On the 40th Anniversary of the Yugoslav Conference of ETRAN[1]

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1. Introduction

The public and professional organization of ETAN was established in the period from 1953 to 1955, at the time when the Yugoslav economy opted for fast growth and was taking its place on the world market. A group of young enthusiasts, mainly electrical engineers gathered at the Institute for Nuclear Science in Vinča, wished to point out the importance of intensively developing electronics, which is more than any other professional area connected to all branches of economy. One of many goals of ETAN certainly was the organization of conferences, seminars and lectures intended to help professionals get acquainted with current scientific and practical engineering problems in electronics. ETAN also organized issuing of publications in this field of scientific and professional interest as well as completion of a study on complex development of electronics as a specific production area. Thus oriented and established, the Society was accepted by the Association of Mechanical and Electrical Engineers and welcomed by the electronic industry companies.

2. First Conferences of ETAN

It was already in 1955 that ETAN organized its First Conference in Belgrade. Proceedings of the First and the Second Conferences of ETAN, both held in Belgrade, contained 19 and 40 papers respectively, grouped in three sessions. Titles of papers tell much about the problems considered upon early conferences: "Contribution to the problem of standardization of point-to-point FM radio devices in this country", "On economical and social implications of automatization" and "Standardization of devices for special services", etc.

Prof. M.R. Stojić delivers his speech on the jubilee of the 30th anniversary of the Yugoslav Society for ETAN, Struga, 1983

[1] Abridged version of speech delivered at the opening of the 40th Conference of ETRAN, Budva, June 1996.

In its early period (1955-1960) the Conference was domineered by electronics. It is noticeable from the titles of the sessions: Electronics and Telecommunications, Physical Electronics, Bio-Medical Electronics, Electronic Devices, Electronics and Automation. As a matter of fact, Electronics and Automation Sections were the first to originate from the Conference. Upon the Second Conference (1957) the third Section of Telecommunications was formed and upon the Fourth Conference the fourth Section for Nuclear Engineering and Technology was also included. So, the Fourth Conference of ETAN held in Zagreb (1959) covered four basic professional areas: electronics, telecommunications, automation and nuclear engineering and technology. Initial letters of their names form the name of ETAN, which has long characterized the Yugoslav Association for ETAN and the Yugoslav Conference of ETAN.

Since the 6th Conference (1961) professional areas of Bio-Medical Engineering, Computer and Information Engineering, New Materials, Electric Circuits, Acoustics, Robotics and Antennas and Propagation have been included in the work of the Conference. This period is characterized by steady growth of number of papers contributed to the Conference. For example, from a few dozens on a conference in late 1950's and around a hundred in mid 60's, the number of papers increased to 500 in late 1980's. Nowadays, Telecommunications and Computer Sections alone have more contributed papers than a whole conference in the period of late 50's.

Since early conferences the character of presentations as well as categorization and selection of papers have undergone considerable changes. Primary function of the first conferences was to gather the electronics, automation and telecommunications experts so that they could exchange their knowledge and experience. Hence, the papers were mostly written and presented in popular manner and accepted with no previous reviewing. Since the 5th Conference held in Belgrade in 1960 the papers have been selected and categorized, at first only in a few professional sessions. Within several years a selection procedure was introduced, which has been used ever since. Truthfully, the procedures and criteria of selection differ from section to section. Until the 26th Conference there were no restrictions of number of papers contributed by one author and the papers were divided into presentations and reports. Upon the 26th Conference reports were abolished and a restriction that a participant may have only one contribution as an author and one as a co-author was introduced. The aim of this decision was to upgrade the level of the Conference and to present only the most valuable research results achieved in the period between two successive conferences. The ETAN Conferences were held annually, in various university, economy or administrative centers of ex-Yugoslavia.

3. The Conference of ETRAN[2]

After the disintegration of ex-Yugoslavia, the Society for ETRAN, which in the meantime also included the Computer and Information Engineering Section, continued the long tradition of ETAN in Serbia and Montenegro. Together with education and research centers, other professional associations and companies that develop ETRAN techniques and technologies, this Society continues to encourage activities in professional areas covered by ETRAN as well as co-operation of its members with corresponding domestic and foreign organizations, both national and international. Besides the Society, the Yugoslav Conference of ETAN also changed its name to the Conference of ETRAN. The Conference is now divided into 15 sections covering respective professional areas.

The Electronics Section, which is the oldest of the basic sections, covers the fields of measuring methods and systems, power supplies, measuring and converting systems and electronic circuits design. In recent years number of papers submitted to this Section, the authors of which are coming from almost all electronics research centers, has noticeably increased.

There has been a steady interest for participation in the Telecommunications Section, which is illustrated by a large number of papers on each ETRAN conference. It has not been diminished by other two domestic telecommunications conferences of TELSIKS[3] and TELFOR[4] . For example, there are 91 papers in

[2] Inserted „R" stands for the Serbian word for computer
[3] Telecommunications in Modern Satellite and Cable Services
[4] Telecommunications Forum

the field of information theory and coding, radio systems, digital telecommunications networks and communications systems accepted for presentation at this Conference. There is a cliche that papers submitted for the Conference of ETRAN are usually in the domain of theory or that they are results of design verified by computer simulation. The truth is that the majority of papers represent surveys of original practical solutions or results of experimental investigations.

There is a large number of papers submitted to the Computer and Information Engineering Section presenting results in the field of computer architecture, operational systems, programming languages, VLSI systems, real-time controllers, computer networks, computer graphics, software engineering, data bases, multimedia and information systems. Apart from the well-known ETRAN authors from the university and research centers, in recent years there has been a lot of young authors coming from both big companies and small business software houses.

Computer and Information Engineering, Artificial Intelligence, Robotics and Flexible Automation and Electric Power Systems have all originated from the basic Automation Section. For a number of years the Automation Section has had a stable number of submitted papers, around 40, covering the fields of stochastic systems and estimation, digital and non-linear systems, control of industry processing and of other complex systems. The Section is represented by both theoretical and experimental papers.

The Conference of ETRAN is practically the only scientific and professional meeting in this country on which nuclear engineering and technology results are presented. The following fields are covered: nuclear reactor techniques, mass and heat transfer, security of nuclear facilities and applications of nuclear techniques. This year there are two sessions on radiation protection and a workshop entitled „Chernobyl, ten years after". The papers submitted to the Nuclear Engineering and Technology are mostly of experimental character and their authors are all from the university or research centers.

Traditionally, papers submitted to the Acoustics Section present results achieved in research of speech signal processing, interior and exterior acoustics and noise and vibrations protection.

Assessment of success of fundamental research projects in the period from 1990 to 1995 at the session of the Electrical Engineering Board of the Serbian Ministry for Science and Technology, Novi Sad, 1995.

Antennas and Propagation Section is active in selection of workshop topics and in organization of international seminars. Papers submitted to this Section cover the fields of linear antennas theory, applied electromagnetics, numerical methods in the theory of electromagnetic field, propagation through lines and propagation in ionosphere.

The Artificial Intelligence Section directs its activities towards three goals in this multidisciplinary area: application of fuzzy logic, neural networks and expert systems, with the accent on real-time applications.

The name of Electric Circuits and Systems and Signal Processing Section tells that it covers a very wide range of interest - from analogue circuits and electrical networks, digital signal and picture processing to various hardware and software realizations.

Recently founded Section of Electric Power Systems started its work with not more than ten papers divided into two working sessions. Fast growth in this field has resulted in 33 papers submitted to this Conference representing results in production, transfer and distribution of electric power, optimum planning techniques in exploitation of energy systems and control of electric motor power. Increasing interest in this area may be explained by the fact that the Conference of ETRAN is the only experts' meeting where electric power engineers could get acquainted with achievements in the field of electronics, telecommunications and automation, which are all important in electric power engineering.

By its interdisciplinary character, the Bio-Medical Engineering Section attracts attention of both medical experts and electronic engineers interested in measuring techniques, digital signal processing, electromagnetic radiation and in other techniques applied in medical diagnostics and treatment of patients.

The Microelectronics and Optoelectronics Section is very active and it gathers experts in physical electronics of semiconductors, microelectronic structures, optoelectronic components, sensors and converters, mictroelectronic components modeling and reliability and diagnostics in microelectronics. A few years ago this Section introduced secret voting on presented papers, which has considerably improved the quality of papers in this particular professional area.

Comparatively young Microwave and Submillimetre Engineering Section is present at the Conference for the third time. Papers in the field of waveguide systems, active and passive microwave units and submillimetre techniques mostly come from the Faculty of Electronic Engineering in Niš, Faculty of Electrical Engineering in Belgrade and the Institute of Microwave Techniques and Electronics in Belgrade.

The New Materials Section represents professional area within the scope of Conference for ETRAN which covers the fields of carbon and composite materials, ceramic, physical and powder metallurgy, sintering, etc. Traditionally, the Section organizes biennial Seminar on New Materials within the Conference for ETRAN.

The Robotics and Flexible Automation Section has two sessions on which authors represent new realizations of robotic devices and present theoretical contributions in the fields of robot modeling and controlling. This Section also organizes international symposia on robotics.

This short survey show that the Conference for ETRAN covers practically all professional areas of electrical engineering as well as some other areas related to this profession. Consequently, the Conference gathers professionals from all domestic educational and research centers, development laboratories of companies and those of the Yugoslav Army.

The most important activities of the Conference of ETRAN are those of the working sessions of the Sections. However, the Conference also has other activities such are meetings of the administrative bodies of ETRAN and workshops on development of particular professional areas.

There is a number of other seminars, conferences and symposia organized by other societies and institutions covering the same professional areas as the Conference for ETRAN. However, for many of them, even for some meetings of international importance, ETRAN has always been an example for its organization and selection of contributions.

It could be said that all important projects in the areas of electronics, telecommunications, computer and information engineering, nuclear engineering and technology as well as those of other professional areas, were

verified by the Conference of ETRAN. What is more, all significant contributions of the Yugoslav authors were firstly presented at this Conference and only then, improved and adapted, were they published in renowned international journals and presented at international conferences.

New methods and techniques are presented by the Yugoslav authors at the ETRAN conferences with relatively small delay. However, this cannot be said for new technologies. In this time of so-called discrete technology and analogue techniques in the areas covered by ETRAN, domestic science generally managed to keep the pace with the world. However, with development of integrated circuits technology, especially information technologies based on hardware/software structures and systems, domestic technologies have often been left behind. This proves that there is a need for integration of scientific and research potentials around strategic projects. The Conference of ETRAN could play a crucial role in this.

Finally to mention statistical data: on 39 past conferences 10,021 papers have been submitted and published on 70,000 pages in 187 proceedings volumes. On this jubilee 40th Conference there are 624 papers accepted for presentation and 1156 authors grouped in 15 professional sections and 67 working sessions. There is also a seminar on new materials and three workshops.

Dear friends and colleagues, I wish you a successful conference and pleasant stay in the town of Budva.

Budva, 4 June 1996
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(Translation and adaptation by Nevena Španović, BA, Secretary of the YuMTT-S Chapter)