

## **New Generation batteries: a sustainability approach**

*Antunes STAFFOLANI - University of Bologna*

Li-ion batteries are currently dominating the market of energy storage devices and have been appointed as the main energy storage system for transport electrification and renewable energy sources. In the next decade, this will result with a serious waste-management issue of End-of-Life batteries. To achieve a sustainable mobility and ensure the economical circularity of LIBs in the future, this issue must be addressed. Nevertheless, these events can be an opportunity for battery manufacturers, recyclers, and the European Union. On one hand, battery recycling is a profitable market thanks to the valuable metals inside of it; on the other hand, it is also a chance for the European Union to reduce its dependence on foreign countries for the supply of battery raw materials. These recycling procedures should simultaneously address sustainability, recovery efficiency of Critical Raw Materials (CRMs), and re-use of solvents following the Green Chemistry principles. In this seminar, the PNRR action of the Enercube lab of University of Bologna as well as other ongoing projects targeting the LIBs recycling and design for recycling will be presented and discussed.