

## SECONDMENTS

### Industry and HEI Staff Placement to Institute for Sustainable Transition and Development (ISTD) towards Trakia University (2 – 4 weeks)

#### 1. Training Institution

Institute for Sustainable Transition and Development (ISTD) towards Trakia University;  
Division “Hydrogen Technologies and Energy Systems” <https://www.istd.bg/en/>

#### 2. The training covers

**Hydrogen Electrical Mobility**

#### 3. Short description of the training Institution

The Institute for Sustainable Transition and Development (ISTD) towards Trakia University was established in one of three pilot regions in the Just Transition Fund. It is in close proximity to Maritsa East, the largest coal power generation complex in SE Europe. ISTD has a key role in the transformation of the region to low carbon energy and industry. ISTD Division “Hydrogen Technologies and Energy Systems” has the mission to support the deployment of hydrogen in the region, to develop R&I activities and to be responsible for the education and skilling/reskilling. It is an active member of the CH JU ZAHYR project for establishment of a hydrogen valley in the Region (starting in Decemner 2023). The Division is focused on both low TRL and higher TRL activities concerning respctively PCCC (proton conductibg ceramic cells) and development of hybrid traction systems “fuel cell/battery” for different hydrogen electromobility applications based on retrofit.

#### 4. Short description of the training program

Training program “**Hydrogen Electrical Mobility**”.

The course has 2 parts:

**Part 1** is more general. It gives basic information about the main principles of hydrogen economy; the role of hydrogen in the energy transition; hydrogen as energy vector; hydrogen for mobility applications; European policy for hydrogen electromobility; Bulgarian policy for hydrogen electromobility (for Bulgarians); legislative issues (AFIR)

**Part 2** is more technical. It gives knowledge about: fuel cells as main component in the fuel cell electric vehicles (FCEV); refueling stations; design, basic elements and parameters of hydrogen propulsion systems on fuel cell; “fuel cell/battery” hybrid system; safety issues, codes and standards; main transport application niches; production and market of FCEV.

The training program includes some practical work on H2Hybrid Fuel Cell Automotive Trainer, as well as practical introduction of 100 km. range extender “fuel cell/battery” on trolleybus.

The training is appropriate for representatives from companies and HEI. It is flexible and can be modified depending on the interest of the participant(s).

### **5. Expected competence of the trained staff**

The trained staff should have basic technical background: professional school, bachelor, master degree. The training can be appropriate also for Ph.D. students, young scientists, engineers in different disciplines. It is expected that most of the students are newcomers in the field. In case there are more advanced students, an individual part of the training will be performed.

One training can accept up to 5 students.

### **6. Additional Information**

Working languages: English or Bulgarian

Duration: 2 weeks (compressed for 1 week)

Online version can be also organized.

The secondment is free of charge. There is no specific option for accommodation (if needed).

There will be a list with recommended hotels.

The students receive Certificate.

Responsible:

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