G-AP-I2C480
AP for vehicles 802.11a/b/g/n/ac WiFi AP with 3G/4G
1167 Mbps Dual Band 2X2 MIMO

galgus

Designed to give WiFi coverage inside all kinds of vehicles (taxis, buses, cars...) enabling 3G/4G connection. Suitable for diverse network usage: Video streaming, downloads, gaming...

Galgus® complete solution

WiFi Network + Intelligence + Management

Galgus' proprietary technology, CHT® (Cognitive Hotspot Technology), provides WIFI networks with a distributed intelligence with no need for a central controller. This avoids bottlenecks and single points of failure, improves performance, save costs, and enables advanced functionalities.

WiFi Features

WiFi standards	IEEE 802.11a/b/g/n/ac
Frequency bands	2.4 GHz (802.11 b/g/n): 2.4 GHz ~ 2.484 GHz.
	5 GHz (802.1a/n/ac): 5.150 GHz ~ 5.850 GHz
MIMO	2x2 MIMO (2.4 GHz) 2x2 MIMO (5 GHz)
Spatial streams	2 per frequency band
Chanel width	20, 40, 80 MHz
Modulation	OFDM = BPSK, QPSK, 16-QAM, 64-QAM, 128 QAM, 256QAM y DSSS = DBPSK, DQPSK, CCK.
WiFi features	IEEE 802.11h (DFS) Tx Beamforming LDPC, STBC MSS clamping IEEE 802.11r/k/v Power save WISPr IP/URL/MAC filtering

Performance and capacity

PHY rates	Peak: 1167 Mbps 2.4 GHz: 300 Mbps 5 GHZ: 867 Mbps
Multi SSID	Up to 16 (8 per band)
Clients/AP	Up to 128

Networking

IP	IPv4 & IPv6 DHCP Client/server Static IP Dynamic IP
Network	IEEE 802.1s IEEE 802.1d VLAN tagging (802.1Q) Supports LACP Supports LLDP
VLAN	Dynamic VLANs Port forwarding Segmentation based on VLANs Tag VLAN based on SSID

Antenna	7 external, omnidirectional antennas 5 dBi gain
Interfaces (see image)	A. DC port B. RJ45 10/100/1000 Mbps LAN port C. 4x SMB connectors for WiFi (2 per band); 2x SMB connectors for 3G/4G and 1 SMB connector for GPS D. Reset Button E. LED indicators F. TF card slot G. USB 2.0 port H. 3G/4G card slot
Feeding source	DC: 12V 1 A (supports voltages between 9V-28V)
Power consumption	DC power < 12W
Size	125.5 x 100.5 x 25 mm
Weight	380 g.
Temperature	Operation: -20°C - 70°C (-4°F - 158°F) Storage: -40°C -70°C (-40°F - 158°F)
Humidity	Operation: 10% - 90% (non-condensing) Storage: 10% - 90% (non-condensing)

Advanced features (CHT®)

Security	Network optimisation
- WPA/WPA2/WPA3 personal & Enterprise - RADIUS support with dynamic VLANs - Captive portal with social login - IEEE 802.1X - Supports ACL - Isolated SSIDs - URL filtering - Firewall - SSL / TLS / SSH - Secured communication between APs - WIDS & WIPS - Location and tracking of hackers (Rogue AP or Evil twin) - Protects against DDoS attacks	- Distributed intelligence with no need for a central controller - Smart Roaming 802.11r (seamless handoff) - Pre-balancing - Traffic control - Automatic power control - Smart multicast (unicast to multicast) - Airtime fairness - Dynamic probe management for very high density scenarios

Distributed intelligence, no need for a central controller.

Single management platform for all network elements.

Automatic network optimisation.

Precise and robust Location Analytics using only WiFi.

Certificaciones e información reguladora

Standards	CE Mark (EN 60950-1; EN 62479; EN300328; EN 300440; EN 301489) RED directive 2014/53/EU FCC
Environmental	ROHS

CONFIGURATION, MANAGEMENT AND LICENSES

Galgus' WiFi networks can range form a single access point to thousands of them. Many of the advantages provided by the embedded technology CHT® are only relevant for networks with more than one AP, as the distributed intelligence an the communication between the APs are enabled. This allows them to take collective decisions that optimise the performance of the entire network.

WiFi network + **Intelligence** + **Management**
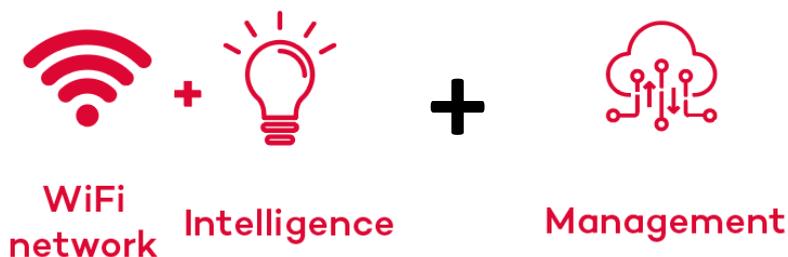
Each access point can be configured locally though the console port; however, when there are several network elements and we want to configure more advanced functionalities, Galgus' management tool is required. Additionally, this management tool can be used to configure other GALGUS network elements, such as switches, Network Enhancers, etc; resulting in a simplified and easy to use unified management tool.

Galgus' network manager requires an annual license and offers all the advantages of a Cloud solution (scalability, continuous updates, pay as you grow, reduced operation costs, improved security, immediate availability, increased service availability...).

This tool allows one to supervise, control, update, troubleshoot and get alerts from the network, in addition to providing all kinds of advanced analytics:

| Features		No manager	Cloud manager
Management	Local web interface	✔	✔
	Type of license	Lifetime	Annual license
	Software maintenance	Optional (CHT)	Included
	Type of Software maintenance	Manual optional	Automatic
	Modular licenses	✔	✔
	Zero-Touch Provisioning (ZTP)		✔
	Unified management platform		✔
	Platform updates		✔
	Customisable alerts		✔
	CLI with remote access (SSH)		✔
	Open API (REST)		✔
Network analytics	Real time location of associated devices		✔
	Location-enabled real time network KPIs		✔
	Coverage estimation		✔
	WLAN design		✔
	Client distribution		✔
	Client details		✔
	Historic record and visualization of network KPIs.		✔
	Historic data exportation of network KPIs.		✔

ON-BOARD GALGUS NETWORKS

Network example 1: The router also works as an AP to provide WiFi coverage and to count devices.
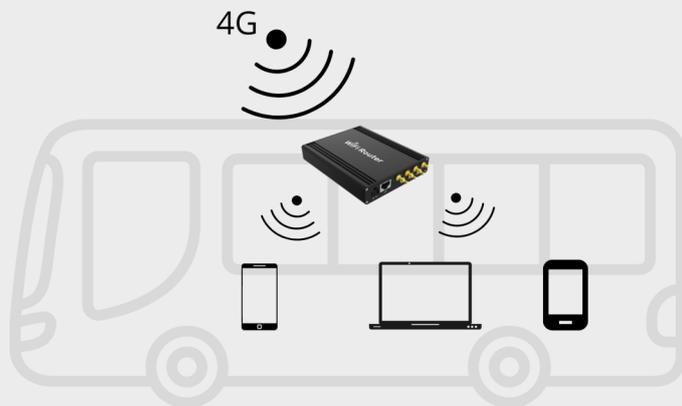
Network example 2: The router acts as an AP in addition to providing data to a second AP, as required in bigger vehicles.

PASSENGER COUNT AND FLUX ANALYSIS

Capacity control

Location analytics: Galgus APs can incorporate the patented technology Location Analytics®. It consists on a software which processes the messages captured by our APs; coming from all WiFi devices that surround them. All this **without any need for user intervention (they don't even need to connect to the network).** With this probe analysis, **the system is capable of assigning an unique identifier to each device**, allowing to know how many devices are there at that time in the premises.

In this way, transport operators will be able to **keep track of their vehicles' occupancy and they will be able to keep historical data, which will allow them to better plan routes and shifts.**
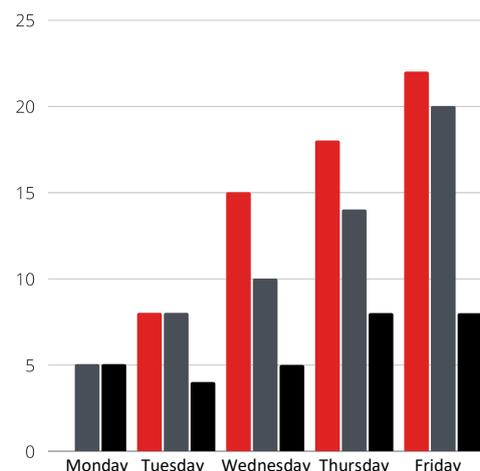
Temporal analysis for route planning

OPTIONAL SUPPORT SERVICES FOR GALGUS NETWORKS:

3D simulation and network design: Always recommended as the best way to guarantee the most accurate solution from a technical point of view, ensuring the highest performance and client satisfaction while reducing investment costs.

Remote configuration: Galgus remotely configures and ensures the correct performance of the network.

Remote network management: GALGUS, as manufacturer and technology owner, offers a network management service, to ensure it is always available and offering the highest performance and quality of service.

L2 technical support: GALGUS will always provide technical help regarding the acquired products and services.

Warranty extension: Possibility to extend the warranty of most GALGUS devices up to 5 years.

Turnkey projects.