

TF1-Telco and verticals business disruption/evolution aspects

5G/6G. New business models. From monolithic telcos to digital ecosystems

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Telco business is evolving very quickly: on the one hand cloud service providers are going to offer core network services (NaaS – Network as a Service), that combined with edge proxy services will enable verticals to manage their assets completely; on the other hand new actors are approaching the market. Examples are micro-operators, operating at regional level, possibly having the support of the local community. Wherever the spectrum is licensed, MNOs are going to sell access to networks, while other actors are going to offer services: cloud access through proxy gateways, core network features as a service. Moving the network to the edge has resulted in the creation of completely new businesses that are transforming the nature of the telco business and their assets governance

Role of data & clouds, the importance of data sovereignty

Cloud service providers, are going to take advantage of the novelties introduced by 5G/6G new architectural approach. They are “de facto” telco operators and, therefore, able to collect sensible data. Their new role opens new scenarios and new issues related to the possibility to replicate in the telecommunications sector what is happening in other domains. European data will flow out of Europe. This means that in a competition based on data, the intelligence that could be extracted from them, Europe could not be able to follow the competitors, whose business penetration in Europe is already very large

Digital ecosystems in different verticals. How digital transformation could change verticals

The new telco ecosystem is far more open than in the past. However if the openness is from the one hand perceived as a value, from the other hand it can cause disruption. Among others, how to monetize services in such a new scattered telco world, how to implement flexible yet reliable accounting procedures, how to guarantee performances, reliability whenever the responsibilities are not concentrated in a single entity.

a. Ecosystems in Europe. Local breakout for the internet of the senses? Collaboration mechanisms in the era of the internet of senses...

As an example, let's take the roaming of users around the world. It has been one of the major (perceived) advances in telecommunications in recent years. The traditional service roaming mechanisms should be adequate: it is foreseen an automatic local-breakout for roamers which in turn imposes the creation of an infrastructure connecting providers. This is just an example of a “coalesce” mechanism enabling business across countries.

Transformative or evolutive telco technologies: what change the game and what transform it.

Actually, it is expected that 5G will transform many businesses. But it is an evolution or a complete transformation? As an example of a transformative technology let's consider artificial intelligence and its entanglement with telecommunication: sensitivity of AI algorithms could “anticipate” customers (e.g. to sell services or goods anticipating the final customer intentions). Whenever this “capacity” to interpret needs will grow, all the other businesses will follow. The same applies for the telco business in itself: not only customer intentions could be intercepted by using telco data, but it is expected a reduction of the operational costs all along the value chain due to the novel capacity to anticipate faults: the more technology will advance, the more the whole value chain will be transformed.

European Data Spaces introduced by the new European *Data Strategy* may unlock unparalleled opportunities to create new data driven services for verticals leveraging economies of scope and scale on data produced in Europe. Linking data through different vertical spaces may trigger “horizontal” paradigms to serve end-to-end product or service creation, with data managed within a 6G network domain, processed by European transparent AI algorithms running on HPC powered cloud or locally on edge clouds or even devices.

Perspectives in verticals: energy, environmental monitoring, ICT and its footprint. Sustainability in different contexts.

A green, sustainable development is of paramount importance for guaranteeing a future to the humankind. The Smart Networks and Service (SNS) community must support this effort by putting a large effort in energy savings aspects. Verticals could exploit new infrastructure for supporting such an effort.

Effect of EU-wide infrastructures on telco business evolution (e.g. GAIA-X, European blockchain, uniform identity management, security, etc.)

Telco services could be used to complement efforts in creating more efficient environmental monitoring infrastructures, for connecting people and supporting them to create the “collective intelligence” that could help Europe to create a unique sentiment, and unparalleled awareness that could solve this problem. A convergence toward a unique cloud infrastructure (e.g. GAIA-X), novel technologies aimed to create trust among businesses and citizens (e.g. based on Distributed Ledger technologies) could really help in transforming our daily life, enhance the impact of human activities, support decision makers to democratically choose the best option in the interest of the community.

New Economics triggered 5G/6G

Network evolution triggers changes in business models and impacts vertical economics, considering that new efficiencies are introduced and the digital transformation of vertical sectors boosted

Economic impact on verticals may be evaluated through economic modelling tools, to support introduction of new vertical related technologies and estimate the overall impact on EU economy