

# From Manual to Momentum: Achieving Scalable Network Transformation with nIO™

*Case Study: Reducing cost and increasing transformation velocity of a Tier 1 Telecom network*



## *Without a Viable Modernization Solution*

### **The Challenge**

A Tier 1 U.S.-based telecommunications provider with over 100 million subscribers and infrastructure spanning hundreds of metro regions struggled to modernize their complex, multi-vendor and multi-generational environment, including over 220K legacy SONET and DACS elements across 150+ LATAs.

For over a decade, the provider attempted to migrate away from their legacy TDM-based systems to a next-generation packet-based infrastructure with little progress. Previous internal efforts had stalled, with the first targeted migration site taking over a year to complete. Unable to effectively move forward, they continued to invest in inefficient and unnecessary operational costs, including spare equipment purchases and maintenance, despite having vast unused inventory scattered throughout their network.

Traditional strategies were simply not working, risking their ability to deliver industry-leading services at competitive prices, with an ROI that made sense for stakeholders.

## *LightRiver's nIO™ Tailored Solution*

Utilizing the Tier 1 provider's offline inventory data, enhanced with real-time network data provided by LightRiver's netFLEX™ platform, the Network Inventory Optimization (nIO™) solution was able to address their consolidation, migration, and modernization needs.

## **Tier 1 Telecom Service Provider**

# 450%

*acceleration of legacy node retirements in 2025 over 2024*

# 97%

*reduction in equipment in one central office*

# The Only

*inventory optimization solution with the ability to analyze all legacy devices*



### Solution Fit

nIO uniquely combines real-time network data with static inventory to provide a comprehensive view of all network elements and interconnections. This was essential to mapping their multi-vendor, multi-generation network and to the success of their overall strategic goals. nIO is the leading industry-wide solution capable of connecting cross-vendor, end-to-end circuit paths.

### Deployment Approach

LightRiver began with an initial engagement focused on identifying unused and harvestable equipment. This expanded into network-wide migration prioritization and metro-area modernization planning. A data science-led methodology, first segmented the network into migration quadrants (easy to hard), allowing the provider to prioritize lower-complexity areas first. This systematic approach was able to identify and achieve the highest savings and returns achievable at every stage of the migration, delivering significant and measurable quarterly ROIs for stakeholders.

### Industry-Defining Results

#### Outcomes & Impact

Our nIO-based solution accelerated the provider's network modernization in 2025, achieving a 200% improvement compared to the previous years of progress. The overall reduction and sale of nonessential equipment—along with the associated storage, maintenance, and energy costs—identified over \$500 million in savings, a huge win for stakeholders and a significant step forward in meeting their carbon neutrality goals.\*

Their customer experience was also greatly elevated, with reduced potential pass-down costs and an increase in network reliability to 99.999%.

#### Ongoing Partnership and Support

Building on our existing long-term strategic partnership with this Tier 1 telco, our new nIO solution has been providing prioritized migration reports, spares analysis, and customized transformation planning since 2024. nIO is now positioned as an ongoing network transformation planning solution with the ability to scale to additional LATAs and network layers.



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# 99.999%

*reliability reached  
on modernized  
networks*

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*They were **spending millions each year on spare cards for legacy devices.** We eliminated that spend on day one."*

—Tim Masse

**LightRiver**

Vice President of Product –  
nIO & netFLEX

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# \$500M+\*

*in identified  
savings*

\* Identified savings determined in part by the overall reduction and sale of all potentially harvestable equipment across the provider's entire national network. The value of the equipment was determined per market price at the time of the 2025 study. Actual value realized will vary based on market demand, resale timing, and the volume of equipment released to market.

**Maximize your strategic goals.** Learn more at [lightriver.com/network-inventory-optimization](https://lightriver.com/network-inventory-optimization)