ACE6 TECHNOLOGY

Pushing the Boundaries

Tactical Communication Product

ACE6's COFDM microwave networking solution, mMESH, is the latest in advance microwave communication technology. Able to form networks in both line-of-sight and non line-of-sight situation, mMESH is a hub-less microwave communication product that allows point-to-point, point-to-multipoint and multipoint-to-multipoint connectivity. Each node in the network can function as a repeater, allowing mMESH to offer extended range coverage.

mMESH is designed to operate on a mesh/mannet platform whereby all radios operating in the network will be self-healing, consistently forming new RF paths or links to create the most robust network possible in any given environment. The mMESH is a quick deploy bi-directional solution; a private IP-based network can be established in a matter of minutes, interconnecting up to 32 radios in a single frequency. Being fully IP-based, mMESH network is able to interconnect with any legacy IP-based network, including satellite IP networks. When combined with traditional satcomm or other long range strategic communication techniques, mMESH offers a truly last-mile connectivity for frontline operations, allowing the transmission of voice, data and video from front-end to back-end Operation Command.

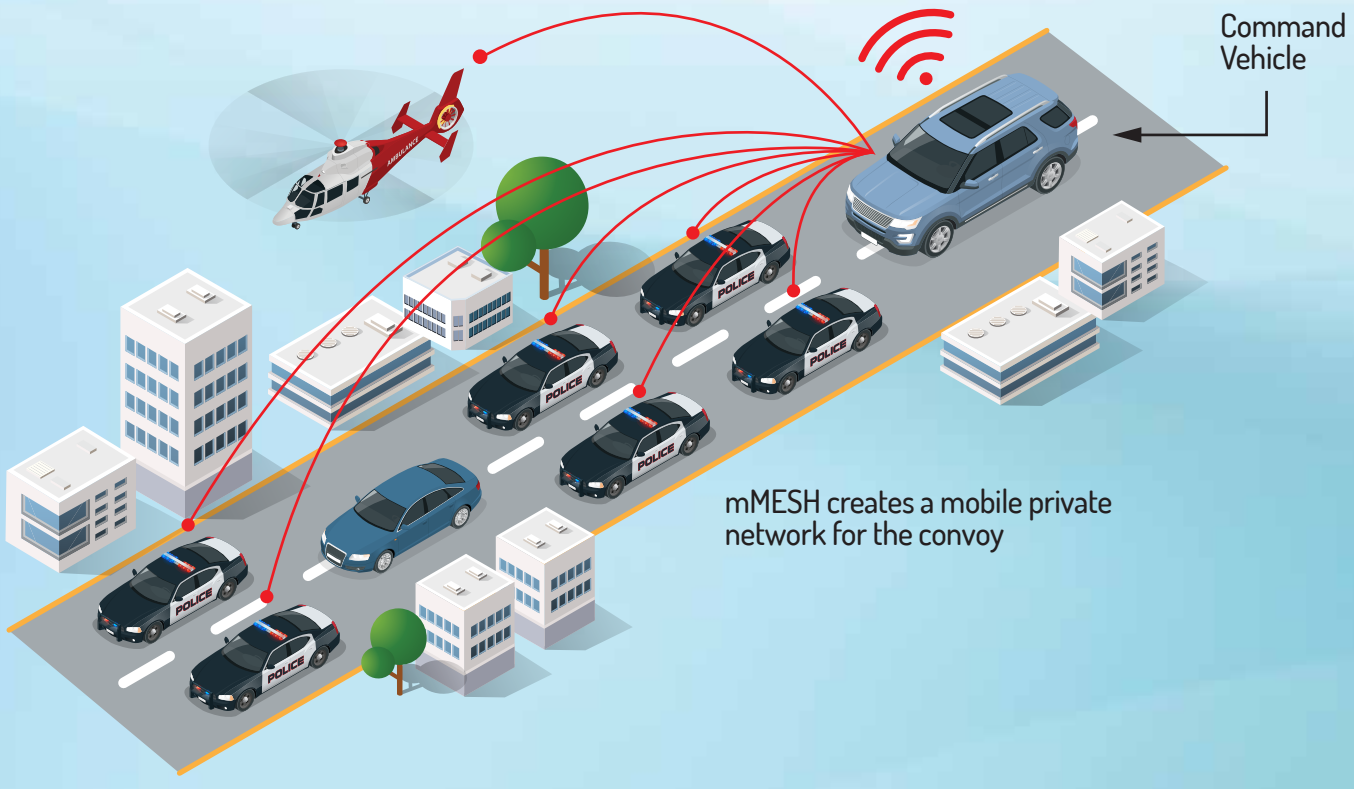
mMESH self-forming capability fully support mobility applications like unmanned drones application, convoy movement, anti-terror tactical unit deployment etc. Equipped with AES 256 and frequency hopping options, ACE6 mMESH provides a secure private communication network for the most extreme operating environments.

Tactical Team Scenario

Each tactical strike team member, Sniper/Spotter team and Police Command Vehicle will be equipped with our mMESH microwave communication device will create a private communication network among the police units that will allow the transmission of video, audio and data. Video from camera worn by the Strike Team and Sniper/Spotter teams will be transmitted live back to the Commander in the Command Vehicle. Commander will also be able to communicate to all units via IP audio, and push latest information and updates to the Strike team and Sniper/Spotter teams.

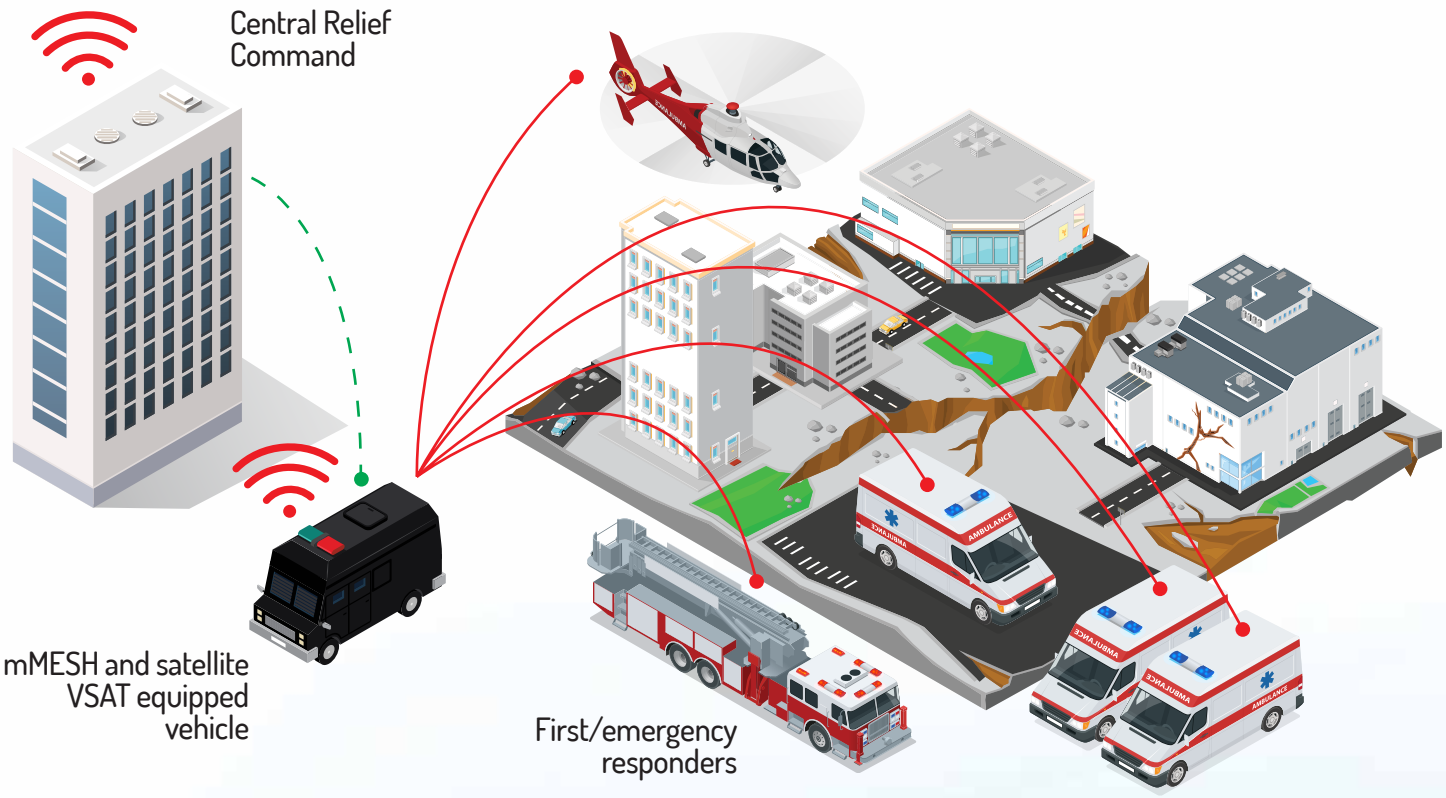
V.I.P Convoy Scenario

Each vehicle is installed with a ACE6 mMESH node that will create an ad-hoc microwave network among all the convoy vehicles. With video cameras connected to the mMESH nodes, the entire situation awareness of the convoy will be enhanced, where everyone in the security detail will know what is happening at the front and back of the convoy. Video, audio and data are transmitted securely through each mMESH node, allowing security personnel in each vehicle to have full visibility of the entire convoy movement.



Emergency Services Scenario

As the disaster could have wipe out any existing telecom infrastructure in the disaster zone, an ad-hoc communication network needs to be established in the disaster area, with communication links to Central Relief Command which can be located in another part of the country. ACE6 mMESH is a quick deploy microwave networking product that can be deployed quickly to establish a communication network for the first responders. And connecting the mMESH to a satellite VSAT terminal will allow field operations personnel to communicate with Central Relief Command.



Maritime Protection Scenario

mMESH can be deployed along the coastline to create a marine surveillance network for government agencies tasked with coastal security. Such a network will allow coastal patrol vessels to stay in constant communication with Shore Command and allow the transmission of video from cameras installed on patrol boats back to Shore Command. mMESH nodes installed on Patrol Boats will also act as relay points to extend the network further out to sea.

Robust mMESH

Features :

1. Fully IP-based, ACE mMESH products are able to integrate with legacy and other IP-based networking technologies.
2. Flexible in deployment, it can support mesh, star, chained or hybrid network deployment.
3. Adaptive transmission to ensure video, data and voice traffic are transmitted smoothly across the network.
4. Dynamic routing, each device can be quickly and randomly moved, the system will automatically update the topology.
5. Convenient operation and maintenance. Once configured, routing is completed automatically.
6. GIS maps can be loaded into the GUI software provided with the solution.
7. ACE mMESH products allow for rapid deployment; self forming network allows the addition or removal of nodes easily, thereby catering for network expansion as and when required without the need for heavy investments usually required for wired telecommunication.

Product Specifications :

Output Frequency	: 450-600Mhz or 1000-1500Mhz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 Mhz (user defined)
Data Rate	: Up to ~21Mbps (higher data rate require licence)
Transmit Power	: 2W
Receive Sensitivity	: < - 100dBm
Power Supply	: DC 28 - 36V
Power Consumption (2W)	: 9W (Standby), 25W (Max)

Physical :

Dimension	: 170 x 70 x 170 mm
Weight	: 1577 gm
Operating Temperature	: -20°C to 50°C
Sealing	: IP66

Device Interfaces :

Antenna Interface	: N-type x 2
Control Interface	: Ethernet x 1
Serial Interface	: RS 232 or GPS

License Options :

1. AES 256 Encryption Option
2. Frequency Hopping Option
3. Large Network Option (up to 32 nodes)
4. WIFI License Option
5. High Data Rate Option (up to 28Mbps)

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Product Specifications :

Output Frequency	: 450-600Mhz or 1000-1500Mhz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0Mhz (user defined)
Data Rate	: Up to ~21 Mbps (higher data rate require licence)
Transmit Power	: 10W.
Receive Sensitivity	: < -100dBm
Power Supply	: DC 28 - 36V
Power Consumption (10W)	: 90W (Max)

Device Interfaces :

Antenna Interface	: N-type x 2
Control Interface	: Ethernet x 1
Serial Interface	: RS 232 or GPS

License Options :

1. AES 256 Encryption Option
2. Frequency Hopping Option
3. Large Network Option (up to 32 nodes)
4. WIFI License Option
5. High Data Rate Option (up to 28Mbps)

Physical :

Dimension	: 3160 x 230 x 133 mm
Weight	: 7100 gm
Operating Temperature	: -40°C to 50°C
Sealing	: IP65

Standard mMESH

Features :

1. Fully IP-based, ACE mMESH products are able to integrate with legacy and other IP-based networking technologies.
2. Flexible in deployment, it can support mesh, star, chained or hybrid network deployment.
3. Adaptive transmission to ensure video, data and voice traffic are transmitted smoothly across the network.
4. Optional Built-in H.265 video encoder on the ACE-Standard mMESH.
5. Dynamic routing, each device can be quickly and randomly moved, the system will automatically update the topology.
6. ACE-Standard mMESH comes with built-in Wifi module (licence required) to enable connection to mobile devices and computers.
7. Convenient operation and maintenance. Once configured, routing is completed automatically.
8. GIS maps can be loaded into the GUI software provided with the solution.
9. ACE6 mMESH products allow for rapid deployment, self forming network allows the addition or removal of nodes easily, thereby catering for network expansion as and when required without the need for heavy investments required for wired telecommunication.

Product Specifications :

Output Frequency	: 450-600Mhz or 1000-1500Mhz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 Mhz (user defined)
Data Rate	: Up to ~21 Mbps (higher data rate require licence)
Transmit Power	: 2W
Receive Sensitivity	: < -100dBm
Video Encoding	: H.265 (optional)
Image Quality	: Support CIF / HD1 / D1 / 720P / 1080P
Power Supply	: DC 28 - 36V
Power Consumption (2W)	: 9W (Standby), 25W (Max), +3W (With Encoder)

Physical :

Dimension	: 179 x 65 x 170 mm
Weight	: 1529 gm
Operating Temperature	: -20°C to 50°C

Device Interfaces :

PTZ Control	: RS485 (option)
Antenna Interface	: N-type x 2
Video Interface (with video encoder option)	: Interface (CVBS), HDMI, SD Card
Control Interface	: Ethernet x 1
Serial Interface	: RS 232 or GPS
USB	: USB 2.0 Interface.
Audio	: 3.5mm audio jack

License Options :

1. AES 256 Encryption Option
2. Frequency Hopping Option
3. Large Network Option (up to 32 nodes)
4. WIFI License Option
5. High Data Rate Option (up to 28Mbps)

Bodyworn mMESH

Features :

1. Fully IP-based, ACE mMESH products is able to integrate with legacy and other IP-based networking technologies.
2. Small and light, to be used by personnel.
3. Flexible in deployment, it can support mesh, star, chained or hybrid network deployment.
4. Adaptive transmission to ensure video, data and voice traffic are transmitted smoothly across the network.
5. Optional external H.265 video encoder option.
6. Dynamic routing. Each device can be quickly and randomly moved, the system will automatically update the topology.
7. ACE-Bodyworn mMESH comes with built-in Wifi module to enable connection to mobile devices, tablets and computers.
8. Convenient operation and maintenance. Once configured, routing is completed automatically.
9. GIS maps can be loaded into the GUI software provided with the solution.

Product Specifications :

Output Frequency	: 450-600Mhz or 1000-1500Mhz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 Mhz (user defined)
Data Rate	: Up to ~21 Mbps (higher data rate require licence)
Transmit Power	: 250mW.
Receive Sensitivity	: < -100dBm
Video Encoding	: H.265 (optional)
Image Quality	: Support CIF / HD1 / D1 / 720P / 1080P
Power Supply	: DC 6 - 15.5V
Power Consumption	: 6W (Standby), 10W (Max), +3W (With Encoder)

Physical :

Dimension (with battery)	: 72 (W) x 38 (D) x 220 (H) mm (includes battery)
Weight	: ~ 1.6kg (includes battery)
Operating Temperature	: -20°C to 50°C
Sealing	: IP67

Device Interfaces :

Antenna Interface	: TNC x 2
Video Interface	: External Video Encoder
Control Interface	: Ethernet
Serial Interface	: RS232 or GPS
USB	: USB Interface
Audio	: Push-to-talk

License Options :

1. AES 256 Encryption Option
2. Frequency Hopping Option
3. Large Network Option (up to 32 nodes)
4. WIFI License Option
5. High Data Rate Option (up to 28Mbps)

ACE6 TECHNOLOGY

About Us

Headquartered in Singapore, ACE6 Technology is made up of a team of business professionals and engineers that has many years of experience in the telecommunication industry. We conduct research and development work to produce the next generation of communication and surveillance technologies that our customers can deploy to enhance protection and security for assets and human lives.

In early 2017, we launched our mMESH series of microwave communication products based on COFDM technology. mMESH is an advance microwave product that is able to establish an IP-based communication network in both line-of-sight and non-line-of-sight situation. The solution is hub-less, and it can form connections in point-to-point, point-to-multipoint, and multipoint-to-multipoint settings.

In addition, we have build up a portfolio of products that complements our mMESH technology. These different products can be integrated with mMESH to offer bespoke solutions to government agencies responsible for defence and homeland security. Our solutions can also be adapted for the private sector, for example broadcasters, oil and gas sector etc.

Since the launch of mMESH, we have successfully deployed and implemented many projects in Asia Pacific and the Middle East.

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Scan for more information

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