National Engineering Forum (NEF): Engineering Thought Leadership
Detroit, MI at The Henry in Dearborn
December 2, 2013

Overarching Mission for Year One:

Lockheed Martin, the Council on Competitiveness, and the National Academy of Engineering launched the National Engineering Forum to address three engineering challenges in the United States: the *capacity* of our technical talent to fill current and future jobs, our engineering workforce's *capability* to address 21st century challenges, and our nation's *competitiveness* on the world stage. A series of regional dialogues will create grassroots networks of key influencers from academia, business, government, and the media, as well as students. Sustained input from these groups will make an impact on the NEF agenda, helping turn findings into action. The regional dialogues will culminate in a national cornerstone event.

The regional dialogues provide NEF with a nationwide survey of thought leaders, and enable a dynamic view of both the past and current state of engineering based on the expertise of those best positioned to help address the three engineering challenges. These sessions provide a platform for an engaging narrative that appeal to students and engineering professionals alike.

Key themes from the Detroit Regional Dialogue:

Ninety-Two leaders from industry, academia and the media participated in the NEF regional dialogue event hosted by University of Michigan and Michigan State University at The Henry Hotel in Detroit, Michigan. The dialogue took place in Henry Ford's backyard, as the President of the University of Michigan stated, "We make America go." The conversations followed this theme, by discussing how to attract and retain talent in Michigan, revealing that for every five engineering job openings in Michigan, there is one qualified engineer. Discussions focused on the gap within K-12 education system to prepare students for university engineering programs. In addition, engineering departments are in need of expansion and funding to better serve future engineers. The dialogue also identified the need for partnerships between businesses and school for co-ops and internships opportunities. There is a need to change the perception of engineering and understanding the core skills that will provide viable engineering talent.

Key action items that emerged in the dialogue:

- Engineering schools are at capacity and do not necessarily have faculty to expand departments.
- K-12 education is solely focused on Math and Science. Secondary school teachers are not engineers nor do they promote engineering principles. In addition, there is a need to educate parents on engineering opportunities.
- Start, promote and continue engineering outreach activities such as summer engineering camps and engineering days, to decrease K-12 gap of engineering education.
- Communicate the need for collaboration between business, engineers, environment, law, etc.
- Increase partnerships between corporations and university engineering department to promote internships and co-ops
- Provide education about the different areas of engineering by understanding the different degree opportunities. Highly technical degrees vs. technical degrees that still promote the core skills that provide successful engineering talent.
- Consider ways to retain international engineering students that Michigan area Universities attract.

Word Cloud based on discussions at the Detroit regional dialogue on December 2, 2013 at The Henry in Dearborn, MI.