



# Built Up Cellular Connectivity For Remote Machines Monitoring

**Use 4G LTE Wireless Technology in your factory industrial automation with NavigateWorx**

*We need to optimize the Operation efficiency of our factory production in order to effectively deal with different kinds of emergencies. Plus, we need to have a trustable and reliable network connectivity and the onboard equipment.*



**John Mason**

Head of Industrial management depart.

## Summary

Manufacturing plants can be a twisted snarl of machines, conveyor belts, robots, and cables. These busy floors become hard to navigate and nearly impossible to troubleshoot: if the line goes down, it becomes a titanic effort to trace every cable and point of connection. This impedes repair, which slows down production, which hurts profits in the long run. So how can industrial automation moves forward? How can it best protect its industrial computers, HMI panels, and robots from all being taken down by one bad or broken cable in a nest of thousands? It's simple: wireless automation.



## Customer Needs

Machines on the factory floor often move as part of their function: robot arms have to swing around and access different areas of the product, for example. These movements can be greatly restricted by a braid of control cables, which limits freedom and tends to be a main source of failure.



The more the cables move, the more chance they have of being snagged, breaking, or even just getting yanked out of their ports. It also means the machine is often set to operate at less than ideal agility for fear of causing these issues when they reach “the end of their leash.” In the past, full wireless industrial automation was difficult due to latency, or lag. In the past, the only way for computers to communicate reliably and at speed was through physical data connections. However, wireless networks and Wi-Fi radios have advanced to the point where a hardline is unnecessary—modern Wi-Fi speeds are faster, the networks are more

secure, and they are designed with IoT uses in mind.



wireless solutions are used in various industrial verticals like they are used to control cranes and automated guided vehicles (AGVs) in factory automation. In factory automation, they are prevalent in connecting instruments, allowing plant operators to monitor and maximize processes in dangerous areas while providing workers safely. As wireless technology is trending, leading system vendors of wired industrial network equipment are also offering wireless solutions.

Wi-Fi has emerged as the most widely used wireless technology even though reliability and security remains a significant challenge because of the wide availability of compatible hardware. Deploying 4G LTE is also a growing trend among large industrial companies instead of using Wi-Fi and wired solutions.



## Solutions

After 12 months' tough searches for the best Solution and Technologies in order to meet the remote machines monitoring demand, finally John Mason and Industrial management Department adopted NavigateWorx's NR500 LTE VPN Routers for their industrial automation wireless solution. Using NR500 LTE VPN Router, the remote monitoring system connects automatic machines distributed among various industrial sites to the cloud platform, to collect and analyze the machines' operation status, degree of wear of vulnerable parts, and data of the electric controlling systems.

## Benefits

### **Saving Costs**

NavigateWorx helped the Industrial Management Department to realize the significant purpose of saving costs in multiple ways. Engineers can monitor real-time operation of the machines, response to faults with shortened time, and plan for preventive maintenance, saving both manpower and costs significantly.

### **Reliability in Mobile Environment**

The NR500 LTE VPN Routers provides reliable low latency communications between machines and the cloud center. Dual-SIMs allows cellular

detection and recovery moreover safeguards uninterrupted communications.

### **Flexible Connectivity**

With NavigateWorx NR500 LTE VPN Routers, now it's flexible enough with its strong and high EMC level design, it could get all the equipment well connected and have internet access to be online for remote visitors all the time.

## About NavigateWorx

NavigateWorx Technologies provides Products, Services, Solutions and Support to the emerging Machine-to-Machine Industry. Our goal is to assist in your efforts to bring Industrial Projects to life, implement Wireline & Wireless Technology Solutions in your Business to simply keep your Devices, Employees and Business connected. That is NavigateWorx.

