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# Service Provider Technology

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## Nicole Englebert

**Director of Research & Analysis**

Technology

> Service providers and their vendor partners are grappling with an era of business model and network transformation, where technology is critical to market success

# Telecom Operations & IT

## The Market Challenge

Communications service providers (CSPs) are under intense pressure to transform their IT systems, software and business processes to compete in the digital world.

CSPs will need to deliver a personalized and contextual customer experience, bolstered by improved partner management systems, customer journey mapping and omnichannel strategies. Digital transformation will also require the adoption of SDN/NFV and cloud-based delivery models. To support these CSPs will need to streamline and automate telco IT systems and make effective use of AI and advanced analytics tools. These changes will also have a fundamental impact on CSP operations as they shift to DevOps, microservices and cloud native practices.

**Kris Szaniawski**
Practice Leader

> Launching digital services and creating a personalized customer experience are top priorities for over 80% of CSPs

## How Ovum helps you

**Help** telcos understand their business and digital transformation priorities and position themselves against their peers.

**Support** telcos with their IT investment and buying decisions, including product assessments.

**Identify** telcos' decision criteria for selecting platform and service partners to enable digital transformation.

**Understand** the main growth opportunities across the complex telco IT landscape.

**Evaluate** vendor competitive position in key solution areas versus peers from NEP, ISV, and CSI backgrounds.

**Identify** new product, service, and partnering opportunities in a rapidly changing and increasingly complex ecosystem.

## Key Deliverables

**Coordinated** set of forecasts covering Telco IT (OSS/BSS) revenues, telco vendor services (network and IT services) revenues and Telco spend.

Research on changing telco operations, including the impact of SDN/NFV on telco IT systems, preparing CSPs for the transition to microservices and making the move to DevOps.

**Research** on improving the customer experience, including strategies for managing and monetizing the growing telco partnership ecosystem and customer journey management.

**Ovum Decision Matrices** evaluating leading telco IT solutions, including BSS and analytics.

**ICT Enterprise Insights in the Telecoms Industry** CIO insights and investment plans in key telco IT areas.

**OSS/BSS** contract analytics interactive tool with global coverage.

## Themes for 2018

### Successful strategies for digital transformation and the impact on telco IT

Digital transformation is a priority for telcos, but many are still unclear how to undertake this journey. Through a series of industry case studies, thought-leadership pieces, and surveys; Ovum will provide guidance on how CSPs can make the transition to DSP and identify vendor opportunities.

### Making the move to intelligent telco operations

Intelligence and automation will play an important role in the transformation of CSP operations as they aim to “work smart”. Ovum will explore the potential of technologies such as AI and analytics to enhance and automate CSP operations and will evaluate vendor solutions for the telecoms industry. Ovum will also explore the changes telcos need to make to support IoT, 5G and digital services.

### Strategies and technologies for the delivery of a personalized telco customer experience

CSPs must deliver a personalized and contextual customer experience to compete in the digital services market. Ovum will explore how CSPs can leverage OSS, BSS, and intelligence to understand and personalize the customer journey. Focus will be placed on how CSPs can improve customer experience for both B2C and B2B customers and the impact of emerging areas such as IoT on the growing CSP partner ecosystem. Ovum will provide thought-leadership on strategies for improving the customer experience and vendor analysis.

**Vendor services evolve to support new modes of telco IT operations**
Vendor services portfolios and capabilities will evolve to support new types of operations. Vendors and professional services partners will need to help telcos with the shift to DevOps, SDN/NFV and microservices, as well as support telcos' digital transformation journey. Ovum will explore the changing role of vendors in the telecoms industry as services such as SaaS and consulting grow in importance. We will provide analysis of changing vendor service portfolios, market share and forecasts.

# What's new

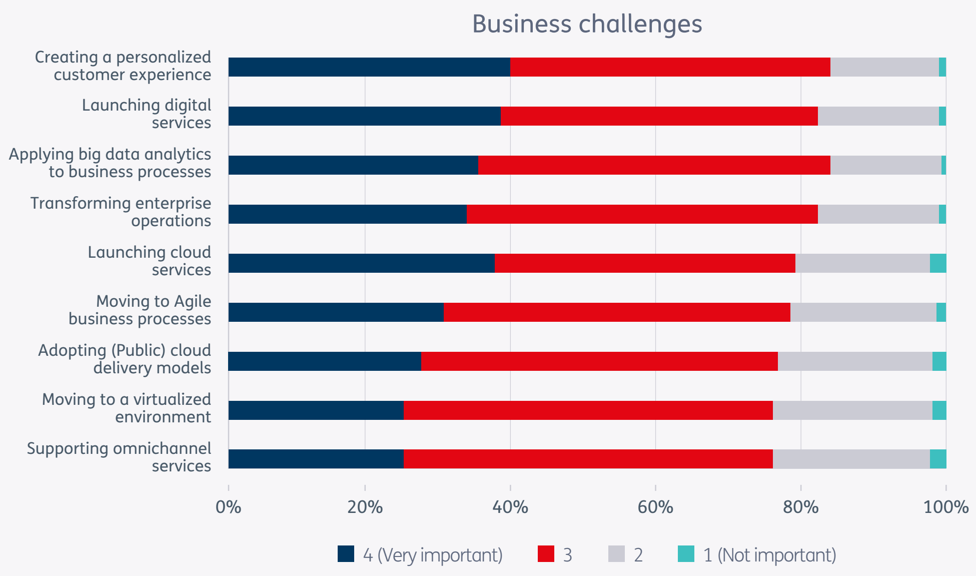
**Digital transformation insights –** including CSP case studies, surveys and insights

**Vendor product reviews –** assessments of product, vendor positioning, customers, use cases and market context. These focus on offerings supporting digital transformation e.g. cloud based telco IT solutions

**New forecasts and increased granularity –** new Telco IT spend forecast and new segments in OSS/BSS forecast

Business challenges facing service providers

Launching digital services and creating a personalized customer experience are CSP's top business challenges




Source: Business challenges tab in ICT-EI Telecoms

# Media Technology

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## The Market Challenge

Premium media asset owners are undergoing major change as they shift to a digital first strategy.

Broadcast TV & video providers, ICPs and digital service providers are grappling with two core business priorities – how to enhance operating margins and extend their reach into new growth areas. This is forcing media providers to respond by migrating their audience engagement ecosystem to IP, unifying the content supply chain and leveraging big data and AI technologies. Major change is required to support the launch of real-time digital services and exploit new monetization avenues such as the enterprise video and sports franchise segments.

**Kedar Mohite**
Senior Analyst

> The media transformation ICT services market is forecast to reach $27.4Bn by 2022. The sports franchise segment will be one of the fastest-growing, with CAGR of 5.3%

## How Ovum helps you

**Helping** media enterprises to compare business and technology road-maps.

**Showing** media companies how to re-engineering their partner ecosystem.

**Providing** media transformation journey support and assisting with the selection of technology vendors and ICT service providers.

**Market** and competitor assessment across the media content supply chain.

**Delivering** insights on media technology trends and changing adoption cycles.

**Identifying** new market opportunities in the video space across diverse segments such as sports franchise, broadcast TV & video, and digital service providers.

## Key Deliverables

**Media** transformation ICT Services forecast (2017-2022) with addition of publishing companies such as newspaper, magazine, and B2B to existing database encompassing sports franchises, digital service providers (cable TV, satellite TV, and telecommunication multimedia services business) and TV & video broadcasters.

**Extending** On the Radar deliverables across new technologies enabling the media transformation journey, especially those supporting the end to end content supply chain.

**Strategic** viewpoint and competitive benchmarking of vendors offering media AI and big data solutions, and analysis of technology vendors serving this space.

**Research** notes and short reports on the proliferation of media technology vendors in the enterprise video space.

**Extending** innovative case studies on media transformation projects with special emphasis on ICT services deployments across the sports franchise segment.

## Themes for 2018

**The media content supply chain shifts to IP**
An increasing number of media enterprises are migrating aspects of their content supply chain to IP. The shift to IP is a highly complex transformation. Ovum will analyse the areas of the content supply chain leading the push, such as media acquisition and distribution, as well as emerging areas such as media preparation. We will investigate migration roadmaps and identify what technology partners need to offer in order to enable the transition.

**The next wave of personalization in media technology**
As media enterprises move from a first to a second wave of personalization this will create demand for more granular data insights. Customer retention will become a key concern due to the proliferation of distribution channels, so driving media enterprises to adopt technologies that help to create in-depth and contextual audience engagement. These will be key drivers for the adoption of big data and AI technologies and recommendation services in the media sector over the next 18-24 months.

**Video will drive convergence in the media and entertainment sector**
Video is a key driver of convergence within the media and entertainment sector as well as across multiple vertical sectors. Video is becoming the primary engagement tool, creating new opportunities for both media providers and media & broadcast technology vendors. These vendors are seeking to re-engineer their go-to-market strategy, and technology road-maps to target new vertical segments. Ovum will analyse this technology transformation.

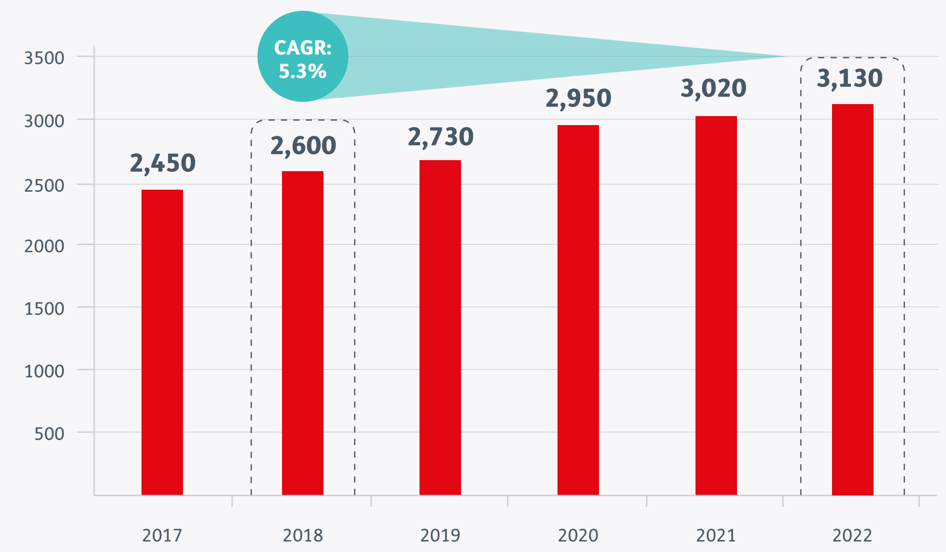
We will also investigate growth areas such as sports franchises, exploring how companies in this space are embarking on a hyper personalization wave, and assessing how ICT services will support this growth.

## What's new

**Ovum** Decision Matrix on live streaming services enabling enterprises to quickly select the right project partner for their premium media assets especially sports content

**Managed** video logistics forecast (2017-2022) – extended to encompass seven major sectors leveraging video as the core engagement tool i.e. education, healthcare, BFSI, Government, consumer products, Utilities & Energy, and media & entertainment

The next growth frontier: Sports Franchises ICT Services ($m)



## The Market Challenge

Communication service providers are facing end-to-end questions around network transformation. They must make strategic decisions around investing in trusted legacy systems versus putting money into newer, but less trusted, network technologies. Moving too soon on change or betting on the wrong technology can have a drastically negative impact on these service providers. Concurrently, being too slow to adopt new technologies can hinder their abilities to launch new services and leave them vulnerable to competitors.

For equipment vendors, this transformation is just as fraught with challenges as those their service provider customers face. How do they introduce new networking technologies without out destroying their existing revenue base? Vendors' technology bets are similar to those of their service provider customers when it comes to risk and reward.

**Daryl Schoolar**
Practice Leader

**Ian Redpath**
Principal Analyst

## How Ovum helps you

**Provide** insight into which network technologies are hype and which ones will have a long and impactful life

**Size** different network domains and learn which ones are growing and which ones aren't

**Learn** how operators are coping with the introduction of new technologies and what they have gained from those technologies

**Articulate** leading CSP and ICP network target architectures

**Highlight** key differentiating and winning vendor strategies such as bringing Purpose Built DCI products to market

**Enable** data driven decision making: e.g. Ovum delivers market sizing and growth forecasts in concert with vendor by vendor market share, enabling informed market entry-expansion decisions

> Ovum forecasts that by 2022 5g revenues will be approaching 40% of total ran expenditures

## Key Deliverables

**Quarterly** equipment market share reports

**Annual** equipment forecasts

**Technology** trend reports providing market updates and vendor activities

**Thought** leadership pieces based on new technology advances

**Industry** baseline datasets: vendor contract database, GDCA

**Key** conference and event summaries and briefs

# Themes for 2018

**Next Generation broadband access**
Broadband access provides the crucial link between the service provider and the end-user. As data consumption increases so too have the performance requirements for broadband access both fixed and mobile. One of the major challenge for communications providers is how to manage their transitions to newer access technologies like 4.5G, 5G, G.fast, FTTx, 10G-EPON, and even fixed wireless access.

**Network digital transformation with SDN and NFV**
The move from hardware centric to software centric networks is on every communications service providers and equipment vendors' radar. This presents major challenges for every involved. For example when, where, and how to start this transformation can greatly vary between communication service providers. The approach of different vendors will vary as well based on their own areas of network expertise and legacy network considerations.

**Seeking product re-convergence and profitability in a splintered CSP-ICP market**
Over the last two years, the data center interconnect market has bifurcated into two markets: one for the CSPs and one for the ICPs. In the long run, this is untenable for the vendor community, as supporting two product streams splinters the market, driving up cost and lowering profitability. The vendors need to strive to bring these markets back together for the next generation of data center interconnect solutions, rationalizing an irrational market.

**Mobile any-haul for the 5G-IoT era**
As the radio access world transitions to a 5G-IoT era, mobile backhaul networks will need to radically transform to keep pace. Mobile backhaul will evolve to front-mid-back haul "any-haul", structure, to enable cost effective, latency optimized, agile and intelligent traffic carriage.

**The Terabit arms race in the core**
Optical networks are powered by the coherent transmission Digital Signal Processors (DSPs). DSP development is an expensive proposition and arms race. All the leading vendors are involved and one misstep immediately relegates a vendor to second tier status. The race is on for Terabit wavelength transmission.

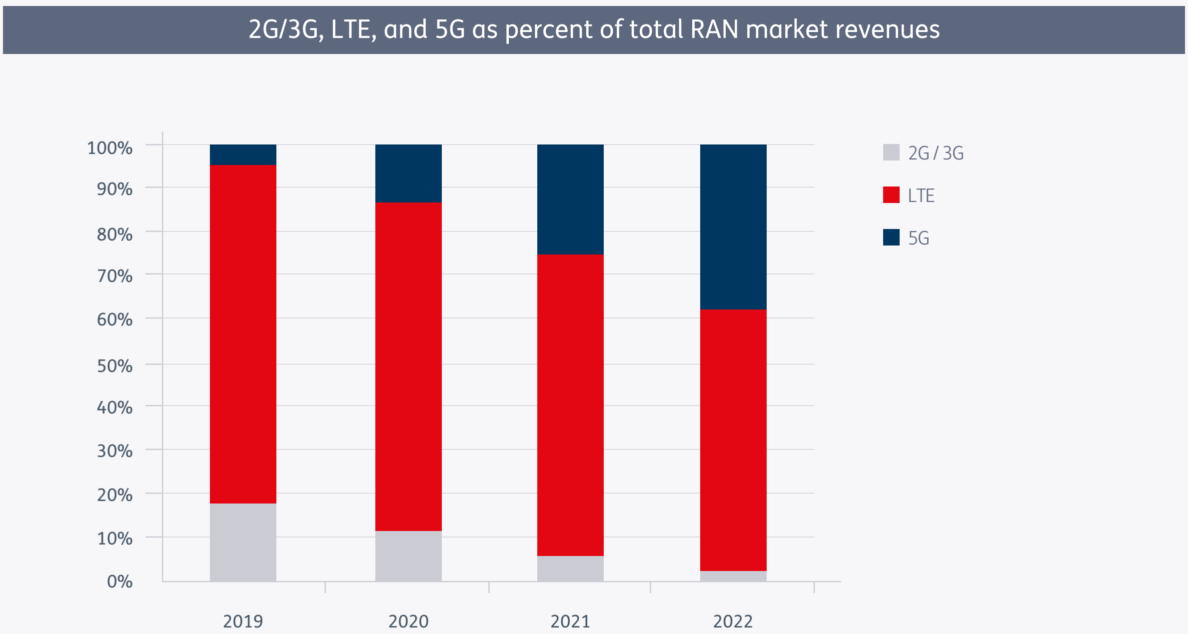
**Equipment vendors expand their reach by moving into new industry verticals**
Communications service providers are not significantly increasing their network spending. This has created a major challenge for equipment vendors under pressure to grow revenues. Because of this, equipment vendors are looking for opportunities to sell their gear into new industry verticals like utilities, education, and manufacturing.

# What's new

**Expanded** coverage of SDN/NFV and network orchestration

**More** in-depth coverage on metro small cells

**Any** haul for 5G



# Optical Components

## The Market Challenge

The optical component market is bifurcated between the Communications Service Providers and the Internet Content Providers. Traditionally, product development has followed the well-defined path of the CSPs. However, with the expansion of the data center market, component vendors now have two markets with differing requirements, cost structures and time to market timelines. ICPs need more product faster and are constantly looking for the next technology advancements to support build out of the global high capacity data center optical networks. Supporting both markets has placed onerous demands on the component manufacturers, pressuring component vendors' margins while challenging the vendors to select winning technologies for their splintered client base.

**Kevin Lefebvre**
Principal Analyst

**Ian Redpath**
Principal Analyst

## How Ovum helps you

**Provide** insight into component technologies and platforms volume, revenue and market trends.

**Sizing** different component market segments and guide towards the high growth segments.

**Identifying** new disruptive technologies and market threats.

**Highlighting** key differentiating and winning component technologies and vendor strategies.

**Articulating** how the CSPs and ICPs are planning for the introduction of new technologies.

**Articulating** leading CSP and ICP network target architectures.

**Enabling** data driven decision making on markets, new technologies, product development and manufacturing needs.

> "Optical component vendors need a platform to optimize price, power and size for their demanding customer base. Photonics integration is the platform"

## Key Deliverables

**Quarterly** optical components market share reports

**Annual** optical components forecasts

**Technology** trend reports providing market updates and vendor activities

**Thought** leadership pieces based on new technology advances

**Industry** baseline datasets: vendor contract database, GDCA

**Key** conference and event summaries and briefs

# Themes for 2018

**New technologies and materials enable fundamental product advances**

The network requirements are changing rapidly. ICPs and CSPs are asking for the next greatest technology even before they have installed the existing technology. To keep up with the changes, component manufacturers need to invest in R&D and manufacturing but need to understand which technology to invest in and when. Our service answers the questions on what technology is on the horizon and what is the demand so that the optical component companies can make informed investment decisions.

Technologies such as Graphene, InP, Meta-materials Silicon Photonics, On Board Optics, modulation formats and testing techniques are researched and analysed along with the market demand and competition. This will allow component vendors to more accurately allocate R&D and manufacturing assets to address the market demands.

**Data center optical intra connect fabrics**

The leading data center operators, ICPs, continue to build scale data centers. In addition, the ICPs rapidly change over to the next generations of data center architectures to take advantage of the increase in server port speeds and server density, resulting in a constant rotation in the intra data center optical fabric. The scale of the opportunity has created its own market. In addition to the speed race, reach advances can enable fundamental architectural changes to potentially an evolution beyond today's leaf and spine architecture to a TOR-less future. Ovum continuously engages with the network visionaries and the ecosystem to highlight to clients the next shifts in the sector.

**Optical Components enabling the optical WAN**

The core of the access, metro, long haul and data center optical networks are the optical components. To plan for manufacturing and R&D, system providers and component vendors both rely on accurate data that determines the demand, technologies, competition, future technologies and requirements. Without this information, component suppliers will not be able to keep up with the demand that is needed to support the increasing expansion in bandwidth usage.

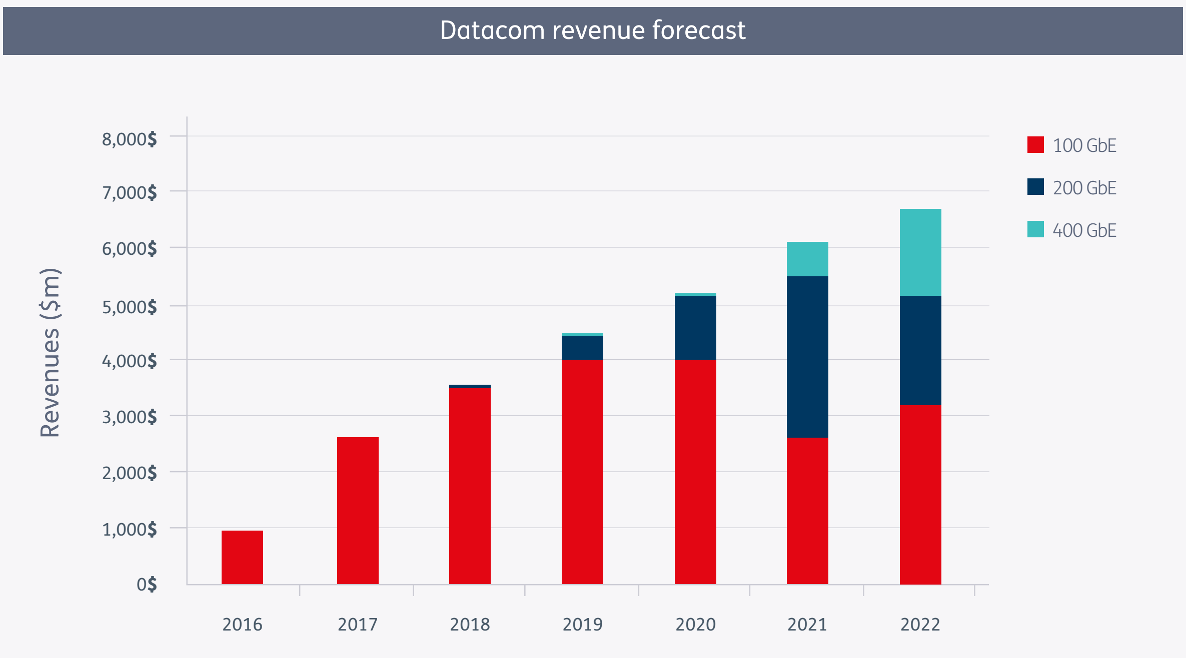
Our service continuously monitors the demand of optical components needed to support the bandwidth demands, giving the component suppliers and the system vendors the necessary information to accurately predict product demand and timing. This will allow the component vendor to maximize their margins and profit.

# What's new

**Photonics integration**

**On-board optics**

**Materials advances**



# About Ovum

Ovum is a market-leading research and consulting firm focused on helping digital service providers and their technology partners thrive in the connected digital economy.

Through our 150 analysts and consultants worldwide, we offer expert analysis and strategic insight across the telecoms, media and technology industries. Founded in 1985, Ovum has one of the most experienced analyst teams in the industry and is a respected source of guidance for business leaders, CIOs, vendors, service providers, and regulators looking for comprehensive, accurate, and insightful market data, research, and consulting.

With 23 locations across six continents, Ovum offers a truly global perspective and works with organizations on every continent. We can also help you create business advantage by supporting your business planning, product development and go-to-market initiatives.

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