



TACTICAL ADVANCED LASER OPTICAL SYSTEM



TALOS (Tactical Advanced Laser Optical System)

is a European project led by **CILAS**.

Its aim is to create European capabilities in **Laser Directed Energy Weapon (LDEW)** technologies.



To answer which need?

As part of the « **Preparatory Action on Defence Research** » (PADR), the European Defence Agency (EDA) launched in March 2018 several calls for proposals in order to prepare **the future defence capabilities of the European Union**. At the head of a consortium gathering 16 beneficiaries and 4 linked third parties from **9 European countries**,

CILAS has answered the call for proposals on high-power laser effector.



Principles & applications

TALOS will lead to the development of a compact design laser able to quickly and precisely neutralize **an agile target** (i.e. Rocket Artillery and Mortar (RAM), **Unmanned Aerial Vehicle (UAV)** while **significantly minimizing collateral damages**.

The solution will also be flexible and **can be integrated on different platforms** (maritime, land and air payloads).

TALOS will also include a legal and safety regulation analysis relevant for the military use of a highpower energy laser.



Context & challenge

The PADR is an EU initiative answering a European challenge.

There is an emerging need to invest in High-power Laser Directed Energy Weapon (LDEW) technologies that can deliver precise effects on evolving threats.

High-power LDEW systems have the potential to change the course of future conflicts and offer gamechanging operational capabilities.

Non-EU countries have already started to work on demonstrators of compact high-power laser effectors able to generate over 100 kW.

Today in Europe, studies on such programs focus on power generation up to 30 kW, rely on architectures that combine incoherent beams on the target and are dependent on suppliers from non-EU countries involving the risk of end-user restrictions being imposed by non-EU nations (e.g. ITAR)

The objective is two fold: **to foster defence strategy autonomy of Europe and to ensure alignment of the defence capabilities of Europe.**



Requirements

- Laser output power as high as possible >100kW
- Maintain a high beam quality
- Focus and lock the laser beam to a small spot size on the target
- Compact design
- Integration in mobile platforms (ships, trucks or helicopters)



Project duration

This project will last 3 years (2019 to 2022).

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