

# Delivering on the Promise of Telecom Network Sharing

## Why many network-sharing deals fall apart, and how to avoid the deal-breakers

Telecom operators around the world have come under increasing pressure to improve profit margins, which in turn has sparked an aggressive pursuit of lean business models. Network sharing has taken hold as a way to substantially decrease CapEx and OpEx. Sharing has also sparked innovation by enabling operators to increase rollout speed, provide broader coverage, and introduce new applications.

By the end of 2007, newly forged sharing deals were noticeably larger than previous deals in terms of network scale and number of subscribers affected. The Bharti/Essar contract in India and the 3UK/T-Mobile deal in the U.K. are just a couple of notable examples.

In “The Rise of Network Sharing” and “The Lure of Network Outsourcing” (two reports in Oliver Wyman’s *Network Business Design Innovation Series*), we examined the advantages that sharing and outsourcing afford and provided a roadmap for operators considering these models. This white paper focuses on the execution challenges inherent in realizing network sharing’s promised benefits—challenges that can, at best, slow down implementation of a deal or, at worst, cause it to implode.

## Execution Challenges

A sharing agreement in Eastern Europe was put on hold after more than a year of discussions when the mobile operators involved realized they could not agree on the structure of the deal—despite both sides’ conviction that a deal would likely reduce OpEx by 20% or more. The reason for the stalemate? Concerns about brand identity. One party wanted full sharing, which would have delivered an estimated 25% in cost savings but required the partners to cease using their unique brand in shared areas. The other partner wanted partial sharing to keep its existing mobile network code and retain some ability to differentiate its brand—even though this arrangement would have offered lower (but still meaningful) cost savings.

Similarly, in a landmark network-sharing deal in the Asia-Pacific region, two operators failed to agree on a consistent role for third-party vendors. One operator fully outsourced network operations and maintenance; the other retained most of these functions in-house. It outsourced only field services—and to a different vendor. This arrangement spawned confusion about who would resolve problems. Neither vendor had clear accountability for diagnosing problems and taking remedial measures. Worse, at times, one vendor could have the capacity to respond more quickly to problems than the other but was not allowed to under the terms of the agreement.

Consequently, problem-resolution times lengthened and customer satisfaction eroded dramatically. The resulting inefficiency proved costly enough to eat into much of the savings promised by the sharing deal.

## Recognizing the Risks

Our experience in implementing network-sharing contracts provides some insights for operators seeking to identify and address these risks. Operators can get the most value from sharing by addressing three major risks: regulatory and political, operating model, and operational execution (Exhibit 1).

For this discussion, we assume that operators that are considering sharing a network have anticipated and addressed any regulatory and political hurdles, such as antitrust concerns or possible workforce reductions. While these are important and often difficult to navigate, this paper focuses on two often-underestimated obstacles to a successful network-sharing deal:

- Complexities (and therefore potential deal-breakers) associated with the selection and deployment of an **operating model**
- Poor management of **operational execution challenges**, which undermines the synergies promised by network sharing

Exhibit 1 **Three major risks**

Regulatory and political	Operating model	Operational execution
<ul style="list-style-type: none"> <li>• License requirement imposed on entity owning or operating the shared network</li> <li>• Limitation on transfer of spectrum rights</li> <li>• Anti-competitive behaviors/ dominance status</li> <li>• National security (single point of failure)</li> <li>• Labor unions: Staff are concerned about the transfer to the new joint venture and whether it means redundancies</li> </ul>	<ul style="list-style-type: none"> <li>• Valuation of existing assets and shareholding in the new entities</li> <li>• Transfer pricing</li> <li>• Apportionment of benefits and costs</li> <li>• Simplicity of day-to-day operations</li> <li>• Impact on branding and service-level differentiation</li> <li>• Managing asymmetry of future demand and CapEx investments</li> <li>• Risks and ease of exit</li> </ul>	<ul style="list-style-type: none"> <li>• Significant costs may be incurred in setting up network sharing, which typically are:               <ul style="list-style-type: none"> <li>–Network upgrade to remove capacity bottlenecks</li> <li>–Investment in network-sharing software and infrastructure upgrade</li> <li>–Redimensioning the network and relocation costs</li> <li>–Termination costs of third-party contracts: multi-vendor repair and other subcontractors</li> </ul> </li> <li>• Failure to consolidate the number of sites and equipment</li> </ul>

Let's take a closer look at each risk.

## Operating-Model Risks

Operators considering network sharing typically

choose from among five possible operating models. Each model has its own advantages and disadvantages (Exhibit 2). Executives who neglect to carefully weigh the tradeoffs can set themselves up for painful arguments and negotiation standstills later in the game.

Exhibit 2 Comparing operating models

Operating model	Description	Advantages	Disadvantages
<b>1. Joint venture (for assets) between operators</b>	<ul style="list-style-type: none"> <li>Operators jointly build or consolidate their existing networks into a joint asset company.</li> <li>Daily operations and network O&amp;M staff are retained in respective operators.</li> </ul>	<ul style="list-style-type: none"> <li>Simplicity: Operators' existing teams engage in business as usual.</li> <li>Suitable for limited degree of sharing; e.g., sharing of sites such as towers or rooftops</li> </ul>	<ul style="list-style-type: none"> <li>Difficulties in coordinating operations teams</li> <li>Typically not suitable for more extensive sharing (e.g., radio access network, transmission, and backhaul)</li> </ul>
<b>2. Joint venture plus common service company</b>	<ul style="list-style-type: none"> <li>Operators jointly build or consolidate their existing networks into a joint asset company.</li> <li>Daily operations and staff are transferred to a single service company, also a joint venture.</li> </ul>	<ul style="list-style-type: none"> <li>Higher savings from consolidation of assets, operations, and teams</li> <li>Absence of coordination problems among operator teams</li> </ul>	<ul style="list-style-type: none"> <li>More difficult organizational changes required</li> <li>Difficulty in rationalizing operations processes and tools</li> <li>Especially difficult in more complex multi-vendor environments.</li> </ul>
<b>3. Vendor-led network sharing and operations and maintenance outsourcing</b>	<ul style="list-style-type: none"> <li>Operators jointly build or consolidate their existing networks into a joint asset company.</li> <li>Operations and staff are outsourced to a managed-service vendor.</li> </ul>	<ul style="list-style-type: none"> <li>Savings potential equivalent to model 2</li> <li>Vendors typically guarantee a certain level of savings from outsourcing and from enabling sharing.</li> <li>Transformation risk transferred to vendor</li> <li>Third party can provide objective avenue for resolving issues.</li> </ul>	<ul style="list-style-type: none"> <li>Reliance on third-party vendor</li> <li>Reduced control</li> <li>Partners must share savings with vendor.</li> <li>Simultaneous outsourcing and sharing can destabilize organizations during transition.</li> </ul>
<b>4. Managed capacity</b>	<ul style="list-style-type: none"> <li>Network ownership transferred to vendor</li> <li>Operators pay vendor on usage or capacity-provision bases.</li> <li>Operations and staff outsourced</li> </ul>	<ul style="list-style-type: none"> <li>Can catalyze sharing deal as upfront upgrade costs and associated risks are transferred</li> <li>Release of capital from non-core network assets</li> </ul>	<ul style="list-style-type: none"> <li>Higher recurring operating costs compared to other models</li> <li>Loss of control over network assets</li> </ul>
<b>5. One operator becomes an MVNO (mobile virtual network operator)</b>	<ul style="list-style-type: none"> <li>Operators jointly build or consolidate their existing networks into a joint asset company.</li> <li>Operator 2 relinquishes its operations and becomes a mobile virtual network operator for Operator 1.</li> </ul>	<ul style="list-style-type: none"> <li>Higher savings from consolidation of assets, operations, and teams</li> <li>Absence of coordination difficulties among operator teams</li> </ul>	<ul style="list-style-type: none"> <li>For Operator 2, loss of control over network assets and ability to differentiate itself</li> <li>For Operator 1, costs of buying full network from Operator 2</li> </ul>

Common operating-model battlegrounds include:

- Valuation of existing assets and shareholding in the new entities
- Transfer pricing
- Apportionment of benefits and costs
- Rights and responsibilities in day-to-day operations
- Impact on branding and service-level differentiation
- Managing asymmetry of future demand and CapEx investments
- Exit mechanisms

### Operational-Execution Risks

Even after network-sharing partners have carefully thought through the question of which operating model to use, their deal can still run into unexpected and costly difficulties once it's put into action. These difficulties stem from practical limitations inherent in the combination of assets and operations and typically include the following:

- **Capacity bottlenecks and limitations in new-service introductions.** The operators discover that the original network is not designed to carry the traffic of two networks or new services. To remove the bottleneck, the partners must upgrade the network or incorporate additional equipment.
- **The discovery that additional investment is needed to become operational.** The partners learn that the costs associated with reconfiguring the network and relocating assets are higher than they anticipated. Integrating the IT systems and data transfer is often an underestimated source of cost.
- **Failure to consolidate sites.** The two parties find that co-locating operator sites (because of stringent termination clauses of sites) has

eaten into the savings they expected to achieve from sharing.

- **Failure to consolidate third-party vendors.** The operators neglect to clarify which third-party service vendors will handle which tasks (such as site maintenance, repair, and field services). The resulting confusion spawns costly inefficiencies, as the Asia-Pacific example revealed.
- **Misalignment on network- and service-evolution directions and timetables.** The operators are at different stages of maturity and have different visions of when and how they will migrate to the next generation of technology to deliver newer services.
- **Lack of operational readiness.** The players encounter operational challenges similar to those faced by any two companies that have decided to merge. For example, they discover that they have very different approaches to managing core business processes, defining service levels, or determining employee incentives. They may also have conflicting organizational structures.

### Tactics for Addressing the Risks

Given the complexity of sharing arrangements, we believe that trying to anticipate every eventuality is futile and counterproductive. However, by anticipating the major risks and laying the groundwork early, operators can respond more flexibly and effectively to the inevitable problems that will arise at every stage of a sharing deal. The following tactics can help.

#### **Construct a compelling business case for all stakeholders (“What’s in it for me?”).**

In any network-sharing deal, there can be multiple stakeholder groups (depending on the operating model chosen), and each group will have different interests and concerns. Key stakeholders are the operators themselves (including their workforces), equipment vendors, investors, and regulators. Operators considering a deal would do well to craft a compelling value proposition tailored to each constituency. Exhibit 3 shows examples of elements that a business case should include.

Constituency	To make the case . . .
<b>Operators</b>	<ul style="list-style-type: none"> <li>Quantify the OpEx savings that will result from network sharing and identify savings' key sources. Highlight the substantial benefits of sharing for all participants.</li> <li>For 3G network rollout, point out possibility of significant reductions in CapEx and rollout cycles as well as improved coverage.</li> <li>For 2G network consolidation, emphasize the benefits of infrastructure / equipment consolidation as 2G is phased out, as well as the avoidance of CapEx required for upgrades. Explain benefits of introducing a third-party investor. (Operators can release the capital tied up in the legacy 2G network, mitigate the risk of write-down at the end of 2G asset life, and improve financial ratios such as return on assets.)</li> <li>Consider the future evolution of services and the resulting value potential. For example, spectrum releases in many countries or adoption of LTE/WiMAX may offer opportunities for new service introductions.</li> <li>For operator workforces, point to improved career prospects from job assignments on new networks. If some operations are going to be outsourced, propose a contract stipulating a no-layoff period and/or maintenance of seniority and benefits accrued at operator.</li> </ul>
<b>Equipment vendors</b>	<ul style="list-style-type: none"> <li>Assess the value that vendors could gain outside of the sharing contract. For example, sharing and outsourcing offer a vendor unique access to the operator, setting the stage for future infrastructure sales. Quantify the potential value and agree on a fair distribution.</li> <li>Work with vendors as partners and share the savings or even the revenue potential from new services. This "carrot" can be more effective for building a sustainable relationship than the traditional "stick" of performance-based payments.</li> </ul>
<b>Investors</b>	<ul style="list-style-type: none"> <li>Explain that investors will be acquiring a stake in utility-like assets, which have provided stable and predictable returns in other industries (such as transportation and energy).</li> <li>Highlight and quantify the potential from the availability of a platform to resell services to future operators—often the biggest value-creation opportunity for investors.</li> </ul>
<b>Regulators</b>	<ul style="list-style-type: none"> <li>Emphasize the improved efficiency of mobile operations that sharing can provide. Such efficiency often translates into important benefits for consumers, including access to services in far-flung geographies, availability of a variety of services, and lower prices for new services.</li> <li>Describe the environmental advantages—such as reduced number of sites and lower energy consumption—that sharing affords.</li> <li>Point out that sharing can accelerate innovation of new services in a country. Quantify this potential through analogies in other industries.</li> </ul>

**Select the best operating model for the deal (“How do we work together from now on?”).**

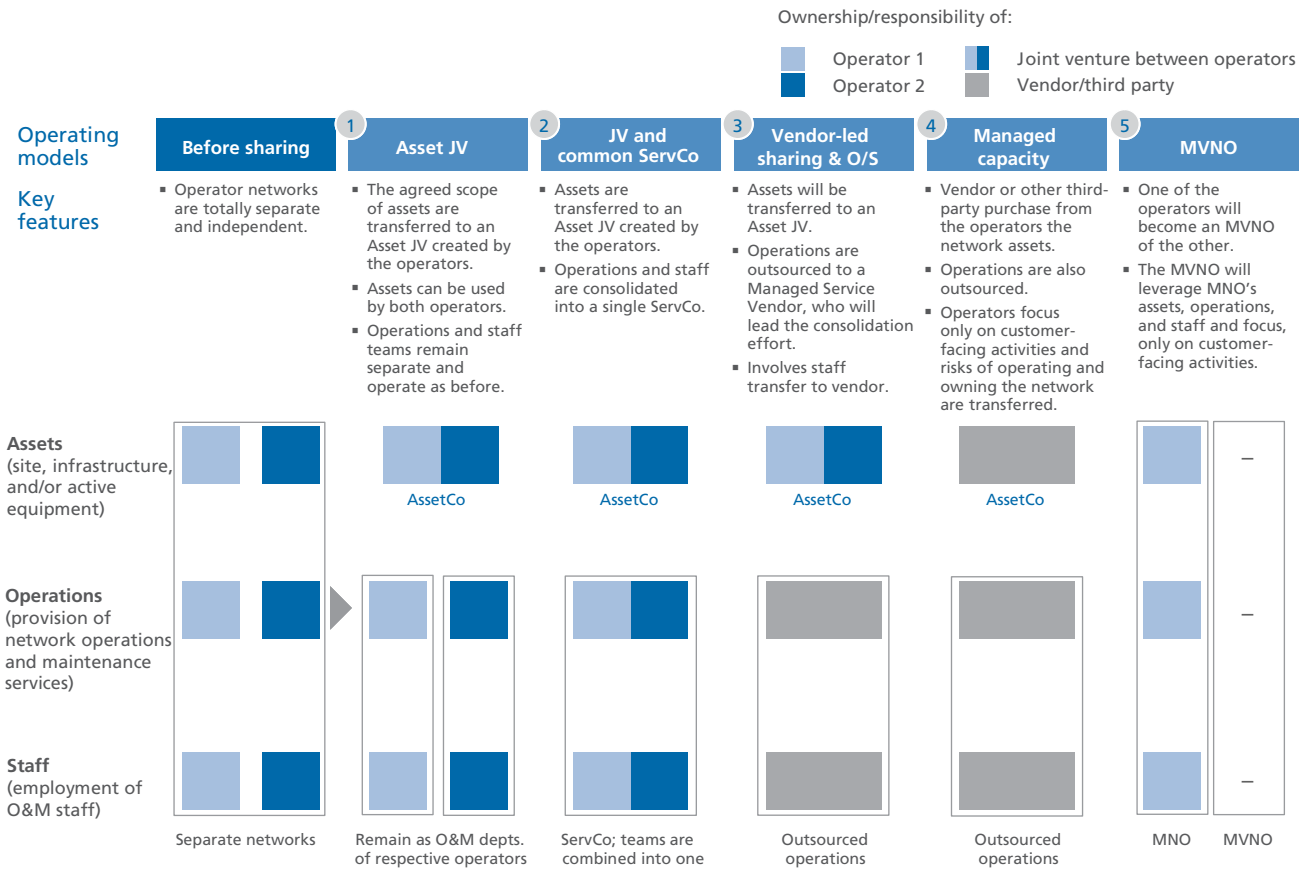
No network-sharing operating model is perfect. As we saw earlier, each model comes with tradeoffs. Differences in these tradeoffs originate from choices about who in the new partnership will own which assets, handle operations and maintenance services, and be responsible for employment of the staff teams. Exhibit 4 shows how these three questions affect the tradeoffs in each operating model.

Operators considering a sharing arrangement will likely need to build a customized operating

model that is most suitable to their (or other stakeholders’) preferences and unique circumstances. We suggest that operators assess the following criteria when making the choice:

- Objectives of sharing
- Alignment of service and network evolution
- Technology (legacy vs. new) being shared
- Relative phase of rollout
- Partnering and outsourcing strategy

## Exhibit 4 Dissecting the operating models



- Regional scope of partnering
- Technical scope of partnering

Exhibit 5 shows the typical situations under which each operating model is deployed. Although there is no simple one-to-one mapping between the situations and models, this exhibit can make choosing a model simpler. For example, operators interested in sharing to lower operating costs but unwilling to surrender operational control or the autonomy to devise their own service and network evolution plans may choose a limited degree of asset sharing (model 1) that covers passive network elements only.

### Mitigating the Operational-Execution Challenges

The greatest execution hiccups usually do not pull a deal apart. Rather, the risk is that the synergies identified in the business case are never realized. After facilitating the execution of numerous network-sharing agreements, we maintain that

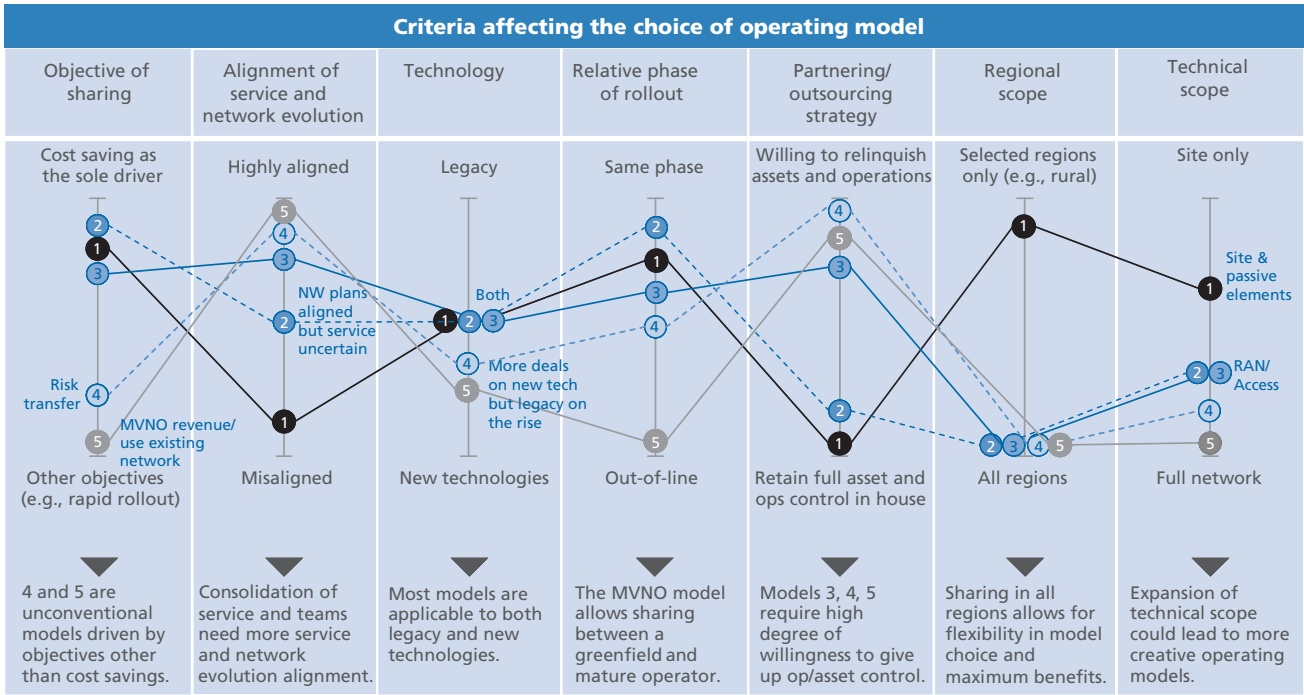
operators can mitigate execution risks mostly with careful planning. In particular, operators should engage in:

- Joint due diligence/feasibility investigation into each savings lever (including third-party contracts, consolidation, leased lines, and utilities costs) to ensure that all the synergies laid out in the business case are achievable
- Joint planning to identify any differences in vision (scope and pace) and to select an operating model that can accommodate both parties' future needs
- Definition and implementation of the structural and process changes required to ensure that the organization will be operationally ready for sharing

But even with sufficient planning, unpleasant surprises can jeopardize the anticipated savings. Through careful collaboration, operators can still

Exhibit 5 Factors affecting choice of operating model

- 1 Asset JV
- 2 JV and common ServCo
- 3 Vendor-led sharing and outsourcing
- 4 Managed capacity
- 5 One operator as MVNO



All the above factors will come into play in the selection of an appropriate operating model. The chart shows the typical situations under which different models are deployed.

address them during the implementation stage. Exhibit 6 introduces some tactics that other operators have used to ensure OpEx savings.

**The Crucial First Step: Assembling a Project Team**

Once operators have decided to share a network, they should assemble a dedicated network-sharing project team comprising members who possess specific needed skills, similar to an integration team formed by two companies that are merging. An effective team will focus on aligning stakeholders’ interests, anticipating and dealing with regulatory hurdles, defining an overarching operating model, and ironing out technical details of the deal. Key operational-readiness elements the team should address include:

- Network planning (core, transmission, access, services)
- Network performance and standards
- Structured finance and investor management
- Service and portfolio management
- Service pricing
- Site and real estate management
- Third-party vendor sourcing and management
- Human resources and employee management
- Financial

- Legal and regulatory

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## Exhibit 6 Tactics for ensuring OpEx savings

To ensure savings on this OpEx item. . .	Operators can . . .
<b>Site leasing</b>	<ul style="list-style-type: none"> <li>• Plan the new network with the objective of reducing the number of sites</li> <li>• Reduce the equipment needed by deploying capacity-upgrade solutions</li> <li>• Renegotiate leases with the reduced number of sites and reduced equipment housed at each site</li> </ul>
<b>Site civil, mechanical, and electrical maintenance</b>	<ul style="list-style-type: none"> <li>• Consolidate CME contracts to a single supplier</li> <li>• Renegotiate based on reduced number of sites/equipment covered</li> </ul>
<b>Field maintenance</b>	<ul style="list-style-type: none"> <li>• Renegotiate field-maintenance service contracts on the basis of fewer sites / equipment covered</li> </ul>
<b>Care contracts (2G)</b>	<ul style="list-style-type: none"> <li>• Conduct necessary swap-outs to reduce the amount and the number of types of equipment used and therefore the annual care-contract spend</li> </ul>
<b>Leased lines</b>	<ul style="list-style-type: none"> <li>• Consolidate E1 traffic through trunking</li> </ul>
<b>Site utilities</b>	<ul style="list-style-type: none"> <li>• Reduce electricity costs by rationalizing the amount of equipment in the network</li> </ul>
<b>Spectrum fees</b>	<ul style="list-style-type: none"> <li>• Reduce 2G spectrum use by releasing to regulators or at auction, or re-use for capacity expansion in other parts of the business</li> </ul>

Network sharing's power to radically improve operators' competitive cost position has attracted increasing attention around the world. But many operators are discovering that sharing deals are surprisingly difficult to set up and don't always deliver the anticipated benefits. These disappointments stem from the complexities involved in selecting an operating model and the practical limitations inherent in executing sharing arrangements.

By understanding the hurdles and applying the right tactics before inking a deal and putting it into practice, operator executives interested in network sharing can position themselves to

respond flexibly to the inevitable challenges that come with this business arrangement. Key strategies include crafting a compelling business case for sharing and tailoring it for each stakeholder group, selecting the right operating model, and addressing some of the practical limitations to successful implementation of a sharing deal.

Sharing is likely here to stay. Operators that extract the most business value from this strategy will be those who anticipate the difficulties—and tackle them early on. ❖

## Oliver Wyman

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Oliver Wyman has participated in the creation and delivery of many high-profile network-sharing deals. We have learned firsthand the challenges awaiting telecom operators if they decide to pursue network sharing, and how best they can overcome them. Oliver Wyman has developed industry-leading tools, business case models, and frameworks to facilitate such deals, as well as industry benchmarks on potential cost savings.

This white paper was prepared by **Reuben Chaudhury** and **Jonathan Gove**, partners of Oliver Wyman, with contributions from Jackson Kam and Sunkiu Tsang.

**Reuben Chaudhury** is based in New York and can be reached at [reuben.chaudhury@oliverwyman.com](mailto:reuben.chaudhury@oliverwyman.com)

**Jonathan Gove** is based in Hong Kong and can be reached at [jonathan.gove@oliverwyman.com](mailto:jonathan.gove@oliverwyman.com)

[www.oliverwyman.com](http://www.oliverwyman.com)