How to be ‘shovel ready’ for 2021 broadband funding and grants
Today’s speakers

Sam Pratt
CEO
Render Networks

Lori Sherwood
Director, Commercial & Market Development
Render Networks
We are well-positioned to share best-practice

Our experience spans global network architectures and delivery models and has shaped a best-in-class digital platform and approach.

Melbourne, Australia
20+ years APAC Telco deployment expertise
Strong foundational projects, including National Broadband Network (nbn) connecting 8m households and businesses

Boulder CO, USA
>15 projects across 8 US states and counting

US Footprint
50+ years Telco deployment expertise
Unprecedented demand for fiber broadband in the USA has accelerated the need for more efficient construction outcomes for:
- ISPs
- MNOs
- ILEC/CLECs
- Rural Cooperatives
- Network Planners & Engineers
Funding is no longer a primary constraint

<table>
<thead>
<tr>
<th>Funding Sources</th>
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<tbody>
<tr>
<td><strong>Federal grants, loans or funding sources</strong></td>
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<td>There are annual high-cost support programs in addition to specialized auctions (RDOF, CAF II) that represent billions of dollars in annual funding for broadband networks.</td>
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<td><strong>State Grants</strong></td>
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<td>Over 20 states have created grant programs of tens to hundreds of millions of dollars to fund last-mile projects to reach unserved and underserved communities in their states.</td>
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<td><strong>Private Equity &amp; investment</strong></td>
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<tr>
<td>Is available and most viable for large-scale projects. PPPs also can access investment to particularly where the municipality also provides a backstop for the funding.</td>
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<td><strong>Publicly Funded (i.e. City, County)</strong></td>
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<td>Bond funding is the most traditional funding option for municipalities - particularly for those cities that own a municipal electric system.</td>
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<td><strong>Self funded via debt or existing equity</strong></td>
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<td>This is generally complemented with additional external sources of capital.</td>
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Hybrid: Combination of public and private (eligible matching fund)
Funding and application outlook

+Funding and grant programs are becoming extremely competitive
Prioritized to eligible service areas and the following criteria:
- Service to the highest number of households
- Areas that are the most rural
- Networks meeting min. download and upload speeds

+Compressed application and delivery timelines
in favor of deployment commencement

+Delivery milestones need to be adhered to
the right partnerships and delivery approaches are critical to avoid penalties

+Network quality and low latency

+Cost of services:
Affordability and accessibility is a key consideration

Take-away:
Readiness is key to success
Anyone seeking funding in 2021 needs to be 100% prepared before the application window opens.
Typical grant application requirements

Funding program requirements vary, however most applications at will require:

- Defined project scope and budget
- Partner and contractor identification
- Company financials
- Comprehensive project plan and schedule
- Eligibility assessment
  - Letters of support
  - Statement of need
  - Other funding awarded in the project area
- Due diligence process
Considerations for funding and delivery success

1. Planning and budget considerations
2. Determining the best-fit delivery approach and partners
3. Tools to plan and deliver networks more efficiently
1. Planning | Creating a “shovel ready” project plan

There are three phases to a “shovel ready” grant project plan that should be built into any application:

<table>
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<tr>
<th>Pre-Build Plan</th>
<th>Build-out Plan</th>
<th>Post Build Operations</th>
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<tbody>
<tr>
<td><strong>Budget</strong></td>
<td>Schedule and timelines</td>
<td>Reporting</td>
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<tr>
<td><strong>Environmental Approvals</strong></td>
<td><strong>Quality Inspection</strong></td>
<td><strong>Operational Sustainability And monetization</strong></td>
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<td><strong>Tackling items with long lead times</strong></td>
<td><strong>Progress Reporting</strong></td>
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<tr>
<td>✓ Pole attachment agreements</td>
<td>✓ Procurement</td>
<td></td>
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<tr>
<td>✓ Materials (Buy American)</td>
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<tr>
<td>✓ Permitting</td>
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1. Planning | Begin with the end in mind

**Consider a build strategy and tools with flexibility built-in**
- Redirect resources optimally without commercial restrictions
- Respond to internal and external delivery factors, including material and resource shortfalls
- Dynamically shift according to changing strategic priorities

**Solve for the structural disconnect between design and construction**
- Network design is the key deliverable to define project scope and budget accurately
- Bottom-up, data-driven approach to network deployment
- Investing in a high-quality, digital design

**Bring forward downstream requirements**
- Map downstream system requirements to As-built data collection by field crews
- Systematic, consistent and accurate data collection
2. Delivery | Mitigating risk and planning for contingencies

Forget linear timelines and plan to work in parallel on all elements of the build.

Pay attention to contractor cost, retention and performance.

Capture your post-award reporting as you go alone rather than try to capture everything after the fact.
2. Delivery | Determining the right deployment model

**Contractor Selection**
- ✓ What do you need them to deliver for you?
- ✓ What are you asking your contractors to do?
- ✓ Do they have the right buying power, crews, track record?
- ✓ What is their bonding capacity?

**Project Management**
- ✓ Will you be building an internal PMO or outsourcing?
- ✓ What are your budgeted costs for PM?

**Tools**
- ✓ How are leveraging digital tools to more efficiently plan, design, construct and operate the network?

**Procurement**
can make or break a project depending on the number of procurements that are required and the time it takes to contract for each vendor.
## 2. Delivery | Meet delivery milestone build-out requirements

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<tbody>
<tr>
<td><strong>1.</strong> Trusted delivery partners</td>
<td><strong>2.</strong> Delivery confidence</td>
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<tr>
<td>Proven contractors and technology vendors to ensure an efficient build and to ‘get it right the first time’</td>
<td>Build predictability, flexibility and overall confidence that the network rollout will meet time, cost and quality expectations. Prepare for accelerated delivery.</td>
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<tr>
<td><strong>3.</strong> Early identification of at-risk delivery</td>
<td><strong>4.</strong> Customer prioritization and completion tracking</td>
</tr>
<tr>
<td>Real-time progress visibility enables: + early identification of performance issues to avoid post-award penalties + better build decisions.</td>
<td>Define a build strategy based on optimal build sequence by priority customers and zones Prepare for accelerated delivery.</td>
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3. Technology | Eliminate traditional inefficiencies

Remove manual, paper-based processes

Eliminate physical construction prints and manual intervention with an entirely paperless network delivery

Maximize user productivity and accelerate speed-to-market and customer connections

Optimize workforce scheduling

Field teams need to be a productive and efficient as possible

Daily task optimization and automation = new levels of field productivity

Field teams are delivered tasks that are ready to commence, based on an optimal build sequence

Progressive QA, change & As-built data processes

Traditional QA, change management and redlining processes are highly manual and undertaken at project completion

Integrate end-to-end construction requirement into a parallel workflow delivering real-time construction updates to downstream systems.

Permit management

Permitting can be a barrier to deployment and cause unnecessary delays

Utilize technology to efficiently identify permitting dependencies and build these into a sequenced construction workflow
3. Technology | Make smarter, faster build decisions

A single, geospatial view of progress for all stakeholders equals increased control and visibility

- Monitor deployment progress in real-time against census block or priority zone objectives
- Optimize performance issues, at-risk delivery, and resource utilization
- Maintain a single ‘truth’ for faster time-to-market, customer connections and operations handover
Considerations for funding and delivery success

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Digital Network Construction | Overview

**Network Design**
- Convert network designs into sequenced tasks for field crews.

**Field Validation**
- Build faster without manual, paper-based processes.

**Digital Construction Pack**
- Digital Construction Pack

**Digital Construction Management**
- Automated asset management

**Digital As-Built Pack**
- Accurate asset data at completion

**Handover**
- Network operations

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Data-Driven | Geospatial | Asset-Based | Automated | Optimized

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Entirely paperless network delivery to cover 50% of the 30,000 members in three years has been achieved in less than 18 months. Efficiency drivers identified:

- Streamlined scope management and digital work orders delivering live construction updates
- Access to real-time geospatial progress views enables informed decisions without construction delays
- Progressive As-built data and delivery to network operations to connect members faster
City Utilities of Springfield, Fiber Expansion

CU and TBG Network Services are pioneering an innovative Utility Lease Model, where utilities invest in fiber infrastructure while leasing fiber capacity to top-tier ISP, CenturyLink.

Render is enabling delivery of fiber expansion faster and at a reduced cost. Construction teams can view production in real-time, including delivery of As-built data delivery including QA as the construction is completed.

Six months in, best-practice digital approaches have been ramped quickly with field productivity gains significant construction and administration efficiencies.

“Render introduces valuable operational efficiencies that will complement our overall technology strategy. The Render platform introduces an innovative approach that addresses logistical complexities typically associated with projects of this scale.”

Thomas Reiman, President, TBG Network Services
Please submit your questions via the Chat window.
We’re here to help

Request our project calculator template
for preparing your design and construction scope and understanding potential savings of a digital deployment approach.

Get in touch:
lori.sherwood@rendernetworks.com
or click the meeting link we have shared in the Chat window to schedule a 15-min call.
Also, please take a moment to fill out our feedback survey:
https://go.rendernetworks.com/webinarfeedback