Alain Thébault,
CEO of Fly-Box

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Using the Sea *as a* ***Fast Lane***

Fly-Box CEO Alain Thébault explains why existing port transport models no longer meet express demand, and how automated coastal shuttles could offer ports a faster, cleaner alternative for short-distance container moves.

What problem does Fly-Box solve for ports today?
Ports deal with two hard challenges: move more containers, faster and more agile, while cutting CO2 drastically. Many express short distance moves inside port areas or between nearby ports end up on trucks as the default option. It feels simple because you load once, you drive, you unload, done. But the side effects are getting harder to accept, both for the real total transit time and for the footprint: gate congestion, queues, noise, local air pollution, and dependency on drivers.

On the water, classic feeders are great for volume, but not reactive. They run fixed schedules and often wait to fill, it's impossible for express needs. Barges could be more flexible but they can't face open sea segments. Fly-Box is a fast, low-emission container shuttle designed to operate in open sea conditions with automation rooted in its software design. It uses the sea as an extra lane for express single moves. It empowers underused waterfronts to reduce pressure on the main terminal and gates, and bring

containers closer to their final destination, keeping trucks for a true last-mile job.

How is a Fly-Box route faster or cheaper than using trucks or feeder ships?
We reduce waiting time in port and shuttle time on routes. We do not compete against inland barges. We operate on coastal open sea legs. Versus trucks, we can win when gate congestion is high and the sea route is direct while the road route is long, tortuous,or regularly jammed. Our full-scale platform targets 1 ×

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40 ft on a ~20 m craft, cruising around 25 kn (about 45 km/h), for routes up to 150 nm (about 250 km).

On costs, early work suggests that on premium express service when we are radically faster in total time from A to B, our OPEX can catch up because the asset can rotate more. Also, time savings are not linear with price: on specific routes and for time-sensitive products, twice faster can justify way more than twice the cost. We are running a techno economic assessment to model total cost per move, including energy, port fees, maintenance, and crewing, plus the real savings from avoiding congestion and reducing idle time. One point that matters a lot for ports is infrastructure: we offer low-CAPEX port interfaces. A small quay plus a reachstacker and you can operate. This can generate value from underused port zones that do not produce much today and most port operators look at how to intensify their operations, without new land consumption.

Finally, our solution truly scales when automation comes into the game. Naval drones are progressing fast and the sea is a less crowded environment than roads. We believe container shuttles can progressively move from 1 unit = 1 pilot, to several units in a platoon supervised by one pilot, and then toward remote control with a control tower.

Which types of ports benefit most from Fly-Box and why?
The best fit is a major hub where inter-terminal transport (ITT) has become a real bottleneck and hubs surrounded by multiple secondary ports within a few hours of navigation, especially where roads around terminals are structurally saturated. Dense coastlines, gulfs, deltas, and industrial port clusters are typical sweet spots.

The Gulf is a natural beachhead market for our solution: many ports fall within Fly-Box range, road congestion is severe with strong political pressure to regulate truck flows, and there is a clear appetite for innovation. Sea and weather conditions can also support operations on most days of the year. We have already established very positive contacts there with port operators, port authorities, political networks, and shipbuilding providers.

As said, Fly-Box is designed for simple infrastructure: shallow-draft access, a short quay, and standard cargo-handling equipment such as a reach stacker. That opens up underused waterfronts inside large ports, and can also reactivate smaller ports that lost container calls over time, including ports that never considered handling containers. We also see strong interest from island regions where logistics are complex and expensive. In places such as the Maldives, faster and more agile sea logistics can be a real game changer, and traction is strong in these niche markets as well.

What does success look like at the end of your current industry assessment?
Success means we end the assessment with an operator-grade view of operations and business, not just a concept story. It consists of a shortlist of priority routes with volumes, service-level targets, constraints, and port interfaces. Also a clear model with CAPEX and OPEX for the operator, including a port integration plan (how we connect with TOS and planning tools, how container handover works, with safety procedures, energy and maintenance setups). If the assessment ends with one corridor where the numbers make sense and the execution plan is realistic, we believe this will naturally trigger the next stage.

How much can operators realistically cut emissions by shifting cargo to Fly-Box?
It depends on what you replace and how you power the vessel, so we avoid one magic percentage. The platform is designed to be fully electric for ITT-type operations, so on corridors where ports can supply low-carbon electricity, operational emissions can drop sharply. For longer routes and early deployments, we also consider hybrid architectures, and operators can choose their own balance between cost and footprint. What is clear is that hydrofoils reduce drag, which reduces energy demand.

Our design direction targets about 30%–40% less energy than a conventional barge hull for comparable payload on the same route, with the additional benefit of keeping speed and schedule in moderate open sea (up to 1.5 m wave height). But the honest answer is route by route: electricity mix, port dwell time, truck detours, and the replaced mode all matter. The purpose of the current assessment is also to quantify emissions with an operator-grade methodology that can be used in ESG reporting.

When will Fly-Box move from pilots to commercial operations?
We made our 8m demonstrator take off on Lake Geneva this fall. Next steps are phased: complete the industry assessment and lock pilot routes, while upgrading our demonstrator to its next version with more autonomous and remote-operation features. A big part of our value is in software. We then aim to secure the funding to build the first 2 full-scale units and run pilots with an operator under real conditions. Commercial operations come after successful pilots and the normal certification path, not before. If funding and industrial execution stay on track, we believe pilots can start in the 18–24 month window after we freeze the full-scale design. ▪