



# ReleaZ

The high-performance range of  
**NEWSPACE ACTUATORS...**

*...for all satellite deployment and release needs*



# Newspace is a change of paradigm



The advent of Newspace coincides with the emergence of many small satellite constellations



The systems and mechanisms historically used in Space must be adapted to Newspace



4 663 satellites were launched between 2012 and 2021



24 500

satellites to be launched between 2022 and 2031

# A new challenge

Space industry needs:

- Low-cost and standardised products
- Resettable components
- Components that can withstand and trigger at very high temperatures
- Management of the end of life of satellites
- Local (Europe) and reactive (short circuits) players



# NIMESIS as a key player

A vertically integrated upstream provider of  
**smart actuators**  
for space engines: **satellites, launchers, rovers...**

Delivering Plug-And-Play space solutions

## Release

Satellites from launcher, Solar panels from satellite, Launcher stage separation, Internal devices and mechanisms...

## Deployment

Antennas, Mast, Deployable structures...

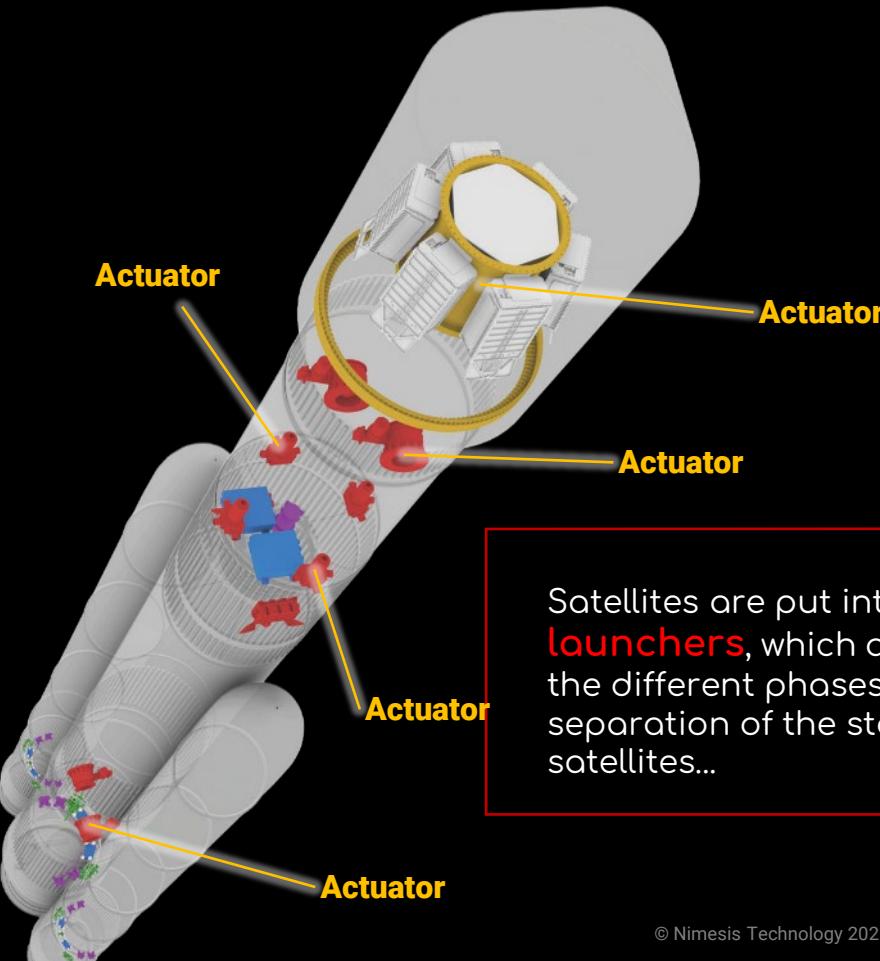
## Design for demise

Space engines reentry, dismantlement of structures...

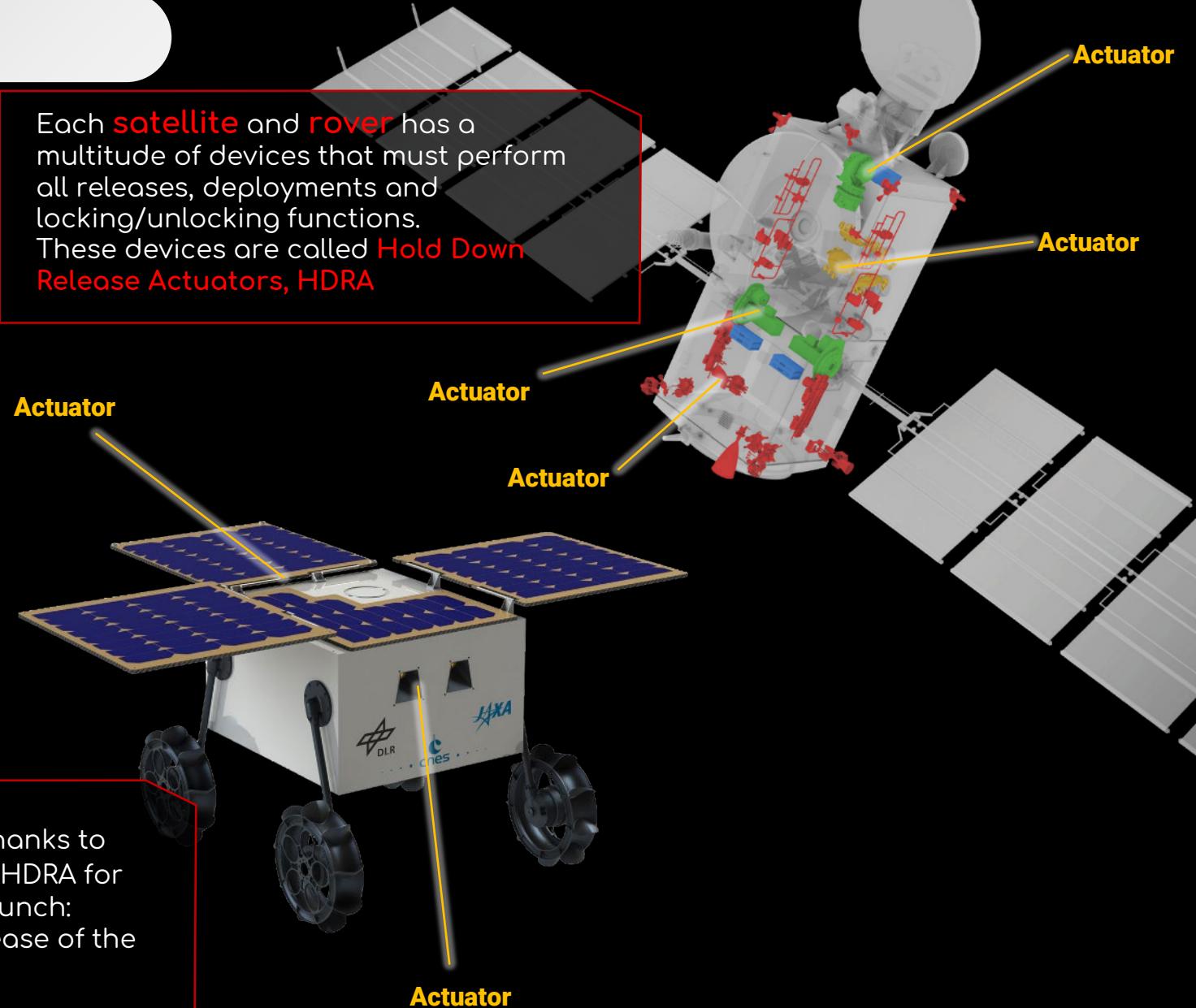
NIMESIS is the **only company** in Europe  
manufacturing **smart actuators** for the  
space industry.



# Did you say “actuator”?



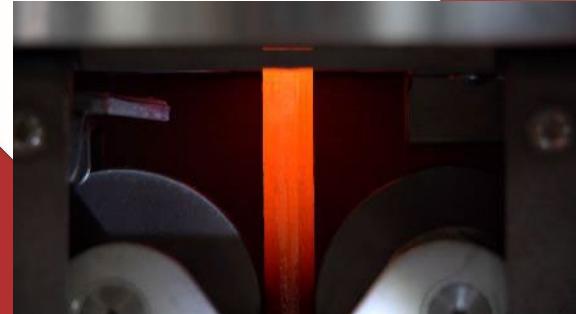
Satellites are put into orbit thanks to **launchers**, which also have HDRA for the different phases of the launch: separation of the stages, release of the satellites...



Each **satellite** and **rover** has a multitude of devices that must perform all releases, deployments and locking/unlocking functions. These devices are called **Hold Down Release Actuators, HDRA**

# Our high performance CN250X smart alloy, main component of our ReleaZ actuators

AN INDUSTRIAL PROCESS  
UNIQUE IN THE WORLD



Process  
patented



Why is our alloy better than  
competing alloys for smart space  
applications?

CN250X

Integrated  
manufacturing

Better shape  
recovery

Higher  
triggering  
temperature

More  
suitable for a  
wide range  
of spatial  
mechanisms

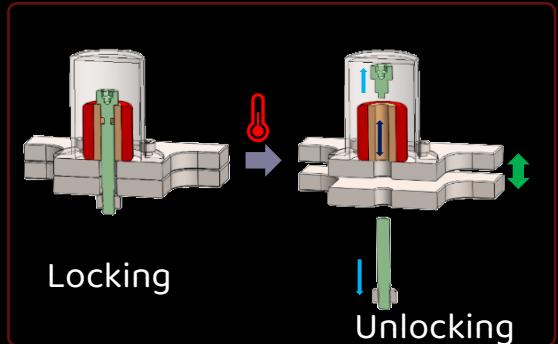
More  
suitable for  
space  
dismantling  
applications

Available in a  
wide range  
of sizes

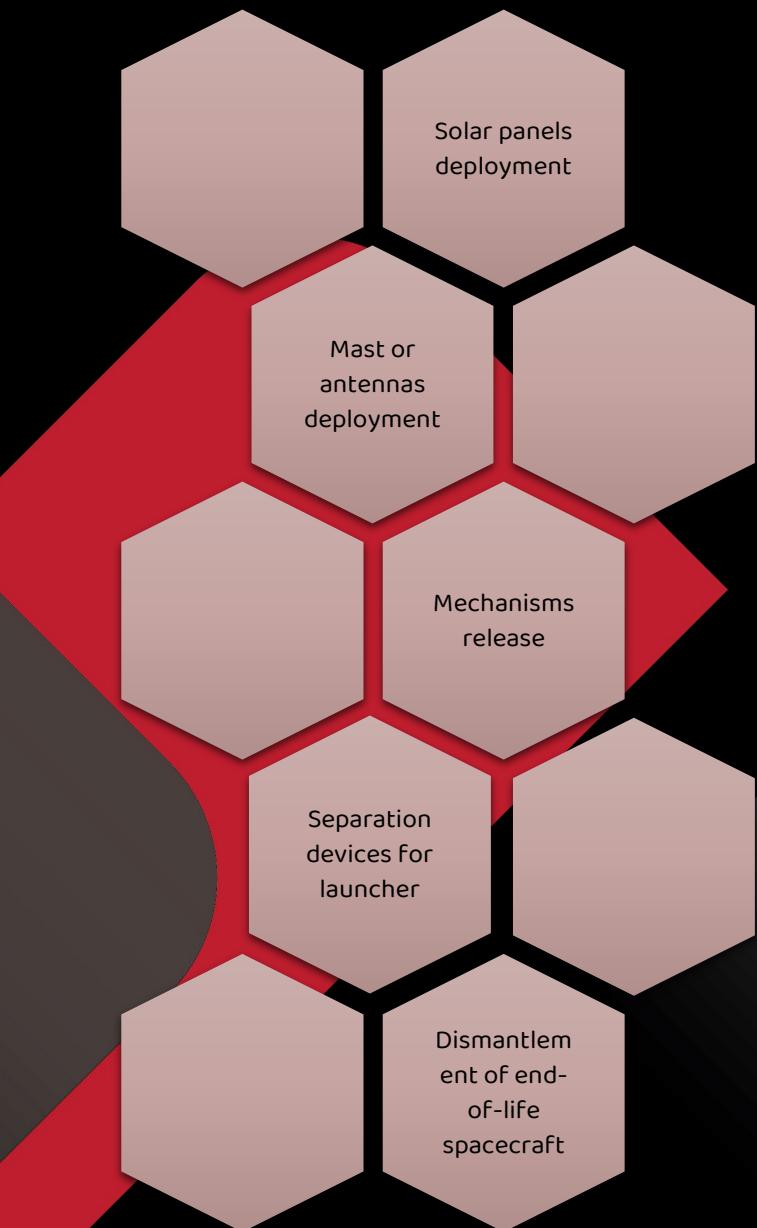
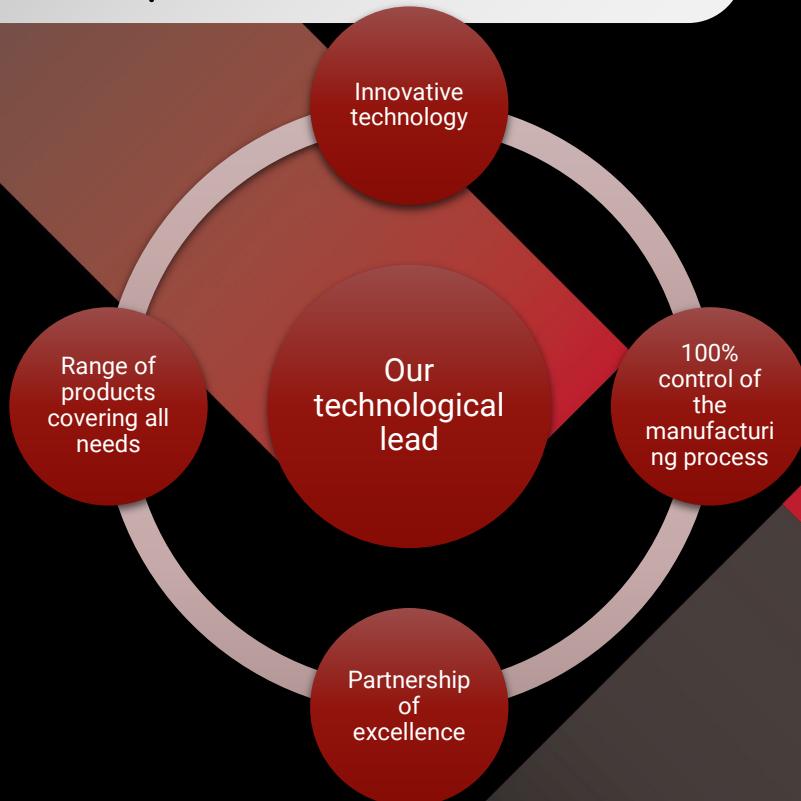
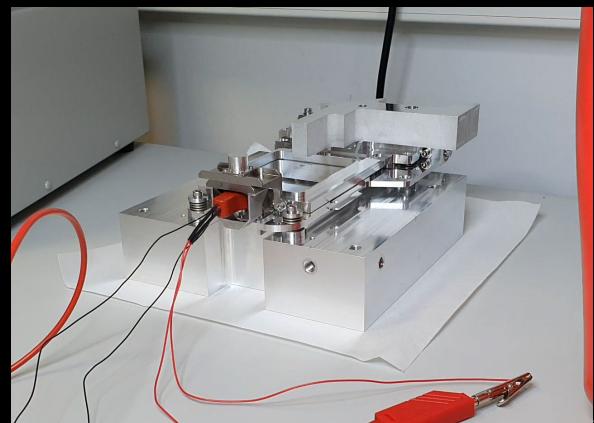
High  
performance  
Single crystal  
structure

# Releaz adapts to all type of space missions

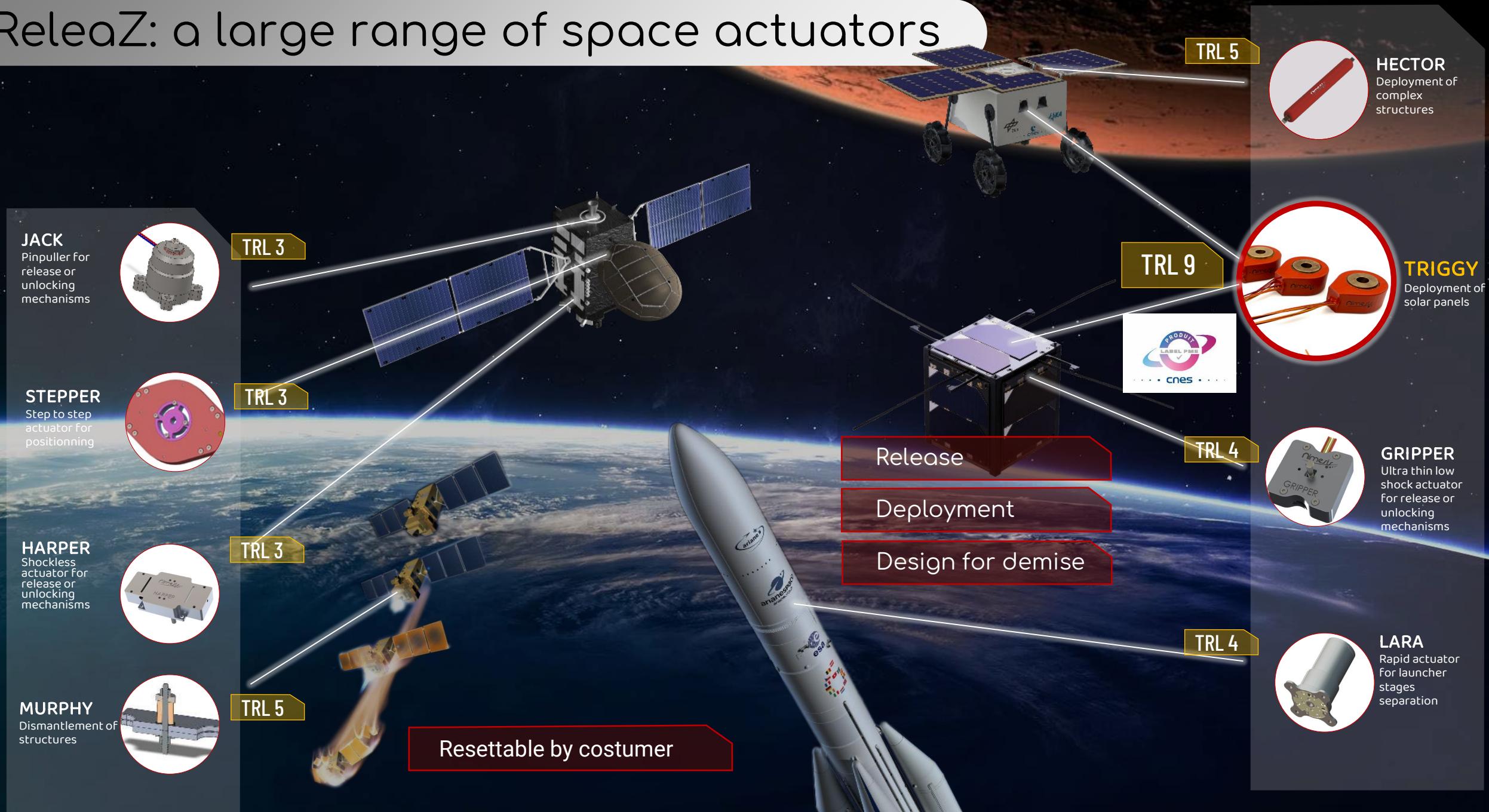
Space mechanisms must be locked during launch and unlocked once in orbit.



1. Arming the shape memory component
2. Heating the component to return it to its original shape
3. By recovering the initial shape, the device will lock/unlock/move or deploy certain devices or mechanisms.



# ReleaZ: a large range of space actuators



# Our business units

## Components Releaz

- Space qualified COTS\*
- Various HDRA\*\* : rapid, low shock, shockless
- Lightweight, compact, reliable, high performances



\* Commercial Off-The-Shelf

\*\* Hold Down & Release Actuators

## Mechanisms

- Modular space subsystems
- Pinpullers, deployable structures, hinges, various HDRM\*



## Engineering

- Simulation, characterization, tests, dimensioning,
- Mechanical and thermomechanical, shock, vacuum, fatigue



## Materials

- Supplier of shape memory alloys
- 3D/4D printing

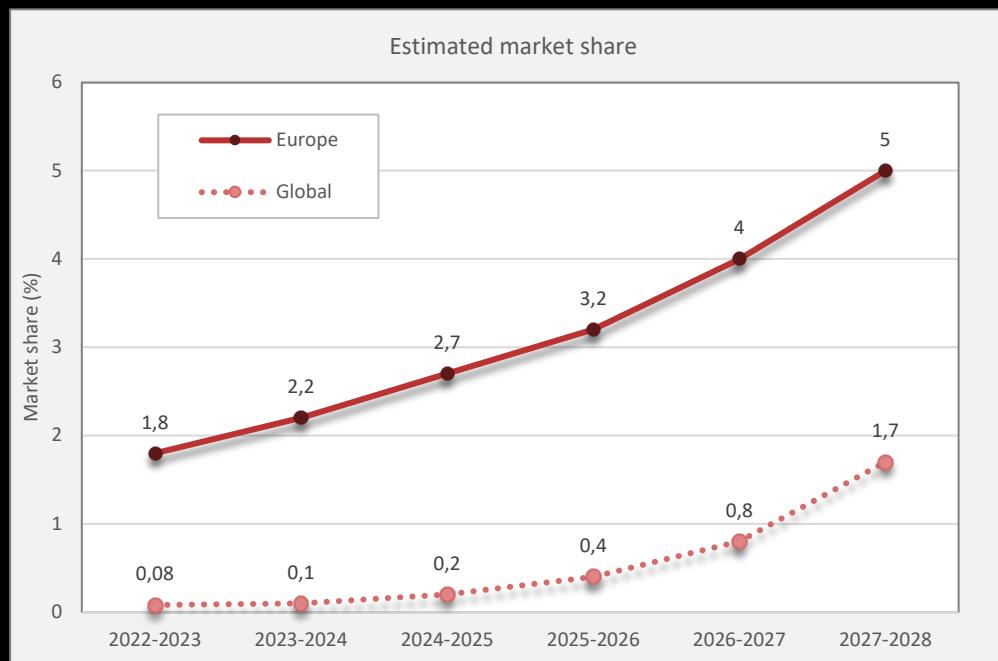


# Estimated space revenues



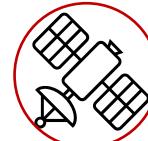
Estimated marketshare for Nimesis in Europe in 2031

9 %



Estimated european market of actuators in 2031

497 M€



Estimated global market of actuators in 2031

6 440 M€



average number of actuators on a satellite of less than 10 kg

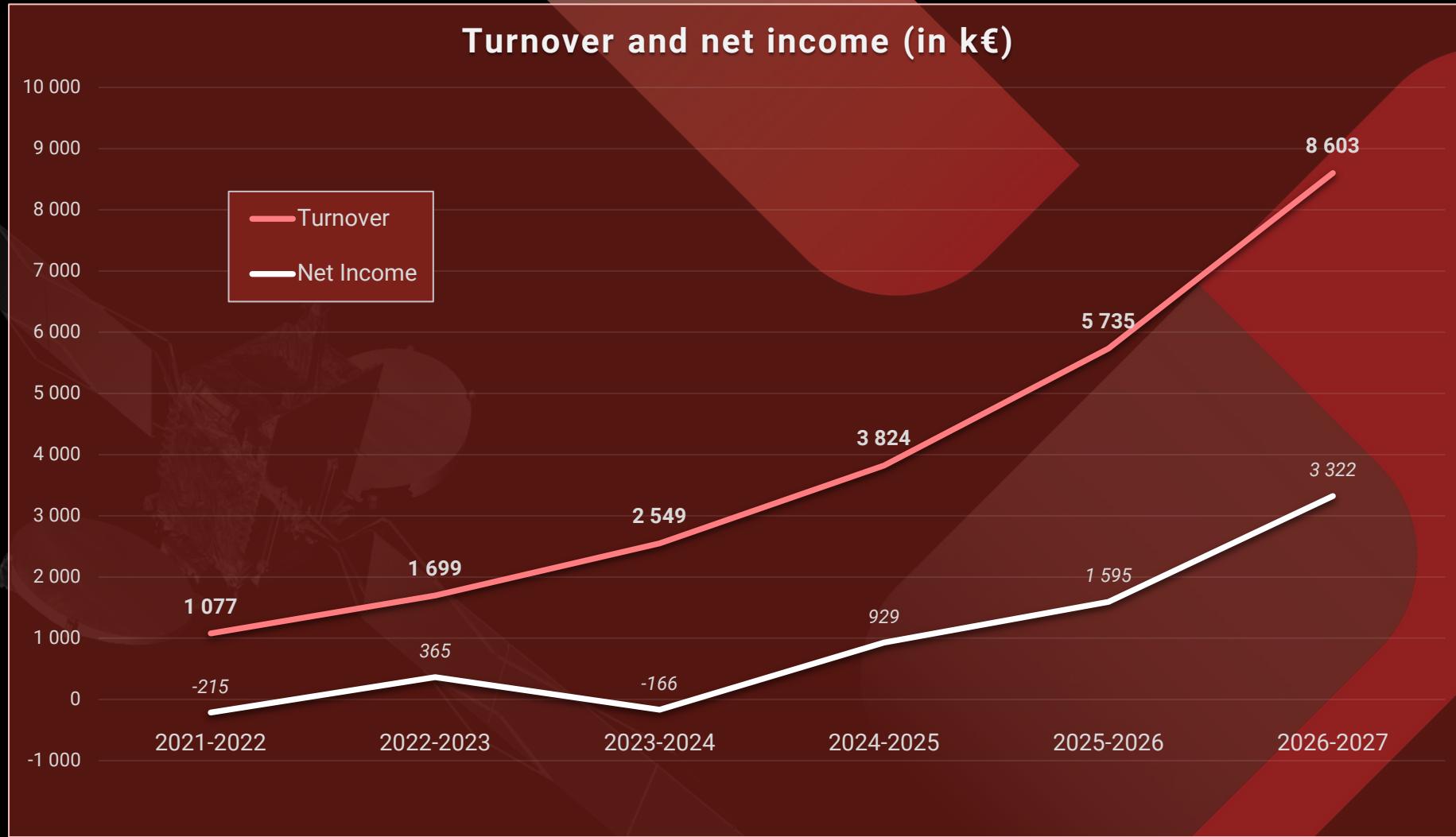
11



average number of actuators on a satellite over 500 kg

78

# The revenue



From 1.5 to 7.5 k€  
price range of a  
ReleaZ actuator

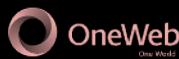
# Who will pay?

## Four types of satellite manufacturers

Large integrators  
also integrates >500 kg  
satellites (non-smallsats)



In-house  
operator building its own  
smallsats (vertical  
integration)



Academia  
research or education  
institute, predominantly



Pure smallsat  
manufacturer  
purely focused on  
smallsats



ENDUROSAT

## Launchers and logistics



## Equipment manufacturers



# Current customer projects



## MMX

Mars Moons Exploration

High-tech rover going on  
Phobos and Deimos to  
explore and sample  
collection



We provide:  
rotative actuators  
TRIGGY



CleanSky project

Passive actuated  
ventilation of an opening  
system for aircraft



EPSILON  
ALCEN

AKIA  
PASSION FOR  
TECHNOLOGIES

## SMART HINGE



Deployable Tubular  
Antenna

Deployable Booms



## VITAE

Deployable structure  
on the Moon

The structure will open and  
close according to the lunar  
day and night



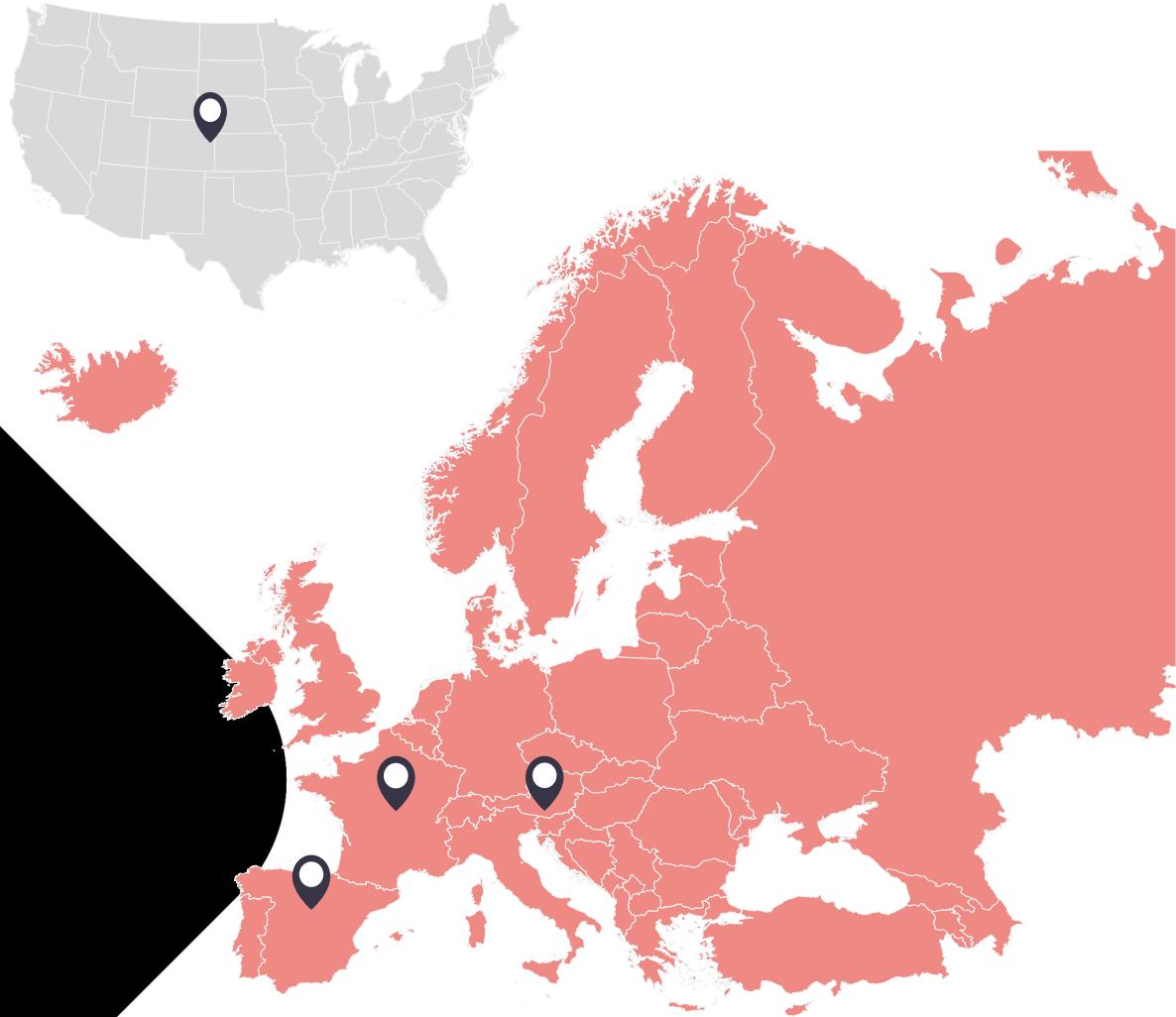
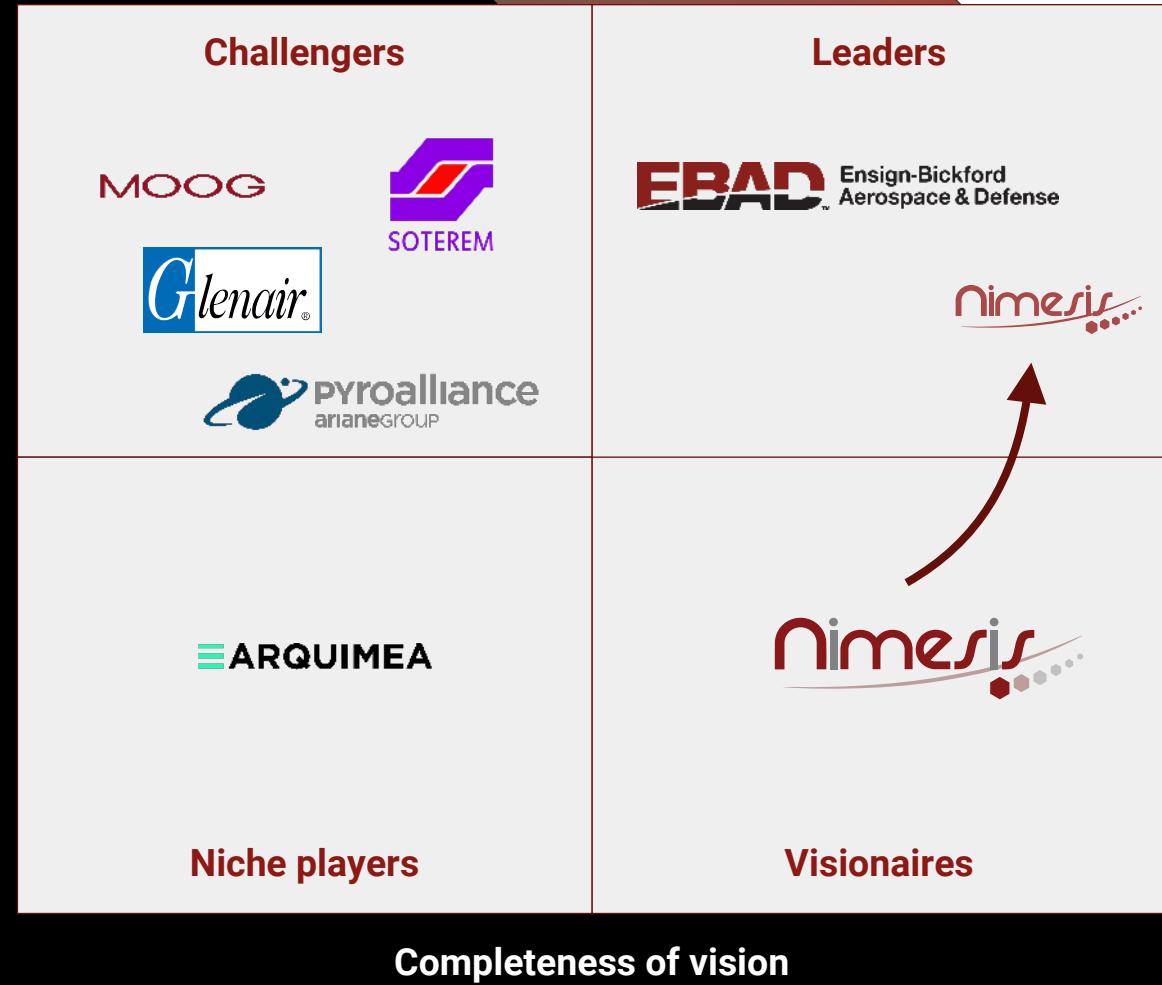
An art odyssey by  
Anilore Banon

# NIMESIS is ideally positioned in the market

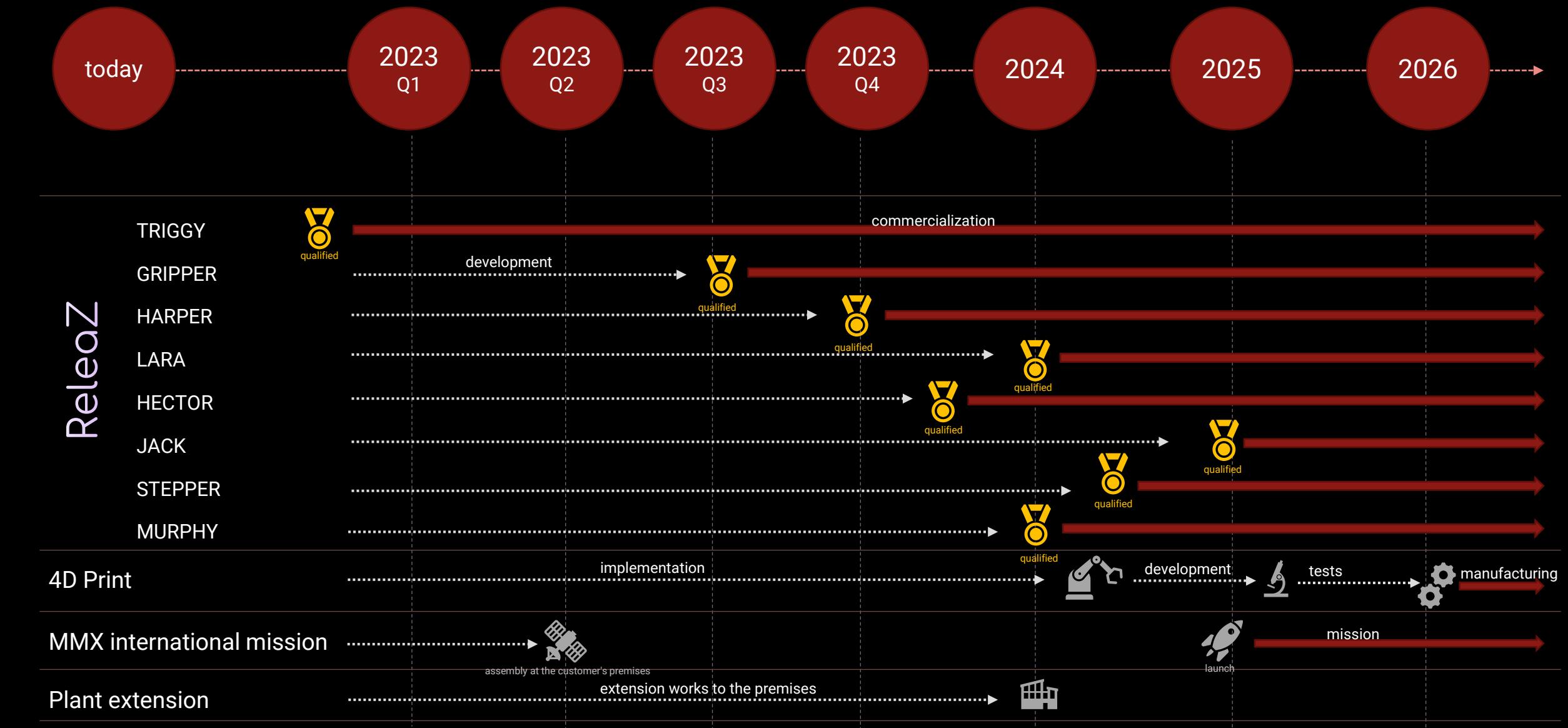
	Releaz	SMA <sup>(1)</sup> technology	Pyrotechnics	Electro-magnetics	Fusible wire	Multi	Internal development	
	 	 	 			  	 	 
Vertically integration	●	●	●	●	●		●	
In-house manufacturing and design	●	●	●	●	●		●	
Reusable device	●			●		●		
Technical support	●							
European supplying and ITAR free	●		Arquimea only	●	●		●	
DIRECT competition (using same technology as Nimesis)				NON DIRECT competition (using different technology)				

<sup>(1)</sup> Shape Memory Alloy technology is the technology used by Nimesis

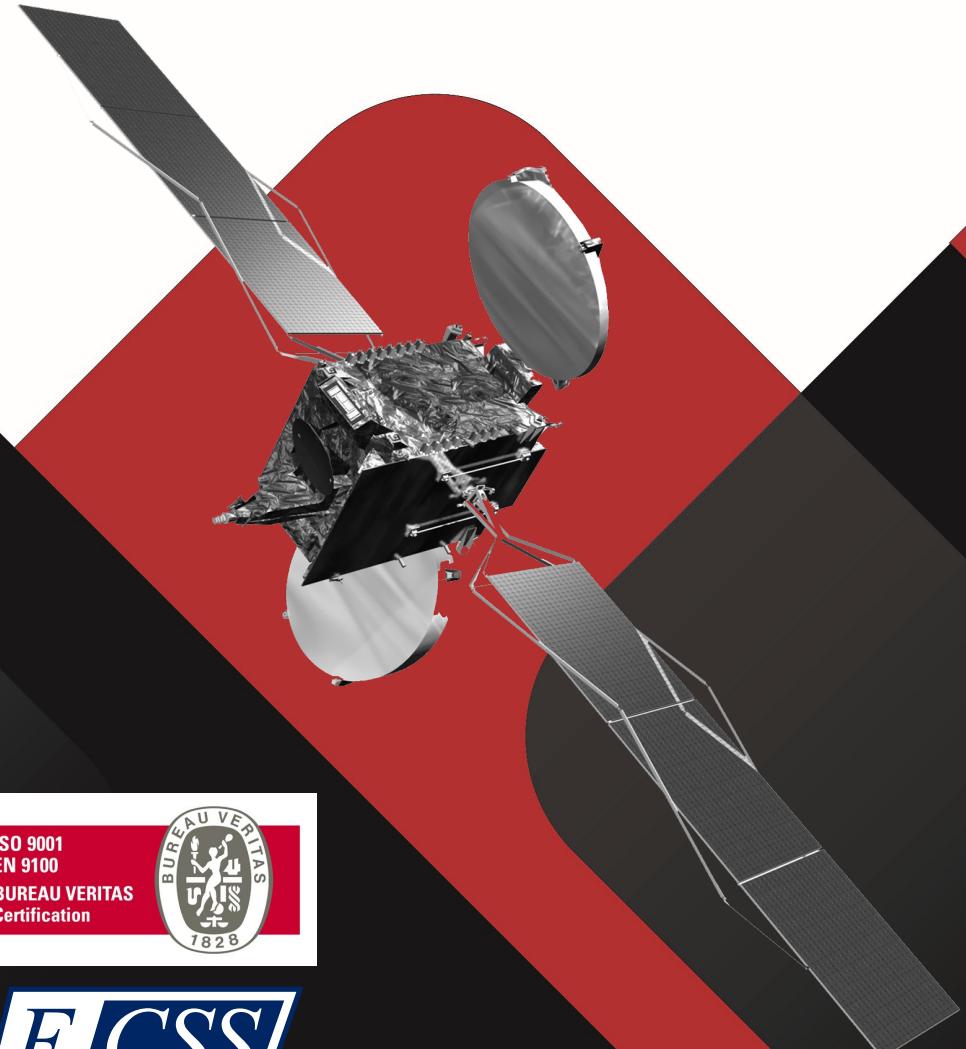
# Where are our competitors?



# Roadmap



# NIMESIS at a glance



**E CSS**

+110

Triggy sold  
last 2 years



1

Interplanetary mission  
scheduled  
**MMX**



20

Employees



2

Of our actuators on orbit  
(+ more to come)



1

Factory



6

Space  
patents



8

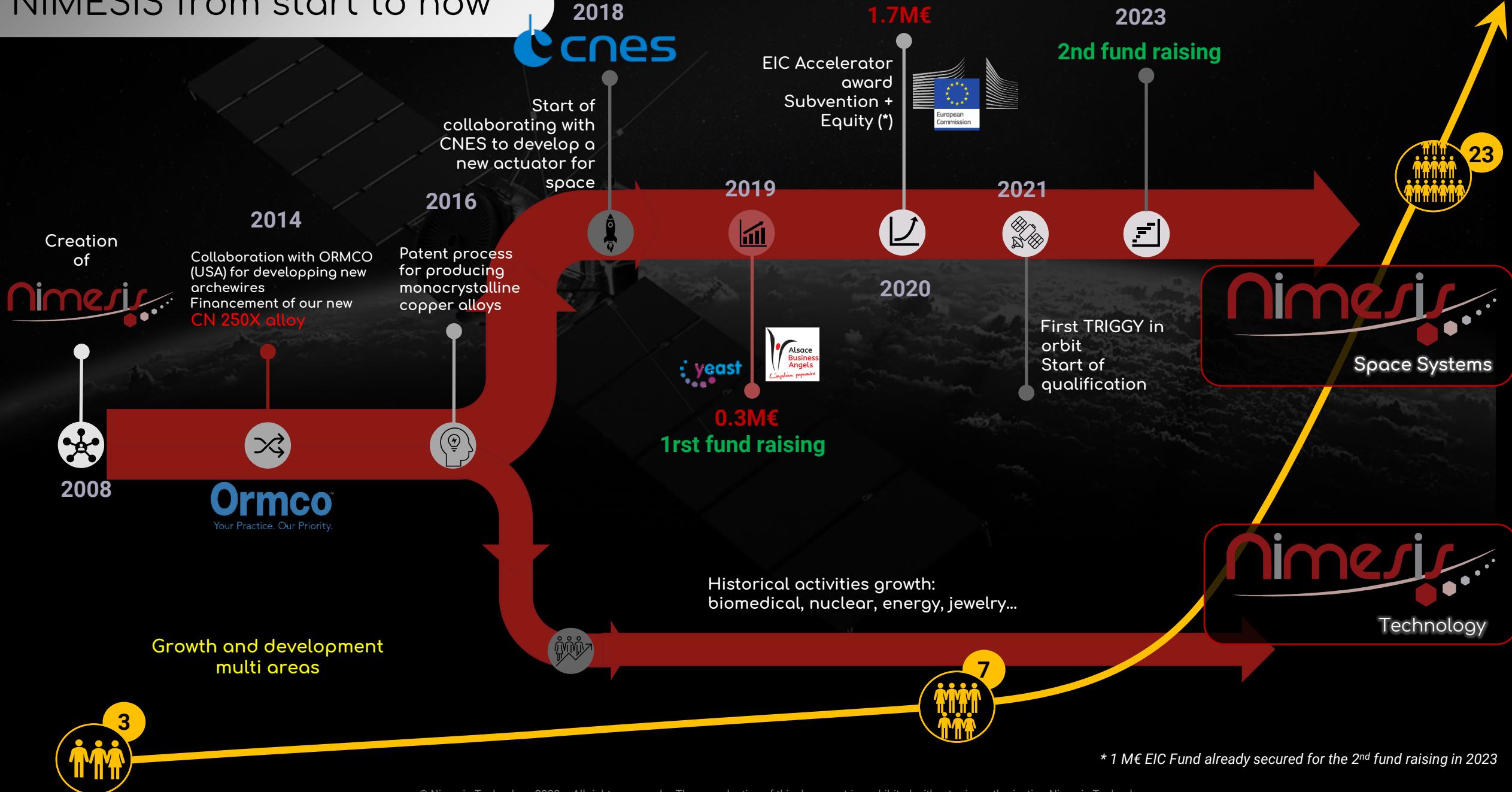
Type of  
actuators in  
catalog in 2025



1

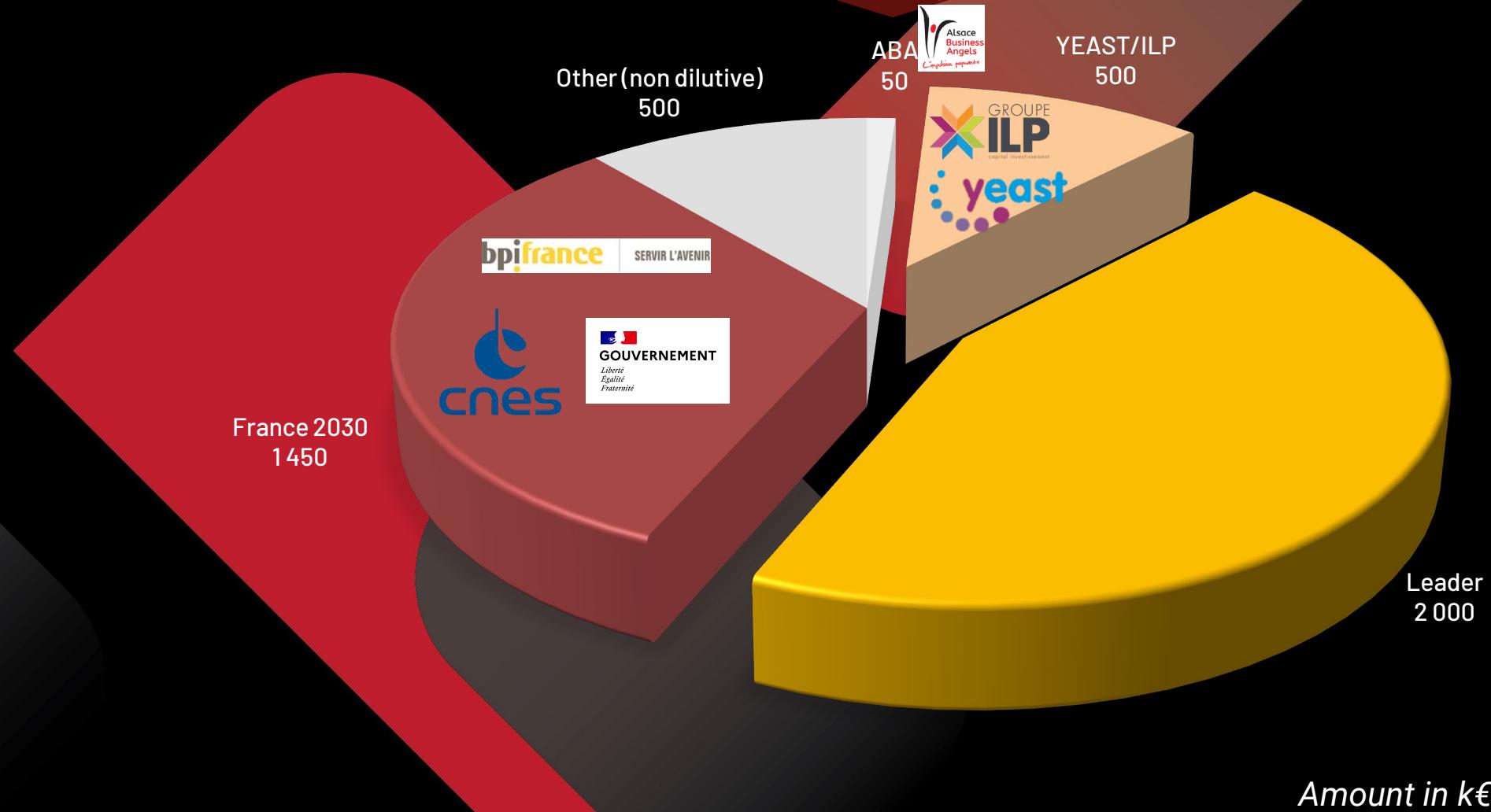
New strategic activity:  
**4D Print**

# NIMESIS from start to now



# Fundraising

Looking for 4.5 M€



# Why invest in Nimesis?

## Qualification of Triggy

- Ready to produce and commercialize up to 1000 actuators by year

## Flight heritage

- At least 2 Triggys in orbit

## CNES label for Triggy

- Nimesis products recognized for space applications

## Over 150 Triggy sold

- Triggy is already accepted by space players

## Smallsats market is booming

- Whatever the end-user, there will always be a growing need for actuators

## 6 patents

- Nimesis maintains a technological lead and continues to innovate

# Space is booming! And Nimesis is a key player

Nimesis is part of the French Newspace Ecosystem and thus of the Worldwide Newspace Ecosystem



CNES considers NIMESIS as a **strategic company** for the space sector.

TRIGGY was awarded the **SME product label** in 2022



# Use of funds: focus



49

Number of employees in 2027



1400 m<sup>2</sup>

New surface of our plant after extension



7

Phases of qualification for each ReleaZ product



850 k€

Implementation of 4D printing



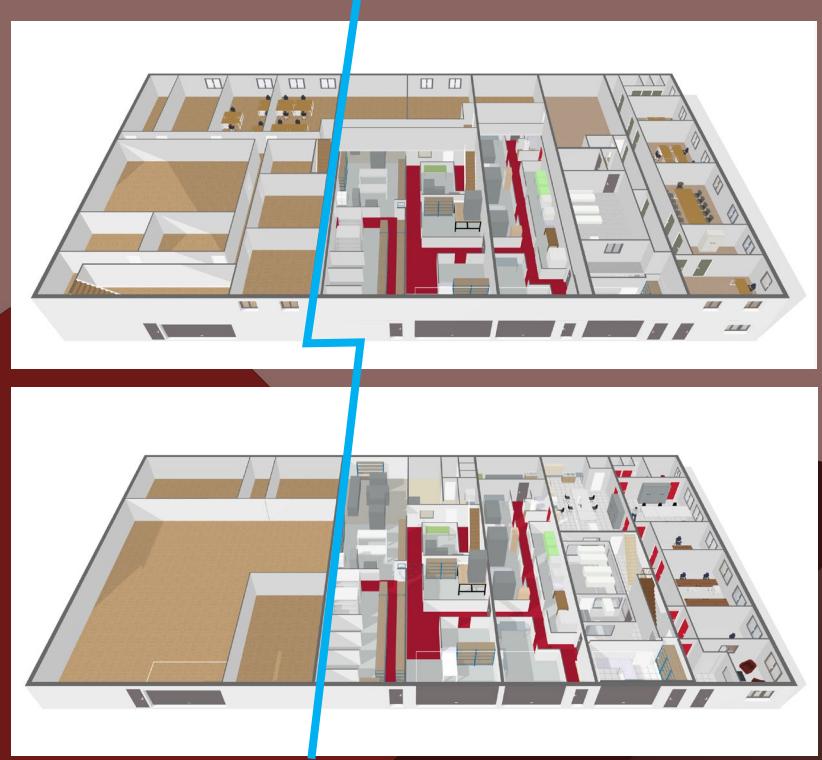
50 k€

Estimated cost of a validation flight

1st floor



Ground floor



Extension 2023 (+500 m<sup>2</sup>)

Actual (900 m<sup>2</sup>)

## Objectifs



Increase the development of the ReleaZ range in an increasingly responsive and dynamic market.



Be the first to implement the new space technologies of tomorrow.

# Our ressources

## Operational production line

Capacity : 1000 actuators / year



- Clean room
- Alloying
- Single crystal casting
- Themo-mechanical testing
- Polymer 3D printing
- Calorimetry
- Machining



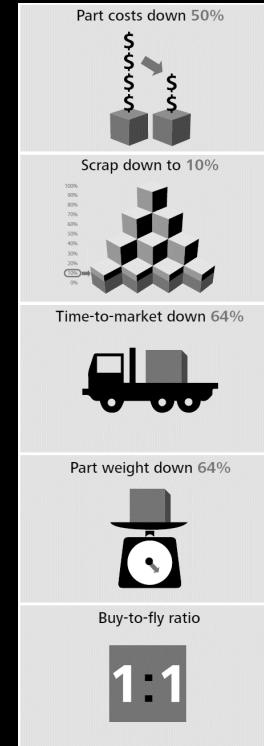
# 4D Printing 2024-2025

Additive Manufacturing has huge potential:

- ⌚ varying stiffness or varying behaviour,
- ⌚ anisotropic components or mix materials
- ⌚ reducing manufacturing time

Advantages of Additive Manufacturing in space:

- ⌚ Customization
- ⌚ Complex geometries
- ⌚ Reduce part numbers
- ⌚ Increase the value



## 4D Printing by Nimesis

Metallic Additive Manufacturing + Shape Memory Alloys

A 4D-torsion component in place of a single cylinder torsion bar



length divided by 2  
weight divided by 3

# Team: 20 employees around...

Alain HAUTCOEUR



**CEO**

- 31 years of experience in the field of Shape Memory Alloys technology
- Engineer graduated from ENIM in 1991
- Graduate of a DESS Entrepreneurship
- Founded Nimesis in 2008
- Inventor of several innovative process and products

Diane GIBELIN



**CMO**

- Engineer graduated from HEI Lille in 2010
- Graduated from ESSEC Business School in 2011
- Graduated from IESEG School of Management in 2022
- Manage commercial and marketing team, in charge of international relationship

Florian FOUCHÉ



**CTO**

- 9 years of experience in the field of Shape Memory Alloys technology
- Engineer graduated from ESSTIN Nancy in 2013
- Manage R&D team with 9 engineers and technicians
- Inventor of several innovative process and products

Kevin MUSSELECK



**Production Manager**

- More than 10 years of experience in the field of Shape Memory Alloys technology
- Master graduated in Innovation Systems Engineering
- Manage industrialization and production of NeoLINK products

André EBERHARDT



**SMA Expert**

- More than 40 years of experience in the field of Shape Memory Alloys technology
- University Professor PhD in Physical Sciences PhD in Solid State Physics
- More than 60 publications
- 14 communications in colloques
- 9 patents

# Strategic relationship and investors

## Investors



## Institutional



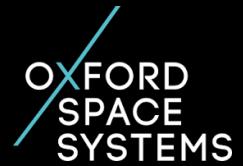
## Financial



## Network



## Technical and Commercial Partners



## Scientific



## Our vision

**NIMESIS will become the world leader  
in smart actuators for space**



### Our ambition

To be the preferred partner of European satellite launchers and their equipment manufacturers

To be at the forefront of smart actuators innovation in the field of space, defense and aeronautics



Contact us

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