



LanderPick:

A Remote Operated Towed Vehicle to cost-effectively deploy and recover lightweight oceanographic landers

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Spanish Institute of
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eDrónica – Unmanned
vehicle technology

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PROGRAMA
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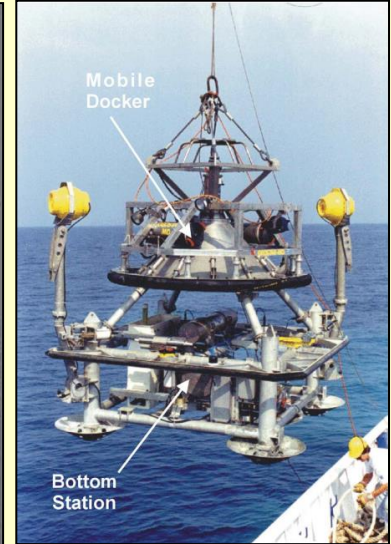
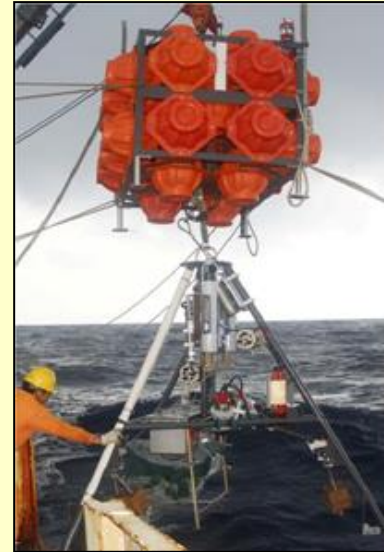
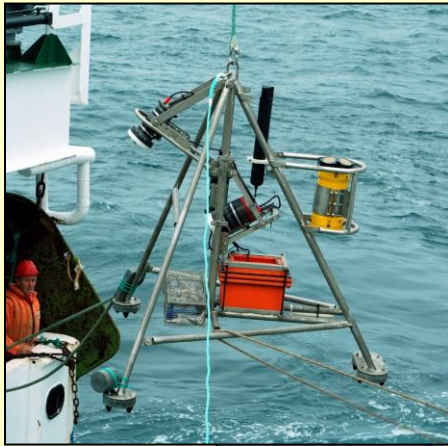
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INTEWARES

Landers: Definition, designs, launch & recovery

Landers are a **modular structures**, equipped with various sensors, which are positioned **directly on the seabed** to operate **autonomously** for a defined timeframe. First landers date back to mid-20 century.

Main drawback of landers is the **deployment and picking-up system**. Options are: surface buoy, release of a ballast, pop-up buoy, divers/ROVs. The most sophisticated a "mobile docker". All **expensive or not suitable for mid-long term**.

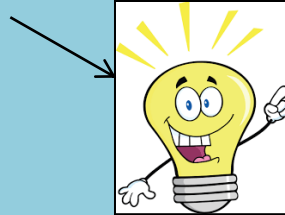


Landers: Definition, designs, launch & recovery

This fact prevents the deployment of **several landers** simultaneously with a reasonable cost, which is necessary to characterize a region.

Modern oceanographic vessels have high-level dynamic positioning systems (DP) and submarine positioning (i.e. HiPAP) that allow precise control of remote operated towed vehicles (ROTV).

If we design landers with a recapture mesh, we can recover them aided from a specifically designed ROTV



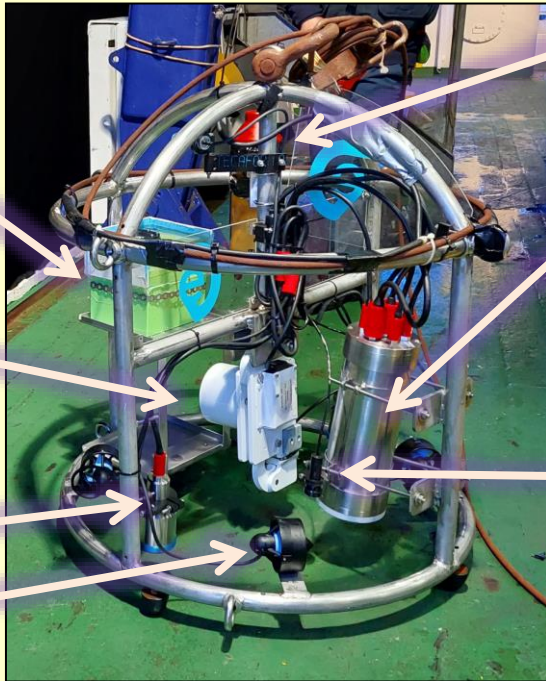
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reducing its long-term capabilities. The target should be long-term large-scale sampling capability.

LanderPick: 1st prototype field tests.

LanderPick: Technically a ROTV (Remotely Operated Towed Vehicle), but has propellers to aid in the final approach. Communication through standard cable. Test fields and pilot deployments in 2021.



Submarine
Battery

Mechanical
release

Lights

Thrusters

HiPAP beacon

Control electronics
and camera

Lasers

Realtime control software

