

Public Sector Future Scenarios

Two main scenarios have been generated as a result of the scenario building exercise that took place in the context of the SONNETS project, as follows:

- [Probable Scenario](#) – A gradually self-improving Public Sector building on the developments of today, operating in a mixed manner and being clearly an innovation facilitator. This scenario includes the following values of the Key Uncertainties: Innovation Facilitator, Stability, Federated Decision Systems, Knowledge based.
- [Desirable Scenario](#) – A revamped, semi-federated Public Sector, embracing Open Innovation, which includes the following values of the Key Uncertainties: Open Innovation Evangelist, Prosperity, Hybrid Decision Structures, Knowledge based.

Probable Scenario - A gradually self-improving Public Sector building on the developments of today

Scenario Characteristics and Description

Public Sector Role: Innovation Facilitator

Technology has allowed the Public Sector to take advantage of well tested applications and services. Each organisation is trying to improve itself, utilising broadly adopted ICTs, targeting both image modernisation, productivity gains and better services to the public. Still, however, the Public Sector is considered a technology laggard, with innovations being delivered to it at a later stage than in other domains compared to the business world. This is mostly due to inability to rapidly change, as well as to invest the necessary resources (financial and human) to catch up with the latest developments and play an active role. However, the Public Sector's willingness to promote innovation sees him trying to support existing movements and technological breakthroughs, mostly indirectly by being more open to the extent this is possible and by supporting innovation schemes that are presented to him and reflect a direct gain for the organisation.

Urgency of Societal Needs: Stability

The stability in economies and societies has allowed the development of global, generally accepted directives, but they remain high-level; there is moderate and more consultative bureaucracy (i.e. suggested frameworks). Local communities are responsible to develop legislation and enforce laws based on their needs and special characteristics. Nevertheless, the way different communities interact is predefined and centrally controlled (e.g. taxes, balance of trade etc.), based on each community's performance and productivity, coming from real big data analysis. As long as the legal frameworks work towards effectively competitive markets, authorities act only when needing to resolve conflicts. Labour market regulations, patent systems and migrations rules are strictly controlled by local centres, and define the relationships among different entities, internally and externally the community.

Degree of Power Concentration: Federated Decision Systems

Power centres are still dispersed, with central authorities providing guidelines, directives and generic strategy recommendations. Decision poles are to be found within each organisation, as there is no unification; an issue that in some times results in disputes, micro-conflicts and unorganised efforts to tackle similar issues. As such, access to information and services depends on the will and mind-set of each organisation, and the same applies to their priorities regarding ICT adoption and innovation generation.

Operations & Decision Making: Knowledge-based

Machines and automation is gaining ground, and people are considered cheap, adaptable workforce, resulting in most operations and processes being machine-intensive. Nevertheless, this high degree of automation has given space to people being involved in more creative tasks, like product design, customised offerings, and unique offerings, which are all factors that give birth to innovation. As a result, operations are mainly knowledge based, conceived, scheduled, controlled and managed by humans, as well as is creativity and innovation.

The next table shows which of the technologies and the trends analysed in the previous sections are expected to strongly contribute towards the realisation of the conditions of this scenario.

Trends / Technologies	Contribution to Key Uncertainties			
	Public Sector Role Innovation Facilitator	Urgency of Societal Needs Stability	Degree of Power Concentration Federated Decision Systems	Operations & Decision Making Knowledge based
API Economy			X	X
Crowdsourcing			X	(X)
Digitalization	X	X	X	
e-Participation	X	X	X	
Gamification				
Mobile Devices				
Open Data	X	X		X
Open Government	X	X		
(Service) Personalization	X			
Policy Making 2.0			X	
Sentiment Analysis				X
Smart				

Trends / Technologies	Contribution to Key Uncertainties			
	Public Sector Role Innovation Facilitator	Urgency of Societal Needs Stability	Degree of Power Concentration Federated Decision Systems	Operations & Decision Making Knowledge based
Workplace				
Social Networking		X		X
Artificial Intelligence				
Augmented Reality				
Big Data				X
Biometrics				
Blockchain				
Bots				
Cloud Computing		X	X	
Data Analytics	X	X		X
e-Identities	X	X		
e-Signatures	X	X		
Geographical Information Systems	X		X	
Internet of Things			X	X
Machine Learning				
Natural Language Processing				
Virtual Reality				
Wearables				X

Society-related Characteristics

Public Sector organisations are collaborating to the extent they find mutual benefits, however each one has its own individual agenda. They adopt technology innovations, however are unable not only to foster innovation and pose as innovation leaders, but also to adopt a more open innovation character due to lack of resources, a commonly agreed strategy and their priority of solving still standing societal needs. Citizens continue to play the role of service consumers, receiving improved QoS but not at the same quality level as they do from businesses, while enterprises and SMEs are working together with the public sector to release innovation (through business schemes) in specific occasions where collaboration opportunities are evident and not to be neglected.

Citizens continue to play the role of service consumers, while there are also limited cases where they provide also material that is used by the Public Sector to build services and assets. They follow the technological trends and developments, using more and more technology to assist not only their working conditions but also their personal life, such as wearables, smart devices, sensors etc. However, they are still troubled when it comes to access certain public services, while the different levels of management (and provision) of such services by their owners (public sector organisations) makes their situation even more troubling.

Enterprises/SMEs contribute efficiently to the economy, as they are the main drivers of innovation, while they are also trying to tackle societal needs through responsible CSR schemes. However, going global is still an issue, due to scattered regulations and laws (following the “federalisation” stream). Their relationship with the Public Sector has improved over the last years, as they are co-producing services, based partially on assets and support schemes offered by the Public Sector. However, they are tightly bound, and at the same time constrained, by the Public Sector’s will; nevertheless, innovation support by the latter is constantly improving.

Entrepreneurs are considered romantics and visionaries, trying to innovate on their own with little support from the public sector, both in terms of funding but also in terms of infrastructure and assets sharing. They see the public sector in most of the cases as an impeding factor to letting them innovate, acknowledging however important steps forward taken by the public sector and trying to use the maximum out of the little available assets offered by the later. As such, they turn to private incubators and accelerators that are able to get their innovations to the market faster, providing better services but taking a large piece of equity in return.

Desirable Scenario: A revamped, semi-federated Public Sector, embracing Open Innovation

Scenario Characteristics and Description

Public Sector Role: Open Innovation Evangelist

The Public Sector is amongst the leaders in adopting new technologies and trying them out, initially in experimental testbeds and later, once they come closer to maturity and social acceptance, in its production cycle. Transparency and openness is a key priority amongst organisations and there are little ownership concerns, as there is a movement to give back to the people the assets that have been produced with their money as taxpayers.

However, the fast ICT adoption rates are not automatically proclaiming the Public Sector to an Innovation Leader, as due to various reasons (amongst which is the structure of the economy and the deregulated markets in the various regions) innovation is still coming out of the private sector. Nevertheless, the Public Sector contributes heavily to promoting and boosting innovation, through offering assets, knowledge and funding, acting as a donor of raw material to be transformed into innovative products and services by experts.

Urgency of Societal Needs: Prosperity

Society has eventually found ways to overcome the different economic, environmental and societal barriers that existed in the beginning of 2010. New natural energy resources, which do not harm the environment, have been found and energy shortage is no longer an issue, resulting in increased machinery utilisation and computer power. There are various social benefits for individuals, while increased quality of life, and high average income per capita and the better education, very low unemployment rates and the prolongation of human life have turned societies more peaceful. Wealth is distributed in a fair way and social equality is all around, while access on education and health are equal to everyone.

Degree of Power Concentration: Hybrid Decision Structures

The world, following the prosperity witnesses has made great progress towards unification and central decision making. Governments have joined forces and in some crucial areas such as the ones under the most pressing societal challenges of the past, decision are taken centrally by cross-country decision boards that all respect the same rules and work for the mutual benefit. However, in other areas, such as finance, education, health etc. a more federalised approach is evident, as the different socioeconomic levels of the population amongst each country does not allow for unification. To this, cultural differences are also playing a role, as past conflicts are still too fresh to be phased out of people's minds.

Operations & Decision Making: Knowledge-based

Living in a world of prosperity has given humanity the resources to continuously invest on automation and robotics, and intense labour tasks (And dangerous ones) are fully taken care of by computers. People retain creative tasks and ones which are easy and pleasant to perform, enjoying the most out of technology but at the same time not handing over the important decisions and management of technology to machines too.

The next table shows which of the technologies and the trends analysed in the previous sections are expected to strongly contribute towards the realisation of the conditions of this scenario.

Trends / Technologies	Contribution to Key Uncertainties			
	Public Sector Role Open Innovation Evangelist	Urgency of Societal Needs Prosperity	Degree of Power Concentration Hybrid Decision Structures	Operations & Decision Making Knowledge based
API Economy	X	X		X
Crowdsourcing			X	(X)
Digitalization	X	X	X	
e-Participation	X	X	X	
Gamification		X		
Mobile Devices	X	X		
Open Data	X	X	X	X
Open Government	X	X	X	
(Service) Personalization	X	X	X	
Policy Making 2.0	X	X	X	
Sentiment Analysis	X			X
Smart Workplace		X		
Social Networking	X	X		X
Artificial Intelligence				
Augmented Reality		X		
Big Data	X	X		X
Biometrics		X		
Blockchain		X		
Bots		X		
Cloud Computing		X	X	
Data Analytics	X	X		X

Trends / Technologies	Contribution to Key Uncertainties			
	Public Sector Role Open Innovation Evangelist	Urgency of Societal Needs Prosperity	Degree of Power Concentration Hybrid Decision Structures	Operations & Decision Making Knowledge based
e-Identities	X	X	X	
e-Signatures	X	X	X	
Geographical Information Systems	X	X	X	
Internet of Things		X	X	X
Machine Learning		X		
Natural Language Processing		X		
Virtual Reality		X		
Wearables		X		X

Society-related Characteristics

The Public Sector has become more open and collaborative than ever before. The realisation of up taking ICTs very early on has renovated the way the Public Sector operates and the different stakeholders enjoy a better service experience in all dimensions. This has also contributed heavily to prosperity and to overcome societal challenges, as many of those have been tackled through innovations that were indirectly backed up by the public sector. Thus the latter acts as an innovation facilitator, rather than a leader, having realised that there might be more rapid impact generated by third parties utilising its own resources and assets, as itself it is too big and too slow to act according to the paces of the modern era. As such, SMEs and Enterprises are very active in every aspect of decision making and social innovation is constantly gaining ground, becoming the dominant form behind the important changes that are happening.

Citizens are amongst the key innovators in the society. The Public Sector has transformed in their eyes from a bureaucratic beast to a valuable partner, which provides them all the necessary assets that are needed to fulfil their visions for a better society. Intense use of ICTs allows them to interconnect and collaborate in unprecedented ways, taking advantage of the wisdom of the crowd and realising collaborative decision making structures that tackle societal issues right in their roots, efficiently and effectively.

Enterprises/SMEs are the main innovation leader in this world. They build on the support and the offerings of the Public Sector and deliver services and products that are not solely targeting profitability; a balance between profits and



social good has been struck and everybody in the business world is respecting this as the current market prosperity conditions are highly attributed to innovations that have solved everlasting societal challenges.

Entrepreneurs are the most passionate citizens that aim to take advantage of the current conditions to develop business ventures that at the same time are benefiting the society. As such, social entrepreneurship is a very hot topic, and there is a constant collaboration with the Public Sector to identify opportunities and get support for their ideas. At the same time, a very well collaboration culture is being developed between entrepreneurs and Enterprise/SMEs, which see more benefits in collaborating and mutually complementing each other, rather than being antagonists and working in a competitive fashion.