrast to an airship, I wanted to make use of the dynamic uplift, too, and the vehicle should be incomparably agile. The idea of giving the h-aero family its characteristic lentoid shape was thus born.

What challenges did you face during implementation?
In addition to the parameterization of the algorithms for the design of the aircraft, another great challenge was to develop a lightweight technology that not only limits the weight of the bearing structures but also gives them high stability and makes it possible to carry relatively large masses.

Where do you see your project in five years?
That is difficult to predict, but the more sustainable and more environmentally friendly the better. Our focus is on agricultural as well as industrial inspections such as the observation of forest areas to prevent fires or the overflying of industrial plants with thermal cameras to detect heat leakages. Being able to fly over crowds was of course an important factor for the event sector – and we hope this will be the case again in the future. But the potential fields of application are more numerous than we can imagine. We thus need to listen to our clients who inform us about their needs and wishes. We will then create the solution.

What is your advice for others who have a good idea and want to translate it into action?
You will not know if an idea is really good until you try to realize it. Erich Kästner once said: "There is nothing good unless you do it." This is also true for entrepreneurial ideas, which will only find their way into life through entrepreneurial action. The way is hard and includes an endless loop of ideas, testing, learning – and a new idea. But what could be better than mastering the numerous challenges – against all statistical probabilities of a start-up?

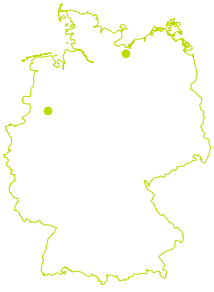
"I haven't come across many start-ups that are such a good example of the term "lean start-up" as HAT. With a minimum use of funds, this company was able to bring a totally new category of aircraft to the market that outperforms all designs that have so far been presented by large international aerospace companies with much fanfare."

Paul Holger Brée, CFO, Hybrid-Airplane Technologies GmbH (HAT)

HubChain

Linking-up of on-demand shuttles and scheduled local public transport

With Hubchain, a flexible, demand-oriented (autonomous) on-demand mobility offer is intelligently linked with the existing, regular scheduled service in order to better develop suburban and rural areas.



Initiator
Osnabrück Municipal Utilities (Lower Saxony) and Kompetenzzentrum ländliche Mobilität (KOMOB), Wismar (Mecklenburg Western Pomerania)

Website
www.hubchain.de
www.stadtwerke-osnabrueck.de
www.elli-bus.de

Project description

To implement an intermodal mobility strategy of scheduled services and on-demand shuttles, HubChain aims to develop and test software that dovetails these two transport operations, taking account of accessibility. For this purpose, many intermodal mobility conflicts between large regions and trunk roads in rural areas have been evaluated. In addition, strategies for digital solutions for ordering, dispatching and passenger consolidation have been developed and, in some cases, already programmed.

In concrete terms, this means: scheduled services and on-demand services have to be linked up in real time. Apps have been developed for passengers to plan and book their intermodal travel chain of on-demand shuttle and scheduled services without any waiting times. For the operator of on-demand services, digital solutions were designed that enable intelligent, demand-driven and efficient fleet management.

The HubChain project has implemented this mobility scenario at two sites, programmed two variants of the required software and trialled it in the Osnabrück region (HUBI, with autonomous shuttles) and the Elde source region in Mecklenburg-Western Pomerania (ELLI, with electric vans and volunteer drivers).

Good to know

- The project is being implemented by a consortium consisting of Osnabrück Municipal Utilities, the Wismar Centre of Excellence on Rural Mobility (KOMOB), the German Aerospace Centre, HAKON GmbH, the Institute for Climate Protection, Energy and Mobility (IKEM) and Dornier Consult.
- The project includes test beds on the outskirts of Osnabrück, the rural town of Bad Essen and the peripheral rural areas of the Röbel district, Mecklenburg, Lake District.
- In 2020, HubChain won the 2020 Real-World Laboratory Innovation Award of the Federal Ministry for Economic Affairs and Energy.

Further information
www.german-mobility-award.com/hubchain

Interview with
Udo Onnen-Weber

Project Manager, KOMOB

and Werner Linnenbrink

Head of Mobility Services, Stadtwerke Osnabrück

How did you come up with the idea for your project?
Onnen-Weber: Osnabrück Municipal Utilities and KOMOB have been working together for many years. The intermodality of small shuttles and express buses has been the fundamental idea for new mobility in rural areas already for a long time. However, this will not work without digital solutions. The result was the HubChain idea, where operations management as well as user communication should respond to these challenges.

> "In order to encourage more people to use public transport, the service must be more flexible, more individual and better connected. This can be achieved by intelligently integrating on-demand services into the public transport system."
>
> Werner Linnenbrink, Head of Mobility Services, Osnabrück Municipal Utilities

What challenges did you face during implementation?
Linnenbrink: In Osnabrück, we tested the new on-demand service with the autonomous shuttle called "Hubi". The challenge on the software side was above all the integration of interfaces to the vehicle. In addition, pioneering work was required to overcome obstacles in terms of approval law.
Onnen-Weber: System requirements and digitalization had to be brought into line. This meant that we had to develop a completely new intermodal local public transport system, identify the logistical control systems for it and then programme a digital solution.

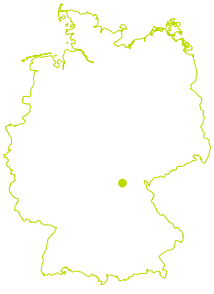
Where do you see your project in five years?
Linnenbrink: In 5 years, we will have intelligently integrated on-demand traffic into our public transport service system and our mobility platform in the Osnabrück area. New autonomous vehicle concepts and standardized approval procedures will then allow for extended deployment scenarios of autonomous shuttle services in public transport.

What is your advice for others who have a good idea and want to translate it into action?
Onnen-Weber: Just do it. Allow yourself to make mistakes and learn from them. There is enough funding. And don't think in outdated structures. Think in new ways.

Smart pedestrian traffic light

Perception-based, smart traffic light control

Perception-based and contactless traffic light control helps to prevent larger gatherings of people in the waiting area at pedestrian traffic lights.



Initiator
Valeo Schalter und Sensoren GmbH, Kronach (Bavaria)

Website
www.valeo.com

Project description

Smart traffic light control can help to support smart distancing and promote intelligent mobility as well as to enhance the attractiveness of certain means of transport. Sensors from the automotive sector are used here for identifying and classifying objects with the help of AI algorithms. For this purpose, the sensors are installed on traffic lights or in their immediate vicinity in order to detect whether and, if so, how many persons are waiting at a traffic light or whether a group of persons is moving towards a traffic light and a critical number of persons in the waiting area might be exceeded. In this case, the phasing of the traffic light can be modified to prevent too many persons from gathering there.

For pedestrians waiting at the traffic light, the traffic light can also be controlled in this manner without manual activation by a pedestrian. Thus, an untraceable source of infection (the button pushed every day by a large number of persons) can be eliminated. Other road users in addition to pedestrians can be given priority. Cyclists, for example, would be a good target group, as they are overlooked or ignored by most current smart traffic light systems.

Good to know

- The idea for the project emerged from reflections on smart distancing. Whereas in many spheres of public life and in shops, compliance with minimum distances and maximum numbers of persons are ensured by markings or other precautions, no such arrangements are usually in place at traffic lights. Therefore, it frequently happens that larger groups of persons gather there and then stand in close proximity to each other, thus increasing the risk of diseases spreading.
- The project was launched in March 2020 in response to the coronavirus pandemic and initiated within the framework of a Valeo expert workshop. Subsequently, the planning was developed.
- Fun fact: Everybody spends two weeks of their life waiting at red traffic lights. (Source: Augsburger Allgemeine)

Further information
www.german-mobility-award.com/smart-pedestrian-traffic-light

Interview with
Johannes Petzold

Head of Research and Innovation Department, Valeo Schalter und Sensoren GmbH

How did you come up with the idea for your project?
The idea for the project emerged from reflections on smart distancing. During the pandemic, it has been possible to observe the minimum distance and other hygiene measures in many spheres of public life and in shops. It has also been possible to control the maximum number of persons accordingly. At traffic lights, however, larger numbers of persons may gather who then stand in close proximity to each other, thus increasing the risk of spreading diseases.

What challenges did you face during implementation?
The greatest challenges in the implementation have so far consisted of adapting the vehicle-specific sensors and algorithms to this new field of application. The issue here is traffic and the recognition of objects that are also of interest to vehicles. The ambient and installation conditions, however, are different. In addition, new and challenging tasks have to be addressed such as determining the distance between the pedestrians as accurately as possible, for example.

Where do you see your project in five years?
After the conceptual phase of our project idea, Valeo will approach established manufacturers of traffic lights and local authorities. Ideally, Valeo is planning to offer interested clients a comprehensive solution for smart traffic light systems for various applications that makes a contribution to tomorrow's intelligent mobility and takes into account the topic of smart distancing, for example.

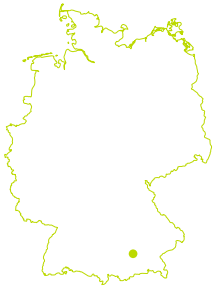
"With our idea for perception-based, smart traffic light phasing, we – the Valeo company – want to make a contribution to meaningful smart distancing during the corona pandemic by providing an innovative solution that can also bring added value by including further road users."

Dr. Maximilian Pöpperl, Team leader and Valeo Expert in Driving Assistance Research Germany, Valeo Germany

Upride

Cycling data for planning

With the help of a tracker, Upride collects cycle traffic data on the use and the state of the infrastructure as well as road safety data in order to support local authorities in the maintenance and future-proof planning of cycling infrastructure.



Initiator
betternotstealmybike UG,
Dachau (Bavaria)

Website
www.upride.io

Project description

To plan and maintain urban cycle tracks efficiently, a robust and reliable set of data is indispensable. In order to fill in the existing gaps in this set of data, the initiators of Upride have set themselves the following objective: By means of a cycling tracker developed specifically for this purpose, various data on traffic flow and identified danger spots, such as potholes or spots where swerve-to-avoid manoeuvres frequently occur, are collected.

In contrast to an app, the use of the tracker offers several advantages: On the one hand, it provides a maximum of user comfort for the cyclist and user because it automatically recognizes when a trip is started and ended. In comparison to other app solutions, this ensures permanent use and also includes the collection of data on relevant short distance trips. On the other hand, the tracker does not record any personal data as they are not relevant to data evaluation and traffic planning. It only focuses on the aspect of how safely, easily and fast a trip was completed.

With all of these data and results collected in a single process, planners are not only presented with a tool for developing and improving infrastructure in a targeted manner. It also provides a factual basis of argumentation that will help to bring more objectivity to the often emotional debate in this sector.

Good to know

- betternotstealmybike UG was established in 2018 after a hackathon.
- The partners of the project are Digital Hub Mobility in Munich as well as the City of Munich.
- The motto of the founders is: “Rather put your butt up in the air than your foot down to the floor.”

Further information
www.german-mobility-award.com/upride

Interview with
Steffen Linßen

CEO, betternotstealmybike UG

What challenges did you face during implementation?
For a young enterprise, the cooperation with local authorities is probably one of the greatest challenges. The procurement rules offer barely a chance to young start-ups to become involved in public projects. To make things worse, there is a considerable nationwide shortage of human and financial resources in cycling planning. However, we are slowly witnessing a change in thinking in the cities. Nevertheless, we consider it important to continue to fight for our vision.

Where do you see your project in five years?
In five years we see ourselves as an important provider of cycle traffic data and their analysis. At the same time, however, we also want to be a service provider for the local authorities, collecting cycle traffic data together with the public. By doing so, we want to support local authorities and planners in planning new infrastructure fairly but also transparently and efficiently and to provide, with our data, objective arguments for this planning.

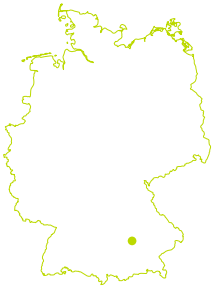
What is your advice for others who have a good idea and want to translate it into action?
In short: You can do it! In Germany, there are so many different possibilities with regard to funding and knowledge promotion. If you believe in your idea and stand up for it, you will get the support you need. Every day, you get to know new and exciting things and people and you grow with your project. And there is another aspect: It's just so much fun to work towards a joint objective with a motivated team, to see the progress, to learn from mistakes and to discover something new every day.

"Data are becoming increasingly important in traffic planning, including and especially in cycling. Innovative approaches to obtaining such data give us more possibilities – in planning, but also in our line of argument with the public authorities, government and the general public."

Gernot Steinberg, Dipl.-Ing., Managing Director, Planersocietät

VirtualCity@FMS

VirtualCity@FMS is a holistic software for the visualization and simulation of mobility strategies and transport priorities. It can be used to visualize and evaluate both visionary scenarios as well as detailed cases of application.



Initiator
Future Mobility Solutions GmbH, Gaimersheim (Bavaria)

Website
www.future-mobility-solutions.com

Project description

The growing complexity of the mobility sector, the limited possibility of creating realistic conditions for planning innovative mobility strategies and a lack of public acceptance of potentially disruptive mobility services present enormous challenges to the entire sector. And this is where VirtualCity@FMS comes into play: With this tool, traffic situations and infrastructure segments can be both simulated and evaluated.

In only a few minutes, any transport infrastructure can be visualized by a plug and play technology on the basis of GIS data and our company's own algorithm. The resulting three-dimensional visualization is based on the Unity game engine.

By means of VirtualCity@FMS, different scenarios can be examined, ranging from a panoramic flight over a city up to detailed cases of application of different modes of transport at individual transport hubs. The validity of the simulation environment allows a realistic portrayal of any current and forward-looking scenarios. The interface function will make it possible to integrate a wide variety of data sources such as OpenStreetMap, OpenDrive or CityGML. In the medium to long term, dynamic data feeds will also be integrated.

Good to know

- The company was established in 2016. At present (August 2020), it has 60 employees.
- A solution to establish connectivity of VirtualCity with the Sumo simulation software (Open source software of the German Aerospace Center) is currently being developed.
- In 2019, VirtualCity received the eMove360° Award in the "Mobility Concepts" category.

Further information
www.german-mobility-award.com/virtualcityfms

Interview with
Prof. Dr. Harry Wagner

CEO, FMS Future Mobility Solutions GmbH

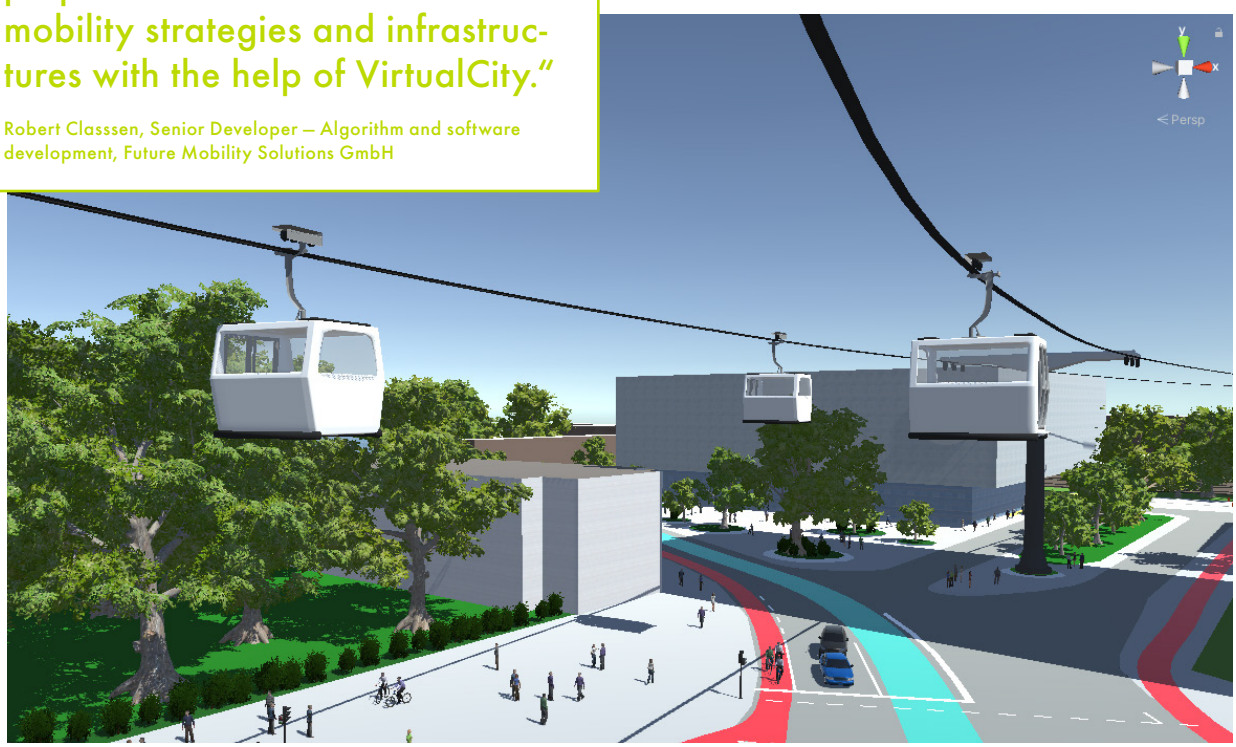
How did you come up with the idea for your project?
Any technology is useless unless it is socially accepted and there is a consumer demand. Especially in the context of mobility, innovative technologies must be profitable to be a potential part of the solution for our global challenges in this field. Thus, in order to shape transport systems with a view to future viability and evolve them to meet the actual requirements, infrastructures must be dovetailed with technological mobility solutions. And this must happen from the initial vision, in a cost-effective, speedy, flexible and user friendly manner. With this conviction, the project was launched with the objective of developing a modular software solution for innovative mobility strategies.

What challenges did you face during implementation?
A great strength of VirtualCity@FMS is, at the same time, one of the greatest challenges, namely the integration of different data formats and subsystems or data sources to form a coherent whole. Thus, for example, static data from OpenStreetMaps are merged with dynamic data, for example from SUMO, as well as three-dimensional and true-to-detail models of buildings and the environment. Depending on the application, only parts of an extensive toolchain are needed. At the same time, care must be taken to ensure that, nevertheless, the simulation is operating stably.

Where do you see your project in five years?
VirtualCity@FMS has established itself as a backbone of our daily work in the field of transport and mobility. Future mobility strategies should present solutions to many societal and environmental issues. However, to be able to make a positive contribution at all, they must be tested right from the initial idea with regard to their feasibility and their impact. We are convinced that with VirtualCity, this is exactly where we can offer sustained added value for all stakeholders.

What is your advice for others who have a good idea and want to translate it into action?
It doesn't matter whether the idea is born in a company or in a private environment. Talk to others about it and get support on how to further improve your idea and, above all, get to know your target group better. It's better to give it one try too many than one too few – if it was that easy, everyone would do it!
Take people on board who complement your abilities and who have a similar understanding of the objective as you do.

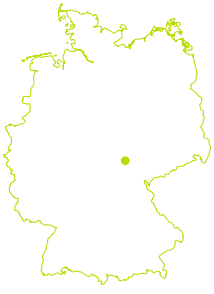
> "Visualization, simulation and communication. There is a huge number of conceivable applications which can be planned and prepared in our visions of future mobility strategies and infrastructures with the help of VirtualCity."
>
> Robert Classsen, Senior Developer – Algorithm and software development, Future Mobility Solutions GmbH



VMT Check-in/Check-out

Swipe and go!

The "VMT Check-in/Check-out" project of the Central Thuringia Integrated Transport Authority enables uncomplicated, intuitive and affordable mobility in local public transport. Always at the most favourable price available.



Initiator
Central Thuringia Transport Community, Erfurt (Thuringia)

Website
www.vmt-thueringen.de

Project description

Almost everybody knows the feeling of confusion when they are standing in front of a ticket vending machine; be it in an unfamiliar city or for a line in their own region they have never travelled on before. The "VMT Check-in/Check-out" project is the easiest way to travel within the VMT area. Passengers can get on and set off without having to worry about the right ticket. Customers can thus travel flexibly and hassle-free. Always at the most favourable price available. Just swipe before the start of the journey to check in and swipe again after the journey to check out.

The mobile FAIRTIQ app, which has been available in the area of the Central Thuringia Integrated Transport Authority since mid-March, is based on a Check-in/Assisted-Check-out (CIACO) technology and combines a user interface that is focused on customer friendliness and easy usability with intelligent algorithms that make it extremely easy to use. An important step to overcome people's reluctance to use local public transport, which is an environmentally friendly means of transport.

Good to know

- "VMT Check-in/Check-out" was implemented as a common project by the Central Thuringia Integrated Transport Authority (VMT), Erfurt public transport operator EVAG and the system supplier FAIRTIQ.
- The project started in September 2019. The implementation phase included several technical trials (recording of the journey, price calculation, payment flow). The launch of the app was brought forward to 19 March 2020 to quickly provide passengers with an attractive, contactless alternative for the purchase of tickets – in particular during the corona crisis.
- The core team for implementing and launching "VMT Check-in/Check-out" consisted of four persons working for EVAG, VMT and FAIRTIQ and was thus extremely lean.

Further information
www.german-mobility-award.com/vmt

Interview with
Christoph Heuing

Managing Director, Central Thuringia Transport Community

How did you come up with the idea for your project?
We wanted to facilitate the use of buses and trains to encourage more people to choose them. We thus had to design the purchase of tickets in such a way that passengers would need neither coins nor knowledge of fare structures. In many major urban areas, this problem is solved by check-in/check-out systems with smart cards and sensors at the vehicle doors. We looked for a system that offers the same convenience but can be implemented more quickly and does not require expensive infrastructure.

What challenges did you face during implementation?
The challenge was to transfer the traditional "paper fare" (where the fare is calculated and paid before the journey starts) into the digital check-in/check-out world (where the fare is calculated and paid after the journey). Here, we had to find pragmatic solutions. An example is the discounted 4-trip ticket, which is difficult to implement in the check-in/check-out system. We dropped it and decided instead to give a discount on all single tickets.

"With the introduction of the check in/check out system in the VMT, the purchase of tickets became as easy as never before. One swipe on your smartphone always leads to the most favourably priced ticket and, for the first time ever, this is also based on a best weekly price. That this system was implemented so rapidly and is working so reliably is a success of the great commitment of the Erfurt public transport operator EVAG and the excellent technology of FAIRTIQ AG."

Christoph Heuing, Managing Director, Central Thuringia Transport Community

Where do you see your project in five years?
The example of the 4-trip ticket shows that we should not only introduce new ticketing systems for old fares but also critically question the fares themselves. The infamous and very complicated fare structure with its zones and honeycombs is, among other things, a result of former sales structures. The check-in/check-out system enables us to adopt completely new approaches to fares. We are currently working on an innovative e-fare for the whole of Thuringia, which is very easy to understand and can be precisely invoiced.

Special Award

Women in Mobility

The network for women in the mobility sector

A vibrant network promotes the exchange among and visibility of women in the mobility sector.

Initiator
Women in Mobility,
DACH region and London

Website
www.womeninmobility.de

Project description

The "Women in Mobility" are committed to creating networks for and increasing the visibility of women in the mobility sector. The network offers women from all areas of the mobility sector a platform for joint projects, collaborative schemes and exchanges of ideas and experience. This applies to women from companies, start-ups, organisations and associations, from media, academia and government, regardless of their position in the hierarchy.

The objectives of the "Women in Mobility" network include, on the one hand, maintaining an expert discourse on the subject of mobility with a focus on connected, gender-sensitive, resource-conserving and socially acceptable mobility. On the other hand, it is designed to provide women from the mobility sector with more visibility as sparring partners, managers, experts and speakers.

With its networking activities, "Women in Mobility" is making a contribution in the background to a forward-looking mobility supported by flexible networks and initiating a discourse between representatives from the different areas of the sector.

Good to know

- Meet: "Women in Mobility" promotes an exchange between women from different areas of the mobility sector, research and political institutions.
- Network: Through digital network groups and personal encounters at meetings at regional level, "Women in Mobility" provides its participants with a possibility for networking between experts and supporting each other.
- Change: With its activities, "Women in Mobility" triggers changes: This especially includes an increased visibility of women in the mobility sector, a stronger perception of the sector itself, the inclusion of women's take on mobility and the strength to support each other.

Further information
www.german-mobility-award.com/women-in-mobility

Interview with
Sophia von Berg, Anke Erpenbeck and Coco Heger-Mehnert

Founders "Women in Mobility"

How did you come up with the idea for your project?
The impetus for the project was the low percentage of women attending conferences on mobility issues – both on the podium as well as in the audience. In our subsequent discussions, we found that similar challenges are encountered in the working environment and gradually came to the conclusion that a network could be helpful here.

What challenges did you face during implementation?
The challenge lay in bringing representatives of the different areas of the sector together in the network and, aside from the virtual meetings in network groups, also facilitate personal encounters. The unpaid volunteer work to build up and manage the network was also quite challenging, as we have exciting and strenuous jobs. Here, ideas and processes had to be developed that enabled us to progress the network in our free time.

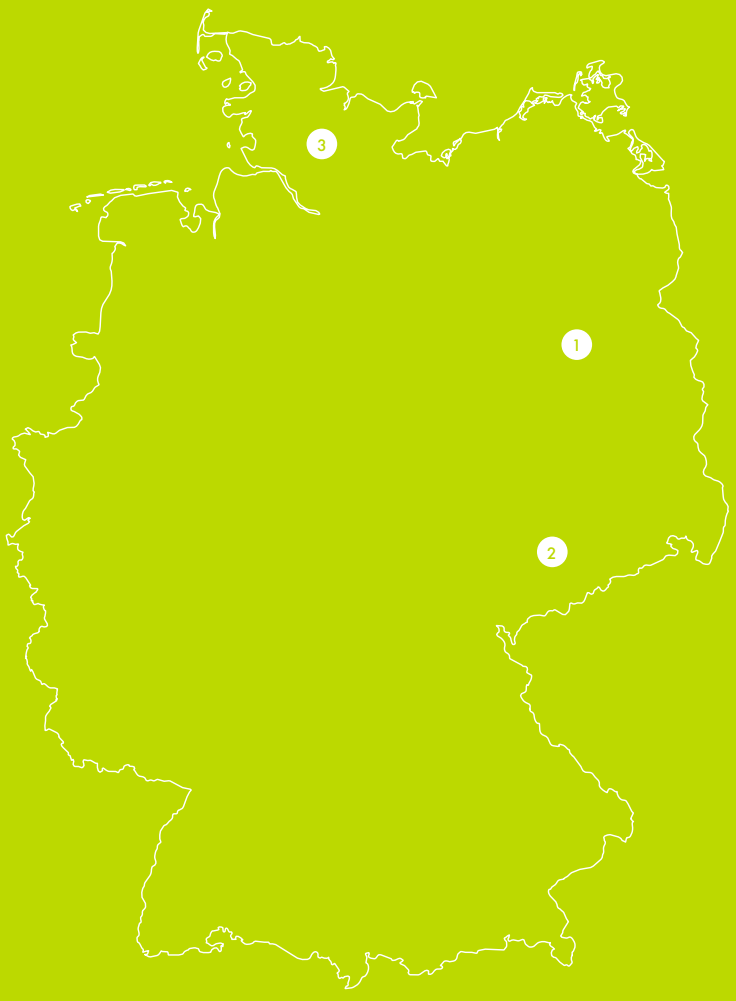
Where do you see your project in five years?
"Women in Mobility", with its work to make role models visible and its networking activities, has helped to increase the female share in the mobility sector significantly, especially in executive positions. As a result of the "Women in Mobility" network's commitment to promoting female experts and speakers, greater account is taken of the mobility behaviour of women – which strongly differs from male routines – in urban planning and in the planning of new mobility services.

What is your advice for others who have a good idea and want to translate it into action?
The most important thing is to have confidence. Confidence in the idea and the common cause. Confidence that the lively discourse will give rise to new ideas and opportunities and that, through joint commitment and transparency, prospects for support will open up.

"Through 'Women in Mobility', I was for the first time able to gain real access to the mobility sector. I have been able to build up personal relations and engage in an exchange of professional ideas and experience. What is even more important, however, is the mojo that I have acquired through Women in Mobility: The network creates opportunities and also encourages me again and again to showcase my expertise. As a co-founder of the Rhine-Ruhr hub, I would like to pass this opportunity on to other women."

Mareike Lüken, Head of Product Sales & Marketing, Scheidt & Bachmann

Winners 2020
Ideas Competition



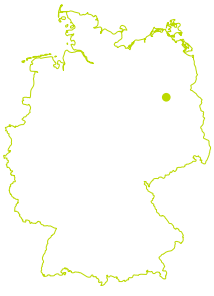
The Ideas Competition of the German Mobility Award invited German citizens to contribute ideas to the competition.

With the focus on “Crisis as opportunity”, the competition was seeking creative conceptual pitches and innovative ideas that were developed in times of crisis to show how connectivity can help to improve mobility in the future.

charger next door

Ideas Competition
1st Place

Development of the charging infrastructure for electric vehicles by linking up the existing private charging infrastructure.



Award recipients
Florian Bindges, Fabian Crome and Tobias Hübener (Berlin)

Florian Bindges graduated from Hamburg University with a Master's Degree in automotive engineering. He works as a technological adviser at MHP in the field of research and development transformation in the automotive industry.

Fabian Crome and is about to complete his Master's Degree in industrial engineering, specializing in mechanical engineering. The focus of his studies and his professional activities is on the automotive industry and electric mobility.

During his time at university, **Tobias Hübener** has already gained experience in various companies in the conceptual design of new mobility strategies and in the development of new digital products.

The idea

With "charger next door", we want to make private charging points owned by drivers of electric vehicles, aka wallboxes, accessible via an app and thus make our contribution to the development of the charging infrastructure. Especially in rural and suburban areas, there is a great demand for charging infrastructure that cannot be met entirely by the current providers on the market. We want to enable and encourage enthusiasts and early adopters of electric mobility who own a wallbox to share it with other electric vehicle drivers.

In this way, we will expand the charging infrastructure by integrating private charging points, a resource of which so far no use has been made. At the same time, we want to form a community that gives all of its members a reliable opportunity to charge their electric vehicle everywhere in Germany.

With only a few steps, our users can enquire if a wallbox is available – the procedure resembles the booking process of popular platforms, such as Airbnb: The available wallboxes are indicated on a map. Via an integrated calendar, a request can be sent directly to the owner of the wallbox.

With our idea, we are addressing the current and future problems of the charging infrastructure which, by 2030, must make charging facilities available for up to 10 million electric vehicles. We are thus making a valuable and resource-conserving contribution to developing the charging infrastructure in rural and suburban areas – to prevent range and charging issues from becoming the showstopper of electric mobility.

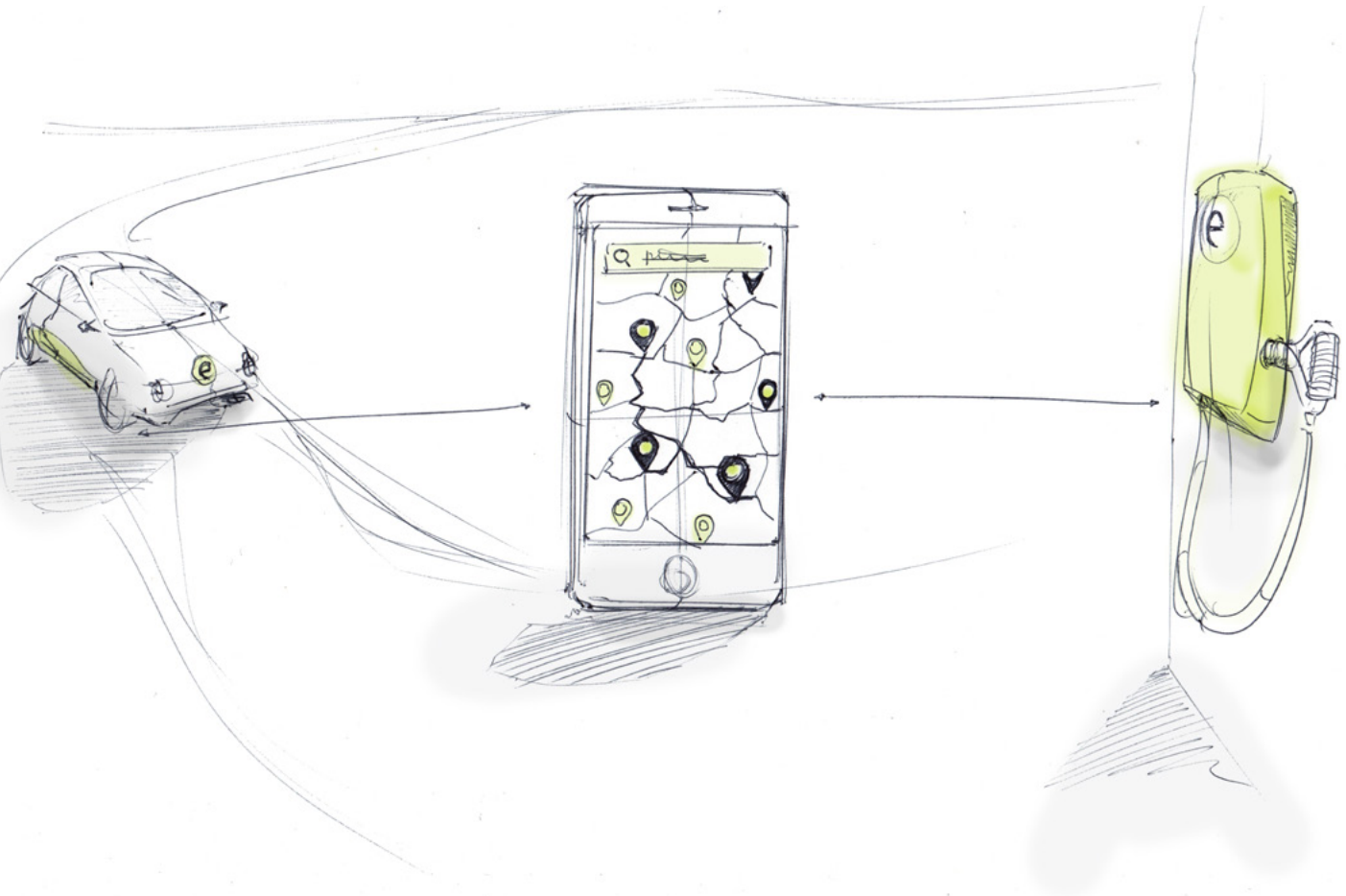
Motivation behind the idea

With our „charger next door" idea, we want to make our contribution to turning the transformation of the transport system in Germany into a success and, at the same time, supporting the aspect of sustainability. We are addressing problems that drivers of electric vehicles currently face on a daily basis. With our solution, we want to create a reliable alternative to the existing charging infrastructure in order to allay EV drivers' range anxiety and take a fresh approach to safety and reliability aspects in charging thanks to our community.

Further information
www.german-mobility-award.com/charger-next-door

Quote by the team

"Always strive for the next challenge! Let the future of mobility be part of everyone."



Quote by the jury

"Germany's path to electromobility requires a large-scale charging infrastructure in urban and rural areas. Connecting public and private charging infrastructures is an excellent idea for opening up the mobility market to private electricity providers, driving forward sustainable business models and strengthening and accelerating emission-free mobility."

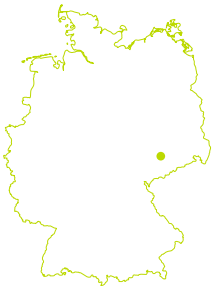
Thorsten Rudolph
CEO, Anwendungszentrum GmbH Oberpfaffenhofen
Member of the judging panel

Intelligent-shared-Space

An inclusive mobility solution

Ideas Competition
2st Place

Enhancing the attractiveness of cycling by making additional lanes available to cyclists as required.



Award recipient
Sten Eibenstein (Sachsen)

Sten Eibenstein has a Master's degree in tourism management. He works as a mobility manager for the Saxon Switzerland region. His focus is on the development of sustainable mobility solutions in a region of Germany that is very attractive, including for tourists. As he lives in Dresden, he understands very well the differing mobility needs in cities as well as in rural areas.

The idea

These days, the media report almost daily on rising sales figures in the cycling sector. In particular because of the travel restrictions, many people have rediscovered cycling as a leisure activity. This positive feeling should be exploited for everyday mobility, too. However, many commuters still prefer using a car in everyday life as they consider it a faster and more convenient way to get to their destinations. This means that the attractiveness of bicycles must be further enhanced.

During the corona pandemic, the issue of making lanes available exclusively for the use of cyclists has been often discussed and sometimes put into action. So why not continue using this principle in a dynamic way? The digital transformation permits a multitude of possibilities: detectors (count sites, Bluetooth measuring systems) recognize rising user numbers on cycleways and transmit this information to a traffic control module. With this information, a city can, for example, decide to close one of the two lanes in each direction to cars and make it available exclusively to cyclists. The expanded space makes it possible for fast cyclists as well as handbikers to navigate faster and more safely through traffic. As a result, there is no longer a need for risky overtaking manoeuvres on narrow cycle lanes, cyclists maintain a larger safety distance from motorized traffic and can more easily adapt their speeds to benefit from "green waves". This makes everyday cycling more attractive and safer. In addition, in particular in cities, there is a sustained improvement in the climate.

The objective of the project is to enhance the attractiveness of cycling in large cities. At the same time, it aims to increase road safety and improve the climate. Digital applications can make a major contribution to this.

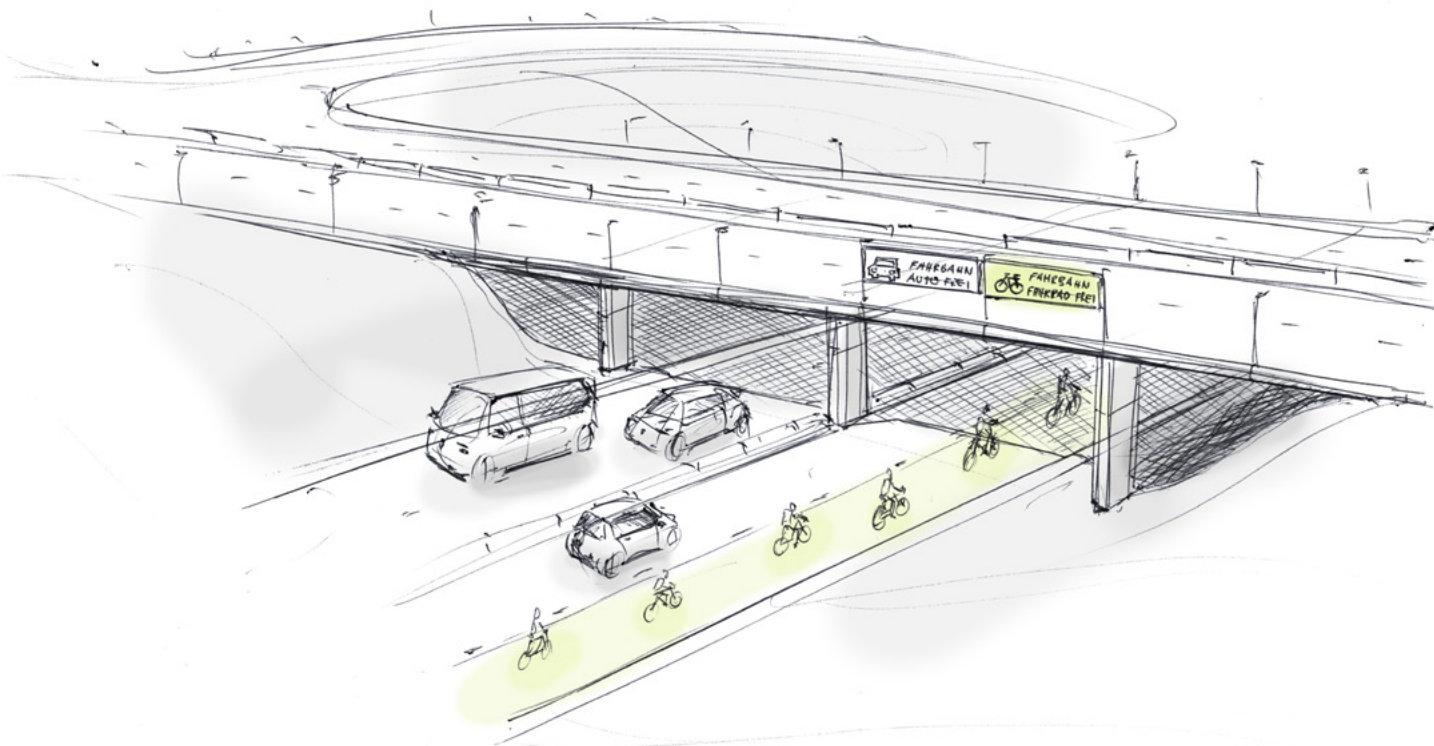
Motivation behind the idea

The demand for bicycles is rising, especially during the ongoing times of corona. At the same time, using a bicycle instead of a car has become a real life philosophy for more and more people. However, this positive trend conflicts with almost daily news about accidents involving cyclists. As a result, criticism of bike-unfriendliness in cities and increasing road safety is thus the motivation behind this idea.

Further information
www.german-mobility-award.com/intelligent-shared-space

Prize-winner quote

"In these times, road safety should always be the highest premise. Every person injured or killed on the roads is one too many. For this reason, we should continue to use the digital transformation for transport development in a targeted way."



Quote by the jury

"The Corona pandemic has shown once again: The bicycle is the means of transport of the future. In order to make this future safe and sound, creative ideas such as ‚Intelligent-shared-Space' need to be thought through further. How can modular roads be implemented in a sustainable and data-efficient way? How can as many people as possible benefit from them? Thank you for your thought-provoking idea."

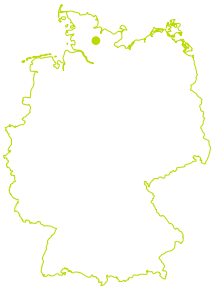
Julia Kloiber,
Co-Founder PrototypeFund,
Partner Ashoka

localistics

Ideas Competition
3st Place

Energy-efficient and collaborative logistics for owner-run businesses in every city/neighbourhood

Business people from a neighbourhood consolidate their logistics traffic.



Award recipient
Isabel Pieper and Tim-Lukas Schnell (Schleswig-Holstein)

Isabel Pieper is a business management student with a focus on international management at the Technical University of Lübeck. Since 2020, she has worked as a student trainee in the business development unit of TraveKom GmbH, a subsidiary of Lübeck Municipal Utilities. From 2014 to 2019, she was a student trainee in the wine business of her family.

Tim-Lukas Schnell is studying media information technology at Lübeck University. Since 2020, he has worked as a student trainee for web development in the innovation and cooperation management unit of TraveKom GmbH. From 2016 to 2018, he worked as a web development student trainee in e-commerce.

The idea

With joint, intelligent logistics processes, retailers and business people can not only lower their costs but also reduce emissions, thus contributing to a clean and future-proof city.

Together with localistics, we have developed software and a platform enabling small and medium-sized enterprises in a city to jointly plan and perform required deliveries in an affordable and energy-efficient way. The goal is to encourage more and more local businesses over time to use this platform and to connect with each other.

We believe that these are the questions of our time: How can we enable businesses to make commercial use of available modern technologies? How can local businesses deal with price pressure caused by large corporations with optimized supply chains in a future-proof way? And how can this be an advantage for the whole of society? Our strategy of designing daily delivery routes within a city or a neighbourhood in an intelligent way provides answers to all these and many more questions. For this to happen, retailers not only use their own vehicles but share a common vehicle pool, which ideally consists of electric or hydrogen-powered vehicles, and the resulting delivery routes have to be intelligently calculated. The objective is to collaboratively generate benefit for the customer in the major economic sector of logistics using sharing economy principles. We want to be a modern interchange between retailers and delivery companies and uncomplicatedly demonstrate to them how to jointly lower their costs, unlock wealth creation potential and quickly and transparently track all processes live via one single platform.

Motivation behind the idea

With our platform, we want to empower independent, locally based businesses to intelligently link up with one another in order to safeguard their customer relations and thus, in the long term, also their locations while making a contribution to clean, liveable cities.

Further information
www.german-mobility-award.com/localistics

Prize-winner quote

"We think that collaboration is the future of our coexistence – in society as well as in the private sector. If the owner-run fashion boutique, the wine dealer around the corner and the office equipment manufacturer based in the business park work together, they will not only be able to survive in the face of online trade but will also build the core of the environmentally friendly and lively neighbourhoods of tomorrow, together with the range of cultural attractions."

Quote by the jury

"'Localistics' is developing a platform for bundling supplies for the local economy – retail, catering and other businesses of all kinds. This will strengthen the stationary trade and especially small and medium-sized businesses, which will network via the platform and thus be competitive against supply chain-optimised large corporations. Jointly used vehicles reduce transport costs. Optimum utilisation of the vehicles and intelligent routing of the traffic volume will significantly reduce emissions. With this triad of innovation, social and ecological benefits, they are successfully continuing the spirit of the German Mobility Award".

Maxim Nohroudi
CEO & Co-Founder,
door2door

The jury

An independent judging panel selects the award winners.

Steffen Bilger MdB
Parliamentary State Secretary at the Federal Ministry of Transport and Digital Infrastructure
(Head of the judging panel)

Prof. Dr. Linda Breitlauch
Professor for Intermedia Design, Hochschule Trier

Prof. Dr. Christoph Meinel
Director and CEO, Hasso-Plattner-Institut für Systemtechnik GmbH

Dr. rer. pol. Claus Doll
Senior researcher at Fraunhofer-Institute for Systems and Innovation Research

Dr. Meike Niedbal
Managing Director Smart City | DB, DB Station&Service AG

Dr. Florian Eck
Managing Director, Deutsches Verkehrsforum e. V.

Maxim Nohroudi
CEO and Co-Founder, Door2Door GmbH

Reinhard Karger M. A.
Company Spokesman, Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI) GmbH

Thorsten Rudolph
CEO, Anwendungszentrum GmbH Oberpfaffenhofen

Julia Kloiber
Co-Founder PrototypeFund, Partner Ashoka

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The initiators

The German Mobility Award is organized by the initiative "Germany – Land of Ideas" and the Federal Ministry of Transport and Digital Infrastructure (BMVI). The following partners support the German Mobility Award:

DB

VDV Die Verkehrsunternehmen

Bundesministerium für Verkehr und digitale Infrastruktur

The Federal Ministry of Transport and Digital Infrastructure (BMVI) is aimed at ensuring that Germany remains committed to innovation and investment. The quality of the German mobility infrastructure and speed of data networks is decisive for the future. With this in mind, the BMVI shapes policies for mobility and modernization.

Deutschland
Land der Ideen

Ideas are Germany's most valuable resource, a guarantee for a future worth living. That is why the initiative "Germany – Land of Ideas" is looking for exceptional ideas and the people that will put them into practice. "Germany – Land of Ideas" makes these ideas and their originators more visible by publicly acknowledging and networking them with likeminded supporters. In so doing, the initiative creates a climate in which ideas become innovations and promotes Germany at home and abroad.

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Initiators

Deutschland
Land der Ideen

Bundesministerium
für Verkehr und
digitale Infrastruktur

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