



# Light This Candle!

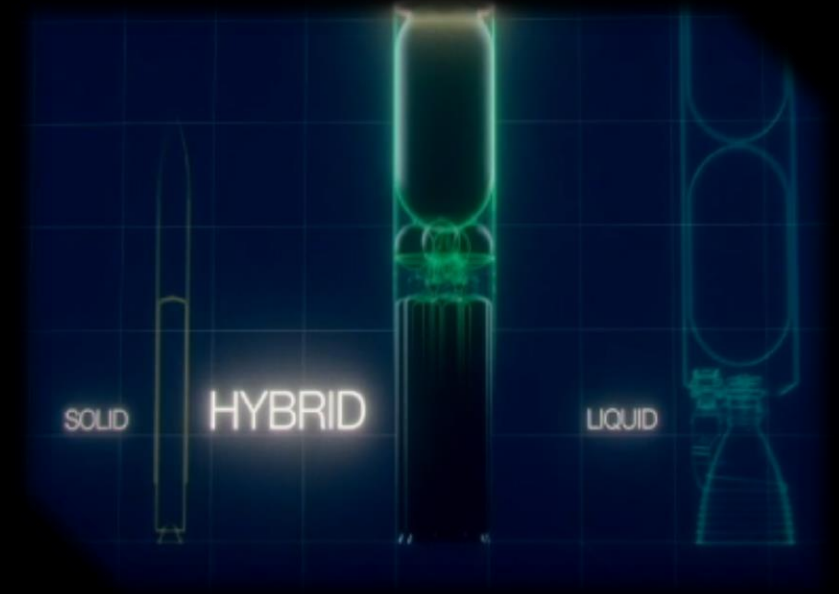
## Maiden Launch of HyImpulse



Picture from HyImpulse SR75 Maiden Launch

# Paraffin based solid fuel

Photron 30 fps  
Start 1/30 sec 896 x 280  
Time : 12:07 frame : 1436 +47833.333 ms



Award winning paraffin-based fuel

As high performance as LOX/RP1

Compact motor layout

Efficiency over 98%

Non-explosive

Sustainable



SR75 Sounding Rocket: Maiden Flight

## Launch Campaign

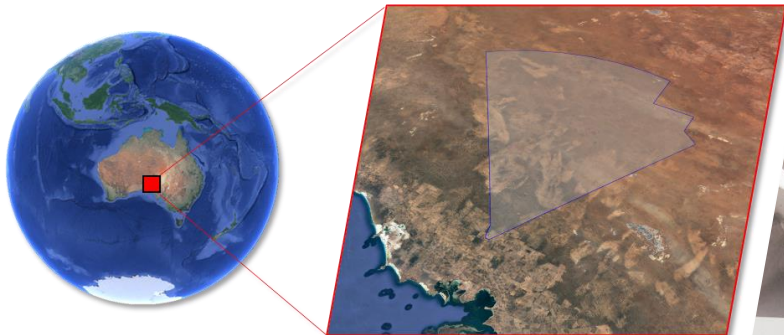
**Launch vehicle:** SR75 Hybrid sounding rocket

Launch campaign: 19<sup>th</sup> April – 09<sup>th</sup> May

Maiden Flight: **3<sup>rd</sup> May 2024**

**Launch site:** Koonibba Test Center

31.90° S, 133.43° E



# SR75: hybrid sounding rocket

Recovery module and Avionics

Helium tank – Composite pressure tank

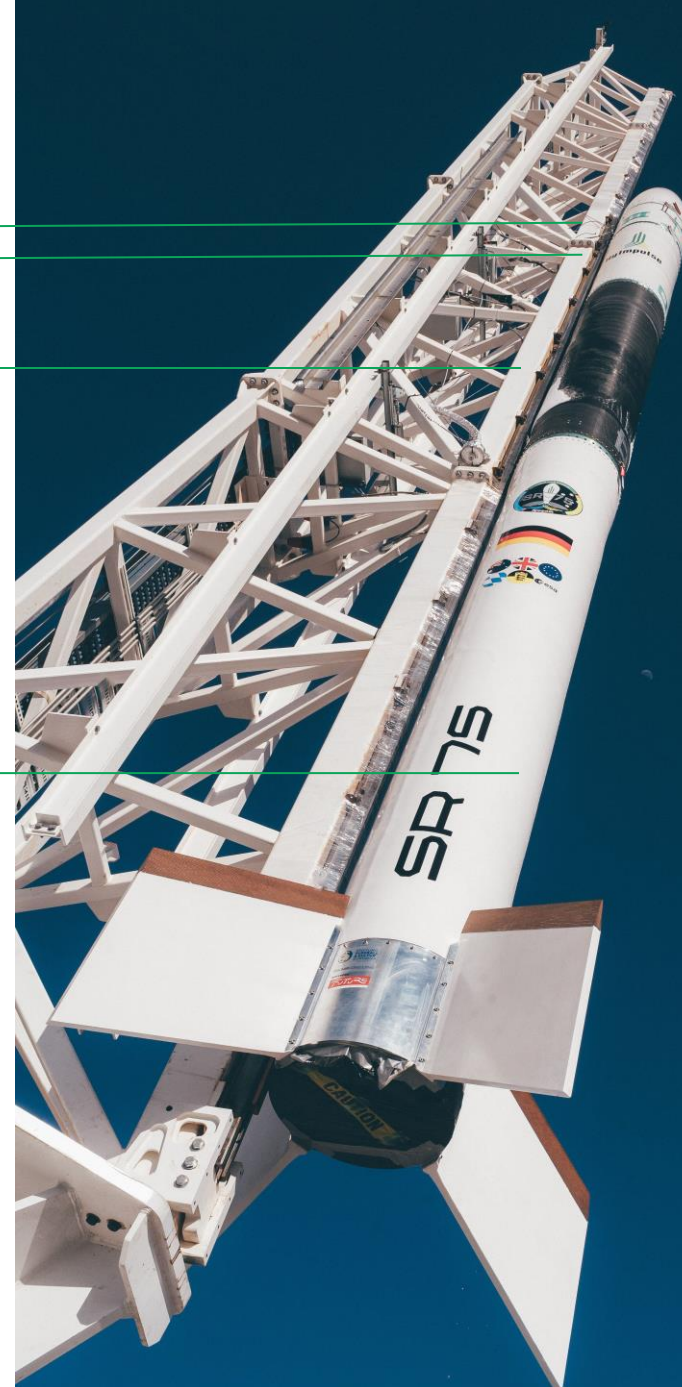
Liquid Oxygen tank – **Full composite**

## Paraffin-based Hybrid Motor

75 kN sea level thrust

Liquid Oxygen + Paraffin fuel

Same engine as orbital launcher SL1



# Launch campaign: Integration starts in the assembly hall

## T-15 Days Rocket arrives in the assembly hall



Shipped in standard containers

**Modules unloading, inspections and integration within days**

Engine – LOX Tank – Helium tank – Recovery module – Payload bay & nose cone

**System checkouts**

## T-14 Days Integration and testing START



# In Parallel, at the Launch Pad

**T-14 Days** Launch pad preparation

Ground Support Equipment Container

Valves shelter



**Piping and cabling** – From GSE to launch rail interfaces  
Preparation of the rail interfaces

# Leaving the assembly hall

**T-8 Days** Systems checkout completed

**T-7 Days** Rocket moved to the launch pad



Rocket on Launch Rail



Picture from HyImpulse SR75 Maiden Launch



# Systems testing at the launch pad

**T-6 Days** Rocket on rail - Systems checkout



**Rocket is connected** to the launch rail interfaces  
**Connection** of the umbilicals

**Testing** and systems checkouts from the GSE  
**Fluid lines** preparation and checks



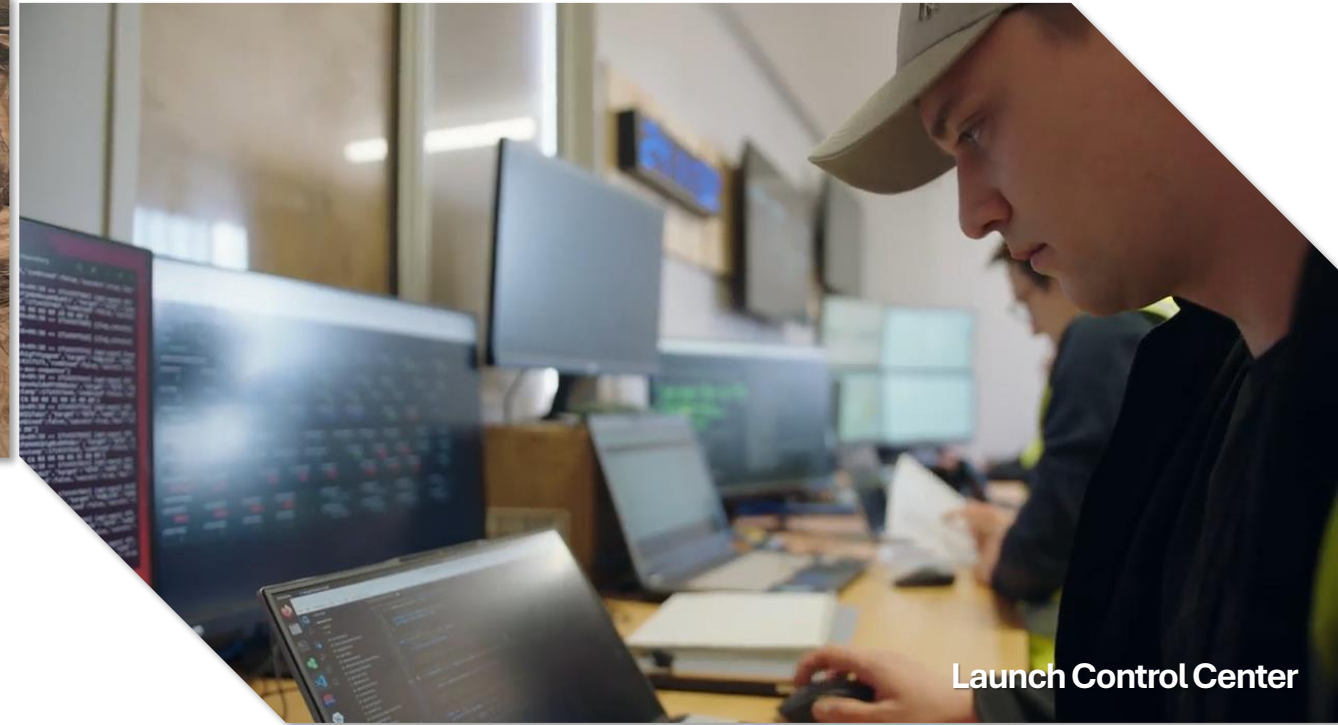
# Meanwhile at the Range Operations Center

## T-6 Days **Launch Control Center operations**



**Range Operations Center** – 3.7 km from the launch pad  
Here are located the **Launch Control** and **Mission Control** centers

- Remote checkouts** start in the **Launch Control Center**
- Telemetry** setup
- Close interactions with the launch pad team
- The team is getting ready to perform a **Wet Dress Rehearsal**

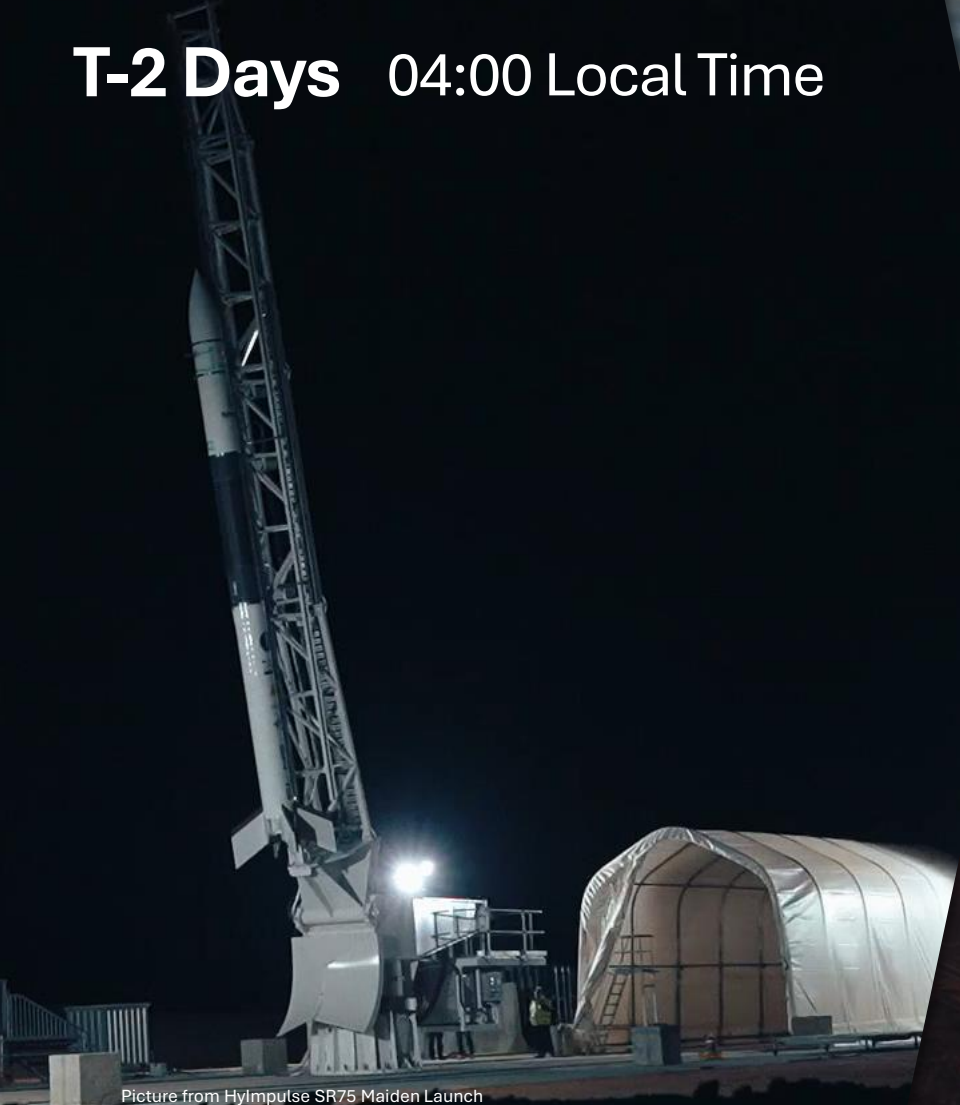


**Launch Control Center**

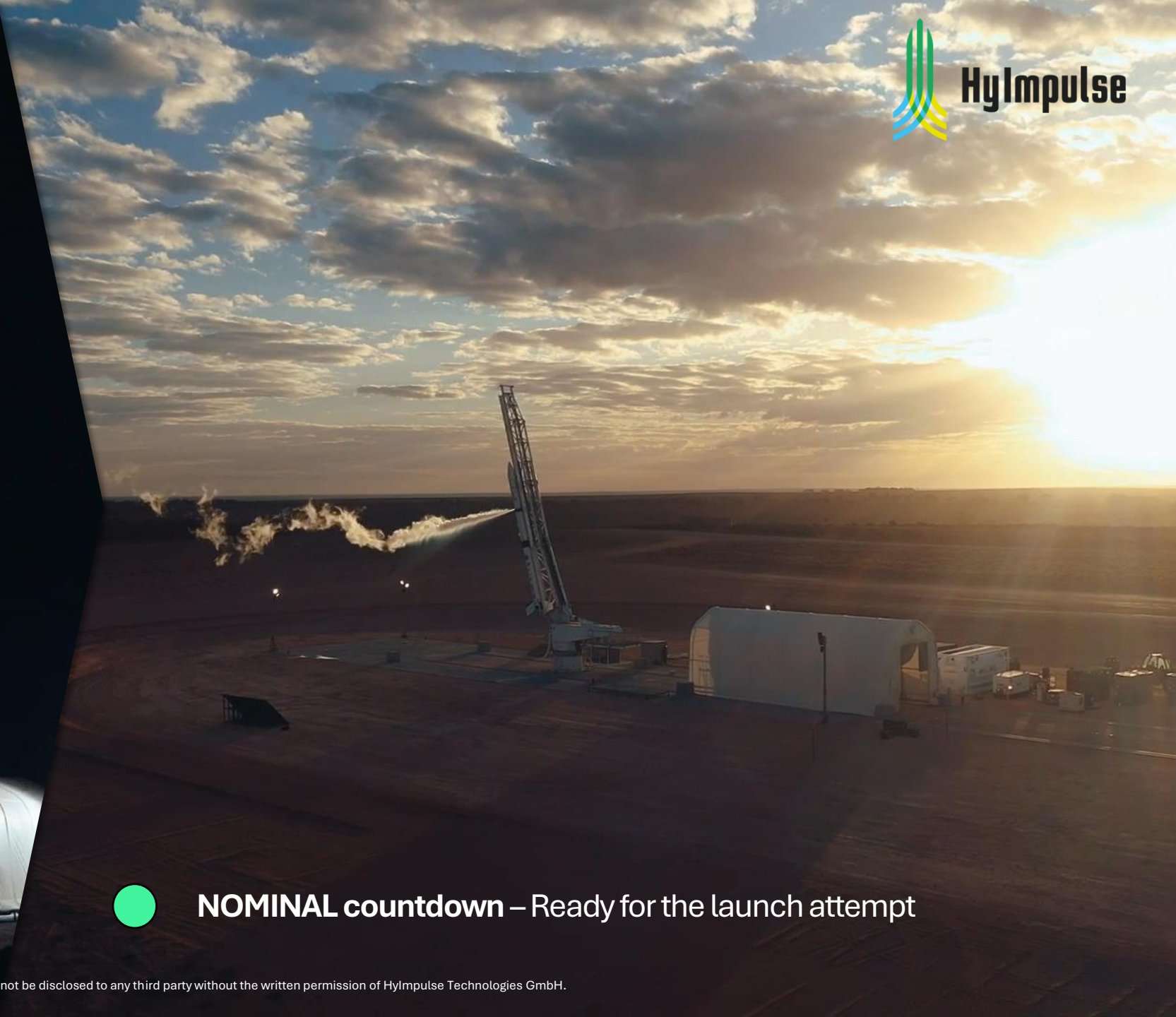
SR75 Sounding Rocket: Maiden Flight

# Wet Dress Rehearsal

T-2 Days 04:00 Local Time



Picture from HyImpulse SR75 Maiden Launch

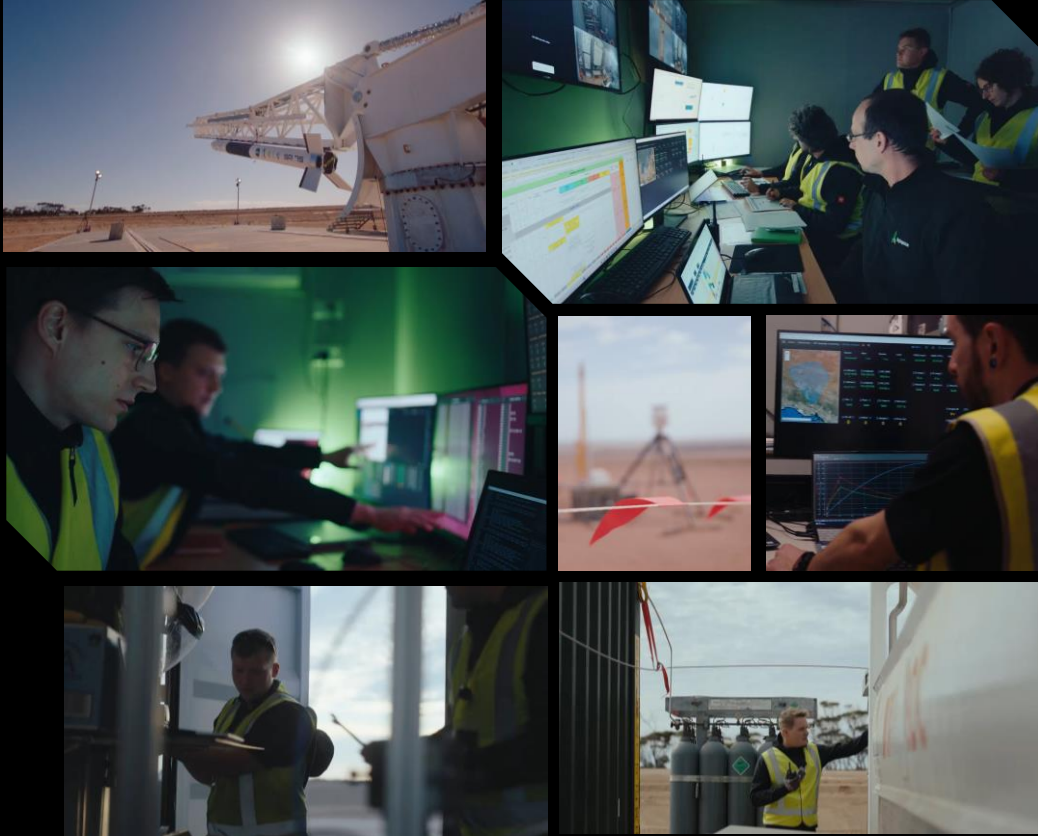


**NOMINAL** countdown – Ready for the launch attempt

SR75 Sounding Rocket: Maiden Flight

# Launch Day

Countdown START 10:00 Local Time



Picture from HyImpulse SR75 Maiden Launch

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# SR75 Sounding Rocket: Maiden Flight

## Lift off!



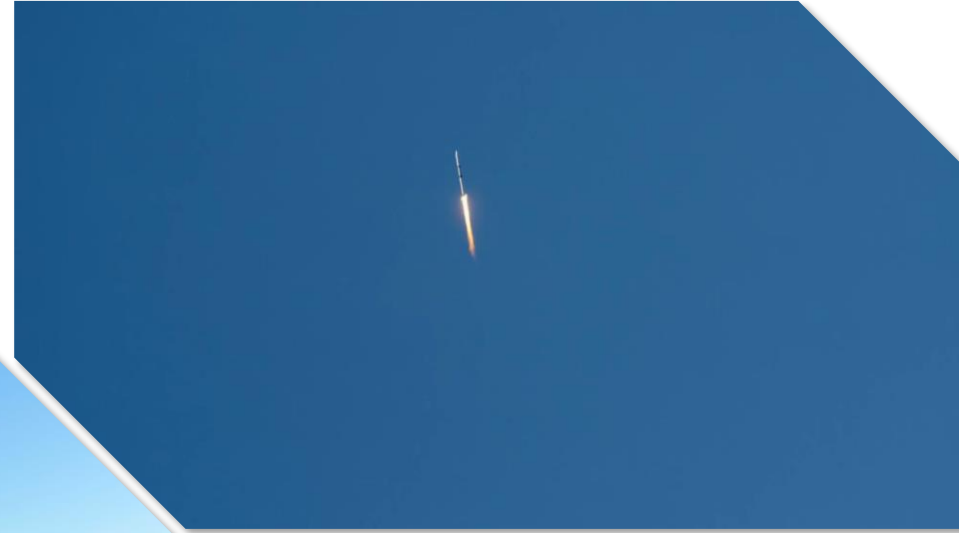
14:40 Local Time

Picture from Hylmpulse SR75 Maiden Launch

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# Post-Flight

## Recovery operations



**Recovery operations** after the flight

**Locator beacons** and a Helicopter were used for recovery

**Post Flight Analysis** on going with the recovered data

# SR75 Sounding Rocket: Maiden Flight

## Post-Flight

Payload recovered



### LAUNCH CERTIFICATE



Im Namen von HYIMPULSE  
war das Deutschlandtrikot bei dem ersten privaten  
kommerziellen deutschen Raketenstart mit an Bord.



*Markus Wolf* *Christina Schmeiser*

MISSION: LIGHT THIS CANDLE  
LAUNCHER: SR75  
LIFT OFF: May 3rd 2024, 5:10 UTC  
LOCATION: Koonibba, Australia

WORLD'S FIRST SUCCESSFUL PARAFFIN/LOX HYBRID PROPULSION ROCKET LAUNCH  
GERMANY'S FIRST PRIVATE COMMERCIAL ROCKET LAUNCH



THE ROCKET & PAYLOAD WERE SAFELY SECURED AFTER LANDING

# SR75 Sounding Rocket: Maiden Flight

## Press Coverage

### Recovery operations

L'entreprise allemande HyImpulse vendredi une fusée alimentée avec un carburant particulier.  
L'engin utilise un mélange de cire d'oxygène liquide.  
HyImpulse prévoit un premier vol



## Kerzenwachs-Rakete ist erfolgreich gestartet

Weltpremier und von Deutschen entwickelt



L'UTILISATION DE CE CARBURANT PRÉSENTE PLUSIEURS AVANTAGES PAR RAPPORT À D'AUTRES HYDROCARBURES



German company launches candle wax-powered rocket on test flight into space  
German company HyImpulse this week successfully launched a candle wax ...

news24 | Business  
In race to space, one startup is betting on candle wax

The Korea Herald  
Koonibba cements place in Australia's space race with launch of rocket powered by candle wax  
La start-up allemande HyImpulse a réussi son lancement de fusée propulsée à la cire de bougie

SRN News  
SCIENCE  
German company launches candle wax-powered rocket on test flight into space

Koonibba cements place in Australia's space race with launch of rocket powered by candle wax

德国航天企业试射蜡动力火箭  
Bericht: Anna Gürth  
ZDF-Studio Stuttgart

### Sustainable space travel start-up uses candle wax to launch satellites

The German startup HyImpulse tests its candle wax rocket propulsion system

START-UP HYIMPULSE  
DEUTSCHE RAKETE FLIEGT MIT KERZENWACHS  
IN ZUR WALDBRANDBEKÄMPFUNG IN EUROPA

THE TIMES OF INDIA  
German co tests rocket powered by candle wax

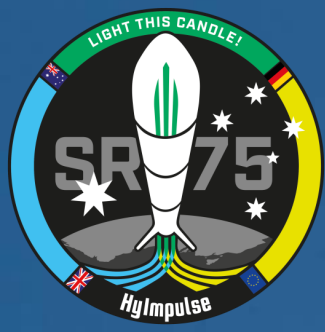
Roket SR75 itu punya panjang 12 meter, berat 2,5 ton dan merupakan buatan perusahaan asal Jerman, HyImpulse.

Christian Schmierer  
Co-Geschäftsführer „HyImpulse“

DEFENCE INDUSTRY EUROPE  
HyImpulse: German space company successfully launches first commercially viable launch vehicle



Onwards to SL1!



HyImpulse