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The future is upon us: new challenges and prospects for digital skills

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The objective of the Panel was to provide ideas on the subject of digital skills to concretely implement digital transformation or in any case be able to govern it and not suffer it.

An overview of the state of the art on the national strategic initiative of the so-called "Digital Republic" was presented. It is the national initiative for digital skills to address the issue comprehensively, therefore from school to university and the world of work. The digital skills of are becoming increasingly challenging, because having basic digital skills is not enough, but specialized ICT skills are required. However, more than half of the Italian population still does not even have basic digital skills.

It is very important on the one hand to understand how this gap will be filled and on the other hand how education can take advantage of new technologies, such as virtual realities and the metaverse.

To do this, a research conducted by the Polytechnic University of Turin, and the companies META and Digital Experience Company was shown. The goal of the research was to test how technologies such as virtual reality, 3D video and Avatars can improve the learning experience. For example, if this were applied to a European Business School that sends its students to visit 5 factories in Asia, in Europe and in the United States to interview managers, analyze day-to-day operational efficiencies rather than best practices, all through reality virtual. Another example is some MBA students in the United States who, wearing 3D viewers, were able to visit homes and follow the daily life of families in southwestern India to assess their needs in the health and well-being sector.

Policy proposals:

1. Overcoming fragmentation. There could be many initiatives, even excellent ones, but not coordinated with each other. It is necessary to carry out operations to coordinate and not disperse resources.
2. Multistakeholder approach to create a synergy between public, private profit and private non-profit.
3. Measurability of objectives and results. Define paths that can lead to change by defining both the objectives and the evaluation criteria, together with a technical committee.
4. Some dimensions to be developed for the future of digital skills for a digital transformation in the context of emerging technologies, through the value created by

the network: transition 4.0 for SMEs; digital sustainability; use of services (e.g. e-Health care); disinformation and media literacy.

5. Encourage schools and universities to adopt new digital technologies.
6. Digital sustainability needs technicians and humanists who work together to allow the next generations to build a conscious future. This is the challenge of digital sustainability skills.

The state of connectivity in Italy

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An important theme in this background is the theme of connectivity by which we mean, on the one hand, the services, data, internet that travel through the interconnected networks of various technologies and on the other hand the services processed through Data Centers, which part of the connectivity system. Through the European indicator "Digital Economy and Society Index" (DESI) and the connectivity mapping service in Italy, Broadmap, a service offered by AGCOM, all citizens, businesses, institutions, schools, universities, are able to know what is the connectivity status of your building and what type of connectivity is FTTH, FTTC 100 Mbit/s, fiber, FWA, 5G DSS.

The results of the latest mapping tell us that Italy is increasingly connected where there is more and more fiber, there is more and more FWA, there is more and more 5G, a 5G with a rate of 99%. But with phenomena of difference in concentration, of spatial variability.

For example, the Marche Region has a low rate compared to the Italian average and the connectivity of the individual provinces has great spatial variability. The province of Ancona is better than the other provinces which are under performers. The province of Fermo appears to have the lowest rate. Italy in general is in the last places, even if it is catching up, and in the top positions we have countries like Holland, Sweden, Denmark. This is an important one, but not the only one, in fact if we look at the Italian territory we see that even within the regions there is a differentiated situation.

With the pandemic we have witnessed new phenomena and new needs: smart working, distance learning, the peak of connected users for entertainment streaming. While during the pandemic the phenomenon was with a large number of users connected simultaneously and constantly, we are now witnessing a different phenomenon: very high peaks of users connected simultaneously, but for a few hours. For this reason it is necessary that the network is interconnected, equivalent and accessible also for the consumer market. Therefore, connectivity is required for all users whether they are companies or individuals. The needs of private companies are completely different because the use is completely different.

In recent years, the connectivity demand of companies has changed. Thirty years ago companies asked for a tube that carried the internet to navigate. Now companies are asking for four things. The first thing is a partner, who knows how to communicate with the company and who takes care of his network. The second thing is that you bring a solution that guarantees continuity and reliability. The third thing is that the network is not just a connection, but an architecture that studies how the company works, where the applications are and where the Data Centers are. The fourth thing is security because today security has become something to think about in advance after all if a security-related damage happens most of the time it's too late to fix it.

The national strategy on Cybersecurity and competitiveness

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The session on Cyber Security is entitled the National Strategy on Cyber Security and Competitiveness. Making products has a cost, using safe products, even from a Cyber point of view, has a higher cost and therefore certainly has an effect on competitiveness. Any constraint or requirement that serves to guarantee Cyber Security has an effect on costs and therefore on competitiveness itself. The need therefore emerges to find a balance between guaranteeing secure systems, devices and infrastructures at national and international level and, however, guaranteeing and safeguarding the competitiveness of our production system. Are these two needs that can coexist or are they destined to conflict?
The European Union is building a governance architecture for Cyber Security. This has been happening since 2020 through three instruments.
The first tool is linked to the coordination of policies and the set of strategies of individual countries, guided by the European Commission. A part of this is also the strengthening or creation of some structures, which from now on will also have the task of coordinating all of these strategies, such as the ISA agency or the new Cyber-competence Center.
The second instrument is a normative regulatory definition formed by acts such as the Cyber Security Act, which gave rise to the issue of certifications, the strengthening of the NIS directive, with NIS2, DORA (Digital Professional Resilience Act) and for a few weeks also the proposal of a Cyber Resilience Act. This is the regulatory apparatus that is accompanying the construction of the Cyber Security architecture of the European Union.
The third aspect also concerns the part of the financial support of the investments. Through special programs such as Digital Europe which for the first time in the 2021-2027 programming period, also has the task of strengthening the competitiveness system of Cyber companies. This is also supported by the research of the Horizon Europe program and also coordinated by a set of calls from the AIDEA agency. An important tender for almost 170 million euros has just been published, precisely in the field of Cyber Security.
Competitiveness is part of this process, but also the purpose for the need to build strategic autonomy in the field of Cyber products and processes of the European Union. This is a political objective that passes through the collaboration of public and private entities. In some speeches this morning it also emerged that competitiveness is based on strengthening the quality of human capital. Next year, 2023, will be the European Year of Skills. President Ursula Von den Leyen asked member states and all authorities to work on defining a plan and to strengthen skills. Among the skills that need to be improved, digital and cyber skills are sure to come. These skills will be the most required.

At national level, the program developed by the Cyber Security Agency supports the development of innovative entrepreneurship and the valorisation of public research results starting from the national Cyber Security strategy and analyzing which are the technological strands of interest, starting from technological innovation not only of industry, but of the entire country system.

The technological strands of interest to the agency and on which the next two areas of intervention will then focus are: Cyber Security properly understood, but also data science and the blockchain, and the Cyber components in the robotics, automotive and space fields, artificial intelligence, quantum computers, cryptography and cryptocurrencies.

In order to implement the initiatives of the strategy implementation plan, the agency has developed two areas of intervention:

intervention area 1 is planned in the short term, which has already started in some way; while intervention area 2 intervention is scheduled in the medium term which will start instead in the spring of next year.

The first area of intervention involves the development of innovative entrepreneurship, mainly start-ups and spin-offs in collaboration with incubation and acceleration programs. While the intervention area 2 provides for the support and enhancement of the results of public research in collaboration with the Technology Transfer Offices of the Universities, public research bodies.

The goal is to build a stable ecosystem, an Innovation network, to develop new entrepreneurial realities in the form of startups and spin-offs in order to help them using the enhancement and development of emerging technologies. The support is provided through non-repayable grants both for validation projects (up to a maximum of 25,000 euros) and for development projects (up to a maximum of 175,000 euros). The funds that can be disbursed for each startup cannot exceed a total of 200 thousand euros.

Cybersecurity for corporate assets: tools to protect businesses

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The phenomenon of Cyber security has certainly become an important phenomenon no longer just the prerogative of large public bodies or large companies (yesterday Instagram suffered an attack), now it is also a problem for small businesses. Especially in recent years, the seriousness of the Cyber Security phenomenon has also grown considerably. Estimates made by CLUSIT, the information security association, show that in the next two years the damages generated by this problem will range from 20 to 25 billion for our country. The importance of this issue has grown enormously as attacks and their severity have increased. So above all the target of micro and small businesses is no stranger to this problem. In this forum, two strands of activity on which companies must necessarily intervene have emerged, two drivers of intervention to approach the issue of Cyber Security: one is certainly that of skills. In this morning's speeches and in the previous panel it was highlighted several times, focusing on the emergence of human factor skills for the issue of Cyber Security. Like the Chamber of Commerce system with the PID network of digital business points, we too highlight how companies have intervened in a limited way on this front (only one company out of 10 has carried out training sessions on the subject of Cyber Security).
The other trend is the technological one. Companies, even micro and small companies in recent years, especially following the increase in digitization following the pandemic period, have understood that it is necessary to invest in Cyber Security. Today 36% of companies have made interventions in Cyber Security, but the interesting fact is that there has been an increase of 9% in investments in Cyber Security in recent years. So there has been a 9% increase in companies that have made investments in Cybersecurity and it is the technological area in which companies have mostly intervened.
Cyber Security does not delegate, it must be inherent in everyone's activities. A different level of depth and breadth is required for each, but all are.
The goal is a Cyber Security democracy that affects everyone. The attacks on public bodies and companies occurred precisely by acting on personnel who managed processes that is also different from those of the ICT.
In Italy there has been a training channel for 20 years, more formalized for 15 years, which is the Higher Technical Institutes (ITS) system, however this type of channel has grown very little so far.
Parliament has approved a law to reform the ITS system and through the PNR providing significant funding for the ITS system with the aim of training a range of technicians trained to perform certain functions at an intermediate level.
The Cyber Security agency is promoting various initiatives, giving specific attention to the ITS system, through an agreement with the Ministry of Education to promote the ITS system.
Among the promotional initiatives, there is a certification system for ITS which joins the accreditation of the Regions, which can help to give greater visibility to these courses.

The goal is that this collaboration for the near future can become a tool to make Cyber Security procedures professional, not only in terms of digital in companies.

In 2021, we detected a 200% increase in cyber attacks on businesses, attacks that also affected small and micro businesses, (+20% increase in e-commerce attacks).

The strategy should therefore include:

1. greater commitment to awareness on cyber security
2. overcoming IT system weaknesses
3. agreements with professionals and insurance companies
4. simplicity and accessibility of solutions.

IGF evolution at international level

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Moderatore C. Cassa AgID
Sessione in lingua inglese

Last April in New York there was an expert group meeting, and a lot of discussion and ideas were shared to strengthen IGF. All these ideas came out from the expert group meeting, and as well as numerous opportunities for discussion at the global level are implementing. It is a work-in-progress process, that could be described as a cycle of discussions, experimentations and facts.

European Commission also is working to improve the process to improve and strengthen the IGF's role. IGF has to become a sort of central drive of digital transformation through a multistakeholder approach, whit a bottom-up and top-down process in order to spread the engagement and knowledge of all industries and sectors. The multistakeholder platform tools must be used to catch actors worldwide and to disseminate and share IGF roadmap, goals and results. The role of IGF must be to build capacity worldwide, especially in developing countries.

How

And the Roadmap of IGS has to be compliant with DSGs taking into consideration, environmental issues, climate change, as well as economic and social issues and has to be inclusive, and gender balanced. Moreover, it's important to operationalise IGF roadmap and to spread the engagement of all actors from the global to the local level, in terms of companies, not only the ICT sectors. Furthermore, it must improve engagement at the government and ministry levels, worldwide.

Last, the need to consider the complexity and dynamic change and evolution of the ecosystems, in the priorities of the policy agenda.

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The new European Internet regulation

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The regulations that have had the most important impact on services have been the Digital Service Act (DSA) of the Digital Market Act (DMA), there is a third provision in the legislative procedure which is the Data Act.

The regulations arose from the observation that there are large online operators who can abuse their economic dominance in digital markets. These operators cannot be effectively challenged with traditional antitrust rules, because a traditional antitrust proceeding is very long, from 4 to 6 years. The proceeding requires very complex economic analyzes and the decision can also be appealed. This process can take up to 8 years and we know that in a digital market such a period is an immense period. The Digital Service Act is a legislation that reforms the Internet legislation which in the European case dates back to the beginning of 2000, so it is clear that it was necessary to adapt the existing legislation. The market has changed a lot and there are players and phenomena that did not exist 20 years ago or whose seriousness it was not possible to understand.

The DMA, on the other hand, is a regulation, it reviews the way in which competition rules are applied in the digital sector. Create a special legislation, to impose the rule of competition in the digital sector.

As far as digital is concerned, the third act, the Data Act, is still incomplete, and is the basis for building a data economy within the European Union. We are talking about data in a broad sense, so far we have talked about personal data to be protected, GDPR, regulations on cookies, etc., but now data is also seen as an economic asset. The data is now treated as an economic asset regardless of whether it is personal or not. The Data Act wants to ensure that the economic potential of data is exploitable and above all that it is exploitable in a regulated manner, within the European market.

All this stems from the need to change the approach towards the online platform sector, the digital world, digital services and digital markets. Large online platforms are increasingly important for citizens. Large but also small and medium-sized companies want to have access to the European internal market of 450 million citizens and consumers.

Europe has given an answer and it was the first systemic response, with a regulation of this new sector of online platforms that is given worldwide.

There are attempts in England, Australia and the United States which have presented about twenty legislative proposals to Congress or the House covering one of the aspects, which Europe has covered in the two acts, namely the Digital Service Act and Digital Market Act Europe comes first also because the 27 states are very compact, even in the legislative

process. There were discussions on some points, but there was agreement on the key points of the new legislation from the outset. The two legislations tend to give an overall approach and complete the system with the Data Act, with a regulation of artificial intelligence, on which the Member States have recently agreed on a common negotiating position with respect to the Parliament. These two acts in particular tend to redefine the rules of interactions and the protection of online citizens in the use of social networks and Marketplaces, illegal contents and contents prejudicial to public opinion, health and democracy. The Digital Market Act, on the other hand, is not so much a specific application of competition law, as a sectoral regulation based on competition principles, but which completes antitrust with a series of obligations that are not defined ex-ante, to correct problems that the legislator has deemed to have a structural nature and not related to the specific case. Priorities for policy now should be consultation with enterprises to create a regulatory framework and partner with enterprises to give the user safety, security and freedom; agree with the companies the implementation times of the new regulations, so that the companies have the necessary time to comply.

Technologies and the employment relationship: impact on individual rights

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Moderatore Alessandro Lucchetti

How ready are workers for digital transformation? Sometimes the employers' world and trade unionists have confrontations that can last for years.

One aspect that emerges and is being strengthened is the need to protect workers, with respect to the dissemination of their data, even within the company.

The issue of worker privacy is a central theme starting from the rules, which prohibit the remote control of workers.

But the issue of worker control must also be traced back to the question: how much value does the data have? Surely the measured performance of the worker constitutes a value in the company environment and is another value to be balanced with many others. What is the position of the trade union organizations on the issue? Digital transformations and technological transformations must be seen as a positive element, not only for businesses and employers, but also for workers and trade union organizations. Digital and technological transformation means new job opportunities, improvement of working conditions and improvement of organizational models. These transformations have pitfalls, risks and dangers. The issue, therefore, is how to go about governing these transitions. It is necessary to understand what approach to have in regulating these transitions, to bring the transition towards the right, in terms of protection of the fundamental rights of workers and in terms of transition as a mechanism for qualitative and quantitative improvement of employment.

To achieve this, the focus of intervention must be shifted. When thinking about the system of protections, especially in these areas, it is necessary to place the classic regulatory systems in the background, based on static rules to find new formulas that can decipher the complexity of reality that is the subject of a digital transformation. In this sense, a transformation in the technological sense has the decisive role that collective bargaining can play. Collective bargaining must be understood as an element of synthesis of balance between the interests of employers and workers, but also as a flexible tool capable of responding dynamically to all the demands of the production system and of a business system undergoing digital transformation or technological innovation. The areas that can be affected by collective bargaining, specifically second-level local-territorial collective bargaining, are certainly many.

In order to define the guidelines, first-level bargaining is also very relevant, as well as all the agreements within the community, precisely because of the implications that these phenomena can have from the point of view of transnationality.

In collective bargaining, all those aspects linked to the principle of transparency can be put back in part.

The digital transformation in local authorities challenges and opportunities

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Despite the recent and rapid evolution of digital technologies, it is actually not a very recent issue for the public administration. In 1992, when for the first time the Italian legislator conferred the delegation, our government with law 421 of 92 to review the legislation on the acquisition of the necessary means and to review the skills of public administration employees with the aim of completing the computerization process of public administrations and the use of information systems in the nation. n February 1993 with the law n. 39 of 93, the Italian legislator introduces the regulation on automated information systems of public administrations and provides for an implementation of the use of automated information systems to be implemented in accordance with community principles through the cooperation of all the articulations of the Public Administration. This is to improve the service and make the administrative procedure more transparent, enhance the information supports available to the administrations for public decisions and contain costs. The regulatory review process initiated with the enabling law 421 culminated in 2005 with the adoption of legislative decree number 82, which essentially contains the digital administration code. The completion of the digital transition of the public administration aims to make administrative procedures more immediately perceivable by the citizen and to simplify the interaction between public and private, between the public administration and citizens and businesses and to make communication with our bureaucratic system.

The two innovations that have been introduced can be found in the single text of the digital administration code. One of these innovations is article 2, which provides for the first time a real right of the citizen to use the information technologies made available to him by the administration. Therefore, in order to access digital technologies, the citizen has certain obligations set out in the consolidated text (being equipped with a digital identity via SPID or electronic identity card, probably certified email and digital domicile) in order to allow the administration, which in possession of the data, to send all notifications of administrative acts that will be intended for citizens. On the other hand, the citizen has rights such as the guarantee of digital access to the services offered by the public administration. The second novelty in the code is that the failure by the Public Administration to fulfill this duty to comply with the obligations outlined in the digital administration code is now sanctioned because article 18 bis provides for a sanctioning mechanism for defaulting administrations.

There are three areas of possible incision regarding public powers. The first two are the traditional divisions of science and administrative law, ie organization and activities of public administrations, the organization profoundly in the management of human resources. From this point of view, the themes dealt with in the previous panel are reproduced and accentuated. The examples of flexible working and remote working conducted during the lockdown period have led to a growing awareness of the difficulties that the employer, in this case the public employer, faces when the worker is off-site. This means that it is necessary to improve the ability to monitor the performance of civil servants. The digital administration

code that signaled is a regulatory instrument that further emphasizes the role of the procedure manager who is also responsible for the correct acquisition of the digitized instructor data from the administration. And from this point of view, the second area of activity is the administrative procedure . That is, the way in which the activity of the administration is carried out is affected because what is affected is the opening, the effective capacity of the administration to open itself to the contribution of the addressee of the administrative action.

Digital technology presents particularities and I am convinced that the Baldelli church will then say something on the point, it presents aspects of complexity ranging

defined and resolved in the joint examination of the recipients of the action

A last notation about a no less relevant aspect and that is how digitization affects the body the political orientation, i.e. how important digitization is for those who have to take the political directive decision.

In local authorities, the principle of separation between the action of the political body and the administrative management is in force. This highlights the responsibilities of the political body to be able to formulate political directives. Digitization helps this moment because, through digital tools, data is acquired that improves awareness in deciding. An important challenge is therefore that of having information that makes the political decision-maker more aware of the matters on which he is operating with the administrative action of his apparatus. Therefore, the challenges associated with the use of digital technology for greater awareness of the performance of human resources, greater awareness of the contribution of the private recipient of the administrative action, greater awareness of the data on which the political decision affects. On the other hand, the opportunities are to improve performance. The performances to be evaluated are the performance of the administrative apparatus in the use of resources and the development of the administrative procedure. Digitization issues must be placed within the Sustainable Development Goals. It immediately emerged that beyond seeing digitization as a transversal subject with respect to all the objectives, a key moment was precisely the realization of objectives of a solid and just institution. Peace, justice and solid institutions are objective number 9 of the 2030 agenda. In the values that the United Nations propose, we find both article 97 of our Constitution and article 41 on the right of good administration, of the fundamental charter of the European Union law. From this point of view, the opportunities are precisely those of improving the performance of our administrations to make them more open.

The Memorandum of Understanding between the Marche Region and Amazon
Rita Malvasi Public Policy Manager Amazon Italia

The Marche Region has signed a memorandum of understanding with Amazon, which moves along two main lines: on the one hand, the creation of a space dedicated to "made in Marche" products, on the other, the creation of a specific training platform for allow Marche companies to equip themselves with the digital skills that are necessary for an effective use of digital channels.

Emerging technologies in the agri-food sector

Luigi Ledda Università Politecnica delle Marche, Graziano Brandoni Azienda Agricola Brandoni, Deborah Pacetti Università Politecnica delle Marche, Ancuta Nartea CEO Integrity Key, Vincenzo Viola Business Strategic Advisor Wiseside SRL, Luca Saccomandi Società Agricola Nonno Ciro, Tommaso Di Sante Member of the Board for Agriculture Chamber of Commerce of Marche, Davide Neri Università Politecnica delle Marche (moderator).

The main topics of the panel were the importance of introducing technologies in the agri-food sector and how they can bring benefits in terms of productivity, profitability and sustainability.

What emerges is the adoption by the agri-food sector of an approach called precision agriculture that meets the need for space-temporal variability of fields.

Through this approach, which uses tractors and implements capable of modifying their operating mode to manage field variability, it is possible to distribute the right dose, at the right time, in the right place.

This makes it possible to be more productive, efficient and environmentally friendly in practice.

Two techniques are available to manage such space-temporal variability:
1. Decompose the field into sub-portions that are then managed independently.
2. The use of technologies that possess continuous variation capabilities.

Among the technologies that have emerged that contribute to this goal are: precision irrigation in open fields, automatic and precision irrigation, drones and satellites, texture mapping, field capacity mapping, prescription mapping, vegetation mapping, collars installed on animals.

Similarly, the food sector also presents important opportunities and new initiatives thanks to innovation and the use of new emerging technologies that must necessarily combine quality, sustainability and product traceability.

These include the innovation of functional foods through the study of alternative ingredients that possess bioactive components and are at the same time sustainable.

One example is the use of edible insects, which has led to the creation of breads enriched with insect flour, or the use of further alternative ingredients that consist of perfectly edible and substance-rich plant by-products.

The challenge is to bring out the added value of the product and guarantee it, and this is where blockchain traceability technology comes to the rescue.

The objective of the latter is to verify around a product which suppliers, raw materials, their destinations, sustainability parameters and all information that is considered fundamental in the communication of a batch, in order to have more control within the supply chain and an increase in the perception of value.

The many technologies mentioned allow important data collection, but what is missing in companies is a culture of data in terms of quality. Questi modelli matematici non possono essere costruiti in maniera istintiva, è necessario l'esperto in materia.

Several insights emerge on how to deal with digital transformation and new technologies in the agri-food sector:

1. Present digital transformation to the agricultural and agri-food world as an opportunity, not to manipulate a multiplicity of numbers, but to extract value from data. This requires a holistic view, skills, best practices.
   Processes need to be digitally and multidisciplinary reviewed, farmers need to be provided with advanced analysis tools, and digital awareness and training needs to be created at all levels of the business.
2. Digital transformation as a support to improve ESG indices in companies, through the revision of internal processes (how waste is used, water, energy, packaging, etc.). This is only possible through precise measurement.
   Why is this crucial? Today, the EBA (European Banking Authority) states in its credit access guidelines that institutions must consider the risks associated with ESG factors for borrowers' financial conditions, and in particular the potential impact of environmental factors and climate change, in their credit risk appetite and related policies and procedures.
3. A strong link with the university environment is needed because companies lack qualified personnel for innovation.
   It is necessary a link with important internships and a comparison in order for companies to grow.
4. A greater encourage towards Agriculture 4.0 by the agricultural world with the use of the emerging technologies mentioned above.
   Today, 4.0 is no longer the future but has been the present for some time, but many farmers see it more as a tax credit contribution rather than an efficiency improvement through technology.
   It is necessary to see the introduction of innovation in an enterprise not as a fad or a matter of legislation alone but as a way of working.

Web 3.0: innovation and metaverse

Luca Marinelli Professor at Politecnica delle Marche University and LUISS Business School, Domenico Ursino Professor at Politecnica delle Marche University, Costanza Andreini Meta, Marco Pierani of Euroconsumers, Augusto Preta of International Institute of Communications - IIC (moderator).

The main topics of the panel were the evolution of Web 3.0 and the future of the Internet, starting with a question: what is the metaverse?

According to most observers, the metaverse is a future version of the Internet with three-dimensional dimensions and the presence of subjects in the form of avatars.

The metaverse is an enhancement of reality that intervenes when physical experience does not allow us to achieve certain goals.

One of the central features of the metaverse will be the feeling of presence, feeling that we are in another place but sharing a particular dimension with other people in our lives.

Until now, some platforms have been developed that allow an immersive experience such as virtual reality, augmented reality, mixed reality and extended reality.

According to recent research by Web3 Alliance and The Innovation Group on the state of the art in the relationship between enterprises and Web 3.0, it comes to light that more than 75% of the enterprises interviewed declare that they are interested in Web 3.0, of these only 4% have moved on to a more applicative phase.

64% are studying the situation to test its feasibility soon and the remaining 7% have introduced a pilot project in progress. So, the interest is there but more is needed from an operational point of view.

Talking about initiatives related to these technologies, we refer to the creation and marketing of NFTs, i.e. digital content that can be the representation of many things such as objects, works of art, music and much more and exchanged through cryptocurrencies, the creation or presence of virtual worlds, initiatives related to smart working, i.e. digital operating spaces, digital events, i.e. the possibility of reproducing trade fair events in a digital context, establishing relationships and networking possibilities with potential partners.

The opportunities generated by these technologies involve a vast range of sectors, from entertainment with the world of videogames, to manufacturing through remote assistance, design review consisting of virtual spaces where groups can carry out projects, healthcare and medicine with the possibility of training doctors on three-dimensional systems before carrying out operation, education and didactics that make it possible to make training more immersive and interactive for students.

In particular, the metaverse for companies may not only be a touchpoint with their interlocutors within the customer journey but a real contact environment.

This will require companies to rethink their strategies, the design of a new customer experience that will be declined into a unique and immersive environment where they can interface with their users.

A recent analysis that Meta commissioned says that in the next ten years the metaverse's potential economic contribution will be three thousand billion dollars, about four hundred and forty billion relative to European GDP.

Why do we still find difficulties? The point is that for most people imagining themselves as part of the Internet is still difficult to visualize.

The considerations that are suggested to companies in view of the near future are to:

1. In the short term, try to understand whether, what is now the metaverse, can represent a channel in which to improve brand presence, bring new communication to the company and strengthen the sales force.
2. To understand whether it is possible for the company to intercept and transfer value to its market segment in the metaverse.
3. Continuous training and the need to learn specialized technical skills as we are talking about not user-friendly platforms.
4. Investment in the form of content as is already happening through NFTs.
5. The need for user education, which also requires skills, advanced technological and network speed.
    The development of new technologies such as 5G and 6G is crucial.
6. A strong sensitivity on issues such as privacy, content management, possible control, intellectual property management, aspects that could expose companies to various risks.
7. Creating a regulatory framework to help build a metaverse.
    Such a project will require a set of rules and infrastructures that enable the inclusive and interoperable development of this dimension.
8. Trying to avoid the problems that have been generated with Web 2.0 from a regulatory point of view, thus moving towards the drafting of a regulation on the metaverse and creating it with a sharing, at the time of the design of these new worlds, that could be done between companies, institutions and consumers.

RESULTS OF DIGITALIZATION OF COMPANIES OPERATING IN THE MARCHE

Moderator: Gian Luca Gregori, Rector of the Marche Polytechnic University
Interventions:
Valerio Temperini, Polytechnic University of the Marche
Fabio Musso, University of Urbino
Daniele Rossi, University of Camerino
Francesca Spigarelli, Dominique Lepore, University of Macerata
Massimiliano Polacco, Confcommercio Marche

The panel presents the main results of the study conducted as part of the "RESEARCH LABORATORY PROJECT FOR DEVELOPMENT" promoted by CAMERA COMMERCIO MARCHE and involving the UNIVERSITIES OF MARCHE.
The research has set itself the objective of automating the digital transformation process of companies in the Marche region with reference to the various sectors (agri-food, manufacturing, tertiary, culture), with the aim both of identifying the greatest opportunities and critical issues, and of tracing possible strategies and interventions to encourage a more effective use of the internet to increase the competitiveness of the companies themselves.

Main opportunities:
As it is well known, ICTs can bring significant advantages to companies, having a significant impact on business activities, and in particular, they allow for greater levels of efficiency to be achieved, to take advantage of greater information resources, to enhance knowledge and skills, to extend communication target and be more effective, to expand market opportunities. Technological evolution favors the possibility of business renewal, the birth of new products or services, new markets.
Studies show a positive correlation between the level of digitization and the economic growth of countries (due to an increase in productivity)

Critical issues:
In the national context, the Marche region is among the most backward regions in terms of digital transformation.
The infrastructural limits are notoriously relevant; although some improvements have been achieved in the latter period. Added to these are limits of a cultural and structural nature linked to the size of the companies.

Istat has pointed out that the Marches occupy the:
• Second last position among the Italian regions for the percentage of companies with at least 10 employees equipped with a fast internet connection (at least 100 Mb/s): 23.3% of companies (compared to a national average of 35%)
• Second last position among the Italian regions for the percentage of companies with at least 10 employees who sell online: 11.3% of companies (compared to a national average of 16.3%).

Major issues observed:
• Limited digital infrastructure (especially with reference to the internal areas of the region)

- Limited digitization culture (lack of knowledge of the tools; lack of a strategy)
- Limited skills (especially in smaller companies)
- Need to provide "tangible" benefits to businesses (returns on investments)

SOME SUGGESTIONS EMERGING FROM THE STUDY TO PROMOTE THE POSITIVE IMPACT OF THE INTERNET ON THE COMPETITIVENESS AND DEVELOPMENT OF BUSINESSES

- Promoting knowledge and an adequate culture regarding the role of the internet and digital technologies for the competitiveness and development of businesses, also by disseminating best practices.

- Developing skills in companies, especially smaller ones, to manage digital tools.

- Promoting the passage of focus from the technical-technological aspects (Website, cloud, IoT..) to the managerial ones (these are tools and are not to be confused with the strategy).

- Adopting a differentiated approach to the business system, clustering them on the basis of business models, the relationship with digital technologies, organizational size and resources, needs in terms of competitiveness and development.

- Supporting effective omni-channel management through training and consultancy services, favoring an approach that provides for the integration of offline and online channels, therefore with a view not of replacement and conflict, but of mutual enhancement.

- Promoting supply chain and inter-sector integration projects through the use of digital technologies to improve the efficiency of value chains.

- Supporting the development of ecosystems that favor the orientation and support of business innovation, involving and integrating the different players in the area, such as, in addition to the Chamber of Commerce, trade associations, Digital Innovation Hubs, Universities, research centres, technology providers.

- Promoting the development of technological and logistic platforms at a territorial or sectoral level to facilitate the communication, promotion and marketing of the products and services of the Marche companies.

- Integrating the issue of digitization with other drivers of competitiveness and business development, in particular, with sustainability and the circular economy, and internationalisation.

- Developing and disseminate the use of systems for measuring the impact of digitization in companies, highlighting the economic benefits with appropriate indicators such as Digital ROI, with a view to favoring and stimulating investments.

IGF Italia in the country's digital transformation process

Guido Scorza Componente Garante Privacy, Roberto Bedani Direttore Confindustria Digitale, Paolo Ghezzi Direttore Generale Infocamere, Mattia Fantinati Sottosegretario Pubblica Amministrazione e Presidente Associazione IGF Italia (moderator).

The main topics of the panel were the current situation of the country's economy, the digitization of SMEs, the importance of the data guarantor and data defense tools.

In Italy there are 6,049,825 enterprises, 99.9 per cent of which fall into the SME category according to Europe, and within this important number lies the Italian miracle of 'Made in Italy'. More than three million individual companies that, as the market evolves, deal with global suppliers and therefore need to know with whom they do business.

In this regard, the importance of the state certifying and supporting companies is emphasized. Thanks to the Chamber of Commerce, sole traders have a business certificate that represents their identity, identifies who they are, what they do and who they are working with.

Today, an entrepreneur without a digital identity (SPID, national service card, digital signature) cannot work, in a broad sense.

The Chambers of Commerce System, taking advantage of this fact, has ensured that 1.8 million entrepreneurs use the portal known as the 'Entrepreneur's Digital Drawer' to always have the information and official documents of their business available.

This system has several advantages, first and foremost the possibility of having business documents completely free on the smartphone and easily consultable; in addition, the dematerialization of documents is useful for many business functions.

The Chamber System, through the portal, will be able to communicate a variety of services with entrepreneurs.

In addition, the Chamber System is committed to the issue of cybersecurity, since today the entrepreneur needs guarantees on the data deposited with the public administration and to avoid submitting the same document already in its possession several times.

Subsequently, about the protection of personal data, which are protected by the Garante della Privacy, it is necessary to adopt defence tools, particularly in this historical moment where citizens make heavy use of their smartphones, an archive of infinite personal data.

People lack digital awareness and culture. We are still too far behind in terms of digital literacy.

The policy ideas that are suggested are:

1. To make digital education and culture mass, this is the main tool to defend data.
2. Through the Chamber of Commerce, support micro-businesses with initiatives to promote digital literacy, as they are not able to individually acquire digital services that are too costly.
   The key suggested by the Chamber of Commerce System is to work in an aggregate form together with the University and the regional players that have knowledge of the area, on a supply chain where that gap in the market diminishes because we are going to think in a broader sense.
3. It is important to encourage public administration data to be used by stakeholders in the territories.

Promoting digital skills with the IGF Italy school
Anja Gengo IGF NRIs Coordinator, Laura Giovanna Pinto Regional School Directorate - General Group Coordinator, Annamaria Marconi Unioncamere – Dintec (moderator).
During the panel the speakers dealt with the promotion of digital skills through training and the school of IGF Italy.

The IGF Italia school was created with the aim of meeting multiple needs, such as: the development of digital skills as a prerequisite for the digital transaction, the augmented humanity that sees man at the centre empowered by the Internet, the spatial variability of connectivity that shows a problem still present in Italy which is the digital divide, security and cybersecurity, digital literacy to make people aware of the risks of the Internet.
The aim is to help spread Internet knowledge and prepare future entrepreneurs.
The aim is to realise the right to connectivity in order to fight the digital divide, a reasoning that starts from the 2015 Declaration of Internet Rights in which among the 14 rights enshrined are the right to access, the right to knowledge, the right to net education and net neutrality.
The training opportunity is intended for three-year secondary school students, to whom a snapshot will be transferred, not only of the opportunities and risks of the Internet, but will be offered the best of the trainers within IGF Italia to get a holistic view of the digital system, the future of the Net and the functioning of the underlying regulatory system.
In order to identify the classes for the first edition, memorandums of understanding have been set up by Unioncamere with the four school networks: tourism, agribusiness, textile fashion and clothing, and mechanics mechatronics and automation.
With regard to the training programme, it is structured in three modules. The first module will focus on the Internet Governance Forum, how this multistakeholder platform works, what the Internet and network infrastructure ecosystems are.
The second module is on security, the protection of rights, but also the digital economy and the business model of platforms.
The last module will deal with artificial intelligence, ethical challenges to regulation and an in-depth look at virtual reality and new technologies.
What emerges is the importance of this project in order to make students more aware both in the management of the data that the Internet provides and in a more conscious and critical use of information.
A greater awareness, greater critical capacity and greater respect for the rules governing the Internet are expected from this initiative.
The IGF school is not only important in terms of training but also in terms of orientation because it enables students to acquire digital skills that bring them the mastery and awareness to face the world of work.

18 November 2022 – Online sessions

PLATFORMS FOR THE SUSTAINABILITY OF COMPLEX TERRITORIAL ECOSYSTEMS
Speakers:
Pier Luigi Carugno – DG Comune di Pescara (management ANDIGEL); Francesco Baldoni – Agenzia per l'Italia Digitale; Giorgio Pacelli – MigliorAttivamente Social Promotion Association; Gaetano Di Tondo – Communication & External Relations Director Olivetti; Ivana Borrelli – Head of Marketing 5G and Vertical IOT-TIM

1. Evolving dynamics, opportunities, and challenges

Digital technologies play a pivotal role in building complex territorial ecosystems necessary to implement the concept of sustainable development.

Projects involving the growth of Smart Cities (for instance, the city of Pescara and Ivrea) represent a cornerstone for conceiving such ecosystems. Specifically, a Smart City can be defined as an organic city that leverage digital transformation to increase competitiveness, attractiveness, and inclusiveness by using technologies – mainly sensors and Internet of Things (IoT) systems – to serve citizens' needs, focusing on various aspects, namely the economy, mobility, environment, people, and the relationship with institutions. Their bold aim is to increase the competitiveness of local communities through innovation while increasing the quality of life for its citizens through active engagement, better public services, and a cleaner environment (Appio et al., 2019; Janssen et al., 2019).

For instance, the city of Pescara is rising through the ICity rank thanks to the deployment of IoT technologies, such as municipal platforms, enabling technologies, and open data, in an integrated system that allows citizens to truly exploit municipal services. Thus, greener, smarter, and more sustainable cities are the goal of both large and small urban centers.

Creating complex territorial ecosystems holds several opportunities related to increasing citizens' quality of life, promoting urban safety through territorial control, and developing urban regeneration.

Additional opportunities regards an improved communication and engagement with citizen (for example by shortening the distance between citizens and institutions and simplifying access to the municipal services) as well as the strengthening of administrative efficiency (for example by renewing the administration's competences or enhancing administrative procedures) and the implementation of social policies to assist families, young people, the elderly, people with disabilities and charity workers (see also Yahia et al., 2021).

Against this background of opportunities, there are also some challenges. Firstly, solid partnerships involving public actors (municipalities, regions, universities, research centers, etc.), citizens, firms, and chambers of commerce (Appio et al., 2019) are needed to guarantee the pervasiveness of complex ecosystems in the urban area so that citizens can effectively exploit their opportunities.

Secondly, there is a need to bridge the gap between digital and social aspects to ensure that technological innovations and initiatives benefits the society at large. As a matter of fact, users often struggle to grasp the usefulness of digital technologies for their daily life (Perera et al., 2014). In this regard, there is a twofold need. On the one hand, facilitating access to services and, on the other hand, making citizens aware of the potential of digital technologies

for improving their lives (for example by providing free Public Digital Identity System activation services and supporting citizens in understanding how to use it).

Finally, an important challenge relates to the issue of personal data protection (Perera et al., 2014). Specifically, data protection is often understood as the confidentiality of the data, whilst the General Data Protection Regulation (article 1) indicates to protect the data in its free exchange. The relevance of such issues is demonstrated by the steadily rising interest of the scientific community that has been carrying out a growing number of studies focusing on security, privacy and risks in managing information and processing personal data within Smart Cities (Ismagilova et al., 2022).

In this regard, enhancing public information assets becomes a strategic activity for public administrations and governments to effectively face new challenges, guaranteeing value-added digital services for citizens, firms, and stakeholders.

2. Ideas and suggestions for policy

The open-source paradigm has recently entailed new challenges and opportunities for public administrations as catalysts and managers of processes and systems aimed at improving the quality of public services.

The panel highlights the importance of issuing specific guidelines which should be not considered as a mere regulatory tool, but rather as recommendations to implement new processes of awareness, information, and support to public administrations.

For instance, The Agenzia per l'Italia Digitale (AGID), in charge of guaranteeing the achievement of the objectives of the "Agenda Digitale Italiana" and supporting the spread of Information and Communication Technologies (ICT), is helping public administrations in implementing the open-source principles and re-using public sector information by issuing specific guidelines aimed at promoting data interoperability and the implementation of policies defined through the national data strategy. Such guidelines regard formats, publication methods, metadata profiles, licenses and pricing and provide local administrations with recommendation, albeit not binding, on organizational aspects and data quality.

Furthermore, AGID established a framework "Modello di Interoperabilità" of organizational, semantic, and technical rules which promotes the interoperability of ICT systems, while preserving the evolutionary independence of distinct organizations. This model includes guidelines for the public administrations' technical interoperability and the security of interoperability through Application Programming Interfaces (API) of the IT systems. It also provides an ongoing updated catalog of use cases, profiles, and patterns of interoperability based on the public administrations' needs.

The panel participants also emphasize the need for close collaboration between policy makers and local administrations. Along this line, in April 2022, AGID has also introduced a new governance method which brings together regional entities (nodes) expert on the open-source paradigm and local administrations to implement such principles.

This initiative is meant to trigger an effective collaboration aimed at fine-tuning assets that public administrations can use to facilitate the implementation of data re-use processes. AGID expects that regional nodes and public administrations will be able to cooperate for developing and experimenting tools, sharing good practices, and becoming themselves a vehicle for dissemination in local areas.

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QUANTUM INTERNET CHALLENGES AND OPPORTUNITIES: BUSINESS AND RESEARCH

Speakers:

Claudio Cicconetti – National Research Council Researcher; Fabrizio Pirri – Full Professor Polytechnic University of Turin and director of Istituto Italiano di Tecnologia; Alberto Fietta – IBM Consulting; Antonio Manzalini – Innovation Gruppo TIM; Angelo Astorino – Consiglio Nazionale degli Ingegneri; Alberto Tavani – Cassa Depositi e Prestiti

1. Evolving dynamics, opportunities, and challenges

The Internet is a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols. Laptops, smartphones, cloud service data centers, and so forth exchange data based on the binary code (0-1). Differently, Quantum Internet is a theoretical system of interconnected quantum computers that uses quantum signals to send information rather than radio waves. Information is exchanged in the form of quantum bits, also called qubits, between physically separated quantum processors (Wehner et al., 2019). Thus, connecting quantum computers with the classical Internet network limits their potential. The global interconnection of quantum computers is far from being achieved. Such a scenario can be foreseen in the next twenty years, and its evolution path will be as gradual as it was for the classic Internet.

Research on quantum internet is intense and makes ongoing progress on diverse areas. First, research is being conducted on quantum-enabled communication, which is the starting point for getting a real quantum network. Secondly, research is making progress on the so-called quantum repeaters, like routers and switches in the classic network. These intermediary devices should allow intermediation between communication endpoints that are not directly connected by a cable. Finally, the research places a lot of attention on the development of algorithms and applications of quantum technologies for companies and society at large.

Most likely, countries of the European Union (EU) are lagging behind the U.S. in the advancement of computing technologies (i.e. a quantum computer). However, the European research can provide significant contributions in developing devices based on the development of systems that generate and manipulate quantum elements. For instance, the Polytechnic University of Turin has made substantial investments for realizing photon generators.

As far as the opportunities of the Quantum Internet are concerned, various areas of application emerge, such as quantum communications (with a specific focus on ensuring cybersecurity), advanced sensors based on a very precise synchronization of devices, cloud technologies, optimization of distribution networks, critical infrastructure and supply chains, as well as applications in the financial, energy, biomedical and pharmaceutical sectors.

The Quantum Internet also offers interesting opportunities in terms of developing new capabilities and skills through education and training. For instance, post-graduate education programs and new master's degree courses in quantum engineering can train new professional roles in the fields of computer science, electronics, and physical engineering with a solid background for producing, manipulating, and transforming future quantum devices.

The development of Quantum Internet also entails various challenges. Firstly, the available services represent the starting point to identify areas of application of quantum technologies with the aim of modifying them using quantum aspects. Yet, it is likely that once the devices are available at reasonable market prices, new areas of application will emerge.

Secondly, the application of quantum technologies still appears to be limited to large companies, as demonstrated by substantial investments made by IBM and TIM. Specifically, IBM is experimenting with quantum technology to support public administrations and the industrial sector in solving computational problems and ensuring that quantum computers work together with existing applications. Similarly, TIM is investing in quantum communications and cybersecurity aspects. Yet, the application of quantum technologies will likely affect small and medium-sized enterprises (SMEs) as well through the development of quantum clouds, the optimization of processes through quantum aspects, the possibility of simulating industrial chains, using advanced sensors and managing Industry 4.0-generated data. In this regard, it is particularly interesting to consider the role of financial entities (e.g. Cassa Depositi e Prestiti) that invest private funds to support digital innovation projects involving large companies, SMEs, and startups.

Another key challenge relates to the need of innovating and maintaining competitiveness by using approaches that take into account social issues and human-centeredness (Pacaux-Lemoine et al., 2017; Perruzzini and Pellicciari, 2017; Pinzone et al., 2021). Human beings should be placed at the core of technological development from the very first design of new technologies. As a matter of fact, the main application areas concern the health and information and communication sectors, which directly involve citizens.

2. Ideas and suggestions for policy

The ethical issues related to the development and use of digital technologies represent the playground for policy makers to provide their greatest contribution. In this regard, speakers suggest that the Internet Global Forum (IGF) itself can play a fundamental role in drafting a digital ethical manifesto to set rules that those in charge of developing new technologies are abided by. The issues of mass control and citizens' privacy are extremely significant when it comes to digital. The future avenue of technology can be endless, yet it is necessary to find consensus around some values that characterize human beings. This appears particularly relevant in the case of technologies, such as the quantum Internet, whose fields of exploration and application are still in the making.

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DISINFORMATION: THE SECOND WAR FIGHTING IN UKRAINE
Spearkers:
Paula Gori – EDMO Secretary general; Alberto Rabbacchini – European Commission;
Francesco Sciacchitano – AGCOM; Alessandra Paradisi – IDMO

1. Evolving dynamics, opportunities, and challenges

The issue of disinformation is nowadays at the forefront of the social and political debate given the rise of online platforms – especially social media – through which it expands tremendously. Notably, it involves those who are not prepared for the digital revolution (more mature generations) as well as those who instead are digital natives (new generations). Disinformation has always existed (Andersen and Obelitz Søe, 2020), yet due to the Internet and digital technologies, the amount of fake news has increased and can spread at unprecedented pace (Viola et al., 2021). The dissemination and exchange of fake news on topics such as Covid-19 and Ukraine war are striking examples.

The huge amount of information to which users are exposed nowadyas needs order. In this regard, the fact-checking activity, which must be carried out independently by following very high standards, both ethical and professional, represents an important opportunity to counteract disinformation through the control of content and sources.

Specifically, EDMO (European Digital Media Observatory) provides a fact-checking service which involves interdisciplinary groups of researchers and fact-checkers acting on a twofold side: verifying whether politicians' speeches are based on numbers, data and facts and verifying online content to detect multimedia content placed out of context or fake news. Typically, fact-checking articles build the story based on facts, using links and references to support the evidence. This activity, even if it is carried out by the online platforms themselves (see also Andersen and Obelitz Søe, 2020), cannot represent the only solution to disinformation because it occurs ex post and, according to neuroscience, should be carried out by twenty-four hours to be effective. Still, it is significant for three main reasons. Firstly, it is important that fake news is notified to the records. Secondly, by working together with online platforms, it can help to report similar content. Finally, it is useful to educate users in thinking about content truthfulness, verifying the sources, seeking feedback, discussing with others, before sharing content that may be misleading.

Besides fact-checking initiatives, a further opportunity relates to media literacy measures aimed at increasing citizens' awareness when it comes to disinformation. Unlike fact-checking activities that concern the detection and analysis of fake news ex-post, media literacy initiatives act to prevent disinformation. Hence, they are particularly relevant because, if users – especially young generations– are not interested and aware of such issue, all the counteractions will not yield the expected results. For instance, Radiotelevisione italiana (RAI), as leader of the media literacy within the IDMO (Italian Digital Media Observatory) project, has launched various initiatives. In this regard, RAI Cultura and RAI Scuola released "Digital World" and "Invito alla Lettura" as targeted actions for educators and students. Alongside, other projects, such as digital pills to be released until March 2024 on the topic of disinformation, address a wider audience. Media literacy initiatives should also involve bloggers and influencers which are appreciated by the youngest and can convey the message that online content can be fake, and it is extremely important to verify the relative source.

One of the main challenges in facing disinformation lies in safeguarding fundamental principles and rights, such as freedom of speech, freedom of expression and independence of media. In fact, the risk is to contrast freedom of speech with another fundamental democratic value, namely the right to craft the individual's own free opinion.

A second challenge concerns the need to counteract the monetization of disinformation through online advertising placed into websites that disseminate disinformation. Alongside, there is a need to ensure transparent advertising during elections, i.e. knowing who finances political information content, as well as monitoring which messages are sent to citizens through these means, in order to safeguard citizens from misleading messages with the sole purpose of obtaining votes.

A further challenge, closely linked to the prominent role of online platforms in modern societies, concerns the need to fight the creation of fake accounts or the use of bots to amplify the visibility of disinformation.

2. Ideas and suggestions for policy

The European Commission's efforts allowed to improve the European regulatory framework to such an extent that Europe has become a best practice on the regulation of platforms in general, particularly regarding the issue of disinformation.

However, citizens – especially the new generations – increasingly rely on digital channels for information purposes, and social media and search engines are often the only sources of information.

This scenario requires to profoundly rethink the role of regulators. As a matter of fact, although having a series of regulatory provisions to protect freedom of speech, expression, and information accuracy is important, their effectiveness depends on a successful implementation. This is extremely challenging because online platforms that spread disinformation are often placed outside Europe.

In this regard, the Code of Practice on Disinformation, pairing with EDMO and fact-checking activities, emerges as an extremely important measure. This Code was signed in 2018 by the major platforms (e.g. Google, Twitter, Facebook, Microsoft, etc.) and undertook a thorough evaluation by the European Commission that indicated the main changes to be made in 2021. Without a specific legislation on disinformation, this Code represents a self-regulatory measure, yet with the ambition of being merged into the regulation envisaged in the Digital Services Act which will compel platforms to implement the identified activities and measures to limit the impact of disinformation. In doing so, the European Commission has intensified its efforts to fight disinformation and put additional pressure on platforms to take action and provide some level of transparency (Saurwein and Spencer-Smith, 2020).

Hence, the Code of Practice proves to be an extremely important measure because it is not limited to issuing rules for those in charge of monitoring the implementation of counteracting actions, but rather it involves a bottom-up approach by including the very same platforms that spread disinformation. In this regard, it is worth noting that we are progressively moving from self-regulation towards co-regulation.

Furthermore, alongside the Code of Practice, there are other useful initiatives which will provide regulators with additional tools to work together with EDMO and independently. Firstly, the regulation on the transparency of political advertising is expected before the next European elections. It derives from the Code and it is aimed at counteract the lack of

transparency regarding political advertising. Secondly, the recent "European Media Freedom Act" appears to be useful as well since it bridges the gap on legislative and monitoring rules of platforms that convey disinformation and are located in non-EU countries.

Furthermore, national governance responses are uneven across the EU countries (Saurwein and Spencer-Smith, 2020). Therefore, the panel participants highlighted the need to work on promoting central coordination to fight disinformation, otherwise a serious risk of duplicating, rather than harmonizing, the efforts of the actors involved exits.

Finally, there is growing consensus on the need to develop citizen's awareness and interest on the issue of disinformation as well as engaging them in fighting the phenomenon. Therefore, media literacy initiatives starting from the school context to reach other age groups become a key lever to counteract disinformation.

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Challenges and opportunities of Internet
Debora Barletta - Trainer e Youth worker – Membro del Comitato Direttivo di YouthIGF Italy
Luana Lavecchia - Tik Tok

1. Development, opportunities and challenges

The panel represented an opportunity to discuss the challenges and opportunities of Internet, a topic that in recent years has been at the center of the political (Flew et al., 2019) and academic (Pascucci and Temperini, 2016; Tilson et al., 2010) debate and which affects different stakeholders: civil society, businesses, government administrations, the education system, etc.

When it comes to the Internet, there are two main aspects that people think of: connecting and sharing content among users on one side, accessing information on the other. In particular, the information overload we experience everyday highlights the need to discuss the phenomenon of *information literacy,* namely the ability to think critically and make balanced judgements about any information. It empowers citizens to reach and express informed views and to engage fully with society (Andretta, 2005; Saranto and Hovenga, 2004). As a matter of fact, one of the main challenges that emerged in the management of the Internet concerns precisely users' difficulty to distinguish a real news from a fake one. Alongside this phenomenon, cybersecurity and the need to protect one's personal data represent a major concern of civil society.

In addition, the "alienation" that hyper connectivity can generate, especially in young people, represent a third important challenge in using the Internet. In fact, even if connectivity emerges as one of the main opportunities connected to the Internet, the risk of spending too much time in front of the screen, establishing virtual connections only, can led to detachment and loss of contact with reality. However, we must be careful and not demonize a medium like the Internet which on the other hand offers many opportunities in such different fields such as work or social relationship. For example, we should think about the important role played by the Internet during the pandemic. Thanks to the Net, it was in fact possible to continue to provide educational services even at a distance, as well as allowing companies to continue working.

Finally, an important opportunity is represented by the "social" feature. Technology today brings geographically and culturally distant people together and allows them to interact and form deep relationship. To this end, social media play a fundamental role in citizens' everyday life by promoting collaboration and sharing of information, as well as the possibility of creating communities (Chen, 2011).

Finally, the panel discusses the opportunities and challenges associated with a particular entertainment platform: TikTok. Often mistakenly considered a social network for young people, TikTok stands out for the high importance of user-generated video content, which is suggested on the basis of the recommendation algorithm. The content in TikTok has a greater importance than the reputation of the user who creates that content. Consequently, the foundations and the success of TikTok lays on the presence of compelling and engaging content rather than on influencers. As a matter of fact, in recent years large communities have been created around some important topics such as space, thanks to Samantha Cristoforetti account, or books. For example, the #booktok community (90 billion views), which rose spontaneously and today is used by readers to make reviews, exchange advice,

read live from their homes. The community then goes from online to offline too: booktok Italia users actually met at the Turin book fair. Therefore, it emerges that entertainment platforms such as TikTok or social media represent a great opportunity to build virtual communities that can have a great impact on relationships and society. Finally, these platforms represent an opportunity for young artists (for example, writers, cartoonists) to show their talent.

However, this platform also forces society and citizens to face major challenges. Firstly, citizens' digital education. Citizens are often not aware of the dangers and consequences that the use of these platforms can represent, especially for young people. Secondly, even in the specific case of TikTok, a deeply felt problem is that of self-control in managing the time spent on these platforms, which could sometimes take over one's daily life. However, even in this case it emerges that spending a lot of time on the computer or smartphone is not always something negative if you first reflect on what you want to find out, on what you want to do with the Internet, on what the real added value is for you.

2. Policy implications

The issues discussed above show some important policy implications relating to the use of the Internet, social media and entertainment platforms.

First of all, the importance of addressing the issue of media and information literacy at an institutional level, thus reflecting about the ethical aspects related to the use of information. Literacy means teaching how to use and control a tool instead of being controlled by it. It is therefore necessary to focus on increasing citizens' awareness and digital education, abandoning the paternalistic top-down approach used until now. We should therefore address young people directly to understand what their needs are and this involves getting closer to their way of communicating, to their favorite platforms. It should not be assumed that the answers that adults and institutions have are the right ones. Listening and teaching should therefore necessarily consider these new media. Media that young people know how to use but not necessary in a conscious way.

Therefore, it becomes essential to approach these platforms and educate not only young people in their use, but also people who work in the educational field. In this regard, it is interesting the case of the initiative spread with the hashtag #imparacontiktok and which led to the creation of a community of Italian teachers who share views, opinions and best practices on how to teach their subjects. The impact that this community of teachers can have on the dissemination of culture is often more effective than the top-down approach that can take place in the classroom.

In addition, these platforms can act as "digital educators" not only in a "passive" way, enabling the spontaneous arise of these initiatives, but also actively promoting projects in which important issues such as online safety, self-limitation of the screentime, and in general how to manage your online presence are explained to children (for example, the "Digitally" initiative promoted by TikTok). Therefore, institutions could take inspiration from these initiatives and propose targeted digital education programs that exploit the peculiarities of these digital platforms, also collaborating with them in strategic partnerships.

In addition, there is a need to focus on cybersecurity and data protection which still represent issues of major concern for citizens. Furthermore, lack of training and knowledge on this issue by young people represents one of the greatest dangers deriving from the use of

platforms such as TikTok. In this regard, it is necessary to increase and encourage citizens and users' participation in requesting more effective solutions to protect their data, as happens in the case of other issues related to security, such as for example road safety. Therefore, promoting active citizenship allows all stakeholders in the field to participate in the debate and work together to achieve greater transparency.

Finally, a regulatory implication is represented by the desire to treat the Internet as a civil right. Due to the pervasiveness and importance that the Internet plays in both one's private and working life, it should be treated as an indispensable asset.

19 November 2022 – Online sessions

Digital health and personal data protection: a possible combination

Carlo Vaiti CTO of Hewlett Packard Enterprise Italia, Silvia Melchionna of Data Protection and Digital Health, Luca Di Leo personal data protection consultant, DPO and vice-president of the Association for the Protection of Privacy Rights and Freedoms, Luciano Delli Veneri DPO, consultant and member of the Scientific Committee of the Association for the Protection of Privacy Rights and Freedoms, Pinuccia Carena member of the Association for the Protection of Privacy Rights and Freedoms, Innovation and Information Security and the ASL Performance Cycle, Gianluca Di Ascenzo President Codacons and Roberto Triola Head of the Digital Transformation Area/Director of the Research Centre of Farmindustria, Gloria Maria Paci (moderator).

During the panel the importance of data protection was discussed, particularly in the health sector as we are talking about the protection of patients' rights, freedom and dignity.
How can the combination of digital health and data protection be made possible?
This was tested during the pandemic where digital health systems of data sharing and interoperability of data in real time were realized in a short time.
These are successful challenges in which a health information system could be both effective and efficient but also be implemented with respect for the fundamental rights and freedoms of the persons concerned.
From this experience we have learnt a working method that has seen a synergy between the various actors, such as health, regions, government, the guarantor authority, and technical and organizational measures in the implementation of information systems that can certainly be replicated in the future new digital health services, such as the electronic health record.
These steps will be accelerated by the investments of the PNRR (mission 6), which makes express reference to digital health, especially the electronic health record.
AGENAS itself is working to create a health data interconnection system with the Ministry of Health and the Ministry of Digital Transformation.
Acceleration is needed in the health data ecosystem, as it has been proven with the pandemic that data saves lives.
At the same time, there are critical security and cybersecurity issues in the Italian healthcare sector as the security and technological measures in the organization are often old or non-existent.
The human factor was declared to be the weakest element of security, relating not only to the problem of low-quality passwords but also the lack of attention when people carry out online activities.
The awareness is crucial in that purpose, and it must be built through training across the board, involving both the public and private sectors.
Among the main aspects that emerged on how to achieve this goal, there are different policies recommended to institutions, such as:

1. The aspect of cybersecurity and data privacy through the introduction of innovative technologies at all levels (of the user, of medical devices, of the network, etc.) to preserve the use of personal data.
2. A data governance strategy that avoids fragmentation of health data and facilitates the hospital exchange of data, suggesting for example the construction of the National Data Agency and even more, an authority for health data that enables the primary and secondary use of health data.
   The European Commission's proposal for a data space regulation goes in this direction, it requires all member states to create a health data access organism to promote standardization and to avoid fragmentation.
3. The culture of data especially in the local health agencies like ASL which has a lack of IT knowledge.
4. Data training that starts with management and then reaches all the levels in the health sphere.
5. Privacy by design that considers the issue of personal data protection at the beginning of the project.
6. A 'one health' approach that consists of healthcare where data are not moved and are not duplicated outside individual databases. It is suggested to keep the patient's clinical data within the hospital or research center that is doing the studies and only share the aggregated results.
7. A reinforced awareness of the accountability principle, i.e. the empowerment of data controllers. Data controllers must ensure compliance with the principles applicable to the processing of personal data.
8. The adoption of a self-regulatory instrument 'the code of conduct' allowing data controllers to share best practices of implementation with the supervision and participation of the Supervisor.
9. The importance of introducing into the infrastructure the role of the DPO (Data Procection Officer), the new figure introduced by the GDPR whose function is to assist the data controller in making choices, making the entire organization controlled by the data controller responsible. It gives advice and guidelines on data protection obligations. In addition to the DPO, it mentions the office that supports him in his activities, the internal privacy team.

What is the role of the authority to make this possible? Intercepting the digital transformation of healthcare and the new forms of data sensitivity (such as artificial intelligence, algorithms that have changed the perception of data).

Youth participation in Internet Governance
Umut Pajaro Velasquez - Internet Society Permanent Group on Gender Issues
Veronica Piccolo - Internet Society Youth Standing Group
Riccardo Nanni - Fondazione Bruno Kessler

1. Development, opportunities and challenges

The panel highlighted the main problems and opportunities experienced by the young members of the forum in approaching Internet Governance issues and in proactively participating in the debate within the entire IGF ecosystem, both in Italy and worldwide.

In the Italian scenario, one of the biggest problems concerns the almost total lack of user engagement initiatives. People under the age of 30-35 come across the youth program almost randomly. Besides, they often lack the basic technical knowledge to fully understand the complex issue of Internet Governance. Consequently, the lack of training courses in Italian as well as the lack of national associations that promote IGF membership makes the community of young participants almost non-existent. In addition, another critical issue is related to the Italian economic systems. In Italy it is very difficult to find people in meaningful job positions, in business or in government, before the age of 30, which is normally the threshold set all over the world to be part of youth groups. This threshold limits the participation of a range of stakeholders who might otherwise be interested in participating in the Youth IGF groups.

On the other hand, other groups working at the international and European level (for example, EuroDIG, European Dialogue on Internet Governance and its YOUthDIG initiative or the Internet Society Youth Standing Group) are very active and able to capture the interest of young people to be part of a community on Internet and Governance. Therefore, the phenomenon seems to proceed from global to local, according to a mechanism in which young people approach Internet Governance issues by joining international programs and, only at a later stage, become active parts of their local community. In addition, these "Youth Groups" working at an international level give the civil society a real chance to sit at the table where the important decisions about Internet Governance are taken.

A further problem recorded worldwide is the lack of funds to finance initiatives related to the topic of Internet Governance, which inevitably leads to the reduced possibility of creating ad hoc educational programs for the younger population (high schools, university masters).

However, the panel shows that in recent years the initiatives undertaken both nationally and globally have in fact favored the dialogue between the IGF youth section and the general section, a dialogue which has then been translated into specific measures aimed at increasing user engagement. For example, in Italy students can become a part of the IGF association for free and the maximum age limit for participation has been moved to 35 years.

2. Policy implications

Thanks to the personal evidences discussed by some members of the IGF youth group, during the panel it was possible to outline important future directions to increase youth engagement in Internet Governance topics. The main ones are discussed below.

- It is pivotal to disseminate as much as possible the belief that having a technical background is not mandatory to participate in the discussion on Internet Governance. As a matter of fact, young people are important stakeholders as they are both users and members of the civil society; therefore, everyone can be in some way interested in the Internet and Governance issue and actively participate in an open dialogue about it. For example, there are working groups on combating the spread of the phenomenon of "hate speech". Dialogue on this issue can be enriched, for example, by researchers working in the field of social sciences or online communication.

- Participation in the IGF youth community should be further encouraged by the members currently enrolled in the general section, largely made up of university professors. In particular, the Italian academic community could further stimulate the interest of young students through the proposal of thesis and academic research on the topic of Internet Governance.

- The promotion of educational and training programs within individual countries seems to be the most effective solution to increase the level of youth engagement in the long term. There is a clear need for introductory training programs about Internet Governance that can help young people without a technical background to become acquainted to the topic, thus increasing their willing to participate to the debate. The promotion of such educational programs should start in high school by explaining students who are about to choose their university path that it is possible to pursue a career in Internet Governance even without the need to become an engineer or a computer scientist. In this regard, it is worth noting IGF Italia's collaboration with the Chamber of Commerce, which launched a program aimed at creating an "Internet Governance School" in high schools.

- A solution to increase the level of engagement of young people in IG debate can be to widen the age limit for joining the youth group to 35 years. As happens in Italy, this solution could incentivize a greater number of people to join the community who, despite exceeding the 30-year-old threshold, are still in "Junior" job positions and therefore looking for greater specialization on issues related to the Internet Governance.

- The participation of civil society in IGF is very widespread. On the contrary, in technical bodies such as the Internet Engineering Task Force, IEEE, ICAAN civil society is less represented. It is therefore necessary to ask ourselves how to bring young stakeholders closer to discussion tables where the most important decisions regarding the Internet Governance are really taken. By increasing the touchpoints between civil society and decision-making bodies, it will be possible to promote the full integration of junior stakeholders, with a background that is not necessarily technical, within the debate. Very often the discussions of youth groups are relegated to sessions specifically dedicated to them. It is therefore necessary to bring these discussions into the broader IGF debate at the global level, thus favoring panels and sessions with both senior and junior representatives. Doing this it will be possible to make youth raise their voices and achieve full participation by them.

Internet Bill of Rights the new European principles

Anna Cinzia Bonfrisco of European Parliamentary Intergroup AI, Guido Camera President Italy Rule of Law, Mauro Santaniello Professor UNISA, Andrea Beccalli of ICANN (moderator).

In the panel the speakers dealt with the evolution of rights that must accompany technology and the future development of Internet governance.

At the hearth of the discussion there is digital constitutionalism, that almost thirty year long process that seeks to define a set of rights for all human beings who are impacted in their daily lives by the development of networks.

This process goes back as far as the 1990s, when discussions were held on what kind of governance to give to the Internet, and it is a process that will lead to the establishment of ICANN and the definition of a multi-stakeholder, bottom-up and essentially private regime with a strongly limited role for national governments.

This landscape of digital constitutionalism has changed substantially since 2013 with the Snowden disclosures, which forced democratic governments to rethink their approach to the Internet and the protection of rights, hence not only initiatives to raise awareness or promote certain rights but also legislative initiatives, rules supported by a penalty mechanism.

There are two goals: to guarantee rights and to limit the exercise of digital power as this is currently exercised by private corporations.

The challenge of the Internet is that it cannot be approached according to the traditional logic of law that is anchored in the principle of territorial sovereignty.

Each state has the authority to define the rules within its own borders, whereas with the Internet we have a transnational network, and this creates considerable problems since to the extent that a form of aggression takes place outside the territorial space where you have laws, you become powerless.

Similarly, a pressing challenge for the European Union are the large-scale disinformation campaigns that can have damaging consequences and a threat to democracy in the polarization of debates that put the health, safety and environment of citizens at risk.

Europe takes the lead in this new phase of digital constitutionalism because especially recently it has started to propose a series of regulations to regulate the digital space that by their nature are valid for all member states, such as the Digital Markets Act, the Digital Services Act, the Artificial Intelligence Act, the Cybersecurity Act and are typically supported by penalty mechanisms, the most famous case is the GDPR.

This new activism of the European Commission, but also of the other European institutions, points to the idea that the European Union has founding values to protect and a duty to ensure mechanisms to protect users online, with effects that go beyond European borders.

The panelists suggest to:
1. Finding a mediation point between public and private: if there is a monopoly on communication and social life by either the private or the public, society does not live well, especially with digital.
   Firms do their good work to provide better products and services to citizens.
   This is demonstrated by the important impetus towards the digital economy that there has been on the part of businesses, which in a phase of urgency took place without

waiting the Government to update its ways. In this regard, the European Union must balance these two interests.

2. Identify general rules in the main source system that reflect shared values and that give the possibility to understand what the rights of access to the Internet are, what the duties are, how forms of discrimination can be countered.

    This enables the citizen to understand exactly what the rule of conduct is and, above all, the consequence with respect to his own regulation.

    From a strictly regulatory point of view, the Italian legislator adopts provisions that have a European matrix but in an uncritical way. It is necessary a general rule.

3. The effectiveness of decisions, take stronger decisions for the lives of our States and citizens.

Decade of Open Data: a half victory?

Andrea Borruso of OnData APS, Francesca De Chiara do FormezPA, Stefano Quintarelli private sector, Giovanni Paolo Sellitto of ANAC, Andrea D'Eramo of SAS, Annalisa Barla Professor at the University of Genoa, Riccardo Nanni of Fondazione Bruno Kessler (moderator).

The main topics of this panel were the progress and limits of open data in Italy. This term refers to certain types of data (information, numerical data, etc.) that can be freely used, reused and redistributed, according to the indications in the license of use.

The evolution of open data in Italy includes two phases: the first phase dates back to 2010, where in the public sector, in addition to the problem of data availability and fragmentation, there was a poor data culture, characterized by absent or handcrafted tools.

In the private sector, users found it difficult to understand what open data was; therefore, it had to be explained accurately.

In the second phase, after a few years, interest in open data grew; however, there was little focus on the process that leads to the construction of the data.

The opportunity that stands out from the discussion on open data is that the availability of data can improve the quality of life of citizens.

There has been an initiative that has involved in open data from the General Accounting Office of the State, which has improved the quality of publication of the data and enabled an improvement in the reading of financial statements. The parliamentarians themselves have benefited when drafting their financial statements.

So, it is not necessary to find an economic and entrepreneurial utility in the publication and use of data, but it is important to assess the social purpose first.

Through data, it is possible to educate the citizenry and have a cultural impact.

There are several challenges about open data, starting with the fragmentation and interoperability of public administration data, the availability of data especially in the medical field where there are privacy and ethical aspects to be considered.

The problem is the lack of data culture of public administrations, there is both a cultural and infrastructural difficulty in making data machine readable and a resistance to sharing.

There is little relevance of this issue at a political level, in the Open Government Plan these aspects have little space.

There are different policies recommended to institutions, such as:
1. Encourage the public administration to publish all data in their possession in machine readable format.
2. Empowering civil society organizations and public administrations.
   The National Plan for Open Government will launch a single transparency portal to access the data of public administrations.
   The latter must be ready to use data that already exist and are already published.
3. Use universally recognized reference data sets to solve the problem of comparability of machine learning.
   There are machine learning niches that propose algorithms and compare on two/three universally recognized datasets, e.g. image recognition datasets for labelling image content.
4. Use deontologist to make data-driven methods usable in the real world and allow such methods to be interesting not only for research but also for practical usability.

Young people and Internet Governance: opportunities and involvement
Umut Pajaro Velasquez Internet Society Permanent Group on Gender Issues, Veronica Piccolo Internet Society Youth Standing Group, Riccardo Nanni Fondazione Bruno Kessler (moderator).

The panel was dedicated to young participants in Internet Governance, discussing the obstacles to be overcome if one wants to approach this world and policies to improve the participation of young people in Internet Governance worldwide.

What emerges from the discussion in the first instance is the possibility of approaching Internet Governance without necessarily having technical skills.

The experience of the speakers confirms this, as each of them comes from different educational, professional and non-technical backgrounds, such as studies in communication or social sciences.You do not need to be an engineer or an IT specialist to work in Internet governance because what is discussed in these circles is something that concerns you as a person, not just as a professional.

The main obstacles encountered in both Italy and Latin America are (1) the lack of the use of engagement to attract new young people into Internet Governance.

Currently, mainly in Italy, there are no new participants and the people in the programme have come across Internet Governance almost by chance. Some of the participants in some cases have not even been trained.

This raises the question of where to direct a new participant potentially interested in Internet Governance.

The question is how to bring young people into spaces where the discussion becomes increasingly complex and technical, and how to involve them in other, higher levels.

(2) The language barrier. The programmes conducted such as the IGF Youth Ambassador Program are conducted by the Internet Society, which is an American, non-governmental organization; consequently, the programme is led in English and creates problems for those young people who do not speak English or are not comfortable with the working use of English.

What is suggested is:

1. The organization of a training course or fellowship by the IGF in order to engage young people on Internet governance.
2. As in the case of Latin America, it was considered useful to have young people interested in the IGF acquire knowledge before starting the course, relating to all the basics of Internet governance. In addition, an understanding of how people from civil society, non-technical backgrounds, academia, etc. can participate in the IGF.
3. More support for people from countries such as Western Europe, North America, Canda to participate in IGF activities.
   Young people from developing countries have a better chance of participating in the IGF because they can count on the UN's advocacy, unlike the other countries mentioned above because they are considered more affluent, with a better chance of obtaining funds, and therefore, not eligible for those funds. It is important to find more support for young people's trips because our country's representation is also very important when it comes to dialogue at a higher level.
   When we do not participate we do not make a meaningful contribution to the discussion and we lose relevance.