

OVER 80 YEARS SINCE THE FIRST ROMANIAN PARTICIPATION TO THE ISP/ISPRS CONGRESSES AND OVER 40 YEARS SINCE THE APPEARANCE OF THE PHOTOGRAMMETRIC BULLETIN

I. Gr. Sion, I. Noaje

Geodetic and Photogrammetric Department, Technical University of Civil Engineering Bucharest (TUCEB),
B-dul Lacul Tei 124, Sector 2, Cod-020396, O.P. 38, Bucharest, Romania

Commission VI, WG VI/3

KEY WORDS: Communication, Joint- education, Aerial Photogrammetry, Data Integration, Social Science, Satellite Remote Sensing, History, National

ABSTRACT:

The first aerial images used for civil purposes were taken in Romania in 1916, using self-made photographic cameras. Amongst the recent achievements we mention the first aerial digital photogrammetric flights on large surfaces, made in 2005 and 2006 with the digital large format cameras DMC and ADS-40. The development of Remote Sensing in Romania has began in 1970, with international cooperation projects between NASA and the Remote Sensing Laboratory of the Technical University of Civil Engineering Bucharest, referring to satellite data use for studying the Danube Delta and the Black Sea Coast Zone. Nowadays, lots of representative institutes (at least 9) have created their own remote sensing groups or laboratories. In 1991 Romanian Spatial Agency is being setting up, where over 600 researchers and university teachers are working in the Aerial Spatial National Programme. The training for the specialists with superior education in the field of photogrammetry began after 1940. The first Romanian presence was at the 2nd SIF Congress (Berlin 1926) and continues until 20th ISPRS Congress (Istanbul 2004) with 16 congress participations, each time with paper works. The current Photogrammetric and Remote Sensing Bulletin was issued in 30 numbers (the old series between 1966-1973) and 36 numbers (the new series between 1990-present). Thus they are considered to be a solid theoretical and practical platform for higher education of the specialists wanting to become doctors in the field.

1. THE DEVELOPMENT OF PHOTOGRAMMETRY AND REMOTE SENSING IN ROMANIA. MAIN CHARACTERISTICS AND ACTIVITIES

1.1 The beginnings and development of photogrammetry

1.1.1 The evolution of photogrammetry after World War I:

The first aerial photographs in civil purposes were realized after World War I, in 1916 Romania, by the **Aviation Flotilla** in Cotroceni, using self-made photographic cameras. Apart from the **Civil Aviation Direction**, in 1924, an **Aerial Cadastre Division** was created, which realized aerial photographs for creating photo-assemblages necessary to the elaboration of systematization plans for the cities of Bacău and Curtea de Argeş. Within the **Army Geographic Service**, respectively within the **Topographic Section**, in 1929, a **Stereo-photogrammetric Office** is created, which, in the course of a year, becomes the **Photogrammetric Section**, with specialized operators, formed ad-hoc.

Also in 1929, within the **Miner Cadastre Direction**, a **Photogrammetric Service** was created, which, in collaboration with the **Aeronautical Direction**, executed, until 1931, work for the miner cadastre.

At the same time, in 1929, within the **Army Geographic Service** (later the **Military Geographic Institute – MGI**), a **Photogrammetric Section** was created, which dedicated its activity to the elaboration of military topographical maps. This service changed its name in the 1939-1941 periods to the

Hydrologic and Aero-photogrammetric Office which, at the end of 1941, became the **Aero-photogrammetry Institute**.

During the war, the institute elaborated plans resituated to a scale of 1:2,000 and photo plans at a scale of 1:5,000, for dozens of cities (1941), after which, at the solicitation of the **Romanian Royal Society of Geography**, the same institute realized numerous photogrammetry works, either in archaeological purposes (in 1942 for example, in the area of Sarmisegetusa), or in engineering purposes (in 1943 for example, in the area of the future Bicz Hydro-energetic System). In the following years, within the **Forester Research and Facilities Institute (FRFI)**, a **Photogrammetric Workshop** is created. For the realization of the various works, these offices, services, sections, workshops or institutes were equipped with photogrammetric instruments and devices which were modern for those times, from **Hugershoff** auto-cartographers to **Zeiss C3, SEG I, SEG IV** photo-rectifiers and **Multiplex** aero-projectors, and up to flying equipments (photo-aerial cameras and planes customized for aero-photography missions).

1.1.2 The evolution of photogrammetry after World War II:

After 1945, new photogrammetric services and centers appeared. In 1949, within the Geological Committee, which became the Institute of Geology and Geophysics (IGG), the Photogrammetric Service is created. In 1958, under the patronage of the Ministry of Agriculture, the **Photogrammetry Center in Bucharest** is created; It continued its activity up to the present under different names (between 1962 and 1966 it was called the **Photogrammetry Sector** in **ISPOTA**, after

which it went back to its initial name until 1969, when it becomes the **Institute of Geodesy, Photogrammetry and Cartography**. Starting with 1971 it becomes the **Institute of Geodesy, Photogrammetry, Cartography and Territory Organization (IGPCTO)**, and, starting with May 2001, the **Institute of Cadastre, Geodesy, Photogrammetry and Cartography**. In 2004 it changes its name to the **National Centre of Geodesy, Cartography, Photogrammetry and Remote Sensing**. This institute was the main executants in the civil sector and, through the multiplication workshop, the main provisioner of plans and maps realized through photogrammetry for the civil sector.

In the following decades, up to the revolution in December 1989, such sections and/or laboratories appeared within various institutes of studies and projection that existed in the adjacent civil fields, as follows: **The Institute of Studies and Projections for Real Estate Improvements, The Institute of Research for Forester Facilities, The Institute of Projections for Auto, Naval and Aerial- Transportation, The Institute of Railroad Projections, The Institute of Meteorology and Hydrology**, etc.

The collection of photograms was initially realized by the Military Topographic Direction (MTD), with the specific rigors and restrictions. Starting with 1980, and up to 1992, a flotilla of 4 planes was created and functioned (made up of two BN-2 and two AN-2), for which the aero-photography equipment, the operator and navigator specialists were under the responsibility of IGPCTO. In the 1980-1992 periods, they achieved approximately 16,200 hours in aero-photographic missions.

For the equipment of the specialized sections and/or laboratories listed above, since their creation and up to the year 1989, almost all types of modern specialized devices from the firms Carl Zeiss in Jena and Wild in Herbrugg were acquired. This sums up, for the first generation of photogrammetric exploitation equipment (analogical technology), a potential of over 60 stereo-restitution devices. The existent equipment, used by approximately 500 specialists in the field of photogrammetry, allowed the realization of numerous wide scope photogrammetric works:

- The basis topographic plan at scales of 1:2,000 and 1:5,000, covering 85% of the country's surface (approximately 46,000 originals);
- Maps of various municipalities (Bucharest, Iași, Slatina, Brăila, Galați, Craiova, etc.) at a scale of 1:1,000;
- Complete cadastral works for hundreds of communal territories and hundreds of localities, etc.

Unfortunately, starting with the second generation of photogrammetric equipment for stereo-restitution (affluent to the analytical technology), not even a single device was acquired in Romania, neither before nor after 1989. After 1989, the transfer to digital technology is immediate, both in state institutions and within private firms.

Achievements in the field of photogrammetry: On an internal level, CRFT and RSPRS organized or were involved in the organization of numerous scientific manifestations:

- **The 15th Symposium of the International Committee for Photogrammetric Architecture (ICPA)** held in Bucharest and Sinaia in the September 22nd-25th, 1993 period, under the patronage of the Ministry of Culture, RSPRS, IGPCTO, etc. (having D.E. Nicolae Zegheru, RSPRS president, as president of the symposium). The special volume (edited by D.E. Ion Gr.

Sion, RSPRS secretary) comprised a number of 31 essays in English and French (13 Romanian, 18 foreign), 314 pages;

- **The 12th national CRFT Symposium** which was, in fact, a reunion with interdisciplinary valences of all the specialists in the field generically entitled terrestrial measurements;
- **The 13th national Symposium of the 5th Commission from within RSPRS**, entitled: "Techniques of photogrammetry and remote sensing in environmental engineering" (Suceava 1994);
- **The Session of essays on the theme: "The 20th ISPRS Congress** (Istanbul, July 12th-23rd, 2004), hosted by the Multimedia Hall of the Faculty of Geodesy (TUCEB) on October 17th, 2004, where members from the RSPRS administration presented the congress' work development, and also the results of the RSPRS members' participation to it;
- **Round table, on the theme: "Notations, terminology and standards in photogrammetry and remote sensing"**, which took place on Thursday, December 7th, 2006, in the Multimedia Hall of the Faculty of Geodesy (TUCEB). At the event, approximately 30 specialists in the field participated;
- **The International Symposium, on the theme: "Cooperation in the field of photogrammetry and remote sensing: accomplishments and perspectives"** which took place on Friday, May 25th, 2007, in the Multimedia Hall of the Faculty of Geodesy, during which 15 essays were presented by Romanian specialists from the state and private sectors. The CRFT and RSPRS members also participated to the essay sessions organized annually by various higher education institutions in the country (the Military Technical Academy, the "Alexandru Ioan Cuza" University in Iași and the "Transilvania" University in Brașov).

There were also participations within the annual sessions organized by research institutions of similar profile (in 1993, for example, ICCPDD in Tulcea, on the theme: "The Danube Biosphere Reservation" or in Bucharest, on the theme: "Remote sensing and SIG in Romania", with international participation).

1.2 The beginnings and evolution of remote sensing

1.2.1 The beginnings of remote sensing:

The launch of the ERTS 1 satellite by NASA (National Aeronautics and Space Administration) on July 23rd, 1972, marks the debut of a new discipline in the panoply of sciences that study Terra: remote sensing.

Although started 30 years before, the applicative studies of remote sensing remained for a long time in the phase of evaluating the possibilities to use the remote sensing data for various fields: natural resources inventorying, grounds occupation, refreshing of the topographic and thematic maps, systematizing the territory, monitoring the environment and especially the areas with frail ecosystems, in order to detect pollution sources, etc.

The Danube and the coastal area of the Black Sea were studied within a number of international projects, like the one signed with NASA by the **Photogrammetry and Remote Sensing Laboratory from the Technical University of Civil Engineering of Bucharest (TUCEB) (Contract G – 27940 – on the theme: "Using ERTS-LANDSAT data to investigate the natural resources in the inferior basin of the Danube and in the Danube DELTA / The DaDelta Program"**, project which practically represented the beginning of satellite remote sensing in Romania, in the 1970's, first through analogical, then through digital data.

1.2.2 The evolution of remote sensing: In the following years, numerous remote sensing collectives took shape, along with a series of representative institutes. We can enumerate:

- **The Romanian Center for Remote Sensing Use in Agriculture)** which realized a series of studies of terrain coverage or hydrology, aiming to change the Danubian environment, within the PHARE programs or the study on Romania's floods in the past years;
- **The Remote sensing Laboratory from the National Institute of Meteorology and Hydrology**, which studies the water courses, with all the implications connected to them (floods, morphologic modifications, risk maps, etc.), while also creating meteorological prognosis;
- **The Institute of Cadastre, Geodesy, Photogrammetry and Cartography** which developed, within its research sector, studies referring to the actualization of maps, writing of digital thematic maps and the monitoring of the environment;
- **The Military Topographic Direction**, which approached the actualization of maps and elaboration of digital maps;
- **The Military Technical Academy**, which studied the elaboration of digital maps and automation of scanning and cartographic products recognition works for the realization of SIG;
- **The Romanian Institute of Marine Research – Constanța**, which realized hydrologic, hydro-geological, pollution, coastal regime, bathymetry studies referring to the Danube and the coastal area of the Black Sea;
- **The Institute of Geology and Geophysics** – which possessed a well-equipped remote sensing laboratory, for geological prospects;
- **The Institute of Studies and Projection for Land Improvements** – which possessed a well-equipped remote sensing laboratory, for applications in the field of agriculture;
- **The Institute of Optoelectronics – the Remote Sensing Department** approached themes like: monitoring in international cooperation of the resources in the Danube and the coastal area of the Black Sea, short-term evolution of the ecosystems in the Danube and the coastal area of the Black Sea, in collaboration with the TUCEB, etc.;
- **The Institute of Research for Pedology and Agro-chemistry** – was preoccupied of themes aiming at carting the grounds and supervising the environment, etc...

In 1991, the **Romanian Spatial Agency** is created, which is reorganized in 1995 as an independent outside the budget public institution and which coordinates, at the present time, the research and applications in the field of remote sensing.

1.2.3 Achievements in the field of remote sensing: From the achievements in the field of remote sensing, we can note:

- **5-year collaboration with NASA**, on a very current theme, *“Using the ERTS-LANDSAT data to investigate the natural resources in the inferior basin of the Danube and in the Danube Delta / The DaDelta Program”*, through the Photogrammetry and Remote sensing Laboratory of the CIB (TUCEB) in Bucharest and the terrain remote sensing Laboratory from Dunavăț;
- **18-year collaboration with the Romanian Commission of Spatial Activities (RCSA)** along with the National Council for Science and Technology, based on contracts, aiming for applications of photogrammetry and remote sensing for the entire country, between 1972 and 1990. The collaboration materialized, next to the processed material put at the disposal of the beneficiaries, in the editing, by the same group, of the **Photogrammetry and Remote Sensing Laboratory from the Civil Engineering Institute of Bucharest**, of 35 issues of the

Remote Sensing Bulletin for 14 years, under the aegis of RCSA, in a 100-150 samples draft;

- **The participation, for 17 years, to the Meetings of the “Permanent remote sensing work group” from within the INTERKOSMOS Program** attended by remote sensing specialists from socialist countries. The Romanian specialists presented, systematically, essays published in the volumes made up by the meeting's works; The 13th Meeting of the Permanent remote sensing work group from within the INTERKOSMOS Program, May 4th-9th, 1987, took place in Bucharest, being attended by Romanian specialists, who presented 13 essays.

- **2-year participation to the European program CORINE LAND COVER** (to which numerous profile institutions, listed above, participated);

- For the near future, in the field of remote sensing, an important influence for the stimulation of research and application achievement at a national level will be represented by the **Agreement between the ESA and the Romanian Spatial Agency (ROSA)**, through which Romania becomes the third of the former countries that participated to the INTERKOSMOS that obtained the status of European State Cooperating with the European Spatial Agency (ESA), after the Czech Republic and Hungary

1.3 Preparing generations of specialists

The preparation of specialists with higher studies in the field of photogrammetry began after 1940, in the following university education units: the Polytechnic Institute in Bucharest, the **Polytechnic Institute in Timișoara**, the **Technical Military Academy (MTA)**, the **Faculty of Geodesy (TUCEB)**, the **Mine Institute in Petroșani**, the **University of Forrester Culture in Brașov**, the **University of Hydrotechny in Iași**, etc.

During this period, prestigious professors rose from the ranks, with a remarkable contribution, both in the development of photogrammetry and remote sensing and in the preparation of generations of specialists, through published courses, books and studies. Of these high personalities, true “titans” of the national patrimony of Romanian science and techniques, we remind university professors **Nicolau Bârlad**, **Aurel Rusu**, **Nicolaie Oprescu**, **Ion Bonea**, etc.

In the “golden book” of our profession, the names of prestigious managers and researches are also embedded, such as the case of **D.E. Nicolae Zegheru**, who was a chief engineer and director of IGPCO for many years, the first correspondent member of the Academy of Agricultural and Forrester Sciences in Bucharest (AAFS), in the present honorary president of the Romanian Society of Photogrammetry & Remote Sensing.

We can also mention, as a remarkable personality, **brigade general D.E. Marian Rotaru**, chief of the Military Topographic Direction for many years and the first president of the National Office of Cadastre, Geodesy and Cartography.

The first, in the long line of personalities with a relevant role in the formation of engineers, technicians, researchers and professors in the field was **Professor Nicolau Bârlad**, who elaborated and taught, in 1949, the first Course in Photogrammetry at the Faculty of Geodesy from the Military Technical Academy. He is the possessor of the first doctorate in photogrammetry in Romania, sustained in the Geodesy Section of the University of Constructions in Dresden- Germany, (published at the Samlung Wichman Publishing House, Berlin,

1939). His scientific leader was savant R. Hugershoff, creator of photogrammetric devices and methods that bear his name.

We continue by reminding **Professor D.E. Aurel Rusu** who, after 1940, edited the first large work in the field of terrestrial measurements, Topography (Editura Tehnică, Bucharest, 1955, 625 pages), whose second chapter treats “Geodesy-general photogrammetry”.

D.E. Gherasim Marton and D.E. Nicolae Zegheru edited the Photogrammetry volume at Editura Ceres, 1972, 347 pages.

In 1974, the first technical-scientific masterpiece in the field of terrestrial measurements appears: the Manual of the geodetic engineer, in three volumes, for whose realization a number of 42 specialists contributed, coordinated by **Professor D.E. Nicolae Oprescu** (Editura Tehnică, Bucharest, 2,200 pages). Section 9, entitled Photogrammetry – Photo interpretation – Remote sensing, has 300 pages allocated.

Further, we must mention the appearance of a first book on remote sensing Introduction to remote sensing – whose authors are **D.E. Nicolae Zegheru and D.E. Mihail Gabriel Albotă** (Editura Științifică și Enciclopedică, Bucharest, 1979, 366 pages).

The researchers from the Photogrammetry and Remote Sensing Laboratory from TUCEB (**D.E. Ion Ionescu, D.E. Ioan Noaje, Engineer Gabriel Barbulescu**) under the coordination of **Professor D.E. Nicolae Oprescu**, have elaborated and edited the following works: Course in remote sensing, 1980, Editura CRAS, 343 pages and Technological remote sensing, 1982, Editura CRAS, 280 pages.

Finally, we also add the 3 volume (1,500 pages) appearance of the university manual Terrestrial measurements – fundamentals (Editura MATRIX ROM, Bucharest, 1998), including, in volume 3 (500 pages), Module H: Photogrammetry, by **Professor D.E. L. Turdeanu and Docent D.E. I. Noaje**, 136 pages and Module J: Low and land-cadastre-legislation, by **D.E. I. Gr. Sion** (145 pages).

Of course, after 1990, new books with reference in photogrammetry (analytic and digital) and remote sensing appeared, printed by prestigious publishing houses, like Editura Academiei, Editura Tehnică, Didactică Ceres or MatrixROM (for example Analytical Photogrammetry by **Professor D.E. Lucian Turdeanu**, 1997, Editura Academiei Române, 458 pages; Photogrammetry by **Professor D.E. Florea Zăvoianu**, 1999, Editura Tehnică, 415 pages; Engineering Photogrammetry by **Docent D.E. Ion Ionescu**, 2005, Editura MatrixROM, 240 pages).

New mentions must also be made about the efforts registered in the appearance of instruments necessary for access to foreign specialized literature, like the Polyglot Dictionary of Geodesy, Photogrammetry and Cartography coordinated by **D.E. G. Marton**, in 5 languages (Editura Tehnică, Bucharest, 1976, 327 pages), the Multilingual dictionary of remote sensing and photogrammetry, in 8 languages (Editura CRAS – the researcher collective from the Photogrammetry and remote sensing Laboratory from the Institute of Civil Engineering of Bucarest (**D.E. Ion Ionescu, D.E. Ioan Noaje, Engineer Gabriel Barbulescu**) under the coordination of **Professor D.E. Nicolae Oprescu**, 1984, 343 pages) or the Explicative

dictionary of remote sensing and SIG, by **V. Dionisă and I. Dionisă** (Editura Junimea, Iași, 1998), but also the Bilingual dictionary specialized in geodesy, photogrammetry, remote sensing and cartography (English-Romanian – authors **D.E. Mihail Albotă, D.E. Nicolae Zegheru, Paraschiva Suroiu**, 1980, Editura Tehnică, 548 pages; German-Romanian – authors **D.E. Gherasim Marton, Engineer Dimitrie Filotti, Professor D.E. Dumitru Ghițău**, 1980, Editura Tehnică, 640 pages). We must underline the fact that all the authors mentioned above were or are important members of the RSPRS.

2. THE PARTICIPATION OF ROMANIA TO THE ISP/ISPRS CONGRESSES

2.1 The 1926-1938 period

Ever since the creation of the International Society of Photogrammetry (ISP) in 1910, in Vienna, there was an intense preoccupation amongst the Romanian specialists to contact ISP and participate to the scientific manifestations of this professional, nongovernmental organization. The first Romanian presence was materialized during the 2nd ISP Congress (Berlin, 1926). Two Romanian representatives, with a personal title, participated to this congress: Wilhelm Miorini and Constantin Gonța. During the same year, Gheorghe Iacobescu publishes the work “Aerial observation and photography”, and in the following year, in 1927, Constantin Gonța publishes the work entitled “Aero-topography” (with the subtitle “Creating plans and maps through aerial photography”). In 1930, the Romanian National Society of Photogrammetry (RNSP) was created, the first professional non-profit organization in Romania, counting 66 members at its constitution and presided by Alexandru Ivănceanu.

From this period, we remind the following two participations to ISP congresses: the 3rd Congress (Zurich, 1930), with five Romanian representatives and an essay: “The development and current state of photogrammetry in Romania” (Wilhelm Miorini) and the 4th Congress (Paris, 1934), with one Romanian representative and an essay entitled “The applications of photogrammetry in mine geology and cadastre” (Alexandru Ivănceanu), also containing exhibits in the international exhibition organized on this occasion.

In 1933, the first “Law of cadastre and real estate books” was elaborated. Three years later, in 1936, the “Photo-topographic instructions” are edited by MGI.

2.2 The 1960-1989 period

We can notice a certain hiatus regarding the participation of Romania to the profile international manifestations (the following ISP Congresses – the 5th-8th), which can be justified through the difficult situation (economical, social, cultural and scientific) from World World II, prolonged with 15 years, because of the implications of the Cold War and the soviet military presence up to 1959. Even more, RNSP dissolved. In the absence of a professional organization, the Romanian delegates to the next three ISP congresses were representatives of a governmental organization, such as: the Ministry of Agriculture and Forester Culture (MAC) or under other titles the Superior Council of Agriculture (SCA), the Ministry of Agriculture and Alimentary Industry (MAAI), the Land Fund & Cadastre Direction (LFCD).

At the 9th ISP Congress (London, 1960), Romania had one representative; at the 10th ISP Congress (Lisbon, 1964), Romania participated with 4 delegates and 4 essays; at the 11th ISP Congress (Lausanne, 1968), Romania participated with 10 delegates and 8 essays, and also with a number of exhibits.

The year 1969 was, after a 30-year interruption, the birth year of a new nongovernmental organization, a continuer, under a professional-scientific report, of the one before (RNSP), under the title of the National Council of Photogrammetry (NCP), which will also take over the responsibility of an effective affiliation to ISP. This way, the committee also takes over the coordination of Romania's participation to the next two international scientific manifestations: the 12th IPS Congress (Ottawa, 1972), with a number of four delegates, 17 essays and an exhibition; the 13th IPS Congress (Helsinki, 1976), with a number of four delegates, 9 essays and a technical exhibition. A new point of reference in the history of our field's professional organisms is represented by the year 1978, through the transformation of NCP to the Romanian Committee for Photogrammetry and Remote sensing (RCPRS), title which also includes the new discipline appeared in the field of geosciences – remote sensing, after the model of ISP's transformation to the International Society of Photogrammetry and Remote Sensing (ISPRS).

The new RCPRS, develops its activity on the basis of the 7 technical commissions. They are identical in organization and attribution to ISPRS. RCPRS coordinated the participation to three international scientific manifestations: the 14th Congress (Hamburg, 1980), with a number of four delegates, 15 essays and one technical exhibition; the 15th Congress (Rio de Janeiro, 1984), with a number of 8 essays; the 16th Congress (Kyoto, 1988), with one delegate and 8 essays.

2.3 The 1900-present time period

In 1990, after the revolution in December 1989, RCPR changes its name, becoming the Romanian Society of Photogrammetry and Remote Sensing (RSPRS), maintaining the structure of the organization and the affiliation to ISPRS. After 2004, RSPRS changed its structure from 7 to 8 technical commissions, after the model of ISPRS. Our organization coordinated, the participation to the following international scientific manifestations: the 17th Congress (Washington, 1992), with five delegates, 14 essays and one technical exhibition; the 18th Congress (Vienna, 1996), with a number of 6 delegates and 6 essays; the 19th Congress (Amsterdam, 2000), with three delegates at the ISPRS General Assembly and three essays; the 20th Congress (Istanbul, 2004), with a number of ten delegates and 6 essays (posters and oral). We must also mention that, since the 10th Congress and up to the present, the official delegation presented, 11 national reports.

The following section presents a synoptic table regarding our active participation, every four years, to 15 profile international manifestations, starting with the 20 that took place in the 1926-2004 periods.

As a full member for categories 1 (ISP) and 2 (ISPRS), Romania has participated, starting with 1964, to most of the inter-congress symposiums, centralized on the competences of the technical commissions (for example, in 1998, at the 7th Commission Symposium, on the theme "Environment resources and supervision" or in 2006, at the 5th Commission Symposium on the theme "Image and visual metrology engineering").

Romania has also participated to a number of meetings of the work groups from various technical commissions (for example, in 1972, the work group on the theme "Wetland Problems" or in 1990 the work group on the theme "Global Change Monitoring").

3. THE APPEARANCE, EVOLUTION AND ROLE OF THE RSP/RSPRS BULLETIN IN THE NATIONAL SCIENTIFIC COMMUNITY

3.1 Historic preamble

The editing and naming of the "Photogrammetry Bulletin" (PB) in the 1966-1973 period and later, of the "Photogrammetry and Remote Sensing Bulletin" (PRSB) in the 1991-present period, have suffered, some modifications, both regarding the name and the rhythmicity, structure of columns, quality standard and aegis (patronage) of the organization which ensured the multiplication. The only constant column was the one entitled "articles and essays" or "studies and essays" in the specialized fields. Along with the appearance and development of remote sensing techniques on a national plan, the "remote sensing" component was added to the title.

The first 16 issues of the PB, appeared in the 1966-1969 period (1st-4th year) were published quarterly, under the aegis of the Photogrammetry Center in Bucharest. In the 4th year of appearance (1970), this bulletin continued to appear quarterly, but under the aegis of the Institute of Geodesy, Photogrammetry and Cartography (IGPC) in Bucharest (through the transformation of the Photogrammetry Center to a new institute). It was added the National Society of Photogrammetry (NSP), founded in 1980.

In the 6th and 7th years (1971-1972), PB appeared under the new aegis of the Institute of Geodesy, Photogrammetry, Cartography and Territory Organization (IGPCTO – through the extension of the old institution and the comprising of the "territory organization" field). Finally, in the 8th year (1973) of PB existence, the last two issues appeared under the common aegis of IGPCTO and the Romanian Photogrammetry Committee (RPC), a new title of the profile nongovernmental organization, continuer of the NSP and affiliate to the International Society of Photogrammetry (ISP).

It is important to mention that, on August 7th-8th, 1970, ISP organized a national Symposium of essays, the papers being published in a special edition of the PB (issue no.3/1970). A year later, in 1971, a second special PB issue existed, totalizing 233 "articles and essays" of photogrammetry specialists.

After an interruption in the appearance of the PB publication (the 1974-1989 period), in 1990, the Romanian Committee of Photogrammetry changes its title to the Romanian Society of Photogrammetry and Remote Sensing (RSPRS). Starting with 1991, it continues the biannual editing of the bulletin, in a new series, with the entitling the Photogrammetry and Remote Sensing Bulletin (PRSB). We must notice the fact that both the old series of the bulletin and the new one benefited from an editorial office college formed from editor-in-chief, editorial office secretary and seven members (teachers and specialists in the fields of "photogrammetry" and "remote sensing"). For each "study" or "essay" an application is completed by one of the members of the editorial office college in order to accept the publication. Thus, the editorial office college realizes a rigorous

selection and guarantees the scientific probity of the material that appears in the PRSB.

3.2 The rhythmicity of the bulletin's appearance

The first PB series had, as shown before, a quarterly appearance, for 7 years and a half (1st year/1966 – 8th year/1973). This series ended with issue no.2/1973. It is important to acknowledge that, in this period, the rhythmicity of the bulletin appearance and the existence of special issues (editions) of the PB:

In 1968, the essays presented at the Scientific Session on February 10th, 1968 were published, on the occasion of celebrating 10 years since the creation of the Photogrammetry Center in Bucharest.

In 1970, the essays presented at the Symposium on 7-8 August 1970 organized by the National Committee of Photogrammetry (presided by Professor D.E. N. Oprescu) were published, comprising a number of 33 papers, with reviews in French, English, German and Russian, 482 pages.

Starting with 1991, after a 17-year interruption, through the status of the professional organization (PRSB) the editing of a new PRSB series was foreseen, with a biannual rhythmicity. Comparative to the old series, from the 1966-1973 period, when 30 PB issues appeared quarterly, in the next 16 years (1991-2006), other 32 issues appeared biannually, after which, in 2007, issues 33 and 34 would appear, with the same rhythmicity.

If the old series comprised a large number of "articles and essays" (233), the balance of the new series totalizes, up to the present, a large number of "studies and essays" (93). Within the second series of PRSB as well, special issues were published, comprising "studies and essays" of the field specialists, with summaries in English and French.

In the tradition of our representatives' participation to the preceding 11 congresses of the International Society of Photogrammetry, from the 1926-1988 period (with the exception of those in the period of World War II), we have participated to all four international congresses of the ISPRS, after 1990, with delegations of 4-8 members.

Also, the Bulletin reflected a series of international scientific manifestations organized in our country, such as: the EARSel Workshop (Sinaia, 1992), the 5 essays being published in PRSB issue no.6/1993; the 15th Symposium of the International Committee for Photogrammetric Architecture (ICPA), held in Bucharest and Sinaia in the September 22nd-25th, 1993 period, under the patronage of the Ministry of Culture, RSPRS, IGPCTO, etc. the special volume comprised a number of 31 essays in Romanian (13), English and French (18), totalizing 314 pages; the 20th ISPRS Congress in Istanbul, July 12th-23rd, 2004, the essays and development of the congress being reflected in issues 27, 28, 29, 30, and 31 of the PRSB; the "Image Engineering and Vision Metrology" Symposium, organized by the 5th ISPRS Commission, September 25th-27th, 2006, Dresden, in issue 32 of the PRSB.

It is important to notice that, in issue no.27-28/2004 of the PRSB, on page 53, a study in co-authorship was published by Professor D.E. Karsten Jacobsen from Institute for Photogrammetry and Engineering Survey, University in Hanover, Germany.

3.3 The thematic of the bulletin and the evolution of the standard of quality

The thematic of the old series bulletin (PB) comprised, generally, as shown, "articles and essays" effectively from the field of "photogrammetry" and that of the new series (PRSB) also included the field of "remote sensing".

If, in the first series, the quality standard corresponded to the needs and support from the 1966-1973 period (figures presented in B/W), in the second series, the quality standard was homologue to the quality of foreign magazines (starting with the cover and text in digital format and with color represented figures), also having summaries in Romanian, English and French.

The new series has, in its structure, a number of permanent columns, a main role being played by the "studies and essays" column, both in the field of photogrammetry and in the field of remote sensing. The necessity was due to both the extension of titles for the ISPRS and RSPRSS organizations, and to the appearance of various research collectives in the new field of activity (within IGPCTO, TUCEB, MTA, ISPLI, etc.) and of distinctive disciplines in the curriculum of the Faculty of Geodesy from within the Technical University of Civil Engineering of Bucharest or other profile faculties or colleges in the country.

3.4 The role of the bulletin in the national scientific community

The release of the publication is generally done amongst the RSPRS members (for free) and access to reading it is usually granted to all the specialists interested: teachers, engineers, technicians, students, etc.

For the researchers in the two fields, the collection of old series bulletin (PB) can be consulted at the NCGCPRS library, and the new series (PRSB) at the TUCEB library. The two reunited collections are found at the RSPRS headquarters from within the Faculty of Geodesy (TUCEB).

We believe that the broadcasting through the PRSB of a broad thematic scale satisfies (through the columns "studies and essays", "points of view", "reviews" and "advertising") the necessities of information and documentation of those interested about the direction of their development in the future.

The PRSB ensures, at the same time, a minimum of useful information upon the activities developed by the RSPRS (reports, anniversaries, articles, exhibits and programs of the technical commissions, round tables, symposiums, participations with delegates and essays to the ISPRS International Congresses, periodical information of the specialists in connected fields: geodesy, topography, cartography, cadastre).

We must acknowledge that the bulletin constituted a theoretical and practical platform for the preparation and affirmation of candidates for a Doctor's or Master's degree in the profile and connected specialties, at the same time offering them the possibility to publish their research within its pages.

We must also keep in mind that the works promoted by the Romanian representatives to the ISPRS congresses entered the archives of this prestigious nongovernmental organization and in correlation, in the international databases.

As we can see in the material presented above, in this period a jubilee number of 80 years is being celebrated since the first contacts of the Romanian specialists with the international scientific values in the field of photogrammetry and, implicitly, since the first attempts of affirmation of Romanian values in this field. At the same time, thanks to the contribution of kind-hearted specialists, we can celebrate the appearance of issue 65

of the Photogrammetry and Remote Sensing Bulletin of the Romanian Society of Photogrammetry and Remote Sensing.

Conclusively, remembering what is exposed above, we can affirm that our scientific integration to Europe, in the fields of photogrammetry and remote sensing, did not take place on January 1st, 2007, but a long time before, starting with the times when the ISP and ISPRS congresses were mostly developed on the European continent.

