

## Goodmill Systems w24h-S Managed Multichannel Router

Goodmill Systems' flagship multichannel router, the w24h-S, has been tested in challenging field conditions worldwide. Through extensive product development and by addressing customer needs, we have created a robust and durable vehicle router. This router ensures the functionality of critical connections in the best possible way, even under the most demanding conditions.

### The Main Benefits

#### Highest possible data connection availability

- Combines up to four freely selected networks for broadband access
- Supports link aggregation

#### Maximized Data Connection Capacity

- Offers flexible network usage: Prioritize a network and Always choose the best-performing link
- Seamless switch over
- Link aggregation capability

#### Complete Security

- Connection is protected by up-to-date VPN techniques
- Each network connection has an independent VPN and firewall
- OTA remote manager used for configurations and updates

#### Cost-Efficient

- Modular product design allows for updates to meet evolving needs
- Fast to install and operate with OTA approach
- Comprehensive OTA remote management, diagnostics, and configuration

#### Future-Proof

- Supports a wide variety of wireless network technologies (e.g. 5G, 5G-SA, 4G, 3G, LTE450, and Wi-Fi) with
- Embedded mobile terminals
- Easy upgrades for new networks with just an embedded mobile terminal change

#### Support and Maintenance Services

- Online support during Finnish office hours
- Software updates
- Product development meetings
- The w24h-S is designed and manufactured in Finland, specifically for vehicle use, ensuring high durability.

The Goodmill w24h-S brings revolutionary wireless broadband connectivity to mobile public safety and security (PSS) organizations. Police forces, military and defence forces, fire departments, and emergency medical service units increasingly need a constant flow of information to perform their duties efficiently. With Goodmill w24h-S mobile multi-channel routers, they can establish reliable, fast, and secure broadband data connections between headquarters and mobile units, meeting both current and future data connectivity demands.

Goodmill Systems Routers are equipped with a best-in-class remote management system that meets the toughest requirements for Goodmill Over-The-Air (OTA) manager configurations. This allows you to manage, monitor, and maintain thousands of devices with a single tool.



## W24h-S PRODUCT FEATURES

<b>Power supply</b>	10-30V DC	
<b>Power Consumption</b>	Max. 30W	
<b>Temperature Range</b>	-30°C to 60°C operative -40°C to 70°C storage	
<b>LAN interface</b>	Options to be used <ul style="list-style-type: none"> <li>• 2 x GbE 10/100/1000</li> <li>• WLAN 802.11 b/g/n/ac (5GHz or 2.4GHz)</li> </ul>	Connector RJ-45 SMA-F (x2) MIMO
<b>Compliance</b>	Safety: IEC 62368-1:2023. CB certificate FI-60416 EMC: EN 301 489-1 V2.2.3, EN 301 489-17 V3.2.4, EN 301 489-19 V2.1.1, EN 301 489-52 V1.2.1, ECE R10:06 Vibration: MIL-STD-810H	
<b>Selectable WAN interfaces</b>	Options (max. 4) with MIMO <ul style="list-style-type: none"> <li>• Cellular radio modem (incl. LTE, LTE 450, 5G NSA, 5G SA)</li> <li>• WLAN 802.11 b/g/n/ac (5GHz or 2.4GHz)</li> <li>• 10/100/1000 GbE</li> </ul>	Connector SMA-F (x2) MIMO SMA-F (x2) MIMO SMA-F (x2) MIMO RJ-45
<b>Other interfaces</b>	USB connected devices GPIO connector (optional)	USB Type A GPIO
<b>WLAN Access point</b>	802.11 b/g/n/ac (5GHz or 2.4GHz), MIMO supported.	
<b>GNSS</b>	Supported systems <ul style="list-style-type: none"> <li>• GPS</li> <li>• Galileo</li> <li>• GLONASS</li> </ul> Positioning information sent to a location system by using NMEA protocol. Antenna connector SMA-F.	
<b>IP addressing</b>	Fixed or dynamic with DHCP, NAT VLAN 802.1Q support	
<b>Security</b>	802.1X RADIUS authentication on Wi-Fi and Ethernet ports MAC filtering VLAN 802.1Q support IPSEC VPN for WAN and LAN connections Firewall	
<b>QoS functionality</b>	QCI support and different QoS schemes	
<b>VPN functionality</b>	Supported on all priority level WAN links <ul style="list-style-type: none"> <li>• IPsec from fixed IP address</li> <li>• IPsec from dynamic IP</li> </ul> Encryption and key interchange functions supported. (e.g.): <ul style="list-style-type: none"> <li>• RSA, ECDSA</li> <li>• IKEv2</li> <li>• HMAC SHA-2 up to 512 bits</li> <li>• AES-256, AES-GCM</li> <li>• DH groups 1,2,5,14,15,16, 22, 23 and 24</li> <li>• DH elliptic curve groups 19, 20 and 21</li> </ul>	
<b>Mobile IP</b>	Supported by integrated Mobile IP client in router and by Mobile IP server	
<b>Firewall</b>	Independently working for all network Interfaces <ul style="list-style-type: none"> <li>• Stateful inspection</li> <li>• SNAT, DNAT, Port forwarding</li> </ul>	

<b>Firmware upgrade</b>	Locally or remotely over-the-air online. Reversible (Revert to previous stored version)
<b>Network Management</b>	Configuration, monitoring and firmware management of routers <ul style="list-style-type: none"> <li>• HTTPS protocol for safety and security</li> <li>• Runs always on the active WAN connection</li> </ul>
<b>Dimensions</b>	H x W x L: 70 x 210 x 246mm (2,7" x 8,3" x 9,7") Weight < 2kg (<4.4lbs)
<b>Enclosure</b>	Solid Aluminium

## AN ESSENTIAL PART OF GOODMILL SYTEMS PRODUCTS - THE OTA MANAGER AND GOODMILL MIP OR DATA DUPLICATION SERVER

### GOODMILL OTA MANAGER – REMOTE MANAGEMENT SYSTEM FOR MANAGING THE GOODMILL W24 MULTICHANNEL ROUTER FAMILY

Goodmill Manager is a robust backend server software designed for managing the Goodmill W24 router fleet. It securely scales to thousands of routers. Rolling out new routers is easy and efficient. With Goodmill Manager, you can easily monitor the status of all routers and collect logs from them. Router configuration and firmware updates can be performed securely over-the-air, enhancing operational efficiency. Additionally, the server license comes at no extra cost, making it a cost-effective solution.

### GOODMILL MIP SERVER– BACK-END SYSTEM THAT PROVIDES SECURITY AND SESSION PERSISTENCE

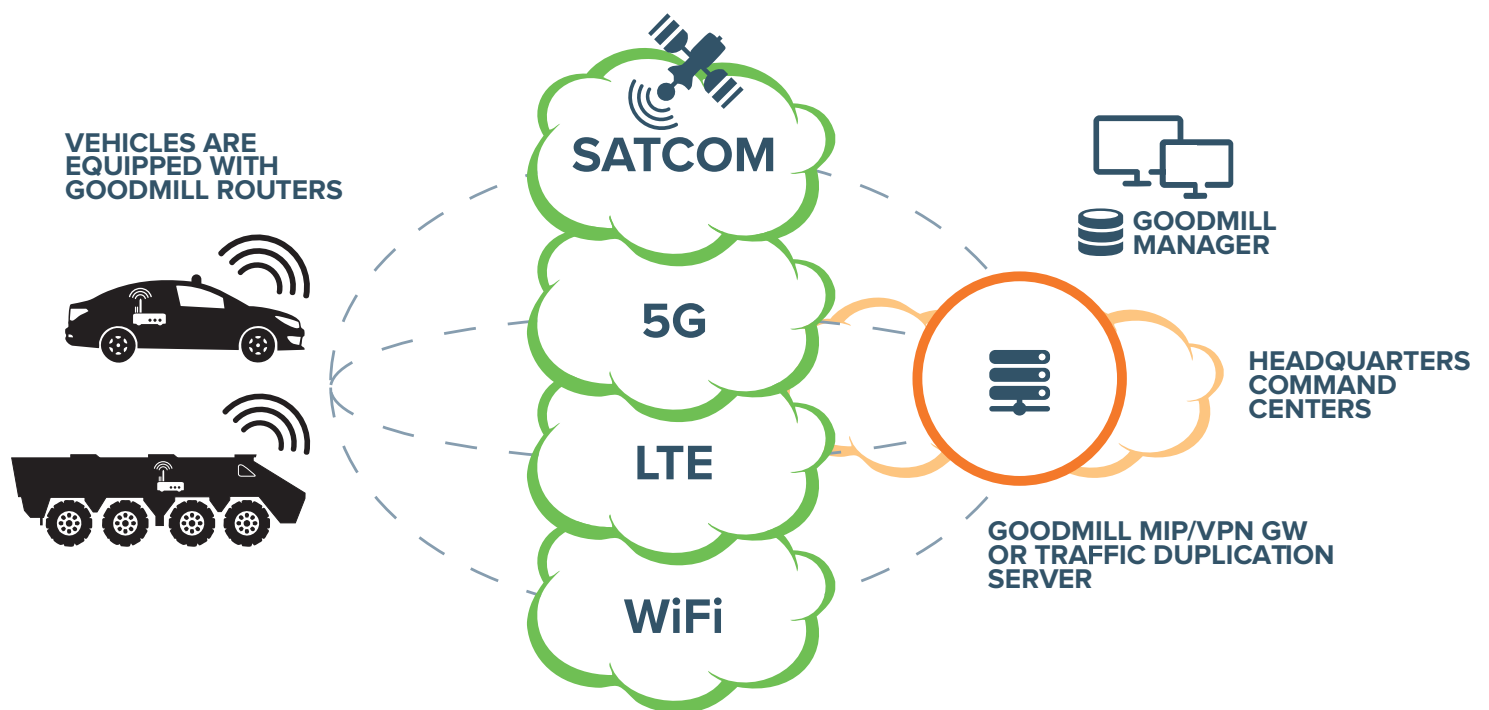
Goodmill MIP Server is a powerful backend Linux server that terminates Mobile-IP and IPSEC VPN tunnels from the Goodmill router fleet. It runs MIP and VPN software, where the MIP component ensures seamless switchover and session persistency for the Goodmill multichannel router, while the VPN component secures the connection. The Goodmill MIP Server scales efficiently to handle multi-gigabit traffic loads and supports various failover and redundancy setups, ensuring robust and reliable performance.

### GOODMILL TRAFFIC DUPLICATION SERVER – A RELIABLE SOLUTION FOR PRACTICALLY LOSS-LESS MOBILE CONNECTIVITY

Goodmill Data Duplication Server is a powerful backend Linux server that terminates router data duplication tunnels. By duplicating data across all available links at the router, it ensures a practically lossless connection between the router and the backend. This minimizes latency and jitter, allowing the router to always use the link that best meets the application’s needs, whether it requires the lowest delay or the highest bandwidth. Additionally, tunnels can be secured with standard security algorithms, ensuring robust and secure data transmission.

FOR MORE INFORMATION, PLEASE CONTACT GOODMILL SYSTEMS SALES AT [sales@goodmillsystems.com](mailto:sales@goodmillsystems.com)

# SEAMLESS SWITCHING BETWEEN NETWORKS



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