

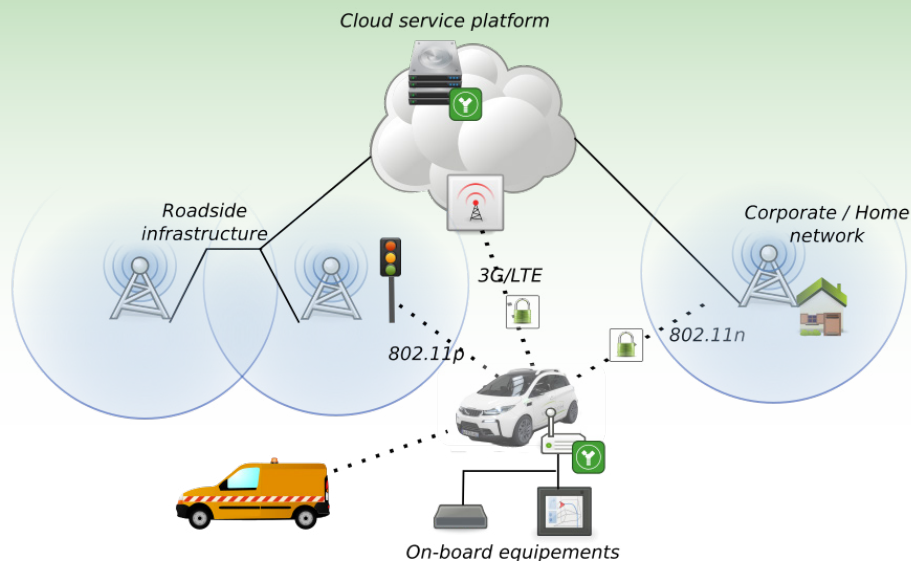



YoGoKo « You Go we Konnect »

Innovative communication solutions for transport and mobility




YoGoKo technology for the connected & cooperative vehicle


Cooperation with the environment (V2X)

- Latest V2X standards
- Automotive-grade chipsets
- Validated in multi-vendors environments / interoperability tests



Connectivity with distant peers

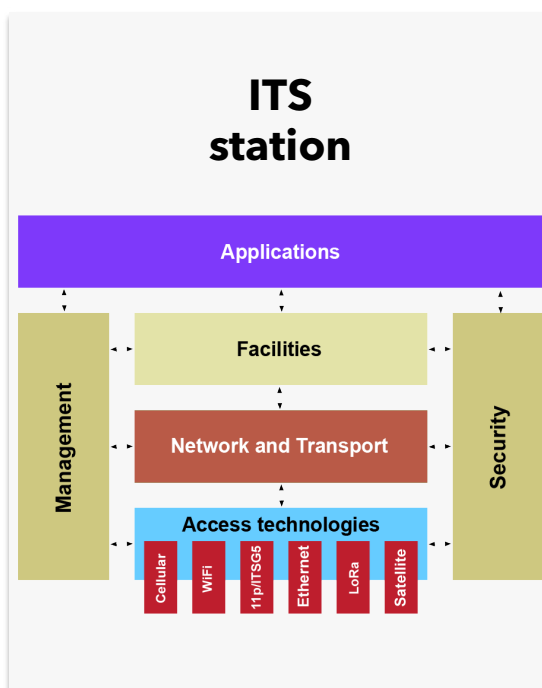
- Internet connectivity
- Scalable applications
- Interoperability
- IPv6 native
- Smooth transition between IPv4 & IPv6



Secure communications

- Internet traffic encryption / VPN
- Firewalling and cloud-based protections
- Isolation of critical communications from infotainment communications
- Credential management
- Remote access control to in-vehicle devices
- State of the art software and hardware features

Communication system for all data exchanges



Unified communication software stack

- Complying with the ITS station architecture (ISO 21217 / ETSI 302 665) & cooperative ITS standards (CEN, ISO, ETSI)
- Combining V2X and Internet connectivity technologies
- Providing extended connectivity using heterogeneous access technologies
- Allowing handover between access technologies and per-flow selection of the most appropriate communication profile
- Providing secure communications
- For all types of ITS stations (vehicle, roadside, personal, central,...)

Hybrid communications

- IPv6-based networking stack optimized for communications in mobile and heterogeneous environments
- Combining available access technologies (3G/4G, urban WiFi, vehicular WiFi, LoRa,...)
- Per flow selection of the most appropriate access technology
- Handover between access technologies

Data management

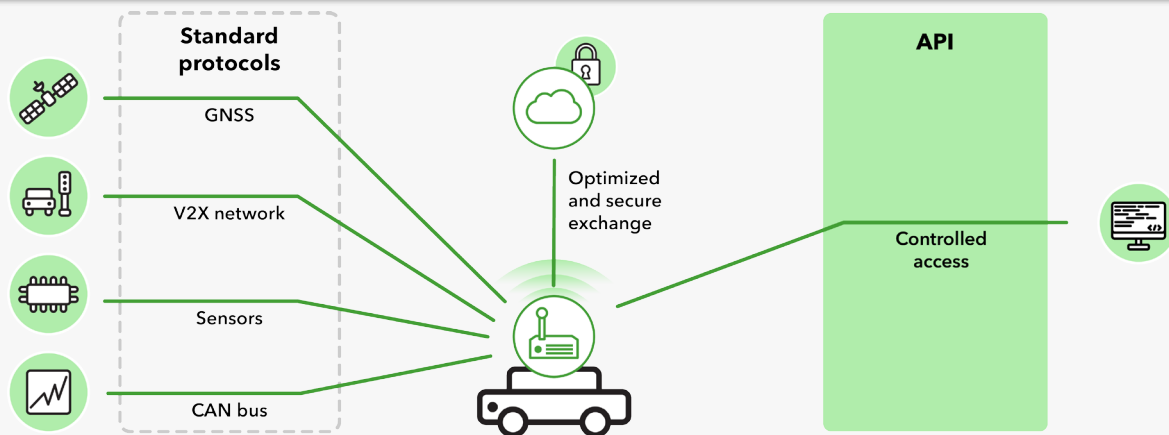
- Collection of network statistics & application's communication requirements
- Prioritization & protection of critical traffic and data
- QoS & flow-by-flow routing
- Delay Tolerant Networking
- Data filtering, computing, collection and storage

Application development support

- YoGoKo solutions are a strong basis for developing and deploying applications, taking benefit from efficient and secure communications.
- Execution of embedded applications
 - Standard, simple and unified API
 - Rich programming environment support (Java, C, WebSocket, RTMaps, Remote API)
 - Flexible and modular framework
 - Integration on various third-party hardware

Security by design

- Cryptographically authenticated applications & services
- Access to data/service restricted according to credentials.
- The software stack can be securely attached to a remote management platform.
- Security controls allow ITS applications to connect to Internet services without compromising users' safety



Y-Box hardware features

Hardware

- Multiple 5.9 GHz vehicular WiFi (802.11p)
- 10MHz-20MHz channel bandwidth
- Urban WiFi (802.11 abg/n/ac)
- Cellular networks (3G/4G)
- Multi-SIM support
- Sensor networks (802.15.4) / LoRa
- HSM module
- Automotive grade ARM or x86 CPU
- Linux-based operating system
- Multiband antenna
- Dynamic frequency selection
- Transmit rate & power control
- GNSS module
- CAN support



Y-Smart software features

V2X / Cooperative ITS

- ISO / CEN / ETSI / IEEE & SAE standards
- IEEE P1609 (WAVE), ITS station reference architecture
- Access Technologies: M5, DSRC, ITS-G5
- Localized communications: FNTF, WSMP, Geonetworking, GN6
- Messages: CAM, DENM, SPAT, MAP
- Facilities: LDM, PoTi, generic messaging, publication subscribe
- Trust and Privacy, PKI
- CEN DSRC coexistence
- Decentralized congestion control

Connectivity

- IETF / ISO standards
- IPv6 and related protocols
- Mobility support (NEMO, MCoA)
- IPv4/IPv6 transition:
 - IPv6 access on legacy (3G) networks,
 - Dual-stack (IPv6/IPv4) in-vehicle network
- IPv6 on sensor networks (6LowPAN), IoT networks and LoRa
- Security: IPsec, IKEv2, AAA, ...
- Vehicle gateway, EV charging (ISO 15118)



contact@yogoko.fr
www.yogoko.fr

@YoGoKoCEO / @YoGoKoFR

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