Serving Technologists Through Partnerships Among Professional Societies

Remarks to the General Assembly of the
World Federation of Engineering Organizations (WFEO)

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Thank you, Madame President. Mr. President-Elect, and Delegates to the WFEO General Assembly. It's a privilege to be with you today, and it's an honor to speak to you.

I bring you greetings from the IEEE President, Professor Moshe Kam, from the IEEE Board of Directors, from the 400,000 IEEE members who live and work in more than 160 countries around the world, and from the 1000 or so members of our Professional Staff.

Before I go on, Let me take a moment to I would like to introduce my colleague, Dr. James Prendergast, the IEEE Executive Director, who leads our Professional Staff. He and I have talked to many of you this week, and look forward to meeting and talking with many more of you over the course of the next two days.

As engineers, we understand, probably better than most people, that technological innovation is the key to improvements in quality-of-life and to greater prosperity throughout the world. Most of the things that led to better quality-of-life in the 20th century – electricity, communications, transportation, computers, the internet, better health care, increased agricultural productivity, and so on – arose from the creativity, the ingenuity, and the dedication of engineers. But now it's the 21st century. On Monday, Phillipe Moltaz said that engineers domesticated Switzerland. In fact, engineers domesticated the world. What will we do with the responsibility that has been placed on our shoulders?

We know some of the opportunities. Most of us have spent the past few days learning about, thinking about, and discussing energy. How can we provide a secure and inexpensive energy supply, without damaging our climate, our air, and our water?

And technology is already providing enormous improvements in health care. It's probably just a small beginning. Sensors and communications have the capacity to revolutionize diagnostics. Electronic instrumentation will continue to help biotechnologists create new treatments. Electrical, mechanical, and computer engineers are showing us how they can help restore hearing, and sight, and mobility to the handicapped. The results will surely exceed our imaginations.

Thomas Friedman said the world is flat. Some of you know, far more directly than I, how great an exaggeration that was. You know the disparity in quality of life and prosperity that exists, country to country, region to region. You know that the needs of many countries are substantial. And you know that those needs differ, country to country. One solution does not fit all. But you also know that our profession is the one perhaps most able to solve these local problems. We are the profession that can provide electricity where there is no grid. We can bring clean water, communications, transportation, better health care and, indeed, a better food supply to places where those things are desperately needed.

You may have noticed that the three opportunities I just mentioned are ones that need to be addressed with a diverse set of skills, in fact, the coordinated skills of electrical engineers, computer engineers, mechanical engineers, civil engineers, chemical engineers, materials engineers, agricultural engineers, and the rest of the 30 or so engineering disciplines that are probably represented here at this meeting. Engineers trained in a single traditional discipline will not be able to solve the

problems of the 21st century. And two or three disciplines may not be sufficient, either.

Is it not reasonable to predict that the traditional labels of engineering disciplines will disappear? Already in the last decade or so, we have seen the rise of Mechatronics as an accepted discipline, a mixture of mechanical, electronics, and computer engineering that one can study at some of the world's finest engineering schools.

And as the constraints of engineering disciplines diminish, so do the constraints of national borders and time zones. Advanced technology is developed globally, technologists are globally dispersed, and many technologists work for globally-integrated companies.

We, the engineering professional societies of the world, are in the business of helping technologists be successful innovators. We provide the technical resources – the publications, conferences, and standards – that engineers need to do their jobs better. We provide educational opportunities, networking opportunities, and career support. We speak out about the importance of technology, and the roles that engineers play in the world. For the most part, we do these things separately, within our own disciplines, in limited parts of the world.

But in a world where the lines between engineering disciplines are disappearing, and our profession is becoming more global, is it not time that we diminish the disciplinary and national boundaries between our organizations? In the interest of effectiveness, ….and efficiency, ….should it not become normal practice for us to work together instead of separately?

This week, WFEO has demonstrated once again that it can convene the broad engineering community to discuss technical issues of common interest. I

commend the organizers, because I know how much work is involved in organizing a conference of this size, and they did a great job.

There are good other examples of cooperation. Yesterday, WFEO signed an agreement with Engineering for Change. A dozen or so European engineering societies currently cooperate under the umbrella of Eurel. Engineering societies in the US work together under the auspices of the American Association of Engineering Societies. And IEEE has National Society Agreements with many of the societies you represent. I'm sure there are many more examples.

But are we using these relationships to maximum effect? I suspect that most see more opportunity than achievement. We could achieve more by working together more, especially at the bilateral, trilateral, or small multilateral level, and in regions that share common interests and the same language.

Could we not support technologists better and more efficiently through more partnerships in electronic publishing? That has certainly been IEEE's experience. Could we not provide more and better continuing education opportunities through partnerships? It's an area where we know that we need to do much more. Could we not work together to encourage the adoption of international standards? Could we not find a common voice to tell the world about the importance of technology and the engineering profession? Could we not tell that story, especially to the young people of the world, as a chorus?

I think we can, and I urge you to talk with each other about opportunities. And whenever you think IEEE might be a logical partner for your organization, please talk to me or to Dr. Prendergast. We will look forward to the conversations.

Thank you.