



Contribution ID: 69

Type: **Oral Presentation**

# Additive Manufacturing at LNGS: Facilities, Metals Testing and Future Capabilities

*Wednesday, June 15, 2022 8:55 AM (25 minutes)*

Selective laser melting (SLM) method occupies a special place in powder bed fusion (PBF) technology. The growing widespread interest in this technique is due to its several benefits. The final near to net-shape product, which has up to 99.9% relative density is the key advantage and with the extensive applicable materials, PBF-SLM has feasible economic benefits. This talk covers all the aspects of SLM technology development at Gran Sasso National Laboratory, stressing the attention on the product lifecycle management of complex components, their design for additive and engineering optimisation, the geometry and surface quality analysis, the relative materials processed and the actual and near future capabilities for science and industry purposes aboveground and underground. Research works on real operative components made of Copper OFE, Copper Alloys, Aluminum Alloys and Stainless Steel are presented.

**Primary author:** ORLANDI, Donato

**Presenter:** ORLANDI, Donato

**Session Classification:** LRT 2022 - presentations

**Track Classification:** Fabrication Methods, incl Advanced Machining and 3D Printing