

Oneida County

Wisconsin, USA

Case Study



THE CUSTOMER

Oneida County is located in the US State of Wisconsin and has a total area of 1,236 square miles (3,201 square kilometers). The main users of the radio system are from the Oneida County Law Enforcement centre which incorporates the Sheriff's office and 911 dispatch centre; however other agencies, including volunteer fire, communicate on the system.

SITUATION

A lack of county-wide radio coverage had driven Oneida's radio system upgrade. With typical portable coverage only 40 percent, the County needed a radio solution that would saturate coverage. In particular, they wanted a solution that could provide staged migration to digital communications capable of working within the 12.5kHz bandwidth.

The public safety agencies within the County had different needs. Law enforcement agencies needed to move to P25 to interoperate with neighboring counties. However, some Oneida fire departments are volunteer organizations which dispatch emergency alerts via analog pagers. So the county could not completely migrate to P25 digital radio as some channels needed to remain analog.

RESPONSE

Tait proposed a hybrid system solution to cater to current analog needs, while allowing for staged digital migration. The seven-site Tait simulcast system includes three QS2 analog simulcast FM channels and one P25 digital simulcast channel.

“The Tait solution provides us with better coverage areas, continues our ability to use a secure channel, allows us to have consistent subscriber programming and prepares us for future upgrades.”

**Dan Hess - Lieutenant of Communications,
Oneida County Sheriff's Department**



Tait offers several modulation options for simulcast systems, which allows a customer to choose the preferred method to suit their coverage challenges and budget. Oneida chose C4FM modulation format to ensure that their radios could interoperate with public safety staff in neighboring counties.

Implementing a P25 simulcast system, in particular using C4FM, must be designed and configured by experienced, knowledgeable engineers if it is to perform to expectations.

Site analysis involved coverage prediction to verify the solution feasibility, then a second phase of testing and system optimization to further improve county-wide coverage by configuring the launch times of each site, minimizing the potential for coverage dead spots.

OUTCOME

Even with a larger site separation than is generally recommended for C4FM, Tait engineers optimized the system to exceed the required 90 percent coverage, primarily due to the improved RF design.

Oneida's law enforcement agencies have been able to incorporate Tait P25 mobiles and portables into their fleet and utilize the secure digital channel. Meanwhile, fire crews are still able to utilize the analog channels.

MORE INFORMATION

For news, product specifications, comprehensive technical information and contact details of your nearest Tait service facility, please visit www.taitradio.com

CUSTOMER PROFILE

Public safety agencies throughout Oneida County.

APPLICATIONS

- ▶ TaitNet P25 conventional simulcast

BUSINESS BENEFITS

- ▶ Improved portable coverage
- ▶ Law enforcement using digital channels
- ▶ Analog channels for paging maintained

PRODUCTS USED

- ▶ TaitNet QS2
- ▶ TM9155 digital mobiles
- ▶ TP9155/60 digital portables

Tait is a global leader in designing, delivering and managing innovative communication solutions that help utilities and public safety organizations to keep the lights on and communities safe.

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