

**Report on the R&D's trends of the next generation of SDN, NFV
and IoT in European industry (Summary)**

March 2016

NICT Europe Center

Ericsson

- Ericsson (based on Sweden), a representative IT vendor of Europe, actively carries out the R&D of SDN (Soft-Defined Network) and NFV (Network Function Virtualization) and its commercialization, according to its social vision : “Networked Society”.
- In 2012, Ericsson introduced its SDN vision and strategy, called “Service Provider SDN”. According to this company, the “agility” is the biggest advantage of SDN.
- Ericsson SDN controller, constructed on an open source platform of “Opendaylight”, offers three commercial applications (Services SDN, Cloud SDN and Transport SDN).
- Ericsson not only develops SDN and NFV technologies by it-self, but also leads as coordinator EU projects, UNIFY project (unification of cloud and carrier networks) and 5GEx project (development of infrastructure for cooperation of multiple providers).
- In November 2015, Ericsson announced a global business and technology partnership with Cisco to create networks of future.

Nokia/Alcatel-Lucent

- In January 2016, Nokia completed the acquisition of Alcatel-Lucent to expand its business in IT infrastructure area. It also purchased Alcatel-Lucent’s Bell Labs and its SDN subsidiary, Nuage Networks.
- In Nokia’s future network vision, 5G, SDN, NFV and IoT are strongly connected each other. This vision is summarized in the expression, “Programmable world”. This vision includes also the use of big data (Nokia offers Big data’s services which analyze mobile carrier customer’s data).
- For realizing the “Programmable world”, Nokia has developed a cloud server, called AirFrame, which deals with a cloud computing-based architecture for radio access networks, “Cloud Radio Access Network (CRAN)”.
- In 2012, Alcatel-Lucent established, for IP routing business, a totally-held subsidiary, Nuage Networks, which propose SDN solutions. Alcatel-Lucent and Nuage Networks’ products, like “CloudBand” and “Nuage Virtualized Services platform”, become NOKIA products under the acquisition of Alcatel-Lucent.