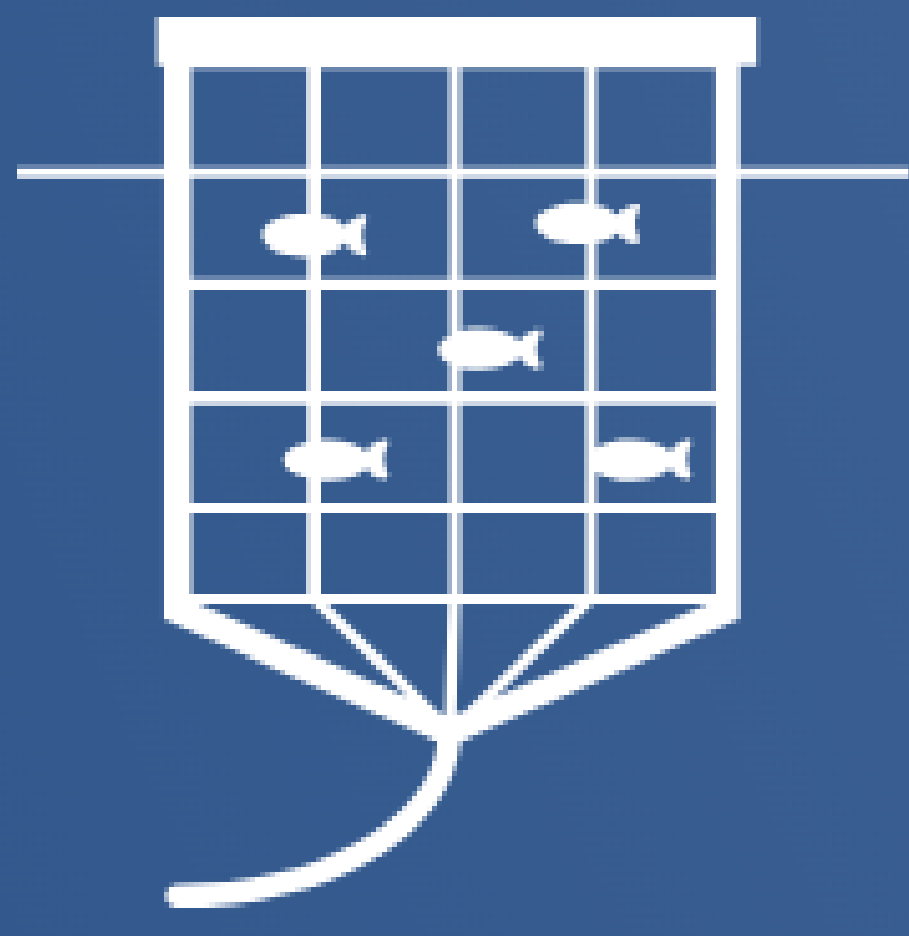
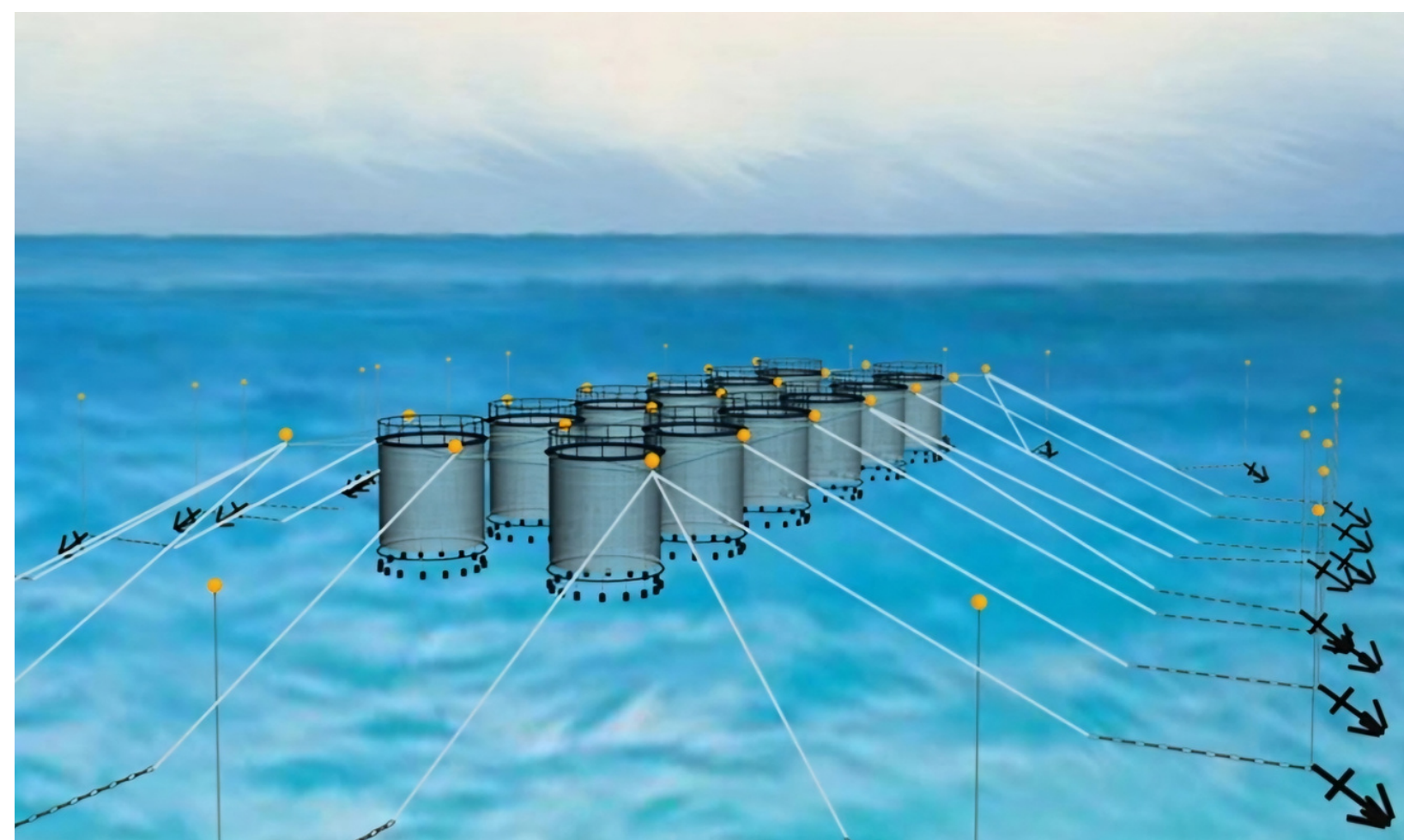




fleksnets

PLASTIC IN AQUACULTURE

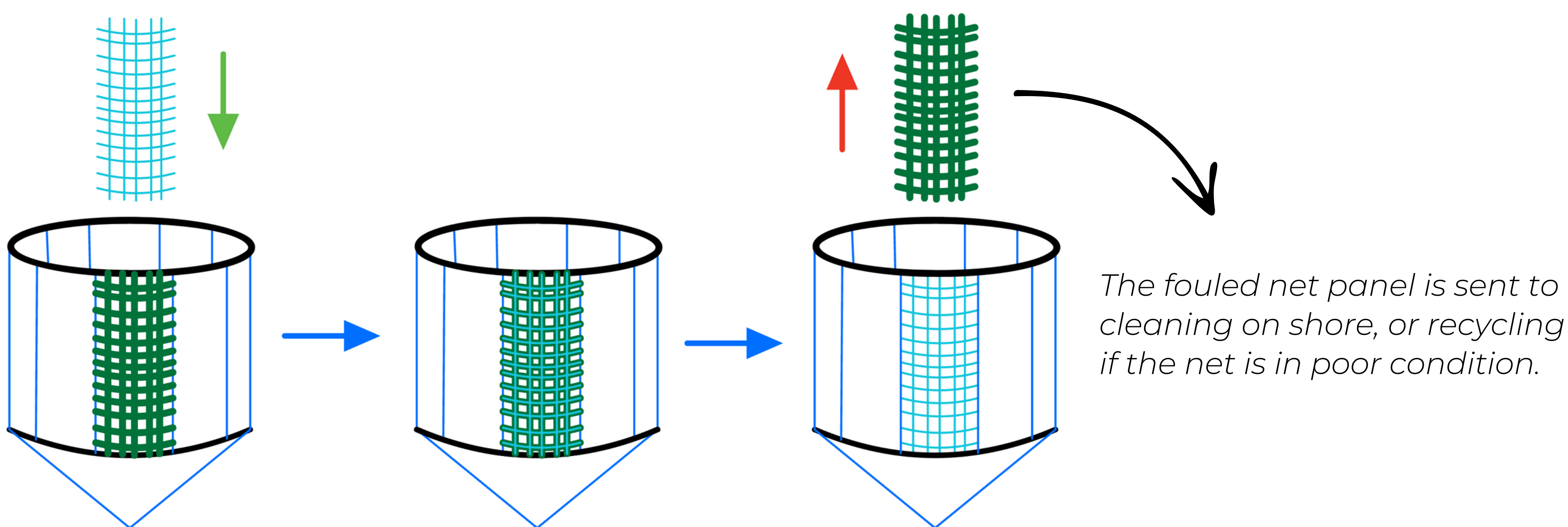
- 430 million tonnes every year
- Aquaculture generates 190,000 tonnes
- 25 000 tonnes waste
- Cage of 90 x 90-meter ~ 36000kg of plastic.
- Damage/ fouling- replacement of net
- Microplastics (<5mm in diameter)
- affect food safety and quality, human health, environmental health and contributes to climate change
- UN SDGS



SOLUTION

Our solution aims to find an effective way to clean nets in aquaculture facilities, reducing plastic waste in the oceans and fouling.

The idea is to divide the net pen in several panels. By dividing the net in multiple parts, you can replace the net panels with the most fouling with new or cleaned ones.



IMPLEMENTATION

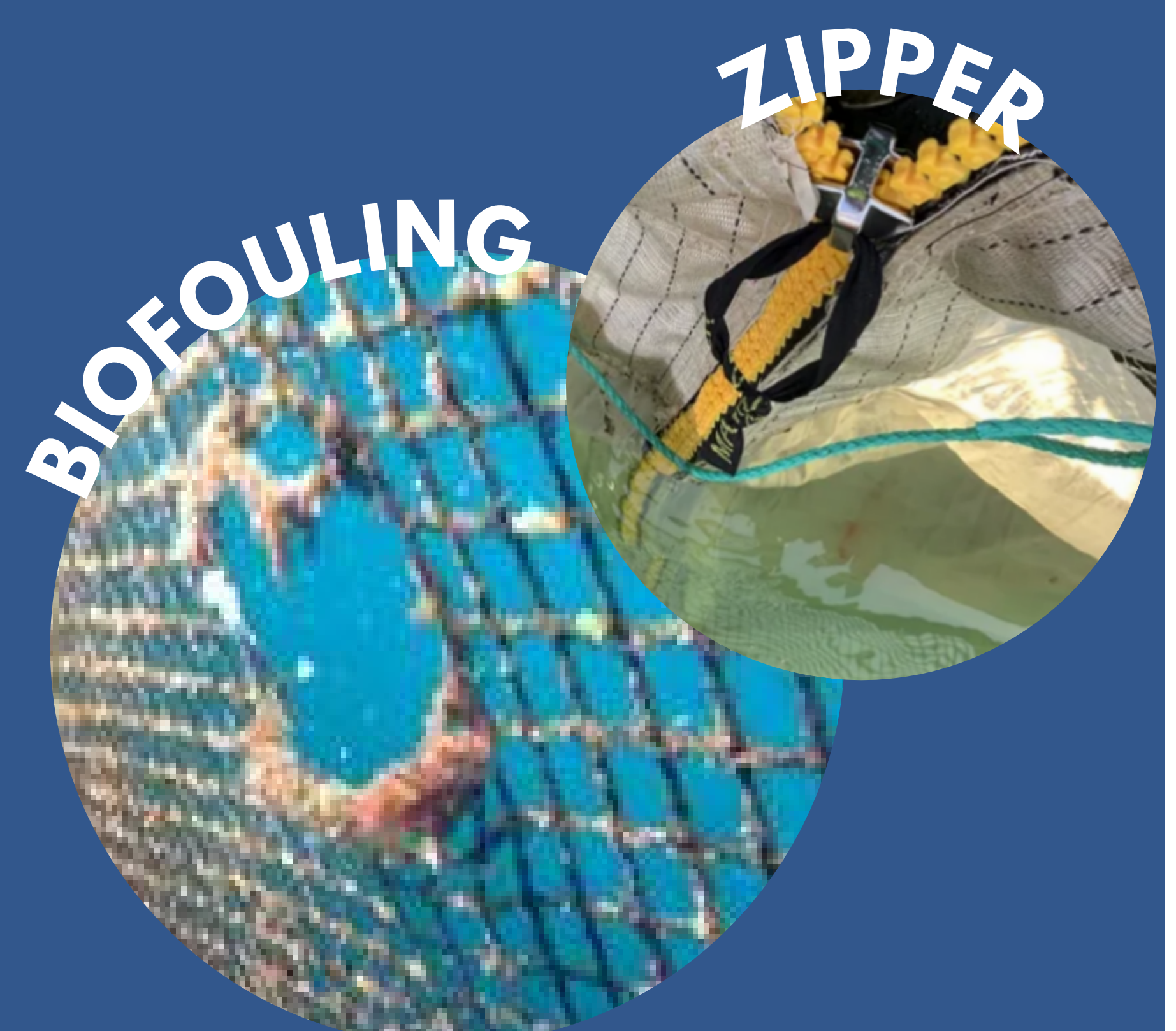
The net panels needs to be connected and removed in an easy manner, while still being able to withstand environmental forces according to NS9415. It was decided that the use of marine zippers could be a possible way of fulfilling these demands.

We found an Italian company that produces zippers used in fish cages which seems very promising.

By using this solution, you would need a high maintenance strategy and system surveillance to effectively switch the nets with critical fouling.

The number of operations will likely increase, increasing expenses, and an increased risk of escape of fish during operations. It is therefore important to ensure that each net panel is fully utilized to avoid excessive operations.

Fleksnets has a potential of making aquaculture more sustainable in the future



BENEFITS

ENVIRONMENTAL

- Amount of fouling varies within a fish farming facility
- Dividing the net in multiple parts lets fishermen choose which parts to clean instead of the whole net
- Instead of cleaning whole nets on-site and producing micro-plastic waste, nets are brought ashore for cleaning
- Prevents plastic waste and other waste from ending up in oceans

FISH WELFARE

- Improves fish welfare
- Nets will be cleaner, increasing amount of oxygen in fish cages
- Less stressful for fish than current methods, where nets are cleaned next to the fish, causing stress

OPERATIONAL

- Easier to handle small rectangular nets than large cylindrical
- Gently washing the nets on shore allows for less damage and more reuse
- No need to throw out entire net once life-span is complete
- When damage is discovered, is simpler to remove a single segment of net