IEEE and the libraries: joining forces to serve a growing community

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As the world's largest professional technical society, the IEEE's vision is to advance the global prosperity by fostering technological innovation, enabling members' careers and promoting community worldwide. The IEEE promotes the engineering process of creating, developing, integrating, sharing and applying knowledge about electro- and information technologies and sciences for the benefit of humanity and the profession.

Besides being a very large, not-for-profit membership organization, the IEEE is a highly respected technical publisher. The IEEE's dual roles require the organization to balance the needs of its membership with those of its customer base. As we move towards more electronically available content, the balancing act becomes critical to the success of our programs. The Institute is committed to working with the membership and customer communities in order to fulfill its vision

A Description of the Institute
The IEEE is made up of 37 technical Societies and Councils. These groups are arranged based on technical interest, but many - such as the IEEE Computer Society - span across disciplines. One unique feature of the IEEE is that these Societies have a great deal of autonomy. That means, the individual Societies may develop membership programs and products based on their specific needs and goals, always keeping the IEEE's overall vision in mind. The IEEE brand name is very important to the Institute and appears on all Society products - from publications to websites.

Since IEEE is a global organization, we must be sensitive to customs and languages around the world. With offices in Brussels and Singapore as well as the US, the IEEE maintains a global presence to manage its members' and customers' needs.

An Overview of the IEEE Membership
Each year the IEEE conducts a survey to better understand the membership and determine new issues of concern. For example, currently, 50% of membership is under 40 years of age. This reflects a trend of younger, more computer literate engineers joining the Institute as part of their professional growth. Sixty-four percent of IEEE members have a graduate or Ph.D. degree, highlighting the need for the IEEE to continually adjust its products and services in order to better serve its membership.

The study asks members to name the reasons why they join the IEEE. In the 1997 survey (the latest available), 78% said they joined the IEEE because they want access to the latest technical developments (showing the importance of attending technical conferences); 62% want access to IEEE publications (showing the value members put on IEEE publications); 49% want to enhance their technical skills (showing that continuing education requires research - most likely with a librarian's or information specialist's help); and 60% want to access publications online (proving that electronic access to key content is a vital part of a member's development).

IEEE's membership continues to grow. In 1998, the IEEE ended with nearly 335,000 members worldwide, a record growth of almost five percent over the prior year. Student membership is growing too - up nine percent from 1997 to 1998 with the most dramatic increases coming from outside the US. Student interest in computer-related careers with high earnings potential is stimulating growth in enrollments in technical fields that fall under the IEEE umbrella. In the US, undergraduate computer engineering enrollments grew 50 percent from 1993 to 1996, partially offsetting the ten-year decline in undergraduate electrical engineering majors. Graduate enrollments during the same period remained stable. The IEEE has about 1,000 Student Branches at technical universities worldwide. Directed by an IEEE Counselor who is an IEEE member, the Student Branches work to introduce engineering students to the IEEE, its publications and careers in the fields.

But not all IEEE members are in academia. In fact, only 14 percent of IEEE members work at a university or other educational institution. Over 50 percent work in industry.

As membership continues to grow, the demand on libraries to offer IEEE publications will also grow. Many of the libraries served by IATUL librarians are used by IEEE members. Together, IEEE and academic libraries share the goal of fostering the careers of young engineers. IEEE publishes and disseminates professional and technical information. Libraries provide access to student end-users.

Reviewing IEEE's Publishing Program
IEEE publications are peer-reviewed and are continuously shown to be among the most highly-cited in their respective fields, according to the annual Journal Citation Report produced by the Institute of Scientific Information (ISI). The IEEE publishes 105 technical periodicals and about 350 technical conference proceedings. There are currently nearly 900 active standards as part of IEEE publishing operation. The IEEE offers libraries many ways to access its content - print, microfiche, CD-ROM or online. Packages of content are available for the periodicals - the All-Society Periodicals Package (ASPP) - and for the conference proceedings - through the Prepaid Order Plans (POP).

The IEEE was one of the first publishers to offer its content in electronic form. Originally released in 1992 as a collaboration with UMI, the CD-ROM product, known as the IPO, provided access to the PDF images of IEEE's and IEE's periodical, conference and standards literature back to 1988. In 1995 the IEEE decided to gain better control of product development and customer base by offering the product through our own operation. Since 1996, the IEEE has offered the IEEE/IEE Electronic Library (known as IEL) on CD-ROM. Today, the IEL consists of more than 400 CD-ROMs housing more than 2 million PDF page images of content from over 12,000

publications. That's more than 300 GB of content - quite overwhelming in a CD-ROM environment. In November 1998, the IEEE released the *IEL Online* bringing valuable content to desktops of engineers around the world.

It is important to note that IEEE product development takes user feedback, particularly that from librarians, into account as we refined the IEL. In November 1996, the IEEE conducted its first librarian focus group meeting. This session was influential in moving the IEL from a proprietary user interface to one that utilizes a web browser. We quickly learned that our librarian customers were key in helping us develop user-friendly products. Throughout our current development process, we invite librarians and end-users to provide their feedback so that we can be sure to meet users' needs.

In 2000, the IEEE will release the next generation of online products. All products - the *IEL Online*, the electronic versions of the ASPP and POP products - will be delivered through a new and exciting interface. Not only will the IEEE be able to provide interactive documents with live reference links and full-text html searching for periodicals, content will be available online before the printed version. Ever mindful of our membership's needs, we are currently developing plans that will allow members and non-members access to content based on their relationship with the IEEE. As we develop features and functions of this new program, we are working with librarians and engineers to test ideas and programs.

Partnering with Librarians
Our partnership with librarians is so important to the IEEE, that we instituted our first Library Advisory Council this year. Made up of academic, corporate and government librarians, the Council is meant to further help the IEEE understand their concerns and issues. LAC members are not just limited to the US market. We currently have two European members on the Council. The Library Advisory Council will meet twice a year to discuss issues such as policy statements, industry trends and product development. The IEEE is committed to the Library Advisory Council and will report results of its meetings to the appropriate IEEE volunteer committees.

As a global organization, it is important that the Institute reach beyond the US borders. Speaking at IATUL and other conferences outside the US further enhances our opportunity to meet with our library partners. The human communications is still a vital part of our work today in electronic publishing.

The IEEE has instituted some other programs to help it communicate with librarians. Beyond the Library Advisory Council, the IEEE produces a quarterly print newsletter (Access IEL), a quarterly print catalog of new titles - particularly for conference proceedings (Publications Bulletin) and an electronic newsletter specially designed for librarians (What's New @ IEEE). Through these programs, the IEEE hopes to open communication with the important library market.

As you know, there are many topics of interest in the library and STM publishing communities today. Pricing, access rights to online content, archiving, training are just a few of the many issues that we all face. Through the good work of the IEEE Library Advisory Council, the IEEE hopes to gain a better understanding of the

librarian's point of view in order to make real decisions that are mutually beneficial to the libraries as well as the IEEE.

In conclusion, this talk was designed to bring to you an understanding of the IEEE as a membership organization, a technical publisher and a partner to technical librarians. Working with librarians to form strong relationships is especially important to the IEEE. After all, we are both serving a growing community of eager, young engineers who still require guidance in their professional development.