ALFA Testbed

ALFA Testbed is based in Campania (Southern Italy), with the pilot activities taking place on the islands of Ischia and Procida, in the Gulf of Naples. The testbed operates in real working conditions, directly during small-scale fishing operations and along the local landing and first-sale chain. It is designed to be deployed "on board + on shore", without requiring complex dedicated infrastructure.

1. **Port**

The testbed is anchored to the local landing points and port areas of Ischia and Procida, where small-scale vessels typically depart and return, and where catch handling and first logistics steps occur (landing, boxing, basic documentation, handover).
Operationally, the "port" element in ALFA matters because the system records departure/return ports and timestamps as part of the digital logbook workflow.

2. **The app**

ALFA is an asynchronous web + IoT service (web app) for fisheries, built to digitalise and automate key operational and regulatory steps of fishing activity.

It is used for:

- Automated fishing logbook compilation (reducing paperwork and errors)
- AI-based fish species recognition, catch counting and fishing gear (via computer vision)
- Automatic acquisition of time/GPS and identification of FAO areas
- Integration with common marine communication standards (AIS / NMEA)
- QR-code generation at box/lot level to enable "sea-to-plate" traceability, including metadata such as vessel ID, date, method, FAO area, species naming, and Water Quality Index (WQI) of the catch area
- Cloud backend for storage and compute-intensive processing

In short: ALFA turns fishing activity into structured, traceable, usable data — for fishermen, supply chain actors, and institutions.

3. **What ALFA testbed could offer to startups:**

ALFA is an excellent testbed for startups working on:

Sustainable fisheries & traceability

- digital traceability tools, eco-labelling, origin certification, compliance support
- smart documentation, e-logbooks, fisheries reporting automation

Logistics and cold-chain optimisation

- fish-to-market logistics, route optimisation, smart distribution, demand forecasting
- quality preservation and freshness analytics

Smart maritime / IoT / sensing

- onboard sensors, integration with vessel systems, monitoring solutions
- environmental monitoring linked to fisheries (water quality, marine conditions)

Data platforms and marketplaces

- digital seafood marketplaces, B2B ordering systems, supply chain transparency platforms
- APIs and data services using ALFA-generated datasets

AI/advanced analytics

- predictive models for fishing spots, weather/sea condition enhancements
- decision support tools for fishers and local authorities

Startups in TRL 4–8 are especially aligned, because ALFA can support real-world MVP validation.

Beyond access to the testbed environment, selected startups can expect:

Real-world validation

- piloting support in real operating conditions
- structured feedback loops from fishers and local stakeholders

Scientific and technical support

- connection to universities and research institutions for scientific validation
- technical guidance on data, models, and field constraints

Stakeholder access

- facilitated access to fishers' associations, local authorities, coast guard, protected area actors, SMEs and supply-chain operators
- visibility and trust-building within the local ecosystem

Data and integration opportunities

- potential access to **datasets** generated through the testbed (subject to governance/permissions)
- opportunities to build **connectors** and complementary services (APIs, logistics tools, marketplaces, research modules)

Communication & dissemination

- inclusion in the ALFA storytelling platform and project communication channels, helping visibility and adoption.