Facing the Challenges of Today's Modern Data Center: Enabling Deployment and the Workforce

Kevin Byars, Director of Data Center Operations for AFL's Enterprise Services, provides advice on how to build a modern data center.

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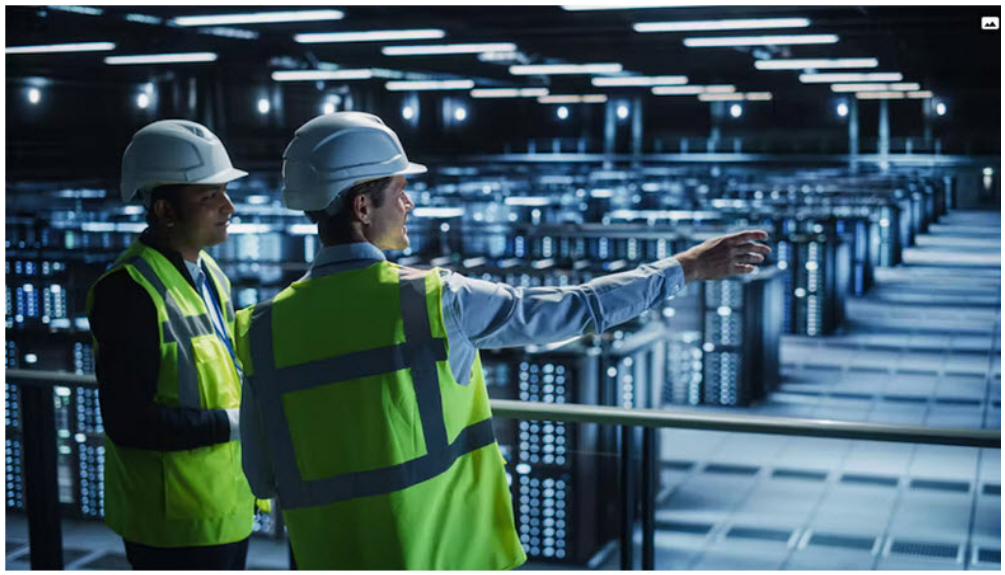
As data rates and fiber consumption continue to increase, it's critical that technicians "know their site" and optimize each square inch of space to get the most out of it. In doing so, technicians can build data centers with the ability to accommodate the technological demands of the present and the future.

To build the network infrastructure of a modern data center, you need skilled technicians. At the heart of this network is the vital Layer 1 infrastructure, which is the foundation of a data center. This physical layer provides the medium over which data travels and enables the connectivity between end point devices. Without the cables, racks, adapters and hardware at its foundation, data centers would be useless. Enabling deployment by facilitating installation and engagement as well as empowering the workforce is the crucial second step to overcoming the challenges of today's modern data center. This step focuses on finding ways to decrease build time while also increasing the quality of installation, which in the end, ensures a successful data center build.



Successfully building a modern data center starts with a valued team.

As fiber counts and fiber consumption increase, single fiber splicing becomes unrealistic and impractical. A shift to mass fusion splicing with modern flexible ribbon is necessary to making this economic as it results in significant labor and time savings. A recent AFL internal study concluded that mass fusion splicing results in an 89% reduction in the amount of time it takes to splice the same amount of fiber, when compared to single fiber splicing. Inside the data center, it's all about metrics, data and speed. How quickly can you do the job? How quickly are you progressing? Hyperscale customers want to know how fast you can get their infrastructure up and running so that they can serve their customers.

Kevin Byars, Director of Data Center Operations for AFL's Enterprise Services

Another key consideration in enabling network deployments is aligning standard operating procedures and processes across all parties involved to facilitate network deployment. Consolidating construction processes, plans and communication are some of the most important pieces of the puzzle. Data and information must be available for everyone to maximize the efficiency of network deployment.

A recent construction report from FMI estimated that roughly 48% of construction rework in the U.S. is caused by poor project data and miscommunication. In 2018, rework costs due to poor project data and miscommunication totaled $31.3 billion in the U.S. alone. With the consistent growth in construction spend since 2018, up about 28%, it is easy to assume this rework number has grown at pace or even increased.

The manual and inefficient handoff of data, lack of real-time visibility into project execution, difficulty in auditing daily project results and the lack of data integrity all contribute to inefficiencies in network installation.

Automation is the key to efficient construction processes. Construction digitization is the integration of digital tools to streamline existing business processes which helps bridge the gaps from traditional analog practices in the industry. Research from McKinsey found that digitizing a network build results in a 15% increase in productivity, a 4 to 6% reduction in project costs and provides greater levels of visibility into project execution for project managers, customers and even for the general contractor. This allows everyone involved to have real-time visibility and access to the project.

Construction digitization also offsets the absence of a skilled workforce, which is a current challenge facing the industry. It's essential that manufacturers innovate and develop solutions, specifically for the novice technician, that are easy to use, design and maintain. Improvements in mass fusion splicing technology have enabled field-friendly splicing by lessening craft sensitivity and labor barriers. Advanced cleaning materials contribute to workforce enablement as well. It's said that the biggest challenge to network operators is the cleanliness of the end-face because dirty connectors often result in costly down time. Enhanced tools and cleaners improve splice loss, thus reducing cost, time and energy.

Although developing easy-to-use products is critical to developing a successful and efficient workforce, it's just as important that the more senior technicians mentor, educate and pass down their knowledge to the up-and-coming generation. In addition to the lack of industry knowledge, training and certifications among the younger generation of technicians, it's become more apparent that there is a gap in grasping the big picture and the "Why" behind their contributions, which will ultimately harm the data center's integrity. It's crucial that companies implement succession plans to ensure the success of both their technicians and data centers.

When companies invest in their employees through education, mentorship and trainings, they not only develop a group of highly qualified and skilled technicians, but also help them understand the bigger picture. Afterall, successfully building a modern data center starts with a valued team.

Kevin Byars serves as the Director of Data Center Operations for AFL's Enterprise Services. Founded in 1984, AFL is an international manufacturer providing end-to-end solutions to the energy, service provider, enterprise, hyperscale and industrial markets. Contact them to learn more about their products and services.