

Supply Chain and Workforce Issues for Network Providers



Supply Chain

The national transition to fiber broadband is well underway and progressing rapidly, with over 60.5 million households currently being served by fiber, an increase of 12% in 2021.

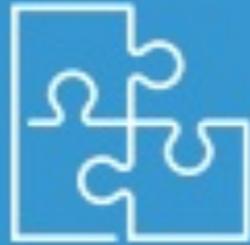
Customer demand is high and governmental funding and support is currently being put into place, with additional funds forthcoming. So why are fiber deployments across the country not happening at a more rapid pace?

Supply Chain

THE SUPPLY CHAIN CHALLENGES:



Raw Material Shortages



Assembled Component Challenges



Labor Shortages



Increased costs across the supply chain



Shipping and Logistical Delays

Lead Times Summer 2022

FIBER OPTIC CABLE

**52-60 WEEK
LEAD TIME**

FIBER CABINETS & SPLITTERS

**10-20 WEEK
LEAD TIME**

FIBER MULTIPOINT TERMINALS

**20-35 WEEK
LEAD TIME**

CONDUIT

**15-20 WEEK
LEAD TIME**

HAND HOLES

**22-26 WEEK
LEAD TIME**

HOME EQUIPMENT

**3-6 MONTH
LEAD TIME**

Lets Play a Game

What is the lead time in weeks for these products:

1 1/4" Conduit

20 Weeks

Commscope MST

24 Weeks

Duralite Handhole

26 Weeks

Sterlite Fiber

25 Weeks

AFL Ribbon Fiber

70 Weeks



Mitigation Strategies

So, facing this perfect storm of challenges with the supply chain, network operators need

to adopt multi-faceted, long-term strategies to protect themselves from the impact of shortages.

Mitigation Strategies

Relationship Building and Communication

Relationship-building is a key mitigating factor for supply chain issues. Developing good relationships with suppliers and sharing long-term plans with them will be critical to protecting companies from future supply chain shocks.

Mitigation Strategies

Capacity Build Out

One obvious solution to a shortage in domestic supplies is to build out production capacity in the United States, and some suppliers are investing in this.

Mitigation Strategies

Capacity Build Out

We have been and continue to increase domestic optical cable production. Compared to 2019 our investments in fiber and cable are expected to increase OFS U.S. based optical cable output by 80% by 2024.

John George, OFS Optics



Mitigation Strategies

Capacity Build Out

I've been in this business for 30 years, and I've never seen demand on the scale we're seeing now. And I've never seen us invest in capacity as broadly as we're doing right now, and frankly as the industry is doing right now. Corning is currently building a new plant in North Carolina which will focus on optical cable manufacturing.

Mike Bell SVP Corning Optical



Mitigation Strategies

High Level Design and Product Substitution

One of the most impactful ways to mitigate current and future supply chain issues lies in the high-level design of the network. Networks that are designed early in the process can help to buffer operators from both price fluctuations and unexpected shortages. You can order materials with an 85-90% accuracy while the detailed engineering and other steps are taking place.



Mitigation Strategies

High Level Design and Product Substitution

When networks are designed in advance, they can also be made flexible enough to allow for product substitution, allowing network operators to have some latitude in terms of what products they use for a build when they run into a shortage. Some products in a build are relatively easy to substitute but, some product selections are locked in place when the system is designed and can't easily be changed out mid-stream. It's best to know at the beginning where a build will have flexibility.



Mitigation Strategies

Other Strategies:

Supplier Diversification

Forecasting Needs 2023-24 now

Stock Up Increase Storage Capacity

Workforce Issues

After the spike in unemployment for the initial COVID shutdowns in spring and summer 2020, the American labor market rebounded relatively quickly.

Most of the country is now facing labor shortages, with unemployment nationally holding at 3.6%. Network operators report issues with hiring and retaining both internal employees and contractors to complete required work



Workforce Issues

Nebraska has had a historically low unemployment rate of 1.7%. One of the Counties we're building in had an 0.8% unemployment rate. So it's an extremely tight labor market. And the manufacturers we rely on are dealing with similar labor shortages.

So just getting people hired and trained, that's all part of the challenge.

Todd Heyne, Chief Construction Officer, ALLO



Workforce Issues

All across Utah, in a variety of industries, we are seeing the significant need for new employees,

The challenge our economy currently faces is not the scarcity of well-paying jobs, but the lack of workers.

Derek Miller, President ,Salt Lake Chamber



Workforce Issues

Mitigation

Keeping Existing Employees

- *Retain top talent.*
- *Bring back the Boomers!*
- *Work/life balance initiatives.*
- *Remote work if feasible for job duties.*
- *Present opportunities to grow and advance.*
- *Compensation is always a factor!*

Workforce Issues

Mitigation

Hiring New Employees

- Develop an internship program.
- Hire those that may not have all the qualifications and train them on the job.
- Use social media, online tools, etc. to get the word out, increase the pool to choose from.
- Implement an employee referral program.
- Promote from within, promote a current entry level employee to a needed position and train, then hire another entry level person that may be easier to get.