kapsch >>>
challenging limits

EcoTrafiX™ Suite

Making mobility more efficient, safe & sustainable.

EcoTrafiX™ boosts the efficiency of mobility operators in their day-to-day activities, providing a fully map-based situational awareness of the entire intersections & arterials network, accelerating collaboration between multiple stakeholders, optimizing safety & response plans thanks to automatic detection of incidents, forecast of future traffic conditions and decision support tools.

EcoTrafiX™ is a web based integrated mobility solution supporting the coordination of managed strategies to optimize mobility by improving travel times, ecosystem reliability, safety and efficiently reducing GHG emissions and fuel consumption. The EcoTrafiX™ Suite can be tailored to meet agency's needs. There are three basic products which can be configured for City and for Highway applications:
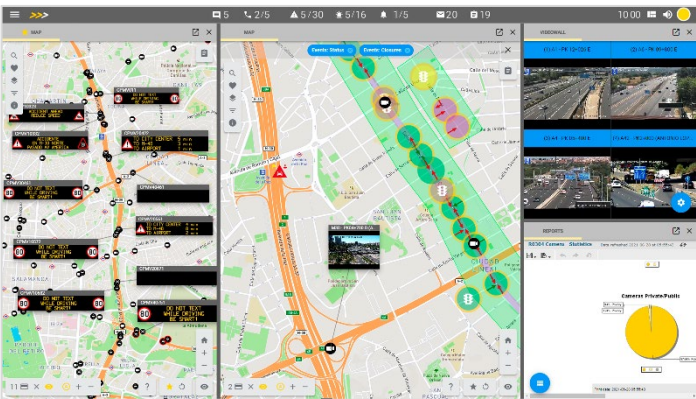
- **EcoTrafiX™ Command** – entry level, traffic signal control system and for ITS device control.

- **EcoTrafiX™ Expert** – including adaptive traffic control, decision support system, weather alerts, event management and traffic prediction.

- **EcoTrafiX™ Mobility** – multi-agency collaboration multimodal event management and coordination, travel information and data fusion.

Easy deployment and maintenance.

Easy integration is a key aspect of the EcoTrafiX™ solution. EcoTrafiX™ is built using a web services oriented architecture (SOA), including an enterprise service bus (ESB), combined with modern database design and data interface techniques such as Extract Transform-Load (ETL). The information and communication technology (ICT) infrastructure upon which EcoTrafiX™ is built allows cost effective and easy application maintenance. EcoTrafiX™ can be deployed on customer premises or as hosted application (cloud).

Flexible and modular.

EcoTrafiX™ is agnostic to hardware or devices such as traffic controllers, meaning there are no dependencies on a particular brand or model; a wide range of devices can be integrated for monitoring command and control using NTCIP, UNE, UTMC and proprietary protocols. EcoTrafiX™ device integration capabilities allow highly flexible and modular evolution of installed systems to support legacy infrastructure, while adding newer features, devices and subsystems.

Situational awareness.

EcoTrafiX™ is designed to capture, aggregate, and archive all data, status and alarms presenting a common operational view which each operator and stakeholder can tailor to its need and area of responsibility. Traffic conditions are monitored continually, feeding dynamic map displays and visualizations. Monitoring of field devices and equipment provide live status and real-time data.

Operational efficiency.

EcoTrafiX™ software is the result of 45 years of experience in providing engineering services, consulting, field and operation services. We have combined our trusted expertise with the best of new technology to maximize the functionality and usability of the software suite to support mobility management and operational efficiency.
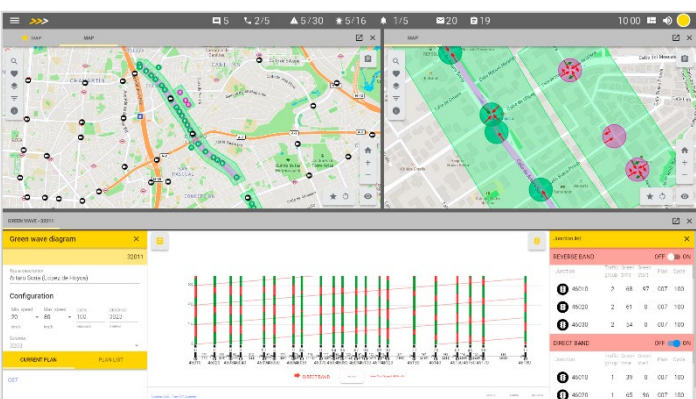

Advanced event management tools.

EcoTrafiX™ includes advanced features for event management and response. The solution combines data fusion and analytics with alarm management and incident detection. Proactive mobility management is now possible, allowing faster event detection, response, clearance and recovery. Weather responsive transportation management strategies are enabled by built-in interfaces for real-time and predictive weather data. EcoTrafiX™ leverages the geo-spatial map-centric operations to locate restrictions and associate incident response plans and resources, such as CCTV, DMS and service patrol vehicles improving incident response and clearance activities.
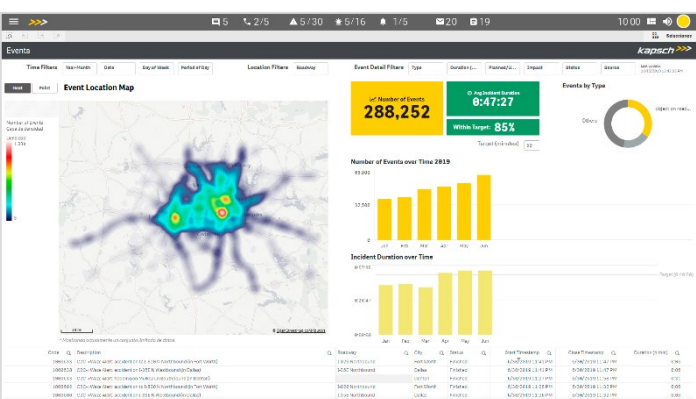
Decision support system.

EcoTrafiX™ includes a Decision Support System** (DSS) to help make efficient decisions about alternative responses and find the best fit for the situation. DSS features include rules-based incident detection and response according to your agency's standard operating policies & procedures (SOPs). The DSS and response plan selection is user-configurable to allow for full automation of some or all actions or require manual confirmation of all system responses.

Mobility management, all in one.

Without considering global mobility, traffic management is nowadays only part of the equation. Mobility implies multiple transportation aspects that EcoTrafiX™ can tie all together. Subscriptions to mobility services and external information sources are a key factor to enrich in-house data. EcoTrafiX™ can integrate data from: traffic, public transit, events, collaborative and crowd-sourced incident notification, weather, pollution, parking and more. EcoTrafiX™ enables global situational awareness, accurate multi-agency decision-making and efficient response for best mobility.

Reporting and dashboards.

EcoTrafiX™ uses real-time and historical data for dashboard displays and generation of performance measurement reports. A predetermined set of dashboards and canned reports are available as well as the tools and templates required for user customizable reports. Creating your own reports has never been so easy, and publishing them in PDF, XLS or web formats opens wide options for dissemination within the agency or even to external users.

*** *Third party integration is required for certain functionalities.*

Extended list of technical features

Standard compliance

- NTCIP, UNE and UTMC base protocols & standards including device & object protocols
- C2C data exchange standards (1-way or 2-way; TMDD/DATEX2 Subset), XML/SOAP; REST
- Interconnection with external systems available through standard REST API and JSON

Device compatibility

Extensive list of compatible devices using NTCIP, UNE, UTMC & proprietary protocols including:
- Traffic signal controllers
- Dynamic message signs Changeable speed limit signs
- CCTV cameras and video management subsystems
- Traffic sensor systems (in-pavement, non-intrusive, video)
- Parking sensors
- Environmental sensor systems (RWIS)
- Air quality stations
- Video-based incident detection

Security

Enhanced security based on latest standards:
- OpenID Connect for authentication (Keycloak)
- Secured communication with TLS v1.2 and 1.3 (https)

Center to field communications

All communications media supported, configurable to meet device requirements:
- Configurable polling rates Direct wire-line
- Wireline: RS232/RS422/RS485 asynchronous and TCP/IP
- Wireless: cellular dial-up, IP via 3G and 4G, TCP or UDP data frames

Software architecture

- Web Services Oriented Architecture (SOA)
- HTML5 map-centric GUI
- Enterprise Service Bus (ESB) / ETL processing
- Java programming

Computer/Operating System architecture

- Windows and/or Linux servers (physical or virtual)
- Virtual Environments (VMware, vSphere and Cloud IaaS)
- ICT system health monitoring & notification (Prometheus + Grafana)

Kapsch TrafficCom

Kapsch TrafficCom is a globally renowned provider of transportation solutions for sustainable mobility with successful projects in more than 50 countries. Innovative solutions in the application fields of tolling, tolling services, traffic management and demand management contribute to a healthy world without congestion.

With one-stop-shop solutions, the company covers the entire value chain of customers, from components to design and implementation to the operation of systems.

Kapsch TrafficCom, headquartered in Vienna, has subsidiaries and branches in more than 25 countries and is listed in the Prime Market segment of the Vienna Stock Exchange (ticker symbol: KTCG). In its 2022/23 financial year, about 4,000 employees generated revenues of EUR 553 million.

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