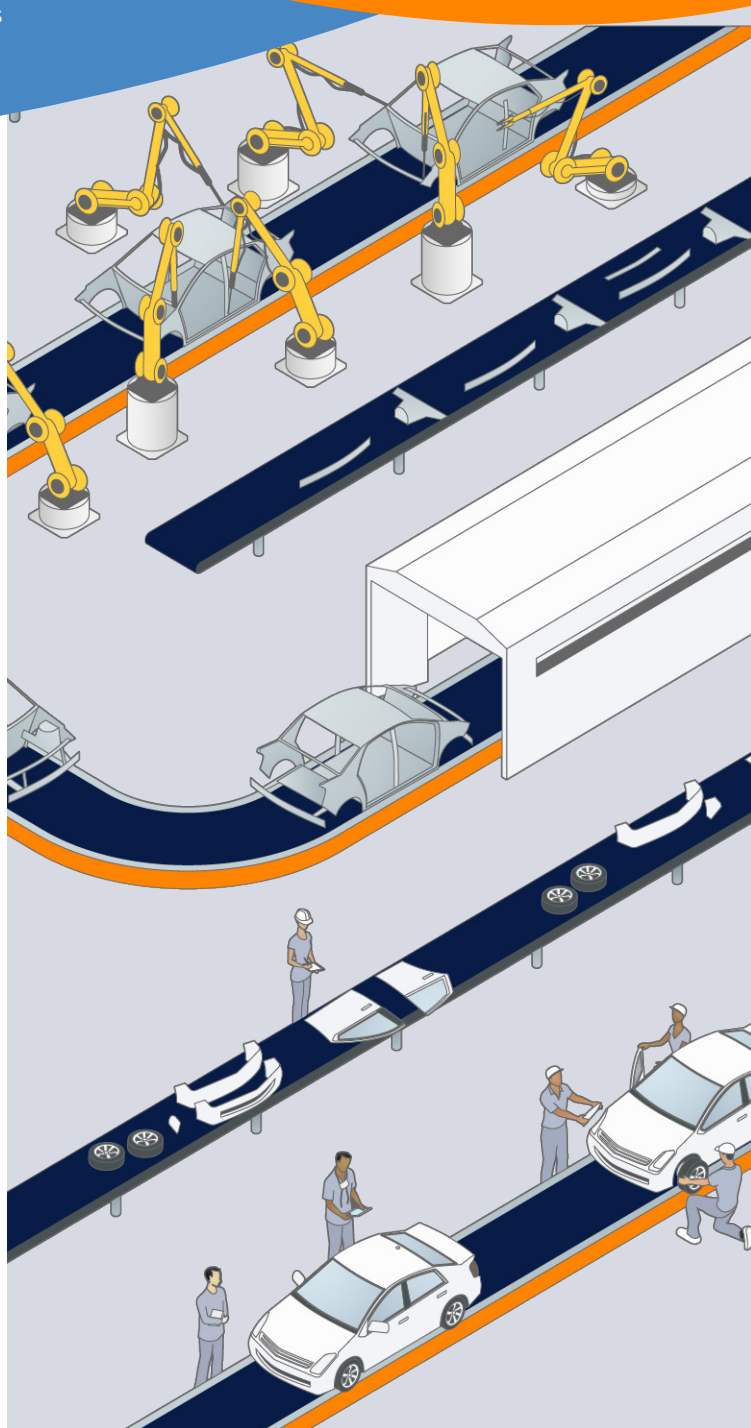
SPECTRUM FOR THE FUTURE

CASE STUDY

Spectrum Sharing Drives Innovation in American Manufacturing

Wireless spectrum is essential to America's future technology leadership, economic strength, and global competitiveness. A shared spectrum approach, modeled after the Citizens Broadband Radio Service (CBRS), has proven its success in enabling advanced manufacturing techniques across a host of industries. As spectrum sharing opportunities are explored in other spectrum bands, it promises to build upon this success and further expand investment and innovation in American manufacturing.



Examples of spectrum sharing's impact on manufacturing:

Boosting Autonomous Operations for Global Auto Maker

SITUATION

A global automobile maker needed to reliably connect their automated truck yard to enable more efficient inventory management and manufacturing processes at their plant spread out over 1.5 square miles (the size of 726 football fields!). They needed to deploy 20-30 driverless trucks, but no conventional wireless technology could deliver the reliability, coverage, or control that was needed.

SOLUTION

The manufacturer assessed other wireless technologies, but those brought economic and technological challenges in covering 1.5 square miles of outdoor space. Instead, they chose Celona to deploy a private wireless network with 18 CBRS access points.

RESULT

The use of shared spectrum enabled 50 autonomous trucks to move inventory and materials across the facility more efficiently and at a lower cost. The auto manufacturer continues to benefit from this private network, equipping them to deploy next generation handheld scanners, wireless security cameras, autonomous robots, and more.

Bringing Dow Chemical Texas Facility Into the 21st Century

SITUATION

Dow Chemical's facility in Freeport, TX, which includes 40 production plants across 20 square miles, had outdated methods for operations and maintenance, relying on paper forms. Workers had to walk between the field, various plants, and the control room to manually deliver documents or speak face to face with other employees to keep processes moving forward.

SOLUTION

Dow partnered with Kyndryl to launch a "Digital Manufacturing" initiative, modernizing their communication and record systems through a private wireless network using the CBRS spectrum band. Four intelligent radio towers utilizing the shared spectrum of CBRS were raised around the facility, enabling them to deploy remote communications, digitize process documents, and enable simultaneous applications to work between the control room and field.

RESULT

In just four months, Dow completed more than 28,000 digital procedures on the shared spectrum network, including maintenance monitoring, fire inspections, and document processing using innovative, worn devices. This effort greatly improved the plant's efficiency, enhanced worker safety, and boosted their productivity and reliability.

These case studies demonstrate the need for an inclusive approach to spectrum policy, which promises to generate even greater investment in new advanced manufacturing technologies, ultimately driving American economic growth and global competitiveness.