multi sensor

Public Transportation
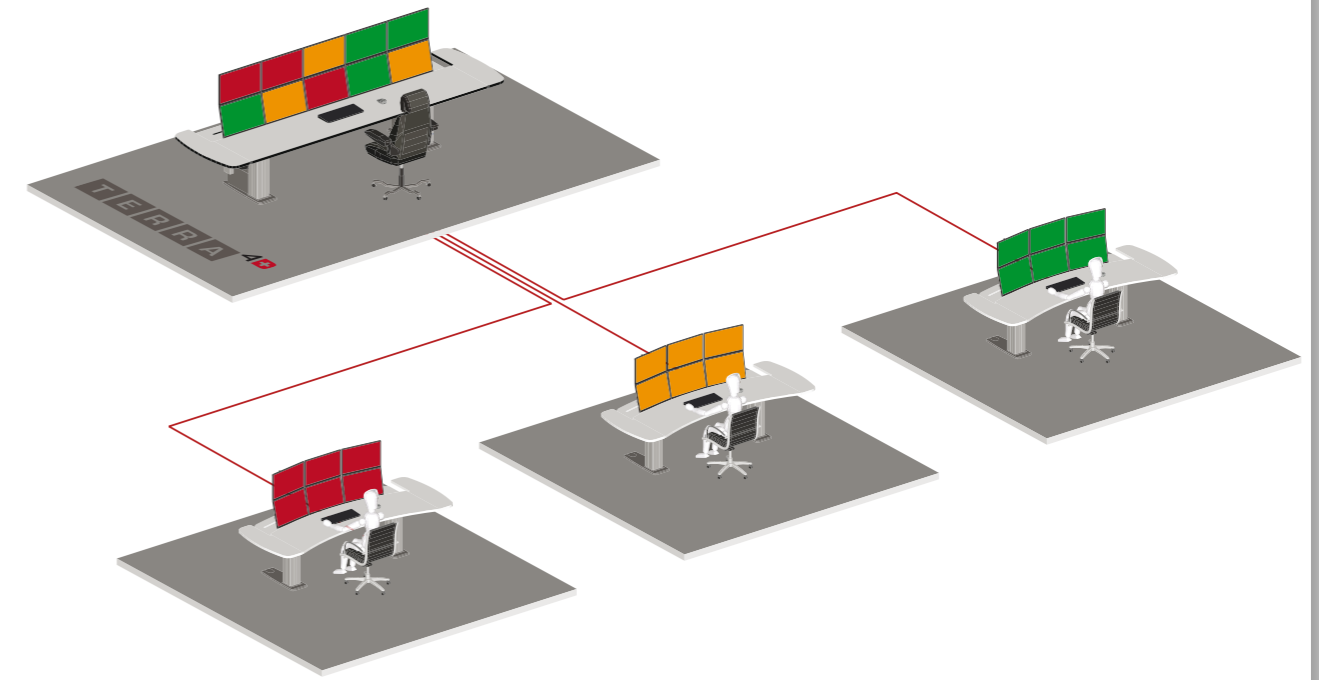Data Unification

extend your view

TERRA 4D⊞

Public Transport Data Unification, integrating information for public transport authorities. The TERRA 4D platform collects, organizes, and standardizes data from various sources including buses, trains, trams, metros, and ferries. This data includes schedules, routes, fares, real-time updates, video and more.

Public Transport Data Unification significantly enhances the experience of using public transportation by providing readily available information to public transport authorities. This reduces uncertainty, travel time, and encourages more people to choose sustainable transportation options. The TERRA 4D platform supports ongoing innovations, including the development of smart transportation applications and services. This leverages data unification to create new and improved travel experiences.

TERRA 4D assists public transport authorities in the following ways:
- Integrating operational applications into a single platform to streamline complexity

- Enhancing situational response, minimizing disruptions to public transportation schedules and ensuring safety

- Providing a common operating picture for rapid situational awareness, management and real-time decision making

- Geo-referencing and correlating data from various subsystems for a timely response to new situations

- Intuitive workflow management, ensuring compliance with company guidelines and GDPR

Key benefits of a Public Transport Data Unification based on TERRA 4D include:

Data Integration

Linking data from multiple sources and systems, which containing use of different formats, standards, and protocols. This involves data from cameras, GPS tracking systems, transportation agencies, ticketing systems, and more.

User-Friendly Interfaces

Providing user-friendly interfaces for operators, administrators, and other stakeholders simplifying access and interaction with the unified data and video system.

Real-time Coordination

Providing real-time information about the status of vehicles, delays, traffic conditions, and any other relevant updates to help public transportation and safety authorities to gain a common operational picture.

Data Sharing

Encouraging collaboration between different transportation agencies, governments, and private sector entities to share data and improve the overall quality of public transport services.

Safety and Security

Utilizing video feeds from multiple sources and data analytics to enhance safety and security measures for passengers, vehicles, and the public transport infrastructure.

Incident Management

Using video footage and real-time data to efficiently handle incidents, emergencies, and disruptions in the public transport network.

Data Analytics and Insights

Utilizing data analytics to gain valuable insights into fleet performance, passenger behaviour, route optimization, and overall system efficiency.

Privacy and Security

Addressing privacy concerns related to the collection and use of personal data, while also ensuring the security of the systems and data involved.

Regulatory Compliance

Ensuring compliance with all relevant regulations, safety standards, and data privacy requirements for public transport services.

Command and Control Centre

Video Wall	Support of video walls and multiple screens per operator desk
Time Machine	Use the player control to navigate through space and time and see all recorded data (video, GPS tracked objects, weather, …) time-synchronized
Workflow and Incident Reporting	The intuitive workflows remove operator randomness, reduce stress for the user during an indident and enforce company's compliance guidelines
Locate, Dispatch & Engage	The coordinates of any object seen in a video of from a location in the 3D GIS model can be converted into a target waypoint and sent to the „closest" intervention team member(s)
Dashboard	Graphical representation of data, telling a unique story of what is happening and enabling better utillisation of resources
Geospatial Rules Engine	Defines rules and methods enabling auto-respond to incidents
Layout Independent Program (LIPO)	Keep system maintenance up to date: removing, adding or moving a sensor requires only the deletion, addition or correction of sensor coordinates. No system programming required

3D Visualization

Multi-Layer GIS with real-time rendering Engine	Digital Terrain Model (DTM), Ortho Imagery (aerial or satellite images), Street Map, Traffic Layer, 3D Buildings
Geocoder	Address search, Forward: type address and GIS shows location, Backward: show address and any clicked location in GIS model
Indoor and Outdoor Visualization	Depots, buildings, vehicles, roadways, and tunnels are shown in the 3D GIS model, 2D Auto and BIM plans can be imported to enable visualization
Geospatial Document Library	Enables practical organisation of the document library (document is placed at geographical location) and easy access to relevant files according to user privileges
Object Track Visualization	Trace the start of an object's movement. Complete historical track is visualized in the 3D GIS model
Avatar	Represents a selected object and its class in the 3D space
AVL, GPS Meta Data	Shows meta data attached to an avatar, e.g. Automatic Vehicle Location (AVL), delivering unique bus ID, location and live parameters

Video

Supported Cameras	Fixed CCTV, PTZ, dash, body worn cameras and gimbals
Position Dependent Salvo	Shows closest cameras to a static or dynamic object location
Incident Analysis Data Correlation	Search and correlate video, communications and data from multiple platforms for post incident analytics
Alarm and Events	Auto-start new incident event recording on distress call
Geo-referenced Video	Determine object location (latitude, longitude, height), speed, direction and size from video image
Multi Camera Tracking	Follow a moving „tagged" (GPS, RFID, AVL) or „untagged" object using one or more fixed, mobile, or body-worn cameras simultaneously
Selective Data Shaing	Connect video and data feeds with multiple incident responders and agencies on an „as-required" basis to support, e.g. police, ambulances, fire, city CCTV and company response teams

Mobile Dispatching and Tracking

Dispatching	Get current positions of all units in the field and send units to target coordinates
Geo-fencing	Define geographical alarm or warning zones to receive alarms when tracked objects enter or leave such areas
Communication	Send and receive text messages, pictures, videos, locations, and calls

FAST Systems AG

Höschgasse 25
8008 Zürich
Switzerland

Tel   +41 44 262 84 10
Fax   +41 44 262 84 11

solutions@fastsystems.ch
www.fastsystems.ch