התאגדות מהנדסי חשמל ואלקטרוניקה בישראל
The Society of Electrical and Electronics Engineers in Israel
בשיתוף

E·U·R·E·L

YEP – Young Engineers' Panel

ANNUAL STUDENTS & YOUNG ENGINEERS EVENT 2017

אירוע סטודנטים ומהנדסים צעירים

Eilat | November 8-10 | אילת | י"ט-כ"א בחשון, תשע"ח

YEP Workshop

The workshop focuses on "**Digital Transformation of the Energy Market**" which was chosen by the Steering Committee and is in line with the "Electricity 2017" slogan, "**The intelligent Energy Revolution**".

The digital transformation of the energy market has begun few years ago and is undergoing fast developments which will shape its final direction. The changing market has a significant impact on the technologies and the energy environment that current young EE engineers will experience throughout their carrier.

Stage A
Wednesday, 8.11. 2017 | 17:30-19:30
Dan Eilat, Fiesta

Following the plenary session "The Intelligent Energy Revolution" and an introductory presentation we will split, on Thursday afternoon, into several teams; each team is assigned a topic that relates to the **Digital Transformation of the Energy Market**, each team has to discuss the topic and summarize its observations in a short, up to 5 minutes, presentation. The presentation should address the opportunities and the risks that its topic may have on the energy market, and on the last slide indicate 3 main aspects that should be considered by the decision makers that decide upon the energy market structure, the applicable policies and strategies. Each team will be assisted by an "expert" familiar with its topic and the team acts as a think tank.

Team topics – derivatives of The Intelligent Energy Revolution:

The importance of Cyber Protection of systems and devices that communicate over the micro grid and smart grid. Is it possible to reach an overall accepted compulsory protection certification or should this be up to the vendors? Is it possible to reach a good level of protection? Can governments provide the solution or should it be left to the private sector?

Interaction between: renewable, cogeneration and classic energy production. Do they need regulatory directives to avoid competition and conflicts of interests? Can one of the producers be also the provider of the transmission system and the distribution system? Should the regulator control production quotas or should it be decided by economical trade in an open market.

Startups: can they target niches & innovations and contribute to the changing energy market? Startups may act fast and they have the flexibly which stimulates higher creativity and fits the energy highly competitive market. Can these startups succeed as a private garage industry? Should they operate as spin off from large companies and possibly be influenced by the parent company's strategies? Should the governments provide greater support to startups in this area that may improve drastically the ecosystem and that requires large high risk investments?

Management of power production and dispatch is a key building block in the smart grid concept; it requires real time information about production level, backup power reserves (storage or fast starting generation systems), interconnectivity, contractual possibilities and data about current usage and prediction of future demand. DSM demand-side management, smart metering and others are commonly used. Can those techniques provide an optimal management and trading system? Can they demonstrate ROI (return of investment)? Re we looking for innovative models?

Energy Efficiency in the intelligent energy market. Do intelligent systems increase the efficiency of power consumption and reduce demand? Are heating, ventilation and air-conditioning subject to improvements that affect the eco system? Is the introduction of intelligent illumination and LEDs a factor in saving energy? Is electric transportation and electric cars an energy saving factor?

Energy Storage – is it a topic with an economical solution? Which are its potential design technologies? What will be the influence of storage on the ecosystem?

Smart Home – development potential in the intelligent energy revolution. Digitization of power control panels, the introduction of DC lines, the development of new communication channels over the DC lines, communication with numerous sensors and house appliances (via IoT protocols), etc. are common practice. Does it provide the needed fundaments for an improved ecosystem? What are some of the building blocks needed to improve the Smart Home concept?

Some teams will work separately, in parallel, on the same topic

Stage B
Thursday, 9.11. 2017 | 8:30-9:30
Herods Palace, Lawrence

The observations and conclusions of each topic will be presented by a short (up to 5 minutes pitch type presentation). The presenters will answer a short Q&A session.

Stage C
Thursday, 9.11. 2017 | 9:30 | **Private meeting of the team**
Dan Eilat, Dolphin

A brain storming team will combine the topics into a single document. It will be published in the EUREL web site and circulated to the partnering societies.

Comment: The YEP Workshop layout is subject to modifications and changes