

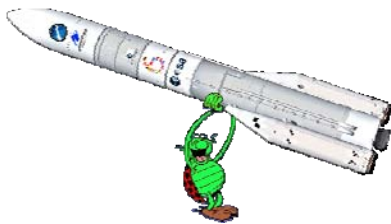
ARIANE LAUNCH COMPLEX N. 4

ELA-4

The first Ariane 6 rocket was launched on July 9, 2024 at 7:00 p.m. UT
from the **ELA 4** zone of the Kourou Guiana Space Center
This site was built specifically for this rocket.



*This add-on is for **Open Orbiter 2024**
but also works with Orbiter **2016***



*This add-on is designed for the European **Ariane 6** rocket.
Its installation is essential for the proper functioning of this rocket.*



I - ABOUT INSTALLATION

A) Surface Tiles

It is highly recommended to install the French Guiana surface tiles. This add-on contains detailed surface tiles for the **ELA-4** area, as well as tiles for the entire **CSG** at Kourou area, the city Cayenne area, and all of French Guiana.

Here's a preview of what you'll see **with** or **without** this add-on.:



Without FRENCH GUIANA SURFACE TILES add-on



With FRENCH GUIANA SURFACE TILES add-on

You can download this add-on here :

FRENCH GUIANA SURFACE TILES v.3

<https://www.orbiter-forum.com/resources/french-guiana-surface-tiles-v-3.5680/>

B) La Fusée Ariane 6

If you want a rocket on this site, install my Ariane 6 add-on.

Yes, because this add-on does not include a rocket.

Here's a preview of what you'll see **with** or **without** this add-on :



Without ARIANE 6 European Rockets add-on



With ARIANE 6 European Rockets add-on

You can download this add-on here :

For Orbiter **2024**

ARIANE 6 European Rockets(1st flight VA262) and fairings (only, no satellites) for flights 263 to 266

<https://www.orbiter-forum.com/resources/ariane-6-european-rockets.5682/>

ARIANE 6 European Rockets (flights VA 267 and 268)

<https://www.orbiter-forum.com/resources/ariane-6-flight-va267-and-va268.5697/>

For Orbiter **2016**

ARIANE 6 (for Orbiter 2016)

<https://www.orbiter-forum.com/resources/ariane-6.5655/>

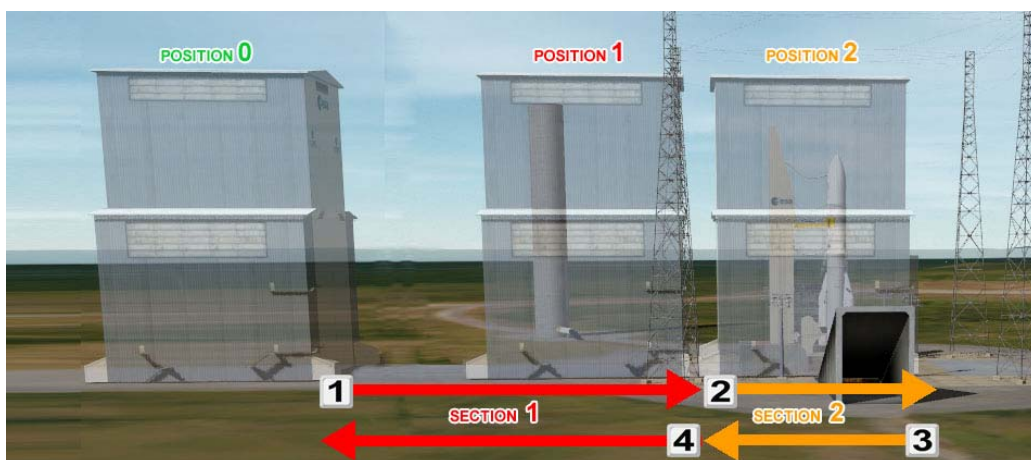
II - COMMANDS AND CONTROL KEYS

A) The mobile Assembly Tower



- 1** Moves the Assembly Tower forward (segment 1) from position 0 to position 1
- 2** Moves the Assembly Tower forward (segment 2) from position 1 to position 2
- 3** Moves the Assembly Tower backward (segment 1) from position 2 to position 1
- 4** Moves the Assembly Tower backward (segment 2) from position 1 to position 0
- O** Open the gates **C** Close the gates

Note : The Tower can move on segment #2 only if the doors are open

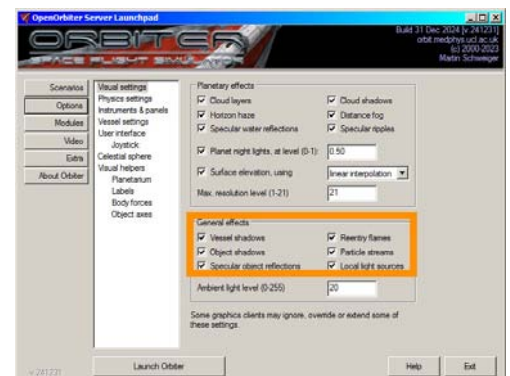


Yes, but caution :

If you move forward and then backward with the doors open, and after that start again moving toward the umbilical mast with the doors still open, a charming voice (who hasn't understood anything) will ask you to open the doors, even though they're already open... Are you following me? In that case, don't vex her and press again the key that controls the opening... Ok ?.. And avoid to do these commands "out of order" or you risk running over a technician ! What do you mean it's already been done ?

Ctrl + L Turn on the spotlights (assuming we are in front of the mast with the tower in the background)

- 1st press : turn on the left side headlights
- 2nd press : turn on the right side headlights
- 3rd press : turn on the central back spotlight (fixed on the Tower, it moves with it !)
- 4th press : turn off central front spotlight (located in front of the rocket)
- 5th press : turn off the left side headlights
- 6th press : turn off the right side headlights
- 7th press : turn off the central back spotlight
- 8th press : turn off the central front spotlight



Note: You will not see the lighting caused by the spotlights if you have not enabled "Local light sources".

- Alt + B** Turn on the Water Tower's beacons (and the halo around the 4 spotlights)
- 2nd press : turn off the beacons

B) The Umbilical Mast

- G** Open its arms and retract the umbilicus
- G** Close its arms and position the umbilicus (2nd press)

III - SCENARIOS

A) The list of the 6 scenarios

Five scenarios provided provided in this add-on, but only for observing the area and its infrastructure.
They are located in the folder <Orbiter 2024> \ **Scenarios** \ **ELA4**

- 🚀 1 ELA4 Mobile Tower (day)
- 🚀 2 ELA4 Mobile Tower (night)
- 🚀 3 ELA4 Umbilical Tower (1)
- 🚀 4 ELA4 Umbilical Tower (2)
- 🚀 5 ELA4 Small Lake Tour
- 🚀 6 ELA4 Mobile Tower (v long) *This scenario is identical to #1, but with the umbilical mast version for a "long" fairing.*

Descriptions are...in the relevant scénario(s) ! 🎧

B) Notes about scn file sections

I guess you should be familiar with the structure of the *.scn files, but just a little reminder and clarification :

1° The Mobile Assembly Tower:

```
ELA4_Tower:Kourou\Towers\VB-ELA4-Tower
STATUS Landed Earth
POS -52.7610215 5.2727425
HEADING 161.00
AFCMODE 7
NAVFREQ 0 0
ANIM_0 1.00000 0 (Optional) Moving section 1 (not traveled by default) here section covered
ANIM_1 0.00000 0 (Optional) Moving section 2 (not traveled by default) here section not covered
ANIM_2 1.00000 0 (Optional) Opening Doors (closed by default) here open
BEACONS 0,1,2,3,4,5,6 (Optional) State of the Beacons (off by default) here all are on
LIGHTS 0,1,2,3 (Optional) State of the Projectors (off by default) here all are on
END
```

2° The Umbilical Mast :

```
ELA4_Ombilic-Tower:Kourou\ELA4_Mat Umbilical Tower declaration (see further the "remark")
STATUS Landed Earth
POS -52.7604642 5.2711303
HEADING 161.00
AFCMODE 7
NAVFREQ 0 0
SLP 0 0.0000 (Optional) Status of the Arms (open by default) here open
or
SLP 2 1.0000 (Optional) Status of the Umbilicus (plugged in by default) here open
Status of the Arms here closed
Status of the Umbilicus here unplugged
END
```

Remark :

There are 2 versions for the Umbilical Mast (or Tower) :

- for an Ariane 6 rocket equipped with the fairing **short** version :
ELA4_Ombilic-Tower:Kourou\ELA4_Mat
- for an Ariane 6 rocket equipped with the fairing **long** version :
ELA4_Ombilic-Tower:Kourou\ELA4_Mat-L

Did you see the "-L" ?



3° Rocket Booster Supports :

Note: These "palettes" do not appear in the vessel list if you press the **F3** key.



No booster holder



Holders for 2 booster



Holders for 4 boosters

For the Ariane 6 rocket 6.2 version (2 boosters) you must have these lines in your scenario file :

```
Palette 62:Kourou\Towers\VB-ELA4-Palette62
STATUS Landed Earth
POS -52.7604642 5.2711303
HEADING 341
AFCMODE 7
NAVFREQ 0 0
END
```

For the Ariane 6 rocket 6.4 version (4 boosters) you must have these lines in your scenario file :

```
Palette 64:Kourou\Towers\VB-ELA4-Palette64
```

C) NAV Location

The ELA-4 launch site is equipped with a NAV that can be used in case of overflight by aircraft (or with the DG).

NAV frequency is 111.40



IV - UPDATES HISTORY

The first version was exclusively for Orbiter 2016 (Orbiter 2024 had not yet been released).

14/09/2025 update

Compared to the version for Orbiter 2016 :

- The **Assembly Tower** and the **Launch Umbilical Mast** have been redesigned
- The scenery elements (except the **BAL**) have also been redesigned

And in the add-on **TILES FOR FRENCH GUIANA v.2**

- The ground texture is new (grass has grown)
- A new detailed area (near the small lake) has 20 and 21 resolution tiles

17/02/2026 update

Here is a summary of the main improvements :

1) THE GANTRY or MOVING TOWER

- Added the two missing "ESA" signs on the side
- Modified the two "CNES" signs on the front wall (they were a bit too large)
- Slightly reduced the height of the upper window on the front wall
- Added (and therefore modeled) the four hinges for the main doors
- Added a **TEXTURE_NORM** file (for the relief)
- Modified the rear wall of the gantry with a now functional opening door (the shutter opens upwards)
- Added the walkways and roof railings (at the very top)
- Added the doors and openings for the small blocks at the four corners of the tower (texture only)

2) THE UMBILICAL MAST

- Added the missing "ESA" logo to the rear of the mast
- Moved the "ESA" logo from the front, which was too high
- Modified the shape of the upper green guard
- Added the guard located between the articulated arms
- Modified the position of the origin of umbilical port #2 (offset to the right)
- Added the connection system for the upper umbilical port (the one used for the long fairing)
- Added the connection system for the umbilical port #1
- Added the three cameras and spotlights
- Improved the appearance of the umbilical ports (better-designed tubes)
- Removed the extra door on the rear of the mast
- Added a second version of the **Umbilical Mast** (for Ariane 6.4 equipped with the **long** fairing)

3) THE BASE or MINI-MAST

- Added two reinforcing triangles on each side
- Added the bases with their fixing bolts
- Added the door on the "other side" (and therefore the rungs), which is higher than the other
- The two access doors (walkway level) are now higher
- The two access doors (upper level) are also higher and now reversed
- Added a few rungs and the two vertical bars on the side of the upper doors
- Modified the **3D** model so that the closing doors align with the electromagnets at the top of the system.
- Shortened the hinge arms of the closing system
- Added details to the hinge arms of the closing system (the "armrest")

4) THE ELA4 SITE AREA

- Added the small building located between the mobile tower and the **PAD**
- Added several small buildings and pylons around **ELA4**
- Added yellow and black ground markings and the yellow line in front of the **PAD**
- Added red squares on either side in front of the water deluge pipes
- The red and white walls around the tanks are now lower
- Added red and white walls between the small buildings
- Added the **LH2** zone and the **LOX** zone (*the LOX zone is currently a clone of the LH2 zone*)
- Added a processing zone (between the **PAD** and the **BAL**)
- Added the easement zone (offices and storage at south of the **BAL**)

5) THE WATER TOWER AREA

- Added the concrete slab under the base of the pipe
- Modified the size of the black section of the pipe (smaller)
- Added the small building on the side
- Added red and white walls along the road leading to the **PAD**

6) DLL FILES of the Umbilicus Tower

- File modification because the rotation axes of the umbilicus have changed
- Added a second version of this file for the *Ariane 6.4* version equipped with the **long** fairing
(An additional scenario has been added with this version)

These files are located in the...\Modules\Kourou folder

- **ELA4_Mat.dll** file for the Ariane 6 short fairing model (*ELA4_Mat.msh* file)
 - **ELA4_Mat-L.dll** file for the Ariane 6 long fairing model (*ELA4_Mat-L.msh* file)
- The *.msh files are located in the ...\Meshes\Kourou_Rockets\Towers folder.

Update of May 19, 2026

Here is a summary of the main improvements :

1) THE ELA4 SITE as a whole

- Shadow artifact on the ground (near the exhaust vents) of the Pad not very realistic
- Improved ground texture (near the exhaust vents)

2) THE MOBILE TOWER

- Added a light halo around the spotlights
- Added a "front" spotlight (in front of the rocket)

3) THE WATER TOWER

- Reduced the size of the 4 red lights located in the middle of the water tower

4) THE UMBILICAL TOWER DLL FILES

- Modified the DLL file because the "boxes" (or BASES or MINI-MASTS) were not closing quickly enough during rocket launch

*This **ELA-4** site at the Guiana Space Centre in Kourou will continue to be improved...*



JacquesMomo 2026