CYIENT | Nothing Less

Making M&A work in the fiber broadband industry

The right approach helps harmonize heterogenous fiber networks and systems



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Abstract

As the demand for high-speed Internet continues to surge, mergers and acquisitions (M&A) play a pivotal role in shaping the competitive landscape. Building a fiber network from scratch requires substantial investment in both time and resources. In contrast, acquiring existing fiber infrastructures allows companies to rapidly expand their coverage area and gain a larger customer base. However, it also presents inherent challenges and risks. In this white paper we discuss the main challenges organizations face in consolidating fiber operations and share insights and recommendations that can help overcome the challenges of integration complexity.

Introduction

The fiber broadband industry has witnessed significant consolidation through mergers and acquisitions (M&A) driven by technological advancements, regulatory changes, and the pursuit of market dominance.

Fiber broadband's ability to support bandwidth-intensive applications such as streaming, gaming, and cloud computing has fueled its widespread adoption. As a result, telecommunications companies are increasingly recognizing the strategic importance of expanding their fiber network coverage and offerings.

Building a fiber network from scratch requires substantial investment in both time and resources. In contrast, acquiring existing fiber infrastructures allows companies to rapidly expand their coverage area and gain access to a larger customer base. This approach not only accelerates market penetration but also facilitates economies of scale, thereby reducing operational costs in the long run.

Moreover, M&A transactions in the fiber broadband sector often involve vertical integration strategies aimed at strengthening the overall value chain. For instance, telecommunications companies may acquire regional fiber providers to vertically integrate upstream into wholesale network services or downstream into retail broadband services.

By owning both the infrastructure and the service delivery platforms, companies can exert greater control over pricing, quality of service, and customer experience, enhancing their competitive edge.

Europe is rife with instances of M&A in recent years. CityFibre bought Fiber Nation in 2020, Community Fibre bought Box Broadband in 2021, and Swish Fibre bought People's Fibre in 2022. 2023 saw a flurry of M&A activity with nexfibre acquiring Upp, Fern Trading bringing together AllPoints Fibre, Giganet, Swish Fiber, and Jurassic Fibre, the Telcom Group acquiring Luminet, Orange Belgium completing the acquisition of VOO SA, Altice acquiring 50% of Vodafone Germany's FTTH business, and Telenet and Fluvius in Belgium forming a joint venture named Wyre for FTTH expansion.



Roadblocks in fiber network consolidation

While M&A can offer significant benefits in terms of market consolidation and strategic positioning, in our experience at Cyient, we have seen challenges in the following areas:

Network integration

Achieving technical compatibility and interoperability between disparate systems can be complex and may require significant investment in design, testing, and upgrading or replacing existing infrastructure. All of this will also need to be done without disrupting customer service, which puts a strain on existing operational teams.

OSS-BSS integration

Legacy OSS/BSS systems may have different architectures, data formats, and protocols, making seamless integration challenging. In addition, they may be reaching end-of-life, upgrades may not be financially viable, and new upgrades, namely to cloud native solutions, may be required. Further, migrating data from legacy OSS/BSS systems to a unified platform can be complex and time-consuming. So, data cleansing, transformation, and mapping will be required to ensure the accuracy and consistency of data across the consolidated network.

People and process integration

It is natural that each pre-merge organization will have its own staff and processes. However, aligning disparate processes and workflows from different organizations can be challenging due to differences in organizational culture, practices, and priorities. Achieving consensus on standardized processes and implementing change management initiatives present a complex challenge that will require dedicated effort and sponsorship across all levels in the organization.



Cyient's solution approach

Cyient has been privileged to participate in several post-M&A consultation and implementation opportunities with telecom operators. As examples, we have delivered Passive Network Inventory (PNI) and Logical Network Inventory (LNI) migration and consolidation programs with "zero data loss" assurance powered by our CyDataTransitionIQ solution.

We have implemented field service management and service assurance solutions and developed integrations with other systems. We have performed network migration planning and implemented NOC consolidation. Through this experience we have identified some key network and systems dimensions that operators are required to manage post M&A. These include:

Network consolidation

Although M&As mostly target nonadjacent networks for maximum capital allocation returns, there may be some overlap of multiple ISP and OSP networks in the same region. As an initial step, eliminating this overlap can improve network utilization and reduce OPEX. Consolidating and harmonizing network technology at all network layers will ultimately yield significant benefits in cost savings, improved efficiencies, better service quality, enhanced security, and faster deployment of new services.

The broad range of technologies deployed under the fiber broadband scope cover the following domains:

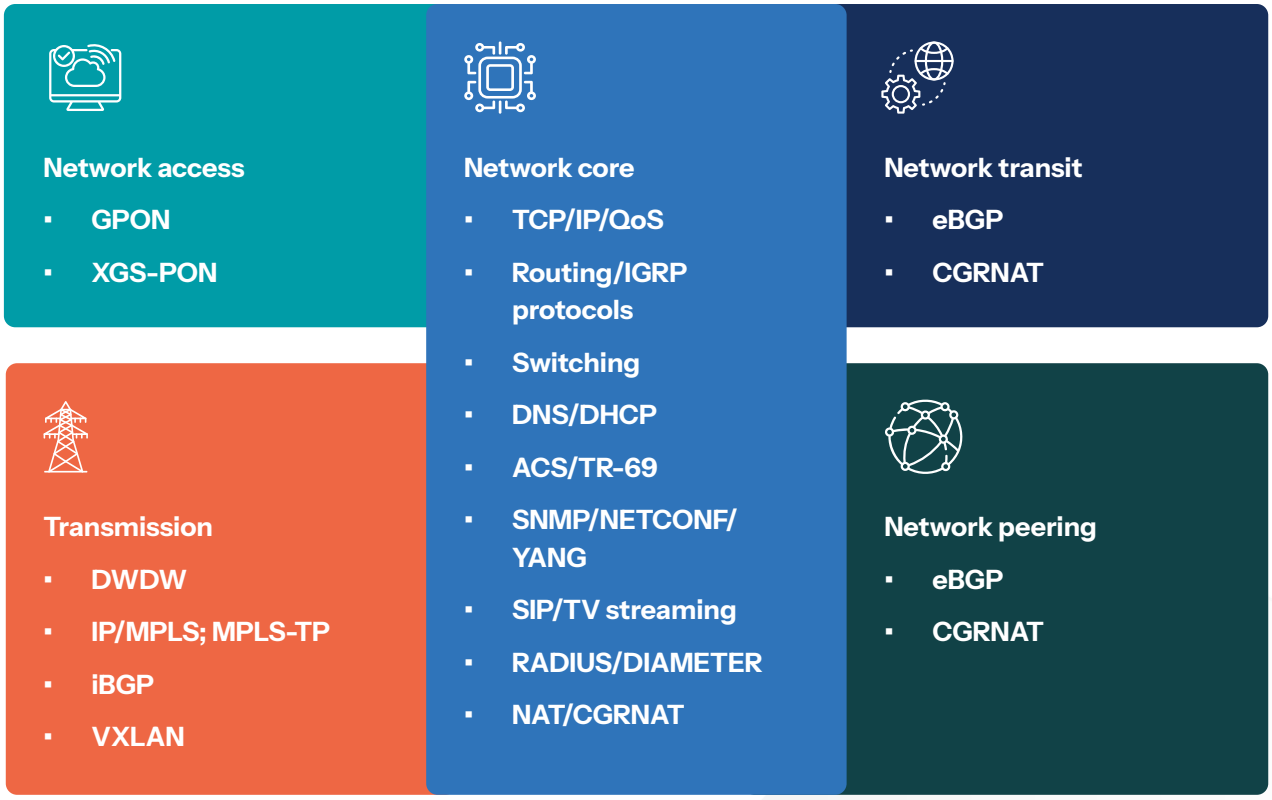


Figure 1 - High-level summary of network technologies for a fiber-based service.

Network harmonization requires multiple domain experts as well as architecture design and technical governance to ensure all domains are aligned. Cyient's approach to a high-level network consolidation methodology is as follows:

Discover

- Identify current network infrastructure (network elements deployed and area covered)
- Analyze the current support model and age of network elements
- Analyze current bandwidth, different services provided, and existing capacity
- Analyze data sets such as location, system name, network configuration details, and vendor support

Design

- Define roadmap to migrate the physical and logical connection between network elements
- Define roadmap to interconnect networks where necessary
- Define roadmap to consolidate data sets
- Design integration and upgrade of existing network elements or introduce new ones

Test

- Create a test plan strategy for interoperability or new network introduction testing
- Review existing test environment and toolsets
- Develop test automation capabilities where applicable
- Develop use cases and POC (proof of concept) plans
- Perform test uses and deliver reports
- Manage the defects life cycle

Implement

- Define implementation plan to minimize network impact
- Perform network consolidation activities and traffic migration
- Perform acceptance testing
- Decommission network elements and services as required

Figure 2 - High-level network consolidation methodology



OSS-BSS consolidation

Acquired entities often have different OSS and BSS stacks. Harmonizing them is critical for efficient delivery of services, for maintaining operational efficiency, and for optimizing OPEX. For example, a consolidated physical network inventory, which holds the complete physical network information and customer information, is critical to planning, designing, and operating the network. A careful analysis of the underlying data models needs to be conducted before devising the data migration strategy. Without a consolidated OSS and BSS, network and customer functions are difficult to perform, leading to loss of revenue and customer dissatisfaction.

It is also important to review existing integrations between different systems. Planning an integration layer to facilitate seamless communication and data exchange is a must. In cases of older legacy systems where documentation or architecture knowledge is missing a detailed application architecture audit will be needed. In addition, this stage could be leveraged to transition applications to a cloud-native environment and AI frameworks to bring them up to speed on the latest infrastructure technology.

Cyient's approach to successfully consolidating and transforming OSS/BSS estates is to address the following pillars:

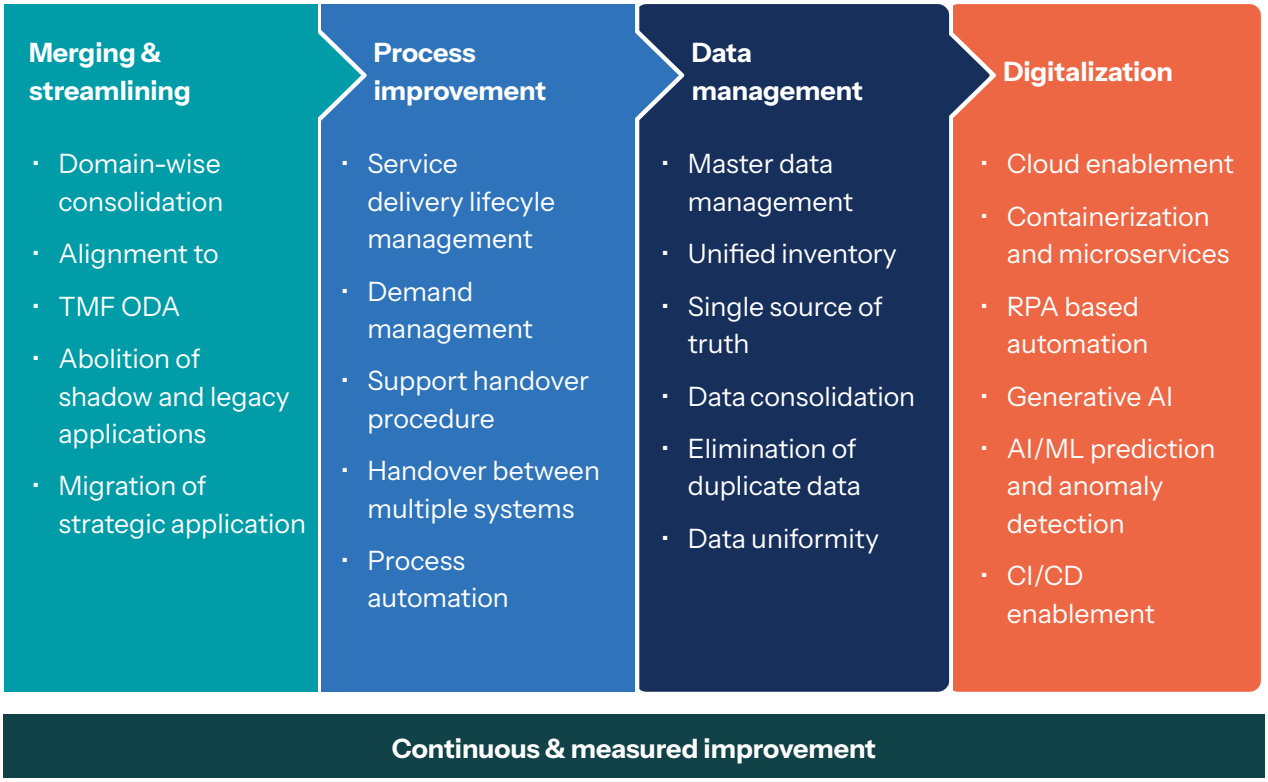


Figure 3 - Main pillars for a successful OSS-BSS consolidation

Also, Cyient promotes industry-based methodologies (such as TOGAF) to support customers in their OSS/BSS application consolidation journey, such as the one depicted below.

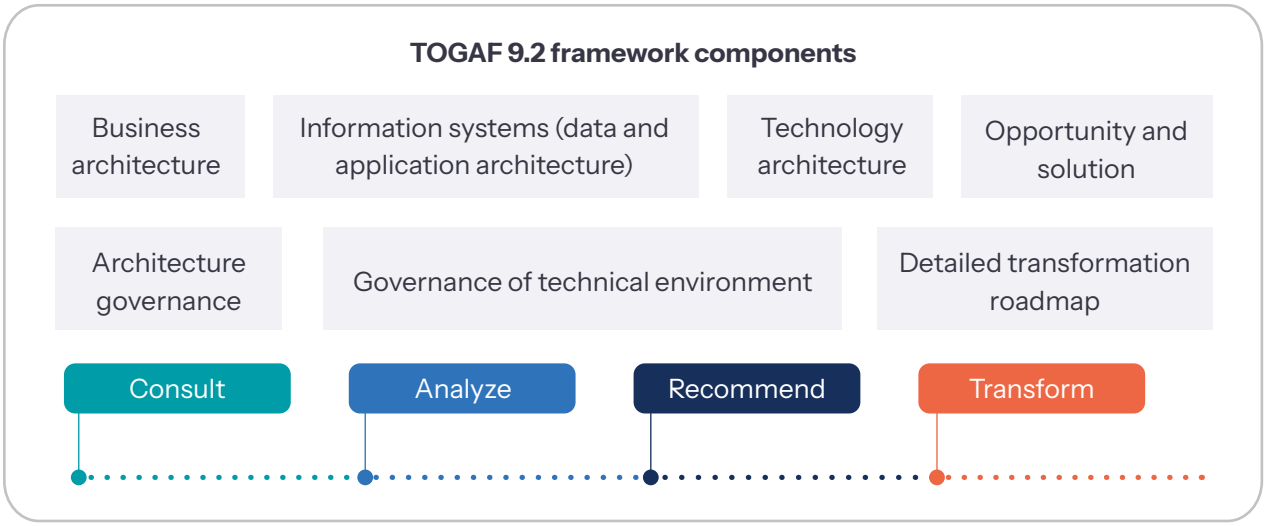


Figure 4 - High-level end-to-end OSS/BSS transformation methodology

People and process integration overlayed with automation

An acquired entity might have very different processes. Implementation of a uniform process is critical for consistent service delivery. Likewise, merging teams responsible for the same function generate scale benefits and help implement a common process. One area where consolidation yields tangible benefits is the integration of several NOCs (Network Operation Centers) of multiple entities into a single unified NOC. To do so, an audit of Current Mode of Operations (CMO) processes is typically required to design an efficient Future Mode of Operations (FMO). Below is a sample of the different dimensions and processes Cyient would cover in such a scenario.



NOC functions	· Event management · Problem management · Config management · Incident management · Change management · Performance management · Service mesk · BCM · Alarm management · Life cycle management · Access management · Site lockdown · Service restoration · Spares management · Governance · Workload current and forecast · 1st line · 2nd line · 3rd line
NOC interfaces	· FLM (field) · Engineering areas · Security · OPPs (rollout) · Vendor's - 3rd line support · Vendors (specific) · Customer support · Networks IT · Governance
Facilities and infrastructure	· Access to systems (e.G. Citrix) · Remote access · Networks IT vs NW platforms · Security · Virtualization · BCM (business continuity management) · Resilience · Redundancy
NW vendors	· Hardware delivery/ spares · Legacy systems and tools · M&S contracts · Roadmap · SW releases · SLAs
Inter. Service providers and inter. Customers	· List int. SP and services · Customers and products · How security Is covered · M&S contracts · SLAs
Tools	· Bespoke · Tools · Scripts · OSS · Fault management · Ticketing and dispatch · PM (performance management) · Topology, inventory, planning · Legacy systems · Roadmap
KPIs and SLAs	· (NW perspective) · FM (fault management) · Problems · Incidents · PM (performance management) · Security · Split by technology · Split by service · BCM (business continuity) management · Resilience · Redundancy
Human resources	· Organization · Roles · Key Staff · Competences · How existing resources will fit on the FMO (Future mode of operation)

Figure 5 - Example of a typical Cyient NOC audit data set

Once the people and processes are aligned, it is imperative for an operator to turn to automation. Operators are rapidly embedding automation into their processes as they embark on their journey of being autonomous. However, automation cannot effectively function and deliver results if the systems and processes are not tightly knit and if the systems themselves are not integrated.

An example of the transition and automation transformation journey of an NOC function is shown below

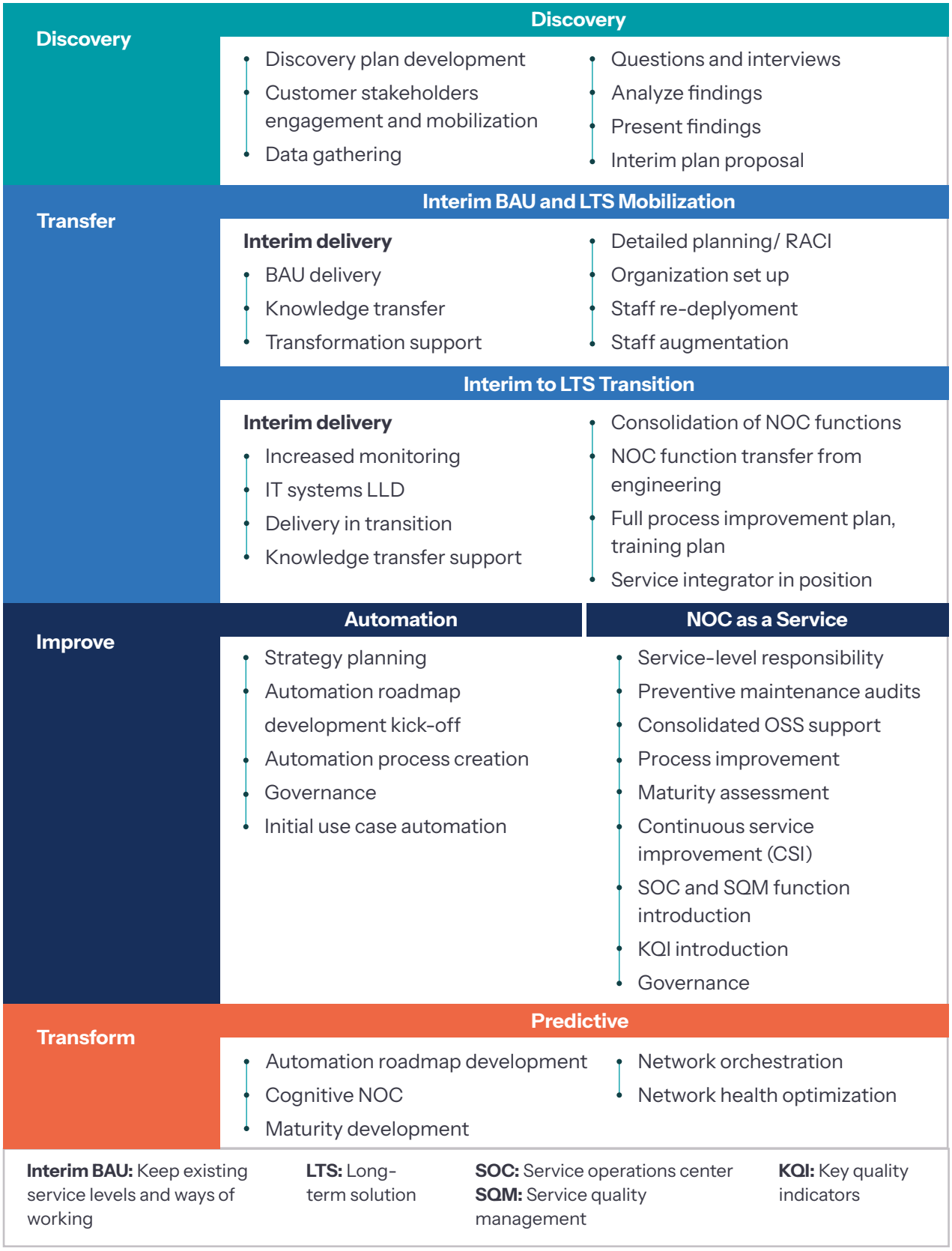


Figure 6 - High-level roadmap for NOC evolution toward full automation

Conclusion

Harmonizing networks and systems post M&A is a complicated endeavor. The success of an M&A largely lies in how effectively these have been harmonized.

This process will need to ensure it can yield financial benefit to investment stakeholders while ensuring zero disruption to end users in the transition stages, and improve customer experience thereafter.

Hence, operators should use due consideration in selecting the right consulting and implementation partner to support them in this complex transformation journey.



About the author



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Abhinaba Chatterjee is a seasoned strategy and business development leader in the telecommunications industry, with over 15 years of experience driving growth across global markets. In his current role as Director of Account Management at Cyient, he partners with leading telecom operators to help them achieve their network transformation goals through intelligent engineering and technology solutions.

About Cyient

Cyient is a global lifecycle engineering services company powering mission-critical industries from design to aftermarket across products, plants, and networks. With 300+ customers and 15,000+ associates across 30+ countries, we combine human expertise, deep domain knowledge, and AI to deliver intelligent engineering for every lifecycle across Aerospace and Rail, Automotive and Mobility, Connectivity, Energy, Healthcare, Mining, Utilities, and beyond.

To learn how we deliver outcomes that matter, and nothing less, visit www.cyient.com

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