Alcatel·Lucent

Alcatel-Lucent continues to innovate for new subsea horizons

Interview with Philippe Dumont, president of Alcatel-Lucent Submarine Networks.

Q WHICH FACTORS ARE DRIVING NEW ROLL-OUTS AND UPGRADES OF SUBMARINE CABLE NETWORKS?

Philippe: Today's appetite of businesses and consumers for new applications and services continues to drive cable initiatives to expand connectivity and capacity in support of the worldwide internet and the cloud. Also, access to high-quality broadband is almost becoming a basic human right and everybody expects access to communications, which drives more initiatives to roll out broadband to new areas to reduce the digital divide and foster socio-economic growth.

I read that demand for international bandwidth is expected to have grown at a rate of 37% between 2011 and 2018. Growth in connectivity has been and continues to be a global trend and submarine cables are key in meeting this demand.

Q WHERE HAS ALCATEL-LUCENT PLACED ITS FOCUS IN THE SUBSEA CABLE WORLD?

Philippe: We have been active on multiple fronts. One is the project implementation side.

Our most recent focus has been on the roll-out of many projects that have been launched to connect the African continent, where we installed several cables including ACE, EASSy, SEAS, TEAMS and WACS systems. Their roll-out has made available huge capacity if we consider that in 2000 capacity into Africa was only 0.5 Gigabits per second (Gbps) and now it is 26 Terabits per second (Tbps), the equivalent of more than three million HDTV channels simultaneously broadcasting a live major sporting event. It is also great to know that between 2000 and 2012 we connected more than 10 countries to a submarine cable for the first time, in Africa alone.

A world leader in submarine networks

- More than 150 years of submarine cable system experience
- 25 years of fibre-optic expertise
- A range of solutions with multi-terabit capacities for all applications
- More than 500,000km of cable laid
- More than 300,000km of cable under maintenance
- More than 200 fibre-optic cable systems delivered
- More than 100 upgrades completed
- More than 6,000 repeaters manufactured
- A fleet of 7 fully equipped cable ships

From a wider perspective, a key focus remains on technology innovation. The cooperation between ASN and Bell Labs' researchers has led to significant achievements in transoceanic applications, with several world records achieved. Alcatel-Lucent first demonstrated 100G transmission in 2009 with the highest capacity ever achieved over a transoceanic distance. In an experiment carried out by Bell Labs, the transmission record of more than 100 Petabits per second.kilometre involved sending the equivalent of 400 DVDs per second over 7,000km, roughly the distance between Paris and Chicago. There are many others that could be cited.

Last but not least, we have further strengthened our marine solutions. Our fleet of seven cable ships comprises marine maintenance and installation vessels which are scheduled for project installations for most of next year. Our ships are high power and equipped for a wide range of cable and non-telecoms work, which gives us flexibility to use the ships for planned and unplanned works.

Q CAN YOU DESCRIBE SOME OF THE STEPS ALCATEL-LUCENT HAS TAKEN TO CONNECT UP AFRICA?

Philippe: The aim of connecting cables around the coast of Africa is to provide a cohesive communications highway that drops into many different countries – many for the first time, as I said before. The newly-inaugurated ACE system enables direct access for coastal countries, seven of which on ACE have their first ever connection to the global internet backbone, and indirect access through terrestrial links for landlocked countries. WACS delivers an open commercial system, offering liberal access to capacity for licensed operators at landing points and enabling the provision of competitive bandwidth pricing. The completion of the 1,900km SEAS cable that links the Seychelles and Tanzania is the first cable to have been deployed in the Seychelles.

All in all, it has been a very busy year for us in the region. At the same time, we expanded our marine maintenance presence in the Atlantic Ocean by setting up a cable depot in Cape Verde.

Q WHAT IS THE COMPANY'S FOCUS IN THE SUBSEA MARKET GOING FORWARD?

Philippe: After finishing our major projects in Africa, we are now working on projects in other regions, particularly the Americas.

We just signed a contract for a system called the Pacific Caribbean Cable System – another 100G system. This is planned for completion in 2014 and will connect Florida to Ecuador over 6,000km. It will help support rapid growth in the region's demand for online content such as tourism-related services, sports coverage and digital TV.

Additionally, we recently signed a contract with Seaborn Networks for a submarine cable system to link São Paulo with New York. The 100G Seabras-1 system will provide fresh capacity on the main route for internet, data and voice traffic between South America and the rest of the world.

In addition, we are also working on an extension of the GlobeNet cable to Colombia and we have just signed a contract to upgrade the MAYA-1 cable system.

Q HOW ARE THE PROSPECTS LOOKING FOR SUBSEA CABLES IN 2013 AND BEYOND?

Philippe: The submarine market is characterised in general by a long project planning and development timescale, especially for new transoceanic systems.

We are seeing traction in new builds and we are confident, as the marketplace is giving signs of various initiatives that indicate a strong future for submarine cables, such as the BRICS cable, a very large project to link Russia, China, India, South Africa and Brazil to the US. Together with other initiatives under discussion, there is great promise. Additionally, there is still a steady demand for upgrades to increase the capacity of existing cables to 40G and higher speeds.

Q HOW IS ALCATEL-LUCENT SEEKING TO DEVELOP ITS SUBSEA CABLE TECHNOLOGY AND MAXIMISE ITS POTENTIAL?

Philippe: We continue to invest in R&D and to innovate in all segments of the submarine cable market, building on our expertise and technology. 100G has become the unique channel capacity of the new systems being proposed today.

All our new-build contracts are designed for 100G from day one. Operators are expecting 100G on a single wavelength.

For existing systems already in service, we continue to develop solutions that allow us to add capacity quickly and easily. Upgrades can be a cost-effective means of adding high-speed capacity, but they require a unique mix of skills and features, including a very accurate analysis of system design, flexible and powerful submarine line terminal equipment (SLTE), and an experienced commissioning team.

We are also adapting our technology and resources to diversify into other related marine and communication markets.

Q CAN YOU EXPLAIN WHAT THIS DIVERSIFICATION CONSISTS OF?

Philippe: We have been working on addressing the needs of different markets such as the offshore energy industry. Submarine fibre-optic networks are now being deployed to provide communication links between offshore and onshore oil and gas facilities, as an alternative to satellite and microwave connections.

For platforms located at long distances from the shore, submarine cables offer the most versatility for transporting large data volumes, as well as more flexibility, reliability and protection against environmental hazards. Our marine operations and project management capabilities, coupled with our technical know-how and experience, allow us to develop new and innovative solutions for this growing market sector.

Philippe Dumont, president

Philippe has headed Alcatel-Lucent Submarine Networks since the end of 2009.

Prior to his current role, he led the Wireless Transmission Division of Alcatel-Lucent where he spearheaded the portfolio renovation programme. From 2003 to 2004, he oversaw Operations for the Optics Networks Division in France.

Philippe's career at Alcatel began in 1989 with the Alcatel Cable Group, where as a recent graduate he oversaw production on the shop floor. From 1994 to 1997, Philippe worked outside Alcatel, as a consultant in strategy and organisation. He returned to Alcatel in 1998, ready to renew his long-standing interest in technology and international business.

Philippe holds an engineering degree from the Arts & Metiers and an MBA from Hautes Etudes Commerciales (HEC) in Paris.

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