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CHALLENGES AND PERSPECTIVES

MEMBERS' VIEWS
AROUND THE WORLD.



The world is facing an unprecedented situation with the coronavirus pandemic. Without advanced notice, people and companies had to cope with this crisis each in their own way. Through a variety of interviews and articles, this special edition of Enjoy! tells us why and how ICT is vital in such a difficult environment, navigating through and out of it. We have asked some of our international members, from large companies, SMEs or government representatives, to share with us the challenges they have faced to overcome this critical period and the perspectives ahead.

In Spain, the Secretary of State for Telecommunications and Digital Infrastructures, outlines how innovation can help a nation move forward and why 5G must be an engine for economic reconstruction. TIM (Telecom Italia) tells us how they supported citizens and businesses with the "Torino City Lab" for work, school and eHealth. The China Academy of ICT gives us an overview of useful 5G use cases which could prevent and control the epidemic. The e-Estonia Briefing Centre highlights why being one of the world's most advanced digital societies helped in the outbreak. Advenica, with expertise in cybersecurity, gives us some advice on best practices to protect our networks in a global crisis. Find out why VOGO SPORT, specialized in audio

During this crisis, ETSI has proved to be resilient, flexible and innovative.

and video solutions in the sport industry, were involved in the development and the industrialization of EasyCov, a saliva-based diagnostic test. And discover other interviews on cybersecurity and public warning solutions.

Our eHealth group released a new white paper, a call to arms to SDOs, giving practical examples of why ICT standards should be designed taking into account the health requirements.

During this crisis, ETSI has proved to be resilient, flexible and innovative. We have successfully switched all physical meetings to e-Meetings and turned key workshops such as the Security Week into virtual, which has attracted a record audience of more than 4000 participants. The creation of new groups, including E4P, set up in a record time and in charge of making sure COVID-19 tracing apps are interoperable, is another example of ETSI's versatility. We hope this versatility will help us continue to be strong despite these hard times.

Last but not least, I invite you to discover more about our 2020 Fellows.

Enjoy reading!

Luis Jorge Romero,
Director-General ETSI.



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New group for COVID-19 tracing apps interoperability

ETSI launched the [ISG E4P](#), “Europe for Privacy-Preserving Pandemic Protection”, in May. It was established to provide a standardization framework that will enable developers to build interoperable mobile apps for proximity detection and anonymous identification.

The group has already met twice and elected Edgar Guillot (Orange) as the Chair while Miguel Garcia-Menendez (Alastria) and Stéphane Dalmas (INRIA) were elected as Vice Chairs of the group. More on ISG E4P on page 15.



‘A call to arms!’: new white paper on eHealth

Entitled “[The Role of SDOs in Developing Standards for ICT to Mitigate the Impact of the Pandemic Virus Covid-19](#)”, the White Paper examines the role of ICT in eHealth. The challenge is to design ICT standards to be ‘eHealth-ready’ to cope with a future outbreak which we all expect but is difficult to predict.

Global digitalization is essential to the provision of eHealth services at a time of crisis. Dislocation and distress drive the need for rapid, safe and secure data transfer, when governments and epidemiologists have to take far-reaching and difficult decisions.

The ETSI group [EP eHEALTH](#) is inviting you to join us in planning what could be done this time or next time to keep our families safe and well, our economies secure and our ethical values uncompromised! To join, contact ehealthsupport@etsi.org

The future of Internet: new ETSI group on non-IP networking

The kick-off-meeting of [ISG NIN](#) (non-IP networking) took place on 25 March. John Grant, BSI, was elected as the ISG Chair, and Kevin Smith, Vodafone, as Vice Chair. Following on from the work in ISG NGP (Next-Generation Protocols) on problems identified by mobile operators with the TCP/IP-based technology used in 4G, including inefficient use of spectrum, high latency, and complexity of support for mobility and security, ISG NIN intends to develop standards that define technologies more suited to 21st-century requirements while remaining compatible with the current Internet and with newer technologies such as SDN and MPLS.

Initial work items include three Reports covering a statement of the problem, network model, and guidelines for non-IP networking on 3GPP cellular access networks.

To follow are Specifications of the new protocols (based on technology and KPIs identified by ISG NGP) and demonstration of their use in private mobile networks such as factory automation.

ETSI’s new Encrypted Traffic Integration group

The underlying rationale for [ISG ETI](#) (Encrypted Traffic Integration) is that a paradigm of “encrypted by default” has been adopted by many network and service providers without taking due account of any threats to network resilience and security.

Therefore the purpose of the ISG ETI is to quickly develop insights on the likely evolution path of the “encrypted by default” paradigm and its impact on both network resilience and on security where attackers may be able to take advantage of encryption to spread malicious code or exfiltrate protected customer or sensitive data through networks.

The network management oversight that is accepted for non-encrypted traffic may be lost when an all-encrypted paradigm is adopted.

Thus the aim of ISG ETI is to be able to better describe the issues and to establish essential requirements to allow for retention of network controls to give guarantees of security and resilience in spite of the growth of such a paradigm. In early June 2020 at its kick-off meeting, the work plan started in earnest, beginning with a detailed development of the problem and its impact to identify where to apply mitigations.



In this exclusive interview, Roberto Sánchez, from the Spanish government, shares with us his vision on how innovation can help in the global crisis we are going through.

Let us first remind our readers what the Ministry of Economy responsibilities include.

The full name of our ministry is “Ministry of Economic Affairs and Digital Transformation” and its head is also Vice President of the central Government.

Roberto Sánchez

Secretary of State for Telecommunications and Digital Infrastructures

Roberto Sánchez is a telecommunications engineer and a senior career officer responsible for Information Systems and Technologies in the central Government. He has extensive experience in both the private and public sectors and until his appointment as Secretary of State he was Director General of Telecommunications and Information Technologies.

He has also held positions of responsibility in organizations such as the Madrid City Council, the General Secretariat for Science and the General Secretariat for Innovation. In 1999 he was elected “Engineer of the Year” by the national Association of Telecommunications Engineers. In 2012 he was awarded the “Telecommunications Merit Plaque”.

“The name of our Ministry outlines the importance of the digital transformation of society.”

It is significant that “Digital Transformation” appears in the name because it indicates the importance central Government attaches to the challenge of the digital transformation of society. The Ministry of Economic Affairs and Digital Transformation is responsible for the proposal, coordination and implementation of the Government’s economic policy and in particular for telecommunications policy, deployment of infrastructures guaranteeing the connectivity of citizens and companies, audiovisual communication services and digital transformation, including the digitization of the public Administration.

How would you say the Digital Agenda will help the country grow its economy and innovation?

Having a well-defined Digital Agenda is a vital necessity. You have to know the starting point and where you want to go. Spain is endowed with excellent connectivity infrastructures, a very extensive fibre optic network connecting

“Spain is endowed with excellent connectivity infrastructures and a very extensive fibre optic network.”

homes, and an optimal regulatory environment to facilitate the deployment of networks and the development of the electronic communications services market. However, we must continue our efforts to make networks an instrument of social and territorial cohesion to foster inclusive growth and make us more resilient to future crises. The challenges lie in improving the digital capabilities of the population and advancing the digitization of the business environment.

How do you see the role of Spain and Europe for the evolution of the digital world? What are the key challenges you believe Europe will face? What are the values we can leverage on?

The world will face a new scenario after the COVID-19 pandemic. Everything indicates that the health crisis will accelerate the digital transformation. We have witnessed the massive, worldwide and unprecedented

“The world will face a new scenario after the COVID-19 pandemic.”

use of teleworking, online training and video-conferencing and leisure tools. The challenge for Europe is to emerge stronger from this crisis, reinforcing the values that characterise us, more economically competitive, more socially cohesive, and more environmentally sustainable. In this crisis, electronic communications have proved to be an essential element in achieving these three goals. In Spain, we are working for that kind of Europe.

You already have many pilot projects of use cases for 5G in Spain, how is the Ministry supporting them and 5G in general?

Spain is the country with the highest number of 5G pilot projects in Europe, 24 out of a total of 165. They are initiatives to

“Spain is the country with the highest number of 5G pilot projects in Europe, 24 out of a total of 165.”

develop applications in a very wide field: an ‘affective avatar’ to help older people, biometric access checks for train stations, digital testers for the textile trade... Our assessment is very positive.

The 5G National Plan covers all the activities, from pilot trials to the availability of frequency bands. In addition, Spain has reached agreements to establish two cross-border corridors with Portugal to carry out tests relating to autonomous driving, connected cars and traffic control. Europe and Spain are committed not only to the urban development of 5G, but also to extending its deployment throughout the country. Deployment of 5G in different areas is also one of the focuses of the “Connect Europe” programme, which the European Commission has proposed for the period 2021-27, in which more than 3 billion euros will be allocated to digital connectivity projects. The central Government will encourage 5G deployment which is inclusive for regions, people and economic sectors.

Getting out of a global crisis in a connected world, if you had 3 messages to convey to the international stakeholders enabling this connectivity, what would you say?

Although the networks have responded well to the ravages of coronavirus, we cannot become complacent. We must continue to strengthen and expand our telecommunications infrastructure. 5G must be an engine for economic reconstruction. As we evolve towards 5G networks, we must be able to abandon “straight line” vision in favour of 360° vision. In other words, we must be able to generate an ecosystem.

Finally, I believe that Digital Transformation must include social commitment in its DNA. In Spain, the vast extension of networks is a lever for territorial, economic and social cohesion, to which this Government is strongly committed. Technology and digital capabilities must be available to everyone to avoid creating a new gap.

“I believe that digitization must include social commitment in its DNA.”

Welcome to our **NEW** members

BAPCO, United Kingdom

BAPCO is acknowledged as the leading UK-based Association for all professionals using or developing Public Safety technology. They have extensive knowledge in Public Safety technology and are an independent, user-led, not for profit association working to improve emergency services and public safety communications and information technology for everybody's benefit.

Commsignia Kft., Hungary

Commsignia Ltd is specialized in the research, development, manufacturing and distribution of Co-operative Intelligent Transportation Systems (C-ITS). Founders include respected scientists who have been key contributors to the development of V2X technologies, allowing Commsignia to become the fastest growing V2X solution provider on the market.

CUJO AI, USA

CUJO AI is a global leader in the development and application of artificial intelligence to improve the security, control and privacy of connected devices in homes and businesses. CUJO brings a complete portfolio of products to fixed network, mobile and public operators.

DiaLOGIKa, Germany

DiaLOGIKa GmbH implements customized software solutions for national and international customers. The focus of their work is on the innovation fields of telecommunications, information processes, document life cycle, digital security, embedded systems, green mobility and safeguards.

Elbit Systems, Israel

Elbit Systems develop and supply a broad portfolio of airborne, land and naval systems and products for defence, homeland security and commercial applications. Their activities include military aircraft and helicopter systems, commercial aviation systems and aerostructures, unmanned aircraft systems and unmanned surface vessels and cyber and intelligence systems.

GUnet, Greece

GUnet is a non-profit civil society company with members from 25 Universities. Its goals are determined by the broadband network needs and objectives of the Greek academic community within the Information Society, in order to serve research and education.

Havelsan, Turkey

HAVELSAN is a Turkish software and systems company with a business presence in the defence and IT sectors. It is headquartered in Ankara, Turkey, with subsidiary companies and offices around Turkey and abroad. It specializes in software and systems, C4IRS, simulation and training systems, naval combat systems, air defence systems and management information systems.

IN GROUPE, France

IN Groupe offers states and corporations cutting-edge identity solutions and secure digital services integrating electronics and biometrics. The Group makes life easier for everyone by protecting borders, identity documents, personal data, banknotes and transactions and guaranteeing the traceability and authenticity of goods.

Intesi Group S.p.A, Italy

The Intesi Group provides technological solutions in the IT field using technological expertise and an innovative approach to design. Experience in the field of cards, payment and security enables specialization in Applied Logistical Security.

JRC Dublin, Ireland

JRC Dublin is being formed for maritime Marine Equipment Directive & Radio Equipment Directive testing and certification, working on a consultancy basis with maritime SOLAS and non-SOLAS communications/navigation equipment for various manufacturers of these types of equipment for certification.

Jacobs University - JUB, Germany

Jacobs is a private, English-language university with the highest standards in research and teaching following an interdisciplinary concept, with the aim of strengthening people and markets with innovative solutions and advanced training programmes. They host an international community from more than 120 nations.

NEMERGENT, Spain

NEMERGENT designs and prototypes novel public safety solutions over mobile broadband technologies. Their portfolio includes a complete and fully standard MCPTT ecosystem made up of early implementations concerning MCPTT Application Servers (AS) and MCPTT management servers. The server-side components are designed as NFV components.



QQTEC, Luxembourg

OQ Technology is building a global satellite constellation dedicated for “Internet-of-Things” communication that can provide connectivity anywhere. They provide an innovative low cost connectivity solution and high value data analytics. Their wireless technology (developed with Luxembourg government and the European Space Agency) is compatible with existing wireless technologies.

Patx.io, Israel

Due to their high value, Standard Essential Patents (SEP) are highly litigated. Patent owners need a tool to assess the validity and essentiality of patents. PatX develops and markets solutions to evaluate validity and essentiality of Standard Essential Patents (SEP) using Natural Language Processing and AI algorithms.

QipWorks, United Kingdom

The aim of the company is to change the way organizations view and manage the full life cycle of their intellectual property assets, helping them to transition IP to a central place in their business growth models and realize its full value. They possess experience in all stages of the process and provide an approach to support companies with integrity and transparency.

Sateliot, Spain

Sateliot is the first satellite telecom operator for global continuous IoT connectivity merging satellite and terrestrial networks under 5G protocol. They are based on a constellation of satellites working as cell towers from space. They offer telecom operators a full coverage extension of their 5G IoT network.

Sectra Communications AB, Sweden

Sectra provides secure communication solutions for European government authorities, EU and NATO institutions and agencies, defence departments and other critical social functions. They also provide services in cybersecurity/critical infrastructure such as security assessments, threat analysis, incident reporting and monitoring.

Tantra Analyst - TA, India

TA is a high-tech research and analysis firm with a deep domain knowledge in building and marketing products. They provide customized research, business and marketing strategy analysis, and advocacy services across IPR, 5G, IoT, WiFi, Artificial Intelligence, and Cloud/Edge Computing, among others.

TRANS SPED S.R.L., Romania

Trans Sped provides solutions based on qualified digital certificates. Their qualified certificates guarantee interoperability with various types of systems and applications. They offer solutions for integrating digital certificates into local networks and web applications as well as applications to generate electronic signatures and their verification.

TUBS.digital, Germany

TUBS.digital is a research network of institutes for computer science, electrical engineering, information technology and economics. They promote cooperation with other scientific institutions performing research in the field of digitalization, computer science, ICT technology and also establish a close exchange on relevant professional practices.

Türk Telekomunikasyon A.S., Turkey

Türk Telekom provides mobile, internet, telephone and TV products and services. As of March 2020, Turk Telecom served 14.8 million fixed access lines, 11.6 million broadband, 3.4 million TV and 23.2 million mobile subscribers. They have 32,499 employees in 81 provinces.

University of Murcia, Spain

The University of Murcia is the main university in Murcia, Spain. With 38,000 students, it is the largest university in the Región de Murcia. It is the third oldest university in Spain and the thirteenth in the world.

Valimail, USA

Valimail delivers the only complete, cloud-native platform for validating and authenticating sender identity to stop phishing, protect and amplify brands, and ensure compliance. Valimail authenticates billions of messages a month for some of the world's biggest companies and organizations.

VIVO TECH GmbH, United Kingdom

VIVO creates smart mobile products and services and operates an extensive network of research operations. These centres focus on the development of cutting-edge consumer technologies including 5G, AI, mobile photography and next-generation smartphone design. VIVO has over two hundred million users around the world.

Public Safety

All in it together

At the time of writing, countries around the world are considering how they may return to normality after dealing with the initial outbreak of the COVID-19 pandemic and its effects in their country.



Debates are already starting on what, when, where and how this can be done. Questions are being asked about what is 'normal'? Can we ever go back to how things were? Should we? The positive impacts of less travel and less emissions are clear to see but at what cost? If going back to 'normal' means doing what we used to do, then no we shouldn't. It's important we learn from what has been done so we are more prepared in future

"If going back to 'normal' means doing what we used to do, then no we shouldn't."

to deal with a reoccurrence of the disease or, as lessons are often interchangeable, whatever comes next to challenge us.

Members of British APCO (BAPCO) are at the forefront of the challenges in dealing with the COVID-19 pandemic in the UK. They come from all parts of the Public Safety community; developers, manufacturers and suppliers, through to end users with varying skills, experience and expertise.

As an association, BAPCO realised some time ago that Public Safety doesn't belong solely to certain organizations, usually those described as emergency or blue light services. Experience has taught us that dealing with a situation requires the right skills and right people at the right time, no matter the organization

they represent. Hence BAPCO welcomes everybody with an interest in Public Safety, paid or volunteer, creator or user.

BAPCO's Mission: 'To work together to improve Public Safety through technology'.

Our strategic objectives include enhancing our members' experience and pioneering professional standards.

We at BAPCO would argue that learning and subsequently sharing, are two of the most important things we can do

following an outbreak, a disaster, an attack or any sort of major incident. It is these lessons learned that should be followed and built into future plans and standards so we all do better next time.

“Lessons learned should be followed and built into future plans and standards.”

As well as learning from what has been done, we believe in looking forward at the technology and solutions that are on the horizon and ensuring they are properly considered and implemented. In this fast paced, often consumer driven, world of technology, there is a danger we are presented with a product or solution looking for an issue. This is fine if it solves a problem you didn't know you had, or saves a life when the unexpected happens but the desire to have the latest thing can lead to 'want' rather than 'need' driving adoption.

Round Table for emerging technology

Sometimes the next stage of a technology is inevitable and the challenges are different but just as important. In June 2019 BAPCO held a Round Table event in London to discuss one of these emerging technologies, Next Generation Emergency Calling (NG999/112). Amongst a field of sector leaders we were delighted that Chantal Bonardi, ETSI EMTel Technical Officer, was one of the speakers and able to inform delegates about the European Standardization Perspective of this vital service.

“Sometimes the next stage of a technology is inevitable.”



After the event, along with BAPCO member Andrew Richardson of Realsafe Technologies, I attended the EMTel SC to give a presentation on the use of Apps as a method of calling the Emergency Services and to highlight an issue that had been found during their use in the UK. BAPCO is responsible for approving any app that wishes to automatically connect directly to the UK's emergency number system without human intervention. I am now a member of the EMTel SC and attend regularly to assist with the work and to provide a user focus on the discussions.

Collaborative Coalition for International Public Safety to share and learn



INSPIRING GLOBAL INTEROPERABILITY AND ENHANCING PUBLIC SAFETY

The desire to share and to learn were two of the prime drivers behind the creation of the Collaborative Coalition for International Public Safety (CC:IPS) of which BAPCO were founder

members last year. The aim of CC:IPS is to inspire global interoperability and enhance public safety. Together with NENA (also an ETSI member), APCO Canada and EENA we agreed to share our associations learning and outputs for the benefit of all our members and the communities they serve. During the COVID-19 pandemic CC:IPS members have communicated regularly to share information and experiences and have produced a document entitled 'Global Recommendations for Emergency Services during the outbreak'.

Although we have British in the name, BAPCO is a part of the global community. Our user members are almost entirely UK based but many of our corporate members are multi-national companies supplying products and solutions to many regions. It is a fact that public safety knows no boundaries and borders and we believe solutions and equipment should not either. Public expectations are set by the products and services they consume from global suppliers. Consumers expect it to work no matter where they go or where they use it.

“The aim of CC:IPS is to inspire global interoperability and enhance public safety.”

If it's something they use in an emergency, they won't worry where they are when they need help, they won't have time to alter settings or chose options and nor should they. We believe the solutions used by Public Safety professionals should perform in the same way. We shouldn't build in unnecessary differences and must work together to produce the best options. The only way to achieve this is through the development and adoption of international standards. This is why it's one of our strategic objectives and why we are proud members and supporters of ETSI.

■ *Ian Thompson, CEO BAPCO.*

A Call to Arms for Standards Development Organizations!

It is vital that we learn lessons from the terrible experiences of today so that we can better tackle the pandemic of tomorrow.



Pandemics are rare but even rarer is a health crisis that affects every citizen of our modern, inter-connected world leading to global, economic crisis. Far-reaching political decisions are being made and

“Pandemics are rare but even rarer is a health crisis that affects every citizen of our modern, inter-connected world leading to global, economic crisis.”

changed daily. These decisions and how they are communicated to citizens are supported by massive amounts of data supplied by communications systems and advanced medical technology. But this has not been enough. Confidence in leaders has been impacted and there is no denying the economic and societal cost.

A flow of data.

A great range of figures has been provided, revised and countered during the pandemic, but very few are ratified and the result has been a mixture of confusion and doubt in the statistics

being used. Particularly shocking has been the conclusion that mortality could be as high as two thirds among patients with COVID-19 who require ventilation, as shown by new data from the United Kingdom’s Intensive Care National Audit and Research Centre (ICNARC)¹. Even more shocking is the revelation that COVID-19 is disproportionately more common and more severe in people living in urban areas² and regions of higher poverty, according to the latest app data from King’s College London.

The collection, flow and analysis of massive amounts of medical data has been key to public health decisions and

“The collection, flow and analysis of massive amounts of medical data has been key to public health decisions.”

generally, countries and health providers have acted transparently in its provision. But the lack of standardization in this data formatting and flow has made comparisons and matching difficult, although the use of ICT has enabled detection of clusters of infection, the creation of effective treatment schedules and the maintenance of ‘lockdown’ measures.

Why standardization?

The role of standardization in the fight against Covid-19 was clearly illustrated by the global panic ordering in March of thousands of ventilators and medical gas equipment. There were many offers of help from industry. One company spent 27 million pounds in developing a new design for an improved ventilator only to have its first sample of equipment rejected ‘pending assessment of regulatory compliance.’ New standards must be freely and widely available to ensure they are not perceived as a barrier

“The role of standardization in the fight against Covid-19 was clearly illustrated by the global panic ordering in March of thousands of ventilators and medical gas equipment.”

to the development of solutions. In turn, we must encourage conformance as the regulatory environment develops.

Regional protection, a barrier?

A pandemic is no respecter of human-defined borders. Regional protection may act as a barrier to the flow of data and core technology that might mitigate the worst effects of a viral spread. Similarly, complex regulation that surrounds the use of medical devices may also act as an unseen barrier that only becomes evident

“We need to work together as an international community to build our data health models, our connectivity services and our ability to serve our health professionals.”

at the moment of crisis. However 5G will provide opportunities to expand eHealth services, enabling the patient to make a more direct contribution to the general knowledge bank for treatment of global infectious disease. We need to work together as an international community to build our data health models, our connectivity services and our ability to serve our health professionals.

Moving forward

We cannot solve the problems of a pandemic at the flick of a switch. But we should be readying our ICT response for the next event. Today’s pandemic has shown us that while very little of ICT is eHealth specific, all of eHealth depends

“ICT standards should be designed with the assumption that they will be applied in a health environment.”

on ICT. If eHealth is to be ubiquitous, all technical specifications for the ICT infrastructure have to be eHealth ready. In short, ICT standards should be designed with the assumption that they will be applied in a health environment. There are steps which are worth taking immediately: the adoption of an ethical code, for example, would ensure that the standards that ETSI and other standards bodies produce would comply with the traditional principles of “doing no harm.” This suggestion is supported by the current EU White Paper on AI³ which promotes the idea that “systems” must be held “to the same level of protection as persons having suffered harm caused by other technologies.”

We have come to rely upon our suite of ICT technologies and it is clear that in the future they will be expanded to encompass more and more ‘critical services’. However, we need to look carefully at the way ICT is being used today in the fight against Covid-19, as we seek not only to boost interoperability but to protect our common European values of privacy and confidentiality. This is our ‘Call to Arms’ and our challenge to all ETSI members, Standards Development Organizations and all concerned parties. Join us in ETSI EP eHealth and apply your knowledge and experience to the fight against Covid-19! Through sharing our experience today, we will be better prepared for the future.

■ *Scott Cadzow, Cadzow Communications Ltd
Suno Wood, eG4U, Chair, ETSI EP EHEALTH.*

1. <https://www.sciencemediacentre.org/expert-reaction-to-updated-report-on-patients-critically-ill-in-intensive-care-with-covid-19-as-published-on-saturday-by-icnarc-intensive-care-national-audit-research-centre/>

2. <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronavirusrelateddeathsbyethnicgroupenglandandwales/2march2020to10april2020>

3. https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf

ETSI is pleased to offer you this mask to protect you and your loved ones.



Keeping each other safe

New group for COVID-19 tracing apps interoperability

The work of ISG E4P will facilitate the development of backward-compatible and interoperable proximity tracing applications to be used to combat pandemics by helping to break viral transmission chains.



The ETSI Specifications should enable cross-border interoperability between different proximity tracing and alert systems for current and future health crises. This must also be achieved without compromising users' anonymity and privacy, and while safeguarding them against exposure to potential cyber-attacks. ETSI is considering GDPR and the EC Communication on Guidance on Apps supporting the fight against COVID-19 pandemic in relation to data protection in the development of the specifications.

How does it work?

With over 70% of Europeans owning a smartphone, this ubiquitous digital technology provides a valuable platform for tracing infection chains. The proximity of two phones can be determined via Bluetooth or other ultra-low-power communication technologies. These measurements can be mapped into

a warning system that directly alerts individuals when they have been at risk of exposure to others who have already tested positively for the virus. At the time of writing, European countries are starting to open up and travelling in the Schengen area should resume soon. Public transport is being massively used again in most cities and restaurants and bars have gradually reopened. In parallel, the

European Centre for Disease Prevention and Control (ECDC) has asserted that the EU border closures are not that effective against the spread of the Coronavirus¹. In addition to national crowded areas, European member states must consider cross-border commuters. Working on applications' interoperability is therefore even more important.

E4P: a strong commitment

The kick-off meeting of the ISG took place on 26 May with a record audience of 50 people online while the group itself already comprises 36 global organizations ranging from government and EC representatives, vendors, operators and research bodies to ethics, legal and cybersecurity players. The second meeting laid the groundwork for priorities and confirmed the tight deadline of the end of the summer to deliver the first report.

A comparison of existing pandemic contact tracing systems is underway and will examine the similarities and differences of the various available or upcoming approaches, in terms of degree of interoperability, security aspects, use of a centralized or decentralized approach, use of particular methods and technologies, support of different device platforms, epidemiological value and privacy aspects.

Another work undertaken deals with the requirements for pandemic contact tracing systems using mobile devices. The use cases will address the key aspects of the system (reliability, accuracy, timeliness, privacy, security, etc.). Systems should be practical to deploy, used by the majority of users voluntarily, compliant with the applicable laws and regulations, and provide seamless continuity for people travelling between countries.

As for the interoperability framework, it will allow the centralized and decentralized modes of operation to fully interoperate. It will cover interoperability between ROBERT, NHSX, DP3T, DESIRE, ProntoC2 and other applications/protocols as well as the different device platforms, some of which may emerge also during ISG E4P work.

The first Bluetooth-based European application was launched in France on 2 June (StopCovid) and was downloaded more than 600,000 times on that day both from Apple Store and Google Play (Android), according to the French government. So, time is of the essence...

1. <https://www.schengenvisainfo.com/news/eu-health-agency-border-closure-pre-travel-tests-are-ineffective-against-coronavirus-spread/>



In an exclusive interview, Ms. Anna Piperal, Managing Director of e-Estonia Briefing Centre (e-estonia.com) tells us the story of one of the world's most advanced digital society and how it helped the country go through this unprecedented crisis.

Estonia went through the transformation of the state role, how was that possible?

Our digital society started 30 years ago when we were facing the need to rebuild everything from scratch as an independent country – having no legislation, no administration, no decent infrastructure.

Ms. Anna Piperal

Managing Director of the e-Estonia Briefing Centre

Anna (34) is an e-Governance expert, e-Estonia Briefing Centre managing director, and TED speaker, who is inspiring the digital transformation of governments worldwide by sharing insights into building the most digital society in the world - e-Estonia. She has hosted hundreds of delegations and spoke on numerous international events about an e-Estonia success story.

Living in a digital society of Estonia with education in TalTech in public administration and technology governance, forged Annas' mission, beliefs, and passion to help others understand the benefits of e-governance and e-services and connecting the stakeholders and Estonian IT companies to make the magic happen. In the private sector she has been working majorly in marketing, sales, and advertising

field helping Estonian exports as well as later on taking care of government relations in the infamous inventors of Estonian KSI blockchain - company Guardtime. For the last 7 years, Anna has never been to the state office as all needed activities with the state, were conducted from home, including naming Annas' daughter – fully online.

Estonia wanted to be free from the Soviet past, therefore our leaders made some daring choices, experimenting and working in public-private partnerships – at the moment when technology, the Internet, computers were just coming up. We never had the resources neither financial nor human to copy or digitalize a typical bureaucracy. We did it by agreeing on a few strong, common principles, redesigning rules and procedures, getting rid of unnecessary data collection and task duplication, and becoming open and transparent.

“We became a digital society getting rid of unnecessary data collection and task duplication.”

Can you introduce the role of the e-Estonia briefing center?

e-Estonia Briefing Centre, hosting around 11 000 international high-level decision-makers yearly, is a place to learn how the e-solutions work and answer all questions about digitalization. Our key added value offering lies in arranging a tailored matchmaking program for the public sector and international companies who face challenges building digital solutions in their country. We can imagine, that after the crisis, e-services will become a hygiene factor, and countries committed to e-governance, will be looking for long-term cooperation from both Estonian state experts and Estonian IT companies, who built our resilient system.

“We can imagine, that after the crisis, e-services will be seen as a hygiene factor and every country will commit to e-governance.”

I see your point, fully digital society but what about privacy and cybersecurity?

Confidentiality and privacy are very important and ensured by an e-ID that 98% of people have. Yet today, reliability and integrity of information are just critical for operations. For instance, if someone changes your medical health record, let's say allergies, without you or your doctor knowing, treatment could be deadly. That's why the integrity of data, data exchange rules, software, and log files is paramount. We use a form of blockchain that we invented back in 2007 to check and guarantee the integrity of data in real-time. Critical data is copied to Data Embassies around the world, to guarantee operations and safeguard the data.

“Critical data is copied to Data Embassies around the world, to guarantee operations and safeguard the data.”

And do you think technology helped you manage the current crisis?

When you think about it, the crisis today just revealed everyone's weaknesses, some countries in addition to crisis management, were unable to provide public services, hold cabinet meetings, open sick leaves, reorganize education, organize secure data exchange or identification while accessing private data, or provide support to the businesses in trouble. Because Estonia has provided 99% of the public services over the internet for years, COVID19 had not changed the way we operate. We used to name the only three services that you could not do online – marriage, divorce, and selling real-estate. Now, due to a Covid19 effect, this number has dropped to two, as real estate deals today are also possible to do online. From e-tax, state services portal, e-school, e-health, and e-prescription, to a multitude of business solutions, there is no need to visit any state office, as any service is available 24/7 upon secure login with an e-ID, Mobile-ID or Smart-ID options. The e-state is organized in a way

“Because Estonia has provided 99% of the public services over the internet for years, COVID19 had not really changed the way we operate.”

to withstand almost any crisis, may its nature be military, cyber, natural disaster, or pandemic. Yes, our economy will take the hit, as international business and travel restrictions have a big impact on us, but at least our e-state proved to be resilient to such events.

The Estonian Ministry of Economic Affairs and Communications launched a hackathons programme? What was the outcome of it?

The biggest impact of this event was to have quick fixes to the situation in Estonia like online tutoring service, platform connecting volunteers and at-risk people, add-ons to smartwatches to check for corona symptoms, online food stores stock displays, coronavirus spread map and so on.

The Global Hack initiative that followed, allowed us to show Estonian experimentation and do-it approach to other countries, where we could share our lessons. After applying quick fixes it is important to take a long-term approach, and commit to creating user-friendly, user-centric, and secure e-services that have proven as essential nowadays as having running water.

“After applying quick fixes, long term approach and commitment to creating user-friendly, user-centric and secure e-services is as important as having a running water.”

The founder of the Cell Broadcast Dutch specialist discusses how public warning technologies can be harnessed to help mitigate the current health crisis.

Maarten Mes

Managing Director, one2many

Maarten Mes is Managing Director of one2many, a world leader in Cell Broadcast that was acquired by Everbridge in March 2020. He began his career at KPN Telecom after gaining an MSc in electrical engineering in 1993. In 2007 Maarten founded one2many,

acquiring intellectual property rights of the Cell Broadcast system from Acision. Maarten previously worked at CMG/LogicaCMG/Acision in various senior management roles, including Head of Operations EMEA and establishing CMG's entity in Japan.

Public warning systems are essential for governments. What for you are the most relevant technologies?

The mobile phone is the most effective means of reaching people, with European ownership standing at over 85%. Cell Broadcast (CB) and Location Based SMS (LB-SMS) are the only two technologies that fully meet the EU Directive (EECC - 2018/1972) on public warning.

Cell Broadcast is ideal when there's an urgent need to warn the public of the imminent threat of, say, a pandemic,

"Cell Broadcast is ideal when there's an urgent need to warn the public of the imminent threat."

industrial or forest fire, severe weather, tsunami or earthquake. Then as the incident evolves, LB-SMS can offer a more tailored approach for coordinating rescue efforts. Ideally these would complement each other within a unified public warning system. Best practice would see governments communicating with citizens throughout the lifecycle of a major incident using the most appropriate channels. As well as CB and LB-SMS this could include sirens, social media, voice calls to landlines or digital signage.

At one2many we're excited about our recent merger with Everbridge. We can now enable both mobile technologies to be used through a single platform that's also capable of providing data and analytics on how many citizens are reached by CB and LB-SMS, while protecting individuals' privacy.

How can these technologies help mitigate coronavirus?

Look at New Zealand, Taiwan, Greece, the Netherlands and Norway – they're seen as countries best handling the crisis. All these countries have recently used their national CB and/or LB-SMS alert systems to inform citizens about the changing situation and give clear instructions. Such a system enhances peoples' trust in their government's ability to address COVID-19

"Going forward we're convinced that dedicated public warning is an absolutely essential part of mitigating the crisis and returning to normal."

and other disasters. This virus could be around for some time. Going forward we're convinced that dedicated public warning is an absolutely essential part of mitigating the crisis and returning to normal.

Public warning will be increasingly important as governments put in place plans to return to normal. Being able to communicate with all stakeholders – based on where they live, where they work, where they are and where they may be going – will be crucial.

When travel resumes, it will be vital for countries to communicate with arriving visitors and stay in touch throughout their visit. Cell Broadcast could inform people that they are entering a COVID-19 zone and should take special measurements, while LB-SMS enables further targeted communication during their time in the country. Even if travel restrictions are slowly eased, it is expected that local or

"When travel resumes, it will be vital for countries to communicate with arriving visitors and stay in touch throughout their visit."

regional COVID-19 outbreaks could still occur. CB could inform people that they are entering a COVID-19 zone and should take special measurements or avoid the area. With LB-SMS we can enable further targeted communication during their time in the country.

Contact tracing is central to many countries' plans to get back to normal.

We can help to alert people within specific areas once an infection case has been identified. The ability to 'turn back the clock' and communicate with residents and roamers who were in a particular area hour or days ago will be crucial in helping contain a second or third wave.

If an outbreak occurs on foreign soil, governments must be able to reach their citizens and provide guidance on how to repatriate or seek assistance in country. LB-SMS allows identification of the number and location of citizens overseas, and to send them targeted SMS.

How do you foresee the future after COVID-19? How will your industry adapt to this new environment?

This pandemic underlines the need for effective communication with citizens. We see organizations moving towards digital solutions, perhaps more quickly than they had planned. Governments across the world will need to learn lessons by looking at countries that have had effective systems in place.

Public warning is an essential part of the communication structure, but we've also seen more technology being used to fight

"Public warning is an essential part of the communication structure but we've also seen more technology being used to fight the COVID-19 outbreak."

the COVID-19 outbreak. We are glad to have become part of Everbridge as their Critical Event Management (CEM) platform helps organizations prepare for and respond to major incidents of all types.

I also believe governments should not wait to implement public warning systems until after the current crisis, but to investigate now how they can achieve quick wins in their communication infrastructure. Going forward they can also be used – for example – in the exit from a lockdown situation or managing further waves of COVID-19.



Gabriele tells us how TIM, Italy, handled the crisis and outlines the lessons learnt.

As a telco operator, what were the greatest challenges you had to face in this special crisis?

Telcos have been one of the “backbones” in this crisis. All around the world fixed and mobile traffic somehow exploded in a few days, growing at an impressive pace because people, students, remote workers and families started to use the network even more than before to stay in touch, to communicate by video, or for media consumption.

“Telcos have been one of the ‘backbones’ in this crisis.”

Gabriele Elia

Head of Open Innovation and Research, TIM

Gabriele Elia is in TIM Technology innovation department - Standard, Technical Communication and IPR, where he is involved with innovation and the development of European and national research collaborations and with universities, the coordination of activities related to standardization, the development of intellectual property, and technical communication.

After graduating in Electronic Engineering from the Polytechnic University of Turin and with a PhD in Automation and Software Engineering, he joined CSELT in 1994, then TILAB, where he began his activities with the first Internet services of Telecom Italia such as Interbusiness, Telecom Online, TIN.IT and others services on ADSL. He has been involved in the development of “content-to-person”

services on broadband and broadcast networks, including IPTV and digital terrestrial; more recently he followed the development of Open Innovation projects including the creation and development of the “Joint Open Labs” with some of the best Italian universities.

Even in the lockdown situation, many businesses could keep on teleworking and most students and teachers kept in touch via remote learning.

In Italy for example we measured a growth of fixed and mobile traffic of almost 100% at the beginning of March, when all schools, universities and most businesses

"In Italy we measured a growth of fixed and mobile traffic of almost 100% at the beginning of March."

had to close to limit contacts and prevent the spread of the virus. The resilience of the network we designed and delivered and what we managed to do in a few days to cope with this is really amazing. Spare capacity has been used, new links and routers have been delivered and teleworking has been extensively used: in TIM for example we have more than 32,000 teleworkers even for call centres and network operating centres. We looked at something similar in the past, and the story was much different, for example during the so-called Spanish flu in 1918: the telephone network in many big cities simply collapsed because operators (mostly young women) who manually made each connection between caller and recipient got sick, and automatic dialling was not really commonplace at the time!

How did you support your various stakeholders?

We decided on a number of measures to support various sectors, professionals and individuals. At the technical network

"We decided on a number of measures to support various sectors, professionals and individuals."

level, we have identified and strengthened the connections demanding the highest traffic volume, and also international peering point.

Commercially, on mobile networks we suspended traffic quotas so that workers and students who did not have fixed-line internet access could keep studying and working.

In the meantime, in April and May we accelerated fibre-to-the-cabinet deployment in more than 3000 locations, in collaboration with the Italian broadband agency Infratel, to reduce the digital divide.

We focused on communities who were in need of communication with, for instance, thousands of smartphones and tablets delivered to schools. In another sector, we helped inmates in prisons get in touch with their family members.

For schools, we strongly reinforced the current smart school platform called WeSchool that we had developed with one of the startups in our portfolio a few years ago.

We also initiated trial periods of smart working support tools with major vendors to companies who needed it or wanted to try it.

Internally, for employees, a steep increase in teleworking was immediately introduced: more than 30,000 staff members in all the Lines – commercial, customer care, technical, etc. – have been working from home.

Have you been involved in specific projects related to the crisis?

The Innovation team has been especially involved in the support of startups that are helping in this period: companies that are delivering mobile apps for children at home, for example.

We also supported the city of Turin in the Torino City Love campaign. Torino City Love is an initiative of solidarity and open innovation aimed at mobilizing "Torino City Lab" partners and other businesses from Italy and beyond to offer free resources, actions and skills to support citizens and businesses based in Turin-Piedmont during the COVID-19 emergency. For work and school, they developed

"We have supported companies such as those delivering mobile apps for children at home."

collaboration solutions, connectivity, tools and devices to allow remote work and study. For the health sector, they worked on solutions for remote monitoring and communication. TIM supported them with a set of resources in the following areas: connectivity at home; healthcare and the elderly; school and entertainment for children and teenagers; work and training.

How do you foresee the future after COVID-19; how will your company adapt to this new environment?

We think that this pandemic, very strong especially in the north of Italy, has taught us many things about the importance of telecommunications in our new society. E-commerce, teleworking, remote learning and video streaming have all become part of everybody's life, even in Italy, where only 60 or 70% of the population was familiar with the Internet.

"E-commerce, teleworking, remote learning and video streaming have all become part of everybody's life."

We have a 99% LTE coverage and a 99% ADSL coverage and more than 80% of the population in Next Generation Fixed Access Network but we will make sure to grow even further. 5G is just starting and will help a lot.

The other strong lesson is teleworking. We were prepared to support employees working remotely a few days a month, but with the extent of teleworking we have learnt a lot and improved it, both for TIM employees and our customers.

Marie, Sweden, tells us in this interview why cybersecurity is of the essence in a global crisis and gives us some advice on best practices.

Marie Bengtsson

CEO Advenica

Marie Bengtsson is currently the CEO of ADVENICA, having started as its CFO at the end of 2014. Marie has extensive experience from senior positions such as CFO of Fitness24Seven, financial manager of SIA Home Fashion, and CFO and HR manager of Thomson Multimedia Scandinavia. She has always been interested in leadership positions. She holds a Bachelor of Business Administration from the International University of Monaco, where exchange programmes with the London School of Economics and Babson College in Boston were included. Furthermore, she has taken several leadership diplomas at the Swedish Defence University.

Advenica's expertise helps countries, authorities, companies and organizations to protect the most important digital information. Our well-proven and trusted cybersecurity solutions isolate networks physically while connecting data securely. Since our inception in 1993, we have designed, developed and manufactured all crypto and segmentation products in Sweden to ensure high assurance. Read about our unique technology and its EU and national approvals at the highest security level at www.advenica.com

During this crisis, governments have had to prevent cyberattacks against critical infrastructures. For you, what are the main challenges they have had to face?

Attacks against critical infrastructures is not something new that we have discovered during this crisis. This is something that unfortunately has been happening more and more.

Cyberattacks are the new way of warfare and state-funded attacks on specific, interesting targets are increasing. Their objectives range from industrial espionage and propaganda to accessing

“Cyberattacks are the new way of warfare and state funded attacks are increasing.”

defence systems and disruption of infrastructures by for example attacking power grids or the transportation sector.

To avoid being the victim of these devastating attacks, a classification and segmentation of the information is a good start. With strict network segmentation, where you combine physical separation with logical separation, critical information can be safeguarded.

Companies need to look at information security from a completely new, future-proof angle. Reducing the risk of human error is extremely important, as is taking advantage of automated information flows. You need to create information flows that take into account security, data leakage, tampering and intrusions without compromising on using the most appropriate and simplest information paths based on risk assessment.

“Companies need to look at information security from a completely new, future-proof angle.”

A lot of people (employees, students, pupils) have been working remotely; what are the main cybersecurity related issues of working at home?

The vulnerability increases due to the soaring number of Internet connections when many people work at home. More “doors” are open to attackers, which provides more opportunities for a hacker to get into your systems.

One issue is that many companies lack rules and policies on how to work in a secure way remotely. At the office, the office network is usually secured, but at home you may have nothing to protect your network.

Another problem is that policies regarding information accessibility are often missing as well. In short, too many people have access to too much information – information they do not really need for their work.

And a third problem is that the security awareness is often quite low among a lot of employees, even at companies with very sensitive information. They are actually missing a general security policy. There is a belief that “this does not happen to me” and “why should

“Providing secure and selective access to a system from a remote network is essential.”

my data be interesting?”. You may not usually work with the most interesting data, but you may have access to it and if an attacker can enter through you, he or she can access critical and sensitive data. You are therefore interesting for the hacker. Providing secure and selective access to a system from a remote network is essential.

The lack of these policies is the breach used by attackers who now benefit from a direct highway to secret and sensitive information.

“A lot of companies and authorities have recently implemented new rules and laws regarding information security.”

How do you foresee the future after COVID-19; how will your company adapt to this new environment?

For us, the focus on cybersecurity is of course something we really acknowledge.

We have met a lot of companies and authorities who have recently implemented new rules and laws regarding information security that they should comply with. And now with the focus on cybersecurity, the fast-moving digitalization and the remote work trend, they have even bigger reasons to move to action when it comes to protection of valuable information.

For companies with classified or even secret information, we have the solutions they need.

We can provide them with expertise and unique, technically advanced, durable and future-proof high-assurance cybersecurity solutions for critical information up to Top Secret classification. With our encryption and segmentation products, networks can be physically isolated and information can be securely connected at the same time – we enable them to be digitally responsible.

By helping countries, authorities and companies to get effective cybersecurity solutions in place to raise information security, we contribute to viable and sustainable operations – and to a safer world.

“Helping countries, authorities and companies to get effective cybersecurity solutions in place contribute to viable and sustainable operations.”



The CEO and co-founder of VOGO, France, tells us how his company handles the crisis.

VOGO directly participated in helping in the crisis with a rapid saliva-based screening test; how did you get involved in this project?

Faced with the current health crisis, it has been established that widespread rapid testing of populations would have a decisive impact. It is within this context that VOGO has joined the French consortium formed by scientists from the CNRS (French National Centre for Scientific

“In the current health crisis, widespread rapid testing of populations will have a decisive impact.”

Research) laboratory Sys2Diag and with biotechnology company SkillCell for the development and the industrialization of EasyCov, a saliva-based diagnostic test for SARS-CoV-2.

Christophe Carniel

co-founder and CEO of VOGO

Christophe Carniel is the co-founder and CEO of VOGO. Prior to founding VOGO, Christophe graduated from “Ecole des Mines d’Alès” in 1988. He worked as a project leader for the XIS company, where he was responsible for developing and setting up 150 interactive music listening stations for the FNAC store, a retail Entertainment company.

In 1993, Christophe co-founded NETIA, a software company specializing in the management and the broadcasting of audiovisual content. In 2008, he sold NETIA to ORANGE, though he still ran it until 2012.

In 2013, Christophe and his associate founded VOGO.

VOGO develops, markets and distributes live and replay, audio and video solutions for spectators and professionals in sports arenas in more than 20 countries. VOGO’s video solution aims to improve spectator experience by providing on-demand, multi-camera content, either live or on replay, along with analytical audio and video tools for professional usage. The acquisition of Vokkero® in October 2019 enriched this range of professional solutions, with the integration of an internationally recognized line of audio communications systems. <https://www.vogo-group.com/en>

Our recognized expertise in developing audio and video communication systems for use where there are large groups of people (sports venues for example) and operating cutting-edge image, network and Artificial Intelligence (AI) technology have enabled us to be part of this great project.

Since 14 April, we are in charge of developing and launching a digital tool that can automate results analysis by way of a colorimetric reading of the EasyCov test, which is required for the widespread

“We are developing a digital tool that can automate results analysis by way of a colorimetric reading of the saliva-based diagnostic test.”

screening of the population. Accordingly, we have assigned a quarter of our R&D teams to developing a technological tool (smartphone application) to make this automation possible.

What are the next steps for you?

Since 11 April, the CHU Montpellier university hospital has been running a clinical trial together with SkillCell and CNRS scientists working at the Sys2Diag laboratory. If the trial results, which we expect in the next few weeks, are conclusive, it may be possible to implement an efficient and reliable development, production and distribution chain for widespread, rapid testing of medical personnel.

We are also working on a complementary IT solution for the EasyCov saliva-based diagnostic test to enable colorimetric analysis and ensure interoperability with existing healthcare systems. We will communicate on all these developments once we have the clinical results.

With all sport events postponed or cancelled, it must have impacted your activity; how are you coping with this?

After starting the year with very strong growth, VOGO was instantly impacted

“We took swift measures to protect the health of our teams, and have actions lined up to preserve our financial situation.”

by COVID-19, as major national and international sports events were postponed or cancelled. We therefore took swift measures to protect the health of our teams in France and abroad, and have actions lined up to preserve our financial situation.

Together with our teams working from home, we have maintained our R&D roadmap. The continuity of activity of the teams and our R&D mean we will be able to continue developing high-value-added functionalities to underpin the Group’s cutting-edge audio and video solutions. VOGO is working in particular on innovative solutions for the distribution of the VOGOSPORT video solution on 5G networks and on artificial intelligence (AI)-based “pro” functionalities covering healthcare for sports people. These technological developments and our ongoing patenting activity will constitute a decisive new competitive advantage in the Sportech universe.

The Group is pursuing its commercial activity so as to be ready for a rebound when the crisis is behind us. This commercial effort has already produced results with several new contracts currently being finalized. In addition, the Group is continuing to work on its commercial diversification among key account customers (SNCF, EDF) in industrial sectors and services in which the VOKKERO® products already enjoy recognition and a strong commercial foothold.

How do you foresee the future after COVID-19; what information do you have that leads you to imagine a possible return to growth in the second half of the year?

If the results of the current clinical trial are positive, we will be able to generate

sizeable additional revenue over the next months thanks to our technological and commercial contribution to the project. This additional business aside, the test’s roll-out could bring back sports events. This also lies at the very heart of our commitment to the project.

With the cancellation of sporting events caused by the first isolation measures implemented due to the COVID-19 crisis, the economic consequences were unprecedented on the sports market. To give you an indication, the audiovisual rights of a football club represent more than a third of its annual turnover. In this context, we are currently carrying out discussions in order to commercialize an offer for rights-holders allowing the use of the VOGO SPORT FAN application outside sports stadiums. With this new broadcast solution, industry players (media, leagues, event organizers, clubs, etc.) could offer an alternative to spectators when sports competitions resume “behind closed doors”, without an audience, in order to continue to respect the social distancing measures recommended by the WHO in particular. These reflections were also spurred by the numerous requests received in the past few weeks from media or clubs seeking to safeguard part of their income related to audiovisual rights.

“We took account of requests received from media or clubs seeking to safeguard part of their income related to audiovisual rights.”

The actions implemented since March, combined with the technological quality of our solutions, the recognition we have established among our audio and video clients and our solid financial position, give us every confidence in our ability to overcome this crisis and make a swift return to our growth path in France and internationally.

The ETSI Fellowship programme rewards individuals who have made an outstanding personal contribution to ETSI, to building the work of ETSI, or to raising its reputation in specific sectors of standardization. Meet our 2020 new Fellows!



Brian Copsey

Brian Copsey's experience in telecommunications, radio, outside broadcast, fibre optics and radio interference started in 1966. He joined ETSI in 1991 as the Chairman of a group in charge of Radio Microphones and Assistive Listening Devices (ALDs). He is currently Chair of ERM TG17, the group in charge of Broadcast TV and radio and TV masthead amplifiers, video links, radio microphones and In-ear Monitors.

Tell us a bit more about yourself: how did you get into the broadcast world?

After joining the Radio Interference group in 1966, I helped to operate the Cowes-Torquay powerboat Race which linked seaside towns along the route and continued for some 27 years in various positions. As RIS we assisted the GPO/British telecom video outside broadcast (OB) as well as the sound OBs. Since then I have been part of many outside broadcasts in a private capacity including Treasure Hunt.

And what about standardization and ETSI?

My standardization activities started in the 1970s with the UK MPT series

of standards. After starting a licencing organization for the UK Government, we realized there were too many technical standards, hence we started a European standard in ETSI, now used worldwide in various guises, for both ALDs and radio microphones. I have been part of the evolving EC regulation which until recently served industry well.

You developed the first European standard for ALD; what is its impact?

One problem with ALDs is they are peripatetic and do not respect borders. A standard has enabled the ALDs to have harmonized spectrum throughout the EC. The biggest gain is enabling children to hear their mother and improve their learning experience and results at school.



Kiritkumar P. Lathia CEng, FIET

Kirit has been involved in ETSI's strategic and management issues since 1993, including the 1994 IPR policy as advisor to Italian Government. He was instrumental in the creation of the ETSI Board and OCG in 1995 and 3GPP in 1998. As an active Board member and

FC Chairman, he formulated ETSI debt collection policy as well as inclusion of SMEs and Academia in ETSI.

Tell us a bit more about yourself: how did you get into the telco world?

From 1970-72, I was involved in the SS6 field trial, the first digital signalling system between countries. This later evolved into SS7, ISDN and GSM signalling. Note that global and regional cooperation defined these even though most countries had their own internal standards leading to higher product costs. Hence in the 1980s, through CEPT, European operators, government agencies and manufacturers identified the need to create ETSI.

And what about standardization and ETSI?

Considering that ETSI members are "investing" millions of euros yearly in ETSI/3GPP standards activities, standardization is clearly a strategic business activity and not just technical. Access to essential IPR on FRAND basis, transparency and good governance are critical. Thanks to ETSI strategic efforts in the 1990s, ETSI is now a de facto global and not just European standards body.

You have worked a lot on the inclusion of SMEs; why was it important?

SMEs and academia play an important societal and economic role in Europe, hence my efforts for their inclusion within ETSI. COVID-19 and the resulting economic climate has accelerated transformation to digital economy and Europe will have more "independent" workers and/or SMEs. By empowering them with ETSI standards and services, Europe can leverage their innovative IT products and services for a more equitable society and sustainable development.



Edgard Vangeel

Edgard has been deeply involved in ETSI standardization of 2.4 GHz and 5 GHz RLAN since 1993. He has been chairman of ERM TG11 (2.4 GHz) since 1999 and was chairman of ETSI TC BRAN (Broadband Radio Access Networks) from 2009 until 2019. Edgard was a key player in developing the current DFS mechanism for RLANs to protect meteorological and military radars operating in 5 GHz.

Tell us a bit more about yourself: how did you get into the broadband world?

In 1993, I joined Telxon, a manufacturer of portable tele-transaction computers. With the acquisition of Telesystems SLW in Canada, a pioneer in wireless LAN, Telxon became one of the first companies incorporating high speed RLAN technology into their products. Telxon's RF Division, Aironet, was acquired by Cisco Systems in 1999, where I have been since 2000.

How will wireless broadband evolve in the future?

We are working towards a new default where communications will be video rather than just voice. The COVID-19 response has shown us that we need to

pay more attention to upstream links. And IoT means billions of devices connected! Therefore, wireless broadband must support very different uses, all at once.

An RLAN sits at the edge of a wired or wireless broadband delivery system. Each of the broadband systems is expanding capacity, and RLAN technology must evolve to stay ahead of the changes that are happening.

What do you see as a challenge for ETSI?

We live and work close to one another, using computers, tablets, smartphones... resulting in more dense wireless environments and growing traffic. Therefore, the development of efficient and robust sharing mechanisms and mitigation techniques will be a priority in order to take full advantage of spectrum resources while at the same time protecting incumbent users. Ultimately, most of this depends upon ETSI technical standards.



Ian Doig

For eight years, Ian Doig had been a Higher Telecommunications Technical Officer with the UK Radiocommunications Agency before being seconded to ETSI as a Technical Editor in 1993. He later

joined ETSI as a staff member. Ian was responsible for the coordination and editing of the output of Technical Committee Special Mobile Group (SMG) and its working groups, the ETSI predecessor to 3GPP. Additionally, and in conjunction with STF12, Ian took on much of the coordination of the working methods of SMG, which had inherited the work on second generation cellular technology from CEPT Groupe Spécial Mobile (GSM).

Ian played a key role in the foundation of 3GPP, helping to establish and explain the project's working procedures and processes.

In 2000 he took his skills and knowledge of ETSI and 3GPP work back into industry, on behalf of Motorola and later as a lead BlackBerry delegate until his retirement at the end of 2019.

Ian also contributed greatly to ITU and CEPT groups, representing his company's position with a positive attitude, constructive behaviour and great technical knowledge and insight.

Ian's dedication to telecommunications standardization was very well known and acknowledged throughout ETSI and later 3GPP.

Ian's goal had always been to contribute positively to ETSI in the interest of the entire membership and for the greater good of the Industry. For 3GPP he travelled the world, committed to creating the best-documented standards in the industry, and was renowned for his perspicacity and for having an eye for spotting ugly and ambiguous wording. Ian's knowledge of the rules of the game was profound, and many a timely intervention immeasurably improved the quality of the standard's text.

Ian Doig passed away in February 2020. He is missed by ETSI and 3GPP colleagues and his many friends.

New champions emerge



At this time, the Olympic games and the Paralympics should be taking place in Tokyo, Japan.



It has taken something big and very disruptive to stop ‘the games’ from happening. Unfortunately, the COVID-19 pandemic is just that.

These days, instead of watching the fastest and strongest achieve Olympic greatness, we go out on to our balcony or step out of our front doors to cheer on our carers. There is something beautiful and worthwhile in those moments of appreciation for people who each deserve a gold medal.

Telecoms plays a part too

Though a little removed from the front line in the war on COVID-19, the telecoms industry can be proud of the role that communication tools are playing. Nurses in the community have had access to patient notes and appointments and have been able to make future care plans – over mobile. Teachers have given their classes and kept in touch with students. Whole industries have managed to collaborate online and to keep going, despite a world-wide lockdown.

Now, as the world looks to break free of confinement, mobile devices are one of

the keys that will allow our doors to stay unlocked. Mobile apps are playing a crucial role in helping to confine future outbreaks of COVID-19 - to small and rapidly supported groups.

Meetings go on

So, how has 3GPP coped in the pandemic’s early stages? There is little doubt that the stability and consistency of our working methods has helped – as we moved to ‘e-meetings’ from February.

Well-established and populated email reflectors, meeting registration tools, sturdy meeting agendas and the wealth of experience of our experts - many of whom work remotely on a regular basis - has ensured that the quality of the specification work has remained as high as ever.

Despite that level of success, an e-meeting cannot move as swiftly as a physical one - where decisions and consensus can more easily be reached. As a result of the changes, where meetings are conducted by email and over video conferencing, there has been additional pressure to get Release 16 completed on-time.

To meet that target (completion at TSG#88-e), the functional freeze date of Release 16 features had to be extended by three months – with stage 3 work completed at the same time as the coding and ASN.1 freeze in June.

A slow return

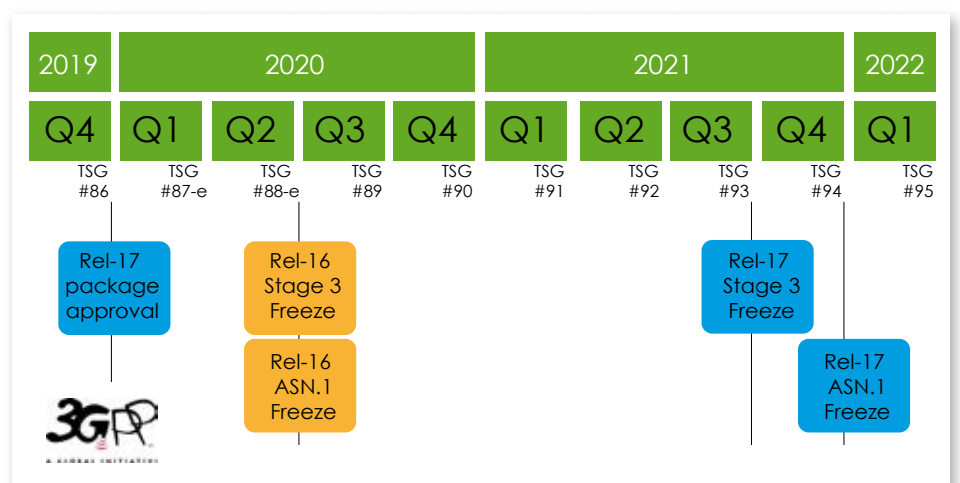
As the world re-emerges from the COVID-19 pandemic, there will be new challenges to face.

Companies will have travel restrictions to consider, the airports and airline schedules will need time to recover and at the host venues; meeting rooms may have restrictions on numbers and on workstation distancing.

At the personal level – some time will need to elapse before rules on personal protection equipment and social distancing are relaxed.

The e-meeting could be with us for a while longer.

■ Kevin Flynn,
3GPP Marketing Communication Officer



Mobile Industry Response to COVID-19 in China

A collection of use cases from the COVID-19 response in China has been jointly released by the China Academy of Information and Communications Technology (CAICT), GSMA and 5GAIA. See how they helped.

It records eight typical cases using information and communication technologies such as 5G and big data to share experiences and efforts from China's mobile industry and to encourage global peers to facilitate more effective use of mobile technologies to prevent and control the epidemic.

In the application of Remote Diagnosis and Treatment, an ultrasonic robot is assisted by 5G to perform real-time operations through remote control. Medical professionals can provide diagnosis remotely and guide on-site medical staff in their diagnosis and treatment. It effectively alleviates the shortage of doctors in affected areas and speeds up the diagnosis and treatment of patients.

The COVID-19 telemedicine collaboration solution builds on 5G's advanced capabilities and telemedicine technologies to provide an extensive range of collaborative medical services. The solution leverages big data analytics of clinical data of newly diagnosed cases of COVID-19 and AI deep learning of patients' CT (computing tomography) images to intelligently identify COVID-19 characteristics in CT images. It can perform a chest CT and clinical assisted diagnosis of suspected cases within 15 seconds as well as classification of clinical severity, which greatly reduces the workload of clinicians and imaging experts and improves the efficiency of COVID-19 diagnosis.

The 5G + Remote Thermal Imaging Solution has been widely deployed in high-traffic areas such as airports, train stations and shopping centres to pre-screen patients with fever,



helping to greatly reduce the risk of contact infection during temperature measurement and avoid mistakes and oversights from mental fatigue of staff. It transmits the temperature readings and live video feeds of the detection zone simultaneously to computer stations or mobiles through 5G networks that allow for flexible operations.

5G Application Store is designed to provide opportunities for enterprises in the 5G value chain to showcase their 5G innovations, connect the upstream and the downstream companies, and promote dialogue and cooperation between enterprises in vertical industries and ICT companies. There have been more than 120 5G use cases about epidemic response and resumption of work and production in 5G Application Store since the outbreak of COVID-19. Furthermore, enterprises expressed needs for epidemic prevention and control in the Store and the Store connected them to the supply side, satisfying demand-matching effectively.

Communication Big Data Travel History Card enables the 1.6 billion mobile subscribers in China to query their travel history information of places where they stayed for more than 4 hours in the past 14 days. It generates a green or red indicator according to whether the user has been to affected areas. The Travel History Card has played an important supporting role in the monitoring and analysis of epidemic status, virus tracing, epidemic prevention, containment and treatment, and resource allocation.

The COVID-19 pandemic has significantly affected people's lives, health and safety. China's mobile industry took quick response to leverage operator big data and empower telemedicine to increase capabilities and efficiencies of health services. The hope is that the global mobile industry can be inspired by the experiences and efforts of others.

■ Ms Wang Zhiqin, Vice President of the China Academy of Information and Communications Technology (CAICT).

Latest news in the Secretariat

Keeping it up!

In spite of the crisis, ETSI maintained its commitment and support to its members.

In the past months we have been going through difficult times, brought on by the outbreak of an unexpected and – at the time – even underestimated pandemic. The world had to move progressively towards limiting people's mobility in order to block the inevitable spread of the disease. Such restrictions have strongly impacted not only people but also businesses, which in turn has struck a significant blow to the world's economy.

Without forgetting the efforts of so many professionals and volunteers fighting the pandemic at the frontline, I think it is now the time to also recognize the magnificent role our community in the ICT sector is playing and will continue to play, addressing the management of both the health and the economic crises we are facing.

Through ICT, health services are being improved, facilitating quick and accurate exchange of information, enabling immediate and rich communication among health professionals and also enabling these professionals to engage with their patients and log their health information. Today's systems enhance the efficient operation of emergency services, improving communication and

coordination. These very systems also ease the harshness of lockdown for the population, bringing communication, information and entertainment to them through different means: TV, games, social networks, video chats, etc. And last but not least, it is thanks to ICT that many businesses have been able to keep their doors (virtually) open, empowered by all our communication tools. The continuity of businesses being essential to cushion the economic fall, it will be equally as important for its recovery.

In ETSI we have been especially conscious of our role and have succeeded in keeping the activity running in support of our Members' diverse standardization needs. Despite the closure of our buildings and confinement of our staff, we have found the means to keep the ship sailing. We have enabled the standards people to remain connected through our different IT tools, which have been stretched to their limits. Our staff have made themselves even more available and have offered options and solutions to make sure the show goes on, turning where possible all physical meetings into electronic ones and ensuring that nothing fails. This applies

not only to the standardization meetings of our technical groups and committees (and my gratitude to all delegates for their continued engagement and cooperation), but also to activities such as workshops being transformed, where possible and relevant, into webinars that provide food for thought, analysis and discussion to our Members. And we have shown, even in lockdown, how fast we can start activities when needed and to what extent everybody is committed to it. We have also learnt about our loopholes and pitfalls, how we still have to improve our methods, our processes, our rules. Our goal: keep it up!

In ETSI we recognize that all the wonders possible today through ICT are due to the wise decisions taken by the community of sharing and cooperating in the development of standards. This has democratized the access to highly performant technology and provided a sustainable platform for innovation. This is the attitude that started (at least) 30 years ago and that we should strive to maintain. Let's keep it up, all of us, together.

■ *Luis Jorge Romero, Director-General, ETSI*

Welcome to our new staff members



Issam Toufik
*Mobile Competence
Centre Director*

Issam received his Ph.D. in Communication Systems from both Eurecom and Télécom-ParisTech. Issam began his career as a research engineer at Samsung Advanced Institute of Technology, South Korea before joining NXP semiconductors in Sophia Antipolis, working on LTE algorithms development. In 2009, he started working for ETSI as a contracted expert acting as a Technical Officer for two RAN (Radio Access Network) 3GPP groups. Looking for a new challenge in his career, he completed, in parallel to his work, his studies in marketing and management, with an MBA at Kellogg School of Management, Northwestern University, USA in 2018. He joined us as a staff member in June.



Kimmo Kimalainen
Technical Officer

Born in Finland, Kimmo has both technical and MBA degrees. After implementing mobile networks at an operator, he worked at Vodafone mobile network in Italy. He was also involved in implementing the first satellite interface in GSM networks when a base station in Bosnia and Herzegovina was connected to a Base Station Controller in Helsinki via satellite interface, helping the United Nations peacekeeping operations in that area. In 2000, he moved to ETSI as a contracted expert working as a technical officer for 3GPP Core Networks working groups and some ETSI groups. He joined ETSI as a staff member in January. Kimmo enjoys playing ice-hockey and golf.



Yann Blanc-Tranchant
*Software
Development
Professional*

Yann used to live in the Grenoble area, France, before applying to the SUPINFO International University in Nice, where he will graduate as an engineer at the end of the year. He is currently finalizing his thesis on the project he was involved in: our check-in system for meetings where delegates scan the unique QR code they have received upon registration. Yann has started as a trainee in ETSI in 2017 and, happy about the work atmosphere, he joined us in April 2020. With his passion for UI/UX (User Interface Design/ User Experience Design), he will make sure ETSI applications are more ergonomic and attractive.



Sofia Pison
Technical Officer

An Italian native, Sofia came to France to complete her Master's in Electromagnetism and Telecommunications at Centrale-Supelec, Paris. After her internship at SAFRAN, she joined ETELM for more than 2 years as an R&D engineer. Sofia worked on the optimization of scheduling algorithms for signal coverage and data rate improvement and was also in charge of implementing an eMBMS systems for data broadcasting, using ETSI specifications. Seeking new opportunities and wishing to live closer to her family, she applied for the vacant position in ETSI and joined us in mid-March, as France was locked down. She's eager to see us all...



Denis Filatov
Technical Officer

Denis graduated with an engineering degree from Saint-Petersburg State University of Aerospace Instrumentation. The company he worked for in Russia had a branch in Sophia Antipolis. He then decided to come to France with his family and has lived here since 2004. He joined various telecommunication companies before founding his own company to provide expertise in conformance and interoperability testing of telecommunication networks. He has participated in various ETSI projects since 2012 as an external expert in the ETSI Centre for Testing and Interoperability, mostly in Intelligent Transportation Systems (ITS) and Network Security and Public Key Infrastructure (PKI) domains. He joined us as a staff member in May.

World-leading in consumer IoT standards: ETSI EN 303 645

As the number of connected devices increases, poorly secured products threaten consumer privacy and can be exploited to launch large-scale cyber-attacks. ETSI members, comprising manufacturers, security experts and consumer stakeholders, have created a standard to address these issues.

In June 2020, a world-leading standard was published. ETSI EN 303 645 is the first European standard (EN) for consumer IoT security. It contains provisions for manufacturers, establishing a security baseline for consumer IoT devices and providing a foundation for IoT certification schemes. Among 13 key areas, it requires manufacturers to stop using universal default passwords, which have led to large-scale cyber-attacks.

Provisions are outcome-focused, rather than prescriptive, so manufacturers have flexibility to innovate and implement security solutions appropriate for their products. Products in scope include connected toys, baby monitors, smart door locks, smart cameras, TVs, speakers, wearable health trackers, connected appliances and smart home assistants. EN 303 645 is a vital step towards securing the IoT.



Technical Report on smart lifts

To facilitate upcoming standards, the ETSI SmartM2M technical committee has released ETSI TR 103 546, a Technical Report on smart lifts, collecting and developing the type and range of data which should be exchanged between lifts and their relevant management applications. This study paves the way for technical requirements to monitor the activities and the performance of such lifts and describe their interaction with IoT devices and applications.

ETSI TR 103 546 specifies three categories of users and their role in the system: users of the lift with their needs; people and companies involved in this industry, such as

manufacturers, suppliers or maintenance organizations; and the owner or administrator of the buildings. Signals and controls are clearly identified, and a set of use cases highlights concrete and comprehensive examples of the usage and role of those signals and commands.



MEC extends services to WiFi

MEC has released MEC GS 028 to extend network information services to the world of WiFi and thus squarely into the enterprise space.

GS 028 specifies a new MEC service on Wireless LAN Information. It describes the information flows, required information, and as applicable, specifies the necessary operations, data model and data format. It also provides an overview on how WLAN Access Information Service (WAIS) may be used by the MEC applications and by the MEC platform and describes the information flows used for WLAN Access Information Service. The current WAI API, as defined in MEC GS 028, will be made available shortly via ETSI Forge in a serialized fashion.

Hear from us in conferences and meet with us at exhibitions.

Find more information and register on our website at: www.etsi.org/events

In the current health situation a number of ETSI events have been postponed, however the majority of the events we organize or engage in take place in virtual format. We trust this may encourage an even larger audience to participate and we are looking forward to bringing high quality content to the comfort of your home or office.



2nd C-V2X remote Plugtests - 20-31 July.

Organized by ETSI in partnership with the 5GAA, this 2nd edition of the ETSI C-V2X Plugtests remote event will focus on testing ITS Security features.



IoT World Virtual - 11-12 August.

ETSI is pleased to endorse and have speaker representation at IoT World, the global event where strategists, technologists and implementers connect, putting IoT, AI, 5G, Edge and Security into action across industry verticals. IoT World Virtual will set the stage for how IoT technologies are transforming business in the new digital world.



5G World - 1-3 September.

ETSI is once again pleased to endorse and actively participate in 5G World, taking place as virtual event in 2020, encompassing conference and exhibition.



5th MCX remote Plugtests - 21 Sept.-2 Oct. 2020.

This remote Plugtests event will focus on testing 3GPP Release-15 Mission Critical Services, including railway-oriented features.



FutureNet World - 22-23 September.

The event, endorsed by ETSI, is focused on the theme 'Network Automation and AI'. The unique focus will combine an in-depth coverage of the latest technology choices as operators continue to evolve their networks, with a visionary examination of the services customers are demanding in today's digital world and the considerations for the network. Various ETSI officials have confirmed their participation to provide updates on the latest ETSI activities.



oneM2M Interop 7 - 12-15 October, Pangyo, KOR

Organized by ETSI and TTA in partnership with the InDiCo project, this event will offer Interoperability and Conformance testing based on the latest specifications of the oneM2M Releases 1, 2 and 3, plus some advanced features of the release 4.

ETSI SNAPSHOT

917
members

97
standards
Jan-May 2020



26%
SMEs

710
standards
under development

+100
technical groups

6120
standards' downloads
March-May 2020

9
face-to-face
meetings
March-May 2020

207
participants
to F2F meetings
March-May 2020



2095
eMeetings
March-May 2020

41301
online participants
March-May 2020

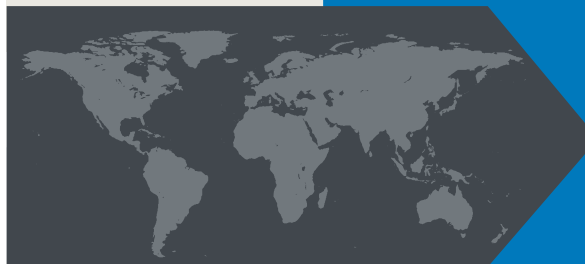
2
conferences
& Plugtests
March-May 2020

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Secretariat

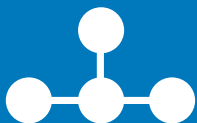
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74
partnerships

128
people
19
nationalities



Members
from
65
countries



About ETSI

ETSI provides members with an open and inclusive environment to support the development, ratification and testing of globally applicable standards for ICT systems and services across all sectors of industry and society. We are a not-for-profit body with more than 900 member organizations worldwide, drawn from 65 countries and five continents. Members comprise a diversified pool of large and small private companies, research entities, academia, government and public organizations. ETSI is officially recognized by the EU as a European Standards Organization (ESO).

For more information please visit: www.etsi.org

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