edgespark
secure / scalable / survivable

Product Brief

Edge Spark® Connect™

Need

Mobile broadband connectivity is the foundation of the digital economy and an essential enabler of defence, public safety, disaster relief, and government services delivery. Fifth generation (5G) cellular networks provide connectivity in urban and suburban areas, but rural and regional areas throughout the world remain underserviced.

Commercial Low Earth Orbit (LEO) satellite broadband, such as the market-leading Starlink service by SpaceX, is transforming connectivity in rural and regional areas.

However, **government and enterprise** users face **three major barriers** to adopting consumer-oriented services like Starlink for mission-critical connectivity:

- no single satellite network alone can provide assured connectivity;
- Starlink lacks advanced network security and remote management capabilities; and
- Starlink terminal equipment is not ruggedised for tactical employment.

Solution

Edge Spark® Connect™ makes **LEO and 5G** bonded connectivity **fast and easy** to deploy. Edge Spark® Connect™ integrates a Starlink terminal, 5G modem, enterprise-grade router, and Wi-Fi access point inside a ruggedised, weatherproof enclosure. No unpacking or setup is necessary to use Edge Spark® Connect™. Simply press one button to turn it on, wait a few minutes for the Wi-Fi to appear, and then connect your device to get online.

This simple user experience in the field is supported by a powerful suite of remote monitoring and management tools in the Network Operations Centre. Organisations can track the **real-time status and location** of all their deployed Edge Spark® Connect™ assets, **monitor their usage**, and remotely enable or disable user access and services. Cognitive Advantage offers fully managed, co-managed, and customer self-managed support models for Edge Spark® Connect™.

For organisations with more advanced connectivity needs, Edge Spark® Connect™ is available with a factory-installed and fully integrated **DTC BluSDR™ mesh radio**. Multiple vehicles, drones, robots, and personnel with handheld radios can all seamlessly share the internet connection provided by a single Edge Spark® Connect™ unit.

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Models

All Edge Spark® Connect™ models share a **common technology core**. Each model is optimised for the size, weight, and power constraints of different operating models and environments.

Edge Spark® Connect™

100 users | 90W | 16kg

High-performance connectivity for large sites.

Edge Spark® Connect Lite™

50 users | 30W | 8kg

Portable connectivity for small teams.

Edge Spark® Connect Pod™

50 users | 30W | 6kg

Enable on-the-move connectivity for any vehicle.

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Features and Benefits

Multi-WAN Connectivity

Feature: Combines LEO satellite, 5G cellular, and Wi-Fi in a single unit.

Benefit: Delivers fast, reliable, internet in places with limited local infrastructure.

Integrated Mesh Radio

Feature: Seamless mesh networking with vehicles, drones, robots, and handheld radios.

Benefit: Expands local network coverage and supports distributed teams with a shared internet connection.

Ruggedised Enclosure

Feature: Weatherproof and field-ready design with no unpacking required.

Benefit: Operates in harsh environments with minimal setup—ideal for tactical, emergency, or remote deployments.

One-Button Operation

Feature: Instant startup with zero configuration required.

Benefit: Enables non-technical users to get online in minutes.

Flexible Deployment Options

Feature: Available in three models.

Benefit: Tailored solutions for vehicle integration, fly-away kits, and man-portable use cases.

Power-Efficient Operation

Feature: Models range from 30W to 90W, all compatible with 12-24V DC input.

Benefit: Enables self-sustained operation in places with limited local infrastructure.

Enterprise-Grade Router

Feature: Built-in WAN bonding, encrypted SDN/VPN, and firewall capabilities.

Benefit: Supports secure mission-critical communications, even over commercial satellite and cellular networks.

Remote Management

Feature: Real-time asset tracking, usage monitoring, and remote service control at the Network Operations Centre.

Benefit: Enables centralised fleet visibility, management, and control, reducing operational overhead and in-field servicing.

Managed Solution

Feature: Choose from fully managed, co-managed, or self-managed operating models.

Benefit: Aligns with local IT capabilities, compliance requirements, and operational preferences.

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Example Use Cases

Tactical Communication for Military Forces

Challenge: Tactical teams operating in dense terrain required **secure, reliable connectivity** to coordinate across vehicles, UAVs, and command posts. Cellular coverage was intermittent, and existing satellite comms lacked throughput and flexibility.

Solution: Edge Spark® Connect Pod™ was installed on each vehicle, providing bonded Starlink and 4G/5G connectivity with encrypted VPN tunnels back to headquarters. Embedded BluSDR™ mesh radio allowed **dismounted operators and drones to stay connected through any vehicle** without reliance on nearby cellular towers or clear view of the sky for satellite comms.

Outcome: Reliable and secure communications were **established within minutes of arrival**. Teams maintained full network access throughout the mission, even when Starlink temporarily lost sky visibility—failover to cellular was seamless. Remote monitoring allowed HQ to track equipment and manage bandwidth remotely.

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Rapid Response in Disaster Affected Areas

Challenge: Emergency services responding to bushfires and floods needed broadband connectivity in **areas with damaged network and electrical infrastructure**.

Solution: The lightweight Edge Spark® Connect Lite™ was **airlifted to field bases** via helicopter and deployed by non-technical personnel using its one-button start. **Internal batteries provided hours of operation** until backup power arrived. Teams used Wi-Fi to access incident coordination tools, upload drone imagery, and make VoIP calls through Starlink.

Outcome: First responders were **online within minutes of arrival**. The control centre could monitor deployed personnel and assets remotely, and connectivity was maintained despite disruption of local infrastructure.

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Mobile Connectivity for Utility Crews

Challenge: Utility crews conducting powerline maintenance in regional areas struggled with connectivity black spots that disrupted access to digital work orders, asset databases, and safety systems.

Solution: Edge Spark® Connect Pod™ was installed on crew vehicles. Its compact, conformal enclosure allowed it to **operate continuously while on the move**, supplying a mobile hotspot for tablets and diagnostic equipment. Technicians remained connected to central systems even while transiting between job sites.

Outcome: Productivity increased as **downtime was eliminated**. Managers could track crew locations, confirm work completion in real time, and communicate securely over the reliable network.

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Backhaul for Temporary Field Networks

Challenge: A remote mining exploration site needed to establish a temporary camp with internet access for operational planning, file sharing, and video calls. **Laying fibre or deploying heavy Geostationary Earth Orbit (GEO) satellite terminals was impractical**.

Solution: Edge Spark® Connect™ was deployed as a primary backhaul node for the entire camp. An embedded BluSDR™ mesh radio enabled connectivity extension across the camp through multiple meshed Wi-Fi hotspots, enabling **connectivity for all teams and devices**.

Outcome: Full internet access was delivered across a distributed work area using only one backhaul device. The system was monitored remotely by IT staff at HQ, and the same unit will be moved to and reused at the next site.

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Remote Community Healthcare

Challenge: A remote Indigenous community needed high-speed, secure connectivity to enable telehealth services. Visiting mobile clinics and outreach teams struggled to maintain stable communications in the field, especially during emergencies or severe weather events.

Solution: Edge Spark® Connect™ was deployed at the community centre. Visiting health workers **simply power on the unit to access secure broadband** suitable for telehealth consults, real-time patient data transfer, and diagnostic imaging. A fly-away medical team was also equipped with an Edge Spark® Connect Lite™ unit as a backup option to support their regular visits to the community.

Outcome: Mobile health teams can reliably deliver telehealth services, securely access electronic medical records, and **maintain communications with hospitals and specialists from anywhere**.

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Technical Specifications

	Edge Spark® Connect™	Edge Spark® Connect Lite™	Edge Spark® Connect Pod™
Satellite	Starlink Standard	Starlink Mini	Starlink Mini
Cellular	4G/5G modem, dual SIM, eSIM	4G/5G modem, dual SIM, eSIM	4G/5G modem, dual SIM, eSIM
Wi-Fi	Dual band, long range antenna, WPA3 Personal/Enterprise, captive portal	Dual band, long range antenna, WPA3 Personal/Enterprise, captive portal	Dual band, long range antenna, WPA3 Personal/Enterprise, captive portal
Mesh Radio	DTC BluSDR™-30	DTC BluSDR™-30	DTC BluSDR™-30
WAN Bonding	Yes	Yes	Yes
Network Security	Firewall, IPsec, OpenVPN	Firewall, IPsec, OpenVPN	Firewall, IPsec, OpenVPN
Power Consumption	90W	30W	30W
Power Input	12-24V DC	12-24V DC	12-24V DC
Power Options	External DC, external AC (with adaptor)	External DC, external AC (with adaptor), dual hot-swap batteries	External DC, external AC (with adaptor)
Weight	16 kg	8 kg	6 kg
Rugged Enclosure	Yes	Yes	Yes
Deployment Mode	Hand-carry	Hand-carry, vehicle-mounted (temporary)	Vehicle-mounted (temporary or permanent)
Setup Time	<1 minute	<1 minute	<1 minute

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Ordering Information

Product Code	Description	Options	Accessories
CONNECT	Edge Spark® Connect™	MOD-BLUSDR30 MOD-HX401	PWR-ACDC-240 PWR-DC-SB50 PWR-DC-ACC
CONNECT-LITE	Edge Spark® Connect Lite™	MOD-BLUSDR30 MOD-CL250	PWR-ACDC-120 PWR-DC-SB50 PWR-DC-ACC PWR-VB155 PWR-VB99
CONNECT-POD	Edge Spark® Connect Pod™	MOD-BLUSDR30	PWR-DC-SB50 PWR-DC-ACC
MOD-BLUSDR30	Embedded DTC BluSDR™-30	L-band S-band C-band	
MOD-HX401	Embedded server (i7 CPU, 32GB RAM, 1TB SSD)		
MOD-CL250	Embedded server (Celeron CPU, 8GB RAM, 256GB SSD)		
PWR-ACDC-240	Edge Spark® AC Power Adaptor (240W)		
PWR-ACDC-120	Edge Spark® AC Power Adaptor (120W)		
PWR-DC-SB50	Edge Spark® DC Power Cable (Anderson 50A Plug)		
PWR-DC-ACC	Edge Spark® DC Power Cable (Accessory 20A Plug)		
PWR-VB155	V-Mount Battery (155Wh)		
PWR-VB99	V-Mount Battery (99Wh)		

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