CHALLENGE:
High-quality medical care at affordable cost is nowadays among the greatest challenges. Medical equipment like magnetic resonance imaging (MRI), computed tomography machines are becoming a standard in every hospital. World leading medical equipment producer, GE Healthcare, globally provides technologically advanced medical equipment. However, significant increase of the medial equipment in use makes a big impact on GE Healthcare maintenance and service cost. GE wanted to guarantee better profit by increasing the number of the installed equipment and on the same time improving service and reducing medical equipment maintenance costs.

SOLUTION:
RICON came across these challenges and globally delivers to GE Healthcare secure and reliable medical equipment monitoring solution that allows real-time notification of potential issues and maintenance to be delivered remotely, avoiding expensive on-site visits whilst improving customer response times and service levels. RICON secure M2M remote monitoring solution:
- Utilizing the latest in state-of-the-art wireless networks technologies;
- Maximizing uptime value to minimize downtime risk;
- Provides the highest security parameters;
- Easily and seamlessly upgrades to new technologies, if desired.

Solutions is based RICON hardware (VPN cellular routers), software (M2M Remote Management Platform) and network (xDSL /3G/4G technologies). 3G mobile network gives a great flexibility in cases where medical equipment are install on remote/rural location with no landlines available. Only mobile signal is needed then. Moreover, RICON solution goes with the future technologies' changes in mind. System working on the cellular mobile network can be easily upgraded from 3G to 4G, only module replacement is needed and no additional changes on the system is required. RICON solution also guarantees security and privacy on the network, provided remote management software and custom scripting. RICON M2M solution multiplies the supply density of medical services, facilitating treatment also in remote rural regions. In selected countries RICON cooperates with the local network operators and provides to GE Healthcare its M2M networking technologies along with the mobile internet access data plan.

RICON SOLUTION FOR WIRELESS HEALTHCARE APPLICATIONS
1. hardware: RICON VPN 3G/4G routers
2. software: RICON M2M Remote Management Platform

GE Healthcare provides transformational medical technologies and services to meet the demands for increased access, enhanced quality and more affordable healthcare around the world. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.
Option 1: single module/ single SIM

- Medical equipment
- RICON Router
- VPN tunnel (GPRS, GTP, PPTP, L2TP)
- Terminals Operating Data
- Router Operating Data
- Option 1: single module/ single SIM

Option 2: single module/ dual SIM

- Medical equipment
- RICON Router
- VPN tunnel (GPRS, GTP, PPTP, L2TP)
- Terminals Operating Data
- Option 2: single module/ dual SIM

Option 3: dual module/ dual SIM

- Medical equipment
- RICON Router
- VPN tunnel (GPRS, GTP, PPTP, L2TP)
- Terminals Operating Data
- Option 3: dual module/ dual SIM

RICON M2M Management Platform

- Centralized statistic collection to show router uptime, network attachment, signal strength and where possible latency and packet loss per device and per router group on RICON M2M Management Platform,
- Centralized control for the configuration management and group based configuration,
- For this specific project all the routers can be delivered with a project related pre-configuration.

RISON routers and management platform major features are specially designed to meet multiply requirements of M2M projects:
- Dual SIM functionality enable seamlessly alternative between two networks when one of the network signal is poor or enable to switch upon desire to other network with flexible switching time,
- Dual GSM module enable persistent network connectivity with no break in time during the network switch
- Guaranteed security and privacy in all the transactions: VPN support, GRE over IPSec, IPsec over PPTP/L2TP,
- Safety mechanism to avoid unintentional SIM cards manipulations,
- 4 x Ethernet 10/100M is available by default,

Some of the RICON M2M Management Platform features include:
- touchless installation by remote configuration,
- device grouping,
- batch remote configuration,
- scheduled remote configuration,
- scheduled remote firmware upgrade/downgrade,
- multiple simultaneous terminal configuration updates,
- setting customized SLA warning thresholds,
- SLA based live alarms,
- live connectivity information,
- live reports,
- terminals detailed data stream info,
- terminals detailed data stream reports for trend analyses,
- terminals alarms reports for trend analyses,
- more information

Portfolios of RICON products and services enables to deploy secure and robust wireless network. Embracing connectivity using wireless 3G and 4G technologies our Customers benefit from reliable network even in the most remote, hazardous locations. RICON team cooperates closely with Customers to provide them with a most suitable application. RICON has experience and know-how which we would like to share with you.

RICON routers and management platform major features:

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- • 4 x Ethernet 10/100M is available by default,
Specifications
- Dual module/WAN/Wi-Fi multiple network mode backup
- WAN port support PPPoE, static IP, DHCP client
- LCP/ICMP/flow/heartbeat check, ensure network usability
- SNMP network management, NTP support
- Local & remote firmware update
- Local & remote log check
- Supports DNS proxy and Dynamic DNS (DDNS)
- Supports timing operation

Wi-Fi Characteristics
- Standard: IEEE 802.11b/g/n
- WEP, WPA and WPA2 encryption
- WPS key
- AP, Client, station, bridge mode support

Available Cellular Network
- LTE 800/900/1800/2100/2600MHz
- UMTS/HSPA+900/2100MHz
- GSM/GPRS 900/1800/1900MHz
- HSPA+/HSUPA/HSDPA/WCDMA/UMTS
- 2100/1900/900/850/800MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- HSUPA/HSDPA/UMTS 2100/1900/850MHz
- EDGE/GPRS/GSM 1900/1800/900/850MHz
- CDMA 2000/EVDO Rev.A 800MHz
- CDMA 2000/EVDO Rev.A 800/1900MHz

Routing Protocols
- Static route
- RIPV2/OSPF dynamic route

Ethernet Standard
- IEEE 802.3
- IEEE 802.3u

Firewall & Filtering
- IP packet/Domain/MAC filter
- NAT
- DMZ

Other
- 176mm x 105mm x 25mm
- Weight: 510g
- Temperature: -30~+70

RICON M2M Remote Terminals Management Platform
provides full control of multiply 3G routers for diagnostics and maintenance of all the mobile devices on the network.