Public

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

cnes
CENTRE NATIONAL D'ÉTUDES SPATIALES

03 -KOSMOS v1.0

JOSÉ L. MARCOS (CNES)

KOSMOS DAY 2026 - 24/09/2026

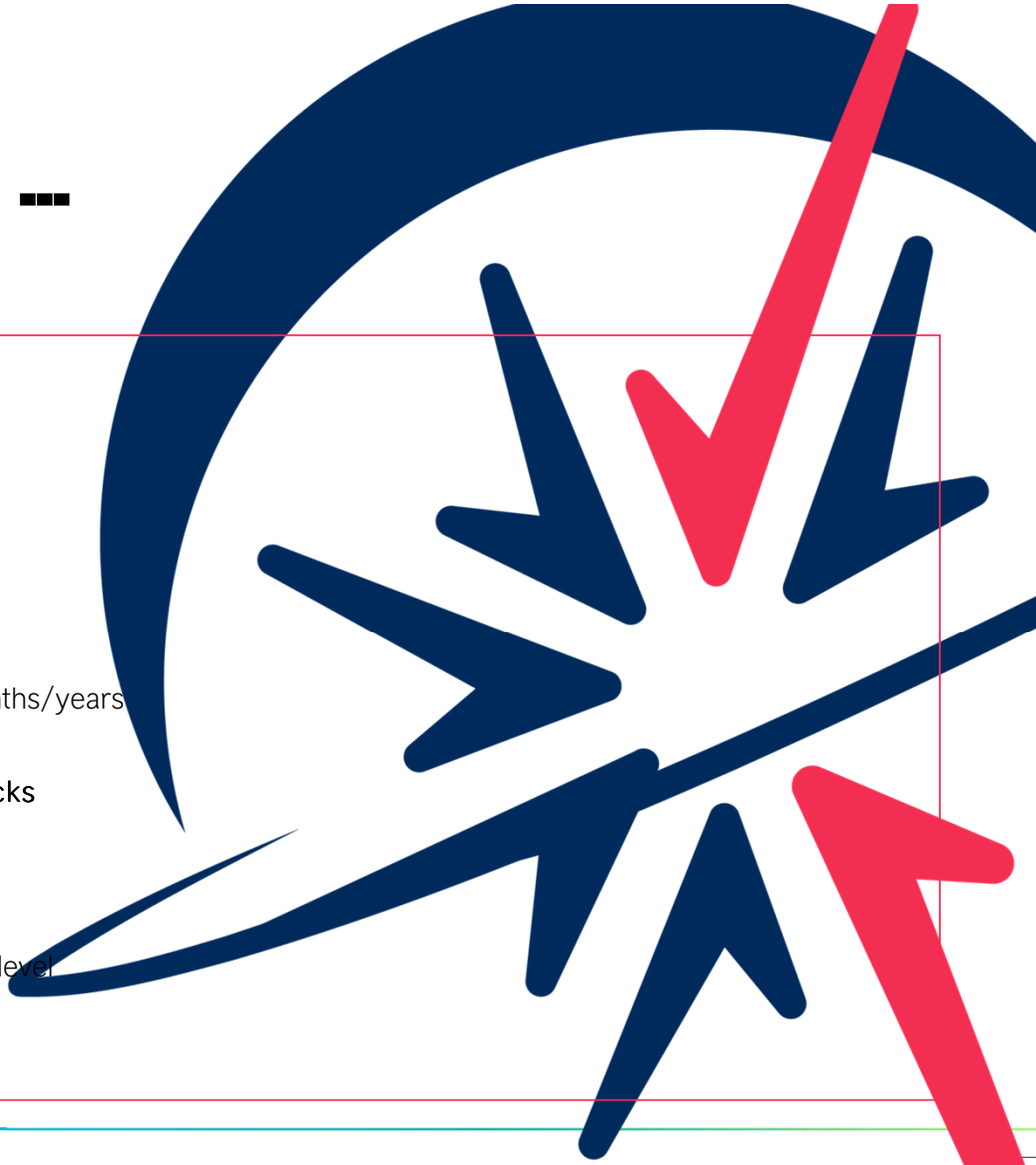
KOSMOS DAY 2025
Proudly introducing KOSMOS …

We changed the name

~~*LVCUGEN*~~ → *KOSMOS*

But

- We still had https://gitlab.cnes.fr/tofoac/LVCUGEN, with some drawbacks
  - Management of access permissions gone wild
  - Give evaluation access to customers is complex
  - Too many branches on components repositories, some stale for several months/years
- We still had https://confluence.cnes.fr/spaces/LVCUGEN , with some drawbacks
  - Not « user friendly »
  - Lack clear organisation and easy access to User/Project resources
- We lacked proper KOSMOS versionning and roadmapping, especially at product level



KOSMOS DAY 2026
Proudly introducing KOSMOS v1.0 !

KOSMOS product management - The new Release Model

- **Unified release**: *KOSMOS release X* bundles fixed versions of all core components (IOS, MMDL, HSEM, devkits, etc.)

- **Semi-annual cadence**: new release every ≈ 6 months (Spring & Autumn); each can add new components (e.g., new LinuxDK) or include non-urgent bug fixes

- **Urgent patching**: critical bugs are delivered as component-only patches (e.g. MMDL 10.4.2 released before bi-annual release)

- **Published roadmap**: two-release outlook (Spring & Autumn) showing planned component versions and upcoming additions, kept publicly on the KOSMOS portal

KOSMOS DAY 2026
Proudly introducing KOSMOS v1.0 !

KOSMOS release 1.0

Component	Version
LVROOT	v1.2.1
IOS	v10.4.1
HSEM	v10.4.1
MMDL	v10.4.1

Component	Version
CCDK	v1.5.1
APPDKPUS	v1.1.1
LIBPUS	v10.7.1

Component	Version
AUTHSW	v1.3.1
OBCPSW	v1.1.1
ZBSW	v1.5.1
LIBGEN	v1.0.1

Hardware Targets	zynq7000 / Versal R5

KOSMOS DAY 2026
Proudly introducing KOSMOS v1.0 !

KOSMOS licensing – Simplified Model

Two license tiers

- **Evaluation License** – limited access to components resources:
  - . source code of all components is available through CNES gitlab, but validation tests and tools to generate validation results are excluded
  - . basic documentation (user manuals, quick-start guides, training material, howto's…)
  - . **Duration limited to 6 months** *(by default)*

- **Usage License** – full access to all component's resources:
  - . full documentation datapacks for all components included in a KOSMOS Release
  - . tooling for **generating validation results** of each components with associated tests

KOSMOS DAY 2026
Proudly introducing KOSMOS v1.0 !

KOSMOS Gitlab

- **Re-organized repository layout** – Components are grouped by product area (available partitions, development kits, libraries…) giving a clean, top-level view of everything that is available in KOSMOS

- **Automated build and test** – Gitlab CI (Continuous Integration) is used everywhere to ensure code modifications are automatically built, tested, and kept in a releasable state.

- **Standardized metadata** – Every component includes a **README**, **Licence** and **Release** files, so users can find essential information at a glance

- **Mandatory COTS** – Some COTS are mandatory to build KOSMOS components (e.g. FentISS Xtratum hypervisor and Lithos real time OS); those COTS are not available to licensed users through CNES Gitlab: separate license must be purchased from third-party company, e.g. FentISS. All support, patches and version upgrades of those COTS are handled by the company under its own license agreement.

KOSMOS DAY 2026
Proudly introducing KOSMOS v1.0 !

KOSMOS Confluence Portal – New User-Centered Design

What's been rebuilt?

- **full redesign of the KOSMOS space on the CNES Confluence** – a clean, navigation-driven layout that guides every visitor to the right content in as few clicks as possible

For new users

- **Getting-Started hub** – *Starting Guide, Training Material, How-to* documentation (and MOOC)
- **Help-Desk integration** – quick access to ask for support or report a bug

For experienced users (and new users as well!)

- **Component catalog** – access to each component dedicated page with:
  - . Brief functional description
  - . Core resources – user manuals…
  - . Datapacks (restricted to Usage-License holders)

KOSMOS DAY 2026
Great! But what about the old LVCUGEN?!

Let's try to answer some questions current LVCUGEN users might have

Legacy GitLab & Confluence (pre-KOSMOS 1.0) ?

- Access Policy
  - All legacy sites stay reachable for anyone holding a valid LVCUGEN license.
- GitLab LVCUGEN repositories
  - **Frozen** - no further commits, merges or back-ports will be applied from the current KOSMOS GitLab.
  - **Critical bugs:** if a show-stopper is discovered, the affected project must **apply the provided fix locally** (with assistance from the Flight-Software support team).
- Confluence LVCUGEN space
  - **Remains** fully accessible
  - Provides the **historical datapacks** for every component **by version** – available only to users with a valid LVCUGEN license.

KOSMOS DAY 2026
Great! But what about the old LVCUGEN?!

Let's try to answer some questions current LVCUGEN users might have

Accessing KOSMOS 1.0 resources (new KOSMOS-platform) ?

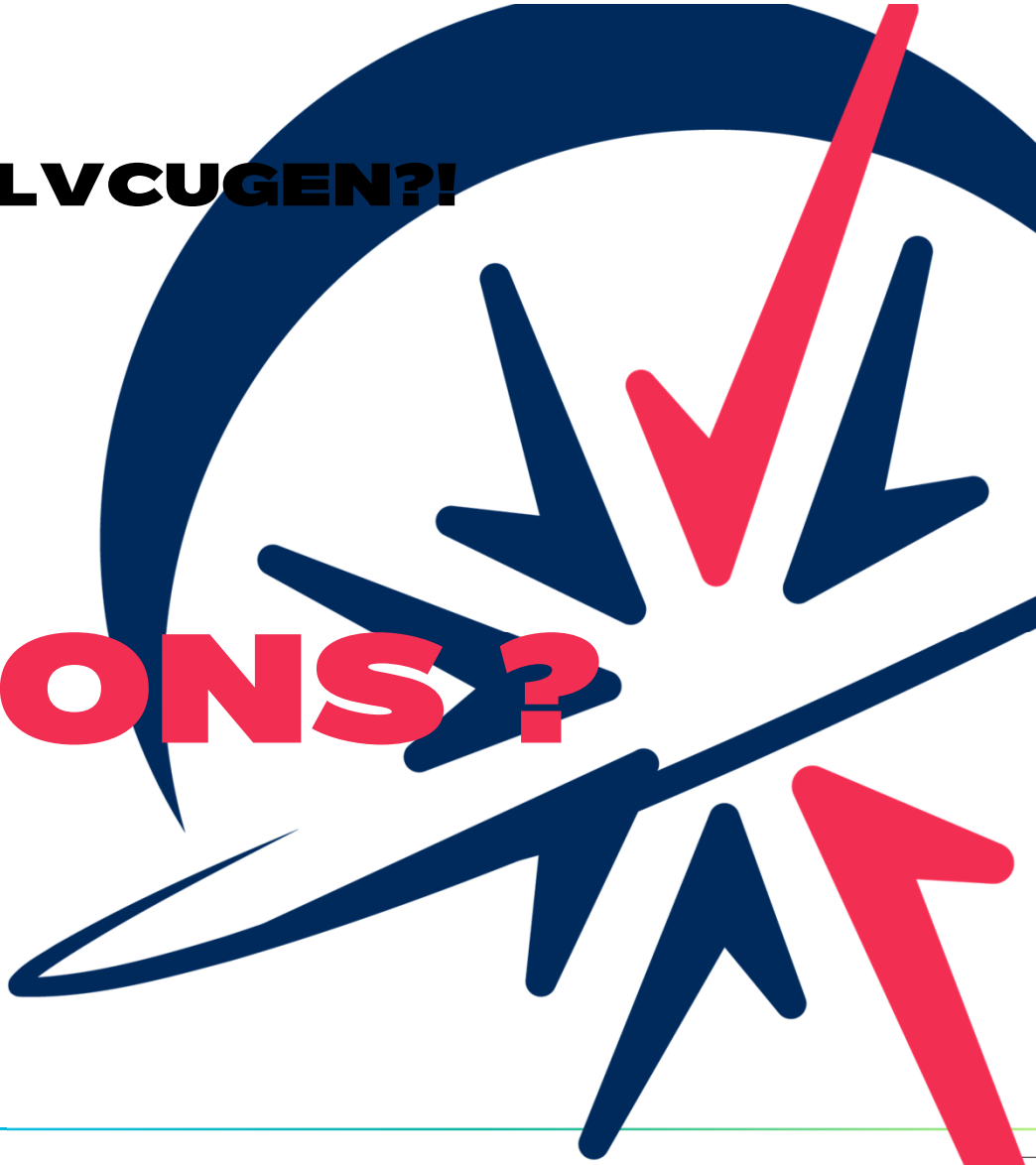
I am a holder of a LVCUGEN license (full access or limited to a subset of components…), what must I do ?

- Default situation
  - A LVCUGEN license (whether it covers all components or only a subset) **does not grant automatic access to the KOSMOS GitLab or the KOSMOS Confluence space.**

- To get access to the new KOSMOS-platform
  - **Send a request** to **l-kosmos@cnes.fr** explaining the purpose of the access (e.g., usage or evaluation).
  - Our team will **review the request** then reply with the outcome (grant, additional conditions, or refusal).

From this point onward, all new licenses will be done with the new KOSMOS platform and we will make our best to help current users migrate as soon as possible.

KOSMOS DAY 2026
Great! But what about the old LVCUGEN?!



QUESTIONS?