# The Benelux Section and Early IRE/IEEE Activity in Europe

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***Abstract*—In 1959 the IRE approved the establishment of the Benelux Section, covering BElgium, the NEtherlands, and LUXembourg, as well as a Section for Milan, Italy. In September 1960 the Benelux Section sponsored the International Symposium on Data Transmission, held in Delft. This was the first international symposium held by the IRE outside North America, and it was the world's first technical conference dedicated to data transmission. The success of the Benelux Section led directly to the establishment of IRE Region 9 (now IEEE Region 8) in Europe. The Benelux Section recently commemorated its 50th anniversary with a celebration in Antwerp.**

***Keywords-Benelux Section; SHAPE Air Defense Technical Center; Philips Research Laboratories; IRE International Symposium On Data Transmission; IRE Region 9; IEEE Region 8; 50th anniversary celebration Benelux Section.***

## I. INTRODUCTION

In order to understand the founding of the Benelux Section it is useful to reflect on the political and technical environment in Europe in 1958. Although World War II had been over for more than a decade, and although Europe was sharply divided by what Churchill had called the Iron Curtain, Americans were warmly regarded and their ideas and institutions were respected.

The transistor had been invented, but integrated circuits were not yet known, and there were still many applications that used vacuum tubes. A computer required racks of equipment and a room of moderate size. Color television had been invented and the necessary standards had been agreed upon, but most receivers were still black-and-white. Although it was possible to fly across the Atlantic Ocean, those flights required refueling in Newfoundland or Ireland, and many persons still chose to make the trip using the ocean liners provided by the Cunard Line or the Holland-America line. The Soviet Union had launched Sputnik 1 in 1957, and the United States had responded, but Telstar, the first active direct-relay communications satellite, would not be launched until 1962. Until a submarine cable was installed in 1959 between Newfoundland and France, most telephone communications between the United States and Europe used high-frequency radio, a most unreliable medium.

The allies in Western Europe who had fought in World War II were united in the North Atlantic Treaty Organization (NATO), with its headquarters in Paris. The military arm of NATO was SHAPE (Supreme Headquarters Allied Powers Europe), headquartered in Paris. An organization to provide technical support, the SHAPE Air Defense Technical Center (SADTC), was established in The Hague, the Netherlands. One of the major NATO projects was the erection of a tropospheric scatter network that would extend from Norway through Western Europe to Turkey, and SADTC provided technical support for this effort. Barrow had worked on tropospheric scatter in the United States, had been transferred to Paris to continue the effort, and in 1958 joined the staff of SADTC.

The paper is organized as follows. In Section II the founding of the Benelux Section is described, including nominations for office, the newsletter, the first meetings, and the IRE International Symposium on Data Transmission. Section III reflects on the establishment of an IRE Region in Europe and the role of the Benelux Section, while Section IV discusses the impact of the merger of the IRE and AIEE into IEEE in 1963. Section V highlights the 50th anniversary celebration of the Benelux Section and offers a retrospective, and, finally, in Section VI a summary is provided.

## II. FOUNDING OF THE BENELUX SECTION

Many of the NATO countries were represented in the technical staff at SADTC, and it was no surprise to find that a number of colleagues were members of the Institute of Radio Engineers (IRE). Somehow, out of informal discussions came the idea that it would be useful to have technical meetings and other activities that would be sponsored by an IRE section. Barrow sent a letter to the IRE headquarters in New York requesting a list of the members in Benelux. An address list was received, and a letter signed by several members of the SADTC staff was sent out to the roughly 75 names on the list, asking for expressions of interest. The response was immediate and enthusiastic. One of the responders was Herre Rinia, Co-Director of Research at the Philips Laboratories in Eindhoven and a former Vice President of the IRE.

Rinia immediately addressed the question of relationships with the Nederlands Radiogenootschap (NRG, Netherlands Radio Society) [1]. He traveled to Wassenaar, a suburb of The Hague, to speak with Dr. Balthasar van der Pol. Van der Pol was the most eminent of all Netherlands electronics engineers, and he was very well known internationally. He had been one of the founders of the NRG, and he had also been elected Fellow in the IRE. Van der Pol willingly gave his support to

the idea of a section, and that hurdle was passed. At that time he was terminally ill, however, and he passed away a few months later without ever being able to attend one of the Benelux Section meetings.

Another important hurdle was passed when Dr. Lloyd V. Berkner came to the Netherlands on business and called Barrow to invite him to share a bottle of wine (and to determine whether that brash 29-year-old had some foundation in reality). Berkner was internationally known and highly respected. He was an adviser to SHAPE. He had organized the first International Geophysical Year. Berkner was at that time a member of the IRE Board of Directors, and he was later elected IRE President. He became a strong supporter of the Benelux Section and of IRE activity in Europe.

In March of 1959 four members of the SADTC team sent a letter to IRE headquarters expressing their interest in forming a section [2]. The letter was quickly acknowledged, a formal petition was submitted, and on May 13th the IRE Board of Directors approved establishment of the Benelux Section. It may be wondered why the area of this section was chosen to comprise all of Benelux, rather than just the Netherlands. One reason is that the original petitioners worked in SADTC, which was an international organization, and one of them was a Belgian (Pierre Bartholomé). Another is that the treaty that established the Benelux economic union had just been signed in 1958 and the concept of Benelux as an entity was very much in the news. The treaty was scheduled to go into force in 1960 and provided for free movement of workers, capital services, and goods. It was thus a precursor to the European Union.

A bit of reflection on the establishment of the Section came from D.M. van Duyne, one of the original members. He wrote in a letter of May 30 to the Section [2]:

"It was a great surprise to have the announcement on the establishment of an IRE-section here in Europe. Realizing that such section exists even in a country as Egypt, one has to wonder why a section did not exist in a continent as Europe, composed of many important countries active in the research, development and production on the electronic field."

### *A. Nomination for Section Office*

The Section having been approved, it was important to elect officers and to begin to hold meetings. On June 22, 1959, in a meeting at SADTC, twelve members of the Benelux Section of the IRE signed a petition to nominate the following candidates for Section offices as required in the Section Constitution:

- **Chairman:** Herre Rinia, Fellow IRE, former Vice-President IRE, Co-Director of Research, Philips Research Laboratories (Philips Natuurkundig Laboratorium), Eindhoven
- **Vice Chair:** Vitold Belevich, Senior Member IRE, Director Comité d'Etude et d'Exploitation des Calculateurs Electroniques, Brussels
- **Secretary Treasurer:** Bruce B. Barrow, Member IRE, Scientist SHAPE Air Defense Technical Center, The Hague

### *B. Founding member and first Chair Herre Rinia*

Herre Rinia (1905-1985) studied Electrical Engineering at TU Delft, the Delft University of Technology (at that time the Technische Hogeschool), from which he obtained his diploma in 1928. Following his graduation, he joined the staff of the Philips Research Laboratories at Eindhoven, the Netherlands. Philips Research was founded by Gerard and Anton Philips in 1914 for fundamental and industrial research. Its first director, from 1914 to 1946, was Dr. Gilles Holst. At that time the research was focused on radio technology and networking with famous scientists such as Dr. Balthasar van der Pol and Dr. Bernard Tellegen. Mr. Rinia was employed on problems concerning radio components, facsimile, and television. Later, when he was promoted to group leader, he directed work on optics (towards the development of the compact disc) and caloric engines (Sterling engine). In 1946, he was appointed Co-Director of Research together with Dr. Hendrik Casimir (quantum physics) and Dr. Evert Verwey (chemistry). He served in this capacity until 1972, and made several visits to the United States.

Mr. Rinia joined the IRE as a Senior Member in 1951 and was elected Fellow in 1954. He served as Vice President and Director of the IRE in 1956. He was one of the founders of the Benelux Section and was its first chairman, serving from 1959 to 1962. When IRE Region 9 was established in 1962, he became the first Regional Director, and after the merger he continued as Director of IEEE Region 8 from 1963 to1964.


Figure 1. Porcelain plate presented to Dr. Bruce B. Barrow. (detail)

In 1947 Mr. Rinia was elected member of the Royal Netherlands Academy of Sciences, and in 1955 an Officer of the Order of Oranje-Nassau. In 1971 he received on honorary doctorate from TU Delft.

In 1962 Mr. Rinia prepared and presented to Barrow, who was near the end of his assignment in the Netherlands, a precious physical memento in the form of a porcelain plate, modeled on the plates that Philips gave to retirees, in gratitude for his work for the IRE and in particular for the Benelux Section. (See Figure 1.) Barrow had at that time completed his doctoral dissertation at Delft, but he had not yet defended it,

and the "Dr." title on the plate was covered with masking tape [3].

### C. Newsletter

One of the important contributions to the success of the new Section was the newsletter, *The Benelux Bridge*, which was edited by Dr. H. Paul Williams of SADTC. Williams was himself a recognized expert on ionospheric propagation, and he continued to edit this important newsletter for many years. In the first issue of The Benelux Bridge, we read the following:

- **Why a bridge?** A bridge is a familiar and useful electrical circuit, of course. There is a deeper meaning; however, that makes the name appropriate. From the beginning, its organizers have looked forward to the part the Benelux Section would play as a bridge - - a bridge crossing European boundaries, a bridge over the Atlantic, a bridge linking members of many professional societies. The member's response to the news of the Section formation has encouraged even the skeptical. A bridge is built!
- **No longer alone.** We were never alone it turns out. News has arrived from New York announcing the formation of the Milan Section of the IRE, in Italy. Both Benelux and Milan Sections were authorized on the same day. While we regret losing undisputed title to the claim of "first in Europe", we are delighted to have company. Welcome, Milan.

### D. First meetings

The first Executive Committee meeting of the Benelux Section was held on August 17, 1959. It addressed co-operation with the local societies (NRG, KIVI [4], SITEL [5]), plans for the first Section meeting (a visit to the flagship s.s. Rotterdam), and the establishment of a Chapter of the Professional Group on Information Theory, being organized by Dr. F.L.H.M. Stumpers, who was given full support.

The first Section meeting, held on October 3, 1959, was organized by C.B. Broersma, principal engineer of Radio-Holland, the company responsible for radio and other electronics on the ships of the Holland-America Line. Broersma arranged a visit to the s.s Rotterdam, the new flagship of the Line. The meeting was attended by 77 members and guests, and there was a social gathering in addition to the technical presentations on the radio station and navigational equipment. Dr. Berkner attended and gave a formal welcome on behalf of the IRE Board of Directors. A photo of this meeting was published [6].

At the second Section meeting, in November, Dr. George H. Brown spoke on color TV in the U.S. The Spring of 1960 saw a flurry of activity, with a March meeting in Hilversum on solar radio astronomy, an April meeting in Brussels on "High power microwave tubes" (the first Section meeting in Belgium), and a late-April meeting in the Hague that featured a presentation on the ionosphere by J.A. Ratcliffe, a British scientist and the then-current IRE Vice-President. This last meeting was held jointly with the NRG, and it marked a conscious effort on the part of the Section to work with the local engineering societies in the Netherlands and Belgium.

On its first birthday, May 13, 1960, the Section was able to report that six meetings had been held and that membership had grown from 83 to 107. In April the Section had announced plans to hold a symposium on data transmission in September. This symposium would be carried out with the cooperation of the IRE Professional Group on Communications Systems. This announcement attracted widespread interest in both the United States and Europe, because developments in information theory and in computer technology were stimulating intense interest in the practical and theoretical aspects of data transmission.

### E. The International Symposium on Data transmission

The International Symposium on Data Transmission, which was held September 19-21 at the Delft University of Technology (at that time the Technische Hogeschool) was a resounding success. The NRG and the Telecommunications Section of the Netherlands Royal Institute of Engineers (KIVI) had joined as co-sponsors, and they provided invaluable support. More than 500 participants registered. No auditorium was available for such a large audience, and the T.H. at Delft graciously provided two excellent lecture halls free of charge, so that each of the 25 papers could be presented twice. Roughly half of the registrants came from the Netherlands, and the remainder came from 13 other countries, including the U.K., France, Germany, the U.S., Sweden, Switzerland, Belgium, and Italy. Most of the papers were published in the March 1961 issue of the *"IRE Transactions on Communications Systems"*, which also included an introductory essay by Barrow, entitled *"Why in the World in Europe?"*, that discussed the rationale behind the IRE expansion across the Atlantic. (See Figure 4.)

The Symposium dinner, attended by some 300 guests, including Dr. Robert McFarlan, then the IRE President, was held at the Kurhaus in Scheveningen. In a welcoming toast to the IRE and the Section, J.D.H. van der Toorn, former Director General of the Netherlands PTT, posed the following question: "Why did so many distinguished scientists and engineers spend the time and take the trouble to attend the Symposium? . . . is it the conviction that data transmission and related electronic subjects – with their dazzling speed of development -- will play in a still unpredictable manner a very important role in our modern times, in the future life of mankind?" He could not have foreseen the details, but his dream was brilliantly insightful.

## III. IRE Region in Europe

In 1960 the Executive Committee of the Benelux Section had already begun to consider the idea of asking the IRE to establish a formal "region" in Europe. The regional structure would give the European Sections an opportunity to interact with each other and, more importantly, would permit the members in the region to elect a representative to the IRE Board of Directors. The idea was discussed with senior IRE officers, and on December 27, 1961, Barrow sent a letter to Dr. McFarlan, then Chairman of the IRE International Activities Committee, requesting authorization for himself to initiate

exploratory contacts with other newly founded European sections and requesting authorization for Mr. Rinia to convene an inter-sectional meeting to discuss IRE activity in Europe. Such a meeting was held in Geneva on February 14, 1962, at the headquarters of the International Telecommunications Union. It was attended by representatives of the Benelux, Geneva, Italy, and France Sections, and an IRE member from Germany, where formation of a section was being considered. Following this meeting, on March 6th, the Benelux section formally petitioned the Board of Directors of the IRE "to establish a Region that will compass the territory of Greater Europe" and suggesting "that the territory of the new Region be based on the European Broadcasting Area defined in the Radio Regulations of the I.T.U. which area produced a definition of Europe that has proved practical and that has been internationally agreed to for certain telecommunication purposes. The European Broadcasting Area includes the western part of the U.S.S.R. and the territories bordering on the Mediterranean". On Rinia's request, the other Sections submitted similar petitions.

On May 9, 1962 the IRE Board of Directors gave formal approval of Region 9, with boundaries closely following the recommendations of the sections. Note that inclusion of the Mediterranean area brought in the sections in Israel and Egypt. Region 9 was born, and Rinia was appointed its first Director.

It must not be assumed that the expansion of IRE activity into Europe took place without opposition. Although IRE members welcomed the new opportunities for sharing information and other professional contact, a number of the established engineering societies felt threatened. In 1948 a "Conference of Representatives from the Engineering Societies of Western Europe and the United States of America" had been held in London. This conference, which became known by the acronym EUSEC, was "of the opinion that international co-operation between professional engineers by direct contact between recognized national Societies is to be desired". One of their explicit recommendations was, "That the formation by one Constituent Society of a branch in the territory of another is undesirable except by mutual agreement".

The engineering societies of Germany and Denmark, as well as the IEE in the United Kingdom, all members of EUSEC, formally expressed displeasure with the expansion of IRE section activity in Europe. One of the aims of EUSEC was that "no participating Society will initiate any action within the country of another without first informing the participating Society of that country and obtaining its co-operation".

The IRE, in all its European activities, had sincerely sought the cooperation of the local societies, but the idea that a national society could veto the formation of an IRE section was quite unacceptable, and Rinia had to engage in careful diplomacy. With the merger pending, the situation was complicated by the fact that, although the IRE was not a participant in EUSEC, the AIEE was. The Benelux Section objected strongly to bringing the merged society into EUSEC, and this matter became one of the agenda items in the merger discussions.

## IV. IRE/AIEE Merger

The Institute of Electrical and Electronics Engineers (IEEE) was formed on January 1, 1963, by the merger of the Institute of Radio Engineers (IRE, founded 1912) and the American Institute of Electrical Engineers (AIEE, founded 1884) [7].

Notable Presidents of IEEE and its founding organizations include Elihu Thomson (AIEE, 1889-1890), Alexander Graham Bell (AIEE, 1891-1892), Charles Proteus Steinmetz (AIEE, 1901-1902), Lee De Forest (IRE, 1930), Frederick E. Terman (IRE, 1941), William R. Hewlett (IRE, 1954), and Ernst Weber (IRE, 1959; IEEE, 1963).

Fundamental characteristics of the merged society were taken from the IRE, which, unlike the AIEE, was a transnational society with sections outside the USA. At the time of the merger it was agreed that the IEEE should continue the transnational concept. The IRE type of structure was adopted, but revised; the number of Regions in the USA was reduced to six; Canada became Region 7; Europe, the Middle East, and North Africa became Region 8. On January 8, 1963, at the first IEEE Board meeting in New York, Rinia was appointed first Director of IEEE Region 8 (formerly IRE Region 9). Since no AIEE sections had existed in Europe, the section structure of IRE Region 9 was adopted for IEEE Region 8, and the AIEE members were automatically included in the IEEE Sections. What follows is a short reflection on the merger, the international policy of the IEEE and the concerns raised by European Societies about the organization of IEEE Sections in European countries.

### *A. Reflection on the merger*

The major interests of the AIEE were wire communications (telegraph and telephony), machinery, and light and power systems. The IRE concerned mostly radio engineering, and was formed from two smaller organizations, the Society of Wireless and Telegraph Engineers and the Wireless Institute. With the rise of electronics in the 1930s, electronics engineers usually became members of the IRE, but the applications of electron tube technology became so extensive that the technical boundaries differentiating the IRE and the AIEE became blurred. After World War II the two organizations became increasingly competitive. In 1957 the IRE, with 55,500 members, was the larger organization, and it had more appeal to students and young electrical engineers. Negotiations about a merger started that year, and in 1961 the leadership of both the IRE and the AIEE resolved to consolidate the two organizations. In 1962 the IRE had 96,500 members, and the AIEE 57,000.

In the summer of 1962, having successfully defended his dissertation, Barrow returned to the U.S., where he had a small part in the discussions that were taking place as details of the merger were worked out. The President of the AIEE at that time was Dr. B. Richard Teare, Dean of the College of Engineering and Science at Carnegie Institute of Technology (now Carnegie Mellon University). Teare had been Barrow's professor when Barrow was an undergraduate, and the two felt warm mutual respect.

### B. *Some diplomacy*

Late in September, Barrow traveled to Pittsburgh and had an opportunity to talk at length with Dr. Teare. Following are quotes from the letter-report that Barrow sent to Rinia [8]. "The central topic of our conversation, which lasted some five hours, was international policy of the IEEE, and we concentrated specifically on the attitudes that would be brought into the IEEE from the AIEE. Dr. Teare emphasized that he could not speak for the AIEE Board, nor for the 14-man committee that is now implementing the merger. . . . He pointed out that the non-national character of IEEE is specified in the new constitution, and he defined 'non-national' as meaning that the activities of the new society would be carried out throughout the world, wherever IEEE members wanted such activities, and without regard to national boundaries."

"Dr. Teare himself has thought a good deal about questions of international policy, partly because several of the secretaries of EUSEC societies have brought such questions to his attention. . . . Because of these contacts with the European societies he was very interested to hear something of our views."

"I talked at great length (as usual), and emphasized that IRE relations with European societies are in general rather good. I also pointed out that each country, and each society, had to be considered individually, and I then said what I could about each individual problem. I pointed out the specific accord that had been reached with the SFER in France, and the proposals that had been discussed with . . . the VDE in Germany. I also told him what I knew of our difficulties and inhospitable reception in Denmark, and of the obstacles that certain of the EUSEC societies placed in the way of IRE Region 9. I emphasized that EUSEC societies were not the ones that represented the electronics profession in a number of countries, such as Belgium and France. . . ."

"The second point – the real point of contention – concerns the organization of IEEE sections in European countries. . . . I emphasized that the EUSEC societies interpreted [the EUSEC Memorandum of Organization] to mean that they had a right to veto activity by another society in their territory. . . . Dr. Teare agreed with me . . . that the IEEE must retain the *right* to organize sections anywhere in the world, and that IEEE members who petition in a responsible manner to form such sections must be able to expect an affirmative response from the IEEE Board. The IEEE has announced its intention of operating in the entire world, and it must be willing to support its members, wherever they live. On this all-important and fundamental principle, Dr. Teare agrees with us completely. He is, however, very concerned that every effort be made to conciliate the various national societies, and he very much wishes to move carefully enough, and tactfully enough, to avoid open ruptures with the European societies."

Rinia and other IEEE leaders did indeed move carefully and tactfully, and relationships with the European societies have been conciliatory. But the IEEE did not affiliate with EUSEC.

## V. 50TH ANNIVERSARY OF THE IEEE BENELUX SECTION

In this Section the focus is on the 50th anniversary of the Benelux Section, its celebration event in Antwerp, Section Office from 1959-2009, and the professional highlights of the Benelux Section, including Chapters, Student Branches and Award Recipients.

### A. *Celebration event*

On May 13, 2009, the IEEE Benelux Section celebrated its 50th anniversary in Antwerp. As the anniversary event coincided with the 125th anniversary of the IEEE, it was a double celebration. Congratulations were received from John Vig, 2009 IEEE President and CEO. He congratulated the IEEE Benelux 2009 Chair and the more than 3400 Members of the Section by commemorating the Section's strong contributions to the long list of accomplishments of the IEEE, the hosting of many international conferences and the IEEE Milestone presentation by the Section for the development of the CD on March 6, 2009.

The celebration event itself consisted of two parallel tracks: an official track with an Executive Committee meeting and an official anniversary meeting, and a cultural one with a visit to the diamond quarters and the monumental train station of Antwerp. During the anniversary meeting, Jan Biemond [9] gave an invited lecture about the history of the Benelux Section, reflecting on the early days of Electrical Engineering, the merger of AIEE and IRE into IEEE, the origin of the Benelux Section, and highlighting its founding fathers Bruce Barrow and Herre Rinia. Further, Dirk Van Hertem, Section Secretary, gave an overview of Student Branch activities within the Benelux.

After the historic overview an Award ceremony was held. First the IEEE Benelux Section 50th Anniversary Banner was revealed by Georges Gielen (Section Chair), Dirk Rabaey (Host from Alcatel Bell) and Baldomir Zajc (Region 8 Past-Director). Next, Hans Noordanus was presented the Region 8 Volunteer Award by Baldomir Zajc. All past chairs received an IEEE "past chair" pin from Chairman Georges Gielen. After the anniversary meeting, both members of the official track and the cultural track joined for a reception and dinner at the Castle Den Brandt, Antwerp.

### B. *Section officers 1959 – 2009*

In Table I Section officers from 1959 to 2009 are listed. Three of the listed chairpersons - H. Rinia, P.G.A. Jespers and F.L.H.M. Stumpers, have also served as Director of IEEE Region 8. Note that it is now a standing custom in the Benelux Section that the chairperson shall alternately be from the Netherlands and from Belgium/Luxembourg. Within the Belgian/Luxembourgian turns, it is a standing custom to alternate between the northern region (Dutch speaking) and the southern region (French speaking) for the chairperson. The working language of the Section is English.

As of January 2007, the total number of active members (including associates and affiliates) in the Benelux was 3400: 1 Honorary Member, 70 Fellows, 207 Senior Members, 1758 Regular Members, 807 Student Members, 219 Associate Members, and 338 Society Affiliates. The geographical

breakdown at that time was 1478 in Belgium, 1849 in the Netherlands and 73 in Luxembourg.

TABLE I. SECTION OFFICERS 1959-2009

| Benelux Section | Section office 1959 - 2009 | | |
|---|---|---|---|
| | *Chair* | *Secretary* | *Treasurer* |
| **1959-1961** | **H. Rinia** | **B.B. Barrow** | **B.B. Barrow** |
| 1962-1965 | C.B. Broersma | W. Lulofs | W. Lulofs |
| 1966-1967 | P.G.A. Jespers | W. Lulofs | W. Lulofs |
| 1968-1970 | F.L.H.M. Stumpers | F. Valstar | P. Dubois |
| 1971-1972 | E.P. Reygaerts | P. Dubois | P. Dubois |
| 1973-1976 | F. Valstar | E.J. Maanders | E.J. Maanders |
| 1977-1978 | A. van der Vorst | A.A. Laloux | A.A. Laloux |
| 1979-1980 | E.J. Maanders | G.J. Arink | G.J. Arink |
| 1981-1982 | R.J. van Overstraeten | P. Sobiesky | G.J.J. Vos |
| 1983-1985 | G.J. Arink | T.A.C.M. Claassen | G.J.J. Vos |
| 1986-1987 | A.A. Laloux | P. Sobiesky/ J. Noordanus | G.J.J. Vos |
| 1988-1989 | P.M. Dewilde | J. Noordanus/ J. Vandewalle | E.J. Maanders |
| 1090-1991 | D.M. Van Dommelen | J. Vandewalle/ J. Noordanus | E.J. Maanders |
| 1992-1994 | J.B.H. Peek | W. van Gils | J. Noordanus |
| 1995-1996 | P.G.A. Jespers | D. Vanhoenacker-Janvier | D.H. Rabaey J. Noordanus |
| 1997-1998 | J. Noordanus | H. Quibrahim | J.B.H. Peek D.H. Rabaey |
| 1999-2001 | C. Claeys | K. De Meyer | D.H. Rabaey J.W.M. Bergmans |
| 2002-2004 | J. Biemond | A. Hanjalic | J.W.M. Bergmans D.H. Rabaey |
| 2005-2006 | D. Macq | E. Laes | D.H. Rabaey J.W.M. Bergmans |
| 2007-2008 | M.J. Bastiaans | R.W.C.G.R. Wijshoff | J.W.M. Bergmans D.H. Rabaey |
| 2009-2010 | G. Gielen | D. Van Hertem | D.H. Rabaey J.W.M. Bergmans |

### *C. Section highlights*

One of the professional highlights for the Section was the very successful Section Assessment during the IEEE Region 8 meeting in Krakow, Poland, on April 23, 2004. The Section Assessment was initiated by Tariq S. Durrani, at that time Vice-Chair Technical Activities of Region 8, to assist Section leadership to better serve the interests of its members, and to enable the R8 Committee and the Regional Activities Department of the IEEE to provide better assistance to R8 management, so that the Sections can develop improved activities to contribute more to the objectives of the IEEE in their geographical areas.

The objectives of the assessment are the following: to appraise the operations of the Section, to ensure the financial well-being of the Section, to consider the support the Section provides to its chapters, members, and students, and in particular to discover the extent of technical activities organized by the Section and its Chapters, and finally to encourage the Section to increase activities relevant to industrial members.

As part of the Section Assessment a SWOT-analysis was asked for. As Section's strengths were mentioned the long and fruitful history of the Section, its strong organizational and financial structure, and the excellent local circumstances such as a fine educational system in the Benelux, and a strong consumer electronics (support) industry.

As Section's successes were seen the large number of Chapters and Student Branches, the relatively large number of IEEE Fellows and Senior Members and the many award recipients. Possible threats for the Section were identified as lack of volunteers, the uncertain future of (electrical) engineering with a limited inflow into technical studies, a lack of high-tech start-ups as innovation drivers, a brain drain, and the outsourcing and off-shoring of production, services, and research.

As best practices were mentioned the very good relations with other professional societies in the electronics field, such as NERG, KIVI, AES, IEE, etc., a strong interaction with Chapters and Student Branches partly based on a very good rebate/support program, a relatively high participation of student branches in regional activities such as student-paper contests, and an excellent, inspiring host from industry for our biannual Executive Committee meetings.

### *D. Chapters*

A Chapter is a technical subunit consisting of members who share technical interests and geographical proximity. The Section is currently active in the 19 chapters listed in Figure 2, which reflects the broad technical interest of the Benelux members in the many Technical Societies of the IEEE. Over the years the Benelux Section has organized numerous workshops and conferences with IEEE support.

*E. Student Branches*

- **Antennas and Propagation/Microwave Theory and Techniques (AP/MTT)**
- **Circuits and Systems (CAS)**
- **Communications/Vehicular Techn. (COM/VT)**
- **Computational Intelligence (CI)**
- **Computer (C)**
- **Consumer Electronics (CE)**
- **Electromagnetic Compatibility (EC)**
- **Electron devices (E)**
- **Embedded Systems (CEDA)**
- **Engineering in Medicine and Biology (EM)**
- **Industry Applications/Power Electronics/Power Engineering (IA/PEL/PE)**
- **Information Theory (IT)**
- **Photonics (LEO)**
  - **Student Chapter**
- **Nuclear and Plasma Sciences (NP)**
- **Signal Processing (SP)**
- **Solid-State Circuits (SS)**
- **Technology Management (TM)**

- **Graduates of the Last Decade (GOLD)**

Figure 2. Chapters in the Benelux.

The Benelux Section currently has 8 recognized Student Branches at Antwerp, Delft, Eindhoven, Gent, Leuven, Liege, Louvain-la-Neuve and Twente, including several Student Branch Chapters. The Student Branches in general have a strong visibility. We mention the successful organization of the Student Branch Conference SBC-2000 in Eindhoven and the high visibility and success rate in Region 8 student-paper contests. Although Student Branches may encounter continuity problems once in a while, there are always successful revitalization actions. At every Executive Committee meeting of the Section a Student Branch is invited to report about its activities, such as participation in symposia, study projects, debates, etc. Worthy of mention is the debate organized by SB Leuven on April 28, 2004, with the timely topic "Intellectual Exodus from Belgium; Future and Expansion of our Knowledge Economy" with Frank Vandenbroucke, Belgian Minister of Labor and Pensions and Dirk Rabaey, IEEE Benelux, Alcatel Strategic Alliances. Also worth noting are the get-acquainted parties between local Student Associations and Student Branches, beer courses, and sailing weekends, just to name a few.

*F. Award Recipients*

The IEEE Awards program pays tribute to technical professionals whose exceptional achievements and outstanding contributions have made a lasting impact on technology, society and the engineering profession. During its first 50 years several Section members were honored with Centennial Awards, a Region 8 Volunteer Award (Hans Noordanus) an Outstanding Counselor Award (Prof. D.M. Van Dommelen), the IEEE Edison Medal for Optical Disk Storage (Prof. K.A. (Kees) Schouhamer Immink), and the IEEE Heinrich Hertz Medal on EM propagation (Prof. A.T. de Hoop). Further, a Chapter of the Year Award for the Chapter on Lasers and Electro-Optics (LEO; current name Photonics) was received from IEEE Region 8.


Figure 3. IEEE Milestone in Electrical Engineering and Computing for Compact Disc Audio Player, 1979.

Over the years, the Section welcomed more than 200 senior members and 70 fellows. The first two Fellow Certificates (from the IRE) were presented to Dr. F.L.H.M. Stumpers (Philips Research) and Prof. J.L. van Soest (TU Delft, TNO-FEL) in 1961 during a dinner at Hotel "De Witte Brug", The Hague, by the Chairman of the Section, H. Rinia.

A "Supporting Friend Award" was presented to Alcatel-Antwerp in 2004 for its consistent support in sponsoring various IEEE activities, for hosting the Executive Committee meetings of the Benelux Section for over 15 years, for its active role in the establishment of the first GOLD Chapter Program in Region 8 and especially for the financial management of the Section by Dirk Rabaey for many years.

Initiated by the Benelux Section, the IEEE dedicated the first IEEE Milestone in the Benelux to Philips in Eindhoven. IEEE Milestones recognize the technological innovation and excellence for the benefit of humanity.

Each Milestone recognizes a significant achievement that occurred at least twenty-five years ago in an area represented in IEEE and having a large impact. The Milestone Award Ceremony took place at the IEEE CD Milestone Event on Friday, March 6, 2009, in the auditorium of TU Eindhoven. John Vig, 2009 IEEE president and Hans Noordanus (Past Award Officer) presented the Milestone plaque to Philips Research' Chief Technology Officer Rick Harwig. The Award is recognition for great teamwork by experts and inventors from many different disciplines. On the occasion of the Milestone event a milestone book was presented by Hans Peek, formerly with Philips Research Laboratories, entitled: "Origins and Successors of the Compact Disc; Contributions of Philips to Optical Storage" [10]. The citation on the Milestone Plaque reads (see also Figure 3):

*"On 8 March 1979, N.V. Philips' Gloeilampenfabrieken demonstrated for the international press a Compact Disc audio player. The demonstration showed that it is possible by using digital optical recording and playback to reproduce audio signal with superb stereo quality. The research at Philips established the technical standard for optical recording systems."*

## VI. SUMMARY

This paper described the establishment of the Benelux Section by the IRE in 1959, covering Belgium, the Netherlands and Luxembourg, and the establishment of IRE Region 9 in 1962 (now IEEE Region 8) in the context of the political and technical environment in Europe after the Second World War. It reflected on the merger of the IRE and the AIEE into IEEE in 1963, the international policy of the IEEE and the concerns raised by European Societies. Finally, it focused on the 50th anniversary of the Benelux Section on May 12, 2009, its professional highlights, and its celebration event in Antwerp.

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# Why in the World in Europe?

BRUCE B. BARROW†, SENIOR MEMBER, IRE

WHY in the world is the IRE organizing a symposium in Europe? This was a common reaction among those who, early in 1960, read the announcements of the International Symposium on Data Transmission, the first large international meeting to be sponsored by the IRE outside North America. This symposium manifested the continued development of the IRE as an international organization—it did not represent the *birth* of international IRE activity, though it might be seen in some respects as a coming of age.

How can the IRE, with slightly more than 90 per cent of its members living in the USA, call itself an international organization? The question may be answered by asking another. What other adjective can describe a professional society that numbers more than 6500 members outside the USA, that has local sections holding meetings on every continent except Australia, and that draws members from a dozen countries to a meeting in Holland? The Delft Symposium, which was appropriately organized in cooperation with two Dutch professional societies, attracted more than 500 participants. Ninety-five per cent of them, including more than a hundred IRE members, came from Europe. The IRE Professional Group on Information Theory has already announced its intention of holding a symposium in Europe in 1962, and it is clear that within a few years the IRE will be regularly working, either as sponsor or as a supporting society, in a full program of European symposiums and conventions.

The IRE is American, and the IRE is international. With a nonpolitical organization the two are not mutually exclusive, and this is a point worth emphasizing in a world where political divisions are so sharp. Furthermore, both aspects of IRE activity are as old as the IRE itself.[1] The founders of the Institute specifically chose a name and constitution without national preference, and sections were operating in Canada and South America twenty years ago. What *is* new is the expansion in international activity, which follows not from a change in IRE policy but from the growth in IRE membership in all parts of the world.

In the leading countries of Europe there are well-established professional societies working effectively already. Here the IRE, with profit to everyone concerned, can help to obtain speakers and organize joint meetings, and can provide liaison for such large international meetings as the Delft Symposium. But these activities require a local IRE organization, *i.e.*, a section. Even in the European countries with the most vigorous and effective societies, which by no coincidence also happen to be the countries with the largest number of IRE members, there is therefore an appropriate place for IRE section activity. In such countries, IRE sections are not established as independent organizations to compete with local societies; they may, on the contrary, even be officially affiliated with the local societies.

The development of the IRE in Europe comes at a time when the European nations are busily forming ever closer ties economically, industrially, and politically. Nevertheless, although the need for better exchange of technical information within Europe is now consciously felt, it is a fact that each of the national European technical societies is handicapped by history in building a professional society for a United Europe.

The IRE can build just such a society. The various IRE sections will continue to operate nearly autonomously, free to serve wherever needed and to adapt to local conditions as appropriate. They will, in the not distant future, be joined together in the structure of an IRE *Region* (as the Canadian sections were joined long ago). The Regional Committees, automatically both international and European, will not only help to coordinate professional-society activity, but will provide a force to attack the special problems facing the new Europe. This is the challenge facing the international IRE.

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[1] For a thorough discussion of IRE history, see L. E. Whittemore, "The Institute of Radio Engineers—forty-five years of service," PROC. IRE, vol. 45, pp. 597–635; May, 1957.

Figure 4. "Why in the World in Europe?", an essay by Bruce B. Barrow.