

MBDA - Vigilus system and the Armatius airship

Peter Lobner, 11 February 2022

1. Introduction

In 2012, MBDA Missile Systems unveiled their CVS301 Vigilus system concept, which they described as a “suite of future strike weapons” comprised of the following elements:

- Small, armed UAVs,
- The Armatius “platform agnostic” integrated communications and missile launcher,
- A launch aircraft, and
- One or more remote ground control stations that can be operated by soldiers in the field or by a remote UAV operator.

One MBDA concept for the launch aircraft was a large, unmanned, twin-hull, medium altitude airship that was configured to carry several Armatius missile launchers as internal weapons bays. On station, the airship would provide a persistent surveillance and attack capability and would deploy the selected type of UAV on demand.



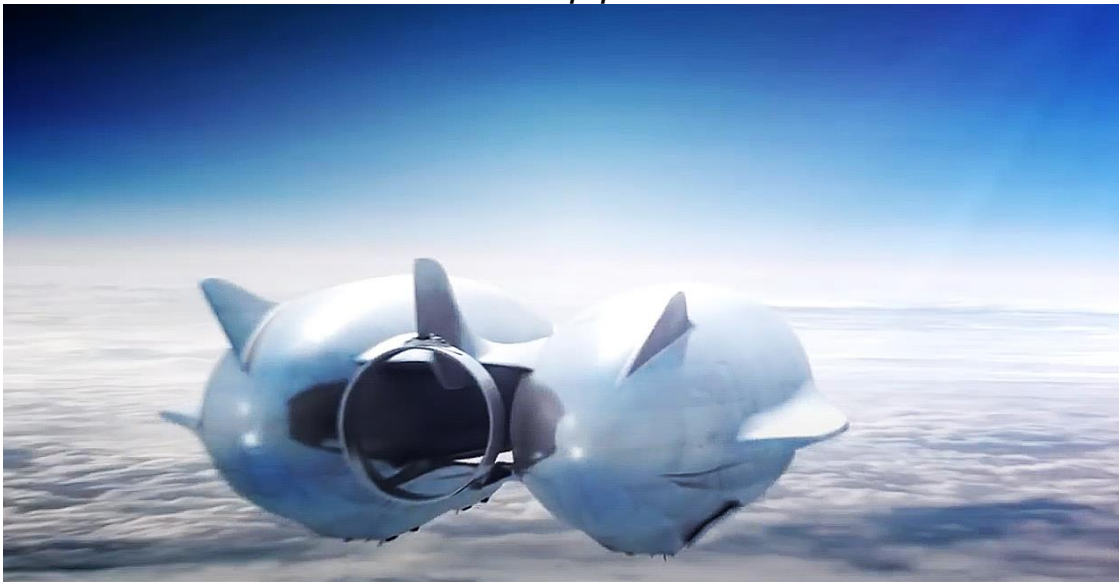
Medium altitude airship concept with four Armatius launchers carrying armed UAVs. Source: Screenshot from MBDA video (2012)

2. The Armatys airship

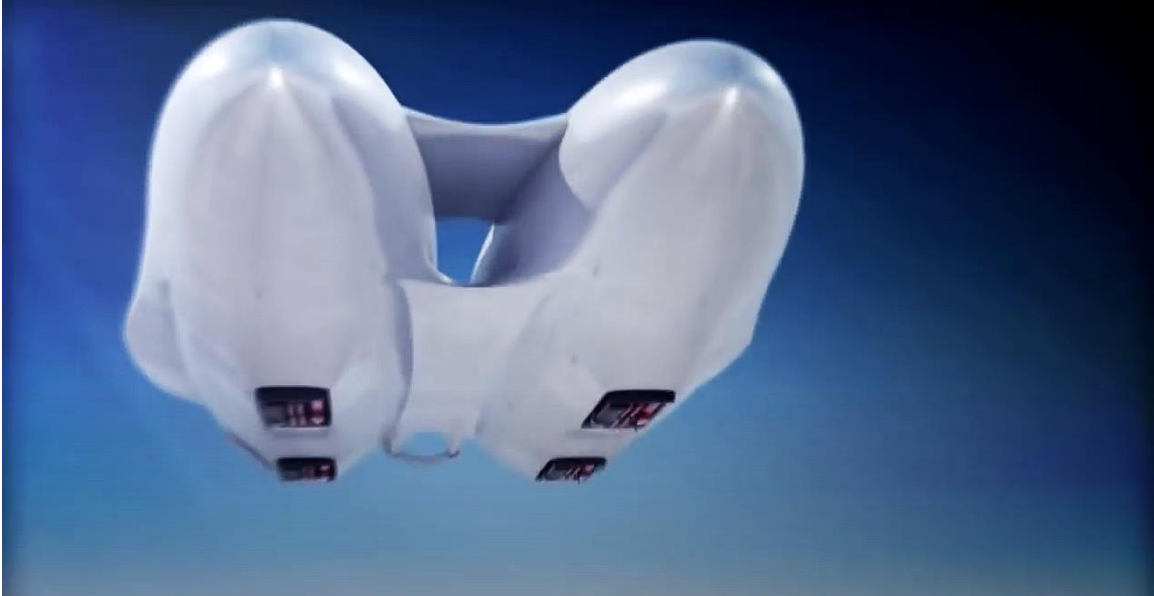
The unmanned Armatys semi-rigid airship was designed to conduct long-duration missions, flying at medium altitude above conflict zones while serving as an airborne arsenal with an inventory of armed UAVs that are deployed on demand.



Armatys airship profile view.



*Armatys airship stern view showing tail fin configuration and shrouded, thrust vectoring pusher propulsor.
Source, both graphics: Screenshots from MBDA video (2012)*



Twin-hull Armatus airship bow view showing the structural connections between the hulls and the locations of four UAV launchers under the hulls. Source: Screenshot from MBDA video (2012)



Each Armatus integrated communications and missile launcher can be loaded with a combination of different UAVs. In the accompanying diagram, the launcher is shown loaded with one large Caelus UAV and eight of the smaller Gladius UAVs carried in tandem.

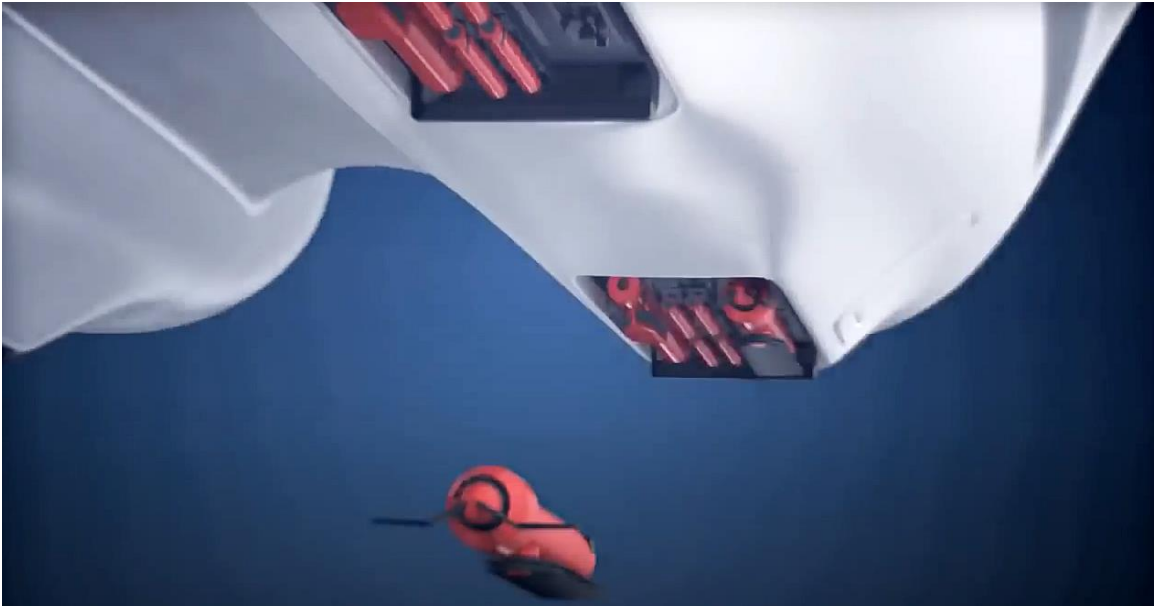
Source: MBDA concept brochure (2012)



Single Caelus UAV and multiple tandem Gladius UAVs in Armatov weapons launcher. Source: Technabob



Tandem Gladius UAVs in Armatov weapons launcher. Source: Screenshot from MBDA video (2012)



*Launching a Caelus UAVs.
Source, both graphics: Screenshots from MBDA video (2012)*



*Bow-on view of a UAV launch.
Source: Screenshot from MBDA video (2012)*

3. The armed UAVs

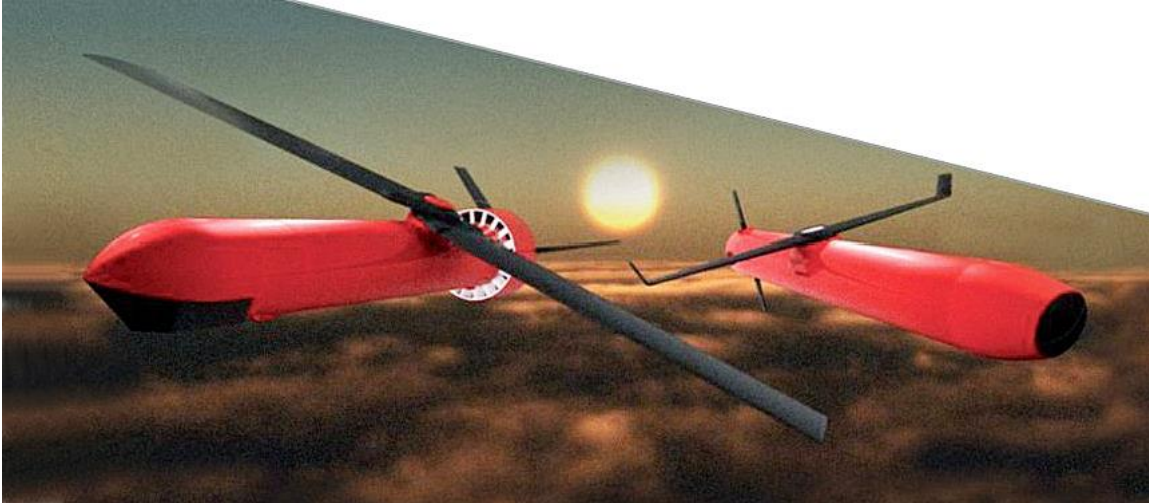
The unmanned *Armatus* airship was designed to launch a variety of small UAV, including the armed *Caelus* and *Gladius* UAVs. FlightGlobal describes these UAVs as follows:

“Under its operating concept, the roughly 100 kg (220 lb) *Caelus* would provide surveillance and targeting cover, carrying an up-to-1 kg warhead or deployable sensor load for a flight lasting up to 2 hours. With a launch weight of only 7 kg, including a 1 kg blast/fragmentation warhead, the complementary *Gladius* weapon would have a range of up to 16 nm (30 km).”

The small warheads are intended for use against point targets with minimal collateral damage.

The *Caelus* UAV has electric ducted fan propulsion, which provides an operating speed of 252 – 468 kph (157 – 291 mph). On a typical mission, the *Caelus* UAV would be used to identify and designate targets that would be attacked by the shorter-range *Gladius* UAVs.

For a time-critical target, the Caelus UAV can directly attack the target, and would be replaced on patrol by another Caelus UAV launched from the Armatius airship.



*MBDA Caelus (left) and Gladius (right) armed UAVs.
Both have folding wings for storage in the compact Armatius launcher.
Source: MBDA concept brochure (2012)*



*MBDA Caelus armed surveillance UAV.
Source: Flight Global*



MBDA Gladius subsonic armed UAV. Source: Technabob

4. For more information

- “Concept Vision 2012 – CVS 301 Vigilus,” MBDA press release, 9 July 2012: <https://www.mbda-systems.com/press-releases/concept-visions-2012/>
- “CVS301 Vigilus on-demand effects from UAVs of 2035,” concept brochure, MBDA Missile Systems, 2012: <https://www.yumpu.com/en/document/read/46815455/cvs301-vigilus-mbda>
- Craig Hoyle, “Farnborough: MBDA unveils future vision for armed UAVs,” FlightGlobal, 9 July 2012: <https://www.flightglobal.com/farnborough-mbda-unveils-future-vision-for-armed-uavs/106120.article>
- Lambert Varias, “Vigilus Weapons System Concept Uses Airships to Deploy UAVs: The Carrier Will Arrive,” Technabob, 18 July 2012: <https://technabob.com/blog/2012/07/18/vigilus-weapons-system-airship-uav/>

Video

- YouTube video, “MBDA - CVS301 Vigilus Air-Launched Precision UAV Missile System Combat Simulation,” (4:41 minutes, with music only), arronlee33, September 2013: <https://www.youtube.com/watch?v=wAIMPEn7-9A>
- “MBDA - CVS301 Vigilus Air-Launched Precision UAV Missile System,” (4:41 minutes, with narration), DailyMotion, <https://www.dailymotion.com/video/x2gwljy>

Other *Modern Airships* articles

- *Modern Airships - Part 1*: <https://lynceans.org/all-posts/modern-airships-part-1/>
- *Modern Airships - Part 2*: <https://lynceans.org/all-posts/modern-airships-part-2/>
- *Modern Airships - Part 3*: <https://lynceans.org/all-posts/modern-airships-part-3/>