



National Academy of Engineering
52nd Annual Meeting
Gordon R. England
Chairman's Address
October 9, 2016

Good morning and welcome. If we have not met, I am Gordon England the new Chairman of the NAE and it is my privilege and distinct honor to be with you today, and to represent this important and impressive organization.

Let me start by saying Thank You. Thanks to Chad Holiday for his four years of distinguished leadership as the prior Chairman. From Chad, I have inherited a smoothly operating and effective Board and organization. Thanks also to Dan Mote, the President of the NAE for his leadership and for his energy and infectious enthusiasm in making the Engineering Grand Challenges the centerpiece for engineering around the globe. You will be hearing from Dan shortly. Thanks also to each of you for being here today and for helping to advance the mission of the NAE. A special welcome and congratulations to all the new inductees.

Today, I have an important message and I would appreciate your undivided attention because this message involves each of you.

First, a few words about your membership. While it is a great honor and privilege to be a member of the NAE, and you have earned the respect and accolades of your coworkers, friends and family, the Academy is not an honor society but rather it is a service organization-- specifically for service to the nation. Therefore, membership in the NAE carries with it a personal responsibility to serve, to make a difference to the nation, in the world.

A few months ago in this building, Dan Mote and I heard a dinner speaker state that, "the first person to live to be 150 years old has already been born". Now while that is admittedly a controversial projection, none of us will be around to know if that projection is true or not, unless of course one of us is that lucky person! But we do know that the average human life expectancy is increasing and that progress is largely due to the confluence of engineering, science and medicine, with engineering as the foundation.

Medical scientists use engineering knowhow to make new discoveries at every level of inquiry. Medical professionals use engineering tools and instruments for diagnostics while medical doctors use engineering designed robots for surgery and a host of other designed equipment for treatments. Anyone here have a replacement knee, hip or shoulder, a pacemaker, stent, insulin pump or are you using a mobility device? Literally, the foundation of almost every medical discovery, cure and treatment is engineering based. Similar examples can be cited for almost every aspect of human endeavors.

I mention this because engineering is now so pervasive in every part of everyday life, and even in life extension, that engineers need to be more involved in the societal consequences of their profession. For example, and as you well know, our economic system is ill prepared to deal with any modest increase in average life expectancy. Yet our politicians, and the economists and public policy advisors that surround them, are seeming



unaware of many important engineering advances taking place-- and the consequences of those advances on society. The shifting job market is another example. It is my judgement that engineers need to be more involved and more influential at the state and national levels. It starts here, at the NAE.

More fundamentally, it starts with resources. The NAE receives no government appropriation. Rather, the NAE receives about 1/3 of its funding from NRC overhead recovery, 1/3 philanthropy and 1/3 external project funded. The NAE is more dependent on philanthropy than the great majority of universities and cannot function without it. Dan Mote and I will continue to solicit funding from corporations and foundations, but you the membership, will need to do your part.

Dan and I have a common objective: Increase the promotion and expansion of the Grand Challenges for Engineering and the Grand Challenges Scholars Program. Further, we will strive to make the NAE more relevant and influential at the national decision making level. However, the Academy can only do what it can afford to do and presently there is no financial margin to do more. Therefore, my goal as Chairman is to provide sustainable funding for the Academy as the means to continuously improve the engineering profession and the standing of the profession in the world. Engineering is changing society and this organization needs to be leading that change.

I am a member of Section 1, Aerospace Engineering. As an incentive for Section 1 members to more fully support the Academy, I am today creating a personal, unrestricted \$100K matching challenge grant. All contributions from Section 1 members to the Academy between now and the next annual meeting will be matched by me, up to \$100K. Section 1 has a large and highly successful membership so I expect that your contributions will far exceed the matching amount.

I am also asking for someone in each of the other Sections to establish a matching challenge grant for an amount of their choosing, and for the

membership of each Section to then respond to the very best of their ability. Thanks to Fran and George Ligler who have already stepped forward with a \$100K challenge grant for Section 2.

Money is always a difficult subject to address but it is the oil that keeps the machinery running. This is a challenging time for countries and for peoples around the globe and engineering can play an ever important role in improving the wellbeing and security of all the world's citizens. Each of us is extraordinarily fortunate to be at the peak of our careers. With that good fortune comes responsibility and the Academy needs your help.

Thank you for your service to the engineering profession and for your commitment to the National Academy of Engineering. Lastly, thank you for the courtesy of your attention and for your consideration of the fund raising matching grant proposal. Have an enjoyable, pleasant and productive time at the annual meeting.