Active network sharing

Strong partnerships for accelerated, efficient 5G deployment

accenture

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Striking a balance

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Communications Service Providers (CSPs) are being challenged on multiple fronts, facing pressure on both growth and profitability in an increasingly commoditizing market. They are competing to build their vision of the future, all the while developing sustainable business models – so they search for value through new industry plays and ecosystem collaboration.

CSPs are looking at 5G as an inflection point and gateway to expand revenue streams. But to deploy the most valuable services and capitalize on these new growth streams requires significant network densification by installing massive cell sites and intensive fiber-optic backhaul. According to GSMA Network Economics model, conservative estimations predict that the number of coverage sites and performance sites will increase by at least 50% with the introduction of 5G.[1]
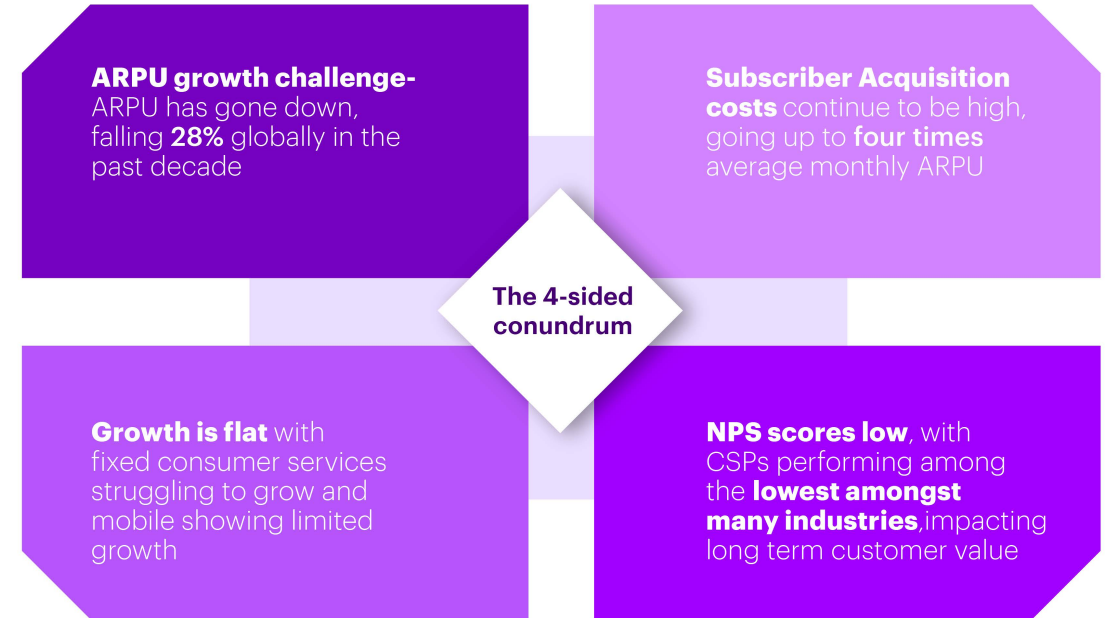
ARPU growth challenge- ARPU has gone down, falling **28%** globally in the past decade

Subscriber Acquisition costs continue to be high, going up to **four times** average monthly ARPU

The 4-sided conundrum

Growth is flat with fixed consumer services struggling to grow and mobile showing limited growth

NPS scores low, with CSPs performing among the **lowest amongst many industries**, impacting long term customer value

Figure 1 The 4-sided financial conundrum for CSPs

Analysis of market estimates suggest CSPs capex spend on 5G across wireless and wireline networks is expected to increase significantly from $86 billion to $136 billion between 2020-25, which would account for an increasing share in all telco capex[2].

Moreover, the immediate opex incurred for 5G rollouts is much higher than previous generation deployments. Further, it is proving difficult to find a way to defray or to pass these costs to the end customers.

As with prior generation's deployment, infrastructure expenses usually are highest at base stations. CSPs are now racing towards the same deployment goals and encounter the same challenges. This is the time to learn from their deployment successes and lean on each other to form a more evolved partnership, like active network sharing.

In an active network sharing model, CSPs not only share sites or masts but also other active base network infrastructures, including radio access network and core network functionalities. This paper details Accenture's approach to active network sharing initiatives, and how they can be set up to help CSPs optimize capital and operating expenditure (Capex/Opex), as well as address ever-increasing traffic growth and financial headwinds caused by 5G's cost-intensive deployment.

Active Network Sharing: Strong partnerships for accelerated, efficient 5G deployment

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5G Deployment- fast and cost effective

CSPs' C-suite are all facing the same, critical three-part question:

> ## "How do I deploy 5G in a way that is cost-effective but also customer-centric, all the while building faster time-to-market practices to offer new services?"

In response, CSPs' strategies are exploring all options to drive Capex and Opex savings, including:

1. **Spinning off their tower infrastructure** – More CSPs are selling or spinning off their tower holdings. By offloading towers, which represent a high percentage of their capital investment, mobile operators see ways to drastically cut costs and maximize profits.

2. **Adopting cloud-native architectures** – The shift to cloud-native is a key step in the transformation of CSPs's technology to streamline their operations and back office services while finding new efficiencies and cost savings. This change, once completed, is designed to foster new innovation.

3. **Strategically partnering with hyper-scalers** – Tapping into pre-existing capabilities of cloud providers allows for new growth potential and also renewed focus on capabilities and new offerings (for instance, develop new potentially transformative applications for enterprise customers).

Structural seperation

Spinning-off the tower infrastructure by mobile operators increase probability of growth, shareholder value, and better margins

More Telco companies are selling or spinning off their tower holdings. The tower is a bulk of capital investment and by spinning off mobile operators are searching to drastically cut costs and maximize profits.

Adoption of cloud native architecture

New network architecture that facilitates cloud computing at the edge of the network, by leveraging cloud infrastructure and services

The shift to cloud-native is a key step in the transformation of the 'Telco Tech', enabling CSPs to compete against Software and Platform players in the convergent digital market.

Strategic play with cloud providers

Most CSPs are shaping strategic deals with cloud providers as they represent an opportunity to accelerate infrastructure (data center) renewal, improve benefits realization and boost enterprise offering

A solid cloud strategy and engagement plan are key in order not to be commoditized by the global giants.
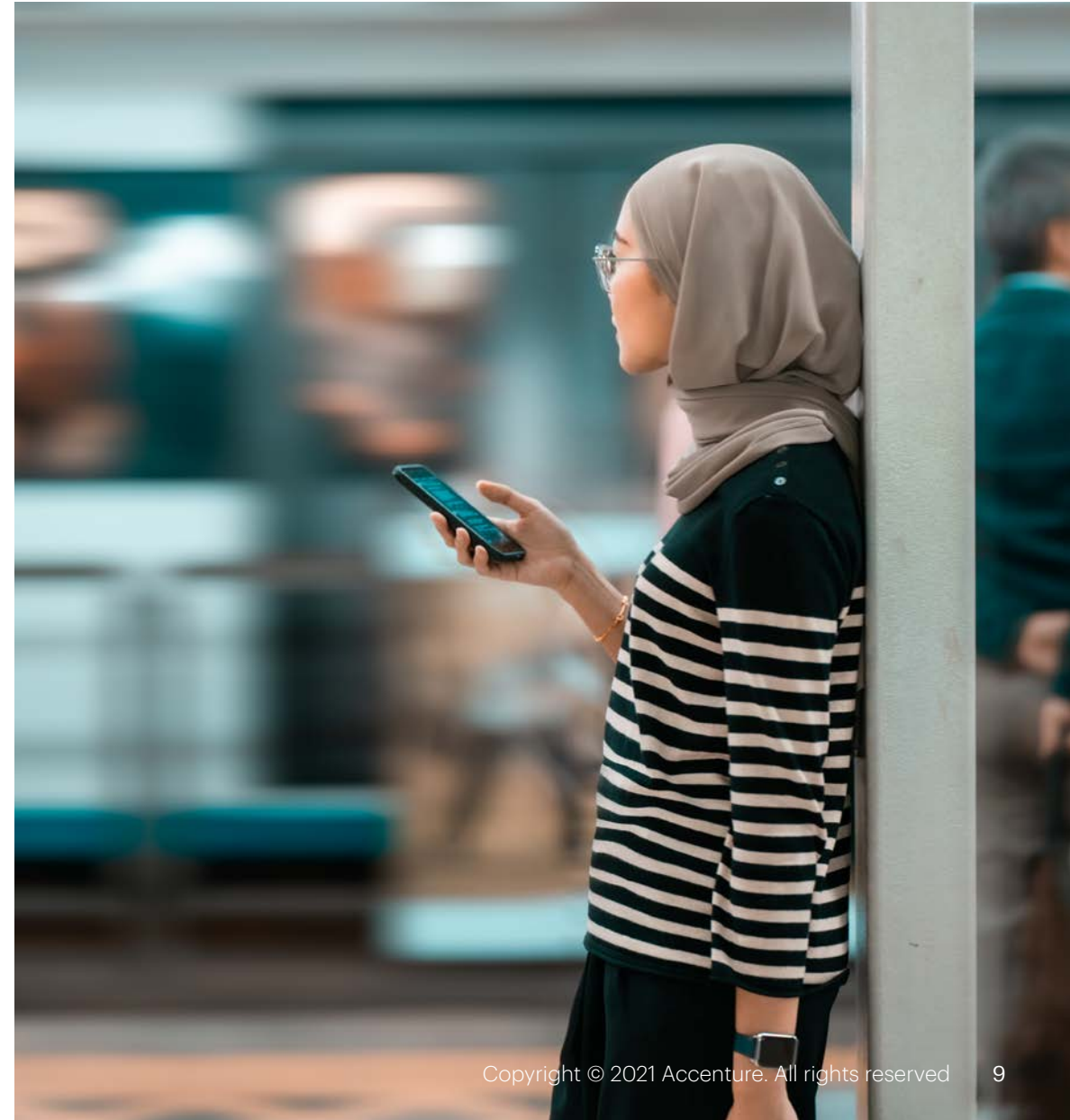
Active network sharing

Active network sharing has become one of the opex and capex potential synergies for CSPs

Network sharing has been a common practice for many years, with 5G active sharing becoming the most attractive scenario.

Figure 2 Four approaches CSPs are using to free up funds for 5G investments

Accenture has found that one of the most immediate, impactful opportunities for stemming 5G deployment's Opex is active network sharing. Opex-light 5G deployment will not only reduce spending but accelerate the entire endeavor.

Analysys Mason reports that **active network sharing** could potentially result in a decrease in Opex from 2017 through 2026 (at a CAGR of -5.8%) leading to $407 billion in potential cumulative savings.[3] Further, According to GSMA intelligence, network infrastructure sharing promises to deliver total cost of ownership (TCO) savings up to 40%.[4] In addition to splitting infrastructure overhead, CSPs benefit by sharing spectrum as well.

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Typically, active network sharing initiatives offer benefits both from financial and operational perspectives:

Initiative	Financial benefit	Other benefits
Expanding coverage (cities, densification)	Capex optimization	• Faster deployment to obligations achievement, time-to-market • National scope enlarging
Consolidating network	Opex reduction	• Keep coverage and service quality while releasing actives, facilities and O&M efforts
O&M synergies (field services, logistics, others)	Opex optimization	• Rationalization of operation's capacity • Better quality in operation's process

We are seeing strong examples of active network sharing initiatives employed by leading CSPs for their 5G rollout:

Europe: In 2019, CSPs O2 and Vodafone extended their existing joint 50:50 network sharing agreement across the UK to include 5G mobile active equipment—such as radio antennas—on shared network sites.[5] Early this year, Vodafone UK unveiled 5G Multi-operator RAN (MORAN) technology in its infrastructure, which would potentially allow active sharing in the RAN—the antenna, tower, site, and power, excluding spectrum.[6]

Asia Pacific: In 2019, China Telecom and China Unicom signed a 5G network co-build co-share framework cooperation agreement, making it one of the largest 5G RAN sharing networks in the world.[7] In addition to co-building and co-sharing 5G sites, the CSPs plan to share 300MHz of contiguous spectrum in 3.3- 3.6GHz band, mainly for city coverage, targeting 200MHz for outdoor and 300MHz for indoor.[8]
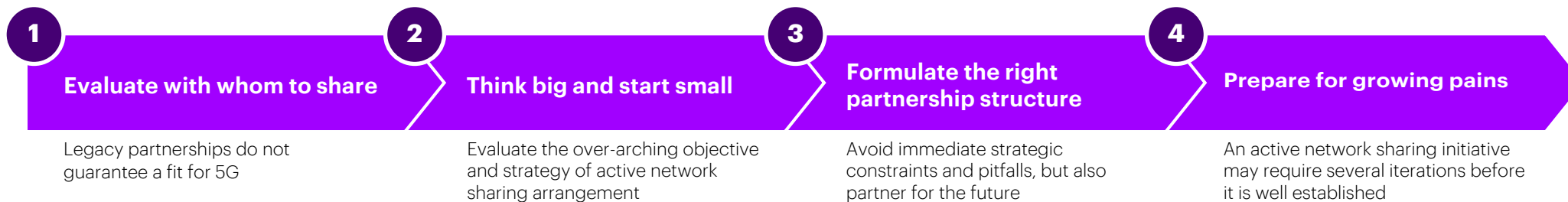
Latin America: Brazil's 4G/LTE RAN sharing program matches CSPs with a Joint Planning Unit (JPU) to support the operators in governance (Engineering, Deployment, Operations, Finance). The specific project (with two CSPs for 2 years, three CSPs for 5 years) reached more than 7,700 4G sites in RAN sharing, with a commercial launch in more than 600 cities, and delivered up to 30% in Capex and Opex savings.

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Considerations before embarking

For CSPs interested in pursuing an active network sharing approach, Accenture recommends starting with a 4-point series of implementation considerations.

1 Evaluate with whom to share	**2** Think big and start small	**3** Formulate the right partnership structure	**4** Prepare for growing pains
Legacy partnerships do not guarantee a fit for 5G	Evaluate the over-arching objective and strategy of active network sharing arrangement	Avoid immediate strategic constraints and pitfalls, but also partner for the future	An active network sharing initiative may require several iterations before it is well established

1. **Evaluate with whom to share: legacy partnerships do not guarantee a fit for 5G.** When trying to extend previous agreements, CSPs must be aware that 5G requires a different approach than with "simpler" B2C 3G/4G networks. The challenges involved with a 5G B2B2X scenario require a more comprehensive analysis, including agreement on common targets. Before re-commiting to the partnerhip in an active network sharing scenario, first test if the arrangement successfully extends to the new network use cases (e.g., small cells in hotspots with high frequency, whole city coverage with mid-band, flexible transport network QoS/capacity).

2. **Evaluate the over-arching objective and strategy of active network sharing arrangement: Think big and start small.** While CSPs join active network sharing agreements with a unified purpose, the convergence of individual CSP strategies is challenging. Network quality standards and/or investment strategy plans are not always conducive to successful partnerships. CSPs need to evaluate their growth maturity levels and cultural compatibility for working jointly with efficiency to ensure long-term collaborative success. Initially test sharing a smaller-scope initiative (for instance, starting as small as radio-only with one technology) before a large-scale implementation. This mitigates the risks of a tough and possible extensive agreement phase and future fail result.

   The partnering CSPs should clearly define the issue that the partnership and the technology solution (e.g.: Open RAN, 5G Edge/Cloud) addresses when it comes to respective network requirements. First paces are critical to avoid technical issues, but they also offer an opportunity to lab test joint endeavors, including implementation concepts like OpenRAN, vRAN, Open vRAN, 5G edge/cloud deployment, fronthaul/midhaul/backhaul.

3. Formulate the right partnership structure: avoid immediate strategic constraints and pitfalls, but also partner for the future.

Understanding, enabling, and monetizing different use cases of the new 5G network is a technical and business challenge for all CSPs. The active network sharing agreements must be designed to attend the market, deployment, construction pace, and operational quality of services for each partner´s needs. This approach can also start with a pilot and then scale up leveraging lessons learned.

Type of partnership	Description	Key driver/advantage
Joint Venture (JV)	Partners consolidate the infrastructure with joint responsibility for design, deployment, and operation, but they for not directly own the assets	Flexibility, tax advantages, part of the operation can be outsourced to leverage specialized services to experienced providers
Unilateral or Bilateral	Unilateral: One CSP agrees to provide assets/services to the other Bilateral: Agreement to share assets	Simple mechanism primarily based on specific business needs
Multilateral with Joint Planning Unit	Asset sharing between CSPs whose agreement is managed by an independent and neutral entity (JPU), through planning, governance and monitoring of joint indicators	This model does not imply assets transfer, instead CSPs keep their own management processes while converging common goals, mainly regulatory obligations
Network Provider	A neutral network infrastructure host is contracted to design, deploy, and operate a shared network as a wholesale service	Presents an opportunity for new entrants. It also requires well-defined business models to explore the market with the incumbents

4. Prepare for growing pains: an active network sharing initiative may require several iterations before it is well established.

Active network sharing agreements are complex and time consuming, but they should not halt 5G deployment work altogether. The BATNA (best alternative to negotiated agreement) approach is imperative, to keep making progress while a future-proof network agreement is being negotiated. This is to ensure negotiating CSPs retain the time-to-market advantage.

IV

Looking ahead in the 5G future

The Capex and Opex strains CSPs are currently facing in the 5G rollouts are daunting, but not insurmountable. Even as ARPU remains stagnant and the costs of deployment and spectrum bidding rises, there are opportunities to not only plan to recoup costs, but also to prepare for growth.

One of the most promising solutions for immediate impact is active network sharing. This is not an easy approach – far more complex than traditional passive network sharing models – but we at Accenture believe the path forward is clear and accomplishable. Active network sharing can be done if both parties take certain considerations into account: a willingness to start small and test before launching into a full-scale agreement, resolving implementation tactics that have long—term implications on both parties' technical strategies, and developing a sound partnership agreement that achieves the objective of financial flexibility and achieve a leading position in the marketplace rather than ongoing renegotiation and remediation.

If all these can be accomplished, CSPs in an active network sharing agreement can anticipate swift changes in the 5G-related Capex and Opex ledgers. What's more, with successful sharing agreements for the network comes an opportunity to build on it, with consolidation of field force resources, parts management, site security, etc.

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