

WIRELESS BROADBAND FOR TRAINS AND VEHICLES MOVING UP TO 220MPH/350KMH

FLUIDITY™ is the track-side and vehicle-to-ground communication system developed by Fluidmesh. FLUIDITY™ delivers up to 150 Mbps usable throughput for train and vehicles traveling at up to 220mph (350Km/h) supporting Video, Voice and Data.



WIFI ON BOARD

Your passengers expect wireless high-speed connectivity everywhere and FLUIDITY™ delivers it. With our trackside technology we are able to deliver Wi-Fi connectivity up to 150Mbps to fast moving vehicles, with a seamless handoff and no service disruption.

ON BOARD VIDEO SURVEILLANCE

FLUIDITY™ delivers the reliable connectivity you need for live video streaming. You can now increase security and safety on board by transmitting real-time video feeds between vehicles, control centers, depots and stations.

WIRELESS TRAIN CONTROL AND CBTC

With FLUIDITY™ you can automate train operations. A redundant setup, secure and continuous connection gives you the confidence you need to secure automatic train operations.

EXTEND CONNECTIVITY THROUGH TUNNELS

A FLUIDITY™ network can reach where 3G/4G LTE networks don't, like in tunnels. You can use FLUIDITY to augment wide area cellular coverage with high speed corridors, while retaining cellular for low-speed, long-range connectivity.

EASY AND COST EFFECTIVE

FLUIDITY™ allows you to build your own wireless network without recurring fees. Our track-side network can leverage the existing poles and towers deployed for GSM-R or PTC, reducing dramatically the initial investment required. Moreover, Fluidity on-board radio device can switch to a cellular or satellite technology when the train is in an area not yet equipped with Fluidity track-side technology.

PRODIGY 2.0 FOR RELIABLE MISSION-CRITICAL APPLICATIONS

Our MPLS-based transmission protocol is built to overcome the limits of standard license-free protocols and to deliver a wireless network infrastructure with a higher level of reliability. Our innovative transmission protocol is based on a traffic optimization algorithm that allows every Fluidmesh radio to assign a specific level of priority and reliability to every packet transmitted.

SUPPORTED APPLICATIONS



DATA



VOIP



WIFI



CCTV

OPERATIONAL APPLICATIONS

- Communication Based Train Control (CBTC)
- Remote system configuration and diagnostics
- Telemetry
- 24/7 Maintenance & Service Data
- On board ticketing
- On board point of sale (POS)
- VoIP communications

SECURITY APPLICATIONS

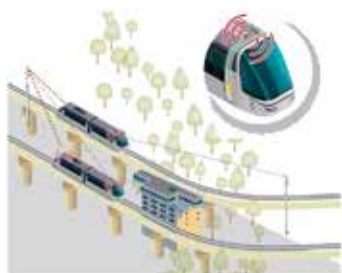
- LIVE video streaming
- Front facing camera streaming LIVE
- Level crossing monitoring
- Incident analysis
- On-line virtual Black Box
- Emergency VoIP Intercom

PASSENGER SERVICES

- Internet on-board
- Passenger information system
- Entertainment
- Digital Advertising
- Emergency service phone
- On-board Femtocells

FLUIDITY™

UP TO 100 MBPS USABLE THROUGHPUT TO TRAINS TRAVELING AT UP TO 220MPH/350KMH



RADIO

Throughput	Up to 100 Mbps per base radio/train/car
Supported Vehicle Speed	Up to 220mph/350Kmh
MPLS Technology	Yes
Radio type	OFDM
Frequency Range	2.4, 3.3-3.7, 4.9-5.9 GHz*
Transmission Power	Up to 27 dBm**
Handoff Latency	OMs
Receiving Sensitivity	-96dB@6.5 Mbps; -70dB@300 Mbps;

ELECTRICAL

Radio Power Input	48V Active 802.3af PoE 24-48V Passive PoE 24-48DC M12 power input
Power Consumption	Max 8W
Radio Power PoE Injector	90/260V, 50/60 Hz AC Input 24/48V DC output or IEEE 802.3af
Redundant Power Input	Yes

SECURITY

VPN	Yes
AES Link Level Encryption	Yes
Full compatibility with AES, 3DES, RSA, HTTPS, SSL	Yes

OPTIONAL SOFTWARE PLUGIN

802.1Q VLAN Support	Yes
AES Link Level Encryption	Yes
Ethernet Capacity Plug-in up to 10 Mbps	Included
Ethernet Capacity Plug-in up to 30 Mbps	Yes
Ethernet Capacity Plug-in up to 60 Mbps	Yes
Ethernet Capacity Plug-in unlimited	Yes
Fluidity Plug-in	Yes
802.1 Q VLAN Support Plug-in	Yes

ENVIRONMENTAL

Operating Temperature	-40°C to 80°C -40°F to 176°F
Humidity	95% non condensing
Weather Rating	IP67
Shock & Vibration	ETSI 300 - 019 - 1.4

NETWORK

Protocols	UDP, TCP, IP, RTP, RTCP, RTSP, HTTP, HTTPS, ICMP, ARP
Web Based interface	Yes
Multicast Support	Yes
UPnP Support	Yes
SNMP Support	Yes

WARRANTY

2 years	On parts and labor
3 years extension	Optional
5 years extension	Optional

SUPPORTED APPLICATIONS



* Some frequencies may require minimum order volumes or special licenses

**Depends on configuration and regulations

Fluidmesh Networks products are installed locally by professional System Integrators and are available worldwide through a network of Authorized Dealers. For additional information please call +1.617.209.6080 or visit us at fluidmesh.com



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