## TELESTE S-ARRIVE®

Solution for the delivery and management of on-board passenger information



# TAKE A STEP INTO SMART, MODERN MOBILITY

Real-time passenger information is vital to public transport infrastructures. From keeping passengers informed on every step of their journey to providing an effective transit service, the high quality and availability of passenger information are among the most important aspects of a smart and modern mobility system.

## Ensure continuity with evolving software

Our proactive approach guarantees that your S-ARRIVE solution works for years to come. The operation and functionality of the software are continuously improved on the basis of its wide installation base.

## PROVIDE AN UNINTERRUPTED FLOW OF INFORMATION

Teleste S-ARRIVE® is a product-based software solution designed for the easy and reliable delivery of on-board passenger information. With the software, you can ensure that the right information is readily available and easily accessible to passengers when they need it. Whether in a visual format or a public address, intercommunication or infotainment, the information flow is always real-time and uninterrupted.

## Close customer collaboration

The S-ARRIVE software is based on our decades of experience in developing on-board solutions for trains, trams and metros. It has been developed in close collaboration with international rolling stock manufacturers and railway operators.

#### A safe investment

Teleste S-ARRIVE is based on proven, wellworking software and processes. The carefully designed combination of standard software modules and customerspecific functionalities makes the software a safe investment for transit operators looking to add value to their on-board services.

## Focus on cybersecurity

With Teleste S-ARRIVE, you can trust that your on-board passenger information system is protected against cyber threats. Utilising modern cybersecurity technologies helps keep your critical infrastructure safe from cyber-attacks, potential disruptions and malicious third parties.

#### **Consistent high quality**

Your S-ARRIVE solution is subjected to thorough testing and a validation process that ensures it matches industry expectations and standards and offers the best value for your investment.

#### Short lead times

A wide selection of standard and project-specific modules are available with your S-ARRIVE solution, which ensure easy augmentation with diverse use cases and applications and short lead times for the software deliverables.

#### Lifecycle support

Your S-ARRIVE software comes with lifecycle support provided by our experts. Our aim is that your software maintains its high quality and adoptability to changing operational environments and passenger expectations.

## CHOOSE THE RIGHT MODULES FOR YOUR NEEDS

The S-ARRIVE software is based on modular architecture that meets rail industry standards and customer requirements. The technology used makes the software easily adoptable for the needs of individual vehicles, projects and transit systems, and it guarantees that your S-ARRIVE solution is ready to change in step with evolving industry and passenger expectations.

## S-ARRIVE BASE MODULES

The base modules are always included in your S-ARRIVE solution to guarantee easy management and maintenance.

#### Maintenance module

The S-ARRIVE maintenance module ensures that the software and its functionalities are easy to maintain, modify and update.

#### **Teleste On-Board API**

Teleste On-Board API is the heart of the S-ARRIVE software. It gathers data from the on-board system and provides it to passengers or train crew. The On-Board API data can be used also by third party software and devices.

## OPTIONAL MODULES AND ADD-ONS

Optional modules deliver the basic S-ARRIVE functionalities, and you can choose the modules that meet your service requirements. As requirements change, new modules can be easily added to your S-ARRIVE solution, and old modules can also be replaced.

#### **Crew User Interface**

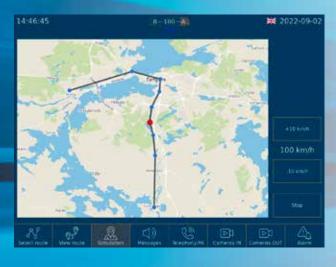
The Crew User Interface provides the train crew with easy and flexible control of the S-ARRIVE software.

#### **Journey Tracking**

The Journey Tracking module enables automatic train position tracking on a selected journey. Based on the other modules in use, your S-ARRIVE solution supports versatile automated functionalities and events based on the train position information.

#### **Event Management**

Event Management allows you to run automatic functionalities based on journey tracking. You can also configure various event triggering conditions, from vehicle location to status of doors and train speed. Automatic events are complemented with on-board public address and information displays. S-ARRIVE offers an intuitive graphical user interface for easy management of the software functionalities.



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#### **Display Control**

With the Display Control module, you can control and manage the delivery of visual passenger information on on-board displays.

#### Infotainment

The Infotainment module is used for providing passengers with diverse news, advertising, entertainment and other content. The system supports a wide range of video and audio formats and it is complemented with an information display system.

#### Audio Communication

The Audio Communication module enables value-adding delivery of information, live voice announcements from train crew, public address, train crew intercom and passenger intercom. The software supports a wide range of audio formats, text-to-speech and VoIP/SIP audio communications. It can be seamlessly integrated with other on-board systems such as display and wayside systems.

#### Wayside Systems

The Wayside System module offers you features such as passenger information system control from wayside, status of the vehicles in your fleet, communication functionalities over VoIP/SIP audio, and creation and management of on-board playlists. It also includes a versatile video management system with live camera view, downloading of recordings and recorder configuration for managing your fleet's CCTV solution.

#### Seat Reservation

The Seat Reservation module ensures a smooth journey for passengers as they can easily find seats they have booked before boarding the train. The solution also allows non-seated passengers to ride with comfort as they can sit in any unreserved seat.

### PROJECT-SPECIFIC MODULES

You can also design customer-specific, customer platform-specific and even project-specific modules to your S-ARRIVE solution with us to address your special on-board needs.

### S-ARRIVE ON-BOARD PASSENGER INFORMATION

The S-ARRIVE passenger information software is based on open, modular software architecture that makes it an easy fit for different kinds of applications. The software comes with automated functionalities that provide several combinable event triggering conditions that vary from vehicle location to door status and speed.

- Automatic functionalities and events
- Automatic and manual control of on-board passenger information
- Standard interfaces for seamless and secure interconnectivity technologies

### S-VMX VIDEO SURVEILLANCE SYSTEM

Our on-board video surveillance solution creates a future-proof security hub that allows you to monitor and manage situations in real time. It helps you ensure the safety and security of passengers on-board. You will be able to manage, process, view, store and distribute live and recorded video.

- Secure and safe journey for passengers
- Live camera view with 24/7 access
- Connecting data from various sources under a single user interface
- Advanced data security to protect your infrastructure

### INFORMATION DISPLAY TECHNOLOGIES

Our family of on-board displays offers you versatile display options for various needs. Based on modern display technologies, the displays are designed for accurate information sharing and excellent readability of content in 24/7 on-board use.

- TFT LCD displays with superior readability
- Monochrome LED displays for high-quality text-only information
- Full colour RGB LED displays for high brightness and visuality

## BUILD AN EFFECTIVE ON-BOARD PLATFORM

The S-ARRIVE solution can be seamlessly **integrated with other on-board systems**, including on-board CCTV, passenger counting and on-board network and information displays. Taking advantage of flexible standard interfacing allows you to build an effective transit platform that helps you provide safe, enjoyable and fully connected journeys to passengers while creating an ecosystem of technology and service capabilities.

Operating in over 2000 railway vehicles in more than 20 countries, our onboard solutions are **railway-proof and standardised**. For example, they fulfil the requirements for fire and smoke, RAMS and obsolescence management. Our high quality also conforms with the railway industry standard ISO/TS 22163 (IRIS), as well as the ISO 9001 and 14001 standards.

### PASSENGER COUNTING

The Passenger Counting module monitors the number of passengers entering and exiting a train. Equipped with artificial intelligence, the solution identifies passengers within the field of action through tracking algorithms.

- Artificial Intelligence helps count passengers entering and exiting the train
- High accuracy rate helps distinguish passengers from objects in the area
- Easy installation and configuration
- Full compatibility with the most popular communication protocols

### ON-BOARD NETWORK

Our on-board network is based on the redundant Ethernet backbone. Consisting of a wide range of network components with dynamic IP addressing, the solution provides you with a reliable platform for connecting all communication and equipment within the vehicle.

- High system redundancy and reliability
- Easy network management
- Extensive configuration and network topology options
- Protected against cybersecurity risks with secure protocols and up-to-date technologies



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P2P\_Teleste S-ARRIVE Solution, September 2022

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