

COMMUNICATE ON ... COMMUNICATIONS - From a Conference every 2 years to the need to communicate everyday and everywhere

Prof. Eng. Ph.D. Victor GREU



The 10-th edition of International Conferences on COMMUNICATIONS – Comm, Bucharest, Romania, under the aegis of IEEE Romania Section and Romanian Academy of Technical Sciences



Victor Croitoru, Dumitru Stanomir, Victor Greu and Paul Cotae



Mihai Radu and Victor Greu

Abstract

The paper presents the significance and main context of the series of International Conferences on COMMUNICATIONS – Comm, now at the 10-th edition, held every 2 years since 1996, in Bucharest – Romania, under the aegis of IEEE Romania Section and Romanian Academy of Technical Sciences.

There are also presented some remarkable moments among the 10 editions of ICC-Comm, which have a relevant significance for the scientific status of the of ICC-Comm brand, including the fact that, starting from 2010, ICC-Comm was covered in ISI Web of Science (in the Conference Proceedings Citation Index) and as a consequence this remarkable achievement determined an essential rise of the scientific level of the accepted papers – based on a rigorous peer review process.

The paper also analyzes the complex relations between the need for ubiquitous communications and the challenges of today communications, including wireless, broadband, network centric, cognitive approach, context aware etc.

As a result, the author concludes that each of these technical challenges could have a replica in the way people “think” to communicate, to share their ideas and generally information, irrespective when or where, but the implications of this process is very complex for the specialists on communications, because they carry the responsibility of developing communications and information technologies and keeping their amazing pace.

Keywords: *communications and information technologies, information society, knowledge based society, wireless body area network, e-health.*

JEL Classification: *L63, L86, M15, O13, O33*

1. A very special Conference, every 2 years, in Bucharest - Romania

The 10-th International Conference on COMMUNICATIONS - Comm 2014 was held on May 29-31, at the National Military Palace, in the heart of Bucharest, the capital of Romania [1].

The significance of this event is very special due to many reasons, which made from it much more than “a conference”.

Starting from 1996, the Politechnica University of Bucharest and Military Technical Academy organized every 2 years the International Conference on COMMUNICATIONS - Comm (ICC-Comm), under the aegis of IEEE Romania Section and Romanian Academy of Technical Sciences. Now we have just arrived, after 18 years of enthusiastic perseverance, at the 10-th edition of ICC-Comm.

Notice that the prestige of IEEE and also the Romanian Academy of Technical Sciences provided a continuous frame for a high scientific level of the conference.

In 1996, the founders of ICC-Comm who provided the idea and the main efforts for the start of ICC-Comm Conference were some prominent and enthusiastic professors including Adelaida Mateescu, Alexandru Serbanescu, Mihai Radu, Victor Croitoru, with the support of the Department of Telecommunications of Politechnica University of Bucharest - led by professor Ion Banica and of the Communications Department of the Military Technical Academy led by professor Victor Greu (also Chairman of Comm 2000, along with professor Adelaida Mateescu as Honorary Chairman, professor Victor Croitoru as Chairman of Comm 2000 and professor Mihai Radu as Chairman of Comm 2000).

Among the 10 editions of ICC-Comm we may find some remarkable moments, which have a relevant significance for the scientific status of the of ICC-Comm brand.

Starting from 2010, ICC-Comm was covered in ISI Web of Science (in the Conference Proceedings Citation Index). **This remarkable achievement determined an essential rise of the scientific level of the accepted papers – based on a rigorous peer review process.**

Starting from 2012 ICC-Comm was included in the IEEE Conference Publications Program and extended versions of selected papers from COMM 2012 were considered for publication in journals covered in ISI Web of Science.

An important contribution to the ICC-Comm prestige was given every edition by the invited papers/authors.

Among the most prominent invited papers/authors, by my opinion, could be cited:

- 2010- RAJ MITTRA, The Pennsylvania State University, USA;
- 2014 Anja SKRIVERVIK, École Polytechnique Fédérale de Lausanne, Switzerland;
- 2014 Paul COTAE, University of the District of Columbia, USA.

The place where the conference is traditionally held could be also considered a special feature which contributes to the ICC-Comm brand.

In order to be more precise, it is worth to mention that although the traditional venue and the Conference third day trip do not bring direct scientific content, they stimulate the participation and ease the exchange of knowledge between authors, without speaking about their benefits for the touristic image of Romania.

The history of the National Military Palace began in December 15-th 1876 [1], when it was created to build a camaraderie spirit between officers of all ranks and branches, as well as for their family members.

The Palace actual residency started to be built in 1911 and was finished in 1923. The construction was funded mainly from the personal contributions of the officers (about 80%) and from various donations and loans.

The National Military Palace was raised in the historical center of Bucharest, at the crossroad between two important boulevards, Calea Victoriei and Regina Elisabeta.

Last but not the least, we have to mention the scientific and organizational efforts which are necessary to continue and progress over 18 years to cover all communications major topics, as in 2014 we had, including [1]:

- ✓ Signal Processing;
- ✓ Natural Language and Speech Processing;
- ✓ Image Processing;
- ✓ Communications Theory;
- ✓ Computational Intelligence;
- ✓ Microwaves;
- ✓ Antennas and Propagation;
- ✓ Communications Networks and Systems;
- ✓ Radio Communications Technologies;
- ✓ Optical Communications;
- ✓ Wireless Communications;
- ✓ Satellite and Space Communications;
- ✓ Multimedia Communications;
- ✓ Internet Technologies;
- ✓ Communications Security;
- ✓ New Information and Communications Technologies;
- ✓ Communications Strategies and Development;
- ✓ Cognitive Radio ;

But it is also mandatory to emphasize that all these topics come from the communications and information technologies (CIT), the most important and dynamic field of

humankind creation/activity, due, probably, also to the fact that **the people continue to learn ... to communicate ...on communications.**

2. Ubiquitous communications - the need to communicate everyday and everywhere

Ubiquitous communications is our days goal for everyone, as CIT became the driving force of developing the information society (IS) toward knowledge based society (KBS) [5].

This way, the need to generally communicate is obvious, but it is interesting to see how important this process is when we think at the specialists ... on communications.

As we already have mentioned [5], the benefits of CIT for the IS/KBS include the fact that they transfer to the people, in every field of activity, their “success models”, as “network centric” or “cloud”.

Now the point is to learn from CIT the way they have to improve the “communications” in order to optimize the efficacy of the new and highly performant products and services which are generally available.

In order to evaluate the above role of communications it is very relevant to imagine what Internet and all its associated services would be if the communications links will fail.

The challenges of today communications include wireless, broadband, low latency, network centric, cognitive approach, context aware etc.

Each of the above technical challenges could have a replica in the way people “think” to communicate, to share their ideas and generally information, irrespective when or where.

Our approach, that we have earlier mentioned [5], is that, beyond the natural necessity to learn how to use all the CIT products and services, which are rapidly changing with the exponential pace of CIT in IS/KBS, people begin to “lend”, consciously or not, in their behavior, to think and act with rules and skills innovated or optimized by ICT.

On the other hand one could say that CIT is generated from people’s minds, so we are in a (vicious) circle, which also is true, with our amendment that the evolution is a “spiral” process.

On this line we have also analyzed [2] that CIT are learning more and more from the nature’s million years “research”, including mankind experience and dynamic wisdom.

Coming back to the above challenges for today communications, let’s see how these are reflected in the individual’s behavior.

Wireless means that mobility, the humankind’s ancient state, is now growing fast, beyond the physical limits of moving (walking, driving or flying), as people could do now a lot of things from remote places. The point is that these new realities are inspiring people to think and to develop new scenarios of activities, using mobile information and services, which finally lead to “mobile thinking”.

After understanding the new meaning of “mobile” for people’s “thinking”, now is easier to observe what “broadband” and “low latency” could also imply beyond their strictly technical significance.

In a world full of data, information and new knowledge, as IS/KBS is, people are inherently driven to have a larger horizon, not only from a cultural point of view, but also as a behavior, as a necessity to have a distributed attention and an “open mind” ready to make connections and use all environmental opportunities for their interests – that is a “broadband” approach and of course a lower latency in doing everything.

Going further, it is just one step to a “network centric” behavior [2] and then to “cognitive approach” or “context aware”.

All these challenges determine new trends of modern communications and we see now how they could become the new features of modern humankind thinking and behavior.

Perhaps an example will better illustrate these trends and their connections with the ICC-Comm brand.

At ICC-Comm 2014, Professor Anja SKRIVERVIK from École Polytechnique Fédérale de Lausanne presented the invited paper “An overview of W-BAN antennas”.

The field of W-BAN (Wireless Body Area Network) antennas represents one of the most complex, actual and fascinating trends of CIT, inside the large and emerging area of *e-health* [4], [9].

Without other details, we just notice that W-BAN is perhaps one of the most relevant expression of the above challenges of CIT, as W-BAN is an interdisciplinary (“broadband”) approach and the “context aware” is generalized from individual outside to inside (into the human body).

With other words, W-BAN is one of the amazing expressions of “communications” and shows what could mean “communicate”, in a world where, beyond “Internet of things”, everyone and “everything” need to communicate, for the humankind well [6].

In order to provide that “well”, the specialists on communications, like all participants at ICC-Comm, have the duty and ... the passion, to search and ... to communicate!

In the same time, the “anniversary” 10-th edition could not let us be only enthusiastic, as CIT exponential pace have not only the bright side, but also includes all the challenges, all the efforts and all the creation struggle, especially in the actual phase of apogee/decline that CIT encounter [7], [3].

To be more concrete, we have to observe that in the back of “miracle” products and services CIT are offering everyday to the IS/KBS, we may find the army of passionate and hardworking people, searching for solutions in a world more and more complex, as CIT includes in fact much of the knowledge humankind acquired for centuries.

One of the secrets of CIT achievements and pace [8] is just this practice of the World specialists “to communicate” and this is perhaps true in any activity field but with an enormous impact in ...communications!

3. Conclusions

Since 1996, Politechnica University of Bucharest and Military Technical Academy organized every 2 years the International Conference on COMMUNICATIONS - Comm (ICC-Comm), under the aegis of IEEE Romania Section and Romanian Academy of Technical Sciences.

ICC-Comm 2014 is a special Conference held in Bucharest – Romania on 29-31 May but its significance is beyond the “anniversary” 10-th edition, due to the topics it covers and to the brand the founders and the organizers (Politechnica University of Bucharest and Military Technical Academy) have built.

Starting from 2010, ICC-Comm was covered in ISI Web of Science (in the Conference Proceedings Citation Index) and this **remarkable feature determined an essential rise of the scientific level of the accepted papers – based on a rigorous peer review process.**

The need to communicate is growing for everyone in the frame of IS/KBS, but the importance of this process is very complex for the specialists on communications, because they carry the responsibility of developing CIT and keeping their amazing pace.

Searching for CIT solutions, including in their work much of the knowledge humankind acquired for centuries along with the state-of-the-art scientific and technological results all over the world - all these are reasons laying behind of ICC-Comm and of the passionate and hardworking people who are making it.

REFERENCES

- [1] <http://www.comms.ro/index.html>
- [2] Victor Greu, *Evaluating the development steps based on life-inspired information and communications technologies*, Romanian Distribution Committee Magazine, Volume 2, Issue4, Year 2011.
- [3] Monica Rosenfeld, *Nanotechnology Standards*, IEEE The Institute, Dec. 2013.
- [4] Monica Rosenfeld, *Sniffing for cancer*, IEEE The Institute, Dec. 2013.
- [5] Victor Greu, *The network centric and cloud - a new paradigm for the optimization of the technical and human information systems*, Romanian Distribution Committee Magazine Volume 2, Issue 4, 2011.
- [6] Paul McFedries, *The coming data deluge*, IEEE Spectrum, feb.2011.
- [7] Victor Greu, *Searching the right tracks of new technologies in the earth race for a balance between progress and survival*, Romanian Distribution Committee Magazine, Volume 3, Issue1, Year 2012.
- [8] G. Pascal Zachary, *When innovating, Go slow*, IEEE Spectrum, April 2013.
- [9] Brandon Keim, *Big science takes on brain*, IEEE Spectrum, January 2014.