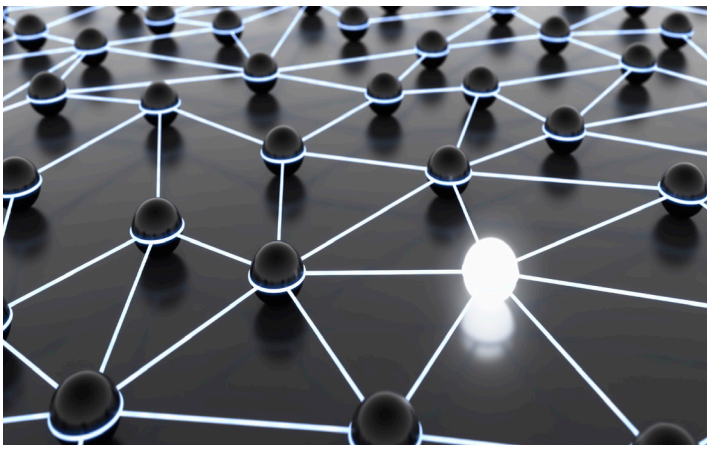
WIND RIVER

The Intelligence in the Internet of Things

INTERNET OF THINGS:

PREDICTIVE MAINTENANCE USE CASES



Real-time analytics leverages intelligence at the edge to transform businesses, extending the life of critical infrastructure and enabling new efficiencies

In critical infrastructure, continual uptime and the ability to diagnose and prevent failure in real time are paramount. Even commercial cloud platform uptime service commitments of 99.95% for enterprise IT fall short of the standards for embedded systems operating critical machinery.

In an effort to assure uptime, companies have historically sent field technicians out to perform routine diagnostic inspections and preventive maintenance according to fixed schedules. This is a costly, labor-intensive process with little assurance that failure won't occur between inspections.

More recently, manufacturers began outfitting equipment with sensors that can alert operators when a machine or component is not performing properly or showing signs of stress. The equipment can receive attention and repairs right when it needs them, rather than on a prescribed schedule when it may not need them.

The concept of predictive maintenance is likely to expand exponentially in the Internet of Things (IoT), in which more and more machines are being managed by networked smart devices. Predictive maintenance has the dual benefit of optimizing equipment uptime and performance while reducing the time and labor associated with inspections and preventive maintenance—with readily apparent implications for a number of industries:

- **Transportation:** Predictive maintenance will reduce the need to remove transit vehicles, rail cars, or planes from service for routine inspections and scheduled maintenance. Instead, operators will be alerted when a piece of equipment requires attention.
- **Energy:** Operators can monitor generators, transformers, wind turbines, and other critical equipment from central locations and take action to mitigate stress, overheating, and other malfunctions.
- **Buildings:** Sensors in a building's electrical and mechanical systems, such as lighting, climate control, plumbing, or security, will alert engineers when a part or component needs attention, enabling maintenance crews and contractors to focus on imminent issues rather than around-the-clock inspection and monitoring.

WIND RIVER SOLUTIONS

Few companies are as well equipped as Wind River® to help organizations determine how to leverage IoT today. In fact, Wind River has been delivering solutions that power interconnected, automated systems for decades. With more than 30 years of embedded leadership and innovation, our technology is at the heart of more than 1 billion embedded computing devices around the world.

Wind River has translated that unmatched embedded experience into deep cross-sector expertise, making it a trusted partner for customers in a wide range of industries. We combine superior embedded technology with professional design services to develop end-to-end solutions that unlock new business potential and unleash productivity. We help customers expand capabilities, maximize existing infrastructure, and manage risk as they identify the best and fastest path to value. By helping convert data into actionable insight, Wind River continues to demonstrate it is the partner of choice, instilling the confidence that the promise of IoT is within reach today.