

PARTNER CASE STUDY



# DEUTSCHE TELEKOM X SWIFT NAVIGATION



## THE PROBLEM

Tina has a special job. She works where others go on holiday. In a beautiful holiday resort with its own bay, she is the Sustainability Manager and makes sure that the guests enjoy the holiday of a lifetime. Part of her job is to make sure that the water in the bay is clean and beautiful. And it is precisely this part of her job that has been giving her a headache for years. Again and again, chartered mini boats from the surrounding harbours sail into her bay without being guests of the hotel. On the contrary: most of them are party tourists and spend their time on the boats rather noisily. Worst of all, however, is the rubbish. Plastic bottles, bags and packaging constantly end up in the water. What is annoying enough for the hotel guests becomes a real problem for the bay in the long run.

Because of the many caves and winding rocks, the plastic gets caught in places where it takes weeks to find it. And she's not the only one who knows the danger of plastic in the water. Marine litter is a global concern, affecting all the oceans and seas of the world. Every year millions of tons of litter end up in the oceans, inland and coastal waters, creating environmental, economic and health problems. It is widely cited that up to 80% of marine waste originates from land. From this debris, 60 to 95% of the waste is estimated to be plastic debris. **Tina needs a solution. So that both the environment is saved, and her hotel continues to be attractive for guests.**

# THE

# SOLUTION

Acclaimed Dutch start-up RanMarine Technology have set out to make a positive difference to the environment facing an exponentially growing problem:

They have designed and developed an **industrial autonomous surface vessels (ASV's)** for ports, harbors and other marine and water environments to clear plastics, bio-waste, and other debris from waterways – just like street sweeping vehicles would do on land. Additionally, optional sensors from their water drone monitor the environment and makeup of the water in real time. This creates an accurate picture of the water's DNA to pinpoint any unquantified concerns.

RanMarine **Technology's ASV's** can either be remotely operated or perform their tasks autonomously, running programmable preset mission routes. For this, the drone relies on GPS to navigate to the desired areas and to return home. A LiDAR sensor can optionally be added to the device to increase both safety (collision avoidance) and enhanced data captured from the environment.



For RanMarine Technology's water drone to operate autonomously and safely, precise positioning is required. Navigation with accuracy of **3 – 15 meters**, as found in typical GPS systems, does not meet autonomous requirements. Precise Positioning from Deutsche Telekom, and Silicon Valley based Swift Navigation, delivers cloud-based corrections that in turn deliver centimeter-level accuracy of up to 4 centimeters.

The solution is scalable for an unlimited number of autonomous machines. Precise Positioning is already available nationwide throughout the United States, Germany, and most European countries as well as in Japan and Australia.

Tina may not rid all the oceans of plastic. But with RanMarine, she manages to keep her bay clean and create a paradise for guests and marine life. Thanks to Precise positioning by Swift Navigation and Deutsche Telekom, she can clear every nook and cranny of even the smallest cave of plastic. Now she always knows which areas need to be cleaned urgently and where the water is of what quality.

We are proud that RanMarine is relying on DT Precise Positioning as a highly scalable, cost-efficient solution to roll out their innovative waterway sweeper all over the world – and making our water cleaner and safer with every drone deployed. All our water is connected, this is an ‘everyone’ problem. Which means it’s up to all of us to manage and monitor the quality of our water, starting right in our backyards.

# THE IMPACT



"Ranmarine high-tech WasteSharks rely on precise GPS localisation for efficient operation in autonomous mode. Having precise information about one's location is crucial for determining the right path, especially when it comes to path planning. Since Ranmarine operates worldwide, it can be challenging to locate GPS precision services that offer the precision and dependable service required. The Precise Positioning service from Deutsche Telekom is simple to set up and enables the WasteSharks to determine their location within centimeters, ensuring optimal performance. Dependable and reassuring for Ranmarine."

**Alistair Longman**  
Chief Product Officer  
Ranmarine Technology

## WHAT ABOUT YOU?

Everyone loves a good Changing the World story. Let us be honest, we might not be saving the world with every partnership, but we can change the world for the better, especially for our customers and the environment. What is your change the world story? Together with our partners, we publish world-changing case studies regularly.

Want to become part of that? Get in touch [here](#), and we will create breathtaking formats with you!