

A woman stands in the center of a futuristic, purple-lit corridor. The walls are white with glowing rectangular frames. The floor is dark and reflective. The lighting is a vibrant purple, creating a high-tech, digital atmosphere.

# Unlocking millions in savings with a Central Office location strategy

 **accenture**

# Executive Summary

With the further acceleration of fiber rollout (e.g. Swisscom, DTAG, TIM, Telia), Communication Service Providers (CSPs) are setting the scene to eliminate legacy copper and Hybrid Fiber-Coaxial (HFC) networks. The advent of widespread fiber availability will allow CSPs to decommission legacy networks, free up space in network site locations - as in switching exchanges or Central Offices (COs) - increase service quality and reduce cost.

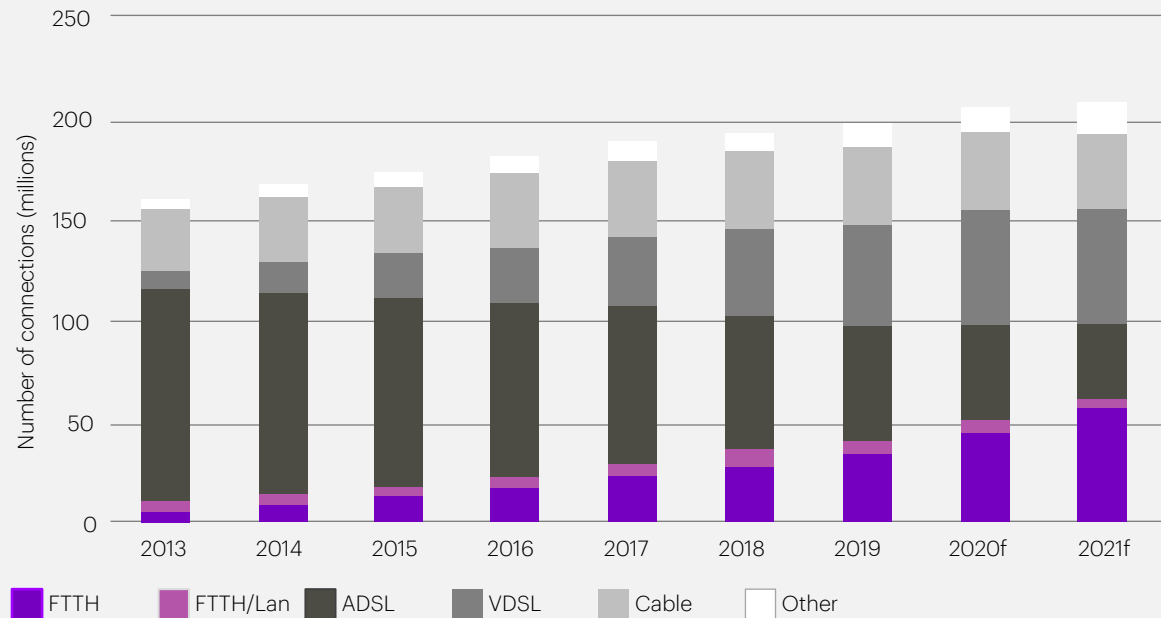
Our recent field experience reveals a long-term **Central Office savings potential of more than 30 percent** compared to current total infrastructure cost. Done correctly, the cost reductions from a strategized Central Office are potentially significant.



# Executive Summary

In the following pages, we share specific aspects of how the Central Office can play a key role in your overall fiber strategy – bringing you a multi-million-dollar savings opportunity. Fewer Central Offices, less location space and reduced operational along with capital expenditure give CSPs the opportunity to accelerate and expand their fiber rollout with a strengthened and improved business case.

## Fixed broadband connections in Europe



Source: ETNO, The State of Digital Communications 2021

„We are at an inflection point to set the roadmap for the next 50 years.“



### Thomas Knuchel

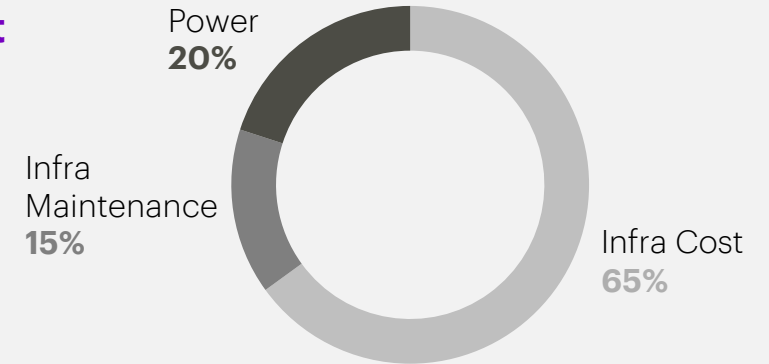
Senior Manager – Strategy and Consulting  
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# The Central Office Economic Equation

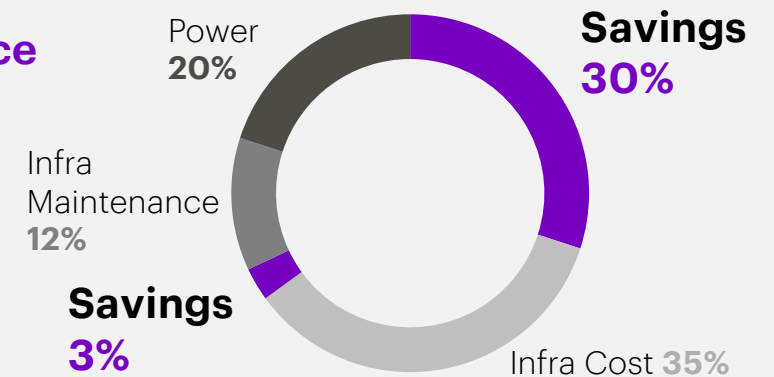
For a CSP, it's a complex task to define in advance exactly where Central Offices should be located – demanding prior mastery of both the technology and business criteria. The complexity lies in taking a proactive rather than a reactive stance and understanding all the technical and business interdependencies as early as possible.

Central Office locations have often been an afterthought. To change this, companies need a transparent, 360-degree view. Aligning the technical fixed and mobile roadmaps with their business goals will define the upfront strategy of where to establish their offices.

## Typical CO cost distribution



## Savings from infrastructure and maintenance



Source: Accenture Research.





# The Situation

Many CSPs are currently accelerating their fiber rollout, setting the foundation for their long-term competitiveness. Legacy copper and HFC networks will eventually be decommissioned, leading to a significant shrinkage in space requirements for many Central Offices - a good percentage can even be completely dismantled.

However, we observe that the lack of a location strategy paradoxically leads to a continuous increase in location space as CSPs fail to decommission legacy infrastructure. This missed opportunity of an integrated approach leads to fragmented network infrastructure, overbuilds, high operational cost and sub-optimal capital allocation.

We recommend including a location strategy as part of the overall fiber rollout strategy to optimize investments holistically.



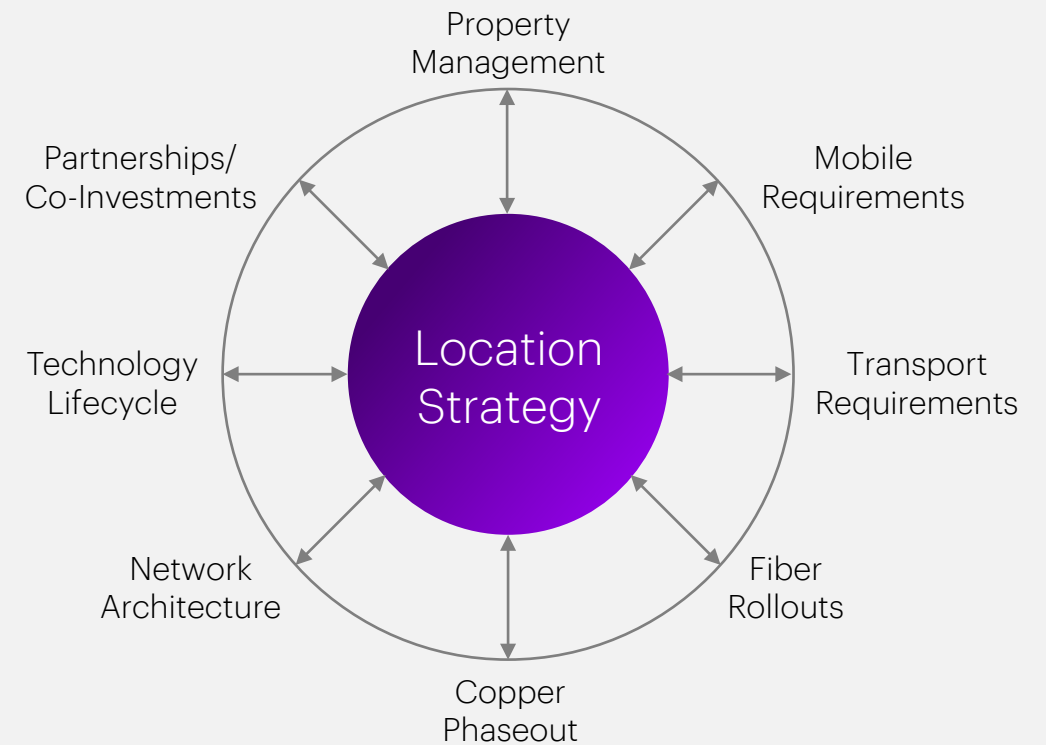
# The Challenge

A 360-degree view of a specific Central Office is difficult to achieve: all information, ranging from network infrastructure to service-based views – including their complex interdependencies such as redundancy and bypass situations – needs to be incorporated into the strategy. In our work in the field, we observed that these aspects only partially overlap and will retain significant ambiguity when only considered abstractly at the outset.

Ongoing programs – e.g. 5G rollout, copper phase-out and transport network consolidation – have different requirements for Central Office space and other specifics (including distance to other infrastructure, access and reliability) and the numbers and sizes of locations needed will vary. This could lead to situations where, from a fixed fiber perspective, a Central Office would become obsolete – meanwhile, the mobile rollout program might be planning to locate vRan equipment in the same location. A 360-degree view would eliminate these contradicting roadmaps.

To make the situation even more complicated, long-term agreements with property owners and other CSPs that are co-located preclude rapid alterations, making long-term planning that much more important. Lastly, when fiber rollouts are only partially completed, legacy infrastructure remains and Central Office locations cannot be optimized. Location strategy must be closely interlinked with the overall network rollout strategy.

## Location strategy – the field of tension which needs to be orchestrated and managed



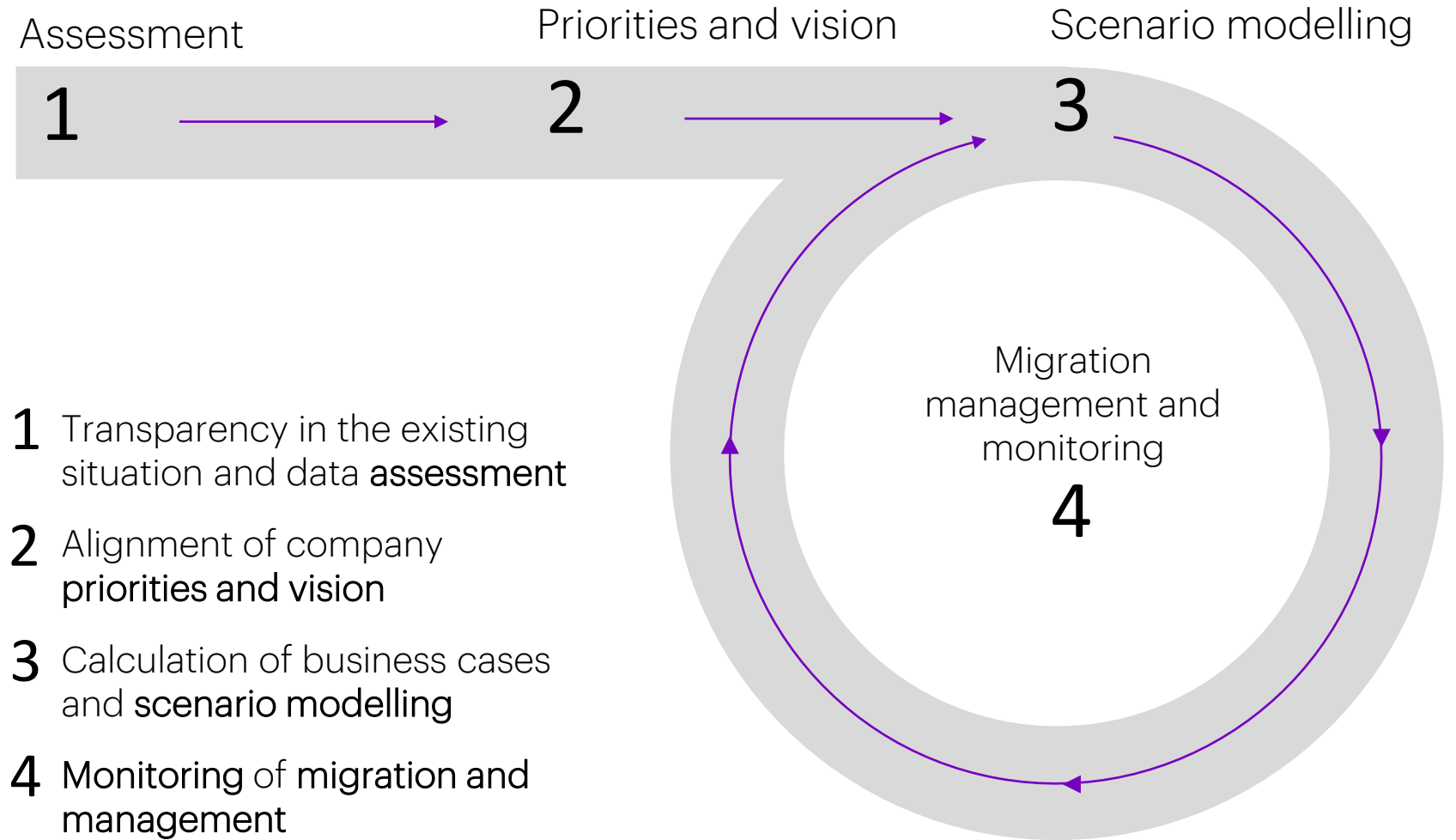
| Non-exhaustive illustration |



# The Solution: Four Steps of the Cycle

To solve this complex strategic challenge, we propose a holistic approach to bringing business and technology goals together and achieve the desired cost savings through Central Office positioning.

We see four key factors in unlocking results – with mastering each individual step leading to the next one during your strategic execution. They need to be tackled now to set the right direction for long-term optimization.



- 1 Transparency in the existing situation and data **assessment**
- 2 Alignment of company **priorities and vision**
- 3 Calculation of business cases and **scenario modelling**
- 4 Monitoring of migration and management

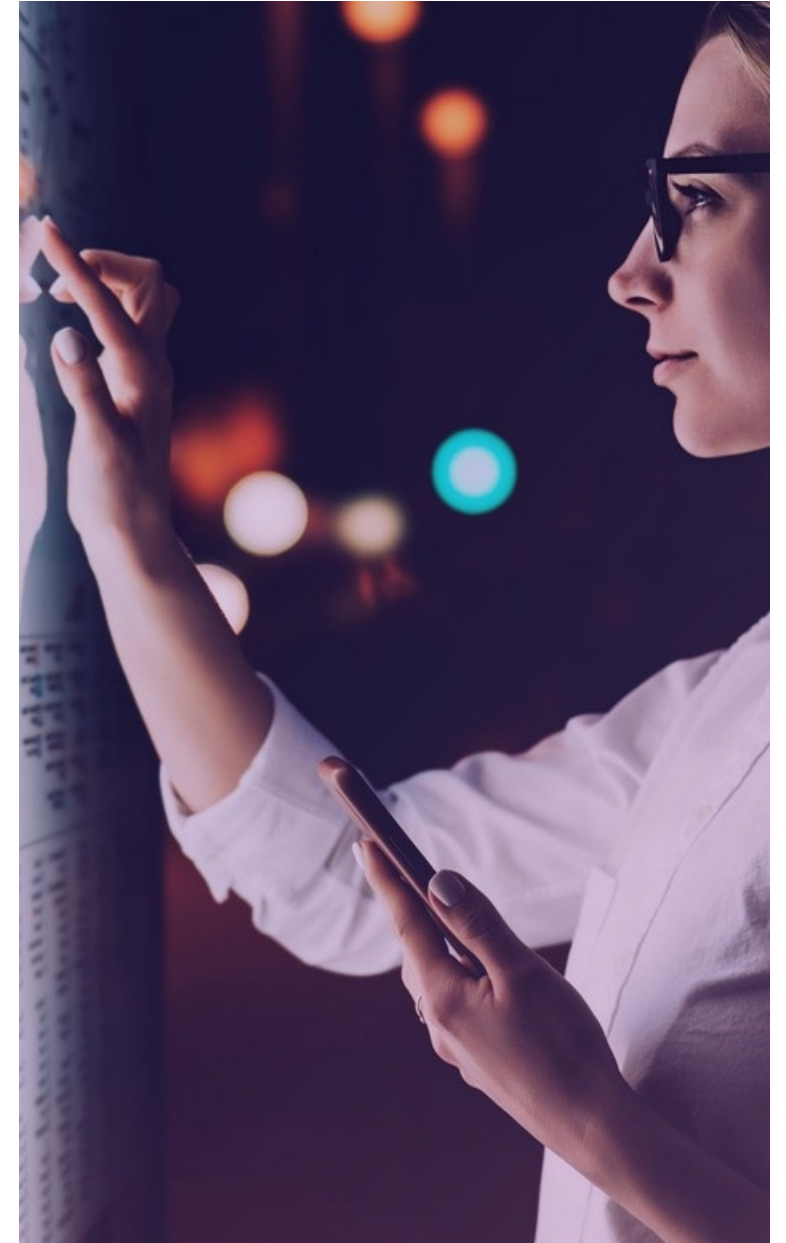
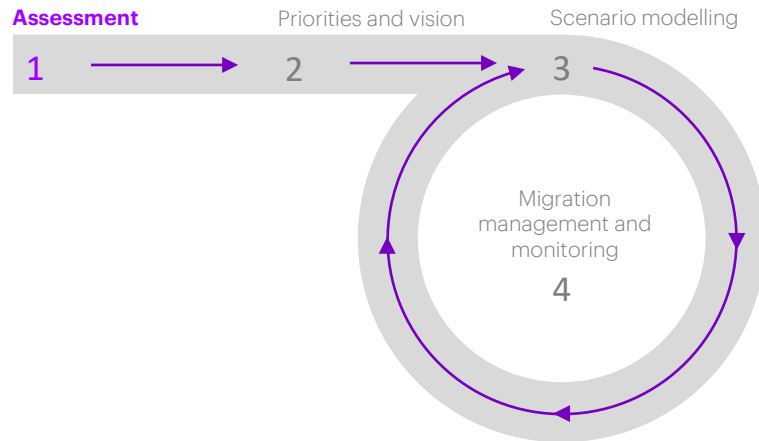


# 1. Assessment

The first step covers the assessment of the current situation. Being able to create a 360-degree view for a given location is key to any further activity. It is critical to distinguish between factors which are directly linked to a Central Office – such as lease terms, maintenance and power consumption as well as failure rates – and factors which influence the number and size of Central Offices required. This is largely derived from copper/HFC footprints, fiber footprints and other needs from network engineering.

Additionally, transparency on the planned rollout is important for creating a phase-out roadmap of legacy equipment and unlocking savings potential.

A partner with long-lasting experience in inventory systems, business process analysis and design as well as building management systems can allow you to consolidate the different pieces into a holistic view. Additionally, network engineers who understand future trends and needs (e.g. the impact of small cell rollout or edge computing on Central Office locations) can positively impact a location strategy. Through value-based rollout capabilities, one can simulate the impact of a location strategy on future network rollouts.





## 2. Priorities and vision

We have observed that the most common CSP fiber rollout is driven by one of two potential agendas: sales generation or technical needs. Sales-driven builds generate market pull and grow based on demand. Technical dimensions can include situations such as when existing copper and HFC limits are reached. Both approaches lack a holistic, value-based perspective which includes site location cost and savings potential.

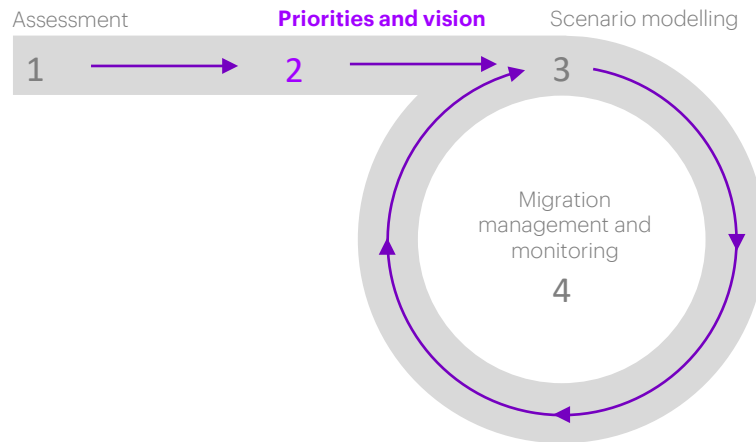
Such potential can only be calculated and properly integrated in a build model if the organization has clarity on:

- Architectural guidelines: maximum distances, location requirements in terms of routing, backup and hardening
- Financial structure: tradeoffs between leasing and owning the Central Offices as well as requirements for Return on Investment and Internal Rate of Return
- Customer impacts: standards for product lifecycle, acceptable churn and transition timelines

Each of these areas has the potential to accelerate or block the entire value-based fiber rollout approach. This makes it critical for them to be defined, agreed upon throughout the organization and enforced. Shortcuts, e.g. not following an architectural guideline or selling products to be phased out, will cause problems down the line as with locations that cannot be dismantled or services that cannot be offered as planned.

It is crucial to have a forward-looking strategy for all elements that affect the Central Office. If only 90% of a legacy network is replaced by fiber, the legacy platform cannot be decommissioned and the savings cannot be realized. Looking holistically at a location in this context, accepting a few individual negative business impacts will be necessary to unlock the greater potential. This could include building a fiber connection in a less obvious neighborhood, or the end of a legacy service.

By tapping into our extensive project management experience, Accenture guides CSPs in defining, controlling and enforcing these three contributing factors. With collaborative methodologies, we enable organizations to reach aligned goals, define the assigned value and advise on how to handle trade-offs so that complex conflicts can be resolved.

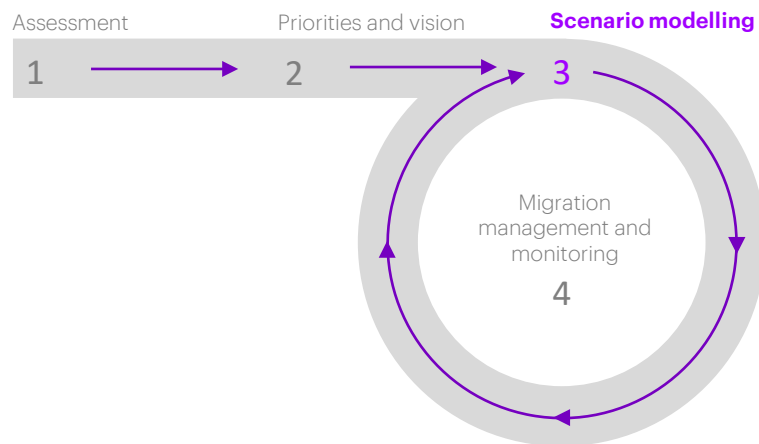


### 3. Scenario modelling

After an assessment of the current situation and the definition of an agreed-upon strategy, identify the most lucrative business cases. Site location strategy is only one of the many factors driving a value-based rollout strategy, however it has a significant impact on the prioritization of certain high-cost Central Offices.

Identifying these positive cases is not as straightforward as it might seem. Can the fiber rollout be accelerated while maintaining cost? Will you be able to keep the migration duration within the set boundaries? Will a regulator block decommissioning of certain legacy services? These are a few key questions that have a profound impact on the prioritization of certain Central Offices over others. To factor these into the strategy, consider what might limit the speed of the rollout, the organization's tolerance level for changes, migration and customer management as well as regulatory impacts such as policies and subsidies.

The assessment of these parameters may appear almost limitless. In our practice we build a simulation model that combines the inputs and allows CSPs to identify the impact of the anticipated and potential adaptations. This also helps identify three to five scenarios necessary for consideration by the CSP (e.g. conservative, accelerated), offering a strategy selection. A crucial component is the setup of an iterative review cycle where the feedback of newly gained insights can be incorporated back into the model.



The right transformation partner will help to calculate business cases and build simulations, enabling calculations of simple or more complex scenarios and User Interfaces to increase fidelity and usability.

#### A case in Point:

In a project with a European incumbent, we saw that the space needed for new technology is much smaller than previously believed. We calculated that the company could save 30 percent on overall costs. The company was able to save a further 90 on location infrastructure by better managing rents, leases or ownership. The savings will actually be even higher, as reduced electricity consumption and more efficient HVAC solutions are not included in the calculation above.

Main savings levers, allowing a combined >30% overall CO location cost reduction



Moving active equipment to basements offers ~2-5% savings potential due to cheaper rent



Freeing up unused space of legacy equipment offers ~15-20% savings potential

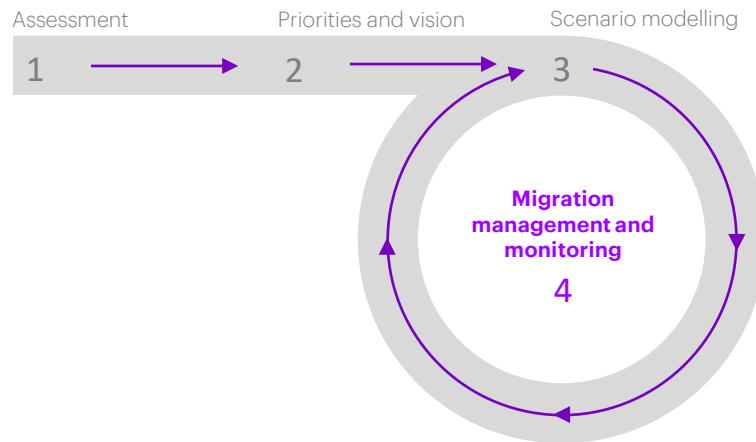


Completely obsolete Central Offices can be dismantled, adding ~5-8% savings potential

## 4. Migration management and monitoring

With a strategy and agreed goals in hand, the last of the four steps may be addressed. While the first three steps followed a more cascading approach, we are now entering an iterative phase. Here execution and migration progress can be tracked, generating new insights that can be fed back into the planning models.

While the initial planning can follow standard best practices within a CSP's Project Management Office (PMO), the execution and monitoring of rollout status typically requires real-time responsiveness. This includes, firstly, the management of all ongoing initiatives such as fiber rollout – including all network design, permitting and crew capacity management. Secondly, the company needs to adapt the product portfolio configuration and last mile installations. Finally, they need to plan and execute the Central Office infrastructure decommissioning. End-to-end process management must be in place to detect and resolve delays early on, as well as to help PMOs factor in pilot insights and completed migrations each step of the way.



Furthermore, tight management is crucial due to two more considerations. Firstly, small obstacles can block the entire process (e.g. if one copper node cannot be dismantled, the entire Central Office cannot be decommissioned). Secondly, the longevity of the lease contracts needs to be carefully managed. In the event of a delay, either a huge risk needs to be taken (betting on the catch-up and timely release of the asset) or multi-year savings will be wasted. Finding short-term contracts with similar conditions will remain a theoretical proposition as property owners also optimize their cashflow.

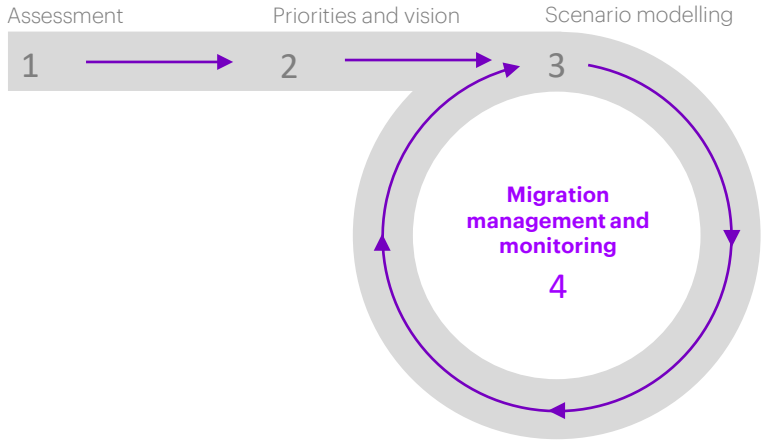
A trusted partner will have helped various CSPs around the globe to streamline their fiber rollout management. We built forecasts and tracking based on proven KPIs which allow senior management to identify potential issues early on and enable corrective actions. Daily updates, a consistent data model and AI-driven forecasts are also key components in remaining on track.

# The Surrounding Scenario – Gradual Migration from Copper to Fiber

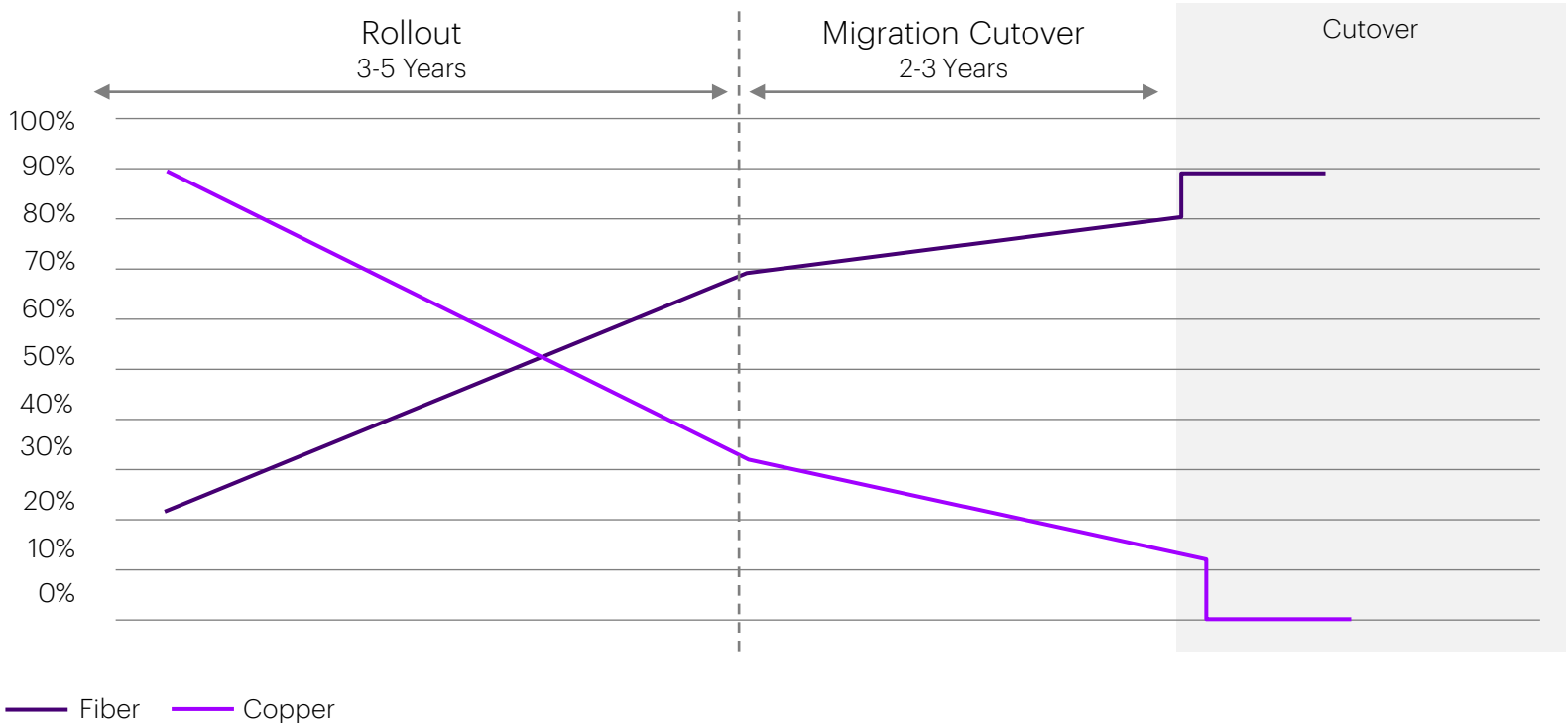
We see the overall transformational progression:

- 1. Rollout: The focus lies on deploying fiber and a rapid increase in fiber-based products.
- 2. Once fiber is widely available, the focus is on shifting customers from copper-based services.
- 3. Cut-over: Copper-based products are no longer offered. Some customers are no longer served.

In this graphic you see how the actual migration of customers away from copper to fiber works on an overall timeline.



## Technology of Service Offering per Location





# Common Pitfalls

There are many pitfalls one must avoid on this journey. We have identified four typical ones which can be side-stepped:

## Data Foundation and Consistency

Believing that all the necessary information is either available or already collected. While this is often true for singular data points, the struggle begins when these points need to be integrated into a holistic view.



Can you calculate the infrastructure contribution margin on Central Offices for each subscriber?

## Decommissioning Cost

While the forecasting of rollout cost models has improved, the decommissioning of legacy infrastructure often remains a grey area. Cost to redesign, optimize or even dismantle a Central Office consists of many surprising elements and can lead to many hidden costs, significantly impacting your business case.



Are you able to list the cost drivers for re-sizing a Central Office?



## Keeping Migration Timelines

Undertaking fiber rollout and Central Office location strategy at scale is extremely complex. Without the right supporting tools, management effort will continuously increase and accuracy will decrease. This will inevitably lead to delays and cost overruns. Having key metrics defined, measured and factored into a model will allow CSPs to identify process inefficiencies across regions and drive improvements in rollout.



Do you know your current migration potential by subscriber, specifically those on a legacy technology with fiber availability?

## Absent Internal Alignment and Priorities

As previously mentioned, often a single mindset led by one organizational unit drives the fiber rollout. This can lead to misaligned priorities between different stakeholders, e.g. care goals vs. migration goals. Establishing a joint understanding of the company priorities and agreed trade-offs must be part of the strategy.



What is your acceptable level of added product activation time if you have to install an additional fiber drop vs provisioning it directly on legacy infrastructure?

# In conclusion

With a stable or even shrinking top line, CSPs are now focused on looking at their expenditures to free up cash for needed investments into 5G and fiber deployments. Both areas have a very long ROI horizon. Finding savings potential to improve these cases will help CSPs to accelerate their deployment roadmap.

Site location strategy is often overlooked, with clear repercussions. With the broad advent of fiber, there is an opportunity to revisit the strategy, with the potential for multi-million savings. Integrating locations as part of a value-based rollout strategy will shift the dynamics and prioritization – and enable a more holistic optimization.





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# About Accenture

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Our 569,000 people deliver on the promise of technology and human ingenuity every day, serving clients in more than 120 countries. We embrace the power of change to create value and shared success for our clients, people, shareholders, partners and communities.

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