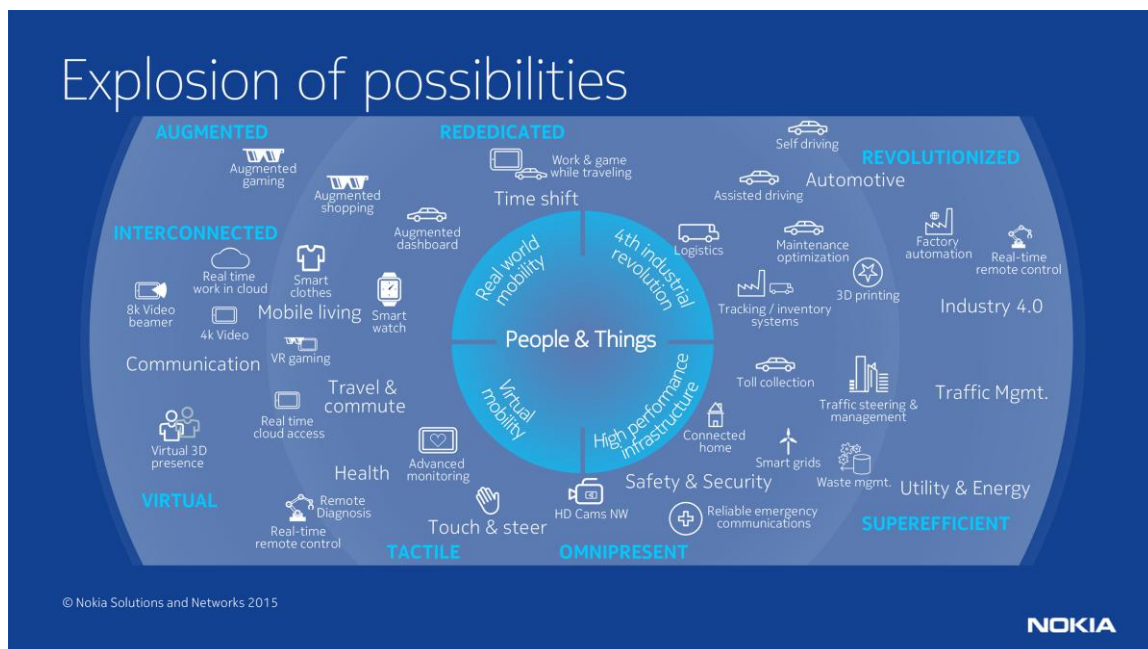


## Principles based regulation for the programmable world: Interoperability, consumer choice and competition

### Background

The world is entering a new revolution powered by technology. We call it the “programmable world”; a world that goes beyond connecting people and connecting things.

We are witnessing the emergence of billions of people and machines communicating with each other, equipped with input devices such as sensors, controllers and cameras. These devices and sensors capture events such as heart beats, fuel consumption, and temperature. Captured data is e.g. relayed through the Internet, analyzed in the cloud and delivered to an application, which can be related to any number of sectors such as energy, health care, security and logistics. These are examples for the value chains at the heart of modern Internet ecosystems.



This technology revolution creates new opportunities to address societal challenges. It can help humanity leapfrog limitations of today to solve the problems of tomorrow in areas such as environmental degradation, the aging society and urbanization. Various actors compete to provide solutions with best possible quality and price. In effect, this technology revolution would be impossible without free and effective competition that allows all innovating companies, from startups to international enterprises, to place their ideas and products in the market place to the benefit of the customer and society.

An important aspect of the modern Internet ecosystems is the existence of large network effects<sup>1</sup>. In the absence of an appropriate regulatory and/or legal framework, these network effects can result in an effective lock-in, diminishing interoperability, consumer choice and effective competition. Examples include dominant platforms bundling usage of their platform with mandatory or default usage of own applications. In the best scenario, regulatory conditions enable or even encourage creative disruptions,

<sup>1</sup> 'Network effect' is also known in economics as 'network externality', referring to the fact that the value of a good or service such as an internet platform increases with the number of other users.

and therefore drive growth by making it possible for individuals and companies alike to have a fair and equal access to the benefits of the programmable world and even more importantly to create new value through innovation.

While the fast changing digital economy requires an adaptation of regulatory and legal instruments, we strongly caution against adding more regulation but ask for creating a lean regulatory concept that complements existing competition law as needed.

Traditional competition law is in principle well equipped to deal with problems of the digital economy; however, competition law cases typically take many years, which can be too slow in the extremely fast moving world of the internet. Rather than introducing full-blown sector specific ex ante regulation that can easily distort the value chains, it is better to introduce a set of principles that should be safeguarded with mechanisms for guidance and intervention that are much faster than traditional ex post regulation.

We believe that interoperability, consumer choice and competition are among the paramount design principles of regulation for the digital economy.

The opportunities of the programmable world are driven by the seamless connection of technologies and applications and the flow of data between traditionally separated sectors. Standardization in the ICT area is an effective and proven instrument to overcome barriers and to allow interoperability. The development of mobile telecommunication is a great example how standardization allows the spread of innovation and ensures interoperability to the advantage of industry and society while providing innovators a fair return for opening their innovations to competition instead of creating closed proprietary systems. SEPs, Standard Essential Patents, are interoperability granting patents. Accordingly, today's trend towards proprietary solutions is made worse by attempts to devalue innovations that have been opened for standardization, SEPs, diminishing the incentive for innovations in standards.

Privacy and data protection as well as trust and security are further key aspects that require an adequate regulatory environment in the programmable world<sup>2</sup>.

## Nokia's beliefs

**Start off with a hands-off approach when it comes to regulation.** Markets should not be *a priori* regulated, but only if necessary. New regulation should not replace application of competition law. Both must be able to cope with the dynamic of the digital economy. This is currently not the case.

**Be predictable without being prescriptive.** A "Digital Economic Regulation" should be based on strong, well-founded, target oriented principles and *fast, lean enforcement* mechanisms. Regulation cannot foresee the technology development or consumer preferences and any market intervention should be limited to cases where market actors violate these principles.

**Horizontal regulation rather than sector specific rules.** The same principles should apply to all similar services in the programmable world. This would be a preferable approach to sector specific rules. One example is that consumers should rely on the same level of protection when it comes to different digital services. To this end, existing ex ante regulation, e.g. on electronic communication services, should be reviewed.

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<sup>2</sup> The Nokia Security Center in Berlin provides a platform for cooperation with customers, partners, governments and academic institutes: <http://networks.nokia.com/portfolio/solutions/security/nokia-security-center>

See also "Nokia Position on Cross-border flow of data in a programmable world":

<http://networks.nokia.com/file/37151/cross-border-flow-of-data-in-a-programmable-world>

**Business model neutrality and technology neutrality.** For example, regulators should not pick and choose business models, or prohibit a priori the appropriate use of certain business approaches such as zero rating. Similarly, regulation should not favour certain technical solution.

## Specific recommendations for regulators

Regulator's intervention should be triggered by the observation that interoperability, consumer choice or competition is impacted by a dominant player exploiting its market power.

- **No bundling, interoperability by design:** Dominant Internet companies should follow these principles by creating open application programming interface (APIs) and by not bundling or in any way prioritizing their own offerings running on their dominant platform. Standardized interfaces could serve as an indicator for openness and interoperability by design.
- **Prohibit anticompetitive blocking, throttling or discrimination of content** by gatekeepers such as dominant search engines or social networks.
- **Transparency and non-discrimination:** Transparency requires full visibility for the consumer in terms of the service that he receives, the costs that occur as well as the use of his or her data. Accordingly, misleading claims of a "free" service, where in fact users' data is monetized, should be prevented.
- **Ending the dichotomy:** Access and Internet services are complimentary. The same type of service should be regulated equally regardless who offers it. Electronic communication services that compete with Internet services should face the same level of regulation. Fix imbalances by deregulating the electronic communication services.
- **Ensure incentive for innovation and support standardization:** Prevent a degradation of IPR protection - in particular when it comes to SEPs. These patents are accessible for everyone. Currently, implementers tend to ignore patent owner rights or seek "legal battles" instead of negotiating fair terms of use. This trend is a significant impediment for the development towards a programmable world as it incentivizes closed, proprietary systems. Mandate standardization where/if needed.

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