LIVEavL & LIVErtpi – your smart SaaS solution for fleet management and passenger information

Track your fleet easily and provide your passengers real-time information

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The Future of Mobility

It is essential for public transport companies, authorities and operators to track and monitor their entire fleet in real time, know about possible delays and provide passengers with up-to-date information on arrivals and departures. INIT provides you with an easy to understand, modular, web-based solution that gives supervisors and dispatchers a thorough overview of their en route vehicles and provides driver communication and reporting. As a web-based Software-as-a-Service solution, it requires only minimal upfront investment. It is a cost-effective system that can be quickly implemented and will grow with your company due to its flexibility and scalability.

Enables well-informed decisions from dispatchers/supervisors

Online solution with minimum hardware requirements

Cost-effective due to Software-as-a-Service model

Reliable online information for passengers with LIVErtpi

LIVEavl / LIVErtpi

Modern, fast, and user-friendly system for automatic vehicle location and passenger information

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› Introduction

Public transport companies and operators need reliable information about their fleet activities. Passengers need reliable information about lines, stops, upcoming departures, possible delays and deviations to plan their journey. You can meet both needs with one quickly implemented CAD/AVL (Computer-Aided Dispatch / Automated vehicle Location) and RTPI (Real-Time Passenger Information) solution. A modern, future-proof solution for both tracking and monitoring your fleet AND providing all necessary passenger information is our modular system LIVE. LIVEavl is responsible for the monitoring and dispatching part whereas LIVErtpi deals with passenger information.

By leveraging real-time data accurately down to the second, the system gives you a timely picture of the performance of your fleet and enables you to detect and react to deviations. It also allows you to inform your passengers precisely about any incidents.

The system can be easily accessed from a clear graphical web-based interface.

| In LIVEavl's dashboard, supervisors and dispatchers see important information about the vehicles en route. They also have easy access to the different functions of the solution.

› Always up to date thanks to SaaS principle

As centralized SaaS (Software-as-a-Service) solutions both LIVEavl and LIVErtpi are managed, maintained and updated regularly by INIT. Dispatchers and supervisors only need computers with an up-to-date web browser to access the system. All calculations are handled by the back-end system, with the majority of intelligence centralized on the server. The vehicles only need to collect basic data such as GPS coordinates and trip identification. Once the data has been processed on the server, it is utilized by multiple system functions for: visualizing the predicted stop arrival and departure times, real-time vehicle status / location, generating multiple reports or analyses.

The latest cloud technology and regular updates guarantee that you always have a safe, up-to-date solution with the newest features installed. The user-friendly interface can be customized to meet the specific needs of supervisors and dispatchers. Each user has his/her own account – therefore, all may be given access to different functions.

Equally beneficial for companies of any size: The system can be set up very quickly and efficiently. A pilot project with real-life data is available in a few days. Implementing and setting up a live project will take no more than a few weeks.

SaaS means that you are free from the care of servers or data centers because you only need web access. There is a subscription model meaning you only pay a monthly, quarterly or yearly fee eliminating the need for large upfront investments. This allows for cost-transparency and efficiency.

› LIVEavl: a flexible, scalable solution

One of LIVEavl's main advantages is its flexibility. With the agile and scalable fleet management solution, operations control center staff can track and monitor vehicle fleets of just about any size. Subcontractors, too, may use the system to be informed on the position and punctuality of their vehicles. The solution can be scaled up and down to meet the needs of the company or operator. This allows you to accommodate your growing demands without compromising performance or incurring significant costs. In general, hardware upgrades or system capacity enhancements are not necessary.

› Track, monitor and dispatch your fleet with LIVEavl

An important LIVEavl feature is the monitoring function, the ideal tool to get an overview of your fleet, to track and monitor your vehicles and their positions, as well as their punctuality. If there are deviations from the planned route, an alarm is visually shown on the display. Dispatchers and supervisors can quickly react to these alarms, and, in case of obstructions, they can manage deviations with the solution so all vehicles will safely reach their destination. If there is a situation that asks for immediate support on location, the dispatchers can navigate road supervisors and maintenance staff to the vehicle, all while communicating with the driver via on-board computer or smartphone to manage the disruption. They also can close and relocate stops and cancel trips.

Vehicle data and positions can be received from a variety of data sources. The GTFS interface (GTFS = General Transit Feed Specification), an internationally renowned format for public transportation schedules and associated geographic information, enables public transport companies to store and modify planned timetables (static data). There is also a GTFS-RT open data interface for providing third parties with real-time information as open data. If needed, timetables can also be created and maintained with a special module called Transit Data Management.
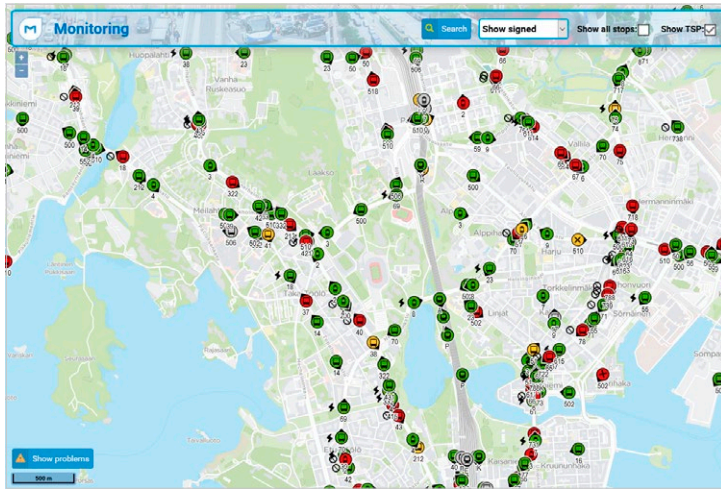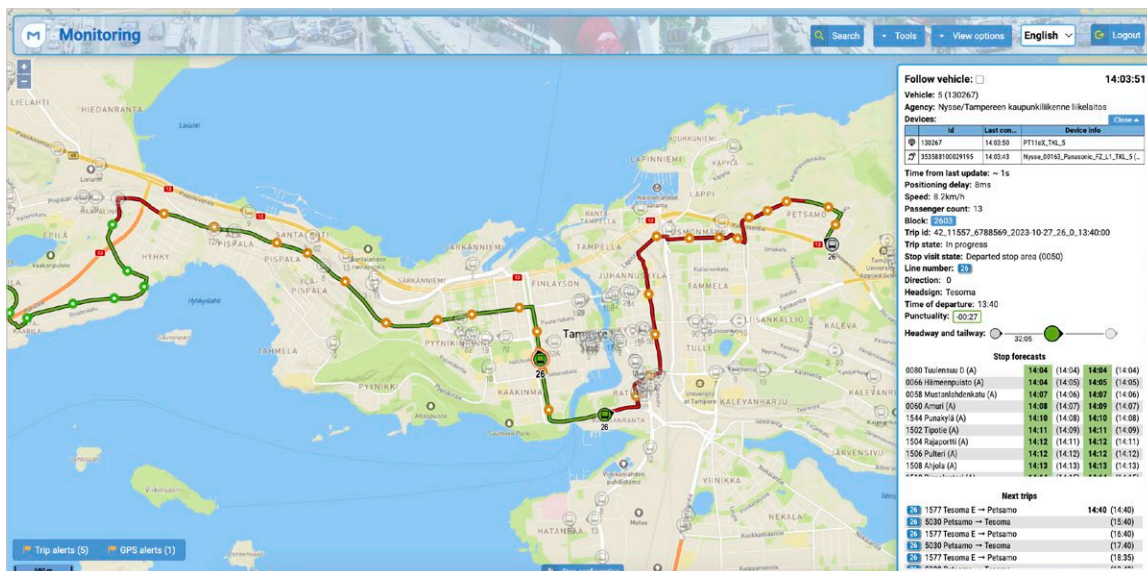
| Real-time fleet operations: Dispatchers get a clear overall view at current vehicle positions and statuses.

So, the solution combines real-time vehicle data with detailed schedule data to enable operators to take control of operations and keep their passengers moving. The easy-to-use design ensures that the traffic data is understandable to all individuals across a public transport company.

Vehicle positions are shown with a color coding, making it easy to detect if vehicles are ahead or behind schedule.

In addition, users can click on these colored markers to receive more information. By clicking on a stop or vehicle, users can view basic information such as departure time, speed, punctuality, and vehicle-specific details. Additionally, the current route and upcoming stops are displayed along with up-to-date predictions.

LIVEavl has been developed for use in public transportation but may also be used for tracking and monitoring any passenger transport fleet (e.g. company shuttle services). It is suitable for rail services and both diesel and electric buses.

› State of charge monitoring for electric vehicles

An important factor for companies with electric buses: The buses' state of charge can be shown in LIVEavl. In this way, dispatchers are always aware of the battery condition and can be certain that the buses have enough battery power to reach their destination. If the state of charge is alarming, the dispatchers will be able to start dispatching measures in time.

| Monitor a specific vehicle on its block and receive all necessary data.

› Vehicle communication and driver access

Clear communication between the vehicle and the back-end system is essential, allowing the public transport provider to continuously monitor the vehicle's location and ensure on-time performance. The system can receive the necessary data from any suitable existing vehicle equipment as well as from INIT hardware (PC-based on-board computer COPILOTpc, PC-based ticket printer and on-board computer EVENDpc), or open data sources. Yet there is another possibility to implement LIVEavl in the vehicles. It requires only an Android smartphone or tablet to send the necessary vehicle data to the back-end system. In addition, the LIVE Driver Terminal application is used for providing real-time notifications and messages from the control center to the drivers and vice versa. In this way, the entire system can be virtualized without any on-board hardware installations.

Providing drivers with these standard devices ensures a perfect data flow, offering both drivers and operators seamless and stable communication with the control center, including real-time notifications and messaging.

| A key advantage of LIVEavl is its compatibility with any on-board computer, such as INIT's COPILOTpc or EVENDpc, as well as third-party systems. In case there is no on-board computer, standard Android smartphones or tablets may be used in the vehicles. The only software needed on the smart devices is the LIVE Driver Terminal App.

› Passenger information with LIVErtpi

LIVErtpi is designed to meet your passengers' needs by providing precise real-time departure information accessible on their mobile devices, your website, or passenger information displays. The information is available on standard web browsers for both desktop and mobile without requiring additional installations. The system automatically detects the device type and optimizes the view accordingly. Public transport companies can customize the display with their official design, including colors, fonts, and logos.

Passengers can easily see when their bus, train, or tram will arrive, find out about transfers and changes, and get real-time updates for each stop to adapt their travel plans as needed. The system also displays the nearest stops on a map, and for a selected stop, it shows the locations of vehicles serving the stop along with upcoming departures in a table format with real-time predictions. Any deviations are immediately visualized and made visible to passengers.

On your website, passengers can get an overview of all routes, departures, and individual stops. Additional information about their trips, including visualized vehicle locations and real-time departure times, is provided. You can include notes to quickly inform them of any incidents. Dispatchers and supervisors can create and

broadcast updates to keep passengers informed about temporary changes, with the exact visualized information displayed to passengers.

To predict upcoming stop arrivals and departures, the system uses static data from planned timetables, routes, and stops in GTFS format, combined with a minimum real-time data set from vehicles, including GPS and trip identification information. Advanced algorithms enhance prediction accuracy by analyzing this data alongside real-time locations and collected historical data.

This comprehensive passenger information system also includes virtual monitors, with each stop having its own web page displaying real-time prediction departure times. These virtual monitors can be configured for use on bus stop shelter displays or by third parties in bus terminals, lobbies, shopping centers, theaters, and cinemas, ensuring passengers are well-informed throughout their journey.

› In-depth online reporting

You can always enhance your chosen solution by adding optional modules. One valuable addition is the Vehicle Registry, which allows you to manage vehicles and their parameters, including passenger capacity, emission category, and accessibility information.
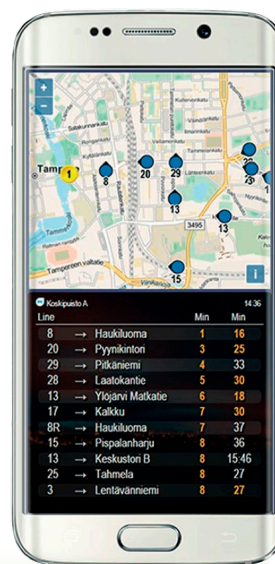
— Passengers can access information about upcoming departures, arrivals, and delays on their computers, smart devices, or at stops and in vehicles — anywhere they are.

There is also a fully tailored, in-depth online reporting tool with over 20 versatile reports that help you make proper decisions for the future. Departure data is stored for two years from the trip departure so the reports and gathered data can be of indispensable help while creating a future timetable. Included are, for example, punctuality reports (with all departures and their punctuality performance), driving time reports (with all departures and the driving time from the first stop to all subsequent stops), statistics reports and a list of non-registered trips (with the departures that were not registered by the system).

| Reporting function: Overview on daily punctuality.

Further options and new functionalities may be added based on customer requirements.
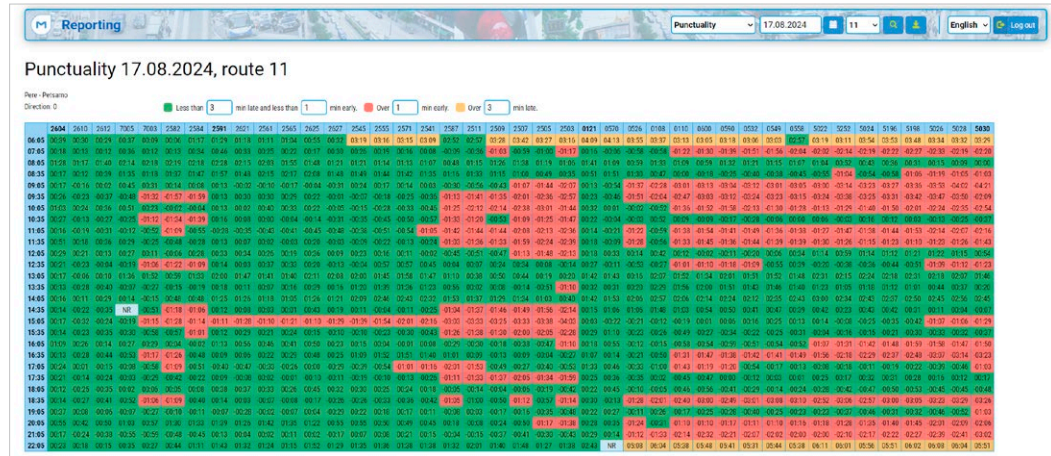
› Conclusion

For fleet management and real-time passenger information, the combination of LIVEavl and LIVErtpi is the ideal choice. It allows public transport providers to reliably track and monitor their fleet in real time, while also delivering essential departure and disruption information to passengers. Whether it is public transport companies, independent (bus) operators, subcontractors, or organizations managing a vehicle fleet (such as company shuttle services), they can all rely on this proven and dependable solution. Thanks to the system's structure (web-based, SaaS), upfront investments are minimal and standard smart devices may be used as on-board computers in the vehicles. Therefore, a fast implementation is guaranteed. SaaS ensures that the system is maintained by INIT and that users always have access to the latest software version. The system's flexibility and scalability allow for the easy addition of useful features, which guarantees that you will use a system tailor-made for your company.

A system for everybody: It facilitates the interaction of public transport company, vehicle, passengers, and partners

PUBLIC TRANSPORT PROVIDERS
LIVEavl empowers each department within your organization by granting them access to pertinent real-time data and patterns. This enables intelligent transportation management.

DRIVERS
LIVEavl ensures driver success by providing real-time punctuality information, removing any guesswork from their tasks. It enhances reliability and flexibility through seamless communication between the driver and operator, along with continuous monitoring of vehicle locations.

PASSENGERS
LIVErtpi ensures customer satisfaction by consistently providing timely and reliable services, along with precise, up-to-date information pertaining to departure times, stops, and any changes to the schedule.

PARTNERS
LIVEavl / LIVErtpi can be used in combination with a wide range of INIT and third-party solutions and effortlessly connect with open data sources, ensuring compatibility and flexibility in implementation.

If you would like to know more about this project and featured INIT products, please contact us at sbedford@initse.com. We look forward to hearing from you.

More than 1,400 transport providers worldwide rely on our comprehensive solutions to support them with their daily tasks

- *Planning & Dispatching*
- *Ticketing & Fare Management*
- *Operations Control & Real-Time Passenger Information*
- *Analyzing & Optimizing*

Moreover, transport companies can also master all requirements of electromobility and set up a single sign-on mobility platform using our modular solutions. A robust package of operational services completes the INIT offer.

INIT is the worldwide leading supplier of integrated planning, dispatching, telematics and ticketing systems for buses and trains. For more than 40 years, we have been assisting transport companies in making public transport more attractive, reliable and more efficient.

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