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Web Platform

GEO-DATAVIEW WEBTRANS-4K

INTRODUCTION

WEBTRANS-4K is a web platform within the GEO-DataView software package for managing, viewing and analysing data from remote stations. It accesses the central database where Teletrans-W4K stores the measurements received from the stations and presents them to users in real time as numerical tables, time-series graphs and camera images.

The platform is available either as a cloud service or as a distributable web server installed on the customer's own infrastructure, giving full flexibility over hosting, branding and integration.

FEATURES

Responsive web interface
Adaptive layout for desktop, laptop, tablet and smartphone, with interactive multi-touch charts for data visualisation and analysis.

Real-time data from remote stations
Displays meteorological, hydrological, solar, road and other data in real time, linked to each station.

Interactive maps and image gallery
Shows all enabled stations on a map with access to the latest data and a gallery of images from cameras connected to the stations.

Flexible data export
Allows download of data and graphs in common formats (TXT, CSV, PDF, Excel, etc.), with background processing and email links for large exports.
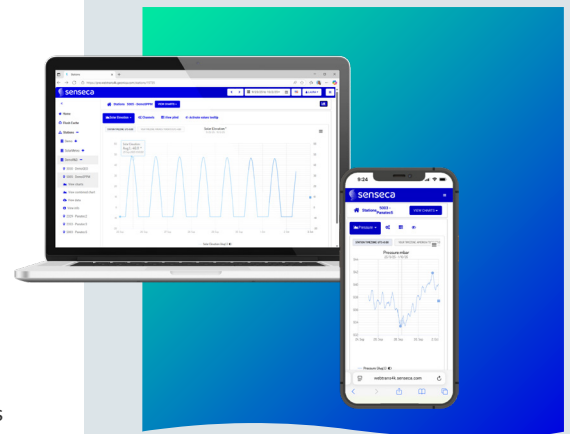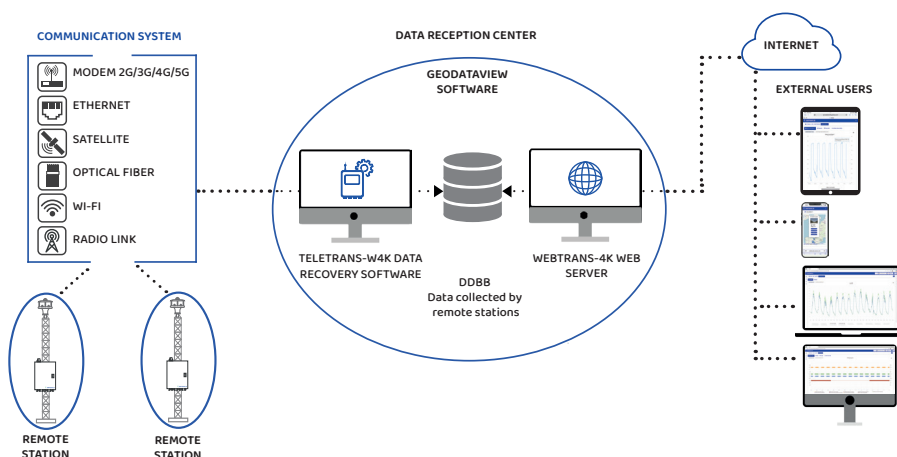
Secure, multi-language access
User login with username and password, role-based permissions and an interface available in more than 70 languages.

CONFIGURATION & OPERATION

Data flow and architecture
Remote stations collect data from connected sensors and store it in their internal memory. Teletrans-W4K retrieves this data via the communications system (3G/4G/5G, Ethernet, radio, satellite, etc.) and stores it in the central database at the Data Reception Center. WEBTRANS-4K connects to this database to present the information to users over the internet.

- **RESPONSIVE DESIGN TO ADAPT TO ANY DEVICE: PC, MAC, TABLET, SMARTPHONE, ETC.**

- **SOPHISTICATED INTERACTIVE CHARTS FOR DATA VISUALIZATION AND ANALYSIS.**

- **METEOROLOGICAL, HYDROLOGICAL, SOLAR, ROAD, ETC. DATA AVAILABLE IN REAL TIME**

- **INTERACTIVE MAPS TO DYNAMICALLY LOCATE EACH REMOTE STATION AND RELATE DATA AND LOCATION**

- **DATA FILES AND GRAPHS DOWNLOAD IN THE MOST WIDESPREAD FORMATS (TXT, CSV, PDF, EXCEL, ETC.)**

- **ACCESS TO A GALLERY OF IMAGES TAKEN FROM CAMERA CONNECTED TO THE REMOTE STATION**

- **AUTOMATIC UPDATE SERVICE (FOTA).**

- **WEB ACCESS PROTECTED BY USERNAME AND PASSWORD.**

- **MULTI-LANGUAGE: THE INTERFACE SUPPORTS MORE THAN 70 LANGUAGES**

- **API FOR DATA INTEGRATION WITH THIRD-PARTY PLATFORMS**

- **NOTIFICATIONS SENT BY E-MAIL**

Making the unknown, known

Technical Specifications

ARCHITECTURE AND PROGRAMMING

Architecture	MVC Model View Controller
Programming	Last version of PHP under the Yii2 Framework C# Visual Studio Html5 CSS3
Database	SQL (meteorological data storage) MySQL (user HMI configuration storage)
Optimization	Cache systems applied to database queries

WEBTRANS-4K SELF-INSTALLABLE SOLUTION

Virtualization	VMWare Virtual Platform
Virtual Machine	Linux Ubuntu (most recent version) Apache PHP
Configuration Software	'Ubiquitas Manager'

WEB ACCESS- COMPATIBILITIES

Operating systems *(NOTE: Applications are periodically updated to maintain compatibility with the latest operating system versions.)*	Microsoft Windows Mac OS X Linux iOS Android
Browsers	Chrome Firefox IE11 Safari
Devices/ terminals	Desktop computer, laptop, tablet, smartphone

WEBTRANS-4K OPERATION

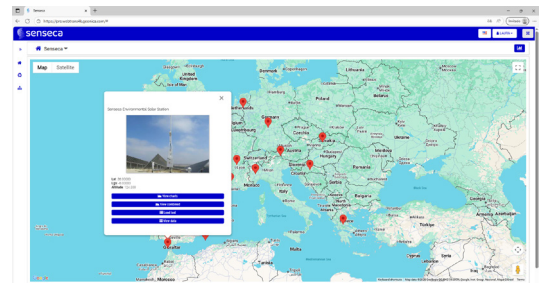|	
Supported map formats	Google Maps (API key required) Bing Maps (API key required) Open Street Maps (API key not required) Georeferenced image
Data export formats	Advanced CSV (database model) CSV TXT Excel
Graphic export formats	PNG JPEG PDF SVG
API	http requests REST Architecture JSON and XML data formats
User management	RBAC (Role Based Access Control)
Management of updates	OTA (Over The Air)
Graph display modes	Stacked graphics, Overlay charts, Individual charts for each channel
Available languages	More than 70 languages supported: English, Spanish, French, German, Italian, Portuguese, Chinese, Arabic, etc.

SOFTWARE EDITIONS

WEBTRANS-4K Cloud Service	Geo-DataView ADVANCED Geo-DataView PREMIUM
Distributable WEBTRANS-4K Web Server	Geo-DataView ENTERPRISE

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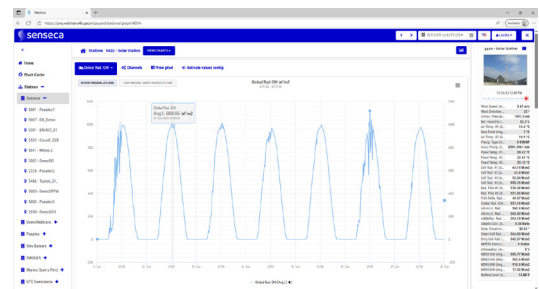## Front-end & Back-End Functions

WEBTRANS-4K offers a clear separation between the user front-end, focused on data access and visualisation, and the back-end, reserved for advanced users and administrators.

Front-end (user view)

- Secure login with user accounts and access levels.
- Station information: ID, model, geolocation and reference image for each remote station.
- All stations shown on an interactive map with access to the latest data on a single screen.

- Powerful time-series graphs with data-quality flags, min/max/average values, tooltips and auto-scaling, including dedicated views for status/bit channels.

- Export of graphs and tables in common formats (CSV, TXT, Excel, PDF, etc.), with background processing and e-mail download links for large exports.
- Photo gallery of images captured by station cameras, organised by date and time.
- "Last received data" side module showing the most recent measurements for each station.

Back-end (configuration & maintenance)

- Administration area to configure website appearance, notification e-mails, active stations and user management.
- Multi-language interface with more than 70 supported languages and a translation module to add new ones.
- Tools that simplify start-up and maintenance: automatic station registration, automatic logging of configuration changes, database size alerts, configuration backup/restore and OTA web updates.

API integration

- REST API with key-protected HTTP requests that deliver station data in XML or JSON formats for third-party platforms.

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