

# EXCELL

OPTIMISED CELLULAR  
CONNECTIVITY



*excelerate*

[excelerate-group.com](http://excelerate-group.com)



# EXCELL

## OPTIMISED CELLULAR CONNECTIVITY

Excell ensures the best performance within any cellular network by optimising the distance, speed and throughput of the connection.

The Excell solution combines the benefits of both omni-directional and directional antenna's in to one superior 4G solution.

Harnessing the flexibility of the omni-directional antenna with the power of the directional antenna, the Excell can deliver the best performing connectivity possible.

## MORE SPEED, MORE COVERAGE

Unlike traditional antennas, it has beam forming and a built-in modem that minimises signal loss in comparison to traditional antenna installations. The Excell is designed to maximise the cellular connection.



# AT A GLANCE

## STAND-ALONE CONNECTIVITY

With its own independent SIM capability and compatibility with any standard SIM, the Excell can enhance any cellular connection without the need for additional solutions

## SMALL & COMPACT

At just 240mm diameter and 270mm in height, the unit is discrete but effective

## RESILIENT AND DURABLE

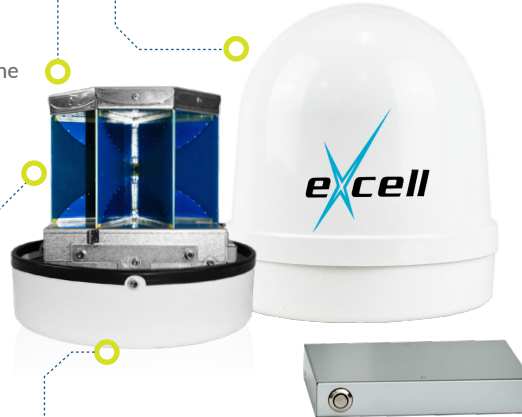
Made from co-extruded plastic and engineered to be water and dust proof, UV stable and IR reflecting, it can easily withstand the elements

## FLEXIBILITY

can be utilised as a stand-alone cellular enhancement solution or, with the ability to connect to routers, such as pepwave, can be an additional benefit to an existing solution

## EASY TO INSTALL

The Excell weighs just 2.5kg, so can be mounted and installed with ease

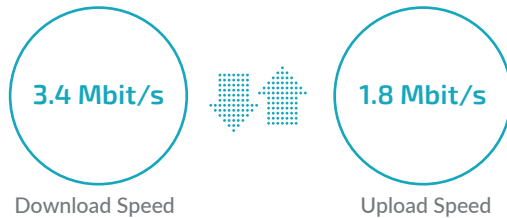


# THE BEST ON THE MARKET

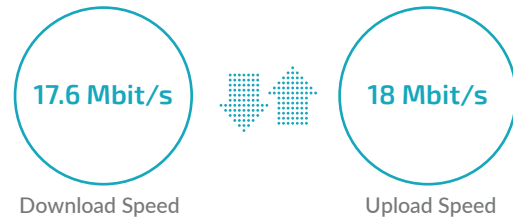
The Excell antenna system was put to the test in a remote location within the Brecon Beacons, Wales, UK. The signal strength on an iPhone on two of the major terrestrial networks was extremely poor with access to edge (2.5G) data service only. Here is how Excell performed VS a Cellular Router with High Gain antennas (Speeds in Mbps).



Rival Cellular Router



Excell Cellular Antenna





# *Cellular connectivity you can rely on.*

## **UNSTEERED ROAMING**

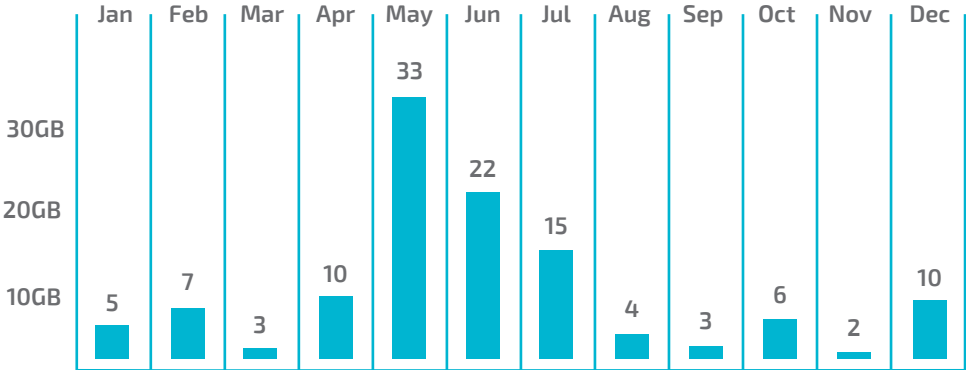
When it comes to data roaming, most mobile network operators switch users to their preferred partner network (steered roaming). This means the SIM is forced to use that chosen network, even if the quality of the connection is poor. Excelerate's unsteered roaming SIM prioritises connectivity meaning you will seamlessly switch to the best available network for significantly increased coverage, reliability and added resilience.

# DATA ROLL-OVER

With most data plans, you are entitled to a monthly allowance whereby any unused data gets taken away. There are also expensive overage charges if you go beyond your monthly allowance.

Our big data pooled plans are designed to be spread across 12 months to reduce the amount of wasted data. Any unused data is stored and ready for you to use, whenever needed.

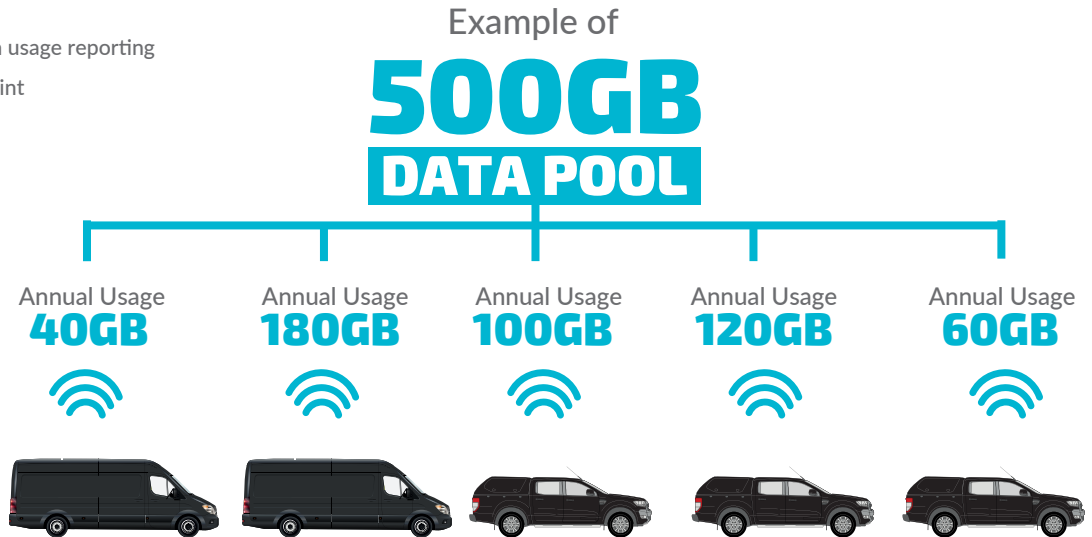
Example of  
Annual Usage  
**120GB**



## POOLED DATA

Benefit from pooled data that can be shared between a variety of mobile applications.

- No monthly charges for data
- Reduce wasted data and associated costs
- Don't lose or pay for unused data each month
- Use data as and when it is required to suit operational requirements
- Fully managed service with usage reporting
- Top up data pool at any point



# THE TECHNICAL BIT

## ODU BASIC MODEL

Antennas	<p>Diversity plus MIMO Antenna System, Ultra-Wide-Band with RADAR Reflector, High Efficiency, High Gain</p> <p>Perfect suited for 4G/LTE applications in order to get highest throughput and longest distance of operation</p> <p>Frequency range: 0.1 GHz ... 12 GHz</p>	Connection to BDU	Single Cable Coax 75Ohm (RG6) or 50 Ohm low loss
Modem	<p>High performance Universal Band LTE Modem in latest Technology and accordingly to newest standards</p> <p>CE/FCC/TRA/FAC compliant. 3GPP(+) compliant</p>	Maximum length cable	50Ohm: up to 300m, 75Ohm: up to 100m
SIM	ODU	Power supply	Phantom type, through coaxial cable. Max. 38V DC
Weight	2.5 kg	Power consumption	5W during operation, 8W peak during power-up
Mounting	4 x M8 stainless steel screws (A4), rubber sealed	Maximum operational temperature	+55°C (ambient, outside Radome). Direct sun radiation allowed.
Radom-Dimension	Diameter 240mm x Height 270mm	Minimum operational temperature	-45°C
Radom-Material	Co-extruded plastic (hybrid layer), UV stable, IR reflecting	Maximum permanent acceleration load	2g (linear vibration)
Radom-Colour	White, surface shining	Maximum peak acceleration load	25g (single shock)
		Option additional surge protection	Additional surge/lightning protection (gas-discharge tube) inline coaxial cable at ships hull



## BDU BASIC MODEL

Size	170mm x 125mm x 30mm
Mounting option	Al-mounting plate
Weight	600g
Maximum operational temperature	+45°C, ambient
Minimum operational temperature	-25°C
Maximum permanent acceleration load	1.5g (linear vibration)
Maximum peak acceleration load	15g (single shock)
Power consumption	3W during operation, 5W peak during power-up
Power supply	Wall mount socket type, 230V (device is included in delivery), EU std Automatic (thermal) fuse built-in, self healing
Connections	Ethernet 100 Base-T (option 1000 Base-T) DC 15 ... 24V F (optional N) connector (cable from ODU) F - Option for loop through USB 2.0 Master Ground connection point to ships GND

## SYSTEM TYPE

LTE (4G)-3G-2G high performance Internet Access System, incl. Antennas, Modem, Router and Firewall

### Sub-Systems

Outdoor-Unit (ODU) and Below-Deck-Unit (BDU)

### Connection

Single coaxial cable between ODU and IDU

## SERVICES

### Remote Access, basic

VPN connection to Excelerate global servers for user access and monitoring

### Remote Access, option 1

VPN to user for remote management, measurement and control

### Remote Access, option 2

User interface for remote management of GPIO interfaces via VPN

### Positioning services

GPS and GLONAS, free run  
DGPS via VPN to Excelerate global

### AIS option

AIS receiver, data push-forward via Ethernet



# MARKETS & APPLICATIONS

The Excell 4G optimiser is currently benefiting a diverse range of markets and applications.



## Policing & Security

Surveillance, Special Operations (Firearms, CT etc), Mobile Policing, Public Safety & Crowd Monitoring, Border Control, Events, Secure units (eg Prisons) and Perimeter Control.



## Emergency Services

Command & Control - Incident Management, Search & Rescue, Connected Healthcare, Environmental Protection, Joint Operations and Interoperability.



## Commercial

Water, Oil & Gas, Construction, Agriculture, Transport and Maritime.



# ABOUT EXCELERATE

*It's what you can do with technology that makes us tick*



**CONNECTIVITY &  
NETWORK SERVICES**



**INTEGRATED  
SOLUTIONS**



**PRODUCTS**



**RESEARCH &  
DEVELOPMENT**



**MANAGED SERVICES  
& SUPPORT**

Excelerate is a specialist and leading Technology Partner, providing solutions to a range of markets, from public safety, emergency services and health care to commercial and maritime sectors.

Through a combination of cellular, satellite and wireless technology, we provide integrated products and solutions that overcome boundaries and limitations - enabling the flexibility needed for mobile and remote environments.

We are technology agnostic. Instead of focusing on a 'one size fits all' approach we focus on matching and applying the right technology to the application.



**For more information, get in touch**



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