

Underground & Surface Mining

Hardened WLAN solutions
for the mining industry

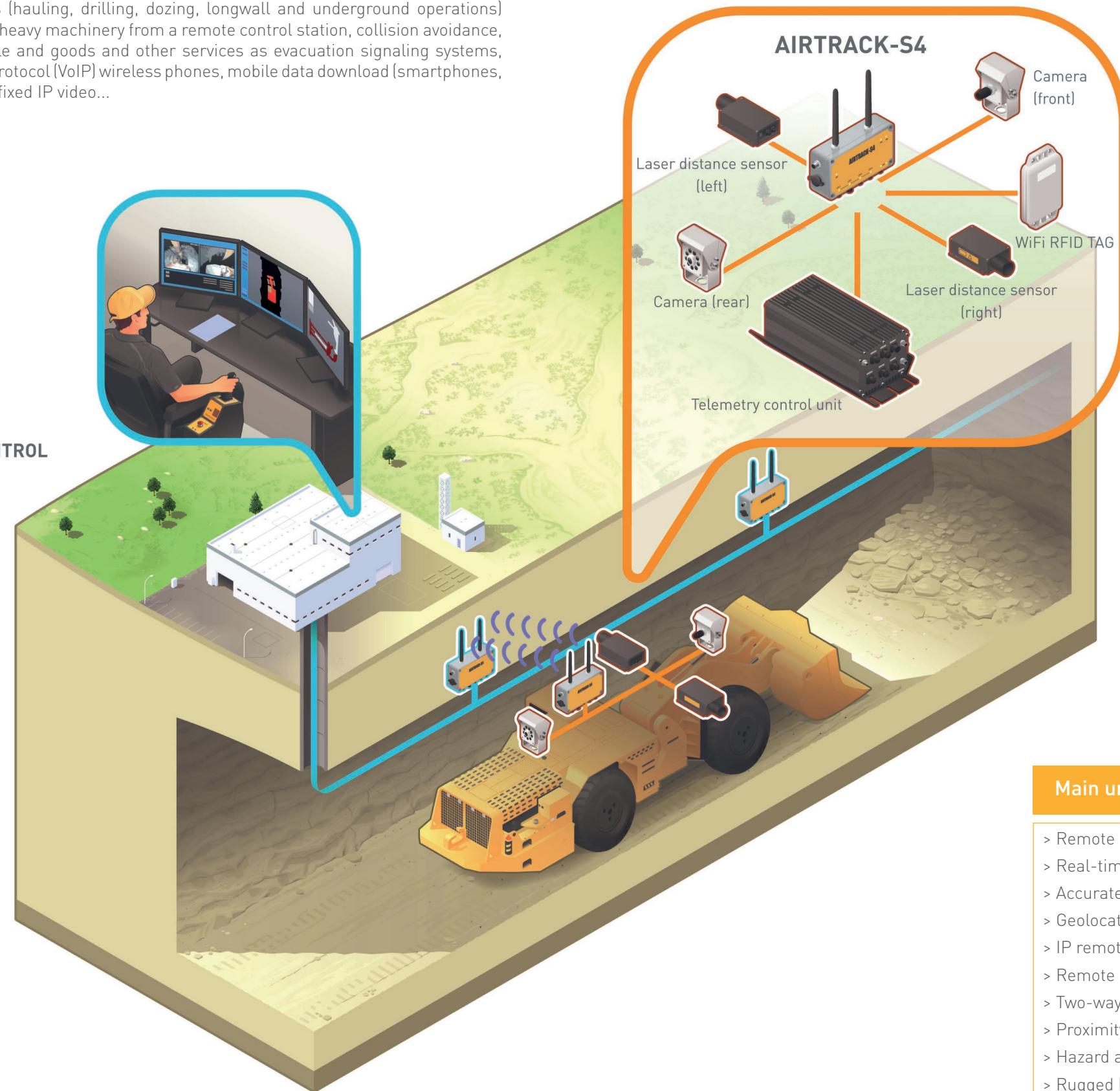


ACKSYS
COMMUNICATIONS & SYSTEMS

Being one of the most challenging priorities for mining machinery manufacturers and operators, safety leads to an increased demand of remote control vehicles, monitoring devices, as well as to the automation of many aspects of mining operations.

AIRTRACK radios technology enable real-time communications in both surface and underground mines (hauling, drilling, dozing, longwall and underground operations) for: teleoperation of heavy machinery from a remote control station, collision avoidance, geolocation of people and goods and other services as evacuation signaling systems, Voice over Internet Protocol (VoIP) wireless phones, mobile data download (smartphones, tablets...), mobile & fixed IP video...

LHD REMOTE CONTROL



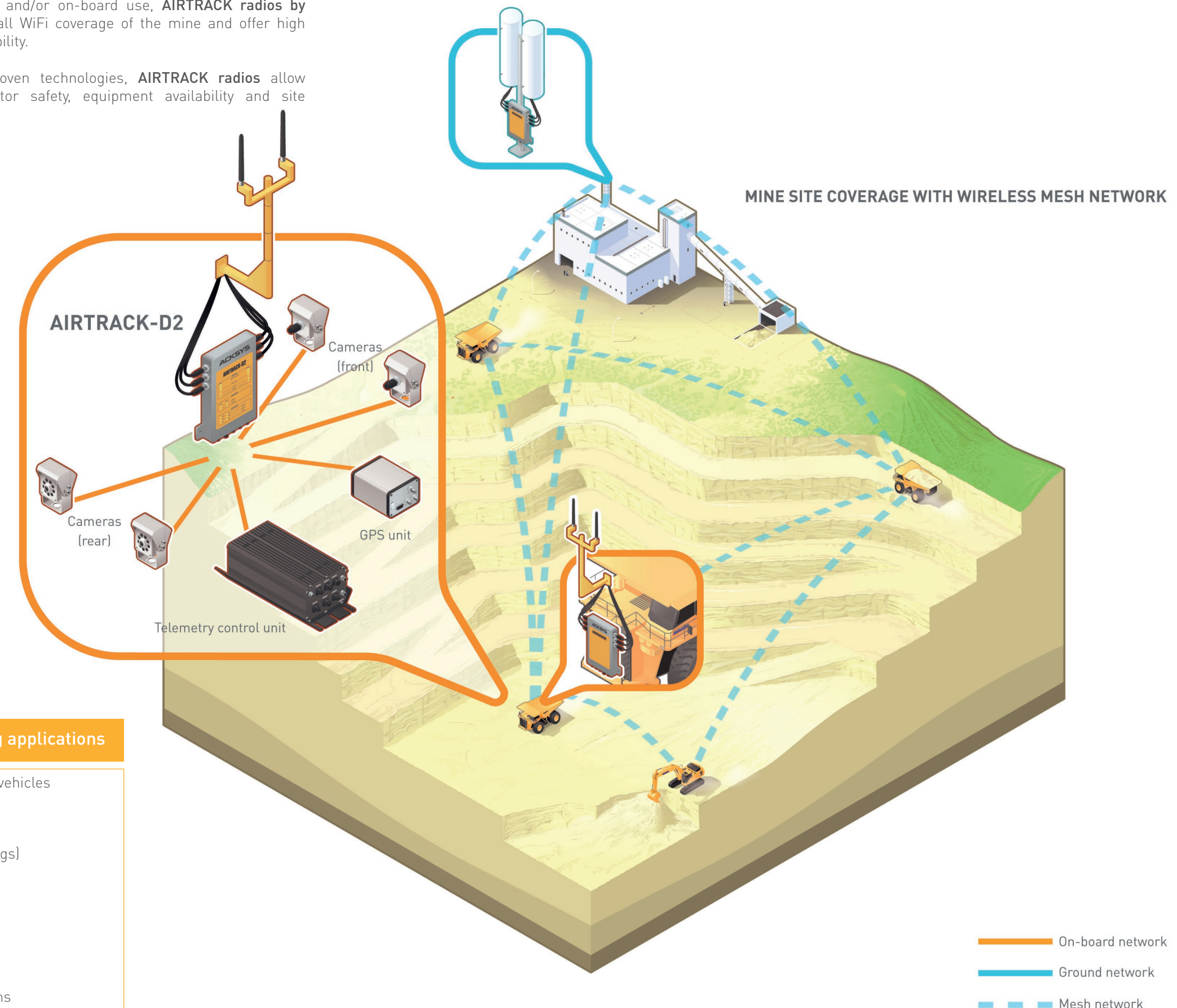
Designed and manufactured to achieve superior performances while being exposed to the harsh conditions of mining environments and suitable for stand-alone and/or on-board use, **AIRTRACK radios by ACKSYS** ensure an overall WiFi coverage of the mine and offer high bandwidth and data reliability.

Taking advantage of proven technologies, **AIRTRACK radios** allow improvements of operator safety, equipment availability and site productivity.

Main underground and surface mining applications

- > Remote control and monitoring of automated vehicles
- > Real-time vehicle diagnostics
- > Accurate and real-time payload data
- > Geolocation of people and goods (WiFi RFID tags)
- > IP remote video streaming
- > Remote PLC programming
- > Two-way voice (VoIP phones)
- > Proximity detection systems
- > Hazard avert system
- > Rugged handhelds and PDAs reporting systems

AIRTRACK-D2



- On-board network
- Ground network
- - - Mesh network



AIRTRACK-D2



AIRTRACK-S4

Main characteristics

- > Excellent resilience to mine environment, improved EMI/RFI immunity
- > Rugged and mine-hardened aluminum enclosure: IP66, shock & vibration proof
- > Rugged M12 circular connectors
- > Redundant insulated power supply inputs
- > Extended temperature range [-50°C to +80°C]
- > WiFi IEEE 802.11a/b/g/n (2.4 / 5 GHz)
- > Single or dual radio for redundancy
- > High speed Ethernet 10/100/1000
- > Self forming and self healing Mesh network capabilities (IEEE 802.11s)
- > High availability, simplified maintenance (configuration stored on a removable key)
- > Guaranteed sustainability
- > 5-year warranty

Customer Needs

ACKSYS Solutions

On-board mounting

- | | |
|--|--|
| <ul style="list-style-type: none"> • Real time communications, low latency • High EMI/RFI protection | <ul style="list-style-type: none"> • Handover <30 ms for a seamless connectivity in motion |
| <ul style="list-style-type: none"> • Ease of connectivity | <ul style="list-style-type: none"> • Up to 140V/m EMC immunity according to ISO 11452 sections 1, 2, 5, 7 (electrical disturbances) |
| <ul style="list-style-type: none"> • High bandwidth for video, voice, data and control | <ul style="list-style-type: none"> • Built-in 4-port Ethernet switch |
| <ul style="list-style-type: none"> • Multi-service applications on a same network | <ul style="list-style-type: none"> • Up to 2 x 300 Mbps (radio bit rate) • Integrated VLAN, multiple SSID and QoS (WMM) |

Stand-alone mounting

- | | |
|---|---|
| <ul style="list-style-type: none"> • Ease of deployment | <ul style="list-style-type: none"> • Self forming Mesh topology |
| <ul style="list-style-type: none"> • Ease of installation | <ul style="list-style-type: none"> • Wide 24-110 VDC power supply input enabling the use of long DC cables |
| <ul style="list-style-type: none"> • Ease of administration & management | <ul style="list-style-type: none"> • SNMP, NDM (Networking Device Manager) |
| <ul style="list-style-type: none"> • Architecture flexibility | <ul style="list-style-type: none"> • Access point, Mesh topology, bridge and repeater roles |
| <ul style="list-style-type: none"> • Radio configuration flexibility | <ul style="list-style-type: none"> • Up to 4 different roles supported simultaneously by each radio |
| <ul style="list-style-type: none"> • Radio link reliability | <ul style="list-style-type: none"> • Modern multi-streams MIMO radio technologies, radio redundancy (dual radio system) |
| <ul style="list-style-type: none"> • Radio link security | <ul style="list-style-type: none"> • IEEE 802.11i, IEEE 802.1x (Radius server authentication), WPA2 |
| <ul style="list-style-type: none"> • Interoperability | <ul style="list-style-type: none"> • Compatibility with existing WiFi devices and infrastructures (including CISCO, ARUBA ...) |

Why choose ACKSYS ?

> RELIABILITY AND ROBUSTNESS

ACKSYS' products are designed to be used in harsh environment, this is why their manufacturing components are carefully selected, controlled and submitted to endurance tests. They come with a 5-year or lifetime warranty.

> LONG LASTING PRODUCTS

In order to provide long lasting solutions to its customers, ACKSYS works closely with its suppliers to foresee any eventual obsolete products and thus back-up its product line to avoid any stock rupture. ACKSYS also pay attention to develop products compatible with existing solutions.

> RELEVANT SOLUTIONS

ACKSYS develops tailored solutions designed to fit its customers' specific business needs or unique application environment and is also able to adapt its products upon request. All ACKSYS' products are compliant with the standards in the various targeted markets.

> CUSTOMER SERVICE COMMITMENT

ACKSYS has developed a solid pre-sales and after-sales process to ensure that customers receive the highest level of support at every stage of their projects. ACKSYS commits to provide state-of-the-art technology, products and training to keep its customers, distributors and VARs in the forefront of the communication age.

ACKSYS
COMMUNICATIONS & SYSTEMS

Since 1984, ACKSYS Communications & Systems has acquired a strong know-how in designing and manufacturing industrial data communication solutions (WLAN / LAN / serial).

Its expertise and high quality standards allow it to meet the most severe requirements in transportation (rail & road), industrial (SCADA, automation), military (marine, land, air), aeronautics, mining (underground and above ground), oil & gas and environment (renewable energy, water, waste water).

Its inbuilt engineering, technical and commercial teams are able to meet accurately the expectations of its customers and assist them from the definition of their needs to the deployment. Thanks to a qualified and structured distribution network, ACKSYS is present on the five continents and can therefore meet any industrial application need, any time.

ACKSYS Communications & Systems

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