This article summarizes the findings of a research project that Tellabs commissioned from STL Partners. It is the result of STL Partners' research over many years, interviews with a dozen operators across Europe, North America and Asia Pacific and a survey of 100 industry executives.

How Mobile Operators Can Build 'Smarter Pipes'

By Chris Barraclough, Managing Director, STL Partners

Faced with new competitors and ever-evolving demands from customers, there is no doubt that telecom service providers need to reinvent themselves. But how? While many call for providers to move beyond yesterday's "dumb pipe" business models, which limit their role in the communications ecosystem to mere conduit, the larger question is: what comes next?

At STL Partners, we have identified 2 possible ways in which telecom operators can substantially change how they do business. The first approach, driven by a focus on cost cutting, is dubbed "Happy Pipe"; the second approach, based on differentiation via strategic partnerships, we describe as "Full Service Telco 2.0."

Underpinning those 2 business strategies are 2 "smart pipe" approaches to delivering telecom solutions, which we dub "smart network" and "smart services" (see chart). The Happy Pipe strategy is driven by a smart network—a well-functioning network that operates cost-effectively. By comparison, the Full-Service Telco 2.0 strategy focuses on smart services, driven by a network that offers a strong customer experience. But its market approach focuses on delivering services in partnership with an extended ecosystem of partners.

It is important to note that having a smart network is a precursor to offering smart services. It would be impossible for an operator to implement a Full-Service Telco 2.0 strategy without having significant network intelligence in the form of a smart network.

Smart network strategy is good; a smart services strategy is better

Assuming that most mobile operators currently have limited "smartness" in either network or services, our analysis suggests significant financial upside from using either a Happy Pipe or Full-Service Telco 2.0 strategy. Most mobile operators generate Cash Returns on Invested Capital of between 5% and 7%. For the purposes of our analysis, we assumed a baseline of 5.8%. The lower capital and operating costs of a Happy Pipe strategy could increase cash returns to 7.4% and the successful implementation of a Full-Service Telco 2.0 strategy has the potential to increase these returns to a handsome 13.3%. The financial rewards should provide a strong incentive for service providers to consider these strategies.

Porter strategy	Telco 2.0 strategy	Nature of smartness	Characteristics
Cost leadership	Happy Pipe	Smart network	Cost efficiency—minimal network, IT and commercial costs. Simple utility offering.
Differentiation	Full-Service Telco 2.0	Smart services	Technical and commercial flexibility: improve customer experience by integrating network capabilities with own and third-party services and charging either end user or service provider (or both).

Telco 2.0 strategy	Nature of smartness	Cash Returns on Invested Capital
As is—Telco 1.0	Low—relatively dumb	5.8%
Happy Pipe	Smart network	7.4%
Full-service Telco 2.0	Smart services	13.3%

Source: STL Partners

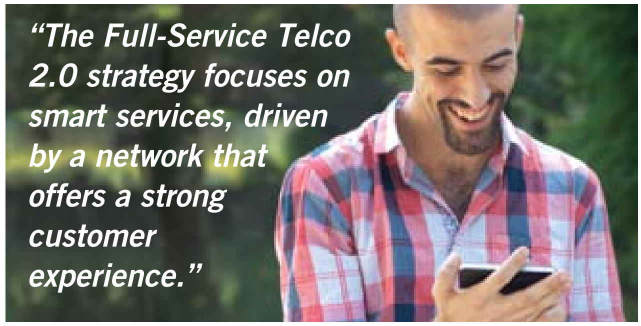
Overall, STL Partners has identified six opportunity areas for mobile operators to exploit using a Full-service Telco 2.0 strategy.

Opportunity Type	Approach	Typical Services
Core services	Improving revenues and customer loyalty by better design, analytics and smart use of data in existing services.	Access, Voice and Messaging, Broadband, Standard Wholesale, Generic Enterprise ICT Services (inc. SaaS).
Vertical industry solutions (SI)	Delivery of ICT projects and support to vertical enterprise sectors.	Systems Integration (SI), Vertical CEBP solutions, Vertical ICT, Vertical M2M solutions and Private Cloud.
Infrastructure services	Optimizing cost and revenue structures by buying and selling core Telco ICT asset capacity.	Bitstream ADSL, Unbundled Local Loop, MVNOs, Wholesale Wireless, Network Sharing, Cloud - IaaS.
Embedded communica-tions	Enabling wider use of voice, messaging and data by facilitating access to them and embedding them in new products.	Comes with data, Sender pays delivery, Horizontal M2M Platforms, Voice, Messaging and Data APIs for third parties.
Third-party business enablers	Enabling new Telco assets (e.g., customer data) to be leveraged in support of third-party business processes.	Telco-enabled Identity and Authorization, Advertising and Marketing, Payments. APIs to non-core services and assets.
Own-brand OTT services	Building value through Telco-owned online properties and 'Over-the-Top' services.	Online Media, Enterprise Web Services, Own Brand VOIP services.

Source: STL Partners

Regional approaches to smartness may vary

As global operators continue to experience a slowdown in revenue growth, they tend to focus on maintaining margins by reducing costs. It should not be surprising, then, that most operators in North America, Europe and Asia-Pacific appear to be pursuing a Happy Pipe/smart network strategy.



Those carriers aim to maximize capital, reduce operating costs and improve network performance through approaches such as:

- Physical network sharing
- Peering data traffic rather than charging (and being charged) for transit
- Wi-Fi offload
- Distributing content more efficiently through the use of multicast and CDNs
- Efficient network configuration and provisioning
- Traffic shaping/management via deep-packet inspection and policy controls
- Advanced device management approaches.

Vodafone Asia-Pacific is a good example of an operator pursuing a Happy Pipe strategy. Yota in Russia and Lightsquared in the United States are similarly content being Happy Pipers.

In general, Asia-Pacific has the most disparate set of markets and operators. Markets vary radically in terms of maturity, structure and regulation, and operators seem to polarize into extreme Happy Pipers (e.g., Vodafone APAC, China Mobile, Bharti) and Full-Service Telco 2.0 players (e.g., NTT Docomo, SK Telecom, SingTel, Globe).

In Europe, Telefonica represents the operator with the most complete Telco 2.0 vision. Telefonica has built and acquired a number of smart services that appear to be gaining traction, including O2 Priority Moments, Jajah, Tuenti and Terra. Recent structural changes at the company, including the creation of Telefonica Digital to focus on opportunities in the digital economy, further indicate the company's focus on Telco 2.0 and smart services.

The sheer scale of the 2 leading mobile operators in the United States, AT&T and Verizon, means that they are taking a different approach to Telco 2.0. Although they are collaborating in one or two areas, there is a high degree of what one interviewee described as "Big Bell dogma"—the

API: Application Programming Interface
CDN: Content Delivery Network
CEBP: Communications-Enabled Business Process
DSL: Digital Subscriber Line
IaaS: Infrastructure-as-a-Service
ICT: Information and Communications Technology
M2M: Machine-to-Machine
MVNO: Mobile Virtual Network Operator

view that each company is big enough and powerful enough to take on the over-the-top players and "control" the experiences of end users in the digital economy. Even though the U.S. market is more consolidated than Europe, it seems unlikely that either AT&T or Verizon can keep customers using only their services—the lamented walled garden approach.

Implementing a Telco 2.0 strategy is important but challenging

Via industry interviews and a quantitative survey, STL Partners explored operator attitudes toward these next-generation operator strategies.

Overall, respondents felt that most operators would do best to pursue a Happy Pipe strategy, with only a few Tier 1 operators likely to be successful pursuing a Full-Service Telco 2.0 strategy. For both strategies, respondents were surprisingly skeptical about the ability of operators to implement the necessary changes. The key reasons for this were:

- Competition from Internet and over-the-top players
- Difficulty in building a viable ecosystem
- Lack of mobile operators' skills
- Culture
- Organizational structure.

Looking at the specific activities required to build smarter networks and services, it was clear that those required for a Full-Service Telco 2.0/smart services strategy (exposing assets via APIs, differentiated charging and pricing, personalized and differentiated services) were considered the most difficult to implement.

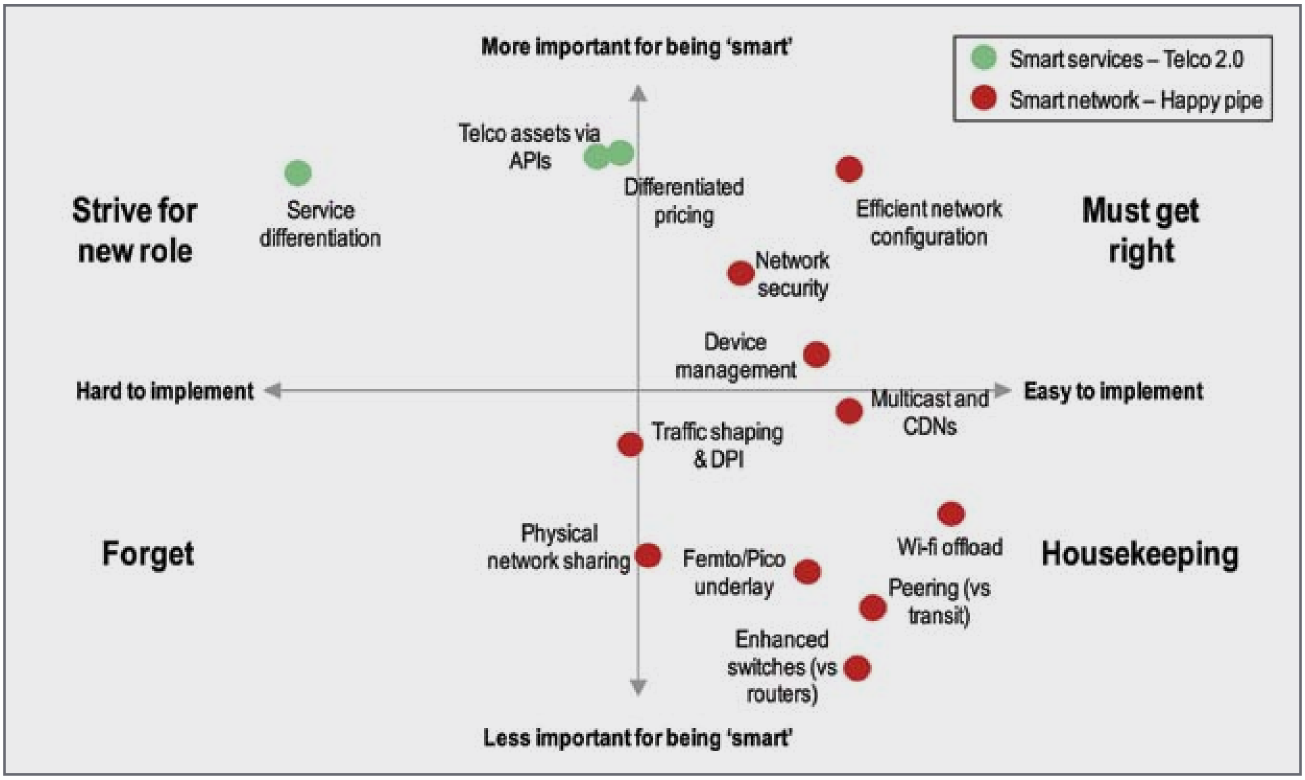
Conclusions and recommendations

By comparing the relative importance of specific smart network and service activities versus how easy they are to implement, we were able to classify them into four categories, ranging from capabilities that operators "must get right" to succeed to activities they must "forget" about in order to move forward (see chart below).

Overall, it appears that mobile network operators need to continue to invest resources in developing smart networks. But operators also must clearly prioritize those activities, given the multitude of moving parts required to deliver a successful Happy Pipe strategy.

Meanwhile, a successful Full-Service Telco 2.0 strategy is likely to be extremely profitable for a mobile network operator, resulting in a substantial increase in share price. But delivering on this strategy remains a major challenge. Operators must collaborate, experiment and invest to implement a full Telco 2.0 strategy. Given the demands of investors for dividend yields, investment is only likely to be available if an operator becomes more efficient, so implementing a Happy Pipe strategy that reduces capital and operating costs is a critical first step for operators ultimately pursuing a Telco 2.0 path. ■

Video: Tellabs' Pankaj Shroff discusses STL Partners' study at http://www.tellabs.com/resources/multimedia/



Source: STL Partners/Telco 2.0 & Tellabs 'Smart pipes' survey, July 2011, n=100