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Among the critical issues of renewable energy plants, two of them generate a dangerous mix that weakens the renewables' ultimate goal, which is production loss of efficiency. The two main responsible elements are:

- the aging of the plant leading to components wear and tear/breakage, which is not always predictable due to unpredictable weather conditions
- installation in increasingly remote areas due to the reduction of space availability that makes human interventions less and less safe, and increasingly long time to reach.

Currently, addressing these two points has led to an increasing of resources and human operators risks. The robotic solution, therefore, seems best suited for this purpose:

- repeatability ensures accurate monitoring with very early-stage defect detection, with noticeable reduced repairing costs
- autonomy ensures remote operations, with huge human interventions reduction and consequently increasing of safety and efficiency

In this regard, IIT and ENEA have organized Workshops on "Inspection and Maintenance Robotics for Renewable Energy Production Plants" from photovoltaic to hydrogen, wind power through hydroelectric, as well as nuclear and tidal one, both onshore and offshore. In particular, the presentations will address the main topics and bring the current state of the art to the audience. Afterwards, from the further panel discussion by International Energy Players and R&D Centres, the potential future developments will be inferred so that plants also become less and less expensive from the management point of view and increasingly efficient from the production point of view.

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