Rapidly deployable secure cellular comms
Capability overview

SMARTLINK is a rapidly deployable, scalable, low size, weight and power (SWAP) cellular network-in-a-box for demanding operational environments.

Its small form factor, long range yet low overall power consumption is unrivalled in the market, allowing cellular technology to revolutionise operations in a wide range of deployment scenarios.

Users have access to all the features of a high-end cellular network enabling voice, image and video sharing in real time. By offering a complete network-in-a-box including a private app server, the system can be upgraded for specific missions and to meet the changing demands of the battlespace.
Current tactical military radios constrain users by having insufficient bandwidth to cope with growing data requirements. These radios are also proprietary, expensive and heavy. All of this increases the burden on the soldier and constrains their situational awareness.

As a result, users are demanding the smartphone and tablet experience on the battlefield. SMARTLINK offers the backbone for this capability by providing a dedicated, secure cellular network. Each soldier is now able to carry less weight, maintain their PTT radio communications and share location, video and image data in real time.

**User Scenarios**

- Dismounted Soldiers
- Comms on The Move (CoTM)
- Maritime interdiction
- Forward command and reconnaissance positions
- Disaster Relief and Humanitarian Aid
- Border Security
- Unmanned Air and Ground Vehicle control and real time data transfer
- Unmanned Ground Sensor connectivity
- Training Area Cellular Coverage
- Welfare and administrative support
Features

**Low SWAP**
SMARTLINK weighs 6.1Kg and consuming less than 75W – a new market benchmark. It also reduces the burden on the user as each user only has to carry a smartphone.

**Rapid Scalable Deployment**
SMARTLINK provides a complete 3G communications network within 90 seconds. Additional SMARTLINK units can be deployed to extend the coverage area.

**Wide Area Mobile Connectivity**
Out of the box, a single SMARTLINK provides a communications bubble out to 5km. This is expandable up to 15km with additional ancillaries.

**Reduced OPEX, CAPEX and Training Burden**
Utilising Commercial-Off-The-Shelf (COTS) technology, the training and maintenance requirements are significantly reduced providing a total whole life solution which is much cheaper than traditional military communications technologies.

**Secure**
Employing Kasumi and AES256, communications are secure. SMARTLINK is also agnostic to additional application level security which can be utilised for various security classifications.

**Ruggedised**
MIL STD environmental and IP67 rating enable SMARTLINK to be deployed in any demanding environment.

**Built-in App Server**
With application servers hosted on the box, applications such as PTT (Push to Talk) and Situational Awareness Applications can be delivered on the same network removing the need access to external networks or additional hardware.
Deployment scenarios

Dismounted Soldier

Tactical UAV Connectivity

Comms on The Pause (CoTP)

Comms on The Move (CoTM)

HQ (Static)

Maritime
SMARTLINK uses UMTS 3G HSPA communications to allow COTS mobile technology to be deployed on the battlespace. Air interface security is provided in the form of Kasumi Encryption with additional encryption possible at the application layer.

By employing the latest radio frequency and power amplifier technology SMARTLINK provides twice the output power of similar size solutions to increase the coverage area of the network.

Network scalability is offered by deploying multiple SMARTLINK systems connected via standard IP connections. Security on the backhaul and reachback network is implemented using AES-256 encryption over a VPN (Virtual Private Network). This has the additional benefit of reduced network setup time.

Extended connectivity back to the PSTN can be offered through SIP server connections using standard internet connections.

Network Architecture
Complete cellular solution offering

Ancillaries
With a large range of deployment scenarios, SMARTLINK can be supplied with the ancillaries to meet your needs.

- Rugged or COTS Phones with standard military or custom headsets
- Masts with mounting brackets
- SIM Cards
- Alternative Power Cables
- Batteries
- Reachback and backhaul hardware and services

Applications
Your communications requirement may not simply encompass standard 3G voice and data. With SMARTLINK the solution can be scaled to include applications that improve mission effectiveness. Some of these are:

- PTT (Push-to-talk)
- Situational Awareness
- Collaboration Software
- File, video and image sharing
- Mapping

Customisation
SMARTLINK is designed as a platform with the future in mind. A number of upgrades are possible to meet your requirements. These include:

- Rebanding to military bands or other frequency bands
- IMSI grabbing and other surveillance techniques
- Simultaneous Multiple Standards/Frequency Bands
- Anti-Jamming Technologies
- User Specific Application Integration and Development
**SMARTLINK Specification**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>3GPP Release</td>
<td>6</td>
</tr>
<tr>
<td>Number of connected users</td>
<td>100</td>
</tr>
<tr>
<td>Number of simultaneously active users in call</td>
<td>16</td>
</tr>
<tr>
<td>Maximum User Speed</td>
<td>120kph (70mph)</td>
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<tr>
<td>Backhaul and Reachback interface</td>
<td>IP</td>
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<tr>
<td>Maximum Downlink Data Rate</td>
<td>8Mbps</td>
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<td>Maximum Uplink Data Rate</td>
<td>2Mbps</td>
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<tr>
<td>Standard Frequency Bands</td>
<td>UMTS Band I and VIII</td>
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<tr>
<td>Transmit Power</td>
<td>33dBm</td>
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<tr>
<td>Total Power Consumption</td>
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<tr>
<td>Power Supply</td>
<td>10-36V DC</td>
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<tr>
<td>Dimensions</td>
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<tr>
<td>Weight</td>
<td>6.1Kg (excl batteries and antennas)</td>
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<td>Operational Temperature Range</td>
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Creating innovative technology solutions that protect and enhance people's lives