



Together | Designing | Mobility

**Integrated solutions  
for public transport.**

**init**

The Future of Mobility





# The future of mobility.

**Faster, more efficient and more attractive.**

*In this age of digitalization, public transport providers face a variety of new challenges: the need to become more effective, to step up performance and to improve customer service. Developing sophisticated transportation concepts that meet contemporary expectations. Incorporating new providers into the mobility offerings of their region and serving as the region's mobility broker. Integrating e-buses into the fleet. All while remaining efficient and cost-effective. Thanks to integrated ITS solutions from INIT, this is already a reality. In cities around the world like Nuremberg, Dusseldorf, Rotterdam, Nottingham, Dubai, Portland, Toronto, and many other metropolises across four continents.*





## INIT – more than ...

**160,000** vehicles

**1,100** transport providers

**300** passenger counting systems

**140** ticketing systems

**130** ITCS/RTPI systems

**120** personnel assignment systems

**100** planning systems

**35** years of experience

## Offering a unique level of integration: System solutions that drive public transportation.

Over 1,100 public transport providers around the world have already opted for INIT. We are currently the only vendor to offer seamlessly integrated planning, dispatching, telematics and ticketing solutions addressing the entire spectrum of your daily tasks. Our expertise is based on over 35 years of experience in the industry and reflects our vision of making public transport easy – for users of our systems as well as for passengers.

As an innovation leader, we actively collaborate on numerous standardization projects and advance our solutions by participating in on-going research projects. Our employees work in close collaboration with our customers, leveraging their insights to continually improve our systems. This means that our solutions are continuously developed in line with your requirements. That's German engineering at its best!

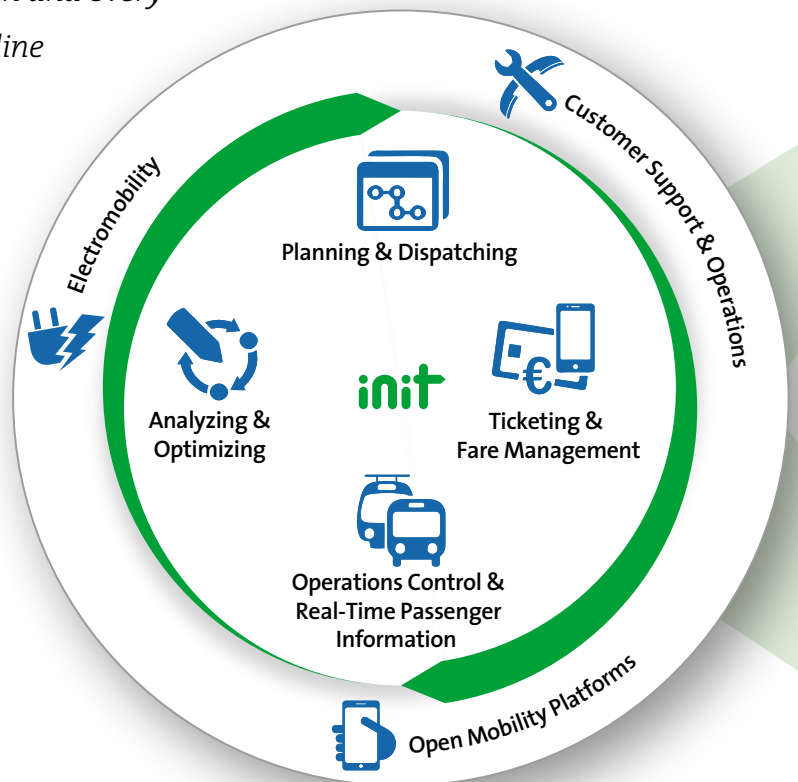


*“Public transport companies  
need a strong technology partner,  
one who understands their processes  
and makes the company's  
goals their own.”*

Drs. Hans Rat,  
Supervisory Board INIT,  
Honorary Secretary General of the UITP

# Open, modular and scalable. The INIT system philosophy.

*Whether you intend to deploy a stand-alone module for automated passenger counting, planning or staff deployment into your existing environment, or wish to reap the benefits of a fully integrated ITS and ticketing system, you can be sure that each and every INIT software and hardware component is in line with our philosophy: develop solutions that support an integrated process chain and assist in making public transport easy. And of course, fast, flexible and reliable.*



**Reap the benefits  
of an integrated solution.  
Work more efficiently.**

INIT's modular hard- and software solution MOBILE offers you complete flexibility. You can integrate individual modules into your existing infrastructure allowing you to take the first steps towards a future-proof software platform. A platform that offers open interfaces in compliance with the very latest industry standards and gives flexibility when you are ready to expand.

Or you can decide for an overall solution that delivers tangible benefits while providing various synergy effects. You may even decide for a hosted software system, or for a multi-client system which will enable multiple users to share a common system platform – while ensuring protection for all sensitive company data.





## Planning & Dispatching

From planning timetables to optimized deployment and management of vehicles and drivers – we provide you the tools to get the most out of your resources.



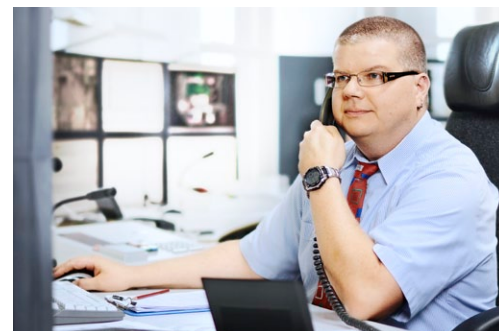
## Ticketing & Fare Management

Whether smartcard, barcode, EMV, Apple Pay, Google Pay, Samsung Pay, check-in / check-out or paper ticket – INIT makes it easy for passengers to pay the right fare. And you enjoy our easy-to-use fare management software.



## Operations Control & Real-Time Passenger Information

Keeping an eye on the traffic situation, increasing punctuality, fixing disruptions quickly and keeping passengers well-informed in real-time: higher service quality ensures greater customer satisfaction – and thus higher passenger numbers.

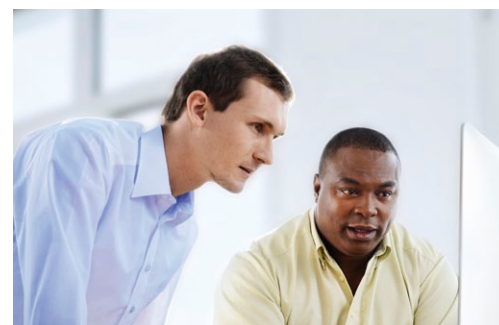


One integrated system –  
for all tasks of public transport.



## Analyzing & Optimizing

How smoothly is operation running? We help our customers find answers to this question and many more. As the only provider we include automated data feedback into our operations and planning tools for sound optimization decisions.



## Customer Support & Operations

Even after the installation of your system, we are at your side with many services. From maintenance to technical operations, from hosting to data management. With our support, your solution not only works optimally adapted to your needs, but also remains future-proof.



## Open Mobility Platforms

Integrating new mobility offers into a smart concept. This becomes reality with an intermodal booking and payment platform that creates genuine additional value. So customers have to register just once and can pay through one platform. Your company remains the decisive player on the mobility market.



## Electromobility

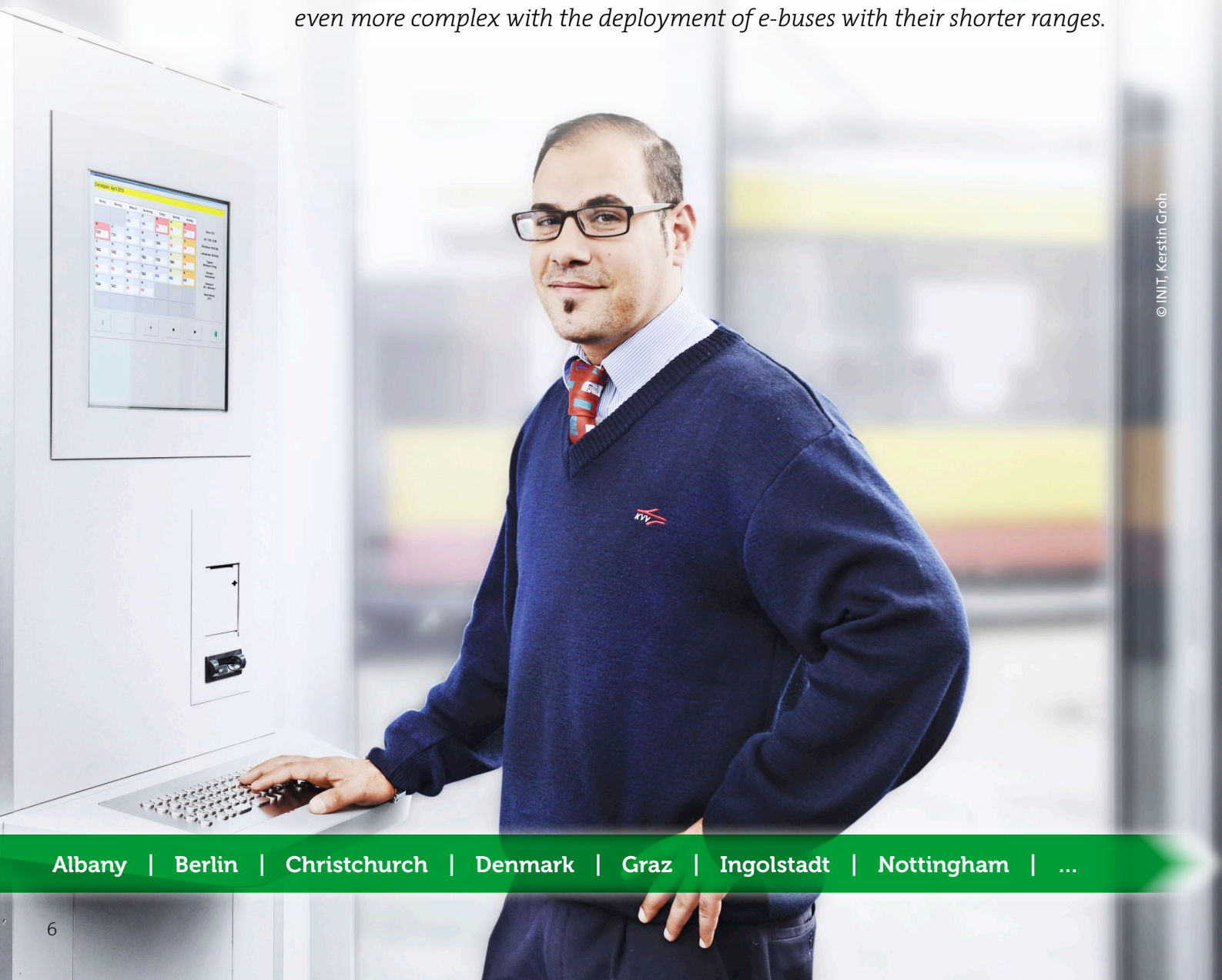
Implementing e-buses with ease and manage them efficiently: This is where we support you. From strategic planning to depot management, dispatching, charge management to a reliable range prognosis and monitoring.





# Economical planning. With people in mind.

*Optimized use of resources – that is what operational planning is all about. Deploying no more vehicles than necessary to fulfill the timetable is crucial. In turn, timetables need to be robust enough to facilitate the punctuality aspired. All while complying with legal, tariff and operational requirements and taking employee wishes into account. A great challenge! And this challenge will become even more complex with the deployment of e-buses with their shorter ranges.*



## **Faster than ever. As flexible as you need.**

INIT is keenly aware of the challenges facing public transport providers. This is why we have developed integrated solutions that make planning and dispatching faster, more flexible, and more cost-effective than ever. Moreover, we have tailor-made solutions for the introduction of electromobility.

MOBILE-PLAN offers you a uniquely integrated solution for the creation of long-term as well as for calendar-based timetables, blocks and duties. Need a flexible adjustment in order to live up to your standards? No problem with MOBILE-PLAN's modular architecture.

With the help of the integrated block and duty optimization MOBILEOpti<sup>2</sup> you can easily reconcile the different requirements: generate employee-friendly duties based on legal, contractual and organizational factors, and reduce your costs at the same time. This makes planning very efficient, for both urban and rural planning. And way faster – as every block is planned as determined by your process – instead of planning it again and again for every operational day.

## **Blocks, duties and rosters in perfect alignment.**

The integrated personnel assignment software MOBILE-PERDIS organizes the entire staff deployment process – from creating rosters to transferring data for payroll accounting. It automatically tailors duty rosters and shift schedules to your blocks in accordance with your continuous planning or with the personal preferences of your employees. It is for you to decide.

INIT assists you in streamlining your vehicle management processes as well. With MOBILE-DMS, the assignment of vehicles to blocks is as easy as the management of vehicles within the depot – even in real-time.

Benefit from one single system for planning and dispatching that is fully integrated with INIT's fleet management as well as the e-bus charging system. There are no cost- and time-intensive interfaces: It doesn't get any faster and more efficient than that!

## **We plan 10 times faster**

"Since we have started using MOBILE-PLAN, we have been able to fine-tune our schedules which has resulted in a 10 % increase in on-time performance. The software has also allowed us to plan more efficient work shifts for our drivers while reducing overtime. Our planners' productivity has also improved. For instance, what used to take two weeks to do manually can now be done in a matter of hours. This allows us more time to fine-tune schedules to improve connections for our passengers."

*Vanessa Rauschenberger  
Gold Coast Transit  
Ventura County, California*

### **What INIT can help you to achieve**

#### **Increase efficiency**

- ✔ Optimize timetables, blocks and duties
- ✔ Minimize resource allocation through efficient planning of vehicle and driver deployment
- ✔ Automate depot management to reduce administrative effort
- ✔ Speed up planning processes
- ✔ Receive bi-directional data exchange

#### **Higher service quality and employee satisfaction**

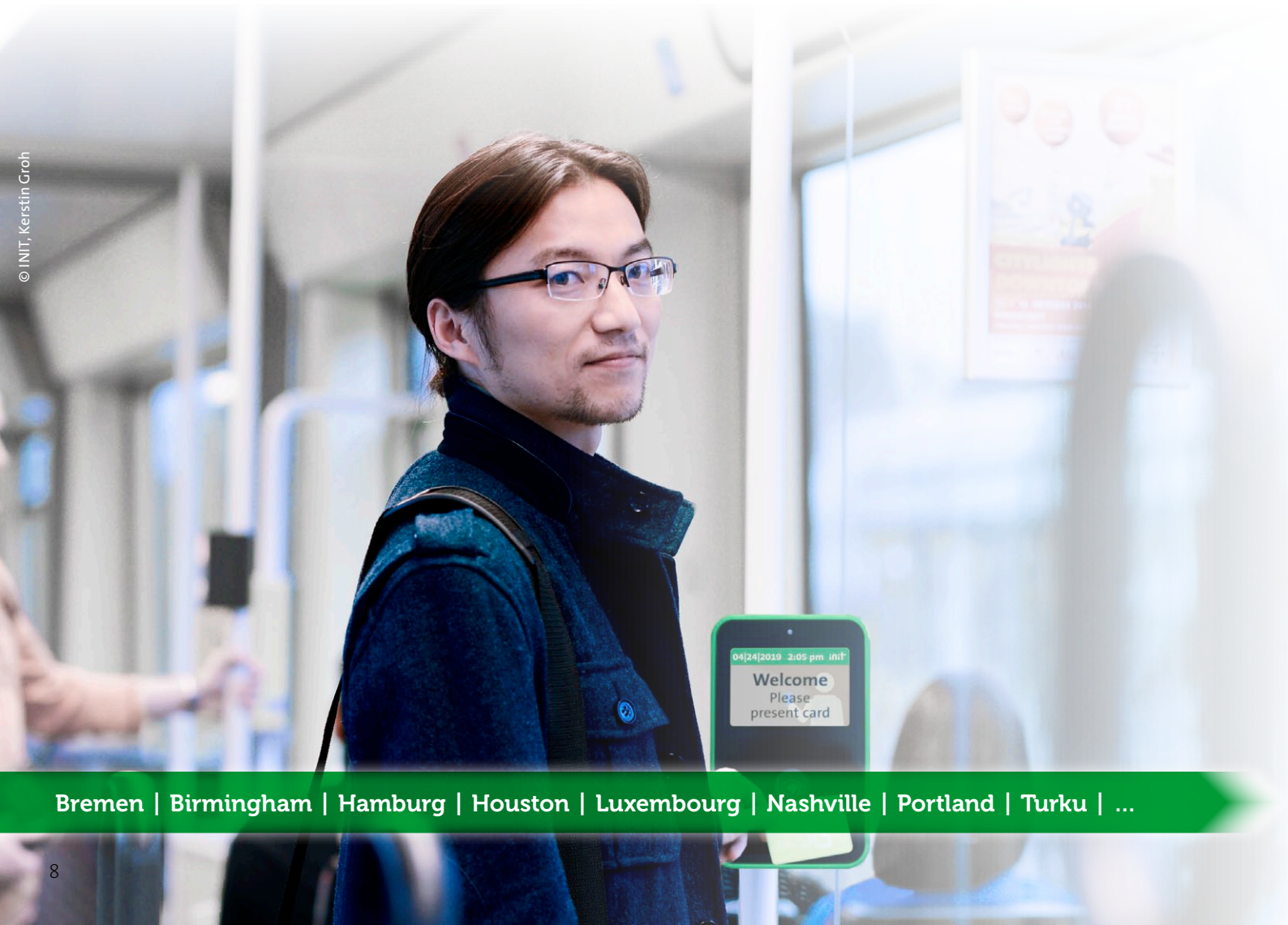
- ✔ Robust timetables lead to higher punctuality
- ✔ Self-rostering and other features ensure higher driver satisfaction
- ✔ E-mobility specific parameters considered in block building ensure reliability





# User-friendly services for happy passengers.

*Whether young or old, commuter or tourist, in cities or the countryside, passengers are all looking for the same thing: user-friendly public transport services. Simple and effective ticketing plays an essential role. One thing is becoming increasingly important: integrating other modes of transport into an intermodal mobility platform that enables end-to-end booking and payment. INIT is ready to make life easier for travelers and operators alike with proven solutions.*





## Unique requirements call for unique solutions.

The MOBILEvario ticket management software is the core of the INIT ticketing solution. Featuring sophisticated clearing house functionality and a multi-client design, it is one of the most innovative systems on the market. Successfully deployed by customers around the world.

An INIT ticketing solution fits all: from small cities to metropolitan areas. It can be customized to fit your needs from paper tickets via electronic ticketing to cross-border solutions that support multiple international standards. Even if you want to act as the mobility broker of your region by incorporating other mobility providers into an intermodal booking and payment platform.

Due to its open architecture, MOBILEvario can be integrated seamlessly into your existing infrastructure. Or we can migrate your entire system smoothly and reliably during operation with no loss of data. Whatever approach you choose, your requirements are met efficiently and effectively.

## Innovations that meet users' needs – and give operators an edge.

Purchasing tickets quickly and easily is what passengers want. Our ticketing solutions make this possible. They support intermodal travel chains, open payments (EMV), and standards like ITSO or the VDV core application. They also enable best-price calculation as well as the integration of a variety of sales channels, especially in ID/account-based ticketing systems. The intelligence is concentrated in the back-office system. Transactions are carried out in real time. The ticket medium merely stores a distinctive ID that refers to the connected customer account. All credits or products are stored centrally. In addition to smart cards, NFC mobile phones, bank cards, credit cards or student and company ID cards can also be used as ticket media.

## Simply tap-and-go

"TriMet has long been a leader in the transit industry, focused on the customer experience and ways to simplify riding transit. With Hop Fastpass® and the first virtual transit fare card in North America that became available for use in all major smartphones, riders in the Portland-Vancouver area have many convenient ways to pay. They can use the plastic Hop card, the virtual Hop card stored in their phone, a credit or debit card in their mobile wallet or a contactless credit card. They simply tap-and-go."

*Doug Kelsey*

*General Manager, Tri-County Metropolitan  
Transportation District of Oregon (TriMet)  
Portland, Oregon*

## What INIT can help you to achieve

### Increase ridership

- ✔ Simplify ticket purchases
- ✔ Offer best-price fare calculations
- ✔ Deliver intermodal payment structures
- ✔ Implement Open Payments (EMV)
- ✔ Facilitate the use of Apple Pay, Google Pay, Samsung Pay
- ✔ Integrate virtual smart cards in mobile wallets
- ✔ Present multiple sales channels

### Streamline your sales processes and costs

- ✔ Easy integration of 3rd party applications based on open architecture and open Application Programming Interfaces (API)
- ✔ Comprehensive fare management and clearing functionality
- ✔ ID-/account-based solutions



# Always in the know. For more service quality and efficiency.

*Public transport faces growing competition from private transport providers. To remain attractive, public transport companies must provide convenient services in line with passengers' needs, and ensure a positive customer experience. In urban as well as in rural areas. This calls for smooth operations, on-time service and reliable real-time information – and intermodal mobility chains.*





## Core of the mobility management.

The control center is the beating heart of a public transport provider. Vehicles are monitored, deviations to the timetable are recognized, necessary dispatching measures are executed and drivers are supported: The control center also takes care of passenger information and ensures service quality. To manage all of these downstream processes an effective, integrated solution is crucial. A solution like MOBILE-ITCS: the multi-client capable Intermodal Transport Control System from INIT.

MOBILE-ITCS grows with your changing needs. This is why it now facilitates as well the state-of-charge monitoring of your e-buses. And offers increased flexibility through the integrated management of on-demand services, autonomous vehicles and new mobility providers. Better service quality is realized through linked services – from guaranteed onward connections to reliable customer information across multiple operators. This creates highly efficient intermodal mobility chains, and an astonishing service quality.

## Real-time passenger information increases customer satisfaction.

Modern technologies make it easy to keep passengers up to date. Via all suitable channels – social media, apps, Internet as well as displays at stops – the system distributes real-time passenger information automatically with just a click. This way, passengers benefit from reliable information on deviations, alternative routes etc. Further added value is provided by on-board transfer information in real-time.

To accurately calculate departure times, MOBILE-STOPinfo uses precise vehicle location information as well as the timetable, initiated dispatching measures, sophisticated forecasts and artificial intelligence. And it considers the timetable and executed dispatching measures – even taking into account the trickle-down effects of a disruption. This ensures that passengers always receive real-time information they can trust. Especially when it matters most: in the event of disruptions.

## Satisfied passengers and dispatchers

“Since we introduced INIT’s MOBILE-ITCS in 2013, our passengers’ satisfaction has greatly improved. This is mainly due to real-time passenger information, which is increasingly becoming the exclusive information medium for our customers. Our dispatchers in the ITCS control centre benefit as well: the functions in the ITCS are well conceived and therefore provide excellent support in their daily work.”

*Matthias Reinecke*

*Head of control center / ITCS*

*Ingolstädter Verkehrsgesellschaft mbH*

## What INIT can help you to achieve

### Increase ridership

- ✔ Offer smooth rides and reliable passenger information
- ✔ Enhance service with multimodal transport offerings
- ✔ Support smart city initiatives

### Streamline operational processes and costs

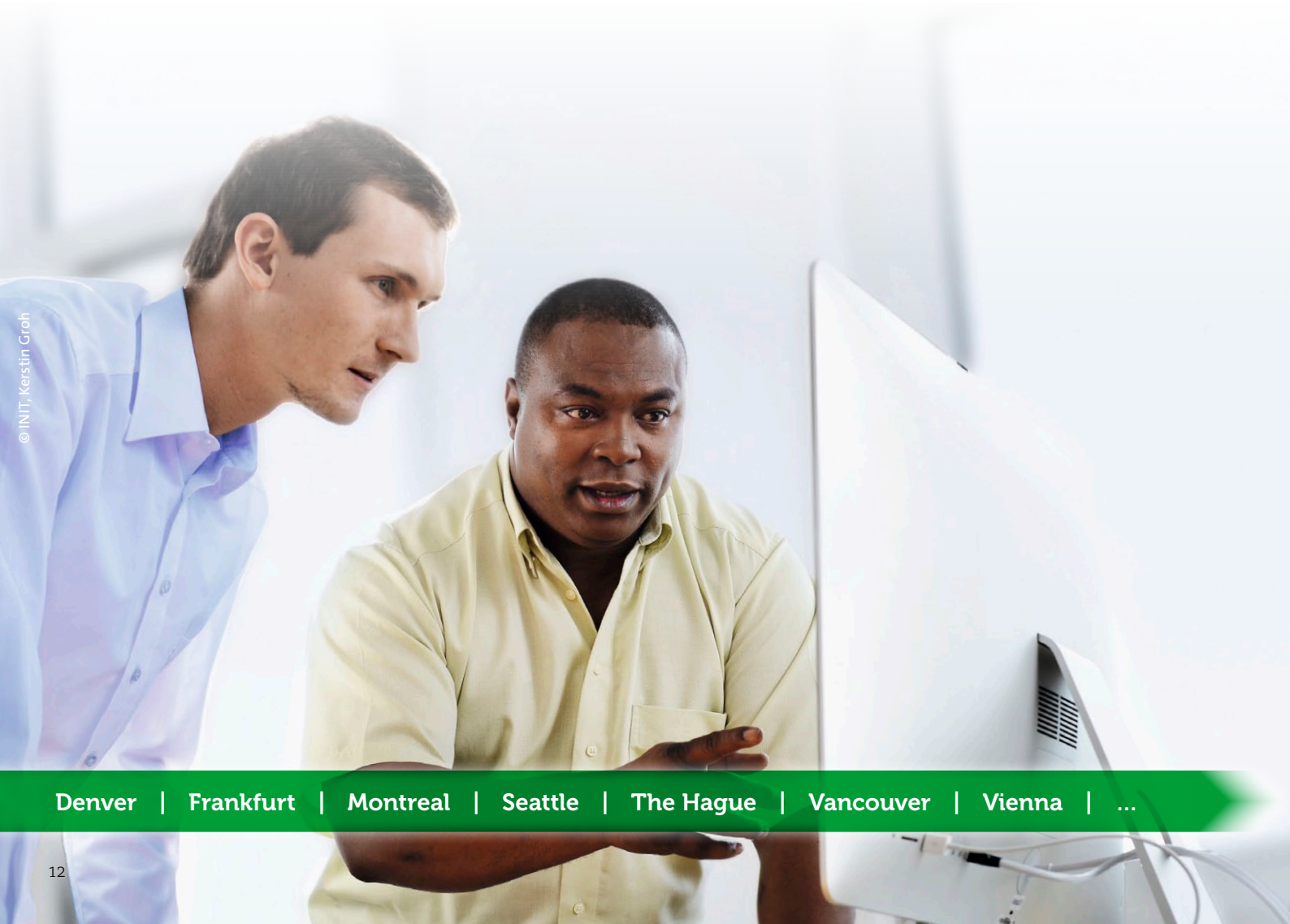
- ✔ Comprehensive incident management
- ✔ More efficient working routines in the operations control center
- ✔ Control of e-buses and demand responsive services
- ✔ Open architecture and support of various standard interfaces
- ✔ Multi-client systems for reduced investment costs
- ✔ Automated distribution of passenger information directly via all channels



## Accurate data – a solid basis for informed management decisions.

*Access to accurate key performance indicators (KPIs) is an important success factor for public transport operators. KPIs give you insight into the efficiency and profitability of your company, and allow you to identify weaknesses and potential improvements.*

*INIT's powerful analysis tool captures this valuable data – and by automatically feeding back statistics into the planning tool, it provides a closed control circuit and a solid basis for management decisions.*





## Detailed reporting and analysis – greater transparency.

Precise data on punctuality, time spent at stops, unexpected delays, passenger numbers and other KPIs is a valuable asset that helps you identify inefficiencies in vehicle and staff deployment, as well as potential routing improvements. Moreover, these metrics can be used to support accurate distribution of revenues, or when presenting bids for tendered public transport services. MOBILEstatistics, which is currently being extended by a data warehouse solution, delivers high-quality data, rich functionality, and flexible reporting and analysis that are easily adjustable. Meaning, that you benefit from greater transparency and gain a reliable basis for evaluating and enhancing your operations.

## Integrated system – maximum efficiency.

MOBILEstatistics is fully compatible with third party systems. But, if you use the software as part of an integrated INIT system, you maximize efficiency and manageability – because the end-to-end solution delivers high-quality planning and operational data from a single source. Plus, you benefit from automatic feedback of statistics to the INIT planning tool, allowing you to more effectively compare actual performance to plans and forecasts. With concrete, reliable metrics at your fingertips, you can make the right decision every time.

MOBILEstatistics is also available for use in an innovative APC solution: Together with the IRMA MATRIX sensor, you receive precise information on passenger numbers and passenger flows. Once again, the INIT solution makes the difference. Certified systems can be used for demand-based revenue sharing and estimated car loads calculated in real-time help to better manage passenger flows in metro stations.

You can leverage economic optimization potential with MOBILE-ECO<sup>2</sup>, the platform for vehicle status and driver behavior management. Its vehicle status monitoring enables optimized maintenance and the analysis and display of driving behaviour supports energy-efficient driving. In the case of e-buses, the recording of historical operating data combined with machine-learning algorithms allow for range calculation to get better and better.

## Precise passenger counting – precise data

“INIT’s Automatic Passenger Counting technology delivers credible data that provides an excellent basis for making service planning and scheduling decisions. In addition, INIT has supported RTD with outstanding customer support over the years.”

*Jonathan Wade*  
Regional Transportation District  
Denver, Colorado

### What INIT can help you to achieve

#### Increase efficiency

- ✔ Provide a solid basis for management decisions
- ✔ Deliver Business Intelligence
- ✔ Automated feedback for improved planning
- ✔ Save fuel and optimize maintenance

#### Increase service quality

- ✔ Monitor the fleet’s performance
- ✔ Adjust service offers based on real-time information on passenger loads
- ✔ Increase customer satisfaction by planning in accordance with the actual demand
- ✔ Increase punctuality by feeding statistical data back into the planning process
- ✔ Support crowd management through a patented process



# Implementing and operating electric buses efficiently.

*Public transport companies that introduce electric buses face a number of challenges. Many aspects have to be considered and many strategic decisions to be made. This requires reliable information on costs for investment and operations. Moreover, it is essential to get the support from a solution that comprises all aspects of electromobility, focuses on the operational processes and supports the efficient management of e-buses.*





## Identifying the most economical concepts.

The first step: Making strategic decisions. In the planning system eMOBILE-PLAN you can gather important information with the help of simulations. Which e-buses are the proper ones for your transport system? What is the best charging strategy for your public transport company? How high are the investment and operations costs for the different options? Based upon that information you can make economically sound decisions – and minimize risks at the same time. In addition, eMOBILE-PLAN contains e-mobility-specific parameters such as different outside temperatures or your route's topology. By using efficient optimization algorithms, blocks are created that are both economical and robust – as well for electric buses.

## Everything under control.

Always knowing the current state-of-charge: That is essential when you deploy e-buses since the range of batteries is much more volatile than those of diesel engines. Therefore, they have to be monitored in the public transport company's central management tool – the Intermodal Transport Control System. With the add-on, eMOBILE-ITCS, dispatchers can manage the state-of-charge and execute the necessary measures when needed.

Before a dispatching measure is executed, the system checks whether the remaining vehicle range is sufficient to safely finish the block. The basis for all of this – a reliable range prognosis that gets more and more precise through machine learning.

Cost-effective charge management is guaranteed by MOBILEcharge: It ensures that all buses are at your disposal when needed, sufficiently charged and preconditioned. At the same time, expensive load peaks are avoided. For an intelligent management of the charging processes, the charge management system should be connected with the depot management system MOBILE-DMS. Because it is there that all information about planned blocks of the following day and the consequently required charge capacity is known.

Additional features such as a system for energy-efficient driving complete the 360-degree-solution by INIT, ensuring public transport companies can successfully meet all challenges presented by electromobility.

## All vehicle types in one central system

"INIT's eMOBILE-ITCS enables us to monitor and control all vehicle types in one central system. Our dispatchers receive a quick and comprehensive overview of the current state-of-charge and the remaining range. This simplifies their work."

*Reinhard Renja*

*Project manager for the introduction of ITCS  
and TETRA digital radio  
Rheinbahn AG*

## What INIT can help you to achieve

### In the implementation phase

- ✔ Cost-effective investment decisions
- ✔ Determination of an optimal charging concept
- ✔ Processing of the implementation in a secure and calculable way

### In operations

- ✔ Comprehensive solution that comprises all operational processes
- ✔ Permanent overview of the e-buses' state-of-charge
- ✔ Smooth operations of e-bus-fleets through reliable range prediction
- ✔ Cost-savings by avoiding charge peaks, optimized calculations of required charges, energy-efficient driving as well as optimized maintenance



# Mobility of the future: smart, efficient, on-demand and comfortable.

*The mobility of tomorrow? Doesn't rely on cars any more. A loss of flexibility?*

*Smart mobility concepts provide the proper remedy. They pursue an intermodal approach and combine a strong public transport with individualized offers that are geared to the customers' demands.*

*The key to success lies in regional mobility platforms that create genuine additional value.*





## Public transport – the strong back-bone of an demand-oriented offer

This is what the mobility of the future will look like: new on-demand offers – that especially solve the first mile/ last mile problem – will be connected to a strong public transport network. In addition, individually usable mobility offers such as Bike and Car Sharing will be integrated into smart mobility concepts. Attractive extra services will be bundled on central mobility hubs. The surrounding area of the city will be better connected. All offers that add to fixed-route services will be coordinated in the central monitoring and operations control tool, the Intermodal Transport Control System (ITCS). Therefore, the public transport company will become a mobility broker who actively shapes the region's mobility.

## Register once, book and pay

It is easy as can be for the passengers: a smartphone app suggests intermodal journeys based on their personal preferences. Bookings are forwarded to all service providers by the central booking and payment platform. Users get their tickets directly on their smartphones. The user has to register just once for all these offers (single-sign-on). And he can pay for all journeys taken at the end of the month, comfortably via one single invoice – through direct debiting, Paypal, or other options. Best-price calculations, consideration of monthly passes and combined discounts are possible. Thanks to the EMV standard, casual customers can use their bank or credit cards to use the mobility offers comfortably – ID-based ticketing provides the optimal basis. All this is made possible by an open system architecture with open programming interfaces. Thus, Mobility-as-a-Service offers emerge that really earn their name.

## Good for INIT customers

Public transport companies that use an Intermodal Transport Control System or an account-based ticketing system provided by INIT already have a solid basis for updating to a mobility platform.

## Integrated mobility offer

“With the project regiomove, Karlsruhe – including the whole region – beams into the future of mobility. The mobility offers of the whole Middle Upper Rhine Valley region will be closely connected: tram, bus, Bike Sharing and Car Sharing. They will be intertwined successively which transforms the Karlsruhe Transport Network (KVV) into a mobility network. By developing a booking and payment platform INIT contributes significantly to it.”

*Dr. Frank Pagel*

*Project Manager regiomove  
Karlsruher Verkehrsverbund (KVV)*

### What INIT can help you to achieve

#### Continue to remain the backbone of urban mobility

- ✔ Integrate new mobility offers and service providers
- ✔ Offer one booking and payment platform (Be your region's mobility broker)
- ✔ Monitor all mobility offers in the ITCS
- ✔ Economically operate less frequented routes using on-demand-services

#### Offer customers additional service

- ✔ Single-sign-on
- ✔ Easy purchase of all tickets
- ✔ Central bookings and payments for all forms of mobility
- ✔ Solve the first mile/last mile problem
- ✔ Offer Mobility-as-a-Service (MaaS)



## A partnership you can rely on.

*At INIT, it's not just our products that last a long time – our relationships with our customers are long-term, too. Clients value our extensive expertise and our comprehensive service and support offerings. We know your business environment, we understand your requirements, and we speak your language. Our local teams at offices across four continents are always at your service.*





## Support you can rely on.

The majority of our hard- and software components can be reordered for a period of at least ten years. As we develop our products in-house and are constantly fine-tuning them in line with new requirements. So you can rest assured that your investment is secure. You can also rely on a customer service that will meet your needs to the letter: Receive support from our service line or 24/7 hotline, consult with experienced developers throughout your project, and benefit from our comprehensive maintenance contracts. Further services include in-depth training, e-learning programs, regular user group meetings and webinars, remote error diagnostics – all designed to ensure implementation and operation is as successful as possible. This kind of support leaves nothing to be desired.

## IT-services you can rely on.

But that's not all. We are happy to work closely with you in day-to-day operations. Moreover, we provide you with an operations manager who will keep a permanent overview of your operational situation and advise you regularly. We can also take over operations and data maintenance for you. We ensure availability by actively monitoring the status of your system. Or carry out preventive or planned maintenance. Often INIT also takes over the complete responsibility for the central hardware by hosting it. And, of course, we are also pleased to advise you on future challenges. Which means that your system not only improves permanently, but also remains future-proof. Thus you can concentrate on your core competencies and take full advantage of our unique turnkey system. We aim to make life easier for you, your employees and your passengers. Anything your employees cannot accomplish yet, they will learn with our help.

## As practical as possible.

We offer you training courses – practically oriented, understandable and precisely tailored to your needs. So you can use your customized INIT system in the best possible way.

## Focus on your core business

In partnership with several local bus operators in the region, INIT provides Hertfordshire County Council with an integrated fleet management, real time information and ticketing solution.

Buses are equipped with INIT's on-board computer or ticketing machine, whilst all back office systems are hosted by INIT at a local data center. The Hertfordshire real time network is expandable to add further clients.

For Nottingham City Transport and Nottingham City Council, INIT implemented the Greater Nottingham RTPi – a multi-client fleet management and real time information solution. The hosted scheme includes INIT's software solutions for statistical analyses.

INIT is in the process of expanding the Greater Nottingham RTPi system by adding further clients.

### What INIT can help you to achieve

- Maximum protection for your investment, as components can be reordered for a number of years
- State-of-the-art systems – developed in-house and constantly evolving
- First-rate service and support from local teams in your area
- 24/7 hotline
- Full service through hosting
- Operational services

*If you would like to know more about the integrated solutions from INIT, please contact us at [sales@initse.com](mailto:sales@initse.com). We look forward to hearing from you.*

INIT is the worldwide leading supplier of integrated planning, dispatching, telematics and ticketing systems for buses and trains. For more than 35 years, INIT has been assisting transport companies in making public transport more attractive, faster and more efficient.

**INIT Group**



[sales@initse.com](mailto:sales@initse.com) | [www.initse.com](http://www.initse.com)

**init**

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