



WHITE PAPER  
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## Goodmill w24e for Public Safety and Security Applications

Providing a Reliable and Secure Broadband Connection  
for Mobile Units

Goodmill Systems Ltd. is a trailblazer in mobile broadband connectivity. We ensure constant data flow in demanding conditions where 24/7 connectivity is critical.

To enable public safety and security (PSS) organizations to make their data traffic more effective, we introduced the ground-breaking Goodmill w24e router solution. It provides an extremely reliable and secure wireless broadband connection between the HQ and the mobile units at an amazingly affordable price. Thanks to this revolutionary innovation, PSS organizations can save time and money, and operate more efficiently than ever before.

### Overcoming the challenges of PSS sector communications

For law enforcement agencies, fire departments, emergency

**“BROADBAND data connectivity takes PSS efficiency to a totally new level.”**

medical service units, and other PSS organizations, it is critical to be able to ensure a constant flow of information between the HQ and mobile units. Any failure in connectivity or roaming can lead to disastrous effects on the field.

Most PSS organizations use private networks, such as TETRA, in their data traffic but these are expensive and slow. Commercial networks are deployed faster, offer higher capacities, and are cheaper to use but they are not near-

ly as secure. Reliable and secure broadband connection would be the ideal answer but building such a system is often too expensive and tedious. And even then, a single network can never be completely reliable. However, now Goodmill Systems Ltd. has come up with a ground-breaking solution to these problems.

### Reliable and cost-efficient broadband connectivity for PSS vehicles

The Goodmill w24e multichannel router targets critical PSS applications where mobile units require high-availability connections to a central location or home network. It provides a reliable, fast, and secure broadband connection between the vehicles and the HQ. The solution consists of Goodmill w24e routers and the Goodmill Network Manager, an advanced network management system.

PSS organizations can utilize this unique technology at a price that many thought impossible for many years to come. This is possible because Goodmill w24e enables you to use existing broadband networks. Thus, you can save money by having to build new networks and/or technologies only in the areas that do not have any coverage.

### Numerous practical applications in PSS organizations

Thanks to the reliable broadband connection, PSS organizations can move units in the field more easily, increase situational awareness, and facilitate command and control. They can also more efficiently collect timely information, such as medical records, details of dangerous substances, maps, pictures and video, and provide it to emergency responders. This has numerous possible uses:



■ **Stream real-time video** to police and fire stations, mobile command centers, squad cars, and fire trucks. This way the central command and control personnel always have access to the same visual information as their personnel in the field, and they can better respond to emergency situations.

■ **Upload medical images, accident scene video, and data on a patient's condition** from ambulances and the accident scene to hospitals. This speeds up diagnoses and improves care.

■ **Download floor plans of burning buildings** before arriving at the scene of a fire.

■ **Deploy first responders more efficiently** to improve response times to accident and crime scenes where mere seconds matter.

■ **Share data seamlessly** amongst first responders from cooperating jurisdictions.

■ **Speed up information checking**, such as license plates, driver's licenses, as well as passport and biometric details.

■ **Send detailed images of lost children or wanted people** to officers in the field so they can act on requests immediately.

### Best possible coverage by using several commercial wireless networks

Goodmill w24e creates unique reliability by combining several relatively reliable commercial networks into one highly reliable network system. Critical data is switched from one link to another based on an intelligent control and monitoring mechanism, which detects failures and congestion on different networks using fully configurable methods.

Goodmill w24e constantly monitors all WAN links and automatically uses the one with the highest priority based on the user-specified priority list. When a WAN link becomes unavailable, Goodmill w24e automatically diverts all traffic to the network with the second highest priority. When the higher priority network becomes available, traffic is switched back when switching criteria is met. Among the criteria there are adjustable testing periods to determine whether the network works properly.

### Wide variety of technologies supported

The modular structure allows the use of multiple wireless technologies and network operators. This way, a mobile node can be connected to the network in an extremely large area. This coverage can be complemented with any suitable point-to-point radio technology. Supported embedded mobile terminals include 3G HSPA, CDMA2000/450, WiMAX, Flash OFD, WiFi, and LTE. Terminals supporting other radio technologies, such as Satellite Radio, IDEN or TETRA, can be connected to the router using a 10/100Mbit Ethernet or USB interface. Basically any terminal having FE, USB or ExpressCard interface can be connected to Goodmill w24e.

For example, Goodmill w24e can be equipped with a 3G HSPA and a CDMA450 modem for longer distance communication and WiFi as an uplink and/or access point for local terminals. Also satellite, WiMAX or any other technology terminal can be used as a WAN connection depending on what is available and what offers desired data capabilities with reasonable costs.

### Extremely secure data traffic

Goodmill w24e supports VPN tunneling in all WAN ports, which ensures that the critical data traffic is always protected on public networks. VPN tunnels can be created using dynamic IP addresses, so that the IP address is not part of the VPN tunnel negotiations. This way, possible IP address changes on the used WAN links can be hidden from the LAN side. Furthermore, all WAN links have a firewall that can be configured individually using device- and link-specific rules. If a new firewall rule needs to be updated to all devices, it can be quickly deployed with the remote manager.

### Quick and simple to install and integrate into vehicles

Goodmill w24e is a plug-and-play system that is very easy to take into use. When a new device is installed, an identity is created in the system database. Then the device is configured and an encrypted installation key is created. When the installation key is given to the new device, it establishes a secure management channel to the server and downloads the rest of the configuration. If a device needs to be replaced, existing configuration can be easily downloaded from the system database. All faults and events are always sent to the management system and stored for further usage.

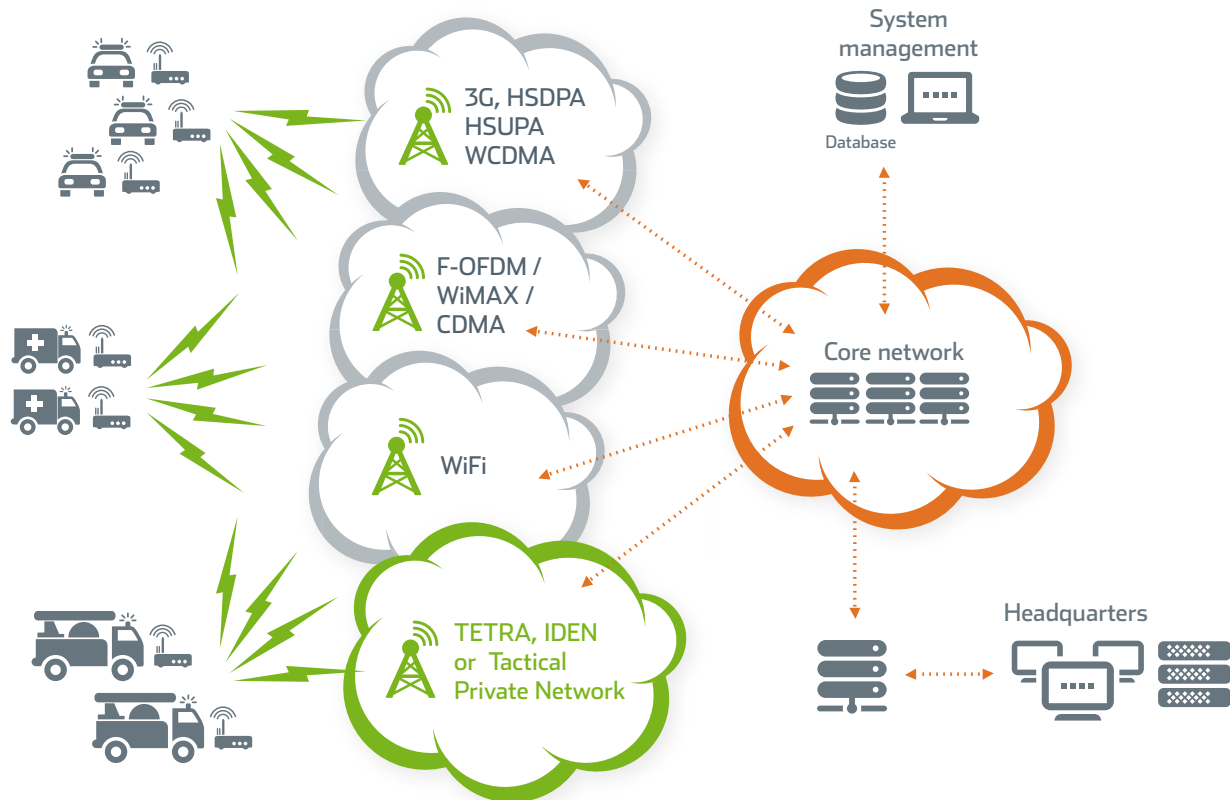
### Easy to manage both remotely or locally

Remote management is always possible through an active WAN link. The management platform is Linux-based and one server can handle thousands of installed devices. A large installed base can be managed with physical server(s) or in a virtual server environment based on the existing infrastructure and desired setup. The platform scales easily with the installed base without a need to replace servers. New server capacity can be added parallel to the existing servers. Goodmill w24e can be used as a standalone device, managed locally with a single PC through the local management or LAN interface.

### Many benefits at the organizational level

Utilizing Goodmill w24e brings numerous benefits to all PSS organizations. Firstly, it eliminates the need to build new dedicated broadband networks – which saves a lot of time and money, and frees these resources to other vital areas. Furthermore, reliable and secure data traffic makes everyone's work easier and helps avoid security threats.

## Goodmill w24e for public safety and security applications



### Field-proven all over the world

Goodmill w24e has been proven unbeatable in police, fire department, first responder, and military applications. Goodmill router solutions are successfully used globally to make sure that critical connections are always available.

### Goodmill Systems Ltd. – changing the paradigm of broadband connectivity

Goodmill Systems Ltd. introduces this revolutionary router solution that enables outstanding broadband connectivity at an affordable price. Our extensive technological experience together with thorough knowledge of PSS organizations' needs has enabled us to create this ground-breaking technology that will revolutionize connection reliability.

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