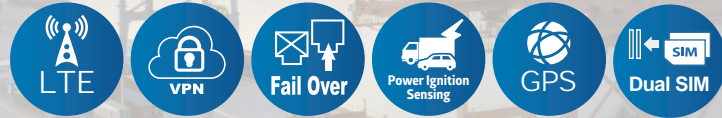




Billion M120N
LTE Industrial/In-Vehicle
Multi-Carrier Router



Port Industrial Automation CASE STUDY

Billion M120N Benefit of Industrial Automation in the port via LTE-A network

Prepare operational efficiency with BILLION Rigid LTE Router

APPLICATION

Built Private Network to monitor and connect to internal application service for an efficient and secure port operation.

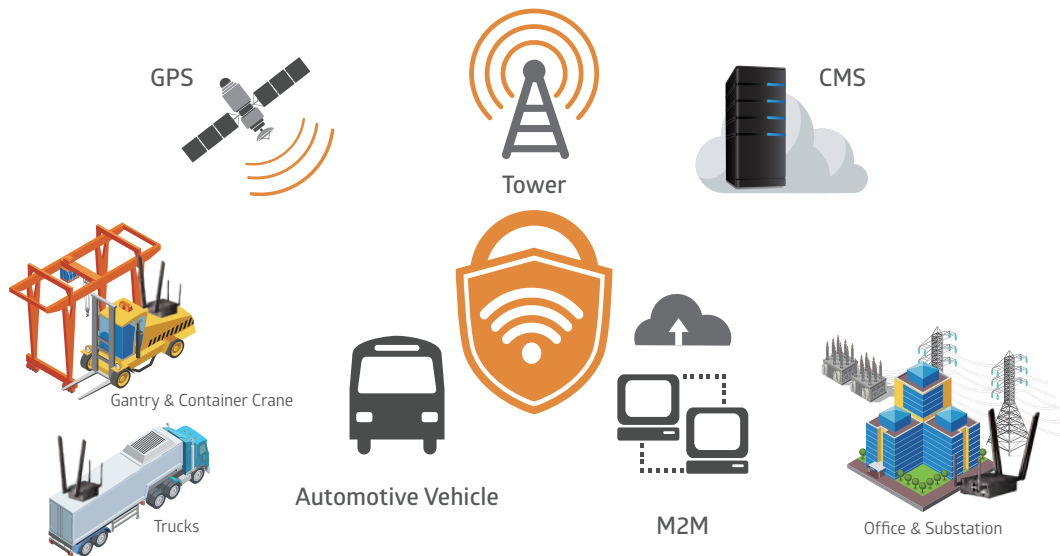


Port automated solution is getting more important and common in the market, especially driven by global trade. Automation and remote-control capabilities can help operators enhance terminal productivity and reduce the cost of operating.

Billion's M2M/Industrial IoT series routers are designed to build wireless control networks to monitor and collect data and developed with industrial-grade components that support an extended operating temperature range from -40 to 60° C in a harsh environment. Secure VPN connections with reliable connectivity and central management solution in the private network provide superior reliability and automated efficient operation.

Executive Summary

To provide a full connection to network infrastructure with machines, equipment, and devices, one of the biggest operators and a local SI cooperated with Billion to develop an LTE wireless communications system in the port. Gantry Crain and trucks move through the yard constantly, which is requested stable, safe, and reliable network connection included GPS location updated time to time to track accurately.



Challenge

Need to access the application server from the mobile working environment

- ◆ The application should cover and be stable in all areas of the port.
- ◆ Application response time should be less than 100 mSec by 4G LTE networks.
- ◆ The device needs to be installed inside machines, trucks, and warehouse/office areas.
- ◆ The rugged design and compact size are required to be installed in trucks and warehouses.
- ◆ The data rate must be guaranteed.
- ◆ Space limitation to install another device.

How Billion Helped

BILLION provides an industrial high-performance all-in-one mobile wireless communications router with compact size and rugged design.

Billion in-vehicle router series, M120N, can be applied for crane and truck for monitoring sending the information back to central office real time. GPS function supported on M120N achieves network connectivity and location tracking in one single unit.

Connected with all machines, equipment, and trucks running in the same private network must be secure, reliable, and durable.

The advanced customized software enabling high availability, reliable and secure connectivity for mission-critical automation applications.

Integrated LTE-A with 3CC and flexible antenna chosen on M120N secures data rate and wireless coverage in the port. Maintenance after deployment is another challenge, but Billion CMS (Central Management Solution) enhances the total Port Monitoring System working efficiently.

Conclusion

All Billion M120N routers, located in cranes, trucks, and offices, support private APN with VPN for connecting to a central container location management and report server.

Secure VPN Connections



- ◆ All Billion M120N will VPN to the central server which allows accessing the application server.
- ◆ The CMS server also manages all Billion M120N by mobile network private APN/IP (separated from VPN IP).
- ◆ Users can restore/install a new router without configuring it at sites. Just install router, power-on, and remote to configure to reduce the deployment time.

