SENSR and Raytheon
New national radar system and spectrum consolidation

Benefits
- More than 600 radars function at the heart of air traffic control, weather forecasting and national security
- SENSR aims to replace current radars with advanced, highly sophisticated multi-purpose radars
- Benefits of radar consolidation and upgrades extend beyond the commercial market
- Raytheon delivers technology that can support multiple missions at the same time in one radar

Airways are crowded because of the expansion of aerial operations from drones and space transportation vehicles. The U.S. government is tasked to find the bandwidth that commercial telecommunications industry needs. As a result of the Spectrum Pipeline Act of 2015, the FCC and NTIA were tasked to determine how they could free up 30 MHz of bandwidth between 1300 to 1350 MHz. The U.S. Federal Aviation Administration, the Department of Defense, the Department of Homeland Security and the National Oceanic and Atmospheric Administration were granted funding from the spectrum restoration fund to explore how they could free up this broadcast band by replacing the radars that currently occupy it with newer, more spectrum-efficient radars moved to a different band.

In response, the FAA, DoD, DHS and NOAA formed a cross-agency team to create SENSR, the Spectrum Efficient National Surveillance Radar program. The goal of SENSR is to use the proceeds from the 30 MHz spectrum auction to not only vacate the 30 MHz of spectrum to be auctioned, but to actually recapitalize the entire radar infrastructure across the country with advanced, highly sophisticated multi-purpose radars for air traffic control, air defense and air surveillance, border and critical infrastructure protection, and weather forecasting.

Raytheon can help the SENSR team create more space for wireless by replacing aging surveillance radars with new technology that would help consolidate the use of spectrum.

There are more than 600 surveillance systems across the continental U.S., Alaska, Canada, Hawaii and the Caribbean functioning at the heart of air traffic control, weather forecasting and national security.

Raytheon is positioned to help the SENSR team create more space for wireless bandwidth by replacing aging surveillance radars with new technology that would make the most-efficient use of the spectrum.
The benefits of radar optimization extend beyond the commercial market. The participating agencies will see many benefits including:

- For the FAA, new, advanced radars could improve air traffic management, increase security and substantially lower the cost of sustainment.
- NOAA could benefit from more accurate, timelier weather predictions with earlier hazardous weather warnings.
- DHS could gain better insights to help conduct UAS and airspace security operations around suspect airborne and maritime activity.
- The DoD will be able to more effectively conduct homeland defense, civil support and security cooperation to secure the United States and its interests.

Raytheon can help the nation’s surveillance system make a leap that’s the equivalent of going from black and white to HD color.

Raytheon is a leader in advanced technology that can take our national radar system into the future — with faster update rates, higher resolution and better coverage. Additionally, Raytheon delivers technology that can support multiple missions at the same time in one radar — without dropping or deprioritizing a single critical mission. We also have a history of keeping mission-critical systems operational during large-scale modernization and replacement projects.

The first phase of the SENSR program is currently underway. In cooperation with industry partners, it covers researching requirements and existing technologies, engineering studies, economic analysis and planning.