Nexa Center for Internet & Society
Politecnico di Torino

Annual Report 2017

Studying the Internet, exploring its potential & experimenting new ideas

Nexa Center
for Internet & Society

Politecnico di Torino

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The Nexa Center for Internet & Society is a research center of the Department of Control and Computer Engineering of the Politecnico di Torino (http://dauin.polito.it).

This report has been curated by Mattia Plazio and mainly edited by Giovanni Garifo, with the contribution of the Nexa Staff.

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FOREWORD

In the 10th year from its establishment, the Nexa Center for Internet & Society further increased its influence on the Italian landscape. Two major events determined the improvement: the birth of the National Laboratory on Informatics and Society, and the publication of the book "Università Futura" (The Future University) by Prof. Juan Carlos De Martin, which follows the book "Trattato dei Marchi" (Trademark law treatise) by Prof. Marco Ricolfi, published in 2015. The aim of these two books is to contribute to the discussion on the role and shape of knowledge in the "digital century". The National Laboratory on Informatics and Society, whose director is Juan Carlos De Martin, was presented at the Italian Deputies Chamber in Rome on 27 September 2016. Being one of the five national laboratories of the National Inter-university Consortium for Informatics (CINI), it will help to project the activities of the Nexa Center at the national level.

From the international point of view, it is worth to mention three main activities. The first one is a research project by Marco Ricolfi (assisted by Antonio Vetrò) focused on the relationship between the Internet of Things (IoT) and the notion of the so called 'circular economy'. The research project culminated with a round table in May 2017 in Brussels, which involved representatives of European institutions, academia, industry and standardization associations. The participants discussed the possible positive impact of the IoT on our socio-economic system, counter-balancing the involved risks and challenges in terms of privacy, security, safety and oligopolies. The same topic had been addressed by the Nexa annual conference on "IoT: Hell or Paradise?" held in Turin on Dec 2, 2016. The second relevant activity is the publication of the Guidelines on Big Data adopted by the Consultative Committee of the Council of Europe´s data protection convention (Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, also known as Convention 108): drafted with the collaboration of Nexa Center Director of Privacy Alessandro Mantelero, They will provide valuable assistance to policy makers and to organizations processing personal data. The third relevant international activity is the release of Ooniprobe-mobile application in February 2017. This public release is the result of a multi-year effort that involved Nexa Center research fellows and interns in cooperation with OONI, the Open Observatory of Network Interference.

In 2016 the Nexa Center also successfully concluded the coordination of the Global Network of Internet and Society Research Centers, which Nexa had co-founded with 7 other leading Internet and Society centers. During the past 12 months two European projects proposals have been accepted, DECODE and VIRT-EU; they started respectively in December 2016 and January 2017. They are both focussed on the privacy and ethical aspects of Big Data, the Internet of Things and Distributed Ledger Technologies: for the next three years, the Nexa Center and the project partners will collaborate to lay new foundations for the understanding of the complex societal implications of these new technological paradigms. The ultimate goal is to understand how these technologies should be shaped to ensure that human beings are placed at the centers of their development, ensuring positive spillovers to our policies and economies. In addition, the Center is building up technical expertise on Blockchain and Linked Data technologies, thanks to the activities of the Nexa Centers PhD students, Marco Conoscenti and Giuseppe Futia.

Finally, we would like to make a note on internal organization: the staff turnover and management changes started in late 2015 have been completed and resulted on a new interdisciplinary team, in which the traditional engineering and legal competences of the Center have been not only been reinforced with new members, but also complemented with perspectives coming from different disciplines, namely Political Sciences, Literature and Arts. We encourage the reader to have a look at the new staff composition: such diversity of backgrounds and methodologies represents precious lymph for the life of the Center, that was born in 2006 specifically to be interdisciplinary. Increasing diversity, however, often entails increasing complexity: the real challenge will be to turn such variety of languages, cultures and methods in fruitful dialogue and reciprocal intellectual growth, instead of simply juxtapose them. If we will reach this ambitious goal, not only the staff, but the whole Nexa community will benefit: it will be the best way to thank all the people who worked and dialogued with the Nexa Center in the first 10 years of its life.

The Directors of the Nexa Center for Internet & Society
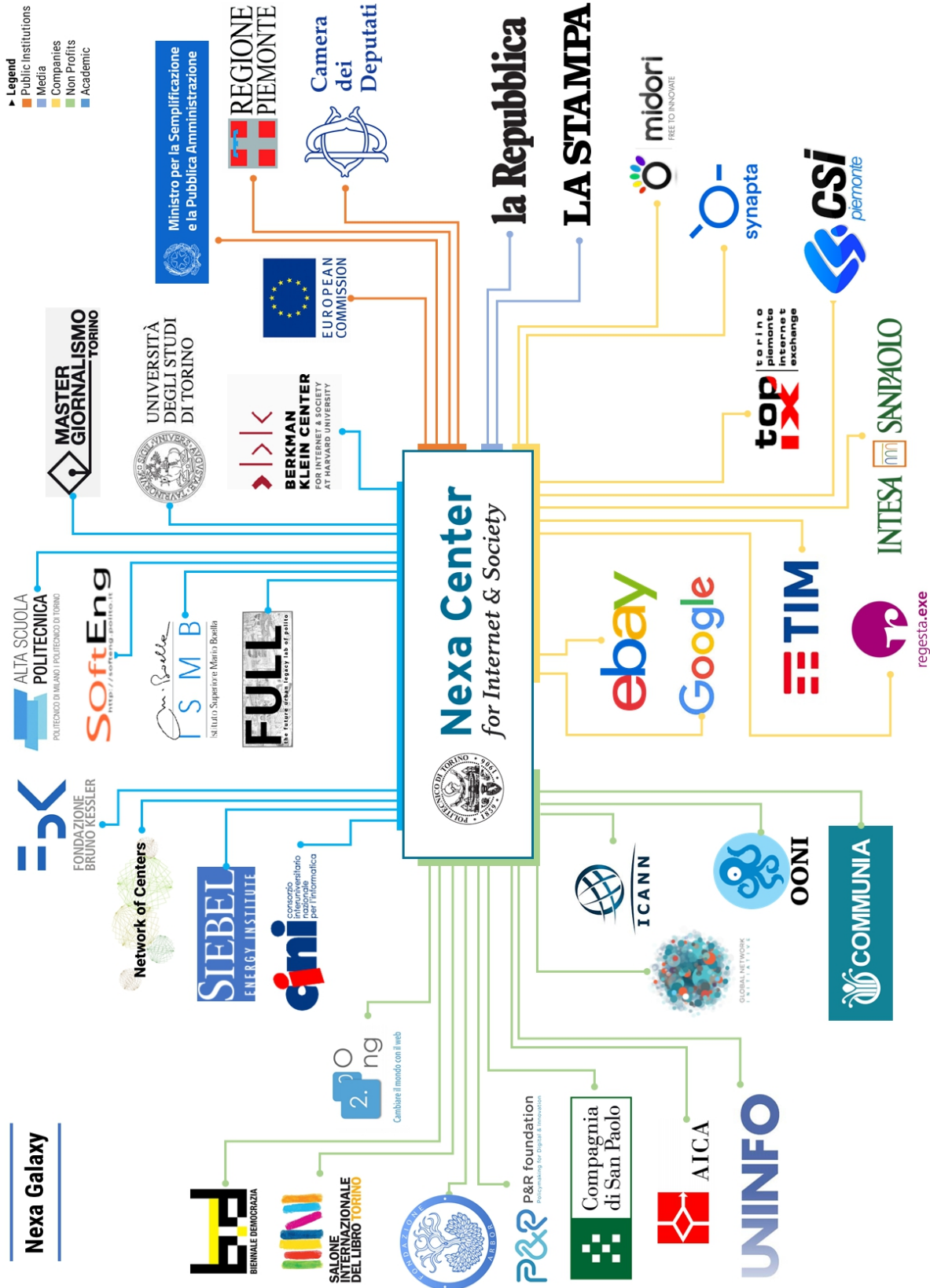
Directors

Juan Carlos De Martin - Founder and Co-Director

Juan Carlos De Martin, co-director of the Nexa Center, completed his work on University in the digital age which he had started in 2011 during a stay at Harvard University. The book, titled: "Università futura. Tra democrazia e bit" (Future University. Between democracy and bit), was published by Codice Edizioni in February 2017 (under a Creative Commons License). The work examines the role of Universities in the light of five global challenges for the 21st century - environmental, technological, economic, geopolitical and democratic - and articulates an idea of University which is at the same time old and new. The book has been discussed in public in several occasions, including the Berkman Klein Center for Internet & Society at Harvard University, the Senate of the Italian Republic, the Istituto Svizzero in Rome, the Politecnico of Torino, the University of Torino, the Politecnico of Milano, the University of Milan and the University of Naples Federico II.

Marco Ricolfi - Founder and Co-Director

Prof. Marco Ricolfi, born on 19.7.1952, received his degree at the Faculty of Law of the University of Turin on 1974. Master of Laws, Yale Law School, 1975-1976. He currently is professor of Intellectual Property Law at Turin Law School, where he also teaches Business Law. He is former Director of the LL M in Intellectual Property, organized by Turin Law School together with WIPO and ILO.

EXECUTIVE SUMMARY

The previous page shows the "Nexa 2016-2017 Galaxy", i.e. the main external entities with whom the Nexa Center interacted. At the end of the executive summary, the reader will find, instead, the "Nexa 2016-2017 Timeline", which shows the most relevant events of the last 12 months, according to our perspective.

The activities of the Nexa Center over the period June 2016 – May 2017 are organized in two working areas: **Libre Knowledge** and **Internet Power, Empowerment and Rights**. **Libre Knowledge** concerns the free circulation of digital contents and the innovation of public sector efficiency and transparency through digital commons. **Internet Power, Empowerment and Rights** frames network measurement activities – mainly software projects that aim at providing researchers and the civil society with evidence on the status of network neutrality and internet freedom – and projects regarding the respect of the human fundamental rights in the digital sphere.

Following such logical organization, herein we briefly summarize the main activities and achievements, complemented by a few notes on teaching activities and on the participation in international networks.

LIBRE KNOWLEDGE

We present the activities conducted in this area through three perspectives: research and support to policy; dissemination; technology developments.

From the research and support to policy perspective, the main efforts in this area have been devoted to the EU-funded Open-Med project (see page 13), which focuses on the creation, usage and dissemination of Open Educational Resources in the MENA (Medium-East and North Africa) region. The main result of the project has been the publication of a compendium of case studies and interviews with experts about Open Educational Practices and Resources (the compendium is available at http://openmed-project.eu/results/compendium/).

In addition, national forums in the MENA countries are being held (the first one was held in December 2016) to lay down the foundations of OER national strategies and of the OER Regional Agenda for South-Mediterranean Universities (the latter can be found at www.makingspeechestalk.com/ch/openmed).

Regarding the Creative Commons project (see page 12), after the translation of the CC 4.0 and CC0 licenses full legal text in Italian in the previous reporting period, the focus of the activities shifted to the support to civil society through our help desk. The last activity in the thread is a collaboration with the Ministry of

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for Internet & Society

Public Administration and Simplification in the context of the Open Government Partnership (OGP, www.opengovpartnership.org/): the Nexa Center is discussing the creation of a project under the umbrella of OGP for the adoption of open source software technologies and practices by the municipality of Turin.

As far as dissemination is concerned, the Nexa Center contributed to several events: the exhibition "Torino che legge" (Turin that reads); the Public Domain OpenFestival; the "Salone del Libro" (The Torino International Book Fair); Biennale Democrazia. Nexa coordinated talks about copyright and common goods, Open Source, rights in the age of Internet, Creative Commons in the publishing sector, the relationship between democracy and the digital tools. Among the participants, Juan Carlos De Martin, Angelo Raffaele Meo, Anna Masera, Alessandro Cogo, Marco Ciurcina, Giuseppe Futia, Francesco Ruggiero.

Last but not least, the publication of the book "Università futura. Tra democrazia e bit" written by Nexa Center co-Director Juan Carlos De Martin. The work examines the (civic) role of Universities in the light of five global challenges: environmental, technological, economic, geopolitical and democratic. The book has sparked – as hoped – a lively debate on newspapers and in several universities.

Finally, the technological perspective. The TellMeFirst software (hereinafter, TMF, see page 10) has been further developed: the last features developed on TMF have been presented in September 2016 in occasion of the 7th DBpedia Community Meeting in Leipzig. From the experience of TMF, a PhD program on semantic technologies for Big Data integration has started. Further technology-centered activities have been conducted in the fields of Data Quality and Linked Data in collaboration with UNINFO (Italian standardization organization, which operates with the ISO/IEC international organization), the software engineering research group at Politecnico di Torino (Softeng), a local technology transfer organization (Istituto Superiore Mario Boella) and Synapta, a Nexa Center spin-off.

INTERNET POWER, EMPOWERMENT AND RIGHTS

The main activity in this area has been a research project on the issues and opportunities represented by the Internet of Things in relationship with circular economy. The project has entailed three debates with different groups of stakeholders. Firstly, we hosted on 21 September 2016 an internal workshop with Nexa Fellows; then we held a public event which was the annual Nexa conference titled "Internet of Things: Hell or Paradise?", held in Turin on Dec 2, 2016. Finally, a round table was organized in Brussels with representatives of the European Commissions, standardization organizations, academia and industry; the title of the meeting is "IoT and the Circular economy: This Side of Paradise", which counterbalanced the title of the first part of our public discussion. The main goal of the research is to define recommendations for policy action and suggestions for further

research, which will be disseminated through a series of working papers, a video and an executive summary.

Regarding Internet rights, on the 23rd of March 2017 at the secondary school Amedeo Avogadro in Turin the initiative "The Internet Committee of the Chamber of Deputies at school" was launched. The project – managed by Italy's Chamber of Deputies – envisions a series of meetings with students and teachers of schools in northern, central and southern Italy.

The Nexa Center is also active in two European projects funded by the program Horizion2020: VIRT-EU (see page 21 and virteuproject.eu), which seeks for an alignment of IoT applications with ethical and social values of EU citizens, and DECODE (see page 22 and www.decodeproject.eu/), aiming at the development of tools to empower individuals in control of whether they keep their personal data private or share it for the public good. While for VIRT-EU the Nexa Center is in charge of the dissemination activities (developing a dissemination plan and a communication strategy), in the DECODE project the focus is on the analysis of the legal and ethical frameworks involved in the adoption of the technology: outcomes will be included in the next annual report.

Yet another project will produce results in the incoming year: the Power Aware project (see page 23), financed by a grant of the Siebel Energy Institute (www.siebelenergyinstitute.org/): it concerns the development of a collective awareness platform to engage citizens in the understanding and reduction of their domestic power consumption. The project will produce prototypes of interactive web visualizations.

A PhD project is focused on the study of the applicability of P2P applications for the Internet of Things (see page 24) to foster 'privacy by design' data management. An initial survey of literature produced two short papers published in international conferences ("The third International Symposium on Internet of Things: Systems, Management and Security", and the "39th International Conference on Software Engineering"). Currently a simulator of P2P applications is being developed to analyze the applicability of P2P applications on IoT devices with limited hardware and software capabilities. Another PhD project, in collaboration with the Bruno Kessler Foundation in Trento and the group of philosophers led by Professor Maurizio Ferraris at the University of Turin, has been designed and launched. The focus will be on the ethics of data and algorithms; the PhD student has already been selected, she will start working at the Nexa Center in the Fall of 2017.

A final note on the activities related to network measurement. The Neubot project reached is final phase: it will be finalized by end of 2017 with minor maintenance tasks. The rest of the effort has been devoted to the development of the OONI mobile application (https://ooni.torproject.org/post/ooni-mobile-app/), which was partly based on the work made on measurement-kit developed at Nexa Center.

INTERNATIONAL NETWORKS

The Nexa Center coordinated until December 2016 the Global Network of Internet & Society Research Centers (NoC, see page 29). In its second year of coordination, the Nexa Center managed the internal processes and improved community building by setting up a software tool (a semantic wiki) allowing matchmaking NoC participants by their expertise and topics of interest. Furthermore, the Nexa Center is active in the NoC working group on Education, where it lead a mapping exercise of existing OER held by NoC Centers. In addition, the Nexa Center also continues to participate in the Global Network Initiative (GNI, see page 30).

TEACHING

The "Digital Revolution" (see page 32) undergraduate course at the Politecnico di Torino is still the main Nexa teaching activity: in 2017 we enrolled 157 students, while in 2016 they were 199. As usual one among the best students of the course have been selected to spend 10 weeks at the Berkman Klein Center as a Summer Intern.

A reduced version of Digital Revolution, accompanied by a new module on Data Revolution, has been part of a course entitled "Digital Culture" offered under contract to the employees of a large Italian bank: the goal of this curriculum proposal is to increase the awareness on the deep motivations that make the digital technologies a disruption with respect to the past, exploring related problems and opportunities.

Finally, the course "Topics in Internet & Society Interdisciplinary Studies" - addressed to students of all Doctoral Programs at Politecnico di Torino, thanks to the contribution of Nexa Trustees and Faculty Fellows -, and some modules of the course Big Dive - a five-week training program providing the key technical skills needed to dive into the big data universe -.

ORGANIZATION AND COMMUNITY

During the reporting period, the Nexa staff concluded a major turnover. Due to the increased heterogeneity and variety of background of the Staff, we started an internal mailing list and informal lunch meetings to share reflections and readings on cultural topics and current world news: the aim is to build a common base for the reflections on the impact of the Internet revolution in our society and in the local communities.

LOOKING AHEAD

In the first months of 2017 relevant effort has been devoted to the setup of the new projects, which are the result of the previous

Staff

Giuseppe Futia - PhD Candidate

Giuseppe is the project manager and co-developer of Public Contracts, a tool that exploits Linked Data to enrich, query, and visualize data about Italian public procurements. In 2015, Public Contracts has been developed in collaboration with SpazioDati and Cerved. He's also the Nexa project manager and the main developer of TellMeFirst, an open-source tool co-developed by the Nexa Center and the Joint Open Lab of Telecom Italia, designed for classifying and enhancing documents with Natural Language Processing and Linked Data technologies.

Pasquale Pellegrino - Research Fellow (from November 2016)

Pasquale received the M.Sc. degree in Public and Political Communication from University of Turin in March 2015. During the M.Sc. he was part of the communication team of one candidate who ran for Piedmont Regional Council. After the graduation he spent five month in Cambodia in the framework of UNI.-COO research program, doing research on how NGOs communicate their activities and projects. Peer-to-Peer networks for the Internet of Things.

funding activity (see page 35). The focus on the new projects reflects major issues of the current Internet, in particular centralization of power and opaqueness of data-driven technologies and processes. The resulting needs are the re-decentralization of network (and, subsequently, power), ethical guidelines to steer a more responsible research and innovation, and better technological infrastructures and processes for promoting freedom of expression and the free circulation of knowledge on the web. We will look at these three main directions in the coming years, leveraging the best energies of our staff and community.

Nexa Center for Internet & Society

June 2016

Nexa Annual Story

June 2016

Nexa Center Trustees meet in Turin for the annual Board. In the occasion, the new fellowships are announced.

July 2016

The Pasteur4OA European project terminates: it aimed at developing and implementing Open Access policies throughout European universities and funding organisations.

PASTEUR4OA

Sept 2016

The CINI national laboratory on Informatics and Society is launched at the Italian Chamber of Deputies.

cini

Oct 2016

The handover phase to the new NoC coordinator, the Instituto de Tecnologia & Sociedade do Rio (ITS Rio), starts.

Network of Centers

Nov 2016

The Nexa Center for Internet & Society and the partners of the OpenMed project publish the Compendium "*Opening Up Education in South Mediterranean Countries*"

OpenMed

Dec 2016

8th Nexa Annual Conference : "IoT: hell or paradise?".

Jan 2017

The Horizon 2020 Virt-EU project is launched at IT University of Copenhagen.

PRIVACY

THE GAME
OUT NOW

Feb 2017

The book *Università futura. Tra democrazia e bit (Future University. Between democracy and bit)*, written by Juan Carlos De Martin is published by Codice edizioni.

Mar 2017

The Horizon 2020 DECODE project kick off meeting takes place in Barcelona.

dec

Apr 2017

Nexa and Uxpills organize a workshop to celebrate the IoT Day 2017

#iotday

May 2017

"IoT and Circular Economy: this side of Paradise" - Round table in Bruxelles with European Commission and representatives from academia, industry and international organizations.

May 2017

1. LIBRE KNOWLEDGE

1.1 TellMeFirst - A knowledge discovery application

TellMeFirst is a tool designed for classifying and enriching textual documents using Linked Open Data.

Project website/page	https://nexa.polito.it/tellmefirst
Status	ongoing
Period	2012 – present
Funding	35.000 €
Funding organization	Telecom Italia – Joint Open Lab
Persons in charge	Giuseppe Futia (Nexa Project Manager), Alessio Melandri (Nexa Fellow), Federico Cairo (Project founder & technology advisor)

TellMeFirst (TMF) is an open source software designed for classifying and enhancing documents with Natural Language Processing (NLP) and Linked Open Data (LOD) technologies. Identified topics are expressed as DBpedia resources, a representation of structured information of a Wikipedia entry. The input document is then enriched with new information (images, videos, maps, news) retrieved from LOD repositories published on the Web.

Background

The adoption of Linked Data best practices for exposing and connecting information on the Web has a considerable success in several areas: multimedia publishing, open government, health care. Moreover, a specific line of research explores the points of convergence of Linked Data and Natural Language Processing (NLP): DBpedia, a central interlinking hub for the Linking Data project, has proven to be a very suitable knowledge base for text classification, according to both technical reasons and more theoretical considerations. Furthermore, DBpedia is directly linked to the arguably largest multilingual annotated corpus ever created, which is Wikipedia: thus, it is technically perfect for auto-mated tasks in the fields of NLP.

Objectives

TMF intends to leverage Linked Data and NLP technologies to extract the main topics from texts in the form of DBpedia resources, retrieving new information from the Web. In the previous years, we have created a structured and well-defined process to maintain the training set updated: this is a necessary step for classifying documents concerning recent topics.

The next step was the development of a module for building *ad hoc* training sets for documents related to a specific area of knowledge. For these reasons, we have focused on the development of a parametrized process in order to adapt TellMeFirst to different purposes and different semantic areas. Through the development of this feature, TMF can be exploited by companies, public administrations, and cul-tural institution that need a classification system for their specific knowledge domains and purposes. The TMF software has now reached maturity and therefore we will explore use cases of the tool within structured projects.

Results

The last features developed on TMF have been presented in February 2016 in occasion of the DBpedia Community Meeting in The Hague (Netherlands) and in September 2016 in occasion of the 7th DBpedia Community Meeting in Leipzig. In 2015 we have developed a software pipeline to build a training set for classifying documents related to a specific domain of knowledge. The pipeline is currently driven by SPARQL queries supported by the Linked Data Recommender developed by the Soft-Eng Group of the Politecnico di Torino, in order to discover other entities that are not identified with the previous method. More information is available on GitHub. Moreover, with the experience gathered with the development of TMF, Giuseppe Futia has won the "Best tool for multi-lingual journalists" prize during the #newsHACK 2016 event organized by the BBC.

1.2   Semantics for Big Data Integration

Harmonizing Linked Data and Big Data technological foundations for a multidimensional knowledge graph.

Project website/page	https://nexa.polito.it/s4bdi
Status	ongoing
Period	November 2016 – present
Funding	69,500 €
Funding organization	Italian Ministry of Education - University and Research
Person(s) in charge	Giuseppe Futia (PhD scholarship)

Every day 2.5 quintillion bytes of data are created, and about 75% of such data is unstructured, coming from sources such as text, voice and video ("Bringing Big Data to Enterprise", IBM). Nevertheless, many efforts are being made at research level in order to give a structure to this information, integrating and linking data from diverse sources. A general approach and method must be defined to develop a software architecture that combines the state of the art of open technologies in this field. In such way, you can enable enterprises, public administrations, and other kind of institutions to create their own knowledge graph and improve data-driven processes, transparency, business opportunities, and quality of services.

Background

The expression of Big Data refers to datasets that are so large or complex that traditional data processing applications are inadequate. In particular, such inadequacy is connected to specific features of data, the so-called 5 Vs: volume, velocity, value, veracity, and variety. As noticed by Pascal Hitzler and Krzysztof Janowicz ("Linked Data, Big Data, and the 4th Paradigm", Semantic Web – Interoperability, Usability, Applicability) "the Big Data notion of variety seems the most intriguing one for the Semantic Web research community". Variety could be considered "a generalization of semantic heterogeneity" in which Linked Data can represent drivers of integration and linking.

For this reasons, experiments on Linked Data and Big Data frameworks can represent a real field of application, not just from a knowledge organization perspective (see also the paper: Shiri, A. (2014). "Linked Data Meets Big Data: A Knowledge Organization Systems Perspective". Advances In Classification Research Online, 24(1). There are now the conditions to design and develop an open architecture and a knowledge graph to demonstrate the real potential in the combination of Big Data and Linked Data approaches.

Objectives

This research activity is based on a PhD research program and it is driven by 2 research questions:

1) RQ1: How can the technological foundations of Linked Data and Big Data can be combined to create an open software architecture for a multi-thematic and multi-perspective knowledge graph from heterogeneous sources?

2) RQ2: Which are the features of a research method to meet and evaluate scalability, performance, and interoperability of the software architecture mentioned in RQ1? And how we can measure the quality of the knowledge graph produced with this software architecture?

Results

Currently, the research activity is developing along an exploratory stage on three different ways:

1) Automatically learning the semantics of structured data sources;

2) High-level models to semantically describe data derived from multiple heterogeneous sources;

3) Large-scale (and cloud-based) data management systems for storing and processing (RDF) information.

1.3 Creative Commons Italia

The Italian affiliate of Creative Commons, a nonprofit organization that enables the spread of knowledge and creativity through free legal tools.

Project website/page	http://www.creativecommons.it/
Status	ongoing
Period	November 2003 – present
Funding	in kind contribution from fellows
Funding organization	N/A
Persons in charge	Federico Morando (CC Italia Project Leader), Marco Ciurcina, Claudio Artusio, Deborah De Angelis.

The Nexa Center hosts and coordinates the activities of the working group of Creative Commons Italy (CC-IT), founded in July 2003. During the reporting period, the activities of the CC working group slowed down, mainly because of new personal commitments of Federico Morando (as main contributor of the voluntary work that keeps CC Italia active). Despite a substantial stop of more structured activities, CC Italy continued regularly answering email and phone inquires from Italian CC users, participating in public meetings, and collaborating with institutions such as Wikimedia Italia.

Background

Creative Commons (CC) is a project building a new and more flexible paradigm for copyright. CC develops standardized copyright licenses and other (optional) technical tools to assist authors wanting to share some of their rights with users and fellow authors in a way that is easy, flexible and legally rigorous.

4.0
It's here.

Results

During the reporting period, CC Italy answered to an average of two email inquires per month and one phone inquiry per week. Most of these contacts concerned the basic functioning of copyright law and CC licenses. The creativecommons.it website continued to be very popular, with a total of 90,122 visits from 70,774 different users exploring 209,757 pages (in line with previous years).

In April 2017, CC-IT was contacted by Filippo Sugar, the president of SIAE (the Italian collecting society), who was interested in restarting the activities of the joint CC-IT/SIAE working group (after nine years since the production of a draft pilot mandate, that was supposed to open the possibility of using CC non-commercial licenses for some of the new members of SIAE). The sworking group, coordinated by Deborah De Angelis for CC-IT and Maria Cristina d'Harmant François for SIAE, met once and both parties seem to be willing to restart their cooperation, within the context of Directive 2014/26/EU.

1.4 Public Domain: Supporting the Libraries of the Politecnico di Torino

Supporting the initiatives of the University Library of the Politecnico di Torino to increase awareness on the Public Domain.

Project website/page	http://www.pubblicodominioopenfestival.unito.it/
Status	ongoing
Period	February 2012 – present
Funding	in-kind
Funding organization	N/A
Person(s) in charge	Giuseppe Futia, Francesco Ruggiero (Nexa contact persons)

In order to increase awareness on the Public Domain, the Nexa Center supports the initiatives of the University Library (former Libraries and Museum Area) of the Politecnico di Torino.

Background

The University Library of Politecnico di Torino, in collaboration with the University of Turin, the Public Libraries of the City of Turin, the actors of Fondazione Teatro Nuovo Torino, and the support of the Nexa Center organize long-term initiatives for a "continuous celebration" of the public domain.

Objectives

The objective of this initiative is to make more people (students, professors, librarians, users of public libraries) aware of the richness and further potential of the public domain, promoting a series of live performances, revisiting the works of some of the greatest writers and artists entered this year into the Public Domain.

Results

In April 2016, in occasion of the "Torino che legge" (Turin that reads) exhibition, the University Library of the Politecnico di Torino organized a seminar entitled "Il Piccolo Principe liberato, ma non per tutti" (The Little Prince freed, but not for all). The main topic of the seminar was the relationship among "Il Piccolo Principe" book, the Public Domain, and the copyright. Prof. Juan Carlos De Martin was one of the speaker of the seminar (http://www.biblio.polito.it/eventi_culturali/2016/seminario_il_piccolo_principe_liberato_ma_non_per_tutti).

The Nexa Center also partecipated in the Public Domain OpenFestival that took place in Turin from 29th November to 3rd December 2016. Nexa coordinated several talks about copyright reform and common goods, Open Source, rights in the age of Internet, Creative Commons in the publishing sector. Among the participants, Juan Carlos De Martin, Angelo Raffaele Meo, Anna Masera, Alessandro Cogo, Marco Ciurcina, Giuseppe Futia, Francesco Ruggiero. (https://nexa.polito.it/pubbli-codominio-2016).

1.5   Open-Med
Fostering Open Education in South Mediterranean Countries

Project website/page	http://openmedproject.eu/
Status	ongoing
Period	October 2015 – October 2018
Funding	in-kind
Funding organization	European Commission (Erasmus +)
Person(s) in charge	Antonio Vetrò (Nexa Project Manager)

The project aims at building a shared roadmap and strategy concerning the Open Educational Resources with the countries of the MENA (Medium East and North Africa) region.

Background

Openness in Higher Education seems to be common sense for the equal and democratic access to knowledge. Stimulating supply and demand for high-quality OERs is essential for modernising education. If universities really want to find more resources to invest in better teaching and research, it is essential that the open sharing of resources is encouraged. Knowledge must be shared and spread, teachers encouraged to network and collaborate on course development and institutions discouraged from fragmentation and all producing their own slight variations on the same course.

Using freely available resources teachers and students can together collaborate on compiling course material and resources, opening up the classrooms to new forms of learn-

ing. The learning experience will be greatly enhanced due to greater involvement. Before this can be realised, we need a change in attitudes towards what we mean by education, teaching and learning. We need new attitudes towards collaboration and new literacy.

Objectives

The objectives of OpenMed are:

1) to raise awareness and widen HEI participation in open educational practices and resources;

2) to define the OER Agenda for the re-use of OER at HE institutional level;

3) to define mid-term strategic roadmaps for the implementation of the OER Agenda at local-institutional level according to the local, cultural and institutional needs and strategies;

4) to teach university teachers how to use and reuse OER in a pedagogically-rich context and improve their digital competences;

5) to pilot start-up open educational practices and offer to students flexible and up to date open contents and learning paths, with a linkage to the international community and the needs of the job market.

Results

The Nexa Center for Internet & Society and the partners of the OpenMed project has published the Compendium: "Opening Up Education in South Mediterranean Countries: A Compendium of Case Studies and Interviews with Experts about Open Educational Practices and Resources" - This compendium, which was created also with significant contributions made by expert interviewees in international open education, delineates the key con-

cepts and definitions associated with open education and presents eleven case studies of international open educational practices across Egypt, Jordan, Palestine, Morocco, Spain, UK, North America, and South Africa. The compendium is available at http://openmedprojec-t.eu/results/compendium/.

National forums in the MENA countries are being held starting from December 2016 to lay down the foundations of OER national strategies and an OER Regional Agenda for South-Mediterranean Universities, which has been opened to public consultation.

The aim of the OER Regional Agenda is to become the starting point for the development of both policies and roadmaps at institutional level, and it will inform the training of trainers component of the OpenMed project. The public consultation is available at http://www.mak-ingspeechestalk.com/ch/open-med.

1.6   University and Democracy
Re-thinking the University's role in Society in the Networked Age.

Project website/page	N/A
Status	ongoing
Period	2009 – present
Funding	in-kind
Funding organization	N/A
Persons in charge	Juan Carlos De Martin

Juan Carlos De Martin, co-director of the Nexa Center, continues to work on his book on University and Democracy in the Internet Age, signing a contract with a Turin-based publisher. The book has been published at the beginning of 2017. A CC-licensed version will be available online some time after the launch.

Background

This research originated in particular from the intuitions of prof. Charles Nesson from the Berkman Center for Internet & Society at Harvard, who clearly saw – several years ago – the challenges and the opportunities that the cyberspace posed to

universities, also in terms of their civic role. The first tangible result of these considerations, as elaborated at the Nexa Center, was the international conference University and Cyberspace: Reshaping Knowledge Institutions for the Networked Age (Torino, June 28-30, 2010). The conference was organized by the Nexa Center together with the Berkman Center of Harvard and also represented the last public event of the Communia European Thematic Network on the Digital Public Domain.

Objectives

This research explores the (civic) role of Universities in the Internet age. Universities are entrusted with the increasingly important responsibility of creating, sharing, and fostering the use of knowledge, and thus are the recipients of tremendous investments of time, money,

space, and authority. As we progress further into a networked age, our knowledge institutions are challenged by society to become a driving force to create and disseminate knowledge, using innovative approaches derived from and for the networked world.

Results

Juan Carlos De Martin, co-director of the Nexa Center, completed his work on University in the digitale age which he had started in 2011 during a

stay at Harvard University. The book, titled: "Università futura. Tra democrazia e bit" (Future University. Between democracy and bit), was published by Codice edizioni in February 2017 (under a Creative Commons License). The work examines the role of Universities in the light of five global challenges for the 21st century - environmental, technological, economic, geopolitical and democratic - and articulates an idea of University which is at the same time old and new.

The book has been discussed in public in several occasions, including the Berkman Klein Center for Internet & Society at Harvard University, the Senate of the Italian Republic, the Istituto Svizzero in Rome, the Politecnico of Torino, the University of Torino, the Politecnico of Milano, the University of Milan and the University of Naples Federico II.

1.7   Internet & Democracy: the Nexa Center at Biennale Democrazia 2017

Bringing an Internet & Democracy perspective within the "Biennale Democrazia".

Project website/page	https://nexa.polito.it/biennaledemocrazia
Status	ongoing (next edition of Biennale in the Spring 2019)
Period	April 2009 – present
Funding	in-kind
Funding organization	N/A
Persons in charge	Juan Carlos De Martin (scientific board member)

The Nexa Center is playing a leading role in the organization of the "Internet & Democracy" activities within the program of Biennale Democrazia (http://biennaledemocrazia.it).

Background

Since 2009, the City of Turin hosts and supports Bien-

nale Democrazia, a national event with international guests devoted to democracy in the broadest sense. Juan Carlos De Martin, Nexa co-director, is a member of the scientific committee of Biennale.

The Nexa Center supports Biennale Democrazia since

2009 and it took a more relevant role within the 2011 edition, supporting the organization of events such as Lawrence Lessig's Lectio Magistralis *In sunlight. The nature of corruption within the US Congress* or of the *Torino Open Data Contest*. In 2013 the Nexa Center organizes three major public events,

Nexa Center
for Internet & Society

involving Philippe Aigrain, Roberto Casati, and Stefano Rodotà.

Objectives

The Nexa Center nurtures the "Internet & Democracy" related themes within the program of Biennale Democrazia. It also uses this venue to reach a broader public, including high school students.

Results

In occasion of the 2017 edition of Biennale Democrazia, the Nexa Center proposed five public conferences. *Emergencies on the Net. Hacking, Anonymous, Wikileaks* with a reflection of gabriella Coleman, introduced by Juan Carlos De Martin, on political dissent in the Net and on new types of hacking.

Democratic city technologies, with Francesca Bria and Juan Carlos De Martin about the role of technology and Big data in the shaping of a democratic urban revolution. *Internet & Democracy. An ironical inversion* with Evgeny Morozov introduced by Anna

Masera. A talk about the Web and the shift from the utopic visions of the Nineties to current centralized realities.

Robotics and web: a new industrial revolution? a talk with Evgeny Morozov and Federico Pistono about the potentials and limits of IT and cybernetics on the world of work. *Collective Intelligence and Collective Stupidity*, with a reflection of Juan Carlos De Martin and Christian Raimo about the potentials of social network sharing and the risks of the deterioration in the quality of the contributions.e Martin, Christian Raimo).

In occasion of the 2015 edition of Biennale Democrazia, the Nexa Center proposed three public conferences: *Memoria e oblio ai tempi di Internet* (Luciano Floridi), *Una Magna Charta per Internet* (Philippe Aigrain, Juan Carlos De Martin, Stefano Rodotà), *I social network: chi decide cosa vediamo* (Sara Bentivegna, Antonio Casilli, Fabio Chiusi).

During the Biennale Democrazia 2013 edition the Center organized three major public events: *Sharing knowledge*, with Juan Carlos De Martin, Carlo Donolo, and Ugo Mattei and concerning digital commons, intellectual property and new enclosures; *The utopias of e-democracy*, with Roberto Casati, Juan Carlos De Martin, and

Alexander Trechsel, coordinated by Riccardo Staglianò, also discussing the role of intermediaries and of transparency; *Is Internet a fundamental right?*, with Juan Carlos De Martin and Stefano Rodotà, coordinated by Ferruccio De Bortoli, and analyzing the option of amending article 21 of the Italian Constitution.

In collaboration with Wikimedia Italia, CSP-Innovation in ICT and the Dschola Association, the Nexa Center also organized the meeting *Wikipedia as a tool for digital citizenship*, which represented the final public event of a longer process called *Dai una Voce alla Democrazia* (i.e., *Give a voice to democracy*, but also *Give an encyclopedia entry to democracy*). During this process, tens of high school students were tutored while editing Wikipedia items related with the concepts of utopia and democracy.

In 2011 the Nexa Center supports the organization of events such as the Lawrence Lessig's Lectio Magistralis and the interview with Amelia Andersdotter, the youngest parliamentarian elected in the European Parliament. In 2009 the Nexa Center proposes the project *Università Aperta* (*Open University*), an online consultation of university students of Turin on the Wheeler Declaration.

1.8   Public Contracts

Connecting fragments of open knowledge to make sense of them.

Project website/page	https://nexa.polito.it/public-contracts
Status	ongoing
Period	April 2015 – present
Funding	8,000 €
Funding organization	Cerved, Regesta
Person(s) in charge	Giuseppe Futia (Nexa Project leader), Federico Morando (Synapta), Alessio Melandri (Synapta), Davide Allavena (Synapta)

In April 2015 the Nexa Center for Internet and Society has developed a service to represent and query procurement data of Italian Public Administrations (PAs). The service translates and publishes in Linked Open Data the XML files released by the Italian Public Sector bodies following the "anti-corruption" Act (L. 190/2012).

From the beginning of 2016, the leadership of the project is passed to Synapta (http://synapta.it/), the start-up on Linked Data founded by Federico Morando and Alessio Melandri. Nexa continues to work on the project with the contribution of Giuseppe Futia.

Background

The Italian "anti-corruption" Act (law n. 190/2012) requires all public administrations and some publicly owned companies to release open data about procurement contracts. Every public body is obliged to yearly release, on its public website, standardized XML files containing data describing all procurement contracts (e.g. bids to every tender notice, offers by companies and awarded contract details).

A large amount of datasets are currently available concerning the last 5 years (2012-2016), from approximately 22.000 public bodies and public companies, including municipalities, universities, central government bodies, healthcare institutions.

Objectives

Public Contracts project aims at developing a framework for:

1) verifying that all published procurement information is consistent with regulation;

2) converting public procurement data into Linked Open Data, in order to overcome the fragmentation of existent datasets and allow easy analysis and reuse of information;

3) linking contract data to other datasets, such as the national index of public administrations (SPCData currently available in RDF), DBpedia, and possibly the national business register (once it will be an open dataset);

4) advanced data analysis through SPARQL queries (i.e., the total amount of contracts awarded without any tender with respect to location/city population);

5) an easy human readable representation for end users, in order to increase the public awareness about public spending, improve transparency over the public procurement chain, help companies retrieve information about past tenders.

Results

To achieve the aforementioned goals Synapta and Nexa have continued to develop the software pipeline for the representation of Italian procurement data. The new GitHub repository of the project is available on the Synapta profile: https://github.com/synapta/public-contracts.

In the first months of 2016, a data visualization on contracts of public administrations in Piedmont has been developed in collaboration with the Limpido design team: http://public-contracts.nexacenter.org/piemontevisualcontest2016/. The official website of the project is available at http://contrattipubblici.org.

2. INTERNET POWER, EMPOWERMENT AND RIGHTS

2.1 Neubot, the Network Neutrality Bot

A project to measure the Internet from the edges.

Project website/page	https://nexa.polito.it/neubot
Status	ongoing
Period	June 2008 – June 2017
Funding	112,000 €
Funding organization	Regione Piemonte (research grant), Measurement Lab / Google (two distinct unrestricted grants)
Person(s) in charge	Simone Basso (Nexa Project Manager), Antonio Langiu

Neubot is a R&D project that studies the Internet by running measurements from the edges. We study broadband performance, network neutrality, and Internet censorship.

We commit to write open source software and to publish the data collected by our software as open data. We wrote and now maintain the neubot software. We actively contribute to measurement-kit, ooniprobe-android, and ooniprobe-ios. We cooperate with Measurement Lab (which hosts neubot servers and has funded in the past our activities), the OONI project, and Portolan. We organized the NNTools2015 workshop held here at Nexa Center.

Lacking Nexa-side resources to maintain it, Neubot will be frozen after May 31, 2017. After this date, Simone Basso, the main developer since 2010, will maintain the software tools originated during this research project.

Background

Neubot started in 2008 to study network neutrality. That is, the principle that the Internet should treat all packets equally, without any discrimination dependent on the protocol, the application or the source. The scientific interest for network neutrality was motivated by the desire to understand this key characteristic of the internet that, according to many scholars, is a precondition for an open, generative Internet.

The seminal paper by De Martin and Glorioso described the conceptual architecture of Neubot. The first prototype of the neubot software was written by Mr. Gianluigi Pignatari Ardila. Simone Basso joined the Nexa Center in 2010 and continued the development during his doctorate on network measurements under the supervision of prof. De Martin. Since 2014 the scope of Neubot (as a project) was expanded to also encompass Internet-censorship measurements activities. This happened during the MORFEO subproject of which the OONI project was also partner.

Objectives

1) Divide the server and client side components of the neubot software. We have renounced to the idea of running peer-to-peer tests, therefore, it is more rational to manage client and server separately.

2) Sketch out a full plan for delivering the final version of Neubot as the scientific branch of the project as run by the Nexa Center is about the be closed.

3) Develop multi-server network tests. The idea of this objective is to make peer-to-peer network tests more similar to real traffic

4) Work on data visualization and analysis. This calls for making data visualization and analysis based on Neubot data

5) Write uTP module for measurement-kit. This will be the precondition to run uTP network performance measurements, which is interesting to investigate BitTorrent discrimination.

6) Contribute to OONI iOS and Android apps. This means adding measurement-kit side support and helping with testing and reviewing the apps.

7) Finalize the research paper on Neubot. There is currently a work-in-progress comprehensive research paper that describes Neubot as a whole.

8) Finalize the research paper that follows up the

NNTools2015 workshop. This shall describe the ideas that brought us to implement the measurement-kit library.

Results

As of February, 2017, we successfully started splitting the client and server components of Neubot and the OONI mobile applications based on measurement-kit were released (i.e., objectives 1 and 5 according to the above list). More details in a specific post on our blog summarizing the results achieved during the last year.

Within end of May, we will try also to write a plan for finalizing Neubot (objective 2) and to move forward the papers (objectives 6 and 7). It is unlikely we will be able to pursue any other objective, given the limited amount of time left, and given the need to wrap up what was done since 2010.

2.2 Internet of Things and Circular Economy
A project to empower the end-user of IoT solutions.

Project website/page	http://nexa.polito.it/iot
Status	ongoing
Period	May 2015 – May 2017
Funding (of which Nexa)	120,000 USD (as unrestricted gift)
Funding organization	eBay Inc.
Person(s) in charge	Antonio Vetrò (Nexa Project Manager), Marco Ricolfi

The Nexa Center is performing a research on ownership and consumer/citizen empowerment in an Internet of Things (IoT) world. The expected outcome of the research is the realization of a conceptual framework facilitating the further implementation of a Business-to-Consumer commerce able to empower the end-user of IoT solutions.

Background

The "Internet of Things" (IoT) – term coined in 1999 by the British technology pioneer Kevin Ashton – refers to an infrastructure composed by billions of physical goods – equipped with smart modules and integrated into the Internet – which collect data, communicate with people and with other things, and enable remote and/or autonomous command and control of environments. This integration of the physical dimension with the digital one is destined to impact significantly on the everyday life of individuals.

In the first year of the research, we investigated the customers' ability to use and transfer the IoT-embedded items purchased.

In the second year, the research is focused on the interface between the IoT and circular economy, which runs on two tracks: from one perspective envisaged risks and challenges of IoT, complemented on the parallel path by visions of IoT as potential enabler of the circular economy.

We are pursuing such research program by involving a wide pool of experts from both STEM and SSH areas, who are analysing the issues in connection with three major technological determinants: big data, the cloud, and platforms.

The "visions" concern benefits for consumers, business and society at large, while the risks span different disciplines: for instance we deal with consumer protection issues, we investigate environmental threats, adverse consequences for employment and foresee economical problems like market dominance and effects of price discriminations.

Objectives

Based on the analysis of the European Union and Member State laws applicable to the matter, and of a set of exemplary real cases, this research project aims to answer to three main questions:

1) How are control and ownership of consumers goods altered by the IoT advent?

2) To what extent is this alteration compatible with the European legislation in force?

3) More generally, what impact does this change of paradigm have on society?

4) Can IoT be a significant enabler of the circular economy ? What are the embedded risks ?

Results

The main results from the first year research were:

1) A semantic wiki which contains the research materials gathered, classified according to an ontology designed on purpose; it also rallies the case studies examined.

2) A research paper – "Take care, Neo: the Fridge has you': A technology-aware legal review of consumer usability issues in the Internet of Things" (currently under peer-review at the European Journal of Law and Technology).

3) The International Workshop on Consumers and the Internet of Things in conjunction with the Cyber-Physical Systems Week 2016, on April 11th, 2016.

As far as the second research track is concerned, on 21 Sept. 2016 we hosted an internal workshop whose discussion laid the foundations of a public event which was a conference titled Internet of Things: Hell or Paradise?", held in Turin on Dec 2, 2016 (a short, narrative, executive summary is available at https://nexa.polito.it/nexacenterfiles/ExecutiveSummary_Conference2016_0.pdf .

The December 2016 Conference is followed by a round table organized in Brussels in collaboration with the Department of Jurisprudence of Turin University and in cooperation with IEEE. The title of the meeting is "IoT and the Circular economy: This Side of Paradise", counterbalancing the title of the first part of our public discussion.

As the envisaged benefits concern consumers, business and society at large, the meeting covers different areas: consumer protection, accessibility of valuable data and implications for environment, as well as the obverse downside, including adverse consequences for employment, market dominance and effects of price discriminations. Illustrative examples of the research questions that will drive the discussion are: in which way can re-use of devices and assets be enabled by avoiding lock-ins, supporting data portability and combating silos? How does this interface with environmental concerns? The ultimate goal of the workshop is to elicit concrete recommendations for policy action and suggestions for further research.

2.3   Virt-EU
A project to affect the design and development processes of technological innovations.

Project website/page	https://virteuproject.eu/
Status	ongoing
Period	January 2017 - December 2019
Funding (of which Nexa)	1,999,951 € (97,781 €)
Funding organization	EU Horizon 2020 Programme
Persons in charge	Principal Investigator at Politecnico: Alessandro Mantelero (Department of Management and Production Engineering), at Nexa: Pasquale Pellegrino (Dissemination Manager Nexa Center)

Virt-EU is an H2020 project led by the Department of Management and Production Engineering at Politecnico di Torino, where the legal team is investigating the regulatory issues concerning will study the emerging innovation landscape of European hardware and software entrepreneurs, maker and hacker spaces, and community innovators whose work leverages personal sensing technologies, open data and open hardware. The Virt-EU project will pay particular attention to the technologies developed for the data economy and the Internet of Things (IoT), which are increasingly present in the automation of everyday communication functions as a result of more responsive sensing tools.

Virt-EU will empirically examine how these communities share information, form opinions, and enact ethical values. These values can vary in the expectations that users and technology designers have for how data moves and what is enabled by the data collected. The Nexa Center is part of this project and leads the dissemination activities.

Background

Recent policy, such as the EU General Data Protection Regulation, reflects mounting public concerns around emerging data practices, RRI, data ethics and privacy. Virt-EU addresses these concerns at the point of design through researching and intervening upon the development cultures and ethics of the next-generation IoT innovators.

We ask how do European IoT innovators and developers make ethically consequential decisions – about code, hardware and data – for new connective devices? What assumptions about human behavior, privacy and freedom underpin European cultures of IoT innovation?

Objectives

The activity conducted with CSI Piemonte concerned the analysis of data flow connected to the Smart Data Net platform, a publicly funded Big Data and Internet of Things platform supported by Regione Piemonte and aiming at fostering innovation in this domain for Piedmontese SMEs.

Results

The Nexa Center has developed the Dissemination Plan of the project and the communication strategy of the Virt-EU project.

2.4 DECODE

Enabling European citizens to produce, access and control their data and exchange contextu-alized information in real-time, and in a confidential and scalable manner.

Project website/page	http://www.decodeproject.eu/
Status	ongoing
Period	December 2016 - December 2019
Funding (of which Nexa)	4,987,673 € (185,125 €)
Funding organization	EU Horizon 2020 Programme
Persons in charge	Eleonora Bassi, Marco Ciurcina

DECODE is a research & innovation project that won the Horizon 2020 ICT Call 2016.

DECODE will increase digital sovereignty of European citizens by enabling them to produce, access and control their data and exchange contextualized information in real-time, and in a confidential, and scalable manner. DECODE will develop a modular privacy-aware IoT hub with a free and open source operating system backed by a state of the art blockchain infrastructure supporting smart-contracts and privacy protections.

Background

Today's Internet is becoming increasingly centralized, slowing innovation and challenging its potential to revolutionize society and the economy in a pluralistic manner. DECODE will develop practical alternatives through the creation, evaluation and demonstration of a distributed and open architecture for managing online identity, personal and other data, and collective governance in a citizen-friendly and privacy-aware fashion. Strong digital rights that makes it possible for data subjects to determine access rights to their information through flexible entitlements and open standard-based agreements regarding data governance (on the model of Creative Commons licenses) will be woven into the technological architecture.

Objectives

The DECODE project develops a distributed and privacy-aware architecture for decentralized data governance and federated identities. The platform employs adopts Attribute-Based Cryptography (ABC) to sensitive information, ideas from Certifi-

cate Transparency (CT) for identification, and Blockchain Technology for federated data access, distribution and resilience.

The DECODE architecture is fully decentralized, and allows for a flexible and extensible data governance that can be applied to different regimes of data ownership and privacy, implemented through smart contracts that will define access to subsets of data for specific use(s) granted to specific subject(s), according to a defined ontology.

DECODE allows the consensual use of personal data in anonymous form for personalized services and applications that may be authorized to manage it. This mechanism defines the rules for data flow among any type of data sets or indexes provided by data aggregators. Once the access is granted the data can be processed by services subscribed to its feed and entitled to access it. It can be collected by any of these ser-

vices or IoT applications. The DECODE platform aims to integrate the technical, economical and legal frameworks, managing common data, public data and personal data.

The results of the project (smart rules, platform specifications, protocols, ontology, semantic specifications) will be released under a Free and Open Source Software (FOSS) license. General DECODE's objectives in which Nexa Center is involved are:

1) Create actionable legal and governance tools for European citizens, companies and cities running on a distributed cryptographic ledger that enable disruptive commons-based business models intrinsically respectful of privacy and digital sovereignty;

2) Empower citizens to control and own their data;

3) Contribute to an open standardization process in the fields of data portability, federated or distributed identity manage-

ment, blockchains, and smart rules.

Results

The project is in the set-up phase. Nexa Center is responsible for the task to analyze the legal and ethical frameworks involved in the adoption of the DECODE technology, including the cases where the processing of personal data is involved. Expected outcomes are:

1) Review of the legal sets of rules involved by the creation of digital commons including (or not) personal data through the use of the DECODE OS technology;

2) Guidelines to be practically used for the development of the DECODE OS;

3) Licensing guidelines to foster stigmergic behaviours and the generation of digital commons;

4) Initial set of smart rules to be adopted in the pilots according to their needs in line with the goal of fostering the creation of digital commons.

2.5   Power Aware

A collaborative web platforms to enhance citizens' awareness on key factors of energy costs.

Project website/page	https://nexa.polito.it/power-aware
Status	ongoing
Period	March 2017 - March 2018
Funding (of which Nexa)	50.000 USD
Funding organization	Siebel Energy Institute
Persons in charge	Antonio Vetrò

Power Aware is a research program that won the 2016 Siebel Energy Grants and the 2013 MIUR (Ministery of Italian Education) Smart City and Social Innovation competition. It concerns the use of collabora-

tive web platforms to enhance citizens' awareness on key factors of energy costs.

Background

Cutting down emissions

caused by energy consumption is a priority for the European States that settled the ambitious goal to reduce energy usage of 20% by the year 2020. Power Aware aims at contributing to this goal by better

educating the citizens and changing their behaviour.

Objectives

Power Aware will be a web platform comparing energy consumption patterns for citizens with similar characteristics (e.g., house size, family composition, number and type of appliances) and recommending saving strategies to reduce power consumption at homes.

The comparison is made by means of interactive data visualisations that show to the citizens their power consumptions related to clusters of similar users. The web platform will offer additional features aimed at building a smart community, such as social tools and consumptions

forecasting.

The mission of Power Aware is to enhance citizens' awareness on key factors of energy costs, to reduce energy use by changing the consumption habits.

The research activities of Power Aware are conducted in collaboration with Midori, an innovative start up operating since 2012 in the field of energy analytics.

Results

The project is in the set-up

phase. The expected results are:

D1) A list of parameters for users profiling and clustering and their data type requirements

D2) A list of data privacy issues (according to European laws) and countermeasures needed

D3) A model for the classification of clustering and machine learning algorithms

D4) A classification of clustering algorithms from literature according to D3

D5) Evaluation of the algorithms

D6) Elaboration of a visualization for users comparison and power forecasting

D7) Evaluation of the evaluation with users

2.6   P2P applications for the IoT

Foster a decentralized Internet where people's data are not entrusted to centralized companies, but they are stored in privacy-preserving distributed systems.

Project website/page	https://nexa.polito.it/P2P4IoT
Status	ongoing
Period	November 2015 - November 2018
Funding (of which Nexa)	69,500 €
Funding organization	Politecnico di Torino
Persons in charge	Marco Conoscenti

Peer-to-peer applications for the Internet of Things is a Ph.D. research project started at the Nexa Center for Internet and Society. The main goal of this research is to foster a decentralized Internet where people's data are not entrusted to centralized companies, but they are stored in privacy-preserving distributed systems.

Background

The Internet of Things (IoT) refers to the network of billion

of physical objects connected to the Internet. Such devices will be equipped with sensors and computational capabilities to acquire and process data from the surrounding environment. Through to the Internet connection, they will exchange data with other devices or software systems, thus enabling several new services.

Peer-to-peer (P2P) systems are distributed systems consisting of interconnected nodes,

where services and resources are not provided by centralized servers, instead they are equally supplied and consumed by each node of the system – called peer.

The research especially focuses on P2P storage systems and on the blockchain.

P2P storage systems create a distributed storage medium where people's data are stored in a persistent and secure man-

ner. Since data are distributed among peers, these systems do not suffer from single points of failure and guarantee data integrity and confidentiality, thus preserving privacy.

The blockchain is a P2P ledger first used in the Bitcoin cryptocurrency for registering economic transactions. Peers of the blockchain cooperate to check the validity of transactions and to ensure that, once stored in the blockchain, valid transactions cannot be tampered. The result is a system enabling secure economic transactions which, by virtue of its P2P nature, is not controlled by any centralized trusted entity (there is no bank issuing the currency) and does not feature single points of failure. The tamper-proof property, the validation of data inserted and the P2P nature of the blockchain enlarge the spectrum of applications of this technology, going far beyond cryptocurrencies and financial uses. Indeed, the blockchain can be seen as a secure log of events, since information is validated, stored in a precise order, timestamped and

is difficult to be modified a posteriori.

Objectives

The activity conducted with CSI Piemonte concerned the analysis of data flow connected to the Smart Data Net platform, a publicly funded Big Data and Internet of Things platform supported by Regione Piemonte and aiming at fostering innovation in this domain for Piedmontese SMEs.
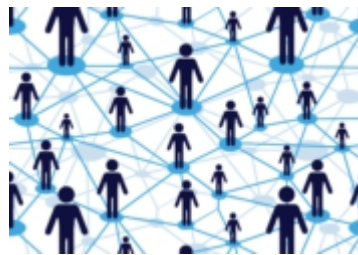
Results

1. A short paper titled Blockchain for the Internet of Things: a Systematic Literature Review , with authors Marco Conoscenti, Antonio Vetrò and Juan Carlos De Martin, accepted for publication in the proceedings of The Third International Symposium on Internet of Things: Systems, Management and Security (IOTSMS

2016) . It is a Systematic Literature Review, i.e. a review of the literature conducted with a rigorous and auditable method and with precise goals and research questions. In particular, the goal was to gather knowledge on the current uses of the blockchain and to document its current degree of anonymity, integrity and scalability.

2. A short paper titled Peer to Peer for Privacy and Decentralization in the Internet of Things, with authors Marco Conoscenti, Antonio Vetrò and Juan Carlos De Martin, accepted for publication in the proceedings of the 39th International Conference of Software Engineering (ICSE 2017) . The paper is a two-page extended abstract describing the idea of leveraging P2P applications to foster a decentralized private-by-desing Internet of Things.

Currently a simulator of P2P applications is being developed to analyze whether it is possible to run P2P applications on IoT devices with limited hardware and software capabilities.

2.7 Declaration of Internet Rights

The ongoing work of the study commission established by the Italian Chamber of Deputies.

Project website/page	http://camera.civi.ci/
Status	ongoing
Period	June 2014 – present
Funding (of which Nexa)	N/A
Funding organization	N/A
Person(s) in charge	Juan Carlos De Martin

A draft Declaration of Internet Rights has been released by a study commission established by the Italian Chamber of Deputies. After a 5 months

public consultation, an updated version of the Declaration is being elaborated by the commission.

Background

In October 13, 2014, a draft Declaration of Internet Rights has been published in Italy, as the first outcome of the work

of the study commission established in July 2014 by the President of the Italian Chamber of Deputies, Laura Boldrini, and led by Prof. Stefano Rodotà for the development of principles and guidelines on the subject of Internet rights. The commission (list of members here) is made up of MPs (one for each group) and experts, including Nexa co-director Juan Carlos De Martin.

In recent months, several European institutions moved in the same direction. At the end of 2013 the Speaker of the UK House of Commons established a commission on digital democracy. In February 2014, the German Bundestag established a parliamentary standing commission on the "Digital Agenda". In April 2014, the Council of Europe published a guide of human rights for Internet users. In the summer of 2014, the French Parliament established a "Commission de réflexion et de propositions ad hoc sur le droit et les libertés à l'âge du numérique", which counts among its members the intellectual Philippe Aigrain (trustee of the Nexa Center) and the Italian

researcher Francesca Musiani. Both the British and French commissions plan to present their findings at the beginning of 2015. In the same two countries, there are also two other significant initiatives. In UK, "Labour Digital", an influential group of experts close to the British Labour Party, has just published "Number One in Digital", with several references to democracy and human rights in the digital age. In France, the annual report of the State Council has also analyzed the relationship between digital and human rights.

Objectives

The aim is to achieve a document to be delivered to the Italian Parliament and Government to contribute – in Italy, in Europe and worldwide – to protect Internet as a platform, not only for the economic development, but also for the exercise of fundamental human rights.

Beyond the participation of Juan Carlos De Martin in the

study commission, the Nexa Center committed to gather contributions to the draft Declaration along the consultation process.

Results

After the wide discussion with experts and all citizens interested, on July 28, 2015, Italy became the first European country to introduce an Internet Bill of Rights. The Declaration has been approved by the Italian Parliament and it is available on line at www.camera.it/leg17/1179. The Declaration of Internet Rights is available also in English, French, Spanish and German.

The 23rd of March 2017 at the secondary school Amedeo Avogadro in Turin the initiative "The Internet Committee of the Chamber in the school" was launched. The project envisions a series of meetings with students and teachers of schools in northern, central and southern Italy. At the meeting students and teachers of the Avogadro had a debate with the Honorable Antonio Palmieri, Juan Carlos De Martin and Anna Masera on the rights and duties of citizens in the Internet.

2.8   RRI-ICT Forum: Promoting Responsible Research and Innovation in ICT
Monitoring, analysing, supporting and promoting SSH contribution to and RRI approach in ICT research and innovation.

Project website/page	http://rri-ict-forum.nexacenter.org
Status	ongoing
Period	January 2015 – February 2017
Funding (of which Nexa)	about 1M€ (about 80,000 €)
Funding organization	European Commission
Persons in charge	Lorenzo Canova (Nexa Project Manager)

The RRI-ICT Forum aims at monitoring, analysing, supporting and promoting SSH (Social Sciences and Humanities) contribution to and RRI (Responsible Research and Innovation) approach in ICT research and innovation. The Nexa Center coordinates the work on the online wiki plat-

form of the project: RRI-ICT-Forum.eu. The RRI-ICT Forum consortium is composed of a multi-disciplinary group led by Sigma Orionis.

Background

Responsible Research and Innovation (RRI) is an emerging concept that the European Commission defines as "an inclusive approach to research and innovation (R&I), to ensure that societal actors work together during the whole research and innovation process. It aims to better align both the process and outcomes of R&I, with the values, needs and expectations of European society." RRI includes the design and implementation of policies to:

1) engage society more broadly in its research and innovation activities,

2) increase access to scientific results,

3) ensure gender equality, in both the research process and research content,

4) take into account the ethical dimension, and

5) promote formal and informal science education.

The partners of the RRI in ICT Forum project include: Sigma Orionis (coordinator)

Euclid Network, iMAL, Istituto di Studi per l'Integrazione dei Sistemi, University of Ljubljana, Zentrum für Soziale Innovation.

Objectives

The RRI-ICT Forum aims at monitoring, analysing, supporting and promoting SSH (Social Sciences and Humanities) contribution to and RRI (Responsible Research and Innovation) approach in ICT research and innovation.

The project approach is to constitute a team curating the RRI-ICT domain, in particular with reference to Horizon 2020 European projects, and empowering other projects and the European Commission.

Results

The Nexa Center designed and maintains the content of the RRI in ICT Forum wiki (www.RRI-ICT-Forum.eu), which is the online platform at the core of the project activities.

On February 2, 2015 the

First Project Review took place with a positive evaluation. The Nexa Center, based on the partial results of this project gave his contribution to the Workshop "RRI nelle nanoscienze e nanotecnologie" held in Torino on June 14, 2016.

An annual conference with all the stakeholder in the field of RRI in ICT was planned to be held in November 2016. Even if the project consortium met several times for the organization of the event, it did not take place due to bureaucratic issues concerning the project coordinator Sigma Orionis that went to bankruptcy.

The European Commission had to confirm the termination of **Grant Agreement: 644200 RRI-ICT FORUM** on the 14th Febbruary 2017.

The Agreement could be continued and was terminated on the following ground:

Article 50.3.1(c) GA: The former coordinator Sigma Orionis was terminated because it is currently in the process of liquidation and the necessary changes to the Agreement would call into question the decision to award the grant or breach the principle of equal treatment of applicants.

3. INTERNATIONAL NETWORKS

3.1   The Global Network of Internet & Society Research Centers
The Nexa Center is acting as coordinator through 2016.

Project website/page	http://networkofcenters.net/
Status	ongoing
Period	October 2014 – October 2016
Funding (of which Nexa)	80,000 €
Funding organization	Compagnia di San Paolo
Person(s) in charge	Juan Carlos De Martin (Coordinator), Lorenzo Canova (Nexa Project Manager until October 2016)

Since late 2012, the Nexa Center is amongst the eight founding members of the Global Network of Interdisciplinary Internet & Society Research Centers (NoC). During 2013 and 2014, the Nexa Center has been involved in several NoC activities, as member of the Steering Committee. In October 2014, the Nexa Center took the role of administrative coordinator of the Network, until October 2016. The Nexa Center is playing the role of contact point and facilitator. In particular, building on previous work and achievements, the main objective of the Nexa coordination strategy 2014-2016 is to contribute making the NoC the most relevant Internet & Society research community worldwide both as a group of institutions and as a network of individuals.

Background

Since late 2012, the Nexa Center is amongst the eight founding members of the Global Network of Interdisciplinary Internet & Society Research Centers (NoC). The NoC is a collaborative initiative among academic institutions with a focus on interdisciplinary research and a strong attention to the social impact and policy implications of their research agenda. During 2013 and 2014, the Nexa Center has been involved in several NoC activities, as member of the Steering Committee. In particular, the roadmap and guiding principles for the NoC were discussed, with the aim to set up common practices for knowledge exchange amongst the NoC members (such as learning calls, workshops and conference), and joint research threads, focusing on interdisciplinary topics such as the role of online intermediaries, and Internet governance. In October 2014, the Nexa Center took the role of administrative coordinator of the Network, until October 2016.

Objectives

The Nexa Center is playing the role of contact point and facilitator. In particular, building on previous work and achievements, the main objective of the Nexa coordination strategy 2014-2016 is to contribute making the NoC the most relevant Internet & Society research community worldwide both as a group of institutions and as a network of individuals. Several initiatives are foreseen in this respect. Some of them relate with internal management (including the online presence of the NoC), others with the facilitation of research projects, such as the ones on Internet Governance models and on the role of Online Intermediaries (see http://www.networkofcenters.net/research), as well as other special initiatives, such as the public consultation on the Italian Declaration of Internet Rights.

Results

On December 2016, the Nexa Center handed over the activities to the next NoC coordinator, the ITS in Rio de Janeiro. On November 23, before handing over the activities to ITS Rio, the NoC counted 76 Research Centers (between affiliated and participating centers). A full list of the Centers is available at: http://networkofcenters.net/centers. On October 8 , 2016 an Informal meeting of the NoC took place in Berlin in the occasion of the AoIR2016 conference. For Spring 2016 a series of Hangout Calls on Internet & Society hot topics is planned.

3.2 Global Network Initiative

A non-governmental organization with the dual goals of preventing Internet censorship by authoritarian governments and protecting privacy rights of individual.

Project website/page	https://globalnetworkinitiative.org/
Status	ongoing
Period	March 2013 – present
Funding (of which Nexa)	N/A
Funding organization	N/A
Person(s) in charge	Carlo Blengino (from April 2017), Monica A. Senor (from April 2017), Alessandro Mantelero (until April 2017)

GNI champions fundamental human rights online, with a focus on privacy and freedom of expression. GNI includes civil society and academic participants, but also investors and several major ICT companies (such as Google, Microsoft, Yahoo! or Facebook), with the aim of providing them with a standard framework to deal with fundamental rights online, ensuring accountability and enabling opportunities for policy engagement and shared learning across stakeholders.

In March 2013, the Nexa Center for Internet & Society joined the Global Network Initiative as the first Italian participant. Nexa was welcomed in GNI as "a critical source of interdisciplinary research, informed by expertise in technology, law, and economics, on Internet policy from a European perspective."

During the reporting period, the Nexa Center participated in various periodic "learning calls" of the Network.

4. TEACHING

4.1 *"Digital Revolution": an Undergraduate Course at Politecnico di Torino*

A Politecnico di Torino undergraduate course – trying to understand the times we are living in.

Project website/page	http://rivoluzionedigitale.polito.it/ https://github.com/nexacenter/RivoluzDigitale
Status	ongoing
Period	March 2012 – present
Funding (of which Nexa)	standard funding by Politecnico di Torino (additional support in kind)
Funding organization	Politecnico di Torino + Nexa internal funding
Person(s) in charge	Juan Carlos De Martin (lecturer), Lorenzo Canova (teaching assistant), Simone Basso (teaching assistant), Marco Conoscenti (teaching assistant)

"Rivoluzione Digitale" (Digital Revolution) is an elective course for first-year students at Politecnico di Torino. It aims to contribute to the education of future engineers and architects as digital individuals, by providing students with the multidisciplinary knowledge required to understand the digital revolution, and by teaching them practical online-world skills.

Background

Ranging from business activities to culture, from politics to everyday life, digital-revolution effects are so deep and lasting that the traditional education of engineers and architects has to be complemented with selected multidisciplinary knowledge – legal, economic, historical and social – to fully understand the aspects of the digital revolution and the related impact on society.

Moreover, on the practical side, responsible and aware digital citizens need to master online skills such as blogging, discussing on mailing lists and on twitter, producing short videos of themselves presenting their own work and ideas.

Objectives

The objective of this course is to contribute to the education of digital individuals (as well as future engineers and architects). To achieve this goal, the course will provide the multidisciplinary knowledge (technical, legal, etc.) required to understand the multiple aspects of the digital revolution. Moreover, students will

be taught skills specifically related to the online realm, such as creating and maintaining a blog, and properly interacting within a mailing list. Therefore, at the end of the course students will not only understand the main reasons why the digital revolution represents a discontinuity with the past, with related problems and opportunities, but they will also acquire the practical skills necessary to develop their own advanced and conscious online presence.

Results

The course featured few guest lecturers, some of which are Nexa trustees or fellows. In 2017 we enrolled 157 students, while in 2016 they were 199. In 2016 125 students passed the final exam. Piera Riccio, one of the best students of the 2016 course, will be spending 10 weeks at the Berkman Center as a Summer Intern.

4.2 *Topics in Internet & Society Interdisciplinary Studies*

A course of excellence organized within Politecnico di Torino doctoral program.

Project website/page	https://nexa.polito.it/2017/06/doctoral-course
Status	in progress
Period	23, 27, 28, 29 and 30 June 2017
Funding (of which Nexa)	N/A

Funding organization	Politecnico di Torino Doctoral School + Nexa internal funding
Person(s) in charge	Juan Carlos De Martin (Course Coordinator), Selina Fenoglietto (Administration).

As in 2016, the Nexa Center leveraged the presence of the Nexa Trustees for the annual Board and organized a doctoral course on "Internet & Society" at Politecnico di Torino.

Background

It is commonly understood that the Internet now affects almost every aspect of society – from knowledge sharing to economic interactions – and of personal life (digital divide permitting). Understanding the relationship between Internet and society is a complex matter, since its shape and its evolution are not an immutable technological law, but instead the con-

sequence of specific choices, both private and public, that could – at least in principle – very well change over time.

Objectives

Topics in Internet & Society Interdisciplinary Studies is a course addressed to students of all Doctoral Programs at Politecnico di Torino. It is aimed at providing an interdisciplinary overview of a selection of Internet & Society topics currently addressed by scholars at global level, all of which have tangible implications in many domains, and may very well suggest new lines of reasoning to ongoing research of PhD candidates.

Results

At the time or writing this report the following trustees and fellows have been involved in the lectures: Jean-Claude Guédon (University of Montreal); Mario Calderini (Politecnico di Milano); Maria Chiara Pievatolo (University of Pisa); Angelo Raffaele Meo (Politecnico di Torino); Anna Masera (La Stampa); Bruce Sterling (author and journalist); Jasmina Tešanović (activist and writer); Elena Pavan (Scuola Normale Superiore of Pisa); Giovanni Battista Gallus (University of Milan); Marco Torchiano (Politecnico di Torino); Daniele Trinchero (Politecnico di Torino).

4.3   Other teaching activities

There are several links between the activities of the Center and the teaching activities of the co-directors, faculty fellows and other fellows of the Center, including the directors Marco Ricolfi, Juan Carlos De Martin and several other fellows and associates.

Big data Academy Intesa Sanpaolo – Digital Culture

The goal of this curriculum proposal is to increase the awareness on the deep motivations that make the digital technologies a disruption with respect to the past, exploring related problems and opportunities.

An interdisciplinary approach is used: technological perspectives are combined with the legal, socio-economical, his-

torical and philosophical (included ethics) dimensions.

The curriculum is composed of three modules: "Introduction to the digital revolution" (taught by Juan Carlos De Martin), "Introduction to the Big Data revolution" (taught by Antonio Vetrò) and "The legal aspects of the digital and data revolutions" (taught by Fellows Alessandro Mantelero and Carlo Blengino).

Master School of Journalism

From 2016, the Nexa Trustee Anna Masera is the director of the School of Journalism of the University of Turin: such new leadership enables many opportunities of collaboration between the Nexa Center and the School of Journal-

ism. In particular, during the last reporting period, the Nexa Center contributed with lectures and workshops on specific topics.

The PhD candidate Giuseppe Futia held some practical laboratories on Web and semantic technologies, while the Nexa Fellow Giovanni Battista Gallus provided some insight on the drone journalism.

On the other side, the School of Journalism students covered many events and initiatives carried out by the Nexa Center. In the following years, such collaboration will extend to joint projects.

Big Dive

The Top-IX consortium and

other partners organize Big Dive, a five-week training program providing the key technical skills needed to dive into the big data universe, including some multidisciplinary knowledge useful to extract value from data. In 2016 and 2017

Antonio Vetrò gave lectures on the data quality topic (in 2017 together with fellow Alessio Melandri).

WIPO Master (LL.M)

The World Intellectual Property Organization and the University of Turin organize a LL.M in Intellectual Property Law at the ILO International Training Center in Turin. The LL.M is coordinated, starting from 2016, by Nexa Fellow Alessandro Cogo, who succeeded Nexa co-director Marco Ricolfi.

Greater attention has been given in later editions of the LLM to the implications of ICT on IP and, in particular, to the nexus between data, artificial intelligence and knowledge. A conference on AI and IP will be hosted on October 16, 2017. A cycle of lectures on IP, IoT and data protection will close the 2017 edition of the program.

Master Course Management of Libre Software

In June 2015, Juan Carlos De Martin, Federico Morando, Raimondo Iemma and Antonio Servetti were teaching at the "Master di I livello in management del software libero", a course for officials in the public administrations and managers in private corporations. The Master officially ended in July 2016.

5. FUNDING, ORGANIZATION, RELATIONSHIPS & COMMUNITY

Nexa Center
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5.1   Budget Summary

Table 1 below summarizes the total costs sustained by the Nexa Center in fiscal year 2016.

Research personnel		**€ 236.100,00**
Nexa Center staff	134,000 €	
Tenured personnel	75,100 €	
Research PhD	27,000 €	
Other personnel		**54,300 €**
Other costs		**118,200 €**
Events organization and communication	28,600 €	
Travel (Nexa)	20,000 €	
Travel (guests/speakers)	2,000 €	
Equipment	4,500 €	
Functioning costs (heating, phone, cleaning, etc.)	5,000 €	
Outlays for the use of the Center venue	20,000 €	
Surplus from projects to PoliTo personnel	4,900 €	
Indirect costs (contribution to the Politecnico di Torino budget, deducted from Nexa projects)	33,200 €	
Total costs		**408,600 €**

Table 1: Nexa Center: costs sustained in 2016

"Research PhD" (see Table 1)includes PhD students Marco Conoscenti (the scholarship financed by Telecom – now TIM –) e Giuseppe Futia from 1st October 2016 (the scholarship financed by the Italian Ministry of Public Education).

"Other personnel" (see Table 1) includes administrative personnel (Selina Fenoglietto), personnel dealing with events and communication (Giuseppe Futia until 31st August 2015, and Francesco Ruggiero from 1st October 2016), technical personnel (Davide Allavena until 30th September 2016) and an estimate of the cost of other managerial activities, which are not directly related to research (e.g., 30% of the cost of Antonio Vetrò). Some cost entries (e.g., tenured personnel) include in kind contributions (see also Table 2 below).

The contribution of the Nexa Center to the budget of Politecnico di Torino is calculated as the share of the external funding deducted by the central administration or the Department of Control and Computer Engineering (DAUIN), mainly to cover indirect costs. This amount is going to decrease: it was 33,200 € in 2016 and it will be at least 29,300 € in 2017.

Project / other source of funding	2016	2017	2018
Master Software Libero	2,600 €		
Grant from Regione Piemonte	4,300 €		
EINS – Network of Excellence on Internet Science (including MorFEO)	3,000 €	10,900 €	
DECODE	12,500 €	44,400 €	73,700 €
RRI-ICT Forum	6,200 €		
SHARE 2.0	2,800 €		
VIRT-EU		36,400 €	45,700 €
Past projects leftover	15,000 €	7,500 €	4,600 €
Grant from Google – Copyright and Internet freedom	14,500 €	15,900 €	1,600 €
Grant from Google – Measurement Kit	16,300 €	19,200 €	
Grant from Google M-Lab (Google Inc.)	9,700 €		
PASTEUR4OA	27,600 €		
Grant from Telecom Italia (TellMeFirst)	13,700 €		
Grant from Telecom Italia (the Law of Service Robots)	19,600 €	22,500 €	
Grant from Telecom Italia (online privacy)	5, 300 €	16,300 €	21,400 €
Global Network of Interdisciplinary Internet & Society Research Centers (NoC)	21,750 €		
Big Data Academy project -Intesa Sanpaolo		33,300 €	57,000 €
Grant from Regesta.exe (Spazio Dati)	5,600 €	2,400 €	
POWER AWARE – Lights off, brains on	150 €	35,100 €	11,400 €
Grant from CSI-Piemonte	20,900 €	13,600 €	
MAPO (Regione Piemonte through EU ERDF fund)	1,400 €		
Grant from eBay (Internet of Things)	26,500 €	38,600 €	25,000 €
Grant from ICANN (Internet Governance)	23,200 €		
Grant from Foundation P&P		12,000 €	
Research PhD	27,000 €	57,900 €	57,900 €
Contribution in kind from Politecnico di Torino (mainly personnel effort)	99,000 €	99,200 €	99,200 €
Contribution in kind from Prof. Marco Ricolfi	30,000 €	30,000 €	30,000 €
Total	**408,600 €**	**495,200 €**	**427,500 €**

Table 2: Nexa Center: expected funding in 2016, 2017 and 2018 (as of May 2017)

Table 2 provides an overview of the sources of funding in 2016 and an estimation of the expected funding in 2017 and 2018, which are based on relatively conservative assumptions. In fact, only funding related to the ongoing relationships and agreements (even without strict legal obligation to provide this funding, e.g. because it is subject to the discretionary evaluations of some funding institutions) is reported. No funding is listed in case of simple submitted and unapproved project proposals. It is also worth mentioning that some of the funding threads are likely to be available and used by the Center also beyond 2016. In those cases, the figures reported do not capture the entire amount of the funding.
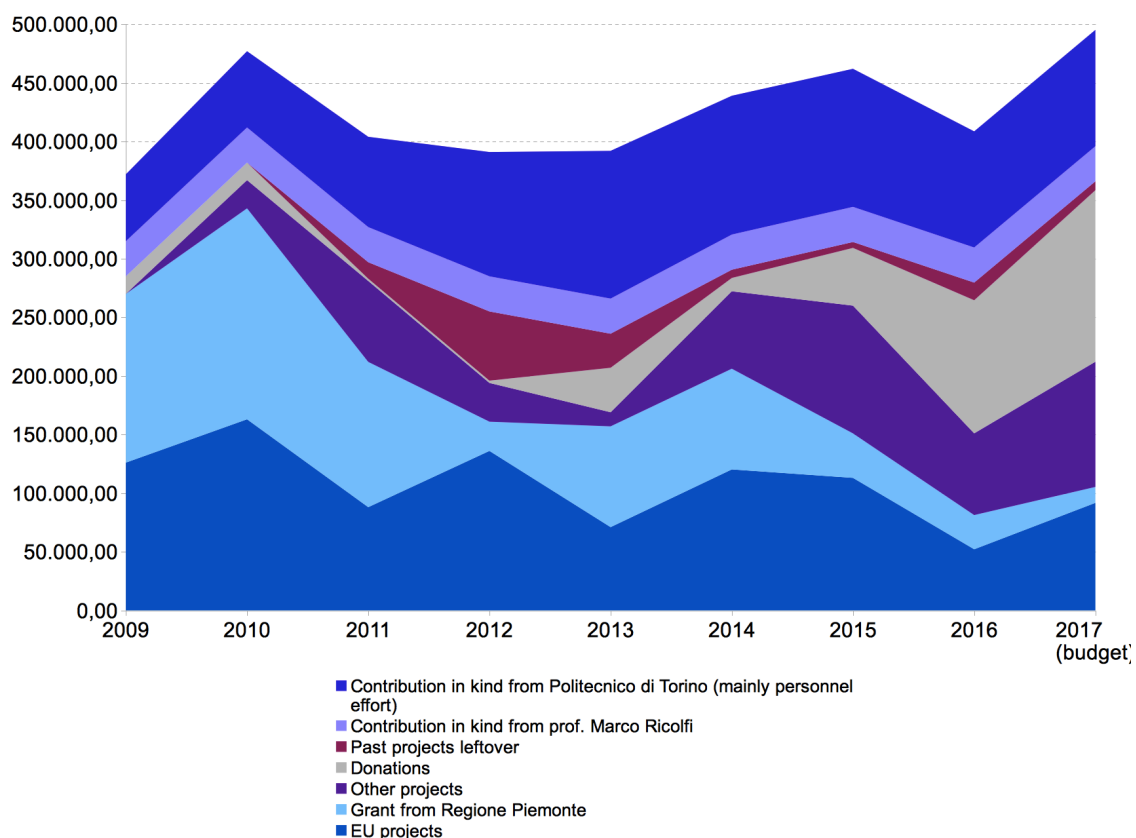
Figure 1: Composition of available financial resources (in Euros), 2009 – 2017

The figure above reports the composition of the available financial resources from 2009 to 2017 (forecasts only for 2017). It can be noticed that funding from European projects is notably decreasing, but is counterbalanced by donations.

5.2   Accountability and transparency

(The 'Accountability and transparency principles' of the Nexa Center are here reported, as finalized in December 10th, 2013, in light of the debate involving Nexa directors and trustees, and reported in the following page http://nexa.polito.it/transparency-and-accountability*).*

The Nexa Center for Internet & Society is an independent research center. While the reputation of the center ultimately rests on the quality, consistency and integrity of its actions over the course of time, the Nexa Center also adopts several ex ante rules to support the independence of the center both in substance as well as in external perception. In this regard, the issue of funding is particularly sensitive. As a general principle, the Nexa Center does not accept funding that may limit the ability of the center to carry out independent and unbiased research. The Center strives to ensure that its funding comes from a range of entities, including public sector bodies, foundations, the private sector and individuals, to minimize the dependency from any specific actor (or category of actors). Since funding provided by for-profit entities is particularly sensitive, during each reporting period, including the one covered by this Report, the Nexa Center is committed to follow accountability and transparency guidelines concerning for-profit funding. Such guidelines are formalized as follows:

1) The existence and the nature of all funding over €1,000 will be published on the website of the Nexa Center and regularly updated. Each year, the Nexa Center will also publish on its website the public version of its Annual Report, containing the same information.

2) In a given year, and as a matter of principle, funding coming from any single for-profit entity should not exceed 15% of the budget of the Center in that year. This threshold will be re-examined at each annual meeting of the Board of Trustees, according to the general principle that, if the Center budget increases, this threshold will be proportionally reduced.

3) The overall contribution coming from for-profit entities should in principle not exceed 1/3 of the overall budget of the Center in that year.

4) If the aforementioned thresholds are to be exceeded, the case will be brought to the attention of the Board of Trustees which will issue a binding recommendation to be included in the Annual Report.

5) In any case, the relationship with for-profit funders will explicitly provide that the Nexa Center accepts to undertake a certain research activity based only on the scientific method and without being constrained by any previous indication or directive from the funder (e.g., in terms of expected deliverables and research products, apart from agreeing on the definition of the field of research and organizational details).

6) Consultancy and similar activities involving more specific directives from a third party, if undertaken, will be clearly labeled as such.

7) Any changes to these policies will be subject to the approval of the Board of Trustees.

Regarding the reporting period, the funding guidelines have been respected as far as all points 1.–5. Regarding point 2., funding from a single for-profit entity (coming from Google Inc., Telecom, Regrsta.exe, eBay and ICANN) remained below the 15% cap (implying a maximum funding of about € 61,300 in 2016). The same goes for the criteria expressed at point 3.

Given the estimations of the 2017 budget, all criteria will be respected also in the next reporting period.

Nexa Center
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Funding coming from for-profit entities	% of 2016 budget (absolute value)	% of 2017 budget (absolute value)
Google	**9,91%**	**7,09%**
Google Inc., 1600 Amphitheatre Parkway Mountain View, CA USA	(40,500€)	(35,100€)
Telecom Italia	**9,42 %**	**7,84 %**
Telecom Italia S.p.A., Piazza degli Affari n. 2, 20123 Milano	(38,600 €)	(38,800 €)
Intesa Sanpaolo		**6,72 %**
Intesa Sanpaolo, Piazza San Carlo, 156 10121 Torino		(33,300 €)
Regesta.exe	**1,37%**	**0,48 %**
Regesta.exe S.r.l., Via Monte Zebio 19, 00195 Roma	(6,000)	(2,400 €)
eBay	**6,49%**	**7,79 %**
eBay Sweden AB Stockholm C/O Recall Deutschland GmbH Landsbergerstrasse 140 Leipzig 04157 Germany	(26.500 €)	(38,600 €)
Foundation P&P		**2,42 %**
Foundation P&, *Via dell'Annunciata 23/2 20121 Milano*		(12.000)
ICANN	**5,67%**	
The Internet Corporation for Assigned Names and Numbers (ICANN) 12025 Waterfront Drive, Suite 300, Los Angeles; CA 900094 USA	(23,200 €)	
Total from for-profit entities	**32,86 %**	**32,34%**

Table 3: Funding coming from for-profit entities

5.3   Organizational aspects

During the reporting period, the Nexa staff concluded a major turnover.

The new people joining the Staff are (in chronological order):

Francesco Ruggiero: writer, specialized in contemporary Italian literature, he is Nexa Communication Manager since September 2016;

Mattia Plazio: graduated in Italian Literature, since 2012 develops, coordinates and manages cultural projects funded by private and public institutions. He is Nexa Managing Director since January 2017;

Pasquale Pellegrino: after receiving the M.Sc. degree in Public and Political Communication, he started working at Nexa as Dissemination Manager of the Horizon2020 project VIRT-EU since January 2017;

Giovanni Garifo: graduated in Computer Engineering at Po-

litecnico di Torino and currently attending the courses for the master degree in Software Engineering, he joined the Nexa Center in January 2017 as IT Manager;

Eleonora Bassi: researcher with a legal and philosophical background, already Nexa Fellow, she joined the staff in April 2017 in the ambit of the Horizon2020 project DECODE;

Carolina Nicosia: graduated in Law, she joined the staff in April 2017 in the ambit of the Horizon2020 project DECODE;

At the same time, four staff members concluded their collaboration with the Nexa Center: Lorenzo Canova (former Managing Director), Davide Allavena (former IT manager), Simone Basso (Staff Senior Research Fellow).

A special mention is due to Giuseppe Futia, who left his po-

sition as Communication Manager but started a PhD on semantics for Big Data integration.

In addition, the Nexa Center usually hosts interns who collaborate on specific projects: it is the case of Marco Berlot, currently working in collaboration with Fellow Alessio Melandri on the development of TellMeQuality, a tool for measuring the quality of data according to the standards ISO/IEC 25012 and ISO/IEC 25024.

Due to the increased heterogeneity and variety of background of the Staff, we started an internal mailing list and informal lunch meetings to share reflections and readings on cultural topics and current world news: the aim is to build a common base for the reflections on the impact of the Internet revolution in our society and local communities.

5.4   Fellowships 2017 and Faculty Associates

A list of the current Fellows of the Center in available at page 65 of this Report.

Since its creation, the Nexa Center took advantage of the cooperation of a group of more or less strictly connected fellows, who provided countless insights and enriched the knowledge-sharing activity of the Nexa Center. The explicit model for this kind of interaction was the network of fellows of the Berkman Center for Internet & Society at Harvard University, obviously with several adaptations and on a smaller scale.

While Nexa Center Fellows typically contribute *pro bono* to the activities of the center, some of them, the "Research Fellows", perform a research specifically for the Nexa Center as a Ph.D. Student or with some kind of research grant (e.g., as "assegnisti di ricerca"). "Faculty Fellows" are tenured professors of the Politecnico di Torino or of the Università di Torino, which are the two universities forming the academic constituency of the Nexa Center. Since 2013, the Nexa Cen-

ter created the position of "Faculty Associate", i.e., scholars and lecturers whose field of research covers topics of interest for the Nexa Center.

Formally becoming a Fellow of the Nexa Center implies the membership in a closed mailing-list devoted to the Fellows, the possibility of taking part to internal "closed-doors" meetings at the Center (for instance, brainstorming sessions, but also the meeting of the Board of Trustees) and, of course, the

possibility of publicly using the title of Nexa Center for Internet & Society Fellow, and of appearing as such on the Nexa Center website. On top of that, depending on their research proposals, fellows may receive a limited amount of financial support (defined on a case by case basis) and reimbursement for travel and similar expenses linked to their approved projects related to the Center.

During the month of June, the Nexa Center will also announce its Fellows for the next academic year (2017/2018). The update list of fellows is available at page 65 of this report. This list includes four new fellows:

Antonio Casilli: he is associate professor at the Paris Institute of Technology (ParisTech) and research fellow at the School for Advanced Studies in Social Sciences (EHESS). His research foci are digital technologies and human rights: privacy, free speech, health, and workers' rights. He is the co-founder of the European Network on Digital Labour (ENDL). Among his most recent books: The 'Pro-Ana' Phenomemon [Le phénomène 'pro-ana'], Presses des Mines, 2016; What is digital labor? [Qu'est-ce que le digital labor?], INA Editions, 2015; Against the Hypothesis of the End of Privacy, Springer, 2014; Digital Relationships [Les liaisons numériques], Editions du Seuil, 2010. His work is regularly featured in international media (Le Monde, BBC, Repubblica, CNN, La Vanguardia, Hankyoreh Shinmun, Kathimerini).

Guido Noto La Diega: he is a Sicilian academic and practitioner who has been working on law & innovation over the last 8 years in Italy, the UK, Switzerland and Germany. He is tenured lecturer in law at the Northumbria University (Newcastle upon Tyne), where he teaches Intellectual Property and is an active member of many research clusters, including the Information Rights Research Interest Group. Currently, he is principal investigator of three projects focusing, respectively, on fashion law, Brexit, and international sexuality law. President of 'Ital-IoT', Centre of Multidisciplinary Research on the Internet of Things, alongside the IoT, he has a keen interest in artificial intelligence, digital platforms, cloud computing, robots, drones, behavioural advertising, the so-called sharing economy, and ethics by design.

Fabio Nascimbeni: he is an economist with a PhD on Information and Knowledge Society, works as Assistant Professor in the Universidad Internacional de La Rioja (UNIR) in Spain, is a fellow at the Centro de Estudos sobre Tecnologia e Sociedade of the University of Sao Paulo (USP) in Brazil and a member of the Executive Committee of the European Distance and eLearning Network (EDEN). He has been active in the field of learning innovation and ICT for learning since 1998, by designing and coordinating more than 40 research and innovation projects and promoting European and international collaboration in different areas, from school education to higher education, to lifelong learning, to ICT research. He has been working across Europe as well as in Latin America, the Caribbean, the South Mediterranean and South-East Asia. His main research interests are open education, learning innovation, digital literacy, social and digital inclusion, social networking.

Lorenzo Canova: he has been research fellow at the Nexa Center for Internet & Society since 2014 and until the end of 2016 he was also Nexa Center's Managing Director. He is specialized in Open Governement Data (with a strong interest in linked data), government transparency and collaborative platforms. At the Nexa Center he managed the European projects RRI-ICT Forum and Share PSI 2.0 and served as project manager for the Global Network of Internet & Society Research Center (networkofcenters.net), a worldwide network including more than 60 research centers on Internet & Society. He is currently teaching assistant of the Rivoluzione Digitale (Digital Revolution) course held by prof. De Martin at Politecnico di Torino. Lorenzo studied Management Engineering at Politecnico di Torino from which he received the B.Sc. degree (in 2011) and the M.Sc. degree (in 2014).

5.5 Visitors at the Nexa Center and Nexa Researchers Abroad

As in the previous reporting period, during the Fall 2016:

Juan Carlos De Martin spent a visiting period at "Fondation maison des sciences de l'Homme", Paris from 11th October, to 8th November.

Alessandro Mantelero spent a visiting period at UOC Universitat Oberta de Catalunya (Barcelona) - Internet Interdisciplinary Institute (IN3): June - July 2016.

Edoardo Celeste (University College Dublin) spent a visiting period as researcher at Nexa Center on May 2017.

Phillip Takhar (Harvard Law School) will spend a visiting period as researcher at Nexa Center from 15th May to 7th July 2017.

6. OUTREACH

6.1   Introduction

In the last year, the Nexa Center has intended to strengthen outreach activities to highlight the results of its research projects, creating new opportunities for debate, discussion, and collaborations.

To reach this purpose, the Nexa Center has recorded and published several videos: brief interviews with the research fellows and the hosts of our seminars. Some of those videos have been used as supplementary material along with the papers submitted by our research fellows. All the videos are published on the youtube channel: https://www.youtube.com/user/ NexaCenter. We are adopting a strategy to automatize the building of pages that summarize the same types of contents (for instance the page indexing all videos published on the homepage).

The Nexa Center started a collaboration with the Master of Journalism "Giorgio Bocca" at the University of Turin, directed by the trustee Anna Masera. Nexa and the Master worked together to promote several public conferences on Internet & Democracy at the 2017 edition of Biennale

Democrazia.

Since September 2016 we have started to send monthly reports to our trustees and fellows with a new graphic layout in order to update our community about the Nexa activities in a more effective and structured form.

We have modified the order of the contents in the website to give more visibility to Nexa Center research projects, and to better promote Nexa Center outcomes in terms of publications. In this perspective we also have devoted more attention to social networks (Twitter and Facebook) with the aim to providing visibility to discussions on the topics of internet and society animated by the Nexa community.

The Nexa Center has organized several workshops and hackathons, in addition to its consolidated monthly meeting series. Among the most important meetings we mention a workshop to celebrate the IoT Day 2017 held in collaboration with Ilaria Scarpellini e Mattia Della Libera, members of the designers collective Uxpills. We applied the "Design with

Dilemma" approach in order to let the participant reasoning on the "Conflicting Concerns" that run between connection and disconnection in IoT ecosystem (https://nexa.polito.it/IoTDay).

In the field of Open Data, we note the civic hackathon (https://nexa.polito.it/iodd2017) , organized in collaboration with Synapta, the start-up founded by the Nexa Fellows, Federico Morando and Alessio Melandri. This civic hackathon took place in occasion of the Italian chapter of the International Open Data Day 2017.

The Nexa Center is in charge of the Virt-Eu project's dissemination and communication. Virt-Eu is an Horizon 2020 project which foresees the participation of four Universities, an NGO and a SME. It was kicked-off on 12 January in Copenaghen. In this regard we were committed to develop the Dissemination Plan, as well as to design and curate the project's visual identity building up the Virt-EU gateway. Both activities were due as deliverables to the EU Commission.

6.2   8th Annual Conference: Internet of Things: Hell or Paradise?

For additional information, including the videos of the sessions, see http://nexa.polito.it/conf2016

On December 2nd, 2016, the 8th yearly Nexa Conference on Internet & Society took place at Politecnico di Torino. This year the focus was on IoT, conceived as an enabler for the circular economy's para-

digm. The Conference gathered more than 100 people, including researchers, professionals and lawyers. The keynote speeches were held by Nexa fellows, and foreseen an array of different perspectives: eco-

nomic, legal, societal and engineering. The conference has been extensively communicated through the website, the mailing-lists and the social media channels of the Nexa Center and in close collaboration with

the Communications Departments of the Politecnico di Torino and the University of Turin. Some Nexa Fellows, such Mauro Alovisio, supported the dissemination of the conference through communication channels followed by Turin lawyers.

Moreover, the conference was broadcasted live on our Youtube channel and supported by a live tweeting (using the hashtag #nexa2016).

Along with the Executive Summary which can be reached at the link below, two articles were published on "Agenda Digitale" as a direct output of the conference topics.

Executive summary:

https://nexa.polito.it/nexacenter-files/ExecutiveSummary_Conference2016_0.pdf

"Internet delle Cose, scenari da incubo se perdiamo il controllo sui dati":

http://www.forumpa.it/pa-digi-

tale/data-management-vetro-ruggiero-internet-delle-cose-senza-controllo-e-norme-adeguate-gli-scenari-sono-da-incubo

"Internet delle cose, troppi dati danno troppo potere: ecco i rischi per la concorrenza":

https://www.agendadigitale.eu/infrastrutture/cittadinanza-vetro-internet-delle-cose-correggere-le-distorsioni-o-si-rischiano-effetti/

The web page of the conference published on the Nexa Center website was one of the top 3 most visited pages during the last reporting period.

6.3   Nexa Wednesdays

An established tradition of continuing innovation and exchange of opinions!

The monthly meetings open to the public called "Nexa Wednesdays" became a usual appointment for the Nexa Center fellows and friends since September 2008. At the time of finalizing this report, 86 Nexa Wednesdays have taken place. The meetings are held on the second Wednesday of each month, from 18:00 to 20:00, and they are available in streaming at: http://nexa.polito.it/upcoming-events. Videos are available at: www.youtube.com/user/NexaCenter.

During the meetings, the audience following the live streaming can join the discussion via Twitter. The tweets are shown on a side screen. Attendance at Nexa Wednesdays as a rule exceeds 20 and sometimes 30 participants (thus, attendance frequently almost saturates the physical capacity of the Center's meeting room).

In order to promote an interdisciplinary exchange on the Internet & Society field, also introducing new people to the discussion, guests of the meeting are encouraged to use a simple language, avoiding unnecessary technicalities. You can find a list of all the Nexa Wednesdays at http://nexa.polito.it/mercoledi.

This is a short summary of Nexa Wednesdays that have taken place during the last reporting period:

87th Nexa Wednesday- Privacy and EU data protection law. From 95/46 Directive to the new EU Regulation: June 8, 2016; guest: Francesco Pizzetti (Università degli Studi di Torino, former President of Privacy Independent Authority).

88th Nexa Wednesday- Toward Judiciary big data? Dealing with privacy and copyright issues arising from judgements sharing on the web:

July 13, 2016; guest: Simone Aliprandi (lawyer and founder of JurisWiki.it project) Carlo Blengino (layer and Nexa Center Fellow).

89th Nexa Wednesday- The path toward a cyberbullying bill, Lights and shadows: What are the risks at stake for web censorship?: September 14, 2016; guest: Mauro Alovisio (lawyer and Nexa Center Fellow).

90th Nexa Wednesday- FirstLife, a georeferencing social network for urban commons: October 12, 2016; guest: Guido Boella (Università degli Studi di Torino).

91st Nexa Wednesday- The Genius of Leibniz, three century afterwards (1716-2016): November 9, 2016; guest: Ugo Pagallo (Università degli Studi di Torino).

92nd Nexa Wednesday- Open research data: a strategic

resource for innovation and scientific development: December 14, 2016; guest: Paola Gargiulo (Cineca).

93rd Nexa Wednesday-Big data integration for precision medicine: January 11, 2017; guest: Enzo Medico (Università degli Studi di Torino).

94th Nexa Wednesday-An Integrated Domain: visions of a Connected Future: February 8, 2017; guest: Jim Groom (Reclaim Hosting).

95th Nexa Wednesday -The open and digital public administration. Ongoing evolution: March 8, 2017; guest: Fernanda Faini (President of the telematic lawyers association).

96th Nexa Wednesday-The platform-economy and the arising challenges to labor law: April 12, 2017; guest: Antonio Aloisi (Università Bocconi di Milano).

97th Nexa Wednesday- Virality and imaginary through old and new media: May 10, 2017; guest: Antonio Santangelo (Università degli Studi di Torino).

6.4   *Nexa Lunch Seminars*

Since May 2012, the Nexa Center launched a series of meetings entitled "Nexa Lunch Seminars" held on the fourth Wednesday of the month, from 13.00 to 14.00. As in the case of Nexa Wednesdays, it is possible to follow all the meetings live over the Internet by streaming at: http://nexa.polito.it/upcoming-events. Audience interactions and dissemination are dealt in the same way as for the Nexa Wednesdays. A list of the Nexa Lunch Seminars is available at http://nexa.polito.it/lunch-seminars.

This is a short summary of Nexa Lunch Seminars that have taken place during the last reporting period:

42nd Nexa Lunch Seminar-What kind of use for social media in emergency cases? Proposition, facts and open questions: June 22, 2016; guest: Giovanni Arata (Nexa Center Fellow).

43rd Nexa Lunch Seminar-Semantic technology and bigdata – Woorking with linked data to steer data integration: July 27, 2016; guest: Giuseppe Futia (Nexa Center Research Fellow).

44th Nexa Lunch Seminar-Global Network on Internet and Society Research Centers'Open Educational Resources project: September 28, 2016; guest: Francesco Mecca (Intern Berkman Klein Center, Harvard), Lorenzo Canova (Nexa Center Research Fellow).

45th Nexa Lunch Seminar-Wikidata Birthday. The Wikidata situation in his 4th anniversary: October 26, 2016; guest: Alessio Melandri (Nexa Center Fellow).

46th Nexa Lunch Seminar-Artistic practices and imaginary through social network and urban space: Opera viva, Alessandro Bulgini: November 23, 2016; guest: Roberto Mastroianni (Philosopher and Art reviewer).

47th Nexa Lunch Seminar-Intellectual contents and copyrights: the case of Yeerida: January 25, 2017; guest: Federico José Bottino (Yeerida CEO).

48th Nexa Lunch Seminar-WikiToLearn: collaborative textbooks: February 22, 2016; guest: Riccardo Iaconelli (Università degli Studi di Milano-Bicocca).

49th Nexa Lunch Seminar-WEEEOpen: open source and sustainable electronics: March 22, 2016; guest: Marco Signoretto (Politecnico di Torino).

50th Nexa Lunch Seminar-The Online Tracking Horde: April 26, 2017; guest: Stefano Traverso (Det, Politecnico di Torino).

6.5   *Other Meetings*

Other meetings organized by the Center during the reporting period have been:

Data Quality: Measures and Concepts, with Domenico Natale (UNINFO SoftEng Commission), June 20, 2016.

Internet as most important technology ever invented, 20 years of research give us guidance on understanding why, with Paolo Cellini (LUISS), September 12, 2016.

Righteous Robots, From Leibniz, with Selmer Bringsjord (Rensselaer AI &

Reasoning Laboratory), November 16, 2016.

Public Domain Open Festival, with Nexa Center, November 29-December 1, 2, 3, 2016.

Open Data Day Torino 2017, with Nexa Center and Synapta, March 4, 2017.

Biennale Democrazia 2017, with the partnership of Nexa Center saw the participation of: Gabriella Coleman, Francesca Bria, Evgeny Morozov, Federico Pistono, Juan Carlos De Martin and Christian Raimo, March 30 - April 1,2.

IoT Day Torino 2017, workshop organized in occasion

of the IoTDay 2017, with UXPills (Mattia Della Libera and Ilaria Scarpellini), April 8, 2017.

Salone del Libro 2017, in partnership with Nexa Center, organized some events regarding publishing and digital culture, May 18, 20, 21,22.

6.6   Website

During the ongoing year the site has been featured with in-depth analysis aiming to drive changes to contents placement in order to ensure more visibility into research, publishing and social networks. A structural restlyiling will be taken into account during this year. During the reporting period the website: collected a discrete amount of traffic: about 19.700 visits from 13.500 different visitors.

The picture below shows the comparison made between two different period: the green and the purple lines respectively measure the total visits and the different visits to the website in a period lasting from May 15th, 2015 to May 16th, 2016; while the blue and the orange lines

account for the time range corresponding to the reporting year. A slight decrease is visible comparing the two periods which count a -17,78% in total visits and a -14,47% for the different visits. Indeed the former were about 24.000 and the latter about 16.000 in the first period.

The decrease is understandable as far as the communication manager worked on pushing more contents through Nexa social media channel. This choice has been pursued by the production of more video contents and interviews which funneled more interaction on the social media. It is worth noting that in 2016-2017 our website had just one exceptional peak in popularity in

December 2016 with the organization of the Nexa Annual Conference (http://nexa.polito.it/conf2016).

During the reporting period the website obtained a good international exposure: even though we acknowledged a discrete decrease in total visit, the percentage of visits from Italy remains constant (76%), while we can obsverse how the visitors from the US doubled (6,15%). A slight increase can be observed in the visits from France (1,46%) and India(1,95%) accounting for the third most significant audience after Italy and US. Almost constat are the visitors from Germany (1,36%), Netherlands (0,85%) and Belgium (0.73%).
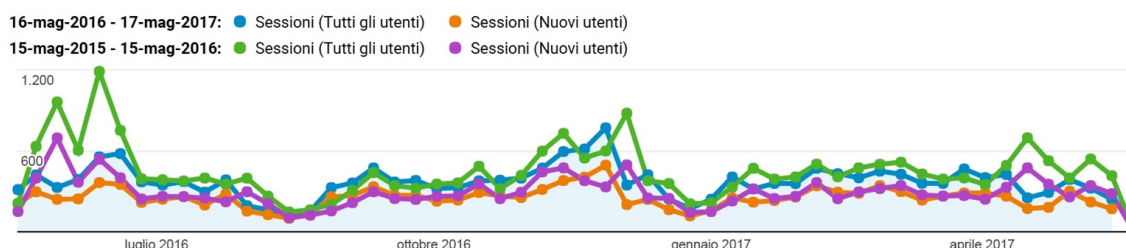
6.7 Media Exposure

Traditional newspapers and magazines, such as "La Stampa", "Il Corriere della Sera", "Il Sole 24 Ore", "Il Venerdì di Repubblica", spread the Nexa Center's press releases and gathered opinions of Nexa community members on the "Internet & Society" topic.

During the last reporting period, the co-director Juan Carlos De Martin has continued a collaboration as op-ed contributor at "La Repubblica". Some of the matters discussed in the editorials of prof. De Martin gave rise to many discussions on social media and mailing list http://nexa.polito.it/newsroom.

In July 2016, reflections of Marco Torchiano (Nexa Fellow) and Antonio Vetrò (Director of Research) on open data quality issues and standards have been reported on the ForumPA magazine (www.forumpa.it/smart-city/open-data-limportanza-degli-standard).

In February 2017, Prof. Juan Carlos De Martin published the book titled: "Università futura. Tra democrazia e bit" (Future University. Between democracy and bit). The work examines the role of Universities in the light of five global challenges for the 21st century - environmental, technological, economic, geopolitical and democratic - and articulates an idea of University which is at the same time old and new. Since then, the main italian newspapers and journals have paid attention to the book, animating discussions on the topic.

On the newspaper "La Stampa" (10 February 2017) Carola Frediani dedicated an article to the first public release for iOS and Android of the mobile version of OONI (the leading tool for internet censorship measurements), which is based on measurement-kit, the library jointly developed by Nexa and OONI developers.

The first and the second part of the executive summary of 2016 Nexa Conference ("IoT: Hell or Paradise?") has been published on www.agendadigitale.eu: the articles, signed by Francesco Ruggiero and Antonio Vetrò, summarizes the contributions to the debate of Prof. Ricolfi, Juan Carlos De Martin and Carlo Demartini, Federico Morando, Fabiu Chiusi, Monica Senor and Massimiliano Nuccio.

Francesco Ruggiero wrote a literary reportage for "Il Reportage" - quarterly journal of writing, photography and journalism - that examines some aspects of the controversial infrastructure known as Internet of Things, the possible risks and benefits, starting with the reflections of the Nexa Center for Internet & Society. https://nexa.polito.it/nexacenterfiles/IlReportage_Aprile2017_p72.pdf

The co-directors of the Nexa Center gave various interviews on "Internet & Society" issues to newspapers and radios (e.g., Rai Radio 1 and Radio 24), both traditional and online.

Some of the Nexa fellows are contributors in blogs and online newspapers, addressing issues related to many research topics of the center. The Nexa fellow Fabio Chiusi, for instance, is one of the most important Italian journalists that discuss issues related to control, censorship, and digital surveillance. The Nexa fellow Carlo Blengino continues his collaboration as hosted blogger with "Il Post" online newspaper.

6.8 Mailing lists and social media

The Center has three main mailing-lists:

The Nexa-Fellows mailing-list is a private list connecting the core Nexa Center collaborators; it is used for various purposes, including confidential communications and to coordinate the activities of the fellows on specific projects; the list has about 48 members (Nexa Center fellows, Faculty Associates, and staff) and relatively low traffic (about 174 messages since May 2016);

The Nexa mailing-list is used to inform all the fellows and friends of the Nexa Center about the events and publications of the Center, and to circulate information regarding books, reports and other materials about "Internet & Society" in general; the list is open to anybody, upon subscription, and all the members can both read and post new messages; the list has about 724 members (636 one year ago) and collected almost 1,300 posts since May 2016;

The Nexa-Announce mailing-list is a low traffic list used to spread information about Nexa Center public events and publications; it is open to anybody, upon subscription, in read only mode. The Center also uses various internal mailing-lists to connect the members of the staff and/or some sub-sets of them working on specific projects.

During the reporting period, the Center also increased the use of social networks Facebook (facebook.com/nexa.center) and Twitter (@nexacenter).

On Twitter, the center has 2,780 followers (an increase of 20% over the previous year) while the number of tweets increased from 430 for the period june 2016 – may 2016 to 1270 (+ 295%) for the reporting period. The total number of fans on Facebook is 1,800 (an increase of 38% over the previous year).

YouTube Channel: we published 387 videos (an increase of 34% over the previous year); Created: Feb 6, 2009; Lifetime views: 25,002 (19,992); reporting period: about 4,682 views for a total of almost 31,000 minutes watched.

Some targeted changes have been suggested by Valentina Valle, a student who spent few months analyzing Nexa Center communication channel as part of her bachelor thesis. She benchmarked Nexa Center website against those of other internet research center. The major insight arising from this comparison do suggest to move from Flickr to Instagram. We have recently operated this change.

6.9   Nexa research travels in 2016-2017

This is a list of research travels of Nexa community members that have taken place during the year 2016 and until the end of May 2017:

Meeting at Vodafone Italia, Milano (Italy) 25th January, 2016 - Juan Carlos De Martin.

Speaker DBpedia Meeting - "TellMeFirst", L'Aia (Netherlands) from 11th February to 13rd February, 2016 - Giuseppe Futia.

Study commission on Internet Rights and digital democracy of the Italian Chamber of Deputies, Roma (Italy) 17th February, 2016 - Juan Carlos De Martin.

Speaker: "Anonimato online - Lo stato dell'Arte" at Rai 5, Roma (Italy) 25th February, 2016 - Juan Carlos De Martin.

Tor winter DevMeeting 2016, Valencia (Spain) from 25th February to 1st March, 2016 - Simone Basso, Davide Allavena, Antonio Langiu.

Speaker: "Digital Humanities" at the Istituto Italiano di Cultura, Bruxelles (Belgium) 3rd March, 2016 - Juan Carlos De Martin.

Speaker: "Sinergie tra diritto e tecnologie digitali" at the Bocconi University, Milano (Italy) 7th March, 2016 - Juan Carlos De Martin.

Speaker: "Internet e Society, new interdisciplinary research area: Nexa Center for Internet & Society - Politecnico di Torino" at the **Bruno Kessler Foundation**, Trento (Italy) from 8th March to 9th March, 2016 - Juan Carlos De Martin.

Meeting Share-psi 2.0 project, Zagreb (Croatian) from 13th March to 17th March, 2016 - Davide Allavena.

TellMeFirst project presentation at BBC, London (UK) from 14th March to 17th March, 2016 - Giuseppe Futia.

Teaching: "The New Internet Society: Entering the Black-Box of Digital Innovations" at the Alta Scuola Politecnica, Belgirate (Italy) from 14th March to 18th March, 2016 - Juan Carlos De Martin, Antonio Vetrò, Lorenzo Canova.

Digital Currency Blockchain, London (UK) from 16th March to 18rd March, 2016 - Marco Conoscenti.

Meeting at the European University Institute, Firenze (Italy) from 22nd March to 23rd March, 2016 - Juan Carlos De Martin.

Conference WE Robot 2016, Miami (USA) from 28th March to 4th April, 2016 - Monica Alessia Senor.

Policymaking for Digital & Innovation at the P&R Foundation, Milano (Italy) 1st April, 2016 - Juan Carlos De Martin.

Workshop on Consumers and the Internet of Things, Vienna (Austria) from 10th April to 14th April, 2016 - Marco Ricolfi, Miryam Bianco, Selina Fenoglietto.

Speaker: "Competenze e Culture digitali a con-

fronto", organized by CSI at the The Senate of the Italian Republic, Roma (Italy) from 12th April to 13th April, 2016 - Juan Carlos De Martin.

Teaching: "Orizzonti in Ingegneria" at the Sant'Anna – School of Advanced Studies, Pisa (Italy) from 18th April to 19th April, 2016 - Juan Carlos De Martin.

Board of Directors of National Interuniversity Consortium for Informatics (CINI), Roma (Italy) 28th April, 2016 - Juan Carlos De Martin.

RADUNO comunità dati aperti, Trento (Italia) from 6th May to 8th May, 2016 - Giuseppe Futia.

Meeting concerning the Nexa Center future programs, Milano (Italy) 16th May, 2016 - Juan Carlos De Martin.

Final Conference Project Pasteur40A, Amsterdam (Netherlands) from 16th May to 22nd May, 2016 - Antonio Vetrò, Simone Basso, Lorenzo Canova.

National Workshop OpenAIRE, Amsterdam (Netherlands) from 29th May to 31st May, 2016 - Antonio Vetrò.

Visiting researcher Internet Disciplinary Institute, Barcelona (Spain) from 13th June to 31st July, 2016 - Alessandro Mantelero.

Workshop: "Digital Policymaking" at the SDA Bocconi, Milano (Italy) 13th June, 2016 - Juan Carlos De Martin.

Workshop Good Social Blockchain, Bruxelles (Belgium) from 20th June to 22nd June, 2016 - Marco Conoscenti.

Consultation CAD at the Italian Chamber of Deputies, Roma (Italy) 14th July, 2016 - Marco Ciurcina.

Meeting RRI-ICT Forum Project, Roma (Italy) 27th July, 2016 - Lorenzo Canova, Enrico Masala.

Speaker: Leipzing conference Leipzig (Germany) from 14th September to 16th September, 2016 - Giuseppe Futia.

New Informatics and Society Laboratory presentation of the National Interuniversity Consortium for Informatics (CINI), Roma (Italy) from 25th September to 27th September, 2016 - Juan Carlos De Martin.

Meeting RRI-ICT Forum Project, Firenze (Italy) 12th September, 2016 - Lorenzo Canova.

Nexa Center presentation at the Bocconi University, Milano (Italy) 4th October, 2016 - Juan Carlos De Martin.

Annual Conference 2016 of the Association of Internet Researchers, Berlin (Germany) from 5th October, to 9th October, 2016 - Juan Carlos De Martin.

OONI hackaton, Berlin (Germany) from 6th November to 13th November, 2016 - Antonio Langiu.

Visiting researcher "Fondation maison des sciences de l'Homme", Paris (France) from 11th October, to 8th November, 2016 - Juan Carlos De Martin.

Nexa Center presentation at the Sky, Milano (Italy) 15th November, 2016 - Juan Carlos De Martin.

Ditchley Foundation Conference: Will we still have a single global internet in 2025?, Ditchley Park, Enstone, Chipping Norton (UK) from 17th November to 19th November, 2016 - Juan Carlos De Martin.

Workshop LD&SW Semantic - ContrattiPubblici.org, a Semantic Knowledge Graph on Public Procurement Information, Bologna (Italy) from 19th November to 23rd November, 2016 - Giuseppe Futia.

Meeting MK OONI, Roma (Italy) from 26th November to 30th November, 2016 - Simone Basso.

Jury Member of the Award FunkyPrize 2016, Milano (Italy) 25th November, 2016 - Juan Carlos De Martin.

Meeting Open Government Forum Roma (Italy) 28th November, 2016 - Marco Ciurcina.

The Third International Symposium on Internet of Things: Systems, Management and Security (IOTSMS-2016) Blockchain for the Internet of Things: a Systematic Literature Review, Agadir (Morocco) November 29th to December 2nd, 2016, Marco Conoscenti.

Meeting concerning the Nexa Center future programs at Fondazione P&R and Nexa Center presentation at the H-Farm, Milano and Treviso (Italy) from 5th December to 6th December, 2016 - Juan Carlos De Martin.

Lepidoter hackthon, Roma (Italy) from 4th December to 7th December, 2016 - Simone Basso.

Meeting SIN00110 MIUR project related to theSiebel Energy Foundation project, Roma (Italy) from 6th December to 8th December, 2016 - Diego Mariani.

Code Sprin OONI project, Athens (Greece) from 16th December to 23rd December, 2016 - Simone Basso.

EGEA Bocconi Scientific Committee, Milano (Italy) 10th February, 2017 - Juan Carlos De Martin.

Presentation new ooniprobe Mobile App, Roma (Italy) from 8th February to 14th February, 2017 - Basso Simone.

UNINFO Kick-off CT Blockchain and Distributed Ledger Technology (DLT), Milano (Italy) 21st February, 2017 - Antonio Vetrò.

UNINFO Kick-off CT Tecnologie per l'Industria 4.0, Roma (Italy) from 22nd February to 23rd February, 2017 - Antonio Vetrò.

Speaker: Università ed Internet, Roma (Italy) 23rd February, 2017 - Juan Carlos De Martin.

Speaker: "Five Global Challenges and the Role of University" and visiting researcher at Harvard University, Boston (USA) from 24th February to 3rd March, 2017 - Juan Carlos De Martin.

SIEBEL Conference, Washington (USA) from 2nd March to 6th March, 2017 - Edoardo Patti.

Internet Freedom Festival, Valencia (Spain) from 6th March to 10th March, 2017 - Basso Simone.

ICANN e Internet Governance - multistakeholder meeting at Palazzo Chigi, Roma (Italy) from 7th March to 8th March, 2017 - Marco Ciurcina.

Conference: "Circolo dei Giuristi Telematici", Roma (Italy) from 18th March to 19rd March, 2017 - Massimo Travostino.

Meeting concerning the Informatics and Society Laboratory of the National Interuniversity Consortium for Informatics (CINI), Milano (Italy) 14th March , 2017 - Juan Carlos De Martin.

Speaker EDBT/ICDT 2017 Joint Conference: Database Technology and Behavior, Security, Ethics, Rights and Duties of Citizens, Venezia (Italy) from 22th March to 23rd March, 2017 - Juan Carlos De Martin.

RightsCon 2017 Conference, Bruxelles (Belgium) from 27th March to 1st April 2017 - Simone Basso

Speaker: "Nel segno dell'apertura: formazione, ricerca e innovazione" organized by Swiss Institute, Roma (Italy) 6th April, 2017 - Juan Carlos De Martin.

Speaker at the International Journalism Festival, Perugia (Italy) from 8th April to 9th April, 2017 - Juan Carlos De Martin.

Meeting Erasmus+ Project OpenMed, Bir Zayt (Palestina) from 18th April to 21th april, 2017 - Antonio Vetrò.

Book presentation: "Università futura. Tra democrazia e bit", Naples (Italy) from 12th April to 13th April, 2017 - Juan Carlos De Martin.

Book presentation: "Università futura. Tra democrazia e bit" at Politecnico of Milano, Milano (Italy) 2nd May, 2017 - Juan Carlos De Martin.

Meeting concerning the future of University at Federico II University of Napoli, Napoli (Italy) from 14nd May to 16th May, 2017 - Juan Carlos De Martin.

Meeting Erasmus+ Project OpenMed, Madrid (Spain) from 17th May to 18th May, 2017 - Antonio Vetrò.

Workshop: "IoT & Circular Economy: this side of paradise", Bruxelles (Belgium) 16th May, 2017 - Marco Ricolfi, Antonio Vetrò, Eleonora Bassi, Francesco Ruggiero.

Speaker: "Declinare l'Università al futuro. Formazione critica, ricerca innovativa, apprendimento permanente" organised by RUIAP and Federico II University of Napoli, Napoli (Italy) from 28th May to 30th May, 2017 - Juan Carlos De Martin.

39th International Conference on Software Engineering (ICSE 2017) - Peer to Peer for Privacy and Decentralization in the Internet of Things, Buenos Aires (Argentina) from 24th May to 26th May, 2017 - Marco Conoscenti

ESWC 2017 Conference - Removing Barriers to Transparency: a Case Study on the Use of Semantic Technologies to Tackle Procurement Data Inconsistency", Portorose (Slovenia) from 29th May to 1st June, 2017 - Giuseppe Futia.

7. PROJECT PROPOSALS

7.1   New Proposals

Below are reported the abstract of the project proposals that has been submitted during the reporting period.

7.1.1   EDU-HACK

Improving digital skills of teachers in Higher Education

Project website/page	N/A
Status	Under evaluation
Period	N/A (duration: 36 months)
Funding (of which Nexa)	448.865,00 € (111.710,00 € for Nexa)
Funding organization	Erasmus + (Cooperation for Innovation and the Exchange of Good Practices / KA203 - Strategic Partnership)
Person(s) in charge	Fabio Nascimbeni, Selina Fenoglietto, Antonio Vetrò

Abstract

A host of recent policy initiatives, in particular the European Commission's Opening Up Education communication and related initiatives (such as the Open Education Europa portal), have put a renewed emphasis on the creation and use of digital resources for education.

In particular, the research accompanying the Opening Up Education communication found that 50%-80% of students in EU countries never use digital textbooks, exercise software, simulations or learning games, that most teachers at primary and secondary level do not consider themselves as 'digitally confident' or able to teach digital skills effectively, and that 70% would like more training in using ICTs.

The EDU-HACK project aims to tackle this problem at its source by:

1) Improving the skills of teachers-in-training and recently-graduated teachers in developing and delivering content for eLearning courses, with particular attention to open education approaches;

2) Networking groups of these teachers in different countries (primarily but not exclusively Italy, Spain, the UK, Belgium and Malta) so as to use ICT-enhanced pedagogical approaches (including OER and MOOCs) to share and combine work and improve cross-border collaboration;

3) Facilitating the matching of skills of teachers with that of other professionals (media-production experts, quality-assurance professionals, web developers etc.), to allow for trans-disciplinary course creation teams.

A consortium of organisations active in eLearning design, teacher-training, event-management and eLearning innovation will tackle the problem through a project designed to:

1) Develop a methodology for a blended course, whereby recently-employed teaching professionals will learn the knowledge and skills necessary for eLearning course (including MOOCs) creation, composed of an online part and a 3 days intensive course, modelled after business-plan competitions, software hackathons and the principles of design thinking.

2) Organise three instances of these "Higher Education teach-ers' hackathons" (supported by a previous online learning process) around Europe, in which participants will collaborative learn specific skills and will create prototype courses, which could be further developed after the end of the project;

3) Set up a European semantic and "connectivist" resource database and network, which would promote the reproduction of these events by new institutions and in new countries, either independently or with the help and expertise of the consortium members.

If accepted, EDU-HACK will equip at least 90 teachers from 15 different institutions with the skills necessary to design and deliver their own eLearning courses, OER and MOOCs - with their competence being proven through the development of a prototype course during the project's lifecycle. The European eLearning and open education community will benefit from the project since: - it will increase in size, thanks to additional teachers trained by the project; - the variety of materials and courses available for re-sharing and re-use will increase, thanks to the materials created by the newly

trained teachers, that will be collected in a sustainable semantic and "connectivist" platform; - the cohesion and international links of the community will improve thanks to the particular international and innovative format of the 'EDU-HACK' events; - any institution in Europe will be able to replicate a 'EDU- HACK' event, multiplying all the above effects for each event organised.

7.1.2   ADDISON

Developing a privacy-aware IoT hub with a distributed and open architecture

Project website/page	N/A
Status	Under evaluation
Period	N/A (duration: 36 months)
Funding (of which Nexa)	4.931.185,00 € (70.000,00 € for Nexa)
Funding organization	European Commission Horizon 2020 ICT-16-2017 Big data PPP: research addressing main technology challenges of the data economy
Person(s) in charge	Antonio Vetrò, Eleonora Bassi, Giuseppe Futia, Marco Conoscenti

Abstract

The European automotive industry is characterized by 18.4 million of vehicles produced per year (20% of worldwide production), generating 12 million jobs and a trade balance of over 100 billion euro. At the same time, it is a highly competitive market where the innovation is strongly driven by electronics components and the capability to digitalize the system and its environment.

Consequently, the automotive context is providing a favorably environment for the usage of big data to improve the competitiveness over the entire supply chain and to develop new applications. More especially, the impact of big data – by mapping different stages within a product lifecycle and by bridging different application domains – for solving industrial challenges in the automotive domain is huge.

The target of the ADDISON project is to solve industrial challenges by the efficient use of big data technologies. More especially, the project is following four objectives:

Objective 1: Creation of an holistic framework for enabling data-driven business model, targeting to enable big-data related business by addressing aspects such as data-driven business models, education, data-supply chain.

Objective 2: Creation of a framework for big data processing addressing topics such as ETL, data enrichment and scalable machine learning algorithms.

Objective 3: Creation of a framework for interactive analysis in a (big-)data value chain, focusing on personalized visual analytics, multi-Scale, visual interfaces for big-data processing methods, and collaborative visual workspace.

Objective 4: Deployment and tailoring of big data framework to solve industrial challenge, with the target of identification and resolution of relevant industrial challenges for two automotive use case and one smart education use case by the use of tailored big data approaches. The ADDISON project will potentially impact a vehicle fleet of >9.5 million vehicles produced a year with data volume in the range of several TB/day.

7.1.3   POWER AWARE

Collective Internet platform to increase awareness of citizens on electric power consumption.

Project website/page	N/A
Status	Approved
Period	N/A (duration: 6 months)

Funding (of which Nexa)	50,000 $
Funding organization	Siebel Energy Institute
Person(s) in charge	Antonio Vetrò

Abstract

Power Aware is a web platform comparing energy consumption patterns for citizens with similar characteristics (e.g., house size, family composition, number and type of appliances) and recommending saving strategies to reduce power consumption at homes. The comparison is made by means of interactive data visualizations that show to the citizens their power consumptions related to clusters of similar users. The web platform will offer additional features aimed at building a smart community, such as social tools and consumptions forecasting. The mission of Power Aware is to enhance citizens' awareness on key factors of energy costs, to reduce energy use by changing the consumption habits.

7.2 Previous proposals

Below are summarized the outcomes of the project proposals for the past reporting period.

7.2.1 VIRT-EU

Designing IoT application with ethical principles.

Project website/page	http://virteuproject.eu/
Status	Accepted
Period	N/A (duration: 36 months)
Funding (of which Nexa)	1.999.951,25€ (350.022,60 €)
Funding organization	European Commission (H2020-ICT-2016-2017 - Topic: ICT-35-2016: Enabling responsible ICT-related research and innovation)
Person(s) in charge	Alessandro Mantelero, Pasquale Pellegrino

7.2.2 DECODE

Developing a privacy-aware IoT hub with a distributed and open architecture

Project website/page	http://www.decodeproject.eu/
Status	Accepted
Period	N/A (duration: 36 months)
Funding (of which Nexa)	4.987.673,75€ (185.125,00 €)
Funding organization	European Commission (H2020-ICT-2016-2017 - Topic: ICT-12-2016 "Net Innovation Initiative")
Person(s) in charge	Eleonora Bassi, Marco Ciurcina

7.2.3 HACK

Improving digital skills of teachers in Higher Education

Project website/page	N/A
Status	Rejected
Period	N/A (duration: 36 months)
Funding (of which Nexa)	451.670,00 € (136.870,00 €)
Funding organization	Erasmus +
Person(s) in charge	Antonio Vetrò, Lorenzo Canova

ANNEX I – NEXA PEOPLE

Some pieces of biographical information about the co-directors, staff, trustees and fellows of the Center follow.

1.1   Directors

Juan Carlos De Martin – Co-Founder and Co-Director
See dedicated box at page 3 of the EXECUTIVE SUMMARY.

Marco Ricolfi – Co-Founder and Co-Director
See dedicated box at page 3 of the EXECUTIVE SUMMARY.

1.2   Trustees

Phillip Aigrain

Dr. Philippe Aigrain was trained as a mathematician and theoretical computer scientist, and holds a Doctorate and a "Habilitation à Diriger les Recherches" qualification from University Paris 7. From 1972 to 1981, he worked in software engineering research labs of software companies. He was a research fellow at U.C. Berkeley in 1982. Since then, and before joining the European Commission in 1996, he headed research teams in the field of computer processing, indexing, retrieval and user interface for audiovisual media (video, music, still images). He is the author of more than 50 research and technology assessment papers. He is one of the founders of La Quadrature du Net, a nonprofit association that defends fundamental rights in the digital sphere in France and in Europe. He is active as an analyst of the stakes of the information revolution and engaged in actions for the reform of intellectual rights regimes. He has authored books on this subject among which: "Cause commune: l'information entre bien commun et propriété", Fayard 2005 (translated in Italian and Arabic), and "Sharing: Culture and the Economy in the Internet Age", Amsterdam Univ. Press, 2012 (translated in Polish). His books and numerous papers on the information commons, access to knowledge and intellectual rights are accessible under CC licenses on his blog paigrain.debatpublic.net. Philippe Aigrain also writes poetry and short fiction pieces that are published on his literary blog atelierdebricolage.net. He is President of Créateurs et associés, the editorial firm of publie.net, a reference publisher for French-speaking literary works whose forms originate or thrive in literature written and shared on the Web.

Yochai Benkler

Yochai Benkler is the Berkman Professor of Entrepreneurial Legal Studies at Harvard, and faculty co-director of the Berkman Center for Internet and Society. Before joining the faculty at Harvard Law School, he was Joseph M. Field '55 Professor of Law at Yale. He writes about the Internet and the emergence of networked economy and society, as well as the organization of infrastructure, such as wireless communications. In the 1990s he played a role in characterizing the centrality of information commons to innovation, information production, and freedom in both its autonomy and democracy senses. In the 2000s, he worked more on the sources and economic and political significance of radically decentralized individual action and collaboration in the production of information, knowledge and culture. His work traverses a wide range of disciplines and sectors, and is taught in a variety of professional schools and academic departments. In real world applications, his work has been widely discussed in both the business sector and civil society. His books include The Wealth of Networks: How social production transforms markets and freedom (2006), which received the Don K. Price award from the American Political Science Association for best book on science, technology, and politics, the American Sociological

Association's CITASA Book Award an outstanding book related to the sociology of communications or information technology, the Donald McGannon award for best book on social and ethical relevance in communications policy research, was named best business book about the future by Stategy & Business, and otherwise enjoyed the gentle breath of Fortuna. In civil society, Benkler's work was recognized by the Electronic Frontier Foundation's Pioneer Award in 2007, and the Public Knowledge IP3 Award in 2006. His articles include Overcoming Agoraphobia (1997/98, initiating the debate over spectrum commons); Commons as Neglected Factor of Information Production (1998) and Free as the Air to Common Use (1998, characterizing the role of the commons in information production and its relation to freedom); From Consumers to Users (2000, characterizing the need to preserve commons as a core policy goal, across all layers of the information environment); Coase's Penguin, or Linux and the Nature of the Firm (characterizing peer production as a basic phenomenon of the networked economy) and Sharing Nicely (2002, characterizing shareable goods and explaining sharing of material resources online). His work can be freely accessed at benkler.org.

Maurizio Borghi

Maurizio Borghi is Professor of Law at Bournemouth University, where he is the Director of the Centre for Intellectual Property Policy & Management (CIPPM). Prior to joining Bournemouth he has been lecturer at Brunel University Law School, research fellow at Bocconi University of Milan and visiting scholar at the Center for the Study of Law and Society at the University of California, Berkeley. His research is primarily focused on developing a right-based understanding of law for the information society. In this vein, he has extensively published on the subjects of copyright, data protection, and the role of law in the digital age. His monograph 'Copyright and Mass Digitization' (co-authored with Stavroula Karapapa) has been published in 2013 by Oxford University Press.

Mario Calderini

Mario Calderini (23rd May 1966) is Full Professor at Politecnico di Milano, School of Management, and a member of the Advisor Board of the Minister for Research and Innovation Policies. He graduated in Mechanical Engineering at Politecnico di Torino and completed a Philosophy Doctor Program (PhD) in Economics at University of Manchester. He is Full Professor at Politecnico di Milano - School of Management, where he teaches Innovation Strategy and is Director of Alta Scuola Politecnica, the Joint Honor Program of Politecnico di Milano and Torino. He has recently been nominated Vice President of Fondazione Politecnico di Milano. From 1994 to 2013 Mario has been Full Professor of Innovation Management at Politecnico di Torino and Deputy Director of the Doctoral School at Politecnico di Torino. Since 2001 he is a Honorary Research Fellow at University of Manchester. He has been teaching Innovation Strategy at Luiss Business School and Visiting Professor at Tongji University in Shanghai. At Politecnico di Torino, he was the founder and Director of the Intellectual Property Finance Institute and member of the Intellectual Property Commission. He is the author of books and articles in highly ranked scientific international journals. His research interests are in the field of economics and management of innovation. Mario Calderini holds several offices in national and international organizations and public institutions. He is the Senior Advisor to the Minister of Education, University and Research, with a mandate in research and innovation. Under the Monti presidency, he has been a consultant to the Prime Minister's Cabinet for financial instruments for innovation and he has been the Minister's Senior Advisor for research and innovation policies, besides sitting in the Italian Government's Strategic Committee for Digital Agenda. Shortly after that he was nominated Chair of the National Agency for Digital Italy's Task Force for Smart Communities. Finally, he has been a consultant to the Ministry of Economic Development and Invitalia S.p.A. for structural funds in research and development. He is a member of the Independent Evaluation Committee of the Italian Institute of Technology (IIT) and of Ospedale S. Raffaele. He is the Chair of the Independent Committee for the Evaluation of Research Policies at Provincia Autonoma di Trento. Between 2005 and 2010 Mario Calderini has been the CEO of Finpiemonte, the Financial Holding Company of Regione Piemonte. Finpiemonte was at time in charge of regional development policies providing financial support to private companies for research and innovation with an yearly budget of about 400 millions, besides being the majority shareholder of more than fifty public-private companies, including Science Parks, Incubators and Technological Districts. He also chaired the Innovation Strategy Committee at IREN, one of the largest Italian mul-

tiutility companies. Mario has been a member of the European Patent Office Academy and a consultant for OECD and European Commission on the subject of innovation policies. He sat in the Board of Directors of Agency for Innovation and Technology at Presidenza del Consiglio dei Ministri and has been a member of the Experts Commission for of the Ten-Years Strategy Report of Consiglio Nazionale delle Ricerche. After being in charge of innovation policies area at Cotec Foundation, chaired by the President of the Italian Republic, he has been appointed as member of the board of directors. Furthermore, he has been the government representative in the G8 Task Force for Social Impact Finance, member of Jury in the European Commission Social Innovation Competition and he was the Italian delegate in the European Commission of High Level Expert Group for Digital Agenda.

Luca De Biase

Luca De Biase is a journalist and writer. He is the founder and chief editor of Nòva, the science and technology crossplatform section at Il Sole 24 Ore. He is the president of the scientific committee at MediaCivici Association, which is meant to research and help improve the information ecosystem emerging in the social media. He is author of "Homo Pluralis", "Economia della felicità", "Il mago d'ebiz" and "In nome del popolo mondiale". He blogs at blog.debiase.com and lucadebiase.nova100.ilsole24ore.com. He edited with Giorgio Meletti "Bidone.com". He contributed to the project and implementation of various initiatives, such as Skillpass, ScienceXpress, I nonni raccontano, EquiLiber, porters Online. He teaches Knowledge Management at Pisa University, journalism at Padova University and Sissa University. The Media Ecology Association awarded Luca with The James W. Carey Award for Outstanding Media Ecology Journalism 2016.

Josef Drexl

Professor Dr. Josef Drexl, LLM, graduated from the University of Munich and holds a Ph.D. degree (1990) and a habilitation degree of the same University, in addition to an LL.M. degree from the University of California at Berkeley. Josef Drexl worked as a law professor at the Universities of Würzburg and Munich from 1997 to 2006; he continues to be a honorary professor at the University of Munich. Since 2002 he has been a director of the Max Planck Institute for Innova-tion and Competition in Munich. In 2003, Professor Drexl was elected the first chair of the Academic Society for Competition Law (ASCOLA). As the Chair of the Managing Board of the Munich Intellectual Property Law Center (MIPLC) he is responsible for an internationally renowned LL.M. program in IP. He acted as a visiting professor at Oxford University, LUISS University (Rome) and New York University. He regularly teaches in the LL.M. program in EU law at the University of Paris 2 Panthéon-Assas. Professor Drexl is an expert in international and European competition law, intellectual property law, consumer law and WTO law.

Luciano Floridi

Luciano Floridi is Professor of Philosophy and Ethics of Information at the University of Oxford, where he directs the Digital Ethics Lab (DELab) of the Oxford In-ternet Institute. He is also Faculty Fellow of the Alan Turing Institute (ATI), Chair of the ATI's Data Ethics research Group, and Chairman of the Ethics Advisory Board of the European Medical Information Framework. He is a member of the EU's Ethics Advisory Group on Ethical Dimensions of Data Protection, of the Royal Society and British Academy Working Group on Data Governance, of Google Advisory Board on "the right to be forgotten". His areas of expertise include the philosophy of information, computer ethics, information ethics, data ethics and the philosophy of technology. Among his recent books, all published by Oxford University Press: The Fourth Revolution - How the infosphere is reshaping human reality (2014), The Ethics of Information (2013), The Philosophy of Information (2011).

Brett Frischmann

Brett Frischmann is the 2016-2017 Microsoft Visiting Professor of Information and Technology Policy, Princeton University, and a Professor at Cardozo Law School in New York City, an affiliated scholar of the Center for Internet and Society at Stanford Law School, and a trustee for the Nexa Center for Internet & Society, Politecnico di Torino. He teaches courses in intellectual property, Internet law, and technology policy. Frischmann is a prolific author, whose articles have appeared in numerous leading academic journals. He also has published important books on the relationships between infrastructural resources, governance, commons, and spillovers, including Infrastructure: The Social Value of Shared Resources (Oxford University Press, 2012), Governing Knowledge Commons (Oxford University Press, 2014, with Michael Madison and Katherine Strandburg), and Governing Medical Research Commons (Cambridge University Press, Winter 2016, with Michael Madison and Katherine Strandburg). Frischmann received his BA in Astrophysics from Columbia University, an MS in Earth Resources Engineering from Columbia University, and a JD from the Georgetown University Law Center. After clerking for the Honorable Fred I. Parker of the U.S. Court of Appeals for the Second Circuit and practicing at Wilmer, Cutler & Pickering in Washington, DC, he joined the Loyola University, Chicago law faculty in 2002. At Princeton, Frischmann will work on his next book, Being Human in the 21st Century: How Social and Technological Tools are Reshaping Humanity (Cambridge 2017), which he is co-authoring with RIT philosopher Evan Selinger. He will examine techno-social engineering of humans, various 'creep' phenomena (e.g., boilerplate, nudge, and surveillance creep), and modern techno-driven Taylorism, and he will develop a series of human-focused Turing tests to identify and evaluate when humans behave like machines.

Urs Gasser

Urs Gasser is the Executive Director of the Berkman Center for Internet & Society at Harvard University. He teaches at Harvard Law School, at the University of St. Gallen (Switzerland) and Fudan University School of Management (China). He is a visiting professor at KEIO University (Japan) and a Fellow at the Gruter Institute for Law and Behavioral Research. Urs Gasser has written several books, is the co-author of "Interop: The Promise and Perils of Highly Interconnected Systems" (Basic Books, 2012, with John Palfrey) and Born Digital: Understanding the First Generation of Digital Natives" (Basic Books, 2008, with John Palfrey) that has been translated into 10 languages (including Chinese), and has published over 70 articles in professional journals. His research and teaching activities focus on information law and policy issues. Current projects, several of them in collaboration with leading research institutions in the U.S., Europe, and Asia, explore policy and educational challenges for young Internet users, the regulation of digital technology (currently with focus on cloud computing), interoperability, information quality, the law's impact on innovation and risk in the ICT space, and alternative governance systems. He graduated from the University of St. Gallen (J.D., S.J.D.) as well as Harvard Law School (LL.M.) and received several academic awards and prizes for his research.

Jean-Claude Guédon

Prof. Jean-Claude Guédon began his career at Glendon College (York University) in Toronto, Ontario in 1970 and has been a professor at the Université de Montréal since 1973, first in the Institut d'histoire et de sociopolitique des sciences, and, since 1987, in the Département de littérature comparée. He is a long-time member of the Internet Society serving as co-chair of the program committee in 1996, 1998 and 2000, and member of the same committee in 1997, 1999 and 2002. In 1991, with Bill Readings and Walter Moser, he launched the first electronic scholarly journal in Canada: Surfaces. Between 1998 and 2003, he was Chair of the Advisory Board for CNSLP (Canadian National Site Licence Project, now known as CRKN (Canadian Research Knowledge network). From 2002 until 2006, he was a member of OSI's Information Program sub-board. Between 2003 and 2007, he was a member of the Advisory Board of eIFL (Electronic Information for Libraries). In 2006 he was elected (until November 2008) Vice-President of the Canadian Society for the Humanities and Social Sciences. He has advised numerous governmental bodies, including the Ministère de la Recherche (France) for their e-publication project in the humanities and the social sciences; the Agence de la francophonie for matters pertaining to new technologies; the Quebec Minister of

Communication in charge of the information highway; and the Quebec Ministry of education for the integration of the new technologies into the curriculum. He regularly acts as expert for the European Commission. He is also on the editorial board of several journals, and his three books are all available in Italian. He is on the advisory board of Redalyc, an open access publishing platform based in Mexico, and he was invited to write an analysis for the 15th anniversary of the Budapest Open Access Initiative: "Open Access: Toward the Internet of the Mind". During his visit at the Nexa Center, prof. Guédon interacted with the staff and the fellows of the Nexa Center and worked on a research whose findings were presented during the 31st NEXA Wednesday (May 11, 2011): Toward a distributed mass digitization

Lucie Guibault

Dr. Lucie Guibault is Associate Professor at the Institute for Information Law of the University of Amsterdam (UvA). She studied law at the Université de Montréal (Canada) and received in 2002 her doctorate from the University of Amsterdam, where she defended her thesis on Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright. She is specialized in international and comparative copyright and intellectual property law. Lucie Guibault has been carrying out research for the European Commission, Dutch ministries, UNESCO and the Council of Europe. Her main areas of interest include copyright and related rights in the information society, open content licensing, collective rights management, limitations and exceptions in copyright, and author's contract law. She has been involved as legal partner in Creative Commons Netherlands since 2005 and in projects related to Europeana (EuropeanaConnect and Europeana Awareness) since 2009. She is in charge of the coordination of the IViR International Copyright Law Summer Course. Dr. Guibault is member of the international editorial board of Les Cahiers de propriété intellectuelle, member of the editorial board of the Journal of Intellectual Property and Information Technology (JIPITEC), and correspondent for the Netherlands for Computer Law Review International (CRi).

Anna Masera

Anna Masera, 57 years old, is an italian Journalist. She was born in Milan and she currently lives in Turin. For almost one year she's worked at La Stampa Newspaper as Public Editor, a brand-new position never performed before in an Italian newspaper. She's been the first to be appointed as social media editor in an Italian newspaper, namely La Stampa. Prevously working for Panorama (Mondadori), where she curated the web site and the web version of the magazine, she was hired at La Stampa in 1999 to launch the web newsroom. In the past she had worked as economic journalist for Milano, Italia(Rai3), Espansione, Fortune Italia, Reuters Italia, Italia Oggi. She has recently been appointed Head of the press office for the communication at Deputies Chamber (Montecitorio), where she spent two years (2014-2015), working on the digitalization of Montecitorio communication activities. She co-authored, along with the lawyer Guido Scorza, "Internet, I nostril diritti" (Laterza editore, 2016). Since 2016 she's been the Head of the Master in Journalism "Giorgio Bocca" at the University of Turin. She graduated in History in 1983 at Yale University and completed her studies with a Master in Journalism in 1984 at the Columbia University. She is a Nexa Center for Internet and Society trustee.

Angelo Raffaele Meo

1961-1969 Assistant Professor of Electrical Engineering at Politecnico di Torino.
1970- Full Professor of Computer Science at Politecnico di Torino.
1970-1999 head of "Centro per l'Elaborazione Numerale dei Segnali" CNR.
1979-1985 director of the "Progetto Finalizzato Informatica", CNR.
1991-1996 scientific director of "Centro di Supercalcolo Piemonte".
He has published more than one hundred papers dealing with computer science. In particular, he investigated switching theory, hardware design, signal processing, speech analysis and synthesis, and pattern recognition. He has co-

ordinated many academic and industrial national research projects on computer science. He was president of the Academy of Sciences of Torino. In 2002 he was called by the Italian Minister of Technology to preside at a Commission entrusted with the task of promoting open source in the Italian Public Administration.

Charles Nesson

Charles Rothwell Nesson is the William F. Weld Professor of Law at Harvard Law School and the founder of the Berkman Center for Internet & Society and of the Global Poker Strategic Thinking Society. He is author of Evidence, with Murray and Green, and has participated in several cases before the U.S. Supreme Court, including Daubert v. Merrell Dow Pharmaceuticals. In 1971, Nesson defended Daniel Ellsberg in the Pentagon Papers case. He was co-counsel for the plaintiffs in the case against W.R. Grace that was made into the film A Civil Action. Nesson attended Harvard College as an undergraduate, and then Harvard Law School where he joined the list of only a handful of people in history to have graduated summa cum laude. Nesson was a law clerk to Justice John Marshall Harlan II on the United States Supreme Court, 1965 term. He then worked as a special assistant in the Department of Justice Civil Rights Division. His first case, White v. Crook, made race and gender-based jury selection in Alabama unconstitutional. Nesson joined the Harvard Law School faculty in 1966, and was tenured in 1969. He is "currently leading a project to reify university as a meta player in cyberspace, to legitimize and teach poker and the value of strategic poker thinking, and to advance restorative justice in Jamaica". In 2006 he taught CyberOne: Law in the Court of Public Opinion with Rebecca Nesson and Gene Koo. He teaches courses in the law and practice of Evidence (how to prove the "truth"), Trials in Second Life, and a reading group with Fern Nesson on Freedom.

Maria Chiara Pievatolo
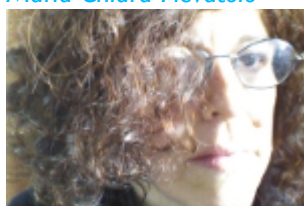
Maria Chiara Pievatolo is professor of political philosophy in the Department of Political Sciences at the University of Pisa. She has been theorizing and practicing the open access publishing in the field of humanities since the 90s of the last century, first as political philosophy editor of the Sito Web Italiano per la Filosofia (SWIF) founded by Luciano Floridi, and then as curator and founder of the "Bollettino telematico di filosofia politica", of the "Giuliano Marini" Archive, and of the book series Methexis. She is also a member of the open access Crui committee and one of the founding members of the Aisa (Associazione italiana per la promozione della scienza aperta). Since the end of 2014 she has been one of the associate editors of the Directory of the Open Access Journals (Lund University). Since 2015, she has been the vice-president of the Associazione Italiana per la promozione della scienza aperta. A detailed list of her works, many of which hypertextual, experimental, openly accessible, can be found here: https://people.unipi.it/mariachiara_pievatolo/

Michelangelo Pistoletto
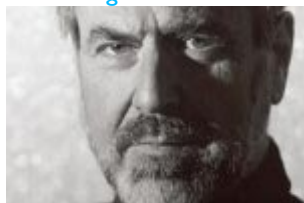
Michelangelo Pistoletto was born in Biella in 1933. He began to exhibit his work in 1955 and in 1960 he had his first solo show at Galleria Galatea in Turin. An inquiry into self-portraiture characterizes his early work. In the two-year period 1961-1962 made the first Mirror Paintings, which directly include the viewer and real time in the work, and open up perspective, reversing the Renaissance perspective that had been closed by the twentieth-century avant-gardes. These works quickly brought Pistoletto international acclaim, leading, in the sixties, to one-man shows in important galleries and museums in Europe and the United States. The Mirror Paintings are the foundation of his subsequent artistic output and theoretical thought. In 1965 and 1966 he produced a set of works entitled Minus Objects, considered fundamental to the birth of Arte Povera, an art movement of which Pistoletto was an animating force and a protagonist. In 1967 he began to work outside traditional exhibition spaces, with the first instances of that "creative collaboration" he developed over the following decades by bringing together artists from different disciplines and diverse sectors of society. In 1975-76 he presented a cycle of twelve consecutive exhibitions, Le Stanze, at Galleria Stein in Turin. This was the first of a series of complex, year-long works called "time continents". Others are

White Year (1989) and Happy Turtle (1992). In 1978, in a show at Galleria Persano in Turin, Pistoletto defined two main directions his future artwork would take: Division and Multiplication of the Mirror and Art Takes On Religion. In the early eighties he made a series of sculptures in rigid polyurethane, translated into marble for his solo show in 1984 at Forte di Belvedere in Florence. From 1985 to 1989 he created the series of "dark" volumes called Art of Squalor. During the nineties, with Project Art and with the creation in Biella of Cittadellarte - Fondazione Pistoletto and the University of Ideas, he brought art into active relation with diverse spheres of society with the aim of inspiring and producing responsible social change. In 2003 he won the Venice Biennale's Golden Lion for Lifelong Achievement. In 2004 the University of Turin awarded him a laurea honoris causa in Political Science. On that occasion the artist announced what has become the most recent phase of his work, Third Paradise. In 2007, in Jerusalem, he received the Wolf Foundation Prize in the Arts, "for his constantly inventive career as an artist, educator and activist whose restless intelligence has created prescient forms of art that contribute to fresh understanding of the world."

David Post

Prof. David Post recently retired from his position as the I. Herman Stern Professor of Law at the Beasley School of Law at Temple University, where he taught intellectual property law and the law of cyberspace. He is currently a contributor to the influential Volokh Conspiracy blog at the Washington Post, a Fellow at the Center for Democracy and Technology, and an Adjunct Scholar at the Cato Institute, while maintaining an active legal practice focused on the First Amendment. Professor Post is the author of In "Search of Jefferson's Moose: Notes on the State of Cyberspace" (Oxford, 2009), a Jeffersonian perspective on Internet law and policy, "Cyberlaw: Problems of Policy and Jurisprudence in the Information Age" (West, 4th Ed 2011) (with Brett Frischmann, Paul Berman, and Tricia Bellia), and numerous scholarly articles on intellectual property, the law of cyberspace, and complexity theory. He holds a Ph.D. in physical anthropology, and taught in the Anthropology Department at Columbia University before attending Georgetown Law Center, from which he graduated summa cum laude in 1986. After clerking with then Judge Ruth Bader Ginsburg on the DC Circuit Court of Appeals, he spent 6 years at the Washington D.C. law firm of Wilmer, Cutler & Pickering, after which he then clerked again for Justice Ginsburg during her first term at the Supreme Court (1993 - 1994), before joining the faculty of the Georgetown University Law Center (1994 – 1997) and then Temple University Law School (1997 – 2015). Professor Post's writings can be accessed online at www.davidpost.com

Stefano Quintarelli

Stefano Quintarelli is a serial entrepreneur (and prolific blogger), who pioneered the commercial development of the Internet in Italy. In 2013 he was elected to the Chamber of Deputies of the Italian Parliament as an independent candidate in the list "Scelta Civica". He graduated in IT science at the University of Milan. In 1989 he founded MI.NE.R.S. (Milano Network Researchers and Students), the student telecom association that developed the first e-mail independent system in Italy. In 1994, he was one of the founder of I.NET, the first commercial ISP in Italy. He was one of the founding members of: CLUSIT, Italian association for IT security; AIPSI, Italian association of professionals of IT security (Italian division of ISSA.org). He has been a supporter of civic IT backing the first civic networks in Italy (e.g. RCM the civic network of Milan and ONDE - Online Desenzano). He is a supporter of network neutrality and knowledge sharing and he sustained since the beginning the activities of "Condividi la Conoscenza", the conferences organized by sen. Fiorello Cortiana and in 2005 he introduced in Italy the network neutrality topic in a congress with Lawrence Lessig and in other occasions. He is author of many books and papers on the Internet, published on the most important Italian newspapers. He chaired the Italian ISP association (AIIP) till January 2007. He has been awarded by "Corriere della Sera-Economia" as one of the 30 most innovative Italian entrepreneurs.

1.3 Fellows

Alessandro Cogo – Faculty Fellow

Alessandro Cogo is associate professor at the Turin Law School, where he teaches business and IP law. He holds a PhD in Intellectual Property Law jointly granted by the Universities of Pavia and Munich. Author of a book on Copyright contracts and of essays, commentaries and case comments on copyright and trademark law, he has been working lately on projects related to secondary liability in IP matters and big data.

Enrico Donaggio – Faculty Fellow

Enrico Donaggio teaches Philosophy of History at the Università di Torino; Figures du pouvoir and Écrire et penser at the Université Aix-Marseille. He is author of Una sobria inquietudine. Karl Löwith e la filosofia (Feltrinelli, 2004; translated in French and Spanish), Che male c'è. Indifferenza e atrocità tra Auschwitz e i nostri giorni (L'ancora del Mediterraneo, 2005), A giusta distanza. Immaginare e ricordare la Shoah (L'ancora del Mediterraneo, 2010), Direi di no. Desideri di migliori libertà (Feltrinelli, 2016). He has edited La Scuola di Francoforte. La storia e i testi (Einaudi, 2005), Karl Marx. Capitalismo, istruzioni per l'uso (Feltrinelli, 2007), C'è ben altro. Criticare il capitalismo oggi (Mimesis, 2014).

Massimo Durante – Faculty Fellow

Massimo Durante is Researcher in Philosophy of Law at the Department of Law of the University of Turin. He holds a Ph.D. in Philosophy of Law, Department of Law, University of Turin, and a Ph.D. in History of Philosophy, Faculty of Philosophy, University of Paris IV Sorbonne. He teaches courses in Legal Informatics and Philosophy of Law at the Department of Law, University of Turin. He is member of the Board of the International Erasmus Mundus Phd Program "Law, Science, and Technology". His main fields of research concern the relation between Law and Ethics, Legal Informatics, Computer and Information Ethics. Author of several books, he has widely published articles, essays and book chapters in Italian, English and French. He is also member of editorial boards and peer-reviewer for several international reviews. He has been involved in many research projects in the fields of Philosophy of Law, Legal Informatics, and ICTs policies. He is also currently interested in Governance Theory and Digital Democracy.

Alessandro Mantelero – Faculty Fellow & Director of Privacy (until April 2017)

Alessandro Mantelero is Full-Tenured Aggregate Professor of Private Law and of Innovation & International Transactions Law at the Politecnico di Torino. He has been Director of Privacy at the NEXA-Center for Internet & Society at Politecnico di Torino until April 2017, part-time expert at the Nanjing University of Information Science & Technology, and programme coordinator of the Double Degree program in Management and IP Law (Polytechnic University of Turin – Tongji University of Shanghai). In 2016, he has been appointed Expert Consultant by the Council of Europe to draft the new Guidelines on the application of data protection principles to Big data. His research interests are in the field of law and technology, with a focus on personal data. During the last three years, he investigated the legal issues concerning the use of big data analytics, adopting an interdisciplinary approach in the investigation of the individual and collective implications of the data-driven decision-making processes. He has held visiting appointments at Harvard (Berkman Center for Internet & Society, 2012), Oxford (Oxford Internet

Institute, Visiting Fellow 2013 and 2014), Nanjing University of Information Science & Technology (School of Public Administration, Visiting Professor 2013) and Universitat Oberta de Catalunya (Internet Interdisciplinary Institute, Visiting Professor 2015; Faculty of Law, Visiting Professor 2016). Alessandro is involved in different national and international research programs: (2012-2015) "European Network of Excellence in Internet Science" project, funded by the European Commission (task leader of the deliverable D5.1.2 on "Internet Privacy, Identity, Trust and Reputation Mechanisms"), (2013-16) Smart mobility, project member (Politecnico di Torino, 5T s.r.l.), (2015) SmartDataNet platform, project member (CSI Piemonte, Piedmont Region). He has been involved in different private initiatives and research groups. He was member of the Digital Advisory Group at the American Chamber of Commerce in Italy (2011 – 2012) and member of the "Task Force: Control of identity" at Identity Talk in The Tower project (Giesecke & Devrient). Webpage: http://staff.polito.it/alessandro.mantelero/

Ugo Pagallo – Faculty Fellow

Ugo Pagallo is Professor of Jurisprudence at the Department of Law, University of Turin, since 2000, faculty at the Center for Transnational Legal Studies (CTLS) in London and faculty fellow at the Nexa Center for Internet and Society at the Politecnico of Turin. Member of the European RPAS Steering Group (2011-2012), and the Group of Experts for the Onlife Initiative set up by the European Commission (2012-2013), he is chief editor of the Digitalica series published by Giappichelli in Turin and co-editor of the AICOL series by Springer. Author of nine monographs and numerous essays in scholarly journals, his main interests are AI & law, network and legal theory, robotics, and information technology law (specially data protection law, copyright, and online security). He currently is member of the Ethical Committee of the CAPER project, supported by the European Commission through the Seventh Framework Programme for Research and Technological Development.

Marco Torchiano – Faculty Fellow

Marco Torchiano is an associate professor at the Control and Computer Engineering Dept. of Politecnico di Torino, Italy; he has been post-doctoral research fellow at Norwegian University of Science and Technology (NTNU), Norway. He received an MSc and a PhD in Computer Engineering from Politecnico di Torino. He is Senior Member of the IEEE and member of the software engineering committee of UNINFO (part of ISO/IEC JTC 1). He is author or co-author of over 130 research papers published in international journals and conferences, of the book 'Software Development—Case studies in Java' from Addison-Wesley, and co-editor of the book 'Developing Services for the Wireless Internet' from Springer. He recently was a visiting professor at Polytechnique Montréal on the software energy consumption topic. His current research interests are: green software, UI testing methodologies, open-data quality, and modeling notations. The methodological approach he adopts is that of empirical software engineering.

Daniele Trinchero – Faculty Fellow

Daniele Trinchero is professor at Politecnico di Torino (Dept. of Electronics and Telecommunications), where he manages the iXem Labs (which he co-founded with Riccardo Stefanelli in 2004). His research interests encompass Wireless Networks, Sensor Networks, Internet of Things, and solutions to reduce digital divide in developing countries, and in marginal areas of developed ones. He is member of the Institute of Electrical and Electronics Engineers (IEEE).

Davide Allavena – Fellow

Davide Allavena is a master student of Physics at Università di Pavia. He is completing his thesis about biologically detailed computational models of the cerebellar cortex. In April 2015 he started his work as IT Manager at Nexa Center. His main research interests focus on network measurements, network neutrality, and open data technologies. Davide regularly contributes into the software development projects of the Nexa Center.

Mauro Alovisio – Fellow

Mauro Alovisio graduated in Law at the University of Turin, Italy. He has specialized in Data Protection and New Technologies Law. Currently he is working at the Legal Office of the University of Turin. During his professional activity he dealt with the privacy and the reorganization of the public administration through the use of the new technologies. Mauro is author of scientific articles published in Italian journals and co-author on law books. He is the President of "Centro Studi di Informatica Giuridica" and he is a member of the "Commissione Informatica del Consiglio dell'Ordine degli Avvocati di Torino". As part of his Nexa fellowship, Mauro will focus on research topics related to personal data in the EVPSI project and within the implementation of pilots in the Open-DAI project, also touching other issues related to public administrations in digital environment.

Giovanni Arata – Fellow

Giovanni Arata holds a degree in Communication Sciences (Università degli Studi di Siena, 2001) and a PhD in "Information Systems and Organization" (Università degli Studi di Trento, 2006). During his doctoral studies, he has been visiting fellow at the University of California - San Diego and at the University of Oslo, and hosted at the U.S. Department of State within the 'International Visitor Leadership Program'. Since 2008, he works as researcher and freelance journalist, focusing in particular on the social and organisational impacts of the Internet. He writes for Italian newspapers and blogs such as Il Sole 24 Ore (Nòva), Punto Informatico, e-Gov, and works as analyst at Formez-PA and Regione Emilia Romagna. Since 2010, he has been developing #socialPA, a project aimed at surveying and analysing the social media presence of Italian public administrations. #socialPA is carried out in cooperation with the Nexa Center.

Claudio Artusio – Fellow
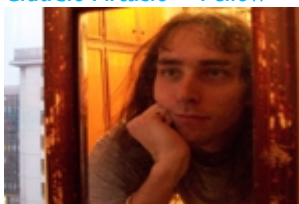
Claudio Artusio graduated in Law at the Univerisity of Turin in 2009. He collaborates with the Nexa Center since the spring of 2010 focusing on Public Sector Information (PSI) and open licenses. As Staff Research Fellow, from 2013 to 2015, he performed support and research in the field of open contents and open licenses: he provided front office assistance for Creative Commons Italia and was the operation manager of SeLiLi – the Free Licenses Service clinic. In addition, he followed the advancement of the LAPSI2.0 and PASTEUR4OA projects and managed the development of the research performed by the Nexa Center on the Legal Aspects of Service Robotics and on the exploitation of Open Data within the Italian Parliament. Previously, he managed the contents of the EVPSI Research Project and the LAPSI Thematic Network websites, both dedicated to PSI, and studied the potential connections between Trademarks (and related IP rights) and PSI within the EVPSI Project.

Nicola Bottero – Founding Fellow

Nicola Bottero is a practicing lawyer with a degree in Law from the University of Turin with a thesis on comparative law. He also graduated in the Intellectual property Specialization Course jointly organized by the University of Turin and the WIPO Academy. On top of practicing private law, industrial law and commercial law, works with the Chairs of Commercial and Industrial Law at the Law Faculty of the Universities of Turin. He also teaches industrial law within some master degrees. He has been a member of the working group of Creative Commons Italy since its beginnings in 2003.

Fabio Chiusi – Fellow
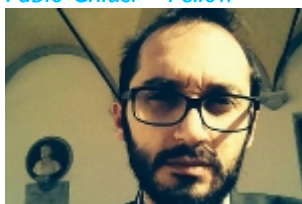
Fabio Chiusi is a freelance journalist (Wired, L'Espresso, Repubblica) and blogger (ilNichilista, Chiusi nella rete) who regularly writes about Internet censorship, surveillance and the complex relationship between digital technologies, politics and society. He holds a MSc in Philosophy of Science from the London School of Economics. He is the author of 'Critica della democrazia digitale. La politica 2.0 alla prova dei fatti' (Codice Edizioni).

Marco Ciurcina – Founding Fellow

Italian lawyer, working in the field of commercial and contractual law, Information Technology law, Copyright, Patent and Trademark law. He teaches "Law and ethics of communication" at the Politecnico di Torino, Faculty of Information Science. Free software and digital freedoms activist.

Deborah De Angelis – Founding Fellow

Deborah De Angelis has a degree in Law from Luiss University in Rome; in January 2000 she became a lawyer specialized in digital music law. In 2001 she founded the legal office DDA. She also authored various publications in matters relating to authors' digital rights. In May 2004 became a member of the Creative Commons Italy working group. Since January 2008 she is the President of A-DJ, an international associations who cares legally protecting and promoting professional DJs. She has a deep knowledge of all legal issues related to the working of collecting societies (with particular reference to the Italian Society of Authors and Editors, SIAE): this expertise is especially valuable within the Creative Commons and related projects. Since December 2008 she is the Coordinator of Creative Commons Italy / SIAE Working Group.

Giulio De Petra – Fellow

Giulio De Petra received his degree in Economics from University of Siena, Italy. He worked in the service organization in BNL (Banca Nazionale del Lavoro), one of the top italian banks, as expert in software design methodologies and in database administration. Later, he moved to the consulting division of IPACRI (Istituto per l'Automazione della Casse di Risparmio Italiane), where he was in charge of the research activities and projects. It has been senior consultant for the RSO Institute and it was for several years ICT advisor for the major of the city of Rome. Later, he became executive manager in AIPA (Autorità per l'Informatica nella Pubblica Amministrazione) - public local administration division. After he became director general for eGovernment at the Prime Minister's department of Public

Administration where he promoted the first national plan for eGovernment. Afterwards he became general manager in CNIPA (Centro Nazionale per l'Innovazione della Pubblica Amministrazione) leading as a director the public local administration department. Giulio De Petra then became general executive manager for Innovation before for the Autonomous Region of Sardinia and later for the Calabria Region. It has been member of the Prime Minister's Committee for the Statistical Information Assurance and he was vice president of ASSINTER (National association of the regional public administration companies working in the ICT field). Since 2010 he has been working at Informatica Trentina, as executive manager. Giulio De Petra founded and supported many national associations working on political and social issues of technological innovation, including "ICT for Democracy","Network","The NetCentury – for a Free Knowledge Society".

Arturo Filastò – Fellow

Arturo Filastò (@hellais) is Vice President of Hermes - Center for Transparency and Digital Human Rights and he is a free software developer at GlobaLeaks and The Tor Project. He studied Mathematics and is currently student of Computer Science at Università di Roma "La Sapienza". He collaborates with the Nexa Center in software development for network measurements, in particular those aimed at identifying cases of censorship.

Giovanni B. Gallus – Fellow

Giovanni Battista Gallus is a lawyer, admitted before the Supreme Court, ISO 27001:2005 Certified Lead Auditor, founding member of the law firm "GM-LEX Studio Legale", and member of Array.eu, a network of IT Lawyers. He holds an LL.M. granted by the University of London - UCL, and a PhD by the University of Molise. He practices mainly in the field of Criminal Law, ICT Law, Copyright and Data Protection Law, Drone Law. He is teaching assistant in Information Technology Law and Advanced Information Technology Law at the School of Law of the University of Milan. Former President of the Italian Association of Cyberlawyers ("Circolo dei Giuristi Telematici"), and fellow of the Hermes Center for Transparency and Digital Human Rights, and a passionate user and supporter of Free Software. Author and co-author of several books and articles, among which "Contenuti aperti, beni comuni" (McGraw-Hill, 2009) and "The new Information Technology Crimes" (Giappichelli, 2009).

Raimondo Iemma – Fellow
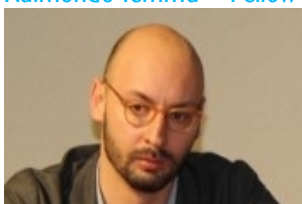
Raimondo Iemma is application manager in the ICT dept. of FCA Italy. Between 2007 and 2011, he worked for research and no profit institutions. He joined the Nexa Center in 2012 as Staff Research Fellow, serving as Managing Director for three years between 2013 and 2015, and managing coordinator of the Global Network of Internet & Society Research Centers for one year. His interests encompass open data, linked data, and open government. He holds a MSc in Engineering management from Politecnico di Torino.

Antonio Langiu – Fellow
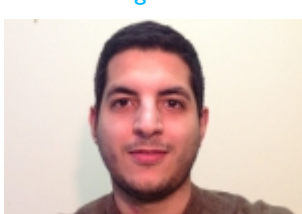
Antonio Langiu is a student of computer engineering at the Politecnico di Torino. He got in touch with the Nexa Center attending the Rivoluzione Digitale course. In November 2014 he started an internship at the Nexa Center to study the permission models used by applications available via app stores. He also studied how the advertising network libraries, included in mobile applications, use (or abuse) permissions to collect user's data. Actually he is participating in the Neubot project and in the development of the MeasurementKit library.

Stefano Leucci – Fellow

Stefano Leucci works in the field of data protection. He combines a legal background with IT skills for assessing and solving data protection issues, bridging the gap between legal teams and ICT departments. He has a wide range of experience in strategic advising for improving organizational efficiency and reducing risks of data breaches through gap analysis and digital forensics techniques. His main research interests are privacy-by-design methodologies and privacy enhancing technologies. @stefanoleucci

Alessio Melandri – Fellow

Alessio Melandri is full stack developer at Synapta in Turin, company specialized in the semantic Web and data driven applications. Having graduated in software engineering at Politecnico di Torino he has experience as programmer, in particular he works with data, refining, quering, providing visualizations and evaluating its quality. He joined the Nexa Center in 2014 after the course Rivoluzione Digitale held by Professor Juan Carlos De Martin. During 2014-2015 he collaborated with Nexa as intern, developing software, contributing to TellMeFirst and linked data projects. He has also experience in the open data field collaborating to Wikipedia, Wikidata and OpenStreetMap.

Federico Morando – Fellow

Federico is an economist, with interdisciplinary research interests focused on the intersection between law, economics and technology. His research activity mainly concerns models of production and sharing of digital contents, with a focus on linked (open) data. He also taught intellectual property and competition law at Bocconi University in Milan, and he lectures at the Politecnico di Torino and at the WIPO LL.M. in Intellectual Property. He has an undergraduate degree in Economics from Bocconi Univ. and a master's degree in Economic theory and econometrics from the Univ. of Toulouse. He holds a Ph.D. in Institutions, Economics and Law from the Univ. of Turin and Ghent with a dissertation about software interoperability. Federico joined the working group of the Nexa Center in 2006 at the beginning of its first year of formal activity. From Dec. 2012, he leads the Creative Commons Italy project and he is a member of the Open Team of Regione Piemonte that launched and steers the development of the first Italian open government data portal. From 2008 to 2012, in his position as the first Managing Director of the Center, he worked closely with the Directors to define staff and project goals and to coordinate the Center's fellows. From 2013 to 2015 he served as Director of Research and Policy of the Nexa Center, focusing on the coordination of the cross-disciplinary research activities of the Center and on the related policy support actions. At the end of 2015 Federico left the staff of the Center to become a cofounder and the CEO of Synapta, an innovative start-up specializing in linked data and the first spin-off of the Nexa Center. He continues to serve as a fellow of the Center and as the public lead of Creative Commons Italia.

Elena Pavan – Fellow

Elena is Assistant Professor at the Institute of Humanities and Social Sciences of the Scuola Normale Superiore. She holds a degree in Communication Sciences (University of Padova, Italy, 2004) and a PhD in Sociology (University of Trento, 2009). She developed her expertise in the study and the use of social network analysis in various field of research (from supra national governance political processes to human-computer interaction) and in conjunction with other analytical techniques, such as lexicon-content analysis. Her most recent research interests pertain to the relationships between collective action/political participation and social media use. Within this area, she is working interdisciplinary to combine technical and social knowledges into the study of socio-technical systems and is employing network analysis techniques and tools. She recently published in international journals and in rele-

vant Italian journals. Her PhD dissertation on Internet governance and multistakeholderism has been released in January 2012 as a book for Lexington Publications. Elena was involved, on a pro bono basis, in the EINS Network for the Nexa Center, in particular within the research group focusing on "Virtual Communities". Currently, she is contributing to Nexa on the nexus between digital media and society, in particular from a gender perspective.

Monica A. Senor – Fellow

Monica A. Senor is partner of Studio Legale Catalano Penalisti Associati law firm since 2001. She is a criminal lawyer, specialising in legal issues concerning privacy, data protection and ICT law; from a criminal procedure point of view, she has expertise in digital and biometric forensics. She's member of the IT Commission of the Turin Bar Association, member of the scientific Committee of the CSIG (Centro Studi Informatica Giuridica) and member of the CSPT (Centro Studi per il Processo Telematico). She's scientific coordinator and teacher in a training course for lawyers' state licensing exam. She contributes to online law reviews as Medialaws.eu, IlProcessoTelematico.it and ForumPA.it and she wrote for the publishing houses Egea, Giappichelli, Springer, UTET Giuridica and Aracne.

Massimo Travostino – Founding Fellow

Massimo Travostino graduated in law from University of Turin (1993) and has a post-graduate degree in international and comparative law (1996). He is a practicing lawyer at Studio Legale Pecoraro–Travostino and assists public entities and private companies in commercial and contract law, with a focus on intellectual property/information technology and telecommunication sectors. He carries out regular teaching activity and is author of articles and essays.

Giuseppe Vaciago – Fellow

Giuseppe Vaciago has been a lawyer of the Milan Bar since 2002 and he is actually a partner of R&P Legal Firm. For the last 10 years his primary focus has been IT Law with a focus on cyber crime. He has assisted many national and international IT companies. Academically, he received his PhD on Digital Forensics from Università di Milano and he is a Professor at Insubria University (Varese and Como) where he holds a course on IT law. He recently attended Fordham Law School and Stanford Law School as a Visiting Scholar to expand his studies in his own particular research area. Giuseppe Vaciago is the author of many publications on cybercrime, including both scientific journals and textbooks, which have been adopted by the University where he teaches. He has also delivered many lectures and presentations in both Italy and abroad. He is fellow at the Cybercrime Institute of Koln and member of the Editorial Board of Journal of Digital Investigation. As part of his Nexa fellowship, Giuseppe will propose research topics related to digital forensics and fundamental rights from an "Internet & Society" perspective and big data and social control.

1.4 Faculty Associates

Andrea Cairola – Faculty Associate
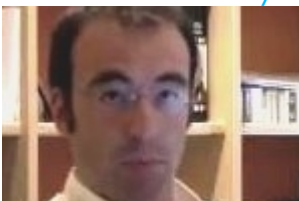
Andrea Cairola is a journalist and an expert in international cooperation in the field of media development and promotion of freedom of expression. His didactic activities include teaching video-journalism at the School of Journalism of the Catholic University of Milan as well as in other academic settings and in grass-root projects. He holds a first advanced degree in Economics at the Bocconi University of Milan, a MA in International Journalism from the City University of London, and a certificate as Media Law Advocate by the Programme in Comparative Media Law

and Policy of the Oxford University. He has participated to several conferences/academic-seminars in Europe and Asia on issues related to journalism and information; as well as he contributed, edited or reviewed publications about comparative media law, press freedom, investigative journalism, Internet and society, and freedom of information. Since 2012, he is holding the position of "Communication and Information Adviser" at the Beijing Office of UNESCO, the United Nations agency with the mandate to promote free flow of information. For UNESCO, he also worked based in Kazakhstan, and Afghanistan and in the "Freedom of Expression Division" at the Paris-headquarter, dealing with media-development and press freedom in Afghanistan, Central African Republic, Balkans and the Transcaucasian countries and in other conflict/post-conflict/transition environments. Andrea also worked as a print and broadcast journalists, authoring video contributions aired on "Report" and "Presadiretta", prime-time investigative programmes on the Italian public broadcaster RAI; producing and hosting a current-affairs TV series for Current Tv Italy; collaborating with national newspapers and magazines such as La Stampa, D di Repubblica, and Il Fatto. In 2003, he has written and co-directed the award-winning documentary Citizen Berlusconi, produced by a pool of European and US public service televisions and aired in more than 20 countries around the world. He has participated to several conferences/academic-seminars in Europe and Asia on issues related to journalism and information; as well as he contributed, edited or reviewed publications about comparative media law, press freedom, investigative journalism, Internet and society, and freedom of information.

Giancarlo Frosio – Faculty Associate

Giancarlo Frosio is the Intermediary Liability Fellow at the Center for Internet and Society at Stanford Law School, where he launched the Intermediary liability research focus area of the Center, the World Intermediary Liability Map (WILMap), and the Stanford Intermediary Liability Lab (SILLab). Since 2013, Giancarlo also serves as affiliate faculty at the Harvard CopyrightX program, where he lectures and coordinates the Turin University Affiliated Course, whose first edition he personally launched. Giancarlo is a qualified attorney with a doctoral degree (Scientiae Juridicae Doctor, S.J.D.) in intellectual property law from Duke University Law School in Durham, NC. Additionally, he holds an LL.M. with emphasis in intellectual property law from Duke University Law School, an LL.M. in information technology and telecommunications law from Strathclyde University in Glasgow, and a law degree from Università Cattolica in Milan. His research focuses on copyright law, digitization, history of creativity, public domain, open access, Internet and user based creativity, intermediary liability of online service providers, network information economy, access to knowledge (A2K), and identity politics. From 2010 to 2013, Giancarlo served as the Deputy Director and Lecturer of the LL.M. in Intellectual Property law jointly organized by WIPO and the University of Turin. He is also a Faculty Associate of the NEXA Research Center for Internet and Society in Turin, where he acted as Chief Editor and author of the Final Strategic Report of COMMUNIA, the European Thematic Network on the Digital Public Domain funded by the European Commission within the eContentplus framework. In 2013, he also served as a Research Fellow at the University of Nottingham. The post was one of the research projects of the new Centre for Copyright and New Business Models in the Creative Economy (CREATe) funded by the UK Research Councils. He is the author of numerous legal articles and publications. His book "Cumulative Creativity: From the Oral Formulaic Tradition to Digital Remix" is soon to be published.

Thomas Margoni – Faculty Associate

Thomas Margoni is a senior researcher at the Institute for Information Law. His research focus concentrates on the relationship between law (primarily copyright, designs, and patents), new technologies, and the Internet, from a comparative and international point of view. He is Marie Curie grant holder, and conducts a variety of research studies at the EU level. Thomas is regularly invited at international conferences, is a member of different initiatives connected with intellectual property, new technologies, and the Internet, and has served as an IP advisor for private and public entities. Since 2008 he has been a fellow at the Nexa center for Internet and Society, where he directs the free licences law clinic SeLiLi.

Giorgio Ventre – Faculty Associate

Giorgio Ventre is Professor of Computer Networks in the Department of Electrical and Information Engineering of the University of Napoli Federico II where he is leader of the COMICS research group on computer networking and multimedia communications. He owns a laurea degree in Electronic Engineering and a PhD in Computer Engineering, both from the Federico II. From 1991 to 1993 he was with the Tenet Group at the International Computer Science Institute and the University of California at Berkeley. In 1993 he joined the University of Napoli Federico II first as an assistant professor. In 1999 Giorgio Ventre was co-founder of ITEM, the first national research laboratory of the Italian University Consortium for Informatics (CINI), and from 2004 to 2011 was President of CRIAI, a industrial research centre on ICT in Napoli. He is now Director of ITEM and member of the board of CINI. He has been principal investigator for a number of national and international research projects and in four EU-funded research projects on the Future Internet. Giorgio Ventre has co-authored more than 200 publications and he is senior member of the IEEE and of the ACM, and he is member of AICA and of IET. He is area editor for the Computer Networks journal, Elsevier. His researches are sponsored by the European Commission, the Italian Government and by several national and international companies. He has also launched four start-up companies from the research activities developed in his lab.

1.5 Alumni

Lorenzo Canova – Staff Research Fellow 2014-2016
Carmine D'Amico – Intern 2016
Cristina Sappa - Fellow 2011-2016
Federico Cairo – Fellow 2012-2016
Myriam Bianco – Staff Research Fellow 2015-2016
Nicola Rustignoli – Intern 2015
Dario Chaifouroosh – Intern 2015
Alessandro Quaranta – Intern 2015
Luca Leschiutta – Staff 2007-2015
Roberta Bruno – Intern 2015
Fiorenza Oppici – Intern 2013
Alberto Sega – Staff 2013
Nadia Tecco – Staff 2012-2013
Silvia Bisi – Fellow 2010-2012
Elias Carotti – Research Fellow 2009 – 2012
Irene Cassarino – Fellow 2009-2012
Davide Bardone – Research Fellow 2009-2011
Carolina di Vonzo – Fellow 2009-2011
Corrado Druetta – Research Fellow 2009-2011
Valentin Vitkov – Fellow 2009-2011
Maria Crea – Staff 2011
Federica Cedriano – Staff 2009-2011
Antonella Giulia Pizzaleo – Research Fellow 2009-2010
Ilaria Buri – Staff 2009-2010
Anna Piccitto – Staff 2009-2010
Maria Teresa Medina Quintana – Staff 2006-2008
Andrea Glorioso – Staff 2006-2007

1.6 Staff and roles

Antonio Vetrò – Director of Research
    See dedicated box in the EXECUTIVE SUMMARY.
Mattia Plazio – Managing Director
    See dedicated box in the EXECUTIVE SUMMARY.
Selina Fenoglietto – Administrative Manager
    See dedicated box in the EXECUTIVE SUMMARY.
Francesco Ruggiero– Communication Manager
    See dedicated box in the EXECUTIVE SUMMARY.
Giovanni Garifo – IT Manager
    See dedicated box in the EXECUTIVE SUMMARY.
Giuseppe Futia – PhD Student
    See dedicated box in the EXECUTIVE SUMMARY.
Marco Conoscenti – PhD Student
    See dedicated box in the EXECUTIVE SUMMARY.
Simone Basso – Senior Research Fellow
    See dedicated box in the EXECUTIVE SUMMARY.
Eleonora Bassi – Senior Research Fellow
    See dedicated box in the EXECUTIVE SUMMARY.
Pasquale Pellegrino– Research Fellow
    See dedicated box in the EXECUTIVE SUMMARY.

1.7 Interns

Carolina Nicosia – Intern

Carolina Nicosia is graduated in Law at the University La Sapienza of Rome in December 2016, with a thesis on Legal Anthropology. Currently she is Junior Research Fellow at the Nexa Center since March 2017, focusing her research on the fields of digital commons, Privacy and Copyright/Copyleft.

Marco Berlot – Intern
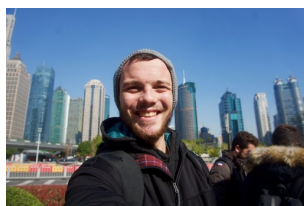
Marco Berlot is a double degree student in Computer engineering from Tongji University and Politecnico di Torino. He started an internship at the Nexa Center in March 2017. He is currently working on the development of the Tell Me Quality Project. The aim of this tool is to perform data quality measurements trough the linked data technology. He contributed to the front end part and he focused his research on how the visualizations of such results should be shown to the users.

Annex II – Nexa Publications

This section includes published articles, but also other products of the research by the Nexa Staff and Nexa Fellows, encompassing reports and some selected blog-posts and presentations. Please, notice that the list of the Nexa Fellows publications just includes the set of contributions signaled by the Nexa Fellows themselves. All Nexa Staff members and Fellows are listed in bold type.

Research Publications by Nexa Staff

BOOKS

De Martin J.C., *Università futura. Tra democrazia e bit*, Codice Edizioni, 2017

BOOK CHAPTERS

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