

YE/FL STC STRATEGIC PLAN (2015 -2019)

International Strategic Forum - “Stakeholder Collaboration for Global Integration of Youth in Industry”

The power of youth is the strongest force driving global markets, businesses and technologies! Every year, there seem to be an increase in the pace of growth in development and application of innovation to solving both well-established problems and also problems people never knew existed. The brainbox behind these giant strides are young engineers who are daily extending the limits of existing technologies and to whom ‘Impossible is nothing!’ We are the young engineers! We enjoy the beauty of standard education curricula in our colleges and universities, and these fairly developed structures provide us the indispensable foundation and building blocks for venturing into newer ways of thinking.

In the last few decades, we have changed the course of our world and shifted the limits of possibilities by applying our minds to develop systems that would have been described as wishful thinking. Our innovative tendencies and energetic disposition makes us see opportunities in what the society calls challenges. The pace of technological development in our generation has been unprecedented, and we are yet unsatisfied as we desire more opportunities for self-expression. The availability of these opportunities is the lever we require, as we strive daily to unpack the huge potentials that lie latent in our hearts and minds. If our world is serious about solving the problems of sustainable energy and power, cyber-security, climate change, sustainable infrastructure development, healthcare and other global burning issues, the solution is here; in the unexpressed ingenious minds of young engineers around the world!

At the Young Engineers Future Leaders (YEFL) Committee of the World Federation of Engineering Organizations (WFEO), we have taken up the responsibility to use our platform to bridge the gap between the solutions in young engineers’ minds and the world’s pressing needs, by facilitating communication among all stakeholders involved in young engineer’s development globally for the benefit of humanity. We realize that the stories of young engineers are different, split across very diverse regional situations and national young engineers’ development frameworks and educational curricula. As a committee, comprising young engineers’ leaders around the world, we plan to develop a position paper from our four year (2015 -2019) strategic plan that we believe will be effective in bridging the gap between young engineers’ ingenuity, and industry and societal challenges, and hopefully help in developing the solutions to pressing global issues.

The YEFL strategic plan includes five key areas listed below:

1. ***Technical and Professional Competence Development:*** We are displeased by the gap in the number of engineers required by industries, and those available and competent to fill the resourced positions. Young engineers are graduated from colleges and universities in droves yearly, and expectedly should be filling such industry positions but this is not the case hence the gap. It is clear ironically that there seems to be a large number of engineering graduates that are yet unable to fill the large number of advertised industry engineering graduate positions. There are many possible causes of this lacuna, but we prefer to look at solutions. We have started to bring stakeholders (governments, industries, universities, and young engineers) together to agree the best approaches to bridge this gap. We see this platform for open discussions as an opportunity for stakeholders to voice their needs and concerns and more importantly to better synergize. We also plan to follow up the strategic plan with a social media campaign to encourage more youth and women to pursue engineering careers, thus increasing the number of engineers available to solve engineering problems globally.

2. **Soft skills Development:** As young engineers, we interact with colleagues, the industry, the public, policy makers and the government. Cultivating the skills to relay important engineering concepts across all sectors' traditional "terminology" barriers is critical to meeting the expectations across these divides. We posit that our programs, at all levels, will continue to include discussions on how to improve young engineers' presentation skills, networking abilities, technical writing skills, appreciation of financial tools, awareness of marketing, ethics, and managerial skills etc.

3. **Coaching and Mentorship Programs:** To better appreciate the enormity of global challenges and realize the opportunities for development, young engineers need to be introduced to the industry early in their educational and professional careers through active internships, and also be provided the platform to participate intensively in the organizations. At the individual levels, we plan to encourage and support the development of working structures within member countries, which we believe will give individual young engineers the coaching and exposure required to settle seamlessly into industry roles. Below is a high level coaching/mentorship plan proposed for individual national engineering organisations represented in WFEO:

- a. Get a database of interested coaches and mentors from within national society and Industry;
- b. Create an online coaching and mentorship portal for your young engineers requiring mentorship to upload their data and requirements;
- c. Appoint data administrators (preferably young engineers) to match young engineers and students with industry professionals;
- d. Ensure continuous tracking and feedback from both mentors and mentees;
- e. Start with a 2-year mentorship agreement and keep mentorship flexible (mentor/mentee can request for a change at any time).

4. **Entrepreneurship and Start-up Programs:** Young engineers often come up with solutions to industry and societal problems. These young engineers require support to translate these innovative solutions into working systems for the benefit of humanity and their nations' economies. The value of establishing a private enterprise is not only fulfilling personal ambition, creating jobs for oneself and others, and improving their nations' economies but also has the added benefit of expanding the limits of innovation & creativity that will usher our world into the future. Young engineers will also be supported to start own businesses, register companies, prepare proposals, access available financing partnership schemes, develop client relationships, explore the huge benefits of social networking and professional memberships etc. Going forward, we strongly recommend that all national and international young engineers' projects and competitions be implemented as group projects. This approach will allow young engineers to use the power of group networks to deliver people-sized technologies and also start businesses with much higher potentials to thrive.

5. **Sensitization on Burning Global Issues:** Young engineers need to be sensitized and consistently reminded of the burning issues affecting our world today! This will better guide the choice of how best to apply novelty for the benefit of humanity. Every program organized for young engineers globally shall incorporate discussions on the global issues affecting our continuous existence on this planet; sustainable energy and power, environment, climate change, sustainable infrastructure development, healthcare, diversity and inclusiveness, cyber-security, water and sewage, population and urbanization, and other global burning issues.

At the YEFL STC, we target the realization of the United Nations Sustainable Development Goals (SDGs) by aligning activities and plans towards delivering the SDGs of most relevance to young engineers listed below (main thematic areas have been highlighted):

SDG 4 – Quality Education

SDG 6 – Clean Water and Sanitation

SDG7 – Affordable and Clean Energy

SDG 8 – Decent Work and Economic Growth

SDG 9 – Industry, Innovation and Infrastructure

SDG 10 – Reduced Inequalities

SDG 11 – Sustainable Cities and Communities

This four-year strategic plan is being driven and continuously reviewed by the YE/FL committee leadership and national delegates with the aim of realizing the huge opportunities for growth, and untapped potentials in young engineers yet to be explored at the national, regional and global levels. We anticipate a wider use of web conferences and online chat engines to enhance collaboration and ensure wider participation among members, greatly reducing the recurrent challenge of members' travel costs. In the long term, we believe that the cross-pollination of ideas from every part of the world, available at our meeting and web conferences, will help to reduce the current imbalance in technology and living standards between developed and developing countries. We end this plan with a clarion call on all stakeholders and policy makers in industry, corporate organizations, governments and NGOs to partner with us to give young engineers all over the world the support and enabling environment to translate their ingenuity into working systems for tackling the burning issues currently threatening our humanity and our world!