TECH.6 – FUTURE INTERNET

Fundamental changes are happening to the internet. Unwanted traffic, choking of the routing system, mobility, congestion, privacy, trust and reputation issues are all restricting progress. The very structure of the internet has to change to meet these challenges. Does the future internet mean a shift from the end-to-end principles towards a trust-to-trust principle? What are the new mechanisms to improve the quality of end-to-end connectivity and new ways of information storage and delivery? This session explored these and other fundamental questions relating to our future Internet and the technologies that will power it.

Summary of moderator's statement

The Internet is 40 years old. It has been a major vehicle for enabling waves of innovation (e.g. Yahoo, Google, and Facebook) and has also generated an array of societal and commercial uses. However, evidence has shown that even the Internet's vast potential for innovation could be put into question – e.g. limits in terms of network architecture given exponentially growing access points and online traffic. Initially, the Internet was not designed to deliver services such as mobile connectivity and bandwidth-consuming applications. Given the impact of Internet on people's daily life, its future development will be largely subject to policy and regulatory frameworks.

Summary of debate

To date, the Internet counts 1.6 billion access points across fixed networks. Applications in all areas are expected to grow exponentially. Future Internet will most likely rely on optical fiber and IP/Ethernet packet networks.

NGNs – next generation networks – are controlled by operators, offer quality of service at certain levels and provide mechanisms to migrate towards IP networks; nevertheless, the future Internet still raises the question about what technologies to use – IP-based ones or those other than IP.