

ROLIAC will enable design and manufacture of lightweight military grade parts with novel materials and take full advantage of the key benefits offered by AM for the EU defence sector. The project is led by DTI, with the participation of LISI, LORTEK, FRAUNHOFER, AMSIS, TUE, CENSEC, OHB HELLAS, GPMG and AEROTECNIC, with a budget of 4.000.000 €, and financed by the European Union through the European Defence Fund (EDF).

ROLIAC has identified three key benefits that AM may bring to the defence sector:

- a) Robust, resilient, and secure supply chains.
- b) Design of both lightweight and high performing components.
- c) The use of novel materials for improved mechanical properties.

Technological developments will be made within the following three points:

1. **Generative design** to increase the functionality of the part and its efficiency in the field compared to the specifications.
2. **Rapid production** for reducing logistical response time. The production will be realised at the partners, but the business cases will be presenting the gain including a local production scenario as well.
3. **Robust and reliable design** for identifying possible failures during production and in service. The product will have to be qualified compared to existing standards, but additionally, also specific requirements.

The three use cases are:

- ✓ **Robust light metal emergency wheel.** This is a lightweight aluminium emergency wheel system for military trucks and light armoured vehicles.
- ✓ **Cargo compartment door hinge assembly.** It is considered suitable for weight reduction by topological optimization of the whole assembly.
- ✓ **Large scale antenna assembly for satellites.** Weight reduction by design, for the antenna mount for space applications.

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