

The HyImpulse SR75 rocket is prepared, ready and en-route to Australia for Germany's first private NewSpace rocket launch

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The rocket SR75 from HyImpulse has been fully prepared and packaged in time at the HyImpulse headquarters in Neuenstadt, Germany. Both the rocket and its ground support equipment have started the journey by ship through the Atlantic Ocean, around South Africa and all the way to Southern Australia. The Koonibba test range will be the final destination for the fully fuelled, but non-explosive rocket. The launch campaign is scheduled to commence from mid-April at the Koonibba test range which is operated by Southern Launch.



Figure 1 Packing the rocket and shipping route along Africa (next stop Singapore)

The key highlight of the SR75 rocket is its innovative hybrid rocket engine based on solid paraffin – a non-explosive fuel that revolutionises rocket handling and logistics. This allows the SR75 to be fully loaded with fuel during the whole transport. There are no explosive materials involved which reduces logistical complexities significantly, and always ensures the readiness and safety of rocket launches. This enables HyImpulse to pre-produce, store, and transport rockets more efficiently and safely. This unique approach simplifies also the shipping and custom processes, setting a new standard in the space industry, resulting in overall much lower costs.



Figure 2 Fully assembled rocket SR75 in the workshop at the HyImpulse headquarters

The hybrid propulsion system from HyImpulse is set apart by its high performance, its simplicity and its scalability in manufacturing, which drastically lowers costs. This unique approach to scale up of commercial launch services is made possible through the specialized HyImpulse paraffin fuel formulation and pioneering motor design. Looking towards the future, HyImpulse is committed to achieving carbon-neutral operations, driven by our use of a synthesized paraffin fuel derived from captured CO₂ and renewable energy sources. The unique and environmentally friendly rocket motor has been demonstrated successfully by many ground test firings on ground at the HyImpulse test facility on Shetland Islands. All tests were completed with the representative flight configurations of the motor.



Figure 3 Firing of the SR75 motor during a qualification test at the HyImpulse test facility on the Shetland Islands

In parallel to the SR75 flight activities, the development of the SL1 orbital launcher, with ten clustered SR75 motors, is progressing well. Relationships are being established with potential subsystem suppliers i.e. structures and electronics, with HyImpulse retaining full control on the propulsion system, the trademark of HyImpulse. At the same time, HyImpulse acts as system integrator for other subsystems that can be acquired commercially and very effectively from space and non-space industries. This approach reduces capital expenditure and ensures that subsystems using the latest technologies can be acquired in a competitive and timely manner from world class providers.

About HyImpulse

HyImpulse is a launch services provider based in Baden-Württemberg, Germany. Founded with the goal to revolutionize access to space, HyImpulse's orbital Small Launcher, SL1, is powered by a unique and proprietary hybrid propulsion system. This disruptive technology enables HyImpulse to offer affordable, frequent, responsive, and safe access to space for small satellites and spacecrafts. SL1 has a payload capacity of 600 kg to low earth orbit.

SR75 is a single-stage rocket powered by the disruptive HyImpulse rocket engine technology using a solid paraffin fuel and liquid oxygen. It carries payloads up to 250 kg and to fly up to an altitude of 300 km. It is designed to launch microgravity experiments, to be used as a versatile rocket booster and it serves as the technology demonstrator for HyImpulse's orbital launch vehicle, SL1. This SR75 maiden launch is set to flight-qualify the innovative hybrid propulsion technology, a cornerstone in the development of SL1.

For more information about HyImpulse Technologies and its products, please visit hyimpulse.de.

About Southern Launch

Southern Launch expands space exploration from the Southern Hemisphere with end-to-end launch and return services for space missions. Southern Launch owns and operates two commercial space facilities in Australia: The Koonibba Test Range for sub-orbital missions and returns from space and the Whalers Way Orbital Launch Complex for orbital missions to polar and sun-synchronous orbits.

For more information, visit: <https://southernlaunch.space>

About Koonibba Test Range

The Koonibba Test Range is Australia's largest commercial rocket testing facility and specialises in suborbital launches. The Koonibba Test Range is operated in partnership with the Koonibba Aboriginal Community Corporation.

The Koonibba Test Range offers up to 41,000 square kilometres of range area and a downrange of up to 350km. Customers who use the Koonibba Test Range can recover their rocket and payload for further testing and systems validation before launching into orbit.

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