NEXT GENERATION INTERNET - NGI

RESULTS OF
THE NGI NATIONAL WORKSHOPS
AND
THE NGI SURVEY

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INTRODUCTION

This white paper is an update based on the previous white paper[1] version published in January 2018 and provides the status of the national initiatives, research topics, technologies, actors and resources available to the Next Generation Internet - NGI community. The NGI-related portfolio and the national programmes for several EU countries are presented on the basis of the main outcomes from the NGI Contact Points organised Workshops performed during 2017 and 2018 in the Member States and Associated Countries (new countries included France, Malta and Switzerland), and the received results of our NGI-related national activities survey (new countries: Ireland and Spain). The NGI survey included questions about public entities, national strategies or policies, national initiatives and regular events as well as the key academic institutions, business and "other type" of entities.

Launched by the European Commission in autumn 2016, the Next Generation Internet (NGI) initiative aims to shape the future Internet as an interoperable platform ecosystem which embodies the values that Europe holds dear: openness, inclusivity, transparency, privacy, cooperation, and protection of data. The NGI should ensure that the increased connectivity and progressive adoption of advanced concepts and methodologies (spanning across several domains such as artificial intelligence, Internet of Things, interactive technologies, etc.) drive this technological revolution, and contribute to making the future Internet more human-centric.

This ambitious vision relies upon the capability to embrace the best Internet research and innovation initiatives across Europe and beyond to address technological opportunities arising from cross-links and advances in various R&D fields, ranging from network infrastructures to platforms, and from application domains to social innovation.

In spring 2017, the Future Internet Forum - FIF[2] members were asked to nominate an "NGI Contact Point" in their Member States and Associated Countries. An "NGI Contact Point" can be an organisation or an individual who shall help reach out to the right group of stakeholders, getting actors on board and exchanging information with the FIF members and the European Commission regarding the ongoing trends and topics in the field.

The NGI Contact Point acts as a link to the future key actors, i.e. high-tech start-ups and SMEs, young researchers and civil society, and raises awareness about the NGI initiative (and H2020 funding possibilities in the work programme 2018-2020), promotes it, builds and broadens an NGI ecosystem in their Member States and Associated Countries. Equally, the NGI Contact Point feeds back input from those groups with a view to shaping the evolution of the NGI initiative. The NGI Contact Points are supported by the HUB4NGI project.

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[1] NEXT GENERATION INTERNET: RESULTS OF THE NGI NATIONAL WORKSHOPS AND THE NGI SURVEY https://www.ngi.eu/resources/white-papers-reports/
[2] The Future Internet Forum (FIF) is a registered group which aims to exchange views on H2020 topics relating to "Future Networks" (5G, Cloud, Next-Generation Internet and IoT). The members of this group have been appointed by the respective National Authorities of the Member States and Associated Countries.

There are currently 23 countries which have nominated their NGI Contact Points: 21 (out of 23) are visible on the NGI Map[3] as depicted in Figure 1 below. All NGI Contact Points in the European Union Member States and Associated Countries together with their contact details can be found on the NGI.eu website[4].
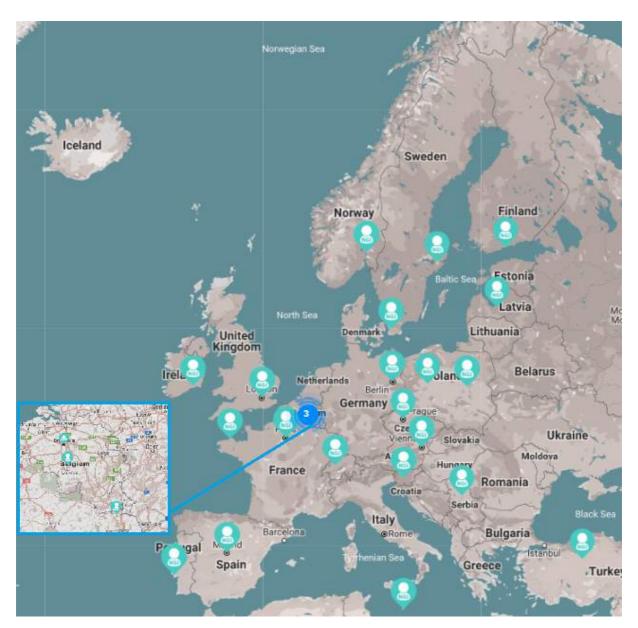

FIGURE 1: NGI CONTACT POINTS ON THE NGI MAP

For detailed information on the analysis in this white paper please refer to the HUB4NGI deliverable "D1.2 PORTFOLIO AND NATIONAL PROGRAMMES" that is available on the HUB4NGI website[5].

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[3] https://map.ngi.eu
[4] https://www.ngi.eu/resources/ngi-contact-points/
[5] https://www.ngi.eu/resources/deliverables/

ANALYSIS OF THE NGI WORKSHOP RESULTS

This section provides an overview of the results of the NGI Contact Points Workshops held in 11 Member States: Austria, Belgium, Czech Republic, Finland, France, Germany, Italy, Malta, the Netherlands, Poland and Switzerland - with the aim to underline the common outcomes and main topics in terms of NGI-related priorities to be addressed by policy makers and key stakeholders. Altogether, 15 workshops were organised in the EU Member States by the NGI Contact Points. The results presented herein are based on the reports made available by October 2018. Some of the organised workshops were more of an information-sharing type, e.g. ICT-24 and ICT-31 Calls, which is why World Café sessions were not organised in those workshops.

The NGI Contact Points workshop structure was the same in all countries to make it easier to collect feedback in a harmonised way. Therefore, a generic set of preparation documents with a list of NGI pre-questions were produced and made available for the NGI Contact Points. Each of the workshops had a core agenda divided to three main parts as follows:

1. Setting the scene:
   - The NGI Initiative: Context, plans and actions of the European Commission (Speaker from the EC)
2. Presentations from national actors:
   - <u>A start-up's view on NGI</u>: Needs and expectations (preferred speaker: start-up representative)
   - <u>A research perspective</u>: Trends and topics that NGI should embrace (preferred speaker: young researcher, post-doc)
   - <u>A civil society's needs and expectations</u>: What does NGI do for the people (preferred speaker: civil society representative)
3. World Café – Group work
   - Group work in three tables (start-up, research, civil society)
   - One host who presented results in the end of the workshop was appointed for each table.

The World Café work group results from those workshops as well as the main outcomes and brainstorm ideas of the various discussions and presentations which took place at those workshops are collected and presented below.

As shown in Figure 2 below, the topics discussed more frequently can be grouped under six umbrella categories:
   - Data
   - Privacy and trust
   - Internet of People
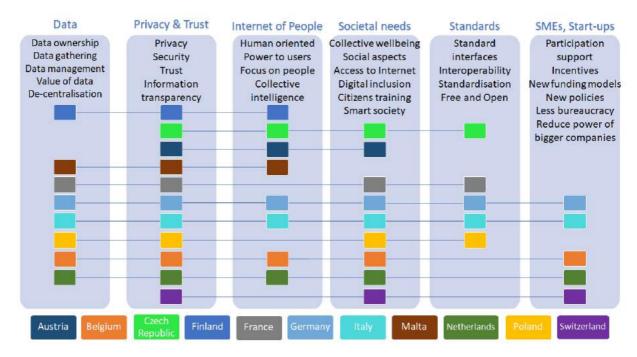   - Societal needs
   - Standards
   - SMEs and Start-ups

FIGURE 2. THE MOST FREQUENTLY DISCUSSED TOPICS GROUPED UNDER 6 UMBRELLA CATEGORIES

Data is one of the main concerns and opportunities of the Internet nowadays: data gathering, data ownership, lack of transparency about data management processes, lack of awareness about the value of data and fragmentation of data sources and information asymmetries. Also, the debates stressed that the role of citizens and customers as owners of data is not clear. These topics also represent the research and action fields identified as priority.

Privacy and trust: in terms of the main topics to be addressed under this domain, the stakeholders identified the need for reliable and trusted identities, accountability, and the need to improve monitoring processes. The proliferation of smart devices and data sources has been identified as a new vulnerability.

Internet of People: the common priorities include the need for a user/human-centric approach and the urgency for people/society to master the technology.

Societal needs: the NGI community calls for concrete actions to concentrate on the collective well-being and societal implications, as well as a more user-oriented regulation of new technologies. As a possible solution to these challenges, training initiatives and awareness-raising campaigns could be designed to provide the citizens with tools to face the new digital society.

Standards: in this respect, the NGI community pointed out that the current and future initiatives in this domain should consider how to improve the use of uniform, open standards widely used across Europe that are not only designed by the dominant ICT players, as it is currently perceived to be.

SMEs and Start-ups: especially the German, Italian, Dutch, Swiss and Belgian groups focused on the current challenges and possible solutions to increasing the participation of SMEs, start-ups and young entrepreneurs in the research and development activities in the NGI domain, and to help scale their business. To achieve this goal, some potential solutions were identified: simplification of application procedures and requirements as well as reduction of bureaucratic burdens, introduction of special incentives and new supporting regulations and policies.

ANALYSIS OF THE NGI SURVEY RESULTS

The main goal of deliverable D1.2, on which this white paper is based, was to provide a status and coverage report of the initiatives, research topics, technologies, actors and resources available to the NGI community. Also, the primary objective was to describe in detail and analyse the NGI-related portfolio and national programmes available for citizens in different European countries as well as draw a comparison between them and then summarise conclusions across the whole EU Member States offering. The proposed methodology to achieve this objective and goal was to manage the collection of information from European countries through their local contact points working in the area of NGI using questionnaires and direct communication channels (e.g. emails, physical meetings or teleconferences). For this purpose, the HUB4NGI project designed and released a dedicated on-line survey to collect information and data about NGI-related national initiatives from European countries.

The online survey that was active from September 2017 to November 2017 and sent to 33 countries gathered 7 responses from 7 EU Member States, including Austria, Belgium, Czech Republic, France, Poland, Slovenia and Sweden. Additionally, responses from other 2 countries, including Ireland and Spain, were collected after this date and are summarized in the white paper update. The questionnaire covered 7 different areas to investigate:

- The main actors involved in the NGI-related policies and initiatives
- The existence of official national strategies or policies boosting the implementation of the NGI goals
- The presence of NGI-related initiatives like funding programmes and PPPs
- The regular organization of NGI-related events
- The key academic organizations doing research in the NGI-related domains
- The key business organizations on the market
- Any other organizations who play a relevant role in the NGI and future Internet domains.

The first part of the analysis looks at the identification of the **main national players** who are responsible for launching and guiding policy actions around the Next Generation Internet initiative in the nine Member States taken into account. As shown in Figure 3 below, except for Slovenia and Spain, the implementation and guidance of NGI-related policies is a collaborative effort of different actors, like ministries and national government agencies. Also, apart from Belgium where the key plans and strategies are implemented mainly at the regional level (for example, in the Brussels region), the data collected shows that these policies are mainly coordinated at the national level.
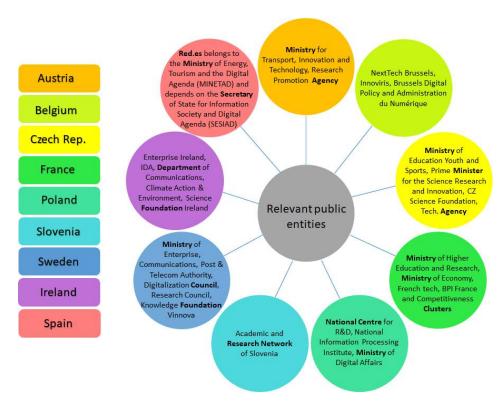
FIGURE 3. THE RELEVANT PUBLIC ENTITIES IN THE SURVEY RESULTS

Then, we investigated whether these countries have an **official national strategy** in place that aims at promoting the development and uptake of NGI technologies and ecosystem. Out of the 9 Member States surveyed, 3 of them have a specific official plan launched by the national responsible authorities, while the other 3 have set up multiple strategies or plans.
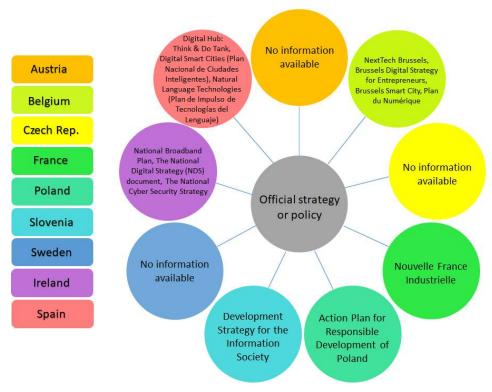

FIGURE 4. THE OFFICIAL STRATEGIES OR POLICIES IN THE SURVEY RESULTS

The third part of the survey delved into the **existing initiatives** set up by the individual countries, like research programs. In all Member States, one or more initiatives are ongoing.
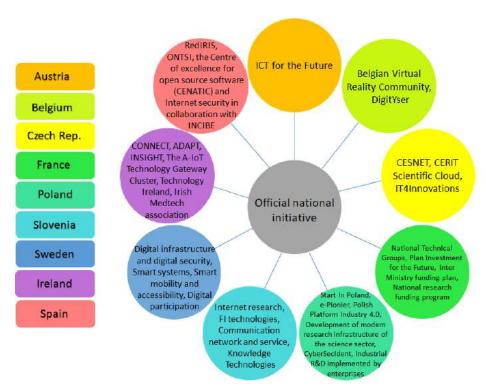

FIGURE 5. THE OFFICIAL NATIONAL INITIATIVES IN THE SURVEY RESULTS

The survey also explored the most **relevant NGI-related events** organized in the different countries. Interestingly, France has a specific event dedicated to the Next Generation Internet area.
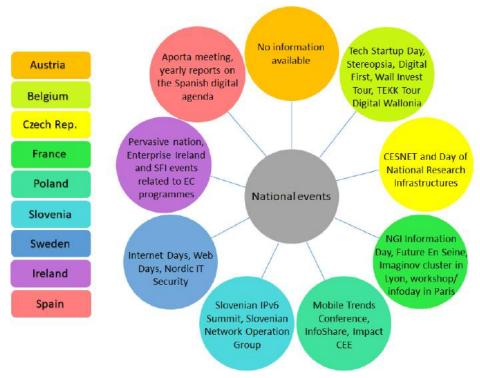

FIGURE 6. THE NATIONAL EVENTS IN THE SURVEY RESULTS

Additionally, the survey examined the key **national research entities and academic institutions** with relevant capabilities and expertise in the NGI top domains. The information collected shows that all research topics relevant to the NGI area are covered by the identified organizations: privacy and trust, security and data management, IoT and Artificial Intelligence.
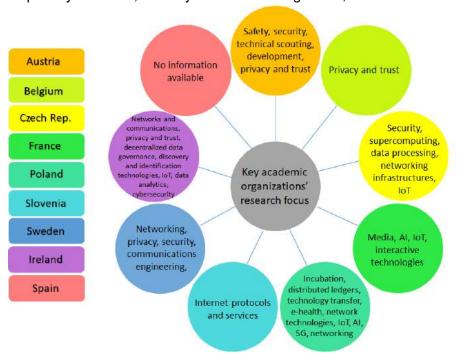
FIGURE 7. THE KEY ACADEMIC ORGANISATIONS' RESEARCH FOCUS

Finally, the survey gathered data about the main **companies** operating in these countries, in the NGI-related domains. The data collected helps identify the frequent typologies of these players: telecom providers, large manufacturers, ICT vendors and specialized technology providers.

FIGURE 8. THE KEY BUSINESS ACTORS' COVERAGE