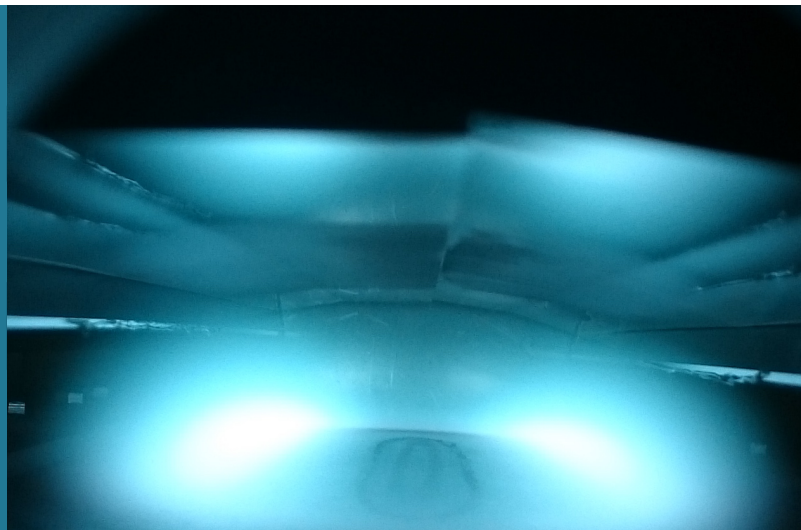


PULSATEC

Towards an international and sustainable collaboration enabling industrial applications of pulsed plasma surface treatment technologies.



Inspiration

Material industries make use of the last technologies to ensure the efficiency and competitiveness of their products. Commonly used, the plasma surface treatments enable to give a large panel of properties to the material such as hardness or photocatalytic one. However, the pulsed plasma technology shows a better efficiency by producing a bigger amount of energy, which paves the way to new capacities and applications. This innovative technology could be of high interest for industrials facing the high roughness of 3D manufactured products.

Several entities of the Greater-Region have a strong expertise in the field of pulsed plasma surface treatment technologies. Each has its own range of competencies, making them complementary. Therefore, there is a need to create a cross border collaboration in order to foster knowledge transfer and industrial applications, but also to increase the position of excellence of the Greater-Region.

Innovation

PULSATEC is an INTERREG funded project that aims to reinforce the competitiveness and attractiveness of the Greater-Region by strengthening cross-border collaborations in the field of research and development on pulsed plasma surface treatment technologies. LIST is part of this new cooperation platform gathering researchers centres and industries, as well as clusters which will ensure the economic transfer to the Greater-Region. 2 of the 5 PhD students in joint supervision will be welcomed by LIST and will work on various themes, ranging from the development of pulsed plasma surface treatments technologies to the analyse of the life cycle.

LIST researchers will focus on the development approach of PULSATEC by using and testing products close to those of the industrial sector with pulsed plasma surface treatment technologies. Moreover, they will be in charge of the communication and technical as scientific advices headed to operators.

Impact

PULSATEC will allow the creation of the first cross border collaboration platform of the Greater-Region in the field of surface treatment technologies. As a result, PULSATEC will foster knowledge transfer among the research centres, but also increase the competitiveness and attractiveness of the Greater-Region and thus, reinforce its position of excellence. Industrial operators will make profit of this innovative project by accessing to new information related to the pulsed plasma surface treatment technologies.

The research conducted by the PhD students in joint supervision will improve the partners collaboration, as well as the actual state-of-art on this new technology, and more precisely on the challenging roughness of 3D-manufactured products.

Partners

Centre de Recherche Métallurgique (BE) , University of Liège (BE) , Université de Lorraine (FR) , Universität des Saarlandes (DE)

Financial Support

European Union , INTERREG V

Contact

5, avenue des Hauts-Fourneaux
L-4362 Esch-sur-Alzette
phone: +352 275 888 - 1 | LIST.lu

© Copyright March 2025 LIST

LUXEMBOURG
INSTITUTE OF SCIENCE
AND TECHNOLOGY

