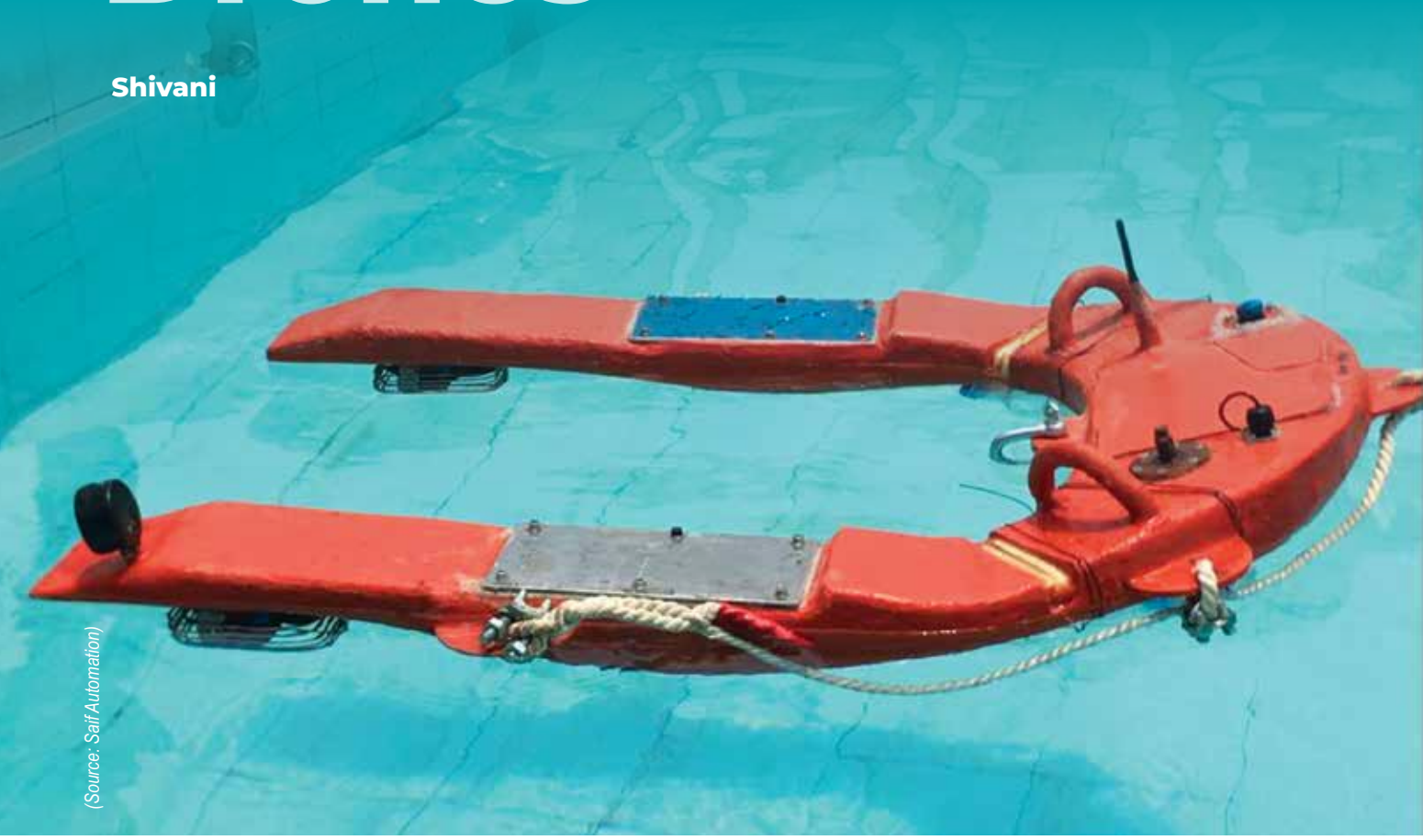
Saif Seas Drones

Shivani



(Source: Saif Automation)

Saif Seas drone

SALVAGE on the high seas, a lake or any water body via drone! It sounds like fantasy doesn't it? But Aliasgar Calcuttawala is making it happen! A 40-year-old mechatronics engineer (a multidisciplinary field of engineering that includes mechanical engineering, robotics, electronics, computer engineering, systems engineering and telecommunications), Aliasgar is the co-founder of Saif Automations along with his brother Taher Ahmed Calcuttawala and father Ahmed S. Abdeally.

After considerable research, he finally came up with his new device Saif Seas Drones which is 12 kg in weight and can be remotely controlled within a radio communication range of 3 km. There is also a belt attached to the drone craft which brings someone who is drowning back to the shore. Saif Seas Drones is not dependent on the internet or any other tower signal.

The drones have high-powered batteries and can endure continuous use up to 1.5 hours and eight hours of GPS tracking. It is an industry-grade drone and can move at a speed of 7 knots (i.e. 14 metres per second). An indicator is also present on the remote to check battery levels as well as internal temperatures. It can hold a single person weighing 100 kg and pull him/her to the shore. If it is more than one person, then the drone can help them stay afloat till help arrives.

While making the drone Aliasgar came across multiple engineering and logistical challenges, especially in the simulation process and developing a water-tight fabric. The

Launch of Saif Seas Drone

Saif Seas rescue water drones

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process of simulation gives the exact forces acting upon the drone, how it will flow over the water and at what speeds, how much drag, how it will work on still water or waves, etc. During the testing process, all these facets were simulated.

For fabrication, Fibre Reinforced Plastic (FRP) was used, which is often used in the manufacturing of modern lifeboats, yachts, etc. The fabric is 100% watertight to ensure that water does not seep in.

With the assistance from the National Research Development Corporation, a public sector enterprise under the Ministry of Science and Technology, Saif Automations has even applied for a patent. Besides rescue operations and tourism the firm has developed 12 different models of the drone.

Contributed by Ms Shivani, Research Intern with *Science Reporter*, CSIR-NISCAIR, New Delhi