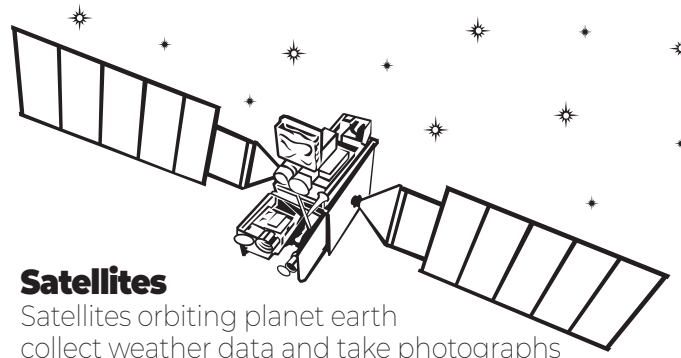


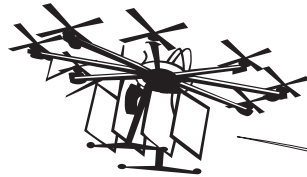
# The Technology Behind the WEDDELL SEA EXPEDITION

Many types of technologies went into action to assist the scientists aboard "S.A. Agulhas II" on their expedition to the Weddell Sea in Antarctica.



## Satellites

Satellites orbiting planet earth collect weather data and take photographs miles above us. They help scientists monitor sea ice conditions for navigation and communicate with their peers from around the world.

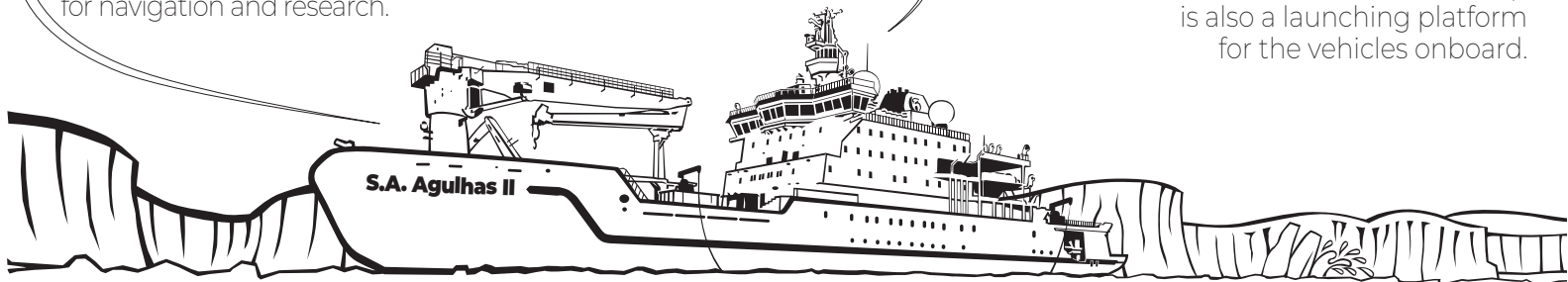


## Flying Drones

Remote-controlled drones fly above the Weddell Sea and landscape to survey and collect images with their cameras. Some of the drones have sensors to collect data on sea ice for navigation and research.

## "S.A. Agulhas II"

The ship itself is technology that floats. It travels through harsh environments and is designed to break ice up to one meter thick while moving at five knots. It was pushed the limits during the expedition and broke seven meters of ice! The ship is also a launching platform for the vehicles onboard.



## Autonomous Underwater Vehicles (AUV)

The AUV scans and photographs the seabed floor, the underside of the ice and searches for Ernest Shackleton's shipwreck. It operates at speeds of up to six knots and in water depths of up to 6,000 meters.

## Remotely Operated Vehicles (ROV)

The ROV is tethered to the vessel and is controlled through a joystick by a pilot onboard. It is equipped with tools including robotic arms and cameras to help collect samples of plant and animal life from the sea.



## Sediment Core

This device collects core samples from the seabed floor to help scientists better understand climate change over time. It is lowered from the ship by a large mechanical arm.

