

# Sea Link Finance

*One Voyage at a Time*



**Team Lab Rats LXVII**

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# The Decentralized Future of Maritime Finance



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Our platform creates a decentralized marketplace that connects ship owners and investors, enabling faster, short-term financing based on near-future cash flows, improving liquidity for ship owners while unlocking safer, more efficient yield opportunities for investors.

## **Key Features**

- Trust:
  - Standardized credit ratings powered by transaction behavior data for risk-aware investment opportunities.
- Speed:
  - Shift from months-long bank approvals to second-level settlement on XRPL.
  - Seamless cross-border fundings and payments
- Yield:
  - Short-tenor (30–90 days) investment opportunities aligned with actual trade cycles.



# The SME Maritime Liquidity Trap



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With **policy shifts** (SDGs) and **regulatory constraints** (Basel IV framework), banks are slowly exiting the maritime industry. Their lending models are also based on historical financial audits instead of real-time asset performance.

Although SME shipowners are asset-rich, they are facing **lack of flexible capital, trade tariffs, financing gaps, months-long approval timelines** and prohibitive interest premiums. Shipping market cycle downturns make **long-term debt risky** and misaligned with short-term revenues, the lack of fast, short-term capital flow rendering them **incapable of capturing market opportunities** and staying resilient during downturns.

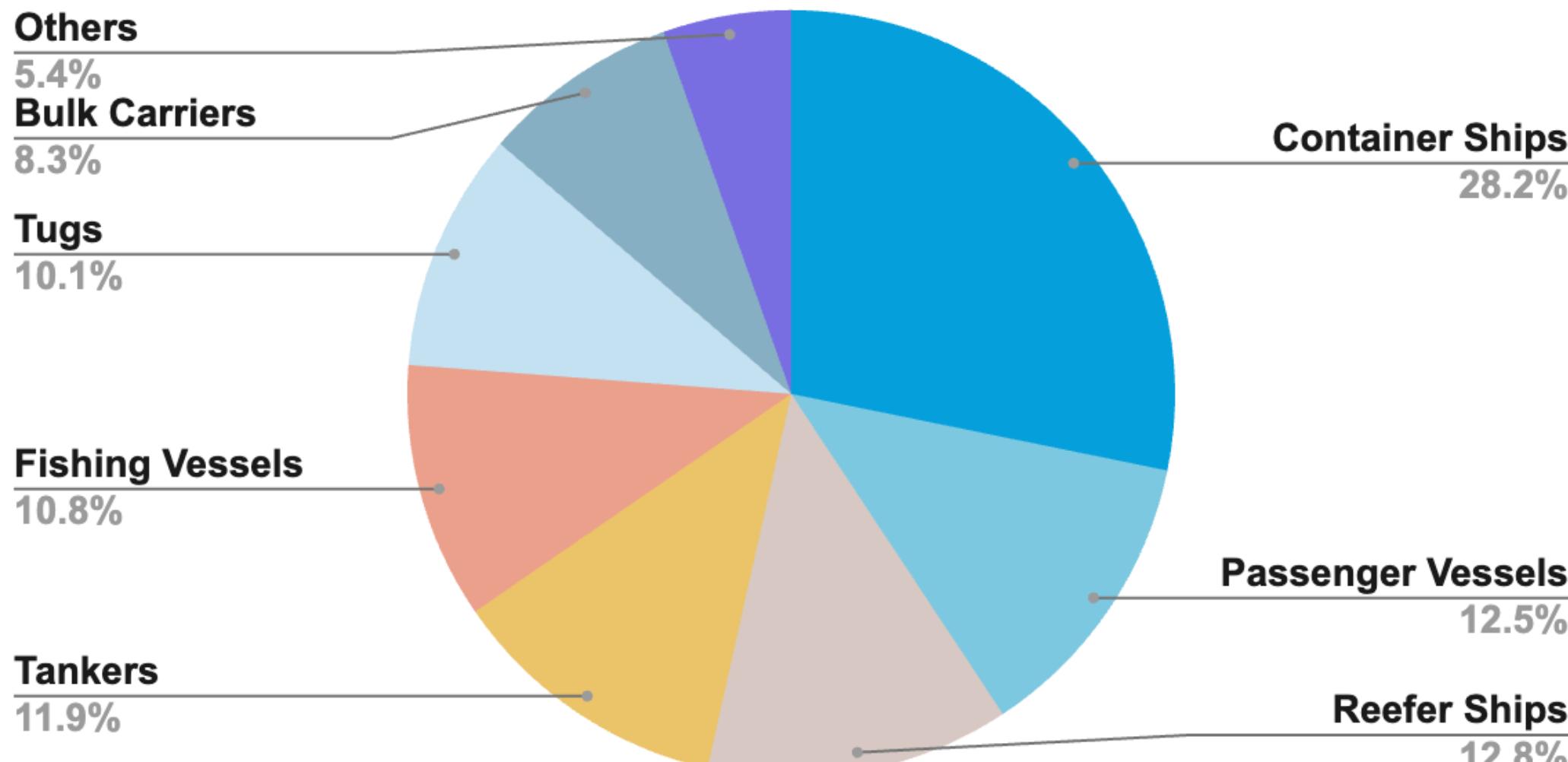
# Customer Profile



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## Commercial Vessels Market by Type

Market Value of 158.4 USD Billion



VOYAGE SUCCESS RATE:  
**99.97%**

(Allianz Safety and Shipping Review 2025)

MARITIME TRANSPORT:  
**80% of global trade**

*High volume, low physical risk transactions*

CUSTOMER BASE:  
**48.4% of commercial vessels**  
*Container ships, Tankers, Bulk Carriers*



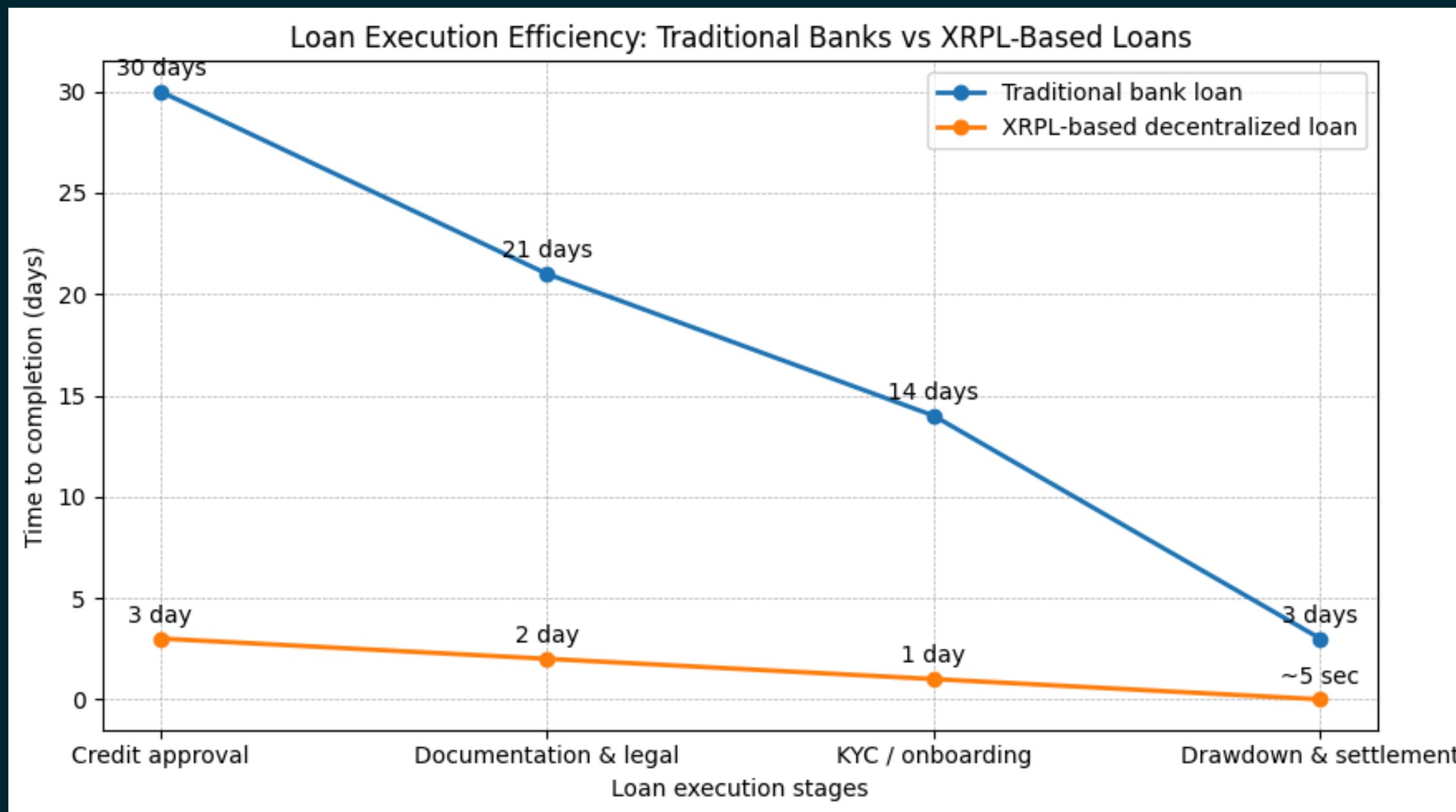
*Live Traffic of Cargo and Tanker Vessels Alone (marinetraffic.com)*

# Our Customer



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A \$30-\$50 billion financing gap has emerged in the current maritime financing landscape as banks retreat due to stringent Basel IV capital requirements.



Average Bank Loan Approval Time (<https://equity.sg/vessel-financing>)

Traditional bank ship loans

- Lose most time in approval, legal, and onboarding, taking weeks before funds are usable.

XRPL-based lending

- Compresses these stages to days, with settlement occurring in seconds.

Container ship, tankers, bulk carriers:

- Do first then get paid, but **high operational costs**, requiring loans.
- Makes up 48.4% of the 158 Billion USD market value → 1% of the market with **0.5% commission = 3.74M USD per annum**

# Our Solution



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## *Layer 1: Transactional Layer*

- Manage invoices for each voyage
- Kept off-chain to ensure privacy
- Allows shipowners to generate unique payment links to settle invoices quickly and securely.

## *Layer 2: Attestation and On-Chain Scoring*

- Allows for tracking and verification of each voyage's progress
- A Transaction Execution Reliability (TER) score is calculated based on transaction completion data to measure the operational reliability and payment behaviour.

## *Layer 3: Loan Financing*

- With TER as a gauge of the shipowner's payment reliability, investors can inject liquidity into voyages in the form of loans.
- Loans are facilitated through escrow logic with built-in safeguards to limit default risk.

# Our Solution

## Onboarding & Layer 1 (Transactional Layer)

### Onboarding

- To begin using the platform's transaction features, shipowners must first complete the onboarding process
- Onboarding requires linking a CrossMark wallet
- Once done, the user can fill in their company details and submit necessary documents to verify

### Transactions

- Quick & Secure
  - Shipowners generate unique payment links for clients to settle invoices.
- Enterprise Privacy
  - Sensitive business logic remains off-chain, only transaction addresses and amounts are logged => Safeguard client information
  - With future updates for zero-knowledge tools in XRPL, we can potentially achieve on-chain privacy and verifiability
- Independent transaction credit
  - Once Transaction is paid, we tag the performance of the transaction in a registry wallet.



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All Invoices		7 invoices found	Search invoices, charterers, vessels...	All Status
	INV-2024-0847	Sent	North Sea Energy Trading B.V. MV Pacific Meridian Singapore → Rotterdam	2,715,000 RLUSD Due in -689 days
	INV-2024-0846	Paid	Hamburg Shipping GmbH MV Atlantic Pioneer Shanghai → Hamburg	1,850,000 RLUSD Paid Feb 10, 2024
	INV-2024-0845	Overdue	Pacific Trade Corp. MV Ocean Voyager Los Angeles → Tokyo	2,100,000 RLUSD 699 days overdue
	INV-2024-0844	Paid	Iberian Logistics S.A. MV Mediterranean Star Barcelona → Valencia	980,000 RLUSD Paid Jan 28, 2024
	INV-2024-0843	Paid	North Sea Energy Trading B.V. MV Pacific Meridian Rotterdam → Singapore	2,450,000 RLUSD Paid Jan 25, 2024
	INV-2024-0842	Viewed	Marseille Maritime SARL MV Côte d'Azur Marseille → Algiers	650,000 RLUSD Due in -691 days

# Our Solution

## *Layer 2: Attestation and On-chain Scoring*

- Voyage progress is monitored using:
  - AIS ship tracking
  - Bills of lading
  - Operational and milestone documentation
- Each successful on-chain payment cryptographically proves:
  - A voyage milestone was reached
  - Obligations were fulfilled on time
- Settlement behavior is aggregated into a **Transaction Execution Reliability (TER)** score, which measures execution reliability, timeliness, and payment discipline
- **TER scores** are logged in a public on-chain registry on XRPL
  - Tamper-resistant
  - Verifiable by investors and counterparties
  - Detached from sensitive off-chain data

```
{  
  "shipowner_did": "did:xrpl:r9KX...A2",  
  "ter_version": "TER_v1",  
  "observation_window_days": 90,  
  "total_settlements": 14,  
  "on_time_settlement_rate": 0.93,  
  "avg_completion_ratio": 0.98,  
  "escrow_compliance_rate": 1.0,  
  "unique_counterparties": 6,  
  "settlement.refs": [  
    "9A3C4E0F4F6D5E82C8F44D1C6F1A8F6C2B5E92F4D8A9E6C7A5B3D4E2F9C8A1B",  
    "2F7D9A3B8E5C4A1F6D0C9E2B7A8D5F1C3E4B6A9D8F5C2E7A1B0...",  
    "... total 14 hashes ..."  
,  
  "ter_score": 0.94  
}
```

# Our Solution



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## *Layer 3: Loan Financing*

- Investors provide short-term liquidity priced directly from TER scores
- High TER = lower perceived risk → better borrowing terms
- Financing is structured as short-duration, self-liquidating loans
- Capital flows are tied directly to:
  - On-chain settlement events
  - Verified voyage milestones
- Loans are managed through escrow-based logic
  - Automated repayment
  - Built-in safeguards to limit default risk
- Enables continuous working capital without long-term debt burdens



# Value Proposition



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## Ship Owner



### Operational Rewards:

High TER scores unlock better loan terms and lower interest rates.

### Fast Settlements:

Immediate liquidity via RLUSD, eliminating bank float and "Friday afternoon" delays.

### Enterprise Privacy:

Sensitive business logic remains Off-Chain, with full anonymity possible via future ZeroKnowledge-tools.

## Charterer



### Transparent Accountability

- **Attestation Layer:**
  - Automated data pipelines provide a clear, immutable record of payment milestones.
- **Financial Resume:**
  - Build a verified history of reliability to secure preferred ship capacity in competitive markets.

## Investor



### De-Risked Maritime Yield

- **Precision Pricing:**
  - TER score accurately prices short-term voyage debt.
- **Self-Liquidating Loans:**
  - Investment mechanisms are tied directly to on-chain voyage cash flows, ensuring automated, reliable returns.

An aerial photograph of a port terminal. A massive cargo ship is docked at a quay, its hull painted dark blue with white lettering. Numerous shipping containers in various colors—red, blue, green, yellow—are stacked high on the ship's deck and on the adjacent land. Large blue lattice-boom cranes are positioned along the quay, some with their booms extended over the ship. The port is situated next to a city with numerous buildings and roads. The sky is clear and blue.

Thank you :)

# Appendix



# Percentage of Small Players



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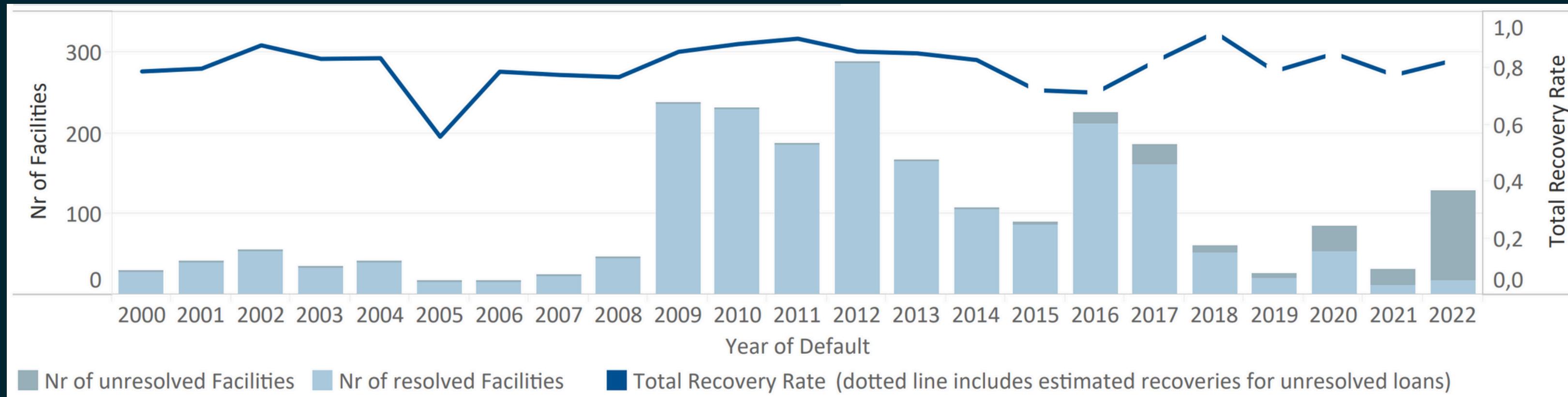


*“In the European boating industry, for example, approximately 32,000 shipping companies exist, and 97% of these are SMEs (small and medium-sized enterprises).”*  
(Source: ICOMIA Statistics Book)

# Capped Losses



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Lending Portfolio			
	Number of Facilities	Observed Recovery Rate	Time to Peak Recovery
Ship Finance SL	1.316	85%	1,4
Large Corporates	456	87%	1,2
SME	283	74%	1,3
Other	54	80%	1,5

Number of Facilities that Defaulted & Percentage Recovered  
→ Proves **Capped Losses**

S&P calculates that most shipping companies have liquidity sources (operating cash flows, unrestricted cash balances, and committed bank financing) that will exceed liquidity uses (mainly capital spending and mandatory debt repayments) by more than 1.2x in 2013.