



RADIO
FREQUENCY
SYSTEMS

RFS Services 360 for Wireless, Broadcast and Defense

ONE RF PARTNER

from concept
to construction





Why the manufacturer is the ultimate partner for services

Radio frequency (RF) deployments are easily derailed by technical challenges, interoperability issues and poor-quality installations that don't meet performance standards. **The more complex the project and the equipment, the higher the risks of costly delays.**

While many companies offer services to help mitigate these risks, very few design and manufacture the RF solutions they're deploying. Even fewer can quickly tailor RF solutions to meet unique requirements. And **only one company can leverage more than 120 years of experience and expertise** to resolve the RF challenges other companies walk away from.

RFS goes well beyond other services companies to deliver the **end-to-end RF solutions, expertise and oversight** needed for smooth, efficient deployments in wireless, broadcast and defense networks in any location.

**MORE THAN 120 YEARS
OF EXPERIENCE AND EXPERTISE**
to resolve the RF challenges
other companies walk away from





Unparalleled understanding of RF solutions

Because we design and manufacture end-to-end RF solutions, we know exactly which environments solution components can and cannot withstand, the best techniques to install them and how to optimize their performance over the long term.

Here are just two examples that highlight the RFS advantage:

- **Higher quality cable connections**

In buildings and tunnels, poor-quality cable connections that degrade signal quality are a major challenge.

We design and manufacture robust, fire-resistant cable solutions for public safety and cellular communications as well as the specialized connectors they require. We're experts in connectorization techniques that ensure premium performance in the most challenging indoor and underground environments.

- **One-stop customization, installation and optimization**

We can efficiently adapt any of our products to meet the most unique requirements. We redesign and build the products, deliver them, install them, integrate them and optimize

HIGHER QUALITY
cable connections

ONE-STOP
customization,
installation and
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The expertise to take on any RF challenge

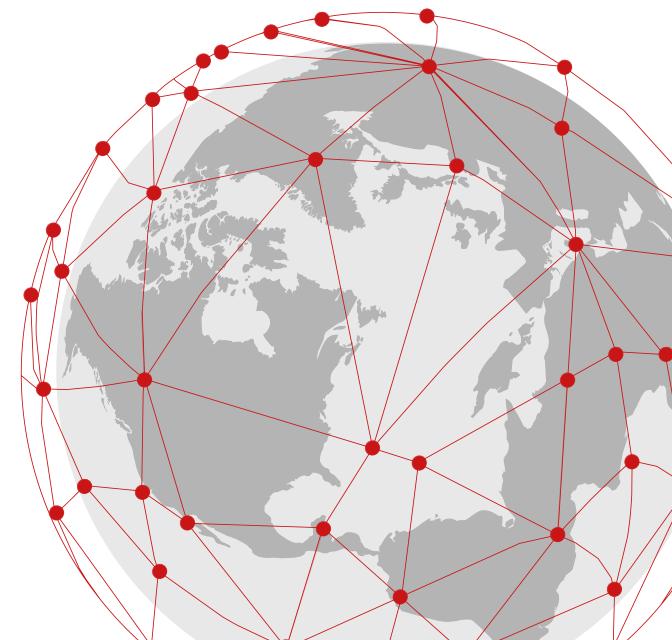
When other companies are forced to walk away from deployment challenges because they're too daunting, leading mobile operators, broadcasters and defense organizations call RFS. There is no challenge too big or too difficult for our **global Services 360 team**. Over the years, we've managed extremely large and challenging RF deployments, including:

- **An airport deployment in the U.S.** that included more than 72 km (45 miles) of cables and 45 km (28.4 miles) of conduit across three terminals and underground walkways.
- **A university deployment in the U.S.** that encompassed 18 broadcast antenna systems, including main and auxiliary broadcast antennas, across 9 sites.
- **A multi-building high-rise deployment in Brazil** that included 540 antennas and more than 80 fiber optic antennas across 9 buildings.
- **A UHF deployment on 30 oil and gas platforms in Brazil** that included more than 600 antennas and 11 km (6.8 miles) of cables.
- **A strategic, high-frequency communications project in Australia** that spanned 3 states and the Northern Territory.
- **A reliable DAS solution to support multi-operator wireless communication in 5 sports venues in Brazil** during the 2014 World Cup. The full turnkey solution provided by RFS in Maracanã stadium exceeded the previous record of traffic volume by 62%.

Our customers see our experts as extensions of their own team. We're called in to:

- **Inspect installations** completed by other services companies.
- **Isolate, diagnose and resolve issues** with other vendors' RF products and solutions.
- **Create and document processes**, including developing templates for close-out packages.

**THERE IS NO
CHALLENGE**
too big or too difficult
for our global
Services 360 team





Simplicity, control, and quality every step of the way

No matter how complex the project, we provide a **single point of contact and long-range visibility** into every phase of the deployment process and the ecosystem of network experts involved.

Because we have complete control over product flows and the manufacturing chain, we can **customize products, manage lead times and target schedules** to ensure sites are operational when planned.

We're so confident in our craftsmanship, we almost always extend the factory warranty on our products when we manage the deployment.

If it's time for an upgrade or there's an issue, simply call RFS. There's no need to coordinate among multiple companies, troubleshoot multivendor solutions or deal with blame-game tactics among vendors.

Our customers love what we can do for them

Since 2010, RFS' Services 360 business has grown more than 1,300%*. Our team in the U.S. has:

installed
1.2 million
feet
of RFS HYBRIFLEX®
hybrid cables

worked at
6,000
cell sites

installed
4,300
antennas

*Represents revenue growth between 2010 and 2019.



A complete suite of turnkey services

We've been in business since 1900 and have **successfully supported thousands of network deployments** around the world. No one understands the end-to-end deployment cycle better than we do.

With our global network of experts, we can support projects at every stage of deployment.

RF Planning Services

- Audits
- Network planning
- Preventative maintenance inspections
- Training

Site Engineering Services

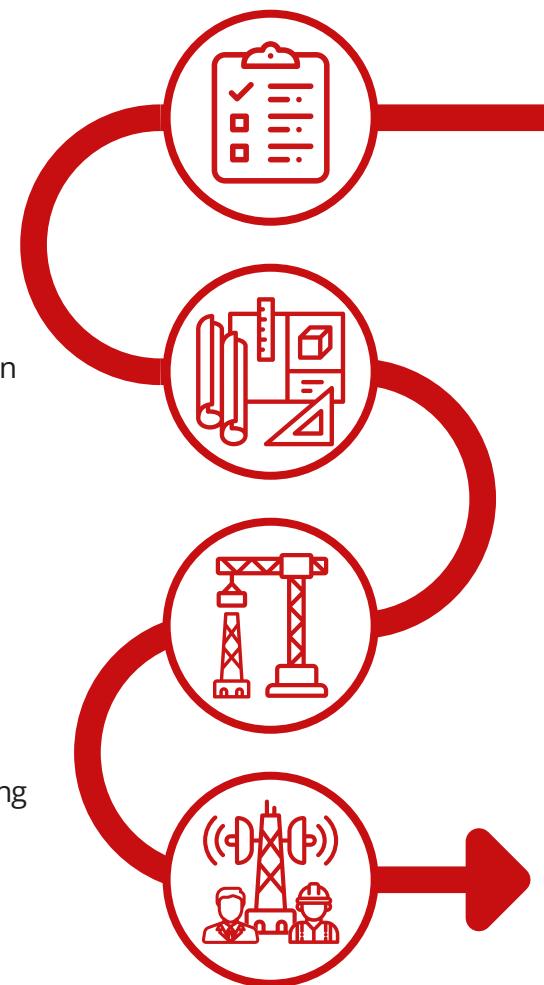
- Coverage analysis
- Detuning
- Grounding design and installation
- iBwave design
- Passive intermodulation (PIM) mitigation
- Site design
- Structural reviews and design

Site Development and Construction Services

- Aerial overhead fiber installation
- Broadcast FM and digital TV (DTV) antenna installation
- Installation supervision
- Project management
- Site installation
- Testing and commissioning
- Testing and installation

Equipment Integration and Optimization Services

- Broadcast combiner system installation and commissioning
- Documentation
- Integration
- System integration
- Troubleshooting





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to learn more about RFS Services 360 and what we can do for you.

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