Container Interest Register (CIR):

Reimagining Transparency, Security & Efficiency in Global Container Ownership & Finance

A White Paper

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Prepared by the Bureau International des Containers (BIC) & Quincy Consulting, in collaboration with industry stakeholders.

Executive Summary

Purpose, Strategic Context and Origins of the Initiative

While containers are indispensable to global trade, with more than 50 million 20-foot equivalent unit (TEUs) in circulation representing hundreds of billions of dollars in asset value, no single framework exists to verify title to, security over, or the lease status of containers. This lack of standardized registry, unlike the well-established systems for registration of title to and security over ships (which operate through national flag registries with international recognition through widely adopted maritime conventions) and aircraft and more recently rolling stock (again through national registration and then registration of security, conditional sale and leasing rights through the Cape Town Convention [CTC] giving international recognition), creates structural opacity that in turn potentially increases financing costs, complicates asset recovery and leaves the sector vulnerable to fraud through for example double-pledging.

Recognizing this drawback relative to other asset classes, the Bureau International des Containers (BIC) was approached by leading container industry experts in 2018, resulting in the creation of a **multi-stakeholder working group**, which brought together major container lessors, liner operators, international banks and container industry–focused lawyers. The working group agreed on a set of guiding priorities for a potential registry, which were to:

- **Operate effectively today**, without waiting for legislative change or an international treaty.
- Support **asset recovery, transparency and more competitive financing terms** in a tightening regulatory environment.
- Remain adaptable for **possible future alignment** with international legal frameworks, including the CTC.

The outcome is the Container Interest Register (CIR), which was created to address the fundamental problem: the absence of a trusted, standardized and internationally accessible system to record **ownership interests, security interests and lease interests** in intermodal containers.

The CIR was developed as a **practical, industry-driven solution**: a secure, searchable digital register linked to the BIC Code and BoxTech Global Container Database for each container registered in the CIR – enabling stakeholders to reliably record and verify ownership, security and lease rights, while laying the foundation for potential broader legal recognition in the years ahead.

Financing Environment

The container industry is capital-intensive and globally interconnected. Assets move across jurisdictions daily, often under complex financing and leasing arrangements. When defaults or insolvencies occur, proving rights can be slow, costly and uncertain, eroding asset value and delaying recovery.

In a **tightening regulatory environment**, lenders, lessors and investors are increasingly focused on transparency and verifiable collateral.

The CIR could address these challenges and needs by offering an operational tool that reduces uncertainty and, with adoption, will enhance confidence. Over time, and particularly once aligned with a framework such as the CTC, it could also support more **competitive financing terms**.

Pilot Phase and Proof of Concept/What the CIR Delivers Today

The CIR's development was subjected to a pilot phase involving key industry stakeholders within the working group. This phase successfully confirmed the platform's technical robustness and operational feasibility. Participants were able to test core functionalities, including:

1. Registration and de-registration of various interest types (ownership, security and lease interests).
2. Updating of records to reflect changes in registered interests.
2. Ability to register Japanese Operating Lease with Call Option (JOLCO) structures.
3. Linking of registered interest type to large numbers of containers at once.
4. Validation and counter-validation between parties to a registration.
5. Ongoing monitoring of container fleet under registration as containers are marked lost, stolen, or sold.

The pilot testing phase confirmed to stakeholders that registration was straightforward and that the project’s core objective, to providing a practical industry-focused registration facility, functions effectively. It also revealed that the main barriers to adoption are not technological but practical and organizational: aligning internal processes, maintaining data quality and overcoming the inertia of established practices, particularly among larger industry participants.

In light of these findings, and pending clearer demand signals from key stakeholders such as liner companies and container lessors, BIC has decided to place the CIR pilot project on standby, preserving the work completed to date and maintaining readiness to resume when industry momentum strengthens. The discussion that follows therefore focuses on the substance of what has been developed, how it operates in practice today and the implications observed during the pilot phase.

What the CIR Does Not Yet Change

At the current stage, if rolled out, the CIR:

- Would not replace national laws on ownership, security, or lease interests or determine legal priority of security interests.
- Would not confer legal rights.

However, with broad adoption, the group of experts felt that the CIR could become a de facto industry standard. Some pilot participants noted that today even the BIC Code registration

certificate is sometimes used in demonstrating ownership rights in legal proceedings, and it was felt that the CIR would help further in this regard.

Expected Benefits Across Stakeholders

By closing the visibility gap, the CIR is designed to deliver tangible benefits across the entire container ownership, financing and leasing ecosystem:

- **Banks and Other Financiers**: Gain access to improved collateral validation, significantly reducing the risk of fraud and in particular double-pledging and potentially assisting with dispute resolution and asset recovery. The CIR enhances portfolio oversight and provides a credible tool to support more favorable regulatory capital treatment.

ING: "*The CIR platform will help perfect security interests, addressing the absence of an international registry in container finance and supporting increasing regulatory compliance.*"

- **Carriers, Container Lessors, Owners and Technical Managers**: Potential to benefit from stronger asset protection and an easier method for demonstrating title and freedom from security interests, which may translate into better pricing and broader access to credit. Again it will potentially assist with simplifying dispute resolution and asset recovery. For smaller players, it provides a mark of credibility and professionalism.

FPG AIM: "*A well-structured international register like the CIR helps formalize proof of ownership and security interests, which is key to unlocking financing. It also sends a strong signal about the sector's maturity, raising its profile and aligning it with best practices seen in other asset classes.*"

- **Legal Professionals**: The CIR provides reliable, independent evidence for legal due diligence, strengthening transaction certainty and again potentially assisting with dispute resolution and asset recovery.
- **Insurers**: May be able to achieve faster claims resolution.
- **Regulators and Policymakers**: Gain enhanced transparency into a historically opaque sector, allowing for improved risk monitoring and providing a practical foundation for developing more robust secured finance frameworks for the intermodal sector.

The CIR framework demonstrates how such benefits could complement existing contractual and insurance protections and support the emergence of a globally recognized standard; however, any further movement toward this outcome, including potential integration with CTC, is currently paused pending clearer industry alignment.

Key Hurdles and Barriers

At this stage, the CIR initiative could face practical limitations:

- **Voluntary, Not Mandatory/Network Effect**: As an industry initiative, the CIR's success depends on achieving a critical mass of voluntary participation. Its utility grows exponentially with its user base, making broad adoption essential.
- **Adoption Asymmetry**: The pilot revealed an "asymmetric perception of value," with financiers as well as smaller and midsize lessors and carriers seeing more immediate and compelling benefits than some of the largest, well-capitalized lessors and carriers, who are more comfortable with the status quo unless they see tangible benefits in reduced risk, cost, or financing terms.
- **Evidentiary/Not a Legal Perfection Tool (Yet)**: A CIR registration provides powerful evidence but does not, at this stage and without international protocol recognition, replace the need for local legal security filings (e.g. the Uniform Commercial Code [UCC] in the United States, Companies House in the United Kingdom) to perfect a security interest. It is a complementary tool that strengthens, rather than supplants, existing legal processes.
- **Recovery Remains Complex**: The CIR is a powerful enabler that clarifies who is entitled to what in a default scenario, but it does not solve the complex on-the-ground operational challenges of physically recovering scattered assets across multiple jurisdictions.

Taken together, these observations confirm that the CIR has reached a high level of technical and conceptual maturity. At the same time, they make clear that further progress depends less on system design than on industry-wide readiness and incentive alignment. Accordingly, BIC and Quincy Consulting have elected to suspend further deployment beyond the pilot phase, retaining the existing framework and the capacity to resume swiftly should sufficient market engagement emerge.

Path Forward and Conditions to Reactivation

Provided there is sufficient interest and adoption from industry stakeholders, BIC remains prepared to resume and advance the CIR initiative. Any reactivation would be anchored in the onboarding of a critical mass of participants prepared to register meaningful container portfolios, with a strategic focus on the segments that stand to benefit most directly. Demonstrating a clear return on investment through practical case studies and successful recoveries will be key to building momentum. In such case, the long-term vision for the CIR would be to evolve from a de facto industry standard into a system with formal legal recognition, potentially serving as the foundation for a future international treaty for containers, either one akin to the CTC, or under the CTC through an appropriate protocol.

The success of this initiative ultimately depends on industry-wide collaboration. This white paper serves as a reference point and standing invitation to all relevant stakeholders – owners, lessors, managers, banks, carriers, legal professionals, insurers, manufacturers, depots, traders and regulators – to review the work completed to date, assess its relevance to their own risk and financing considerations, and signal interest in participating and shaping a future phase of the CIR when conditions are aligned.

Note to Readers

> This White Paper presents a comprehensive and structured analysis of security interest, ownership interest, lease interest, enforcement, recovery and related frameworks. Certain sections – in particular Section 3 and Appendices 1, 7, 8 and 9 – engage with evolving legal concepts that, at this stage, await full independent legal review. These should be read as substantive, well-developed analyses rather than definitive legal positions, subject to formal verification upon project reactivation.

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1. Introduction

The international shipping container, a seemingly simple steel box, is the linchpin of modern global commerce. Its standardized design revolutionized freight transport, enabling vast quantities of goods to be moved seamlessly across oceans and continents. The container fleet, valued in the hundreds of billions of dollars, is financed, owned, leased and operated by a diverse ecosystem of stakeholders, including global ocean carriers, international banks, specialized leasing companies, investors and logistics providers. Despite the critical economic role of these assets and the substantial financial investments they represent, the container finance sector has historically operated with its own practices, uncharacteristic of other major asset classes.

1.1 Purpose and Scope

This white paper introduces the Container Interest Register (CIR), an initiative designed to bring transparency, security and efficiency to the global container finance landscape. Its purpose is to:

- Explain the challenges inherent in the current system of keeping a record of container interests, especially for secured financiers.
- Define the CIR, its functionalities and its underlying data architecture.
- Compare the CIR with existing asset registration systems, including those established under the Cape Town Convention (CTC) and national systems such as the Uniform Commercial Code (UCC) or the Global Intermodal Equipment Registry (GIER) in the United States and the Uniform Movable Property Registration Rules in China.
- Detail the development journey of the CIR, including its pilot phase and key findings.
- Analyze the anticipated industry/stakeholder impact and its role in standard setting.
- Outline the future outlook for the CIR, including its expansion roadmap and integration potential.
- Issue a conclusion and call to action for industry-wide participation and collaboration.

The scope of this paper encompasses the legal, technical and operational aspects of the CIR, focusing on its application to intermodal freight containers as defined by International Organization for Standardization (ISO) standards and identified by Bureau International des Containers (BIC) Codes.

1.2 Target Audience

This document is intended for a broad audience within the global trade and finance community, including:

- **Leasing Companies, Managers:** Entities owning and/or leasing containers to operators.
- **Ocean Carriers and Operators:** Companies deploying containers in their service networks.

- **Financial Institutions, Credit Committees and Credit Rating Agencies:** Banks and other lenders involved in container financing, as well as credit rating agencies assessing container asset-backed securities (ABS) structures.
- **Legal Professionals:** Lawyers and advisers specializing in asset finance and maritime law.
- **Insurers:** Underwriters of marine and transport-related risks.
- **Depots and Terminal Operators:** Frequently placed at the center of ownership disputes or insolvency proceedings.
- **Container Manufacturer and Class Societies:** Potential initial entry point in the supply chain and registration process, issuing key documents that establish proof of ownership.
- **Regulators and Policymakers:** Governmental and intergovernmental bodies overseeing trade, finance and transport.
- **Global Associations Related to Containers and Supply Chain:** Organizations representing various segments of the shipping and logistics industry such as the Container Owners Association (COA), the Institute of International Container Lessors (IICL), the World Shipping Council (WSC), the International Chamber of Shipping (ICS), the International Association of Ports and Harbors (IAPH), and the Intermodal Association of America (IANA) (see Appendix 10 Glossary).

1.3 A Brief Overview of Container Finance Challenges

The financing of shipping containers, while robust, has traditionally faced several intrinsic challenges stemming from the mobile and dispersed nature of the assets and the lack of a centralized, authoritative global registry for specific interests:

- **No Global Record of Ownership and Security Interests:** Determining the true ownership or the existence of prior security interests (liens, charges, mortgages) on a specific container or fleet of containers pledged as collateral can be a complex, time-consuming and often inconclusive process. This opacity increases risk for investors and financiers, as there is a risk that containers are pledged as collateral multiple times or that ownership is misrepresented, exposing lenders to potential losses.
- **Complexities in Asset Recovery:** In cases of lessee default or insolvency, lessors and secured financiers face significant hurdles in locating and recovering their assets, particularly when containers are scattered across multiple jurisdictions with varying legal frameworks. Administrative costs sometimes reach USD 300 to USD 500 per container for the final 10-20% of units – amounting to circa USD 500 000 or more in a major case (see assumptions in Appendix 8).
- **Perceived as Too Exotic for Mainstream Financiers:** Due to the absence of a dedicated interest register and the industry's reputation for challenging asset recovery, container finance is often viewed as too exotic or risky by many banks. Even though in practice most recoveries have been handled competently by specialized companies, banks' credit committees and regulators in several jurisdictions are reluctant to classify container loans as

true secured asset financings – limiting the sector's access to competitive funding (see Appendix 3).

- **Inefficient Due Diligence for Secured Transactions:** The due diligence required before financing specific containers as collateral can be costly and lengthy in theory, but in practice asset-by-asset verification is not feasible given the number of units involved and the fact that containers are often in transit. For new containers, reliance is generally placed on class inspection reports and the reconciliation of serial numbers, while for secondhand containers such verification is not practicable from a cost or operational perspective. Across both cases, financiers typically rely on contractual representations as to ownership, rather than verification against a centralized record.
- **Conflicts of Law and Regulatory Fragmentation:** The global mobility of containers, combined with the application of different legal regimes across jurisdictions, creates uncertainty regarding the timing and effectiveness of transfers of ownership and the creation of security interest. In this context, market adoption of a voluntary registration process such as that offered by the CIR may assist in evidencing the intentions of the parties, particularly where they might otherwise be unclear.

These challenges have long been recognized within the industry. While the technical and conceptual framework has now been established, further progress is intentionally paused pending clearer consensus and demonstrated interest from stakeholders and potential users to advance toward a more resilient and trustworthy container finance ecosystem, particularly for secured lending.

2. Container Interest Register – Concept and Functionality

2.1 Concept

The CIR is a digital registry that records and maintains information on ownership, security interests and long-term lease interests associated with intermodal shipping containers.

It is an industry-led initiative, managed by BIC, building upon BIC's long-standing role in promoting safety, security, standardization and sustainability in the container supply chain. The CIR leverages BIC's existing BoxTech Global Container Database platform.

While initially serving as an evidential tool rather than a system that formally establishes legal title, the creation of valid security or the priority of competing security interests (unlike statutory registries under domestic law or international agreements such as the CTC), the CIR's primary objective is to enhance transparency. By offering an easily searchable database, it aims to significantly improve due diligence processes, mitigate risks for stakeholders and provide a reliable source of evidence to support legal claims related to registered container interests.

2.2 What the CIR Records

2.2.1 Ownership, Security and Lease Interests

The CIR is designed to capture key information pertaining to three primary categories of interest:

1. **Ownership Interests**
    - records the identity of the entity that owns and holds legal title to the container(s)
    - supports transactions such as sales and transfers of ownership.
2. **Security Interests (Created to Support Secured Financing)**
    - records security interests specifically arising from secured financing transactions, where containers are pledged as identifiable collateral. This includes mortgages, charges, liens, or other forms of security interest granted by a debtor (owner, or lessee with appropriate rights to pledge) to a creditor (e.g. a bank or financier) to secure an obligation, typically the repayment of a loan
    - records the identity of the beneficiary of the security interest and, where appropriate, a summary of the secured obligation

    It is important to note that large-scale, unsecured corporate financing facilities common for major leasing companies, such as revolving credit facilities, loans, or bonds, which can amount to hundreds of millions or even billions of dollars, are generally outside the direct scope of CIR registration for security interests, as specific assets are not pledged under such unsecured arrangements. These financing agreements may include a negative pledge covenant (currently outside the scope of CIR), which restricts the borrower from granting security interests over certain assets to other creditors, but does not itself create a registrable interest. Broad industry adoption of the CIR could help lenders monitor compliance with such covenants.
3. **Lease Interests**
    - records information about long-term lease agreements, for example finance leases or operating leases exceeding a certain duration, typically five years or more, and that would include Japanese Operating Lease with Call Option (JOLCO) transactions
    - records the identity of the lessor and the lessee
    - may include key lease parameters such as duration or specific usage rights, subject to commercial sensitivities and data access controls.

2.2.2 Data Model and Key Data Fields

The CIR's data model is structured around the unique identification of each container. The primary identifier is the **BIC Code (ISO 6346) combined with the container serial number and check digit**. This ensures that each registration is linked to a physically identifiable operational asset.

In practice, however, the most robust identification for financing and ownership verification purposes is expected to rely on the combined use of the BIC Code and the manufacturer's number. While the BIC Code, serial number and check digit together identify the container operationally, the

manufacturer number provides a factory-level, immutable reference that complements the operational code. The combination of both identifiers strengthens data integrity and reduces the risk of duplication or misattribution, especially when containers change BIC ownership or are transferred between fleets.

Key data fields for registration in the CIR include:

- **Container Identification:** BIC Code (four-letter prefix, also known as ISO 6346), serial number (six digits), check digit – as well as the manufacturer ID number and date of manufacture.
- **Container Technical Details (Drawn from BoxTech):** Size/type code, tare weight, maximum gross mass, maximum payload, maximum stacking weight, etc.
- **Interest Information:**
    - *Type of interest:* Ownership interest, security interest, lease interest.
    - *Ownership Interest*: Name of the entity that is the owner (which may differ from the BIC Owner Code).
    - *Security Interest:* Names of the entity that is the security holder (lender/financier) and of the entity that is the security provider (grantor of the security interest), a brief description (e.g. "First priority mortgage over specified containers").
    - *Lease Interest:* Names of the entity that is the lessor and of the entity that is the lessee.
- **Registration Details:** Date and time of registration, unique registration number.
- **Supporting Documentation (Optional/Referenced):** The CIR may allow for references or summary uploads (e.g. mortgage, certificates, bills of sale) linked to a transaction, but does not store full legal documents or validate their authenticity. The BIC does not verify the validity of these documents.
- **Register Subscriber Information:** Name, email address, phone number, job title and associated entity (the company or organization on whose behalf the Register subscriber is acting).

  Each Register subscriber is individually responsible for the accuracy and currency of the information they submit and for ensuring their claimed capacity (e.g. owner, security provider, security holder, lessor, lessee, manager, holding company) is truthful and lawful. Only authorized individuals may register or update data.
- **Validation and Publication:**
    - Registrations are completed only following validation and sign-off by the relevant parties, according to the type of transaction (e.g. both buyer [as new owner] and seller [as old owner] for a transfer of ownership and registration of an ownership interest, security holder and security provider for a security interest, lessor and lessee for a lease interest).

    - Once validated, data are published in the Register and are accessible according to the default visibility rules: full details for the parties to the transaction; limited “flag” visibility for BoxTech Subscribers, unless the Register subscriber opts in to disclose more.
- **Status of Interest:** Active, discharged, expired.

2.3 Links to BIC Codes and BoxTech

A fundamental strength of the CIR is its seamless integration with existing BIC infrastructure:

- **BIC Codes:** The BIC Code is the global standard (ISO 6346) for identifying the owner or principal operator of the container, widely adopted by the intermodal industry (more than 99.98% of containers carry a registered BIC Code). The CIR uses the BIC Code as a primary operational identifier to link interests to a specific container unit. The CIR platform encourages clear declaration and registration of the actual *legal owner* within the CIR data fields, especially where this differs from the entity holding the BIC Code for operational purposes.
- **BoxTech Global Container Database:** BoxTech provides technical characteristics and operational status details for millions of containers (e.g. tare weight, max gross, Convention for Safe Containers [CSC] plate data, active/inactive status). The CIR leverages BoxTech data to auto-populate or validate container technical specifications, reducing manual entry and improving data accuracy. This linkage ensures that interest registrations are associated with accurate and up-to-date physical asset details.
- **Access and Permissions:** Access rights and permissions differ between BoxTech and the CIR. A registered subscriber in the CIR is also granted access to BoxTech data for the relevant containers, enabling them to view and cross-reference technical and operational information. However, the reverse does not apply: a BoxTech user is not automatically authorized to access the detailed registration data held in the CIR. For BoxTech users who are not CIR subscribers, only a basic indication (a “flag”) is visible if an interest such as a security is registered on a specific container, without disclosure of sensitive or party-specific details. This structure ensures both security and privacy, while supporting transparency regarding the existence of registered interests.

2.4 API Roadmap and System Interoperability

The CIR is developed with a forward-looking approach to system interoperability. A robust application programming interface (API) is a key component of its roadmap. The API enables:

- **Automated Data Submission:** Large lessors, banks and operators can integrate their internal asset management systems directly with the CIR for bulk registrations and updates, improving efficiency.
- **Third-Party System Integration:** Facilitates connections with external platforms, including potential API linkages with national container interest registries or other regulatory systems,

enabling seamless data exchange and interoperability across different legal and commercial environments.

- **Customized Data Retrieval:** Allows authorized users to query the CIR database and retrieve specific information in a structured format for their internal risk management or operational systems.

The API development will follow industry best practices for security, scalability and standardization.

3. Positioning the CIR: A Comparative Analysis of International Asset Registries for Mobile Equipment

To fully appreciate the unique value and design the CIR could bring, it is essential to compare it with the registration systems for other mobile assets. The characteristics of the asset itself – its value, volume and mobility, and the political-economic context it operates in – fundamentally shape the nature and function of its registry. While the container industry can draw valuable lessons from the successes in aviation and rail, it must ultimately forge a path that addresses its distinct challenges.

This section provides a detailed comparative analysis, examining how the CIR learns from the legal certainty established by the CTC while creating a new, pragmatic paradigm tailored to the granular, global and fragmented world of container finance.

3.1 Active Registries: Summary Table

This table is provided for high-level reference only and is subject to further legal review and verification, should the project be revived.

Feature	Aircraft	Railway Rolling Stock	Shipping Containers
Asset Profile	**Very high unit value** (>USD 10 million), low volume, each asset individually significant.	**High unit value** (USD 100 000-USD 1 million), medium volume, often operated in sets.	**Low unit value** (USD 2 000-USD 20 000), massive volume (high granularity), highly mobile, widely dispersed.
International Registry	**CTC – Aircraft Protocol 2001:** Legally binding, global first-to-file priority system.	**CTC (Luxembourg Rail Protocol 2007):** Binding, global framework now entering force.	**CIR (Evidential):** Industry-led, provides global visibility and evidentiary value; complements local law.
National Registry	Mandatory and authoritative for aircraft registration and operator details. National registries (e.g. Federal Aviation Administration [FAA], Civil Aviation Administration of China [CAAC]) record the registered owner/operator for regulatory purposes, but are not conclusive registers of legal title or security interests. Security filings may be recorded but often require supplemental steps (e.g. UCC filings in the United States) for full legal effectiveness.	**Operational and National:** Registries are often focused on operational safety and interchange, with varying levels of financial interest registration.	**Almost none**: Except for UCC filings in the United States, there are virtually no national registries for container title or security interests worldwide.

Commercial Filing System	Used, but secondary to Civil Aviation Authority (CAA)/CTC registries; UCC filings in the United States supplement FAA registration.	Sometimes used for contractual rights, but less common where operational registries exist.	**Primary (but insufficient):** Reliance on debtor-based systems such as the UCC (United States).
Legal Certainty	**High:** A multilayered system (National + CTC) provides robust legal certainty.	**Medium to High:** Growing certainty as the protocol is adopted.	**Fragmented and Low:** Relies on a patchwork of national laws with significant geographic and visibility gaps.
Barriers to CTC Adoption	Overcome by strong political will and powerful economic incentives.	Being overcome gradually through industry alignment.	High asset granularity, industry fragmentation and a lack of regulatory/political impetus. *(Being addressed in this paper as well as strategies to overcome them)*

This comparative lens highlights a central challenge: **containers combine the mobility of aircraft with the ubiquity of pallets** – their legal infrastructure must be light enough to manage millions of assets, yet robust enough to deter disputes and enable recovery.

3.2 The Cape Town Convention: The Global Standard for Mobile Asset Finance

The Convention on International Interests in Mobile Equipment, known as the Cape Town Convention (CTC), acts as a powerful international legal framework for creating and enforcing financial interests in high-value mobile assets. Its centerpiece is a fully electronic **International Registry** where interests can be recorded. Its purpose is to provide a standardized, transparent and predictable system that benefits all stakeholders. Its key functions include:

- **Priority of Interests:** The core function of the registry is to provide legal certainty through a clear "first-to-file" principle. A registered interest takes precedence over any unregistered or subsequently registered interest, providing unparalleled predictability for financiers.
- **Public Searchability:** The registry is publicly searchable (for a fee), allowing any potential creditor, buyer, or other interested party to conduct due diligence and ascertain whether an asset is subject to prior registered interests.
- **Default Remedies:** The Convention grants creditors a range of powerful default remedies – such as the ability to take possession or control of the asset – that are enforceable across all member states, significantly reducing the risk and complexity of asset recovery in cross-border scenarios.
- **Dispute Resolution:** While the registry itself is administrative, the Convention provides clear rules for resolving disputes. The registry's records serve as primary evidence in national courts or arbitrations concerning the validity or priority of an interest.

The benefits of this framework are substantial. By increasing legal certainty and reducing lender risk, the CTC has been shown to tangibly **reduce lending costs** and **increase the availability of capital** for asset classes under its protection.[1] It also promotes **standardization**, creating a uniform international system that overcomes the complexities of navigating dozens of differing national laws.

However, its implementation is not without challenges. Some contracting states, exercising their right under Article 50 of the CTC, have declared that the Convention shall not apply to purely domestic transactions – for example, China, Mexico, Turkey – creating gaps in protection that require careful legal analysis. Despite this, the CTC's transformative impact on international finance is undisputed.

3.3 Asset-Specific Frameworks: A Comparative Analysis

The CTC provides a general framework, which is then adapted to different asset classes through specific protocols. The success and nature of these implementations differ significantly.

3.3.1 Aircraft – Dual System of National and International Law

National aircraft registries – maintained by civil aviation authorities – record operator nationality and safety compliance, and may note mortgages (e.g. FAA filings). However, to achieve legal priority in many jurisdictions, lenders often require supplemental filings such as UCC records.

The **CTC Aircraft Protocol** overlays these national systems with an international, asset-based registry tied to unique aircraft serial numbers. It creates a globally harmonized "first-to-file" priority system – ratified by over 85 states – offering cross-border recognition of security interests. In practice, however, outcomes vary depending on each country's declarations upon ratification:

- **Alternative A**: Requires debtors to return aircraft or give possession to creditors within a fixed period after default or insolvency – providing expedited, predictable repossession.
- **Alternative B**: Less robust and grants local courts more discretion over remedies, which can slow enforcement.

Some states also preserve priority for certain non-consensual rights (e.g. tax liens) or specify domestic law overrides in defined situations.

For financiers, it is not enough to know whether a jurisdiction has ratified the CTC – they must also examine the country's declarations and their interplay with local law.

3.3.2 Rolling Stock: From Operational Roots to Legal Certainty

Historically, rolling stock registries were designed for operational purposes rather than finance. Systems such as North America's Universal Machine Language Equipment Register (Umler)

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[1] The International Civil Aviation Organization (ICAO) states the treaty "reduce[s] risks for creditors, and consequently, the **borrowing costs** to debtors," and notes that airlines in adopting states "may receive a **10% discount** on export credit premiums." https://www2023.icao.int/sustainability/Pages/Capetown-Convention.aspx

database supported safety compliance and interchange, often recording ownership details but without providing a legal framework for security interests.

The Luxembourg Rail Protocol to the CTC represents a major shift. Signed in 2007 but only entering into force in 2024, it establishes a harmonized, asset-based international registry for railway equipment, offering a global "first-to-file" priority system for security interests. The 17-year delay underscores the challenge of aligning public and private stakeholders – national railway operators, manufacturers, financiers and regulators – across divergent legal systems.

Like the Aircraft Protocol, the Rail Protocol's effectiveness depends on each country's declarations and the extent of accompanying legal reforms, particularly for insolvency remedies and recognition of non-consensual rights. While it promises a step change in legal certainty, transparency and cross-border enforceability, practical value will hinge on sustained industry engagement and operational integration.

3.3.3 Mining, Agricultural and Construction and Space Protocols – Pending Implementation, Divergent Prospects

While the Aircraft and Rail Protocols offer practical insights from years of operational use, the Mining, Agricultural and Construction (MAC) and Space Protocols have yet to enter into force. To be exhaustive, we include them here in a combined overview, highlighting their scope, readiness and adoption hurdles. Both aim to extend the CTC framework to new asset classes, but their trajectories differ sharply: the MAC Protocol is progressing toward implementation with active political and industry support, while the Space Protocol remains effectively on hold.

Summary table

Category	MAC Protocol	Space Protocol
Year Adopted	2019 (Pretoria)	2012 (Berlin)
Objective	Facilitate affordable financing for essential terrestrial equipment, especially in developing economies.	Facilitate asset-based financing for commercial space assets via a uniform international framework.
Current Status	Not in force; five signatories + European Union; Ratification Task Force active; registry framework nearly complete.	Not in force; four signatories, one accession; no supervisory authority or registrar appointed; process stalled.
Eligible Assets	Mining, agricultural, construction equipment.	Broad, functional definition covering spacecraft, payloads, parts and associated revenue rights.
Market Context	USD 30 billion projected annual global GDP impact; USD 90 billion increase in equipment stock in developing countries over ten years; USD 100 billion+ annual trade value of covered goods.	Global space economy projected to exceed USD 1 trillion by 2035; financing dominated by venture capital/government funding, not asset-based debt.
Registry Framework	The International Institute for the Unification of Private Law (UNIDROIT) confirmed as supervisory authority; registrar selection in final stages; ready to launch once five ratifications reached.	Stalled; the International Telecommunication Union (ITU) considered but not appointed; registrar selection frozen; no registry operations in sight.
Key Advancements	Clear scope, strong economic case, institutional framework nearly complete.	Comprehensive legal text and scope defined; conceptual registry blueprint

Category	MAC Protocol	Space Protocol
		exists.
Main Hurdles	Securing five ratifications; "fixtures" issue with domestic property law; usability for diverse stakeholders.	Industry resistance; impractical remedies (repossession in orbit); national security and geopolitical concerns; vague identification standards.
Overall Outlook	High probability of entry into force in medium term (two to four years).	Very low probability of entry into force without major redesign; currently in de facto pause.

3.3.4 Lessons for Containers/The CIR's Potential Role: A Pragmatic Bridge for a Global Industry

A potential treaty framework: In an ideal scenario, the container sector could benefit from a dedicated international legal instrument – a "Cape Town Convention for Containers" – establishing a treaty-based protocol with an international registry carrying full legal effect. Why has such a framework not yet emerged (even though the idea was studied while developing other mobile asset registries)?

- **Status Quo Inertia:** A "why fix what isn't broken" mindset could slow pursuit of a treaty. If current market practices already work well for large stakeholders, they may see little reason to push for formalization. Treaty negotiations could take years and risk diverging from the practical, market-driven solutions the industry has evolved on its own.
- **The Economic Barrier/Asset Granularity**: The core challenge is the low-value, high-volume nature of containers. Unlike aircraft or railway assets, which are high-value, individually tracked and recoverable, container portfolios are highly granular. A single aircraft mortgage may secure a USD 150 million asset based at a known location. By contrast, an equivalent sum in container finance could cover tens of thousands of units, each worth a fraction of that amount and dispersed globally. Most container tracking is event-driven – based on gate moves, loading/discharge, or on-hire/off-hire events (see Appendix 6) – rather than continuous. As a result, there are often substantial gaps between status updates, which can sometimes extend for several weeks without any new location information. This combination of granularity and limited real-time tracking complicates the administration of secured interests and asset recovery, setting containers apart from other classes covered by international registries.
- **The Industry Barrier** (Fragmentation): The container ecosystem is highly fragmented, comprising hundreds of shipping lines, lessors, thousands of depots, terminals, and traders of all sizes. Although organizations such as the BIC, COA, IICL and WSC offer valuable leadership, no single body represents the entire sector. This contrasts sharply with the more concentrated aviation industry, making it difficult to build the unified consensus and lobbying power needed for treaty adoption.
- **The Political Barrier** (Utility Good): Containers are seen as utilitarian "commodity" goods, essential for trade but not strategic national assets such as flag-carrier airlines or national

railways. For aircraft, most countries have a national airline, giving parliaments a direct stake in ratifying frameworks such as the CTC. Container ownership, by contrast, is fragmented among liner companies, leasing firms and investors – often with no real national profile – leaving lower political incentive to organize national lobbying power and for legislatures to devote time or effort to treaty ratification.

- **Practical Realities of Global Enforcement and Recovery:** While secured lenders may hold "mortgage and charge" documents often governed by English law, the absence of statutory or internationally recognized registration for containers means these rights are often subordinate in practice to possessory liens held by ports and depots (as physical gatekeepers), as well as customs authorities (see Appendix 7 for further analysis). The priority and enforceability of such contractual interests ultimately depend on the law of the location and the operational leverage of the claimant, not always on the existence of a contract or a register for interests.
- **Asset Registration in an Era of Multipolar Frameworks:** The ambition to establish a unified global standard for container asset registration could be challenged by a fragmented regulatory environment and evolving geopolitical dynamics. Trends such as increasing regionalization, the emergence of competing economic blocs and policy shifts toward decoupling (e.g. between Western economies and BRICS/Global South) may result in jurisdictions prioritizing local or regional frameworks over global harmonization. As a result, efforts to promote universally recognized registries or legal standards may encounter resistance, with the risk of parallel systems. Notably, the adoption of the CTC for aircraft finance occurred in a very different context – at a time when there was greater alignment and less pronounced geopolitical tension between major blocs.

The Role Envisioned for the CIR

In designing the CIR, the framework of the CTC was examined to draw on relevant principles without requiring the immediate adoption of an international treaty, in particular:

- **Identify**, within minutes, the owner entity or secured creditor of **each unit**, distinguishing leased equipment from the debtor's own fleet and from assets pledged to lenders.
- **Facilitate operational monitoring**: Enable financiers to track fleets in which they hold an interest, with updates from borrowers, thereby improving oversight and covenant compliance during the loan term.
- **Support day-to-day verification:** With CIR, authoritative title and encumbrance information could be accessed in near real-time, enabling parties to confirm interest status before committing to a deal. Over time, such a shift could normalize the expectation that every secured financing, long-term lease, or container sale will be supported by a registry check – much as International Registry searches are routine in aircraft transactions.
- **Provide verified data to insolvency administrators**, enabling coordinated instructions to ports and depots (Release to Lessor A/Subject to Bank Z's lien).
- **Serve as prima facie evidence** in court, increasing judicial confidence in ownership claims, even in jurisdictions unfamiliar with container repossession cases.

- **Fraud Deterrence:** In registry-based asset classes, fraudulent disposals or multiple pledges are rare because title clearance is mandatory before sale. In containers, bad actors have sold or pledged equipment they did not own. CIR registration would immediately flag conflicts, creating a strong preventive effect through transparency.
- **Cross-Border Consistency:** While CIR does not alter local law, it provides a harmonized informational layer. Courts presented with an official CIR record – especially one predating the insolvency – are more likely to release assets promptly, avoiding months of dispute over competing claims.

Bottom Line

The CIR could offer a practical, industry-led bridge – not a treaty, but a shared evidentiary standard that can resolve most disputes before they escalate. In many cases, accurate, universally recognized ownership data are 90% of the battle.

The CTC could represent the ideal: a globally recognized, legally binding registry system. CIR aims to align with it eventually, via a future protocol, but for now functions as a voluntary standard delivering many of the same benefits – transparency, fraud deterrence and dispute reduction – without waiting for international law. This approach is pragmatic: treaty adoption could take a decade or more, so the sector is building a de facto standard through collaboration now.

Progress toward these objectives is currently paused, pending clearer alignment and commitment from industry stakeholders.

4. Development and Pilot Phase of the CIR

The journey of the Container Interest Register from concept to operational reality has been a collaborative effort, driven by the industry's need for greater transparency and security in container finance, particularly for secured asset-based transactions. Its development involved careful planning, the formation of a dedicated working group, the creation of a **minimum viable product** (MVP) and rigorous testing during a pilot phase. The pilot phase has now been completed, and the initiative is currently on standby pending clearer signals of sustained interest and commitment from industry participants.

4.1 Origin Story and Initial Proposition

The concept of a global register for container interests had circulated in industry forums for many years, fueled by the absence of a harmonized international framework, persistent challenges in verifying asset rights, and lessons from more structured regimes in aviation and rail. Against this backdrop, BIC – already managing trusted global registers such as the BIC Owner Code and BoxTech database – emerged as the natural body to lead the effort. Its neutrality, industry recognition and existing data infrastructure provided a credible foundation for a new sector-wide solution.

The initial proposition, advanced by a coalition of legal and asset finance specialists, was to design a system that would bring to container finance the same level of structure, transparency and legal certainty that other asset classes enjoy. At its core, the vision was to create a reliable, easily accessible record of ownership and security interests – and potentially other material interests – in shipping containers, thereby reducing legal ambiguity, supporting risk management and expanding financing options across the industry.

4.2 Working Group Composition

Recognizing that industry-wide adoption would be key to the CIR's success, BIC facilitated the formation of a dedicated working group in 2018 and further reinforced it in 2023. This group brought together key stakeholders with diverse expertise and perspectives:

- **Banks:** Two leading international banks, ING and Credit Agricole, with significant portfolios in maritime and **secured container finance**, provided the lender's perspective on risk, due diligence requirements for collateral and the desired functionality of such a register.
- **Container Leasing Companies:** Two major global container lessors, Seaco and Peacock Intermodal, contributed their deep knowledge of container operations, asset management, and the practical challenges of tracking and recovering leased equipment.

- **JOLCO Arranger**: FPG AIM, the world's leading arranger of JOLCO[2] transactions, contributed unique expertise. A significant share of secured container box financings – particularly for liner companies – now rely on this model, making FPG AIM's input vital to ensure the CIR supports the more complex requirements of JOLCO-backed transactions.
- **Bureau International des Containers:** As the project lead and future operator of the CIR, BIC provided its expertise in registry management, international standards (ISO 6346 for operator codes) and its existing database infrastructure (BoxTech).
- **Specialist Law Firm:** Watson Farley & Williams (WFW), an international law firm with expertise in shipping and asset finance, provided crucial legal input on the structure of the register, the nature of the interests to be recorded, data privacy considerations, and the potential legal implications and benefits.
- **Consultant:** An independent consultant, Renaud de Mareuil from Quincy Consulting – bringing hands-on experience with a major liner operator, a global container leasing company, and a leading bank active in container and shipping finance – was engaged to project-manage the CIR initiative. This role included facilitating stakeholder discussions, advocating for the project at key industry conferences (such as presenting CIR on expert panels at Intermodal Europe in Rotterdam and Intermodal Asia in Shanghai), and translating diverse industry requirements into practical, functional specifications for the registry's development.

This collaborative structure ensured that the CIR was designed **by the industry, for the industry**, addressing real-world needs and challenges.

4.3 Participant Commitment and Engagement Framework

All participants in the pilot project formally committed to their roles and responsibilities by signing an engagement letter, which set out the scope, governance and key expectations for involvement. By doing so, each party agreed to actively contribute to the development and testing of the CIR platform, attend project calls, provide structured feedback on technical and governance matters, and observe strict confidentiality over all project-related information. Participation also included the obligation to upload container fleet data to BoxTech as a prerequisite for CIR registration activities.

With the exception of uploading real container batches, participants have so far fulfilled their commitments, engaging constructively in project design, pilot testing and regular feedback sessions. The process of real batch uploads is expected to require further time and coordination but does not detract from the active engagement and collaborative spirit demonstrated by all involved throughout the pilot phase.

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[2] Japanese Operating Lease with Call Option (JOLCO), a financing structure that channels capital from profitable Japanese small and medium-sized enterprises into specific assets—primarily aircraft, followed by ships and container boxes—under a tax deferral scheme.

4.4 Minimum Viable Product Design

The initial development focused on creating an MVP with core functionalities essential for proving the concept and gathering user feedback. The design principles for the MVP included:

- **Secure User Access:** Role-based access control.
- **Core Data Registration:** Functionality to register ownership, security interests and lease interests.
- **Container Identification:** Utilizing the BIC Owner Code and container serial number as the unique key, with integration with BoxTech.
- **Search Functionality:** Allowing users to search for interests based on container numbers.
- **Basic Reporting:** Ability to generate simple reports of registered interests.
- **User-Friendly Interface:** An intuitive web-based interface.
- **Audit Trail:** Recording all registrations, modifications and discharges with relevant dates.
- **Simple Use Cases**: Focus on simple use cases, prioritizing first-ranking mortgages and straightforward financing structures. More complex scenarios, such as subordinate interests or cross-collateralization, were excluded to allow effective platform testing and user feedback collection.

The MVP was designed to be scalable.

4.5 CIR Workflow: Step-by-Step User Journey

The operational workflow of the CIR has been shaped by feedback from pilot participants and grounded in practical enforceability and clarity. The process for each registrable interest follows a logical sequence, designed to ensure integrity, transparency and interoperability with BoxTech, while clearly delineating the roles of all parties involved.

- **Prerequisite Steps and Sequencing:** Registration of interests in the CIR requires the relevant container(s) to be first registered in BoxTech, based on an active BIC Code. Typically, this is managed by the operations or technical teams of the owner or operator. Only after container details are uploaded and validated can additional interests be registered.
- **Ownership Interest Registration:** Owners identify and upload their containers to BoxTech and then self-identify as the owner in the CIR, providing supporting documentation where required. This creates a clear, time-stamped record of ownership interest that is foundational for subsequent transactions and interests.
- **Security Interest Registration:** Once containers are in BoxTech, the mortgagee (lender) initiates the registration of a security interest over a defined batch of containers. The mortgagor (owner) then reviews and validates this entry, providing both parties with a transparent and auditable record of the secured interest. This dual confirmation supports data integrity and provides confidence for all stakeholders.

- **Lease Interest Registration:** Following the BoxTech upload, lease interests may be recorded, with both lessor and lessee required to review and validate the entry. This ensures mutual recognition and transparency in operating lease arrangements.
- **De-registration and Amendments:** De-registration of interests, whether due to asset sale, refinancing, or lease termination, involves selection of relevant containers and appropriate validation by the affected parties. For security interests, confirmation that all obligations have been fulfilled is required before the interest can be removed from the register.
- **User Experience and Integrity:** The CIR platform supports notifications and optional comma-separated values (CSV) batch uploads for bulk actions, and ensures that for each registration, de-registration, or transfer, user identity and consent are recorded. Both transaction parties remain responsible for the accuracy of submitted data, with BIC providing the registry platform but not acting as a verifier of information. At this stage, validation is through dual-party confirmation; more rigorous checks, such as know your customer (KYC) or document review, may be considered should CIR evolve into a formal legal register.

4.6 Drafting and Adoption of CIR Terms and Conditions

Developed collaboratively by the project's legal advisers, industry participants and BIC, these T&Cs establish the rights, responsibilities and procedural framework for all users of the CIR platform.

The drafting process prioritized clarity, neutrality and alignment with prevailing legal standards and industry best practice. The T&Cs cover core issues such as eligibility for registration, the scope and hierarchy of registrable interests, data submission requirements, user access levels, privacy obligations, liability and dispute resolution mechanisms. Special attention was also given to ensure that the CIR's evidential status was accurately described, including relevant disclaimers on the legal effect of registrations, as well as provisions anticipating future evolution toward full legal recognition under an international protocol.

Draft versions of both the CIR T&Cs and the related BoxTech T&Cs were circulated to all pilot participants for consultation and comment. Feedback was actively solicited and incorporated, ensuring that the final documents reflected the operational realities and concerns of a diverse set of stakeholders – banks, lessors, carriers and legal counsel.

All participants in the CIR pilot are required to accept and adhere to these terms as a condition of registration and ongoing participation in the project.

4.7 Testing with Anonymized Dummy Batches

The pilot phase was critical. Anonymized dummy batches of container data were used.

- **Bulk Upload Capabilities:** Tested for large fleets.

- **Data Validation and Accuracy:** Integration with BoxTech tested. Importance of correctly identifying legal owner versus operator (BIC Code holder) was reinforced.
- **Registration and Search Workflows:** End-to-end process testing.
- **User Interface and Experience:** Feedback gathered.
- **Security and Access Control:** Protocols tested.
- **Verification Loops:** Processes for verifying authority to register an interest trialed.

The pilot phase was iterative, leading to refinements. Successful completion led to the "Go Live" announcement in the first quarter of 2025.

4.8 Cost Structure and Future Considerations

Participation in the CIR is free of charge during the pilot phase, with all core registry functionalities made available to industry stakeholders at no cost. As the platform evolves toward broader adoption, the cost structure will be reviewed in consultation with stakeholders.

In line with international practice – such as the CTC registries – any future fee model is intended to be transparent, proportionate and designed to cover operating costs without becoming a barrier to participation.

Guidance on the allocation of registration fees was outlined in an earlier memorandum prepared by Watson Farley & Williams (WFW), which is separate from this White Paper. The WFW memorandum recommends that responsibility for registration fees should generally fall on the party seeking to register or update an interest: for example, the new owner upon a transfer of ownership, the lessee for registration of a lease interest, or the party granting a security interest in the case of security registrations. However, the exact allocation of fees may be negotiated contractually among parties, providing flexibility for a variety of transaction structures.

4.9 Milestones and Successes of the CIR Pilot

The CIR pilot phase achieved several significant milestones, demonstrating both the technical feasibility and the operational value of a centralized interest register for containers:

- **Legal Framework and Evidential Value:** A robust legal memorandum (WFW) confirmed the CIR's potential as an evidential register, providing market participants with legal clarity and a path toward future international recognition.
- **Upload Functionality and Data Validation:** Pilot participants, including leading banks and lessors, successfully uploaded dummy batches, confirming the CIR platform's ability to register secured interests and verify container data.
- **End-to-End Testing:** Core functionalities – including registration and management of ownership, security and lease interests – were comprehensively tested, and participants provided their feedback/improvement recommendations.
- **Operational Readiness:** The platform was deemed technically robust and legally sound, ready for launch/batch updates, subject to broader industry participation.

4.10 Future Pathways: Enhancements and Expansion Opportunities

While the initial scope of the CIR focused on establishing a robust, scalable and user-friendly registry for core interests (ownership, security, lease), the platform's architecture is designed for future evolution. Several promising avenues exist to extend CIR's value proposition and align it with the growing sophistication of container finance, asset tracking and digital infrastructure.

- **Legal and Financial Product Complexity**
    - **Subordinate Interests**: Future releases of the CIR could accommodate the registration of subordinate or second-ranking interests, supporting more intricate financing arrangements and layered security structures often seen in project and infrastructure finance.
    - **Registration of Assignments:** The CIR should allow users to register the assignment of a registered interest – such as a mortgage, charge, or lease – following the CTC approach for aircraft. Only the assignment of a registered interest itself would be registrable, not the assignment of underlying rights such as receivables or insurance proceeds unless they are part of and included within the registered security interest. Other forms of collateral, such as pledges over bank accounts, shares, or corporate guarantees, would need to be registered separately or simply referenced in a free entry field (see Appendix 1 for more details).
    - **Cross-Collateralization**: The registry may evolve to enable efficient recording of cross-collateralized interests, where the same security package spans multiple asset pools or borrower entities.
- **Factory-to-Registry Automation:** Establish direct data integration from container manufacturers to the CIR, enabling default ownership-interest registration at the point of production – similar to BIC Code assignment. This could be operationalized by linking the bill of sale with class societies' CSC certification process, allowing them (on owner instruction) to file registrations in parallel with delivery.
- **Identifier Coexistence Model:** Incorporate an immutable manufacturing number as the permanent legal anchor for each container within CIR, while continuing to record the BIC code plus serial as the operational identifier. This mirrors the aircraft model (manufacturer serial number versus tail number), preserving operational familiarity for intermodal players while ensuring legal certainty for first-to-file priority and asset traceability over the container's lifetime.
- **Broader Asset-Backed Financing Applications/ABS and Receivables**: By enabling granular, asset-level transparency, the CIR could underpin securitization and receivables-based structures – similar in spirit to UCC frameworks, but with the CIR's unique advantage of being strictly asset-based rather than debtor-based. This would facilitate the creation of container-backed securities and open new capital markets for container finance.
- **Integration with IoT and Real-Time Asset Monitoring**: As containers increasingly incorporate Internet of Things (IoT) devices (e.g. GPS, door sensors, thermometers), the

CIR could interface with real-time data streams. For example, certain financial or contractual conditions – such as drawdown events, repayments, or asset transfer – could be automatically triggered by sensor events (e.g. a container passing a specific checkpoint or door opening at an authorized facility). This would provide lenders, owners and operators with enhanced operational visibility, automated compliance and risk management.

- **Linkages to Distributed Ledger Technology and Smart Contracts**
    - **Beyond Registry Recording**: Integration with distributed ledger technology solutions (blockchain or similar) could extend not only to the registry backbone but also to the secure, time-stamped filing of contractual documents (mortgages, bills of sale, loan agreements, leasing contracts) and real-time event logs.
    - **Smart Contracts**: The CIR could be extended to support smart contract execution for conditional asset releases, automated payment triggers, or enforcement actions upon default or breach – enabling a new era of "programmable" asset finance in the container sector.
- **User Experience and Access/Mobile Access and APIs**: Development of mobile-friendly interfaces and open APIs will facilitate easier access for all stakeholders, including smaller lessors, financiers and technical service providers.

5. Findings from the Pilot Project and Broader Stakeholder Engagement

The pilot project for the CIR provided a valuable learning experience, yielding critical insights into the technical, legal and operational dimensions of implementing such a system. While the pilot validated the core concept and achieved important milestones, it also underscored the importance of industry-wide consensus with a clear value proposition for all stakeholder groups for potential future adoption. In light of these findings, the initiative is currently paused pending clearer signals of sustained interest and alignment from potential users (liners, lessors, banks, managers).

5.1 Stakeholder Engagement

- **Liner and Leasing Companies Engagement and Asymmetric Perception of Value**
    - *Observation*: A significant challenge observed during the pilot was securing sustained, active engagement from the borrower/mortgagee side, particularly among larger players comfortable with the status quo. For those who feel current practices already serve them well, the incentive to change can seem limited. While two major global carriers were part of the initial working group, their participation became less frequent over time, with apologies noted for several key conference calls. This highlights a potential perception gap. For financiers, the benefit of a registered security or ownership interest is direct and tangible as their security interest is enhanced. For some ocean carriers, however, the immediate benefit may seem less obvious, as their primary concern is operational availability, not granting extra comfort to their lenders, which comes with more constraints. And while the promise of lower borrowing costs is attractive, some carriers noted that this was theoretical and difficult to prove. Similarly, among the major container leasing companies, the urgency to adopt the CIR has so far been limited. While these lessors explicitly acknowledge in their annual reports that the absence of an international title registry represents a risk of dispute (see Appendix 4), they have long adapted to it by leveraging their extensive global networks, strong insurance arrangements and access to diversified funding – typically unsecured or cash flow–based, such as through ABS or securitization of lease receivables, rather than relying solely on asset-based lending structures. These factors, combined with sophisticated in-house processes for managing defaults and asset recovery, reduce the immediate perceived need for CIR participation.
    - *Impact:* The process of registering interests might be perceived by some larger liners/lessors/security providers as primarily benefiting financial partners. One bank noted a deal contingent on a liner's cooperation in uploading data, a step the liner was hesitant to take, indicating friction where operational priorities and financial requirements can clash. Consequently, not only borrowers but also lenders, initially keen on the pilot project, may find themselves refraining from insisting on CIR registration, particularly where doing so could jeopardize client relationships or deal execution.
    - *Possible Approaches to Encourage Adoption:* For large liners and lessors, the CIR offers direct return on investment (ROI) by reducing disputed ownership, as well as losses

from fraud and costly recovery delays. For insurers, after experiencing Hanjin recovery, CIR registration could become a requirement and support some premium reductions. Broader industry adoption including them would enhance these benefits, creating a network effect that streamlines negotiations, improves insurance comfort and supports better financing terms. In addition, early engagement may give the opportunity to be informed of industry development and better shape the register to their needs.

- **Limits of an Evidential-Only Model:**
  - *Observation***:** Several stakeholders have indicated that if the CIR remains purely evidential, without the full force of law, its ability to drive participation will be limited. The most tangible economic incentive – lower financing rates – would likely only arise if CIR-backed security interests were recognized by regulators, e.g. as reducing loss given default (LGD). Such recognition would allow banks to apply more favorable capital treatment and pass cost savings on to borrowers, creating a stronger adoption driver. So a "chicken and egg" dynamic exists: many may prefer to join only once a large share of the fleet is already registered, but if most take that stance, adoption will inevitably be slow.
  - *Approach for the Pilot*: It is recognized that adoption will be gradual – much like other asset registries, where broad reliance emerged only after years of proven reliability. In the meantime, even with partial coverage, the CIR can still help address current pain points – improving transparency, deterring fraud and enabling faster ownership verification – while steadily building relevance as participation expands.
- **Voluntary Pilot Participation, Resource Allocation and Internal Alignment:**
  - *Observation:* The pilot operated on the goodwill and voluntary contribution of its members, who signed an engagement letter with its commitments (see part 4.3). While fostering collaboration, it underscored the challenge of resource allocation, as participants dedicated valuable time amid competing internal projects and daily business pressures. Adding to this the fact that some departments/individuals within a company testing the CIR may be less familiar with its value proposition or may not see its relevance amid existing operational complexities.
  - *Impact:* The success of a wider rollout depends on the CIR being perceived not as another burdensome task, but as a tool delivering clear ROI through risk reduction and efficiency.
  - *Approach for the Pilot:* As with any industry registry or digital infrastructure, early adoption is likely to be gradual, and initial inertia is to be expected, especially if on the borrower side, there is more resistance. It is therefore important to assess CIR-related projects over an extended time frame, recognizing that meaningful uptake, process improvements and stakeholder buy-in will require sustained engagement and demonstrable long-term benefits.
- **BIC Decision Scenarios Post-pilot:** As part of its role in overseeing the pilot, and drawing on its broad experience in managing industry-wide container initiatives, BIC will review its

role in light of the pilot's findings and stakeholder engagement. Several potential pathways are under consideration:

- **Continued Operation:** Industry support increases dramatically, supporting a decision to move the CIR directly from pilot to full operation post-pilot, with incremental growth in participation.
- **Paused but Open:** An uptick in support might support maintaining the CIR available for use, but with limited active promotion until adoption improves.
- **Dormant:** The CIR is taken offline but retained in a ready state, to be reactivated if a significant change – such as new regulatory recognition or a major industry player joining – creates a clear path to widespread adoption.

5.2 Technical Challenges

- **Data Integration Complexity:**
  - *Challenge: Multi-department Involvement:* Effective use of the CIR requires coordinated action across several departments. The process typically begins with registering the BIC Code, usually handled by an operations or administrative team. Fleet data may then be uploaded to BoxTech, often managed by operations or technical staff (noting that not all containers having a BIC Code are currently included in BoxTech). With the CIR, the finance department becomes directly involved, as ownership interests and subsequent security interests can be registered only once the fleet is properly uploaded in BoxTech. This multistep, cross-departmental workflow introduces sequencing dependencies and potential bottlenecks; if not well-managed, it can cause confusion or discourage registration – particularly where existing documentation practices (e.g. mortgages, leases, bills of sale) are already complex to close and suffice with current practice.
  - *Mitigation Strategy:* To minimize bottlenecks, organizations should establish clear internal protocols and appoint a dedicated project lead or liaison, such as an asset finance coordinator, to ensure smooth communication and proper sequencing among all teams and BIC. Targeted training and concise manuals for each department can further clarify responsibilities and facilitate adoption. Where possible, the CIR's platform could incorporate workflow tracking and role-based access controls to guide users, further reducing confusion and supporting efficient collaboration across departments.
- **Data Accuracy, KYC and Integrity in Registration**
  - *Challenge:* The reliability of the CIR is fundamentally linked to the accuracy and integrity of data contributed by users. Currently, the CIR relies on self-certification, dual-confirmation between parties (e.g. lessor/lessee, lender/owner) and BoxTech validation (with active BIC Code). However, there are **no formal KYC or due diligence standards** aligned with international frameworks (e.g. Financial Action Task Force [FATF], Wolfsberg Group, Basel). This lack of standardized identity, entity and beneficial ownership verification increases the risk of bad-faith registrations, identity

misrepresentation, or manipulation – particularly in insolvency or enforcement situations.

- *Mitigation:* The CIR maintains a comprehensive audit trail, logging all registration and update actions for transparency and accountability. However, without integrated KYC or industry-aligned due diligence, the system's robustness ultimately depends on participant good faith and contractual relationships outside the registry.

- *Future Enhancements:* Integration with KYC providers, adoption of recognized standards, or cross-referencing with national registries could significantly strengthen the legal certainty and trustworthiness of CIR registrations.

- **Coverage Gaps Due to Voluntary Registration and Secondary Market Practices**

  - *Challenge:* The CIR relies on voluntary registration throughout the lifetime of a container, but coverage gaps often arise in secondary sales – especially small-batch transactions with traders and depots. Traders typically operate on thin margins, often ranging from USD 50 to USD 150 per box, and may forgo formalities such as updating the BIC Code, changing the check digit, or recording ownership in BoxTech or the CIR. As a result, changes in ownership or control could frequently go unregistered, creating data integrity gaps. When containers would later be sold to parties that do use the CIR, registration would resume, but the intervening history would remain undocumented – undermining the registry's reliability as a full chain-of-title record.

  - *Mitigation:* The CIR could address these gaps by issuing automated reminders or "inactivity alerts" when transfers are suspected but not registered, and by engaging directly with traders and depots to promote the benefits of consistent registry use. Over time, industry-wide adoption and education will be essential to encourage best practices and to reduce the operational risks of incomplete documentation in secondary transactions. Where feasible, the platform may incorporate reconciliation tools to flag and help resolve registration gaps when containers reenter the system after periods of inactivity.

5.3 Legal Challenges

- **Defining the Scope of Registrable Security Interests:**

  - *Challenge:* Precisely defining which types of "security interests" should be registrable and the detail required

  - *Pilot Approach/Resolution:* For the MVP, it was necessary to select a simplified use case, fully aware that it would not capture all possible financing scenarios. Accordingly, the pilot focused exclusively on the registration of first-priority mortgages – excluding subsequent ranking (second, third, etc.) mortgages and omitting more complex concepts such as cross-collateralization. The registration process was limited to core, verifiable data points (identification of parties, type of interest and date).

- **Limits of Registry Perfection and Practical Recovery in a Granular Asset Class**

- *Challenge:* The CIR can evidence security interests (and in the future potentially perfect them), but cannot guarantee practical recovery. In a default situation, containers are spread across thousands of global depots, ships, or customer sites, frequently in remote or low-demand locations with incomplete tracking or uncertain whereabouts. The operational costs of locating, repositioning and repairing these assets may sometimes exceed their market value, making recovery uneconomical – regardless of legal rights.

- *Mitigation:* The CIR's greatest value is in providing a transparent, auditable record of registration. For security holders, maintaining a clear record is almost always beneficial and can materially support enforcement and negotiation in the event of default. For security providers, minimal participation may be tempting, but failing to register does not reflect well and could undermine credibility. In practice, registration adds transparency and credibility, and can materially improve prospects for recovery, negotiation, or legal enforcement – even in jurisdictions lacking statutory recognition.

- **Dispute Resolution and Mediation Mechanism**

  - *Challenge:* Inevitably, conflicts can arise between parties regarding the registration, amendment, or discharge of security interests – such as conflicting claims, errors, or contested entitlements. In the absence of a central forum, disputes can result in delays, uncertainty and costly litigation across multiple jurisdictions.

  - *Pilot Approach:* For the pilot/MVP, the CIR does **not** provide direct mediation, arbitration, or a formal "notice of dispute" mechanism. Instead, it serves as an auditable, time-stamped record that can be referenced by parties and relied upon in any external dispute resolution process (such as contractual mediation, arbitration, or court proceedings). The CIR plays a supporting evidentiary role but does not adjudicate on entitlement or the validity of claims.

  - *Industry Benchmark – CTC Practice:* The International Registry (Aviareto) does not resolve disputes or provide mediation, but allows for the lodging of objections (subject to process). Disputes are typically resolved externally, with the registry acting on valid legal orders but not itself making determinations.

  - *Future Enhancements:* The CIR could explore offering a voluntary mediation mechanism, partnering with industry-recognized alternative dispute resolution providers (e.g. International Chamber of Commerce), or implementing a formal "challenge" workflow to flag and resolve disputed registrations more efficiently, in line with best practices of asset registries.

- **Organizational Structure, Legal Personality and Long-Term Governance**

  - *Challenge:* As of the pilot phase, the CIR operates as a project under the auspices of BIC, without a distinct legal personality, ring-fenced balance sheet, or dedicated governance structure. This arrangement limits the CIR's ability to contract independently, establish its own risk management policies, determine its jurisdiction for dispute resolution, and set a transparent cost structure and profit and loss (P&L). Over time, scaling the registry to serve as a global market utility will require addressing these

foundational questions to meet the expectations of stakeholders, regulators and financial institutions.

- *Pilot Approach:* During the MVP phase, operational, legal and financial oversight are provided directly by BIC, leveraging existing staff, infrastructure and insurance coverage. Costs are allocated internally, and no standalone P&L is published for CIR activities.

- *Future Enhancements:* As the CIR matures, a transition to a ring-fenced or fully independent entity could be explored. This would enable CIR to: i) formalize its own governance and operational policies; ii) publish transparent cost and revenue statements; iii) secure appropriate professional and cyber insurance coverage; iv) define jurisdiction and processes for dispute resolution and mediation; and v) enhance stakeholder confidence by providing clear legal certainty and risk management aligned with international best practices.

6. Industry Adoption and Path to Standardization

The CIR framework is designed to be adaptable, recognizing that further development or broader rollout may be subject to the pace of industry uptake and feedback following the pilot phase. Following completion of the pilot phase, progression toward wider use or standardization is currently paused, pending clearer feedback, alignment and commitment from stakeholders regarding the value and applicability of the framework.

6.1 Value Proposition for Stakeholders

Summary table

The following table summarizes the benefits the CIR could offer for key stakeholder groups.

Stakeholder	Evidential Register (Current Concept, with Industry Adoption)	Treaty with Full Force of Law (Future Scenario)
Lessors/Owners	• Third-party proof of title supports financing and insurance discussions. • Helps deter fraud/double-pledging. • Assists in disputes and recovery; claims in disputes are strengthened. • Professional credibility boost with counterparties.	• Statutory recognition of title and security interests. • Direct enforceability across ratifying jurisdictions. • Stronger legal remedies and quicker recovery in insolvency. • Greater impact on financing costs as well as insurance costs.
Banks/Financial Institutions	• Independent verification of collateral at origination and during loan life. • Streamlines due diligence and syndication processes. • Persuasive evidentiary weight in court, potentially strengthening claims in disputes.	• Statutory priority of registered interests across ratifying states. • Lower LGD and potentially more favorable capital treatment. • Supports prudent risk management for Basel compliance. • Faster, standardized enforcement procedures.
Legal Professionals	• Reliable, searchable record to reference in documentation. • Enhances quality of legal opinions. • Facilitates due diligence and reduces ambiguity. • Persuasive evidentiary weight in court, potentially strengthening claims in disputes.	• Registration confers direct legal effect and priority. • Treaty-based framework standardizes enforceability globally. • Allows drafting of cross-border transactions with greater certainty.
Insurers	• Easier verification of title and encumbrances. • Faster claims validation. • Supports underwriting for specialized products. • Still reliant on local enforcement for recovery or subrogation, but can provide persuasive evidentiary	• Legal recognition of registered interests accelerates claim settlement. • Stronger recovery rights in insolvency/default. • Potentially lower fraud-related losses.

Stakeholder	Evidential Register (Current Concept, with Industry Adoption)	Treaty with Full Force of Law (Future Scenario)
	weight in court to strengthen claims.	
Financial Regulators/ Supervisory Authorities	• Improves market transparency and risk assessment. • No direct legal mandate; reliance on voluntary adoption.	• Supports Basel-aligned supervision. • Treaty-backed enforceability supports statutory recognition. • Facilitates harmonized secured transactions regulation.
Depots/Terminal Operators	• Single source to verify claims before release. • Reduces wrongful deliveries and disputes. • Operational benefit but no legal obligation to comply.	• Legal duty to recognize registry entries. • Protection from liability if acting per registered interests. • Enforceable lien/priority recognition under treaty law.
Container Traders	• Adds provenance credibility for resale. • Mitigates fraud risk. • Advantage in dealing with finance- or insurance-linked buyers.	• Registered ownership provides legally recognized title transfer. • Stronger buyer confidence; fewer disputes. • May become market entry requirement in regulated trades.

The above comparison highlights how the CIR's value proposition scales with its legal force.

In its evidential form, the register already delivers practical benefits – faster verification, improved transaction confidence and a deterrent to fraud – that can raise professional standards and reduce operational friction.

The treaty-backed scenario, akin to CTC ratification, amplifies these effects, shifting the CIR from a facilitative tool to a statutory instrument capable of lowering financing costs, accelerating enforcement and harmonizing cross-border practices. Achieving such recognition would require broad adoption and sustained stakeholder alignment, but even partial uptake of the evidential model can generate meaningful network effects that pave the way toward this future state.

6.2 Network Effects and Industry Adoption Pathways

The CIR's long-term success depends on achieving critical mass – enough participation that checking and registering interests becomes standard industry practice. Without broad engagement, the registry risks being underutilized and incomplete, which is the reason it is currently paused.

- **Return on Investment: Practical Versus Treaty-Backed Benefits:** A key incentive for adoption is the ROI associated with lowering financing costs. However, this benefit is more likely to materialize once the CTC has been ratified and the CIR achieves full treaty-backed force. Until then, ROI will be derived primarily from practical advantages – faster verification, reduced fraud risk, smoother transactions and strengthened evidentiary value – rather than direct cost-of-capital reductions.
- **Soft Law and De Facto Standardization**: Even in the absence of binding international treaties, a registry that bridges gaps among varying national systems creates a "soft law"

environment. Through industry consensus and widespread practice, the CIR could evolve from a facilitative tool into a de facto industry standard, shaping behavior and expectations across the sector.

- **Strategic Onboarding of Key Stakeholders**: Initial adoption would require engagement from influential actors such as major financiers, insurers, and top-tier liners and lessors. When these players embed the CIR into their standard processes, their partners and counterparties will face strong incentives to follow suit in order to remain eligible for deals and financing.
- **Adoption Patterns and Competitive Dynamics**: This mirrors adoption trajectories seen in other registries, where early movers benefit from enhanced credibility and transparency, while laggards risk commercial disadvantage. Establishing CIR participation as a marker of good governance and market trust could accelerate uptake.
- **Integration into Operational Workflows**: Embedding the CIR within existing operational platforms – such as BoxTech, depot management systems and IoT tracking – will be crucial. Seamless integration reduces the perception of the CIR as an additional compliance burden, instead positioning it as a natural part of daily workflows and verification routines.
- **Partial Versus Full Adoption Scenarios**: If adoption remains partial, CIR could still serve valuable niches in high-value or high-risk transactions. But with broad industry uptake, CIR has the potential to redefine baseline market expectations. In its most ambitious form – under regulatory or treaty recognition – it could become as integral to container finance as vessel registries are to shipping.
- **Long-Term Cape Town Convention Alignment**: With sufficient industry momentum and engagement, the CIR could ultimately provide the operational foundation for a future CTC protocol dedicated to containers – delivering treaty-level recognition for registered interests.

6.2 Future Outlook and Potential Expansion

While the CIR has reached an operational level of readiness, any further expansion or enhancement is contingent on renewed industry engagement following the pilot phase. Progress toward uploading substantial container portfolios; broader adoption for the registration of ownership, security and lease interests; and the further development of functionality is currently on hold, pending clearer signals of demand, alignment and commitment from stakeholders. The insights and challenges identified during the pilot phase remain central reference points for any future reactivation.

7. Conclusion and Call to Action

The global container industry – indispensable to international trade – has long operated without a unified framework to verify ownership, encumbrances, or lease status across borders.

The CIR was developed as an industry-driven solution. Built on the trusted infrastructure of BIC, including the BIC Code and BoxTech database, the CIR offers a secure global platform for registering ownership, security and lease interests at the container level. It is not a theoretical concept but a functioning system, tested and proven by leading banks, lessors and legal experts.

By closing the visibility gap, the CIR could create tangible advantages:

- For financiers: improved collateral validation, reduced risk of double-pledging and the potential for more competitive regulatory capital treatment.
- For lessors, owners and carriers: stronger asset protection, demonstrable title, and upon international treaty adoption access to broader and cheaper sources of financings.
- For insurers and legal professionals: faster claims, stronger evidence and streamlined dispute resolution.
- For regulators and policymakers: enhanced transparency in a sector of systemic importance, aligning container finance with international best practices.

The pilot phase demonstrated that the greatest hurdles are not technical but practical – overcoming inertia, embedding the CIR into workflows and building critical mass. Success will therefore depend on broad participation across the ecosystem. The more stakeholders contribute, the more powerful and indispensable the registry becomes – transforming it into a de facto industry standard that courts and regulators may increasingly recognize, even before treaty-level status is achieved.

Accordingly, BIC has decided to pause further advancement of the CIR beyond the pilot phase, while retaining the technical and governance framework developed to date, pending clearer indications of broad-based industry support.

This white paper therefore serves as a record of the work undertaken, the capabilities demonstrated and the opportunities identified. It is also an open reference point for stakeholders – owners, lessors, financiers, operators, insurers, legal professionals and regulators – to assess whether and when the conditions are right to move collectively toward a more transparent, resilient and internationally aligned framework for container finance, potentially paving the way for future legal recognition comparable to that achieved in aviation and rail under the Cape Town Convention.

Appendices

Appendix 1: Key Security Interests and Liens in Container Financing

This overview is descriptive in nature and is intended to provide additional context to the White Paper. In light of the current pause of the initiative, it has not been subject to full independent legal review.

This appendix explains the principal forms (non-exhaustive) of security interests – including liens – used in container finance. While "security interest" commonly refers to rights granted by contract or registration (such as mortgages, charges, assignments and pledges), liens (especially statutory or possessory liens) also play a critical role in practice, often outranking other claims. This section outlines both types and highlights their practical strengths, limitations and interactions.

For real-world enforcement and case studies, see Appendix 7.

1. **Mortgage**

- **Definition:** A mortgage is a legal agreement by which an asset is transferred by a debtor (the mortgagor) to a creditor (the mortgagee) as security for a debt, with the condition that the asset will be returned once the debt is repaid.
    - **Statutory Mortgage:**
        - Created and registered under a specific statute (law).
        - Example: Ship or aircraft mortgages are usually "statutory" – registered in a public registry and benefit from priority rules set by law.
        - **In container finance:** There is no statutory register for containers in any jurisdictions, which is the blocking point for financial regulators (see Appendix 2 on Basel implementation) to treat it like other assets, involving lower cost of capital for banks. If the CTC were to be ratified for the CIR, it would likely be treated more favorably by regulators.
    - **Non-Statutory (Equitable/Contractual) Mortgage:**
        - Created by contract, not registered under a specific statute or public registry.
        - These agreements are effective between the parties but may offer fewer protections and less priority against third parties (see Appendix 7 for Enforcement and Recovery in Practice).
        - **In container finance:** e.g. English law "mortgage" documents over containers typically fall into this category. Although often referred to as a "mortgage," they are, in legal terms, fixed or floating charges over the assets (see below section). The CIR, unless supported by CTC ratification, would also be classified in this category.

2. **Charge Over a Container**

A “charge” is an interest granted over an asset to secure the payment of a debt or performance of an obligation, without transferring ownership or possession. It is common in English law and similar common law jurisdictions.

Fixed Charge Versus Floating Charge

- **Fixed Charge:**
  - Attaches to a specific, identifiable asset (e.g. a fleet of containers, a ship).
  - Debtor cannot sell or dispose of the asset without the lender’s consent.
- **Floating Charge:**
  - Attaches to a class of assets that can change over time (e.g. inventory, receivables, or container fleets that are traded or substituted).
  - Debtor can deal with the assets in the ordinary course of business until the charge “crystallizes” (e.g. upon default).
- **In Container Finance:**
  - Charges – rather than mortgages – are the standard form of security, particularly for container fleets.
  - Lenders may seek a fixed charge over containers (with detailed asset lists), but operational realities often require some floating element as containers move in/out of fleets.
  - In a typical container ABS structure:
    - The charge will extend broadly to all of the special purpose vehicle’s (SPV’s) assets, not just the containers themselves. This generally includes the containers, lease agreements, receivables, sale proceeds, insurance policies and proceeds, bank accounts, and other related rights.
    - The charge is perfected by registration with the relevant authority (e.g. Bermuda Registrar of Companies), and it is common practice to also register a UCC filing in the United States. This dual registration approach is used to maximize enforceability and priority across different jurisdictions, ensuring that the lender’s security interest is recognized both where the SPV is incorporated and where receivables or assets may be located or enforced.
    - **For CIR registration:** The charge over the containers (the “box charge”) should be registered as a distinct, clearly identified interest, separate from any general all-assets charge. This ensures asset-level transparency and supports enforceability, consistent with international best practices. If the CIR were brought under the Cape Town Convention and ratified, such a registered charge would acquire statutory status and benefit from the enhanced legal recognition and priority provided under the Convention.

3. Assignment in Container Financing

An **assignment** is a legal mechanism by which a party (typically the borrower or owner) transfers or grants certain contractual rights and benefits to another party – most often as part of the security package in favor of a lender or security agent. Assignments provide an added layer of security: in the event of a default, the lender or security agent can directly access these assigned cash flows or enforce these rights, bypassing the borrower.

In Container Finance:

- Assignments are not currently included in the CIR MVP, but enabling their registration is essential for a fully effective registry and should be prioritized for future development following the pilot phase. In a potential future CTC framework for containers, only assignments of registered interests (such as mortgages, charge over the boxes or leases) would be registrable in CIR – other assignments (e.g. of receivables or insurance) would only be registrable if included within a registered security interest, following the model used in the aircraft registry.
- Assignments are a core feature of container finance transactions, especially in both bilateral secured loans and structured financings such as ABS or JOLCO.
- Assignments are typically documented in a security agreement or general assignment. These agreements allow the lender to take direct rights in underlying cash flows and claims related to the financed containers.
- Common rights that may be assigned include:
    - **Lease receivables:** Rights to receive payments under container lease agreements.
    - **Insurance proceeds:** Rights to insurance payouts covering loss or damage to the containers.
    - **Sale proceeds:** Rights to funds received from the sale of containers.
    - **Other contractual rights:** Such as requisition compensation, manufacturer's warranties, or claims under maintenance contracts.

In Structured Transactions:

Assignments often occur in tiers. First, the borrower may assign rights to a lessor or SPV; subsequently, the lessor or SPV further assigns those same rights onward to the security agent or trustee acting for noteholders (in case of ABS) or lenders (e.g. in a lease or JOLCO structure). The structure and scope of these assignments are typically set out in a single comprehensive agreement.

4. **Pledge**

A pledge is a possessory security interest whereby the debtor delivers possession or control of an asset to the creditor as collateral for a debt or obligation.

- **Key Features:**
  - The creditor has physical control/possession until the debt is paid.
  - The creditor may sell the pledged asset if there is a default.
- **In Container Finance:**
  - In container finance, true pledges over the physical containers are rarely practical, since lessors and financiers do not typically take physical possession of containers that are constantly moving in global trade.
  - Pledges are more commonly used over bank accounts (e.g. collection accounts, debt service reserve accounts). In these cases, the lender takes a security interest in specific bank accounts into which lease payments or other proceeds are deposited. This structure ensures that cash flows associated with the financed containers are controlled and can be accessed by the lender in the event of a default. Pledges over bank accounts are a key feature in many ABS and structured finance transactions, but are distinct from security interests in the containers themselves.

5. **Lien**

A lien is a legal right or interest that allows a creditor to retain possession of an asset owned by another party until a debt or obligation owed by that party is satisfied. In some cases, a lien may exist even without possession of the asset, depending on its legal basis.

- **Types:**
  - **Possessory Lien:** The right to retain physical possession of an asset until a debt is repaid (e.g. a container depot holding containers due to unpaid storage fees).
  - **Statutory Lien:** A lien granted by specific legislation or regulation (e.g. port authorities having statutory liens over containers for unpaid port charges).
- **In Container Finance:**
  - Liens are commonly asserted by depots, terminals and ports.
  - Liens – especially statutory and possessory ones – are the most effective forms of security in container operations, frequently taking priority over registered or perfected charges, especially if those charges lack statutory backing. This presents a key operational risk for lenders.

Summary Table: Maritime Liens, Security Interests and Tax Liens (Containers and Ships)

The following non-exhaustive list illustrates that, in the event of default, security interests may not enjoy first priority in practice – even if they are described as such in the document title (for example, “first priority mortgage”).

Lien/Security Type	Statutory/ Non-Statutory	Possessory/ Non-Possessory	Notes/Typical Priority Order
Tax Lien/Customs Lien	Statutory	Possessory or Non-possessory	Super-priority; government/tax authorities; blocks release of container/cargo/vessel until paid; can override other liens and security interests
Mortgage/Charge Over Container with CIR and CTC Ratified	Statutory	Non-possessory	Statutory international interest (CTC/CIR); high priority across ratifying states, but may be overridden by tax/customs or depot/port liens.
Seafarers' Wages	Statutory	Non-possessory	Top priority maritime lien (over vessels, containers)
Salvage	Statutory	Non-possessory	Second priority maritime lien
Damage (e.g. collision)	Statutory/ Common law	Non-possessory	Third priority maritime lien
Master's Disbursements	Statutory	Non-possessory	For expenses incurred by master for the vessel
Suppliers of Necessaries (US)	Statutory (US)	Non-possessory	Maritime lien in US, not in UK/common law jurisdictions
Cargo Lien (for Freight, General Average)	Statutory/ Contractual	Possessory	Carrier must retain possession; covers unpaid freight, general average contributions, etc.
Lien for Freight	Statutory/ Contractual	Possessory	Retain cargo for unpaid freight; ends if possession lost
Port/Harbor/ Customs Lien	Statutory	Possessory (or statutory)	Port may detain/sell vessel or container for unpaid charges
Shipowner's Lien on Cargo	Contractual	Possessory	Enforced by holding cargo
Ship Mortgage	Statutory	Non-possessory	Registered; lower priority than maritime liens and tax liens
Charge over Container (UCC, etc.)	Non-statutory	Non-possessory	Created by contract; priority depends on perfection and local law; subject to tax and depot/port liens in practice
English Law Mortgage Over Container	Non-statutory	Non-possessory	Usually a fixed/floating charge; not a statutory mortgage; priority depends on perfection and jurisdiction; subject to local liens
Depot/Terminal Lien	Statutory/ Contractual	Possessory	Depot/terminal may hold containers for unpaid fees; in practice, super-priority locally

In summary,

- Tax/customs liens and port/harbor liens often take practical priority, as enforced by public authorities.
- Maritime liens (such as wages or salvage) follow the ship or container even after a sale.

- Possessory liens are effective only while possession is retained. Non-possessory liens and charges, such as ship mortgages or charges over containers, are subject to local statutory and possessory liens in real-world enforcement, making depot and terminal liens particularly significant in container finance.

In Practice:

- *Containers do not benefit from true statutory security interest (mortgages, charge, etc.).*
- *Charges (fixed/floating) are most common, usually registered as notice filings (e.g. UCC, Bermuda, Cayman Islands) but not always globally effective.*
- *Pledges and liens require possession – liens are common in operations, while pledges are rare.*
- *Priority in insolvency may depend on type and registration/possession, with local law often decisive.*

Appendix 2: Basel Capital Treatment and Relevance for CIR

1. Overview: Basel Framework and Asset Finance The Basel Accords (Basel II, III and IV) establish international regulatory standards for banks' capital adequacy, risk assessment and supervisory practices. These frameworks determine how much capital banks must hold against exposures including loans secured by movable assets such as containers (and aircraft, etc.). The framework is especially relevant to the CIR as it affects how banks perceive the riskiness of lending into the sector.

2. Basel Accords: Key Components and Evolution

- **Basel II** introduced risk-weighted assets (RWA) and internal ratings-based (IRB) models, allowing banks to calculate capital based on their own estimates of default probability and loss severity.
- **Basel III** tightened capital adequacy ratios, introduced liquidity requirements (liquidity coverage ratio, net stable funding ratio) and added buffers to address systemic risk. It also initiated the concept of output floors to constrain RWA optimization.
- **Basel IV** (also referred to as the final Basel III package) standardizes risk weights further, limits use of internal models, introduces a 72.5% output floor and revises operational risk calculation to a standardized approach.

3. Capital Requirements for Asset-Backed Lending: Under Basel, lending against containers or aircraft must be capitalized based on:

- **Probability of Default (PD)**: The likelihood that a borrower will fail to meet its debt obligations – typically measured over a one-year horizon. For example, a PD of 2% means there's a 2 in 100 chance the borrower defaults within the next year.
- **Loss Given Default (LGD):** The percentage of the loan that a lender expects to lose if the borrower defaults, after accounting for recoveries such as collateral or insurance. For example, if a bank lends USD 100 and expects to recover USD 60 through repossession or legal action, the LGD is 40%.
- **Collateral Enforceability and Asset Liquidity**, both of which affect LGD.
- Basel IV reduces flexibility in internal modeling, increasing reliance on standardized risk weights – typically higher for unsecured or legally ambiguous claims.

For movable assets such as containers, the absence of a global title and lien registry leads to high LGD estimates, **inflating capital needs**. The CIR seeks to address this by improving enforceability and transparency.

4. Output Floors and the Shift to Standardized Approaches: Basel IV introduces an output floor: banks using internal models must hold capital no lower than 72.5% of what standardized approaches would require. This directly impacts niche sectors such as container finance, where bespoke modeling often resulted in lower capital charges.

Under standardized approaches:

- Unrated corporate exposures default to 100% risk weight.

- Specialized lending (e.g. container pools) may receive 120% or higher.
- High LGDs are assumed unless strong legal protections exist.

These rules push banks to favor asset classes with transparent, enforceable collateral – possibly creating an incentive for a register like the CIR.

5. Regulatory Adoption and Divergence: Implementation timelines vary by jurisdiction:

- **European Union (France, Germany):** Basel IV applies from 2025 (fundamental review of the trading book from 2026).
- **United Kingdom:** Delayed to 2027.
- **United States:** Basel III Endgame planned for 2025–2028; eliminates IRB for credit risk.
- **China and Japan:** Implementing Basel IV-aligned frameworks by 2024 gradually.
- **South Korea:** Early adopter; effective since 2023.

Jurisdictional differences affect banks' appetite and structuring for container-backed deals.

6. CIR's Potential Role in Basel Context: As a pilot initiative, the CIR is being developed with the aim of improving the transparency and legal clarity of ownership and security interests in containers. If adopted more broadly, CIR could support better risk management practices in line with Basel objectives:

- It may help reduce LGD by strengthening the enforceability of claims across jurisdictions.
- It could facilitate due diligence and audit processes, thereby contributing to lower operational risk.
- Over time, it might help inform supervisory views or national discretions around risk weights in specific asset-backed lending contexts.

While it is too early to determine the full regulatory impact, the CIR's alignment with Basel's emphasis on legal certainty and reduction of asset ambiguity may offer a useful step toward addressing key concerns under credit and operational risk frameworks.

7. Conclusion: The evolution of the Basel framework, particularly the shift under Basel IV, raises capital costs for asset-backed finance where collateral is ill-defined or hard to enforce. The CIR addresses this by creating a global structure for registration of container ownership, lease and security interests. While Basel does not directly mention such registries, the CIR helps meet its underlying objectives: reduced LGD, improved transparency and minimized operational risk. As regulatory capital becomes scarcer and more expensive, the CIR offers a tool to make container-backed lending more Basel-aligned and economically viable.

Appendix 3: Illustrative ROI and Business Case Models

The figures and assumptions in this Appendix are most relevant if a statutory framework – such as the CTC for containers – is adopted, particularly for security interest. Only then could CIR registrations be recognized as enforceable security interests by regulators, supporting lower capital charges and cost of funds for banks (see Appendix 2 on Basel treatment).

Without CTC adoption or equivalent legal recognition, the CIR operates as a de facto register, and its business case benefits would be more as proof of ownership toward stakeholders (assuming industry adoption); those related to capital relief for lenders are likely to be limited under current regulatory frameworks.

1. ROI Model: Risk Mitigation Against Fraud and Asset Misappropriation

Scenario: Prevention of double-financing or fraudulent sale/pledge of containers (e.g. bad actor attempts to sell or refinance a fleet they do not own).

Industry Precedent:

- While large-scale, organized fraud is not frequent, even one event (1 000 containers × USD 2 000 = USD 2 million) can wipe out years of profit for a mid-tier lessor.
- *Industry example:* Multiple public filings by lessors (Textainer, Triton) show that when a lessee defaults or assets become misappropriated, even highly experienced lessors suffer direct asset losses, impairment charges and high legal costs.[3]

Quantified ROI:

- **Direct Loss Avoidance:** The CIR can prevent even a single USD 2 million fraud event over a decade – fully justifying years of registry costs.
- **Indirect Cost Avoidance:** Legal, investigation and management overheads (estimated > USD 300 000 per major event) are a recurring cost for lessors when ownership or security interests are disputed.

Compelling Point: In the aftermath of Hanjin's bankruptcy, some lessors recovered 95%+ of their containers, but only after **absorbing a significant amount (e.g. USD 44 million and USD 23.4 million in direct write-downs for a main lessor)**, plus legal and operational recovery costs.[2]

2. ROI Model: Insurance Premium Reduction – Post-Hanjin Case

Context – Actual Hanjin Outcomes

- Major lessors reported that after Hanjin's 2016 bankruptcy, about 80-90% of boxes were identified and control regained within one to two months.

[3] https://www.marinelink.com/news/container-shipping-bankruptcy-lends-440652

- **The remaining 10-20% took much longer** and generated **disproportionate legal, port and administrative cost**. This "long tail" is where registry-based certainty would provide the greatest value.
- **Title/ownership disputes were not the main bottleneck for the majority of recoveries**, but for the final 5-10%, clear evidence of registered interest would have expedited resolution and reduced friction with ports, customs, or minor legal jurisdictions.

A. Quantified Insurance ROI – Realistic, Conservative Approach

Cost and Recovery Analysis

- **Event size:** Assume a lessor with 10 000 boxes at risk in a large default.
  - *Within 2 months*: ~8 500 boxes recovered at "normal" cost.
  - *Tail group*: 1 500 boxes take more time/effort/cost.
- **Incremental cost per tail box:** Often USD 300/box to USD 500/box in legal, storage and agent fees (see reported Hanjin costs).
  - *Without the CIR*: Full USD 300/box × 1 500 = **USD 450 000**
  - *With the CIR*: If registry reduces friction for half the tail (750 boxes), cutting costs by USD 100/box, that's **USD 75 000 in direct savings per major event**.
- **Expected frequency:** For large lessors, such major claims might occur once every five to ten years, or in smaller form more often.

Premium Impact: Premium reduction effect is marginal but real: Insurers price to risk. If the presence of the CIR means a 1-3% reduction in lessee default premium (on USD 500 000 annual premium), that's USD 5 000 to USD 15 000 per year. (Major step change likely only after multiple years of CIR track record.)

Process/Management Cost: Administrative time savings: Each major event requires hundreds of staff hours; the CIR can save at least 20% of this in the "tail cases" (USD 20 000 to USD 50 000 in senior management/legal time per event).

B. Broader Industry Stakeholder ROI

For Large Lessors

- **ROI is highest for the "last mile" of recovery**: The CIR adds speed and certainty to the most expensive, drawn-out cases (the last 5-10%).
- **Annualized direct savings:** USD 10 000 to USD 30 000 for each USD 100 million in fleet (for major events, or cumulatively over several minor cases).

For Depots/Ports

- **Reduces dispute and storage fee standoffs**: Fewer "gray boxes" sitting idle while legal arguments play out.
- **Potential annual savings:** USD 10 000 to USD 20 000 per major port for reduced storage/administrative cost and faster equipment turnover.

For Insurers

- **CIR does not transform the first 80-90% of claims**, but **it gives clear, quick confirmation for "problem cases"** and supports cleaner subrogation (right of insurer to chase a third party after payout).
- **Reduces risk of double-claim or contested asset situations**, which are rare but costly.
- **Premiums may stabilize or fall modestly (1-3%)** as insurers get more comfortable – especially if CIR adoption is widespread and accepted in claims protocols.

For Banks/Secured Lenders: Better funding costs assumptions for the "tail" of loss scenarios, translating to marginal capital relief, and fewer blocked recovery attempts in multi-creditor situations.

3. ROI Model: Financial and Capital Efficiency

A. Broader Market Effect: Attracting More Bank Participation and Lowering the Spread

- **Market Reality:** Today, only a handful of specialist banks (and a few large US/EU lenders) participate in container ABS/secured loans – limiting competition and keeping margins higher than for comparable asset classes.
- **With the CIR:**
    - A legal registry levels the playing field, bringing in banks that otherwise avoid the sector. As more banks compete, the pricing gap versus "plain vanilla" asset finance (aircraft, rail) narrows.
    - **With the CIR (Evidentiary Register Only)**: While the CIR helps with operational transparency and may make it easier to prove ownership or enforce interests, it is not expected to materially improve pricing or attract a broader pool of mainstream lenders on its own.
    - **With CTC Adoption (Statutory Registry)**
        - **Aircraft Precedent:** Vadim Linetsky (2009)[4] noted after the CTC, "Assuming the average airline credit rating of B and using the Airline Monitor's forecast of total aircraft orders in 2009-2030 of US$4,728 billion and the financing need of US$4,018 billion (85% of total orders), according to our analysis the **total savings**

[4] Economic Benefits of the Cape Town Treaty: https://xge.255.myftpupload.com/wp-content/uploads/2020/02/Economic-Benefits-of-the-CTC-Vadim-Linetsky-2009.pdf

directly resulting from the risk reduction due to reducing the worldwide repossession delay from ten to two months are on the order of **US$161 billion** over this period.”

- **Practical Result:** The CIR could make containers “fit” standard collateral frameworks, opening the door for broader syndication, more favorable regulatory treatment and – critically – tighter pricing for all borrowers.

B. Secured Bank Loan for Leasing Companies or Carriers

- **Current Market:** Banks often see container finance as “exotic” collateral (versus aircraft/rail), requiring higher spreads and/or lower loan-to-value ratios.
- **Scenario:**
  - **Without the CIR:** Typical loan priced at the secured overnight financing rate (**SOFR) +2.50%** for a USD 100 million facility (collateral risk cited).
  - **With the CIR:** Lender sees CIR registration as a material risk mitigant – **offers SOFR +2.25%** for the same risk (reflecting step toward standard asset classes).
  - **Annual interest saving: USD 250 000 per USD 100 million**.
  - **Strategic Impact:** Over time, CIR adoption could help reclassify containers from “special assets” to more mainstream collateral, unlocking better Basel treatment (lower risk weight, more lender appetite).

C. Asset-Backed Securitization for Mid-to-Large Leasing Companies

- **Industry Practice:** Container ABS is the gold standard for capital efficiency in large container leasing. However, advance rates and pricing are tightly capped by investors’ concerns over asset recovery in default situations.
- Statutory recognition of the CIR under a CTC Protocol would likely lead rating agencies to provide even more favorable assessments, reflecting improved legal certainty.
- This enhanced confidence could translate into higher advance rates and slightly tighter spreads, allowing issuers to access greater leverage and achieve even better pricing.

Appendix 4: Absence of an International Registry – Industry Disclosure

Below are extracts from public disclosures by listed container lessors, highlighting a commonly identified structural limitation in the industry.

Listed Container Lessor – 2022 Annual Report

Risks Related to Our Business Operations

The lack of an international title registry for containers increases the risk of ownership disputes.

Although the Bureau International des Containers registers and allocates a four letter prefix to every container in accordance with ISO standard 6346 (Freight container coding, identification and marking) to identify the owner/operator and each container has a unique prefix and serial number, there is no internationally recognized system of recordation or filing to evidence our title to containers nor is there an internationally recognized system for filing security interests in containers.

Although this has not occurred to date, the lack of a title recordation system with respect to containers could result in disputes with lessees, end-users, or third parties who may improperly claim ownership of containers.

Listed Container Lessor – 2024 Annual Report

Risks Related to Legal, Tax, and Other Regulatory and Compliance Matters

The lack of an international title registry for containers increases the risk of ownership disputes.

There is no internationally recognized system for recording or filing to evidence our title to containers nor is there an internationally recognized system for filing security interests in containers. Although this has not occurred to date, the lack of an international title recordation system for containers could result in disputes with lessees, end-users, or third parties who may improperly claim ownership of the containers.

Listed Container Lessor – 2020 Annual Report

The lack of an international title registry for containers increases the risk of ownership disputes.

There is no internationally recognized system of recordation or filing to evidence our title to containers nor is there an internationally recognized system for filing security interests in containers. Although we have not incurred material problems with respect to this lack of an internationally recognized system, the lack of an international title recordation system for containers could result in disputes with lessees, end-users, or third parties who may improperly claim ownership of the containers.

Listed Container Lessor – 2024 Annual Report

3.3.3 We rely on ownership records to prove that we own our assets. Failure to properly register or the absence of an international registry increases the risk of ownership disputes.

These disclosures reflect a consistent acknowledgment of the absence of a globally recognized system for recording ownership and security interests in containers.

Appendix 5: Other Registries and Filing Systems: UCC, Umler and GIER

UCC (Uniform Commercial Code) Filings – United States:

In the United States, security interests in shipping containers and other movable assets are typically perfected under Article 9 of the Uniform Commercial Code (UCC), which governs secured transactions involving personal property. A UCC-1 financing statement is filed by the creditor (usually a bank or leasing company) in the state where the debtor is legally organized or located, not where the assets are physically situated.

Unlike an asset-based registry like the CIR, the UCC system is debtor-centric: filings are indexed by the debtor's legal name, not by the serial number or identifier of the collateral. While the UCC-1 form includes a description of the collateral – such as "all present and future containers, chassis, and other intermodal equipment owned by or leased to Debtor" – it does not require the listing of individual container numbers, BIC Codes, or serial numbers. This makes the system effective for legal perfection and priority enforcement among creditors, but ineffective for asset-level transparency.

Key limitations of the UCC in secured container finance context

- **No asset-level visibility**: Financiers, lessors, or depot operators cannot search by container number to determine if a specific unit is encumbered. This opacity creates operational risk, particularly in recovery scenarios or secondary market transactions.
- **Jurisdictional fragmentation**: Because UCC filings are made at the state level, there is no central US registry. A creditor must search all 50 states to confirm whether a debtor has granted conflicting security interests, increasing due diligence time and cost.
- **Limited use in cross-border and recovery contexts**: UCC filings primarily have legal effect within the United States and are not designed for direct recognition abroad. In cross-border situations, particularly when a container is held at a foreign depot or terminal, local authorities will typically give precedence to statutory and possessory liens – for example, for unpaid storage, repair, or handling charges (see Appendix 7) – before considering any security interest recorded under a US filing. This highlights the importance of complementary evidentiary tools that clarify ownership and encumbrances at the asset level.
- **No integration with operational systems**: UCC filings are not linked to container tracking, leasing platforms, or depot management systems. This disconnect between legal perfection and operational visibility is a persistent pain point for asset managers and insurers.

Within North America, two powerful industry-governed registries for rail and intermodal equipment demonstrate the effectiveness of non-treaty-based systems when backed by broad industry adoption.

GIER (Global Intermodal Equipment Registry):

Managed by the Intermodal Association of North America (IANA), GIER is a database of over 750,000 intermodal chassis in North America. Its primary purpose is to identify the intermodal equipment provider responsible for maintenance and repair, as required by US federal safety regulations. A simple online query of a chassis number in GIER provides the responsible party's identity.

While the responsible provider is frequently the owner, **GIER's primary role is regulatory and operational, not to serve as a formal registry of legal ownership or financial liens**.

Umler (Universal Machine Language Equipment Register):

Operated by Railinc, a subsidiary of the Association of American Railroads, Umler is the master database for over 2 million pieces of North American rail equipment. It contains detailed technical and ownership data for every railcar, serving as the foundational reference file for all operational and financial systems in the industry. While its primary focus is operational (enabling safe interchange and movement), its comprehensive ownership and characteristic data make it an indispensable tool for leasing and financing. The adoption of Umler is effectively mandated by the industry for any equipment intended to operate on the network.

Appendix 6: Container Tracking Systems: How They Work in Practice

1. Gate Events and Movement Tracking

The traditional backbone of container tracking is the registration of "events" as containers pass key operational milestones in the supply chain. Each time a container crosses a "gate" – for example, at the entry or exit of a port, terminal, rail yard, or depot – its movement is recorded, typically through a terminal operating system (TOS) or depot management system. The key events include:

- **Gate In/Gate Out:** Logging when a container enters or leaves a facility.
- **On Hire/Off Hire:** Recording the start or end of a lease or depot storage period.
- **Loading/Discharge:** Noting when a container is loaded onto or discharged from a ship, train, or truck.

At these physical control points, operators scan the container's ISO 6346 number (often via optical character recognition or handheld barcode/radio-frequency identification [RFID] readers), updating status and location in industry databases. This information is transmitted through electronic data interchange (EDI) messages, such as the UN/EDIFACT CODECO (gate in/gate out report) or COARRI (load/discharge) messages, which form the standard for track-and-trace in the industry.

When a container is loaded on board a vessel, its onward journey remains visible through the vessel's own tracking system. Most carriers now provide real-time ship location data via digital customer portals, allowing stakeholders to monitor the position of containers at sea by tracking the ship itself. This ensures continued supply chain visibility, even when the container is in transit between ports.

2. Event-Driven Versus Continuous Tracking

- **Event-Driven Tracking:** Most containers are tracked by discrete events. Location is updated only at certain milestones – meaning the system "knows" a container's last event, but not its real-time location in between.
- **Operational Visibility:** At each interchange, custodial responsibility changes hands (e.g. from terminal operator to hauler), and inspection or data-capture is triggered.

3. GPS and IoT: Widespread Adoption and Limitations

A. GPS Tracking

- **Principle:** By fitting a GPS-enabled IoT device to a container, its position can be updated continuously (often every few minutes to hours, depending on battery and communication setup).
- **Adoption:** While GPS tracking is growing, it remains far from universal for standard dry containers. It is more commonly found in:
    - High-value cargo shipments (reefer containers, defense, pharmaceuticals).
    - Premium or smart container fleets (owned by certain leasing companies or large shippers).
    - Special projects (pilot programs, digital supply chain initiatives).

- **Advantages:** GPS provides real-time or near-real-time visibility, proactive exception management (theft, delay, misrouting) and enhanced supply chain analytics.
- **Issues:**
    - **Cost:** Devices and connectivity (especially satellite) add significant cost; justifiable only for high-value/critical shipments.
    - **Power:** Battery life is limited, particularly for long-haul or idle periods.
    - **Data Ownership:** Conflicts may arise over who can access or control data from a device fixed to a container that changes hands.
    - **Coverage:** The signal can be lost inside ships or tunnels, or in remote areas.

B. Practical Considerations

- Most container movements globally are still tracked via event-driven updates, not continuous positioning.
- Where GPS is used, integration with operational data (gate, load, discharge events) remains essential to interpret location in context – such as knowing if the container is inside a customs area, on board a vessel, or idle at a terminal.

4. BIC Geofencing Library: The New Layer for Digital Location Context

A. What is Geofencing?

A geofence is a virtual boundary, defined by latitude/longitude coordinates, around a physical location – such as a terminal, depot, or port area. By referencing this geofence, digital systems can "know" when a container enters or leaves a specific facility, even if tracking is continuous via GPS or event-driven.

B. The BIC Geofencing Library

- **Standardization:** BIC's initiative, developed with UN/CEFACT and industry groups, provides a global open library of geofences for container facilities – each precisely mapping the physical boundaries using polygons (not just points or circles).
- **Facility Codes:** Each geofence is linked to a unique BIC Facility Code (based on UN/LOCODE), providing standardized identification for depots, terminals and other container-handling sites
- **How It Works:** When a GPS device on a container crosses into or out of a geofenced area, the system can automatically generate a digital "gate event" – enhancing or replacing manual scans and EDI messaging.
- **Nesting and Hierarchies:** Geofences can be nested – e.g. a depot inside a terminal, or a specific customs area within a port – providing finer granularity and supporting use cases like on-hire/off-hire, cleaning, or customs inspection zones.
- **Interoperability:** The library is published in standard data formats (GeoJSON, API), ensuring that different IoT platforms, TOS, or track-and-trace systems can use it consistently.

C. Advantages

- **Automation:** Reduces manual input, eliminates errors from human scanning or paperwork.
- **Consistency:** Provides a single source of information about facility boundaries globally.
- **Data Quality:** Enables more accurate analytics on dwell times, handovers and bottlenecks.
- **Facilitates Smart Container Initiatives:** As “smart” containers become more common, geofencing enables automated tracking without infrastructure upgrades at every facility.

D. Limitations and Issues

- **Granularity:** Geofence accuracy depends on how precisely the perimeter is drawn; ambiguous or outdated boundaries can cause false events.
- **Device Accuracy:** GPS error margins and reporting intervals can cause “false positives” or “missed” events near a boundary – best practice is to not “buffer” the geofence, but for each user to interpret the raw data for their operational needs.
- **Standard Adoption:** Not all stakeholders use or maintain the library, especially smaller depots or nonstandard facilities.

Appendix 7: Enforcement and Recovery in Practice: The Legal and Operational Reality for Containers

1. Context: Bankruptcy of a Liner Company/Borrower/Lessee:

If the borrower/lessee defaults or enters insolvency, container recovery is cumbersome:

- **Court Versus Location:** Insolvency is administered by the court at the debtor's main place of business (e.g. Korea for Hanjin), but recovery of containers depends on the law where each container is physically located.
- **Local Law Controls:** Ports and depots can assert statutory or possessory liens (see Appendix 1) for unpaid charges, which generally take precedence over contractual or registered security interests.
- **Direct Negotiation Needed:** Owners and creditors must often negotiate directly with local operators and settle outstanding charges for release, as foreign court orders are not automatically enforced.
- **Clawback Risk:** Recoveries made shortly before insolvency may be subject to clawback under local law if considered preferential.
- **Practical Reality:** Enforcement is determined locally. Documentation (e.g. CIR registration) supports claims but does not override local liens or enforcement priorities.

2. Enforcement: Theoretical Framework Versus Practical Reality

International Treaties and Local Law

- For high-value mobile assets (e.g. aircraft), international treaties such as the CTC provide a harmonized framework: creditors can expect a certain level of recognition and enforcement across jurisdictions, backed by treaty obligations. "Alternative A" (the norm) obliges rapid return of the asset to creditors (see 3.3.1 as well as Appendix 8).
- However, even in CTC-ratified countries, actual enforcement still depends heavily on local courts and authorities, which may apply carve-outs or prioritize local interests (e.g. tax liens, employment claims) over foreign creditors – even if treaty provisions dictate otherwise (Brazil: Avianca Brazil in 2019; Malaysia Airlines[5] in 2015; India: Kingfisher[6] in 2012).
- For shipping containers, which generally fall outside the scope of international asset treaties, **local law is not merely a hurdle, but the decisive factor governing enforcement and recovery.** Regardless of any international contract, security interest, or even registration in a global system such as the CIR, the creditor's rights will be effective only to the extent that they are recognized and actionable under the laws of the jurisdiction where the

[5]Malaysia Airlines' restructuring saw lessors' CTC-based repossession efforts hampered by government intervention and local court processes.

[6] https://natlawreview.com/article/aircraft-deregistration-and-repossession-india-lessons-kingfisher-and-spicejet

Despite India's ratification of the CTC, lessors struggled for years to repossess aircraft from Kingfisher Airlines due to local legal and regulatory hurdles.

containers are located. **Actual recovery depends on both local legal recognition and practical enforceability:** courts may prioritize local creditors or statutory liens (such as depot or port charges), impose procedural delays, or require costly legal action. As such, even the best-documented international rights must be supported by careful navigation of local legal processes and strong on-the-ground negotiation.

3. The Role of Ports, Depots and Local Operators

Containers Are Physically Accessible Only Through Local Actors

- Unlike aircraft (which can be repossessed by flying them out) or rail assets (retrieved via national networks), containers are dispersed globally, usually stacked in ports, in inland depots, or on customer premises.
- **Containers are accessible only via the cooperation of local actors: port and depot operators serve as the "gatekeepers."**
    - They will typically require official documentation, local court orders, or satisfactory evidence of entitlement before releasing any container.
    - They may exercise statutory or contractual liens over containers for all unpaid charges – sometimes "ransoming" containers for payment.
    - In insolvency, they may refuse cooperation or demand payment even if containers are not "owned" by the debtor but only on lease/finance.
    - Some operators may delay or block access, seeking to maximize their own recovery ahead of creditors, insurers, or lessors.
    - A credible ownership and interest register (potentially the CIR) can help to accelerate verification, but it cannot override possessory or statutory liens (see Appendix 1).

4. The Different Recovery Strategies of Key Actors

A. Leasing Companies

- Major container lessors (e.g. Triton, Textainer) maintain extensive global networks and long-standing relationships with port and depot operators worldwide.
    - Their local teams can **directly negotiate**, present documentation and often resolve disputes more rapidly.
    - They may accept partial recovery (retrieving only the containers that are easy to access) or pay outstanding fees to accelerate release.
    - Their scale allows for direct communication and negotiation, often bypassing lengthy legal processes.

- Critically, in major insolvencies (e.g. Hanjin), the decision to recover containers is frequently influenced by the availability of **insurance payouts**:
    - Lessee default insurance may cover unrecoverable units, recovery costs and lost income.
    - As seen with major lessors, **insurance payments for unrecovered containers reduced the need for the lessor to pursue costly recoveries on each box**, focusing instead on the most economically viable units.
    - The insurer's subrogation rights allow them to step into the lessor's shoes in bankruptcy proceedings, but the operational recovery is still usually managed by the lessor.
- Smaller leasing companies would have a less extended access to the depot network and might not all have the same level of insurance protection, so this could potentially result in higher losses.

B. Banks and Lenders

Banks that provide secured financing for container assets generally lack both the operational infrastructure and practical expertise needed to recover containers dispersed across multiple locations in the event of borrower default. In such cases, the situation differs markedly between unsecured and secured lenders:

- **Unsecured lenders** typically face steep losses, as they have no direct claim to specific assets and limited avenues for recovery.
- **Secured lenders**, while better positioned, still encounter significant challenges:
    - In rehabilitation, senior secured lenders are typically prioritized in the distribution of the debtor's estate. Courts and receivers often recognize the critical operational role of containers – especially in the context of ongoing business (as seen in large restructurings such as STX Pan Ocean) – and may treat container lease agreements as **executory contracts**. This means the receiver or administrator may elect to continue these contracts temporarily to preserve asset value and facilitate ongoing trade, with payments to container creditors made in the ordinary course.
    - In insolvency proceedings such as Hanjin, while operational chaos was significant, senior lenders were still able to recover at least part of their exposure through the insolvency estate, often ahead of unsecured creditors, thanks to the recognized status of their security interests and the essential role of the containers for any continuing operations.
    - Practically, senior lenders must still rely on the container owner (lessor) or engage external recovery specialists to physically trace and recover scattered assets – tasks that are usually less efficient and more costly than the established networks of major leasing companies.
    - As a result, banks often prioritize financial recovery – through insurance claims, legal actions, or participating in the proceeds from the bankruptcy estate – over direct asset retrieval, particularly when individual units are difficult to access or of low value. Cost-

benefit analyses are central, and many lenders accept partial recovery rather than pursue uneconomical claims.

- The absence of an international registry, for recording ownership, security and lease interests like the CIR, has historically made insolvency and recovery processes far more cumbersome. Courts, receivers, owners and lenders have often faced significant informational gaps, leading to delays, additional verification steps and disputes over claims. This lack of transparency complicates the coordination among stakeholders and can hinder timely and efficient resolution in high-stakes insolvency situations (see ROI for various actors in Appendix 3)

C. Insurers

Insurers respond to claims based on policy triggers: for physical loss/damage, or lessee default (if such coverage exists).

- The claims process is heavily evidence-based; the insured must demonstrate loss, attempts at recovery and incurred costs.
- Insurers may pay out on unrecoverable units, especially when legal or practical obstacles prevent recovery, then **seek to recoup losses through subrogation** in the bankruptcy estate or from recovered units (as seen in the Hanjin scenario).
- Insurers' own leverage is limited; they rely on documentation and may press for better evidence – this is where tools like the CIR become valuable.

D. Other Stakeholders (e.g. Freight Forwarders)

Forwarders and intermediaries usually lack standing to recover assets, unless acting on behalf of owners or under specific contract rights.

5. Costs and Risks at Each Step

The practical recovery process involves multiple hurdles and costs (estimated at about USD 300 to USD 500 per unit):

- **locating the container** (may require tracing via depot, carrier, or tracking technology)
- **proving entitlement to recover** (local documentation, registry evidence, legal orders)
- **negotiating or paying to release** (settling storage fees, demurrage, port charges – often at "hostage" rates)
- **physical retrieval** (arranging for haulage, customs clearance, export permits)
- **potentially, legal proceedings** (court orders, arbitration, or settlement with local authorities or port operators).

Recovery is not always economically rational – lessors, banks and insurers often must choose which containers are worth the cost of recovery versus writing off and claiming under insurance.

6. Case Study: Lessons from Hanjin and Major Defaults

- **Exposure:** Just two of the major container lessors had over USD 200 million net book value (NBV) exposed to Hanjin; both took substantial write-downs and loss provisions.
- **Recovery Rates:** ~95% of containers, aided by their operational scale.
- **Insurance Claims:** Industry participants received significant insurance payouts (in the tens of millions of USD), but default insurance has become more expensive and policy conditions have tightened, with greater scrutiny of documentary proof and mitigation efforts. Some insurers could potentially expect clients to maintain up-to-date asset registers, and the CIR could become a prerequisite for policy issuance or claims processing or for full indemnity compensation in the future.
- **Revenue Impact:** Certain lessors reported material write-offs in NBV and lost rental income in the tens of millions of USD in the period following the default.
- **Market Impact:** Short-term, bankruptcy displaced containers and temporarily increased lease rates; long-term, industry rebounded as other carriers filled the gap.
- **Legal Precedent:** The United Kingdom's "top down" principle (2024) now clarifies that post-recovery proceeds apply to uninsured losses first, reinforcing the role of insurance structure in recovery strategy.

7. Conclusion: Enforcement Is Local, Evidence Is Global

- **Local law, operator leverage and practical realities always trump theory** – enforcement is dictated by where the box is, not what's in the contract or on a registry.
- **Possessory and statutory liens held by ports, depots and authorities are the most powerful in practice** – registered interests provide evidence but rarely confer physical control.
- Even though enforcement and local recognition depend in part on local law and practical realities, the CIR aims to become an essential tool for efficient cross-border asset recovery by providing rapid, credible proof of ownership and security interests, thereby streamlining interactions with authorities, depots and terminals – saving valuable time and costs in recovery.
- In everyday business – such as leasing, trading, or moving containers – the CIR can simplify processes, minimize disputes, and help ensure that ownership and rights are clear to all involved.

Appendix 8: The Cape Town Convention and its Protocols – A Comparative Adoption Analysis (Aircraft and Rail)

1. Introduction: The Need for a Global Asset Registry Framework

The **Cape Town Convention (CTC)**, adopted in 2001, is a milestone in international commercial law, offering a harmonized framework for securing and registering interests in high-value mobile equipment – most notably aircraft and railway rolling stock. The Convention's innovation lies in introducing the concept of an "international interest," recognized across all contracting states, and crucially, in establishing **electronic registries** accessible globally and in real time. These registries address the fundamental challenges of legal uncertainty and enforcement risk arising from divergent national laws – issues that also underpin the rationale for the Container Interest Register (CIR).

What sets the CTC apart is its "umbrella plus protocol" model. While the Convention articulates the foundational legal principles for asset-based finance, **sector-specific protocols** are developed to reflect the operational realities and industry structures of each asset class – be it aircraft, railway rolling stock, or others. Central to the practical effect and credibility of these protocols are robust, neutral and secure information technology (IT) platforms, serving as the backbone of international registries.

2. The Aircraft Protocol: Swift Adoption, Unified Industry and the Birth of the International Registry (Aviareto/SITA)

A. Origins and Motivation

Prompted by Canada in the late 1980s and championed by UNIDROIT, the CTC project sought to eliminate legal fragmentation that complicated cross-border aircraft finance. By the mid-1990s, progress had stalled until the "Convention plus Protocols" solution – proposed by the International Air Transport Association (IATA, the trade association for the world's airlines, representing 350 airlines/80% of global air traffic) and the Aviation Working Group[7] (AWG) – unlocked consensus, paving the way for sector-specific rules with strong backing from the International Civil Aviation Organization[8] (ICAO, a United Nations agency, which helps 193 countries to cooperate and share their skies to their mutual benefit).

B. Key Milestones

- **1997-2000:** Intense drafting, with AWG, IATA, ICAO and UNIDROIT forming a highly effective public-private coalition.
- **2001:** Cape Town Diplomatic Conference: 68 states; Convention and Aircraft Protocol adopted.
- **2004-2006:** Ratification by major aviation markets (including the United States); establishment of the International Registry for aircraft interests.

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7 https://awg.aero/project/cape-town-convention/

8 https://www.icao.int/sustainability/Pages/Capetown-Convention.aspx

- **2006:** Aircraft Protocol enters into force, triggered by eight ratifications and operational registry.

C. The International Registry: Genesis, Design, and the Role of SITA and Aviareto

The core innovation underpinning the Aircraft Protocol was the **creation of a single global electronic International Registry (IR)** to perfect, prioritize and publish interests in aircraft and engines – accessible 24/7, from anywhere in the world.

Why Was This IT Solution Needed?

- Aircraft are inherently mobile and routinely cross jurisdictions, making national registries insufficient for establishing global legal certainty.
- Creditors needed a central "source of truth" that could resolve conflicts of laws, prevent double-pledging, and provide real-time assurance of rights and priorities.

Genesis and Selection of SITA/Aviareto

- **SITA** (Société Internationale de Télécommunications Aéronautiques) – a cooperative owned by the air transport industry – was identified as the ideal technology partner. SITA's credentials included deep aviation IT expertise, global network reach and trusted neutrality.
- **Aviareto Ltd.** – a joint venture between SITA and the Irish government (via the Irish Aviation Authority) – was established to build, operate and maintain the IR. Ireland was chosen for its strong legal infrastructure and reputation in aviation finance.
- The system's architecture was designed for **security, reliability, global uptime and cryptographic trust**, reflecting the aviation industry's risk profile and regulatory demands.
- **The ICAO** serves as the Supervisory Authority, ensuring the registry's governance and alignment with international public law.

Impact and Strategic Importance

- The IR, operational since 2006, is now a cornerstone of the global aviation finance ecosystem, relied upon by lessors, banks, airlines and regulators.
- SITA's technical backbone and Aviareto's dedicated administration provided not only technical functionality but also market confidence and regulatory acceptance.
- The registry's success proved that public-private IT partnerships are essential for modern asset-based financing frameworks.

D. Advocacy, Stakeholders and Incentives

- **AWG and IATA**: Unified lobbying and practical industry input were decisive for both the legal text and the IT registry's design.
- **ICAO**: Conferred legitimacy and global regulatory acceptance.

- **Organisation for Economic Co-operation and Development (OECD) Export Credit Incentives ("Cape Town discount")**: Provided tangible, immediate financial benefits to ratifying states and airlines, accelerating political will and industry buy-in.

E. Industry Structure and Impact

Aviation finance in the late 1990s/2000s was globally integrated, sophisticated, and dominated by a handful of major lessors and manufacturers with international portfolios. The unified voice of industry and the clear economic case for legal harmonization and secure registration systems made rapid and widespread adoption feasible.

F. Hurdles and Solutions

- **Legal divergence**: Overcome through flexible declaration options, allowing states to tailor remedies while ensuring international effectiveness.
- **Implementation**: Required national legislative changes and user training, but the IR's design and industry scale justified the investment.
- **Sovereignty concerns**: Mitigated by economic incentives, opt-in options and trusted, neutral registry governance.

3. The Rail Protocol: Gradual Adoption, Sector Complexity and the Rise of the Luxembourg Registry (Regulis/URVIS)

A. Genesis and Motivation

From the CTC's inception, rail was seen as a logical next asset class, but the sector's characteristics delayed adoption. The main challenges: fostering private and cross-border finance in a sector long reliant on state funding, fragmented markets, and an absence of any global registry or harmonized legal system.

B. Key Milestones

- **2001-2007:** Drafting and advocacy led by UNIDROIT, OTIF[9] (as registry supervisor) and the Rail Working Group (RWG), created to unite industry perspectives.
- **2007:** Luxembourg Diplomatic Conference – adoption of the Rail Protocol.
- **2007-2024:** Extended effort to obtain four ratifications and to develop the technical and governance foundations for a new international registry (Regulis SA).
- **2024:** Protocol enters into force after registry and four-state threshold achieved (Luxembourg, Gabon, Sweden, Spain; later joined by South Africa, Paraguay and the European Union).

[9] Organisation intergouvernementale pour les Transports Internationaux Ferroviaires.

C. The International Rail Registry: Genesis, Design and the Role of Regulis/URVIS

Why Was a New IT Registry Needed?

- The rail sector had no international registry or even consistent national registers for rolling stock, and its asset base is far more numerous and diverse than aviation.
- Cross-border operations are increasing, but interoperability is limited by technical standards, making asset identification and tracking a unique challenge.

Genesis and Selection of Regulis and URVIS

- **Regulis S.A.** – a Luxembourg-based IT registry operator – was selected after an international tender overseen by the Preparatory Commission, with OTIF as supervisory authority.
- The registry is modeled on the aircraft IR but incorporates unique rail features, most notably:
    - **URVIS (Unique Rail Vehicle Identification System):** Every vehicle is assigned a 16-digit, globally unique number physically affixed to the asset, addressing the challenge of scale, asset traceability and international recognition.
    - **High-volume architecture:** System designed for much larger asset classes and transaction volumes.
    - **Advanced security and audit features:** Meeting requirements for both commercial finance and public sector oversight.

Supervisory Oversight and Governance

- **OTIF**: Serves as supervisory authority, bringing credibility from decades of intergovernmental rail law experience.
- **Public-private governance**: Ensures that registry operations reflect both commercial requirements and public interest concerns.

Impact and Strategic Importance

- The registry's operational launch in 2024 was the critical event enabling the Protocol's entry into force.
- The system is expected to become the global "source of truth" for security interests in rolling stock, opening the door to more efficient, competitive and internationally financed rail markets.
- URVIS, as a unique technical solution, may also inspire future asset registries (including for containers) by enabling unambiguous, cross-border asset identification.

D. Advocacy and Stakeholders

- **RWG:** Formed to provide a unified voice for manufacturers, lessors, operators and financiers.
- **OTIF and UNIDROIT:** Provided legal framework, convening power and continuity.
- **Regional and Multilateral Support:** The European Union, African Union and others played advocacy and capacity-building roles, particularly emphasizing sustainable transport and infrastructure investment.

E. Industry Structure and Impact

Unlike aviation, the rail sector is fragmented, nationally focused, and often state-owned or -regulated, with strong public service obligations. These realities made governments cautious and consensus-building slower. The technical demands of registry design, asset identification and interoperability added further complexity.

F. Hurdles and Solutions

- **Political/legislative delays:** Seen as less urgent than aviation; countries slow to prioritize ratification.
- **Public service concerns:** Protocol enables states to protect public interest assets and adopt flexible insolvency regimes.
- **Lack of immediate incentives:** No direct “Cape Town discount”; benefits are longer-term and diffuse, requiring sustained advocacy and technical demonstration.
- **Coordination barriers:** Addressed by RWG’s persistent lobbying, capacity building, and leveraging climate and infrastructure policy momentum.

Appendix 9: Toward an Independent, Sustainable CIR Structure – Governance, Legal Personality and Market Alignment

1. Rationale for an Independent CIR Structure

The CIR pilot has demonstrated the feasibility and stakeholder appetite for a centralized, transparent record of container ownership and security interests. However, as highlighted in Section 5.3 ("Legal Challenges"), the CIR currently operates as a project within BIC, with no distinct legal personality, balance sheet, or dedicated governance. This limits its scalability, ability to contract and risk management capabilities, and the confidence of financial and regulatory stakeholders.

A future-ready CIR will require a transition to an independent or ring-fenced legal entity, purpose-built to operate as a neutral, global utility for the industry.

2. Challenges and Considerations

- **Lack of Legal Personality:** The CIR, as a BIC project, cannot independently enter into contracts, hold assets, or secure insurance coverage tailored to registry risk.
- **Governance and Risk:** Absence of an independent board, formal policies, or dedicated P&L restricts CIR's credibility as a global market infrastructure.
- **Jurisdiction and Dispute Resolution:** Operating without a chosen legal domicile or defined dispute resolution framework creates ambiguity for users and courts.
- **Market Trust and Regulatory Recognition:** Stakeholders – including banks, lessors and regulators – expect transparency, robust legal standing and published operational/cost statements from any critical infrastructure provider.

3. Pilot Phase Approach

During the MVP phase, BIC has provided operational, legal and financial oversight for the CIR, leveraging existing insurance, infrastructure and staff. All costs and revenues have been managed internally, with no separate accounts or reporting for the CIR.

4. Path to a Standalone CIR Entity

As the CIR matures and volumes increase, an independent or ring-fenced structure is necessary for market and regulatory acceptance. Options include:

- **Association (nonprofit or guarantee company):** Most common is a Company Limited by Guarantee (CLG), used for nonprofit associations, or a registered Society.
- Modeled after international registry best practices (e.g. Aviareto for CTC Aircraft; Regulis for CTC rolling stock), located in a respected legal jurisdiction (e.g. France, Singapore, Ireland).
- **Dedicated Board and Governance:** Multi-stakeholder board, industry user group and published annual reports, including an independent P&L.

- **Formal Risk Management:** Standalone insurance (professional, cyber, directors and officers [D&O]), documented compliance, and operational continuity plans.
- **Contractual Capacity:** Ability to sign contracts, manage technology vendors and enforce user agreements.
- **Jurisdictional Clarity:** Defined legal seat and dispute resolution forum (ideally aligned with global trade finance norms).
- **Transparent Fee and Cost Structure:** Annual publication of fees, usage statistics and audited accounts.

5. Adoption, Transaction Volumes and Fee Model

The CIR's initial volumes will likely come from small lessors and liners and traders – not from major lessors or ABS transactions. The independent entity will need a **cost-accessible, frictionless fee structure** to maximize uptake and ensure sustainability. A prudent outreach plan, industry education and phased investment (with possible public or industry support in early years) are crucial.

6. Key Points for the Future Structure

- The CIR's independence is essential to scale, win trust and achieve recognition among financiers, regulators and global stakeholders.
- A staged transition plan – MVP under BIC, ring-fenced phase, then full legal independence – is prudent and aligns with international registry models.
- Transparent reporting and market-driven fees are necessary to achieve self-sustainability while supporting the needs of small, price-sensitive users.
- Initial reliance on secondary market activity and small trades will shape the CIR's development, with long-term upside if larger market participants join.

Appendix 10: Glossary

Asset-Backed Security (ABS): A financial instrument backed by a pool of assets – such as container lease receivables – that generates cash flow for investors.

BIC (Bureau International des Containers): An international nonprofit organization founded in 1933, responsible for issuing standardized container identification codes (BIC Codes) and promoting best practices, safety and technical standards across the container industry. Main sponsor for the CIR.

BIC Code: A unique owner prefix code issued by the Bureau International des Containers (BIC) for the identification of shipping containers globally.

BoxTech: An online global database operated by the Bureau International des Containers (BIC), providing technical details and status information for individual shipping containers, including container dimensions, tare weight, owner and operational status. BoxTech enhances transparency and traceability across the container supply chain.

Cape Town Convention (CTC): An international treaty that standardizes the registration and enforcement of security interests in high-value movable equipment, such as aircraft, railway rolling stock, and, in some protocols, ships and containers. The CTC aims to facilitate asset-based financing by providing a uniform legal framework and an international registry.

Classification Society: An organization that establishes and maintains technical standards for the construction and operation of ships and containers. Major classification societies active in the container sector include BV (Bureau Veritas), DNV (Det Norske Veritas), LR (Lloyd's Register), ABS (American Bureau of Shipping) and ClassNK (Nippon Kaiji Kyokai). These societies certify container designs and inspect containers to ensure compliance with international safety and quality standards.

Container Owners Association (COA): An industry association representing the interests of container owners, including shipping lines and leasing companies.

Container Depot: A facility where containers are stored, maintained and repaired when not in use.

Container Leasing Company (Lessor): A company that owns shipping containers and leases them to shipping lines or other operators.

Credit Rating Agency: A firm that assesses the creditworthiness of entities or financial instruments, including container ABS structures.

Due Diligence: The process of investigating and verifying the details of a transaction, asset, or counterparty, especially in finance and legal contexts.

IANA (Intermodal Association of North America): Focuses on intermodal freight transportation, including containers, in North America.

IAPH (International Association of Ports and Harbors): Represents port authorities and operators, many of whom are deeply involved in container handling.

IICL (Institute of International Container Lessors): An association representing major container lessors, providing technical standards and advocacy.

Intermodal: Describes the movement of cargo in containers using multiple modes of transport – ship, rail and truck – without handling the cargo itself.

ICS (International Chamber of Shipping): Represents national shipowners' associations, including container shipping companies.

JOLCO (Japanese Operating Lease with Call Option): A leasing structure where a Japanese SPC lessor, funded by local investors, acquires assets (such as containers) and leases them to an operator. The lease includes a call option for the lessee to purchase the asset before the term of the lease. JOLCOs leverage Japanese tax benefits, enabling lower lease costs for lessee (e.g. liner companies) and predictable, tax-efficient returns for Japanese investors.

KYC (Know Your Customer): A set of procedures and regulatory requirements used by financial institutions and other regulated entities to verify the identity of clients, assess potential risks of illegal intentions and comply with anti-money laundering laws. KYC processes typically include the collection and verification of personal or corporate identification documents, beneficial ownership information and ongoing monitoring of transactions.

Lease Interest: Any interest arising in favor of a security provider, holding company, manager, lessor or lessee in respect of a lease agreement or container subject to a lease agreement.

Lessor: An entity that has entered into a lease agreement in the capacity of owner, lessor, or sublessor (or equivalent) of the relevant containers.

Lessee: An entity that has entered into a lease agreement in the capacity of lessee or sublessee (or equivalent) of the relevant containers.

Lease Agreement: An agreement by which a lessor grants a lessee the right to use the containers for a specified period in return for payments.

Lien: A legal right or interest that a party has in another's property, typically used as security for a debt or obligation.

Liner Shipping Company: A shipping company operating regular, scheduled services along fixed routes, often owning or leasing large fleets of containers.

Ownership Interest: Legal ownership.

Possessory Lien: The right to retain physical possession of an asset until a debt is repaid (e.g. a container depot holding containers due to unpaid storage fees).

Security Holder: The entity to which a security interest in respect of one or more containers is granted by a security provider.

Security Interest: A mortgage, pledge, lien, charge, assignment, hypothecation or security interest or any other agreement or arrangement having the effect of conferring security.

Security Provider: An entity that grants a security interest in respect of one or more containers to a security holder.

SPC/SPV (Special Purpose Company/Special Purpose Vehicle): A legal entity created for a specific, limited business purpose – often to isolate financial risk or facilitate a particular transaction, such as asset financing. In container finance and leasing, an SPC/SPV typically owns the containers and enters into financing or leasing arrangements, ensuring that risks and liabilities are ring-fenced from the parent company or investors.

Statutory Lien: A lien granted by specific legislation or regulation (e.g. port authorities having statutory liens over containers for unpaid port charges).

Statutory Mortgage: A security interest in an asset (such as a ship or, less commonly, other movable property) that is created and governed by specific national legislation or statute. Statutory mortgages are typically registered in a public registry established by law, providing legal priority and enforceability in the event of default or insolvency.

Terminal Operator: A company responsible for managing container terminals at ports, handling the loading, unloading and storage of containers.

UCC (Uniform Commercial Code): A set of harmonized laws adopted by most US states to govern commercial transactions, including sales, leases and secured transactions. Under Article 9 of the UCC, lenders can register security interests in movable assets such as shipping containers, establishing their priority and legal rights in the event of default.

WSC (World Shipping Council): A global industry association representing the liner shipping sector, advocating for regulatory and operational standards.

Appendix 11: Frequently Asked Questions (Q&A)

Q1: Is registration in the Container Interest Register (CIR) mandatory?
A1: No, registration in the CIR is currently voluntary. The system is designed as an industry-led initiative to promote transparency and best practices in container finance. However, it is anticipated that as adoption grows and its value is demonstrated, market and regulatory expectations may evolve toward more routine use.

Q2: Does the CIR cover unsecured loans?
A2: Large unsecured corporate credit facilities fall outside the register's scope for security interest (e.g. mortgages). However, legal ownership can always be recorded, irrespective of the financing structure.

Q3: How does the BIC Code relate to legal ownership in the CIR?
A3: The BIC Code is an internationally recognized identifier for the container's operator (typically the company controlling the container's use). The CIR allows for separate, explicit registration of the legal owner – an important distinction, as the operator and owner may be different entities.

Q4: What is being done to encourage participation by ocean carriers and other stakeholders?
A4: The CIR working group (including BIC) is engaging with ocean carriers, lessors and financial institutions to communicate the practical benefits of registration. This includes focusing on streamlined API integration, minimal operational burden, and highlighting indirect advantages such as reduced credit risk, smoother recovery in case of default and enhanced access to competitive financing.

Q5: Does CIR registration create or perfect a legal interest, similar to UCC or Cape Town Convention filings?
A5: Not in its current form. CIR registration is evidential – it provides an authoritative record of interests for due diligence and risk management, but does not independently create or perfect legal rights under local law. The strategic roadmap anticipates that with sufficient market adoption, CIR could evolve to achieve full legal recognition (for example, through a dedicated Cape Town Convention Protocol).

Q6: Who can access information recorded in the CIR?
A6: Access to detailed information is restricted to parties involved in a given transaction and their authorized representatives. The general public can view only whether an interest exists (without full details), unless stakeholders have opted for greater disclosure. Special access may be granted by the parties involved to regulatory authorities, to insolvency practitioners, or in defined situations (e.g. asset recovery).

Q7: What kinds of interests are registrable in the CIR?
A7: The CIR can record:

Ownership interests

Security interests (e.g. first-priority mortgages)

Lease interests (including finance leases and certain long-term operating leases, as the project evolves).

Other interest types may be incorporated as the registry and legal frameworks develop.

Q8: How is the CIR governed, and who oversees its operations?
A8: The CIR is developed and operated by the Bureau International des Containers (BIC) in partnership with leading banks, leasing companies and legal experts. Governance principles include neutrality, transparency and ongoing engagement with a cross-section of stakeholders to ensure the register remains fit for purpose and adaptable.

Q9: What are the main benefits for banks, lessors and carriers in registering with the CIR?
A9: Key benefits include:

Stronger risk mitigation and due diligence

Enhanced recovery options in default/insolvency

Increased transparency and investor confidence

Alignment with emerging regulatory requirements (e.g. Basel IV; environmental, social and governance [ESG] reporting)

Potential for lower financing costs and improved access to capital.

Q10: What is the long-term vision for the CIR?
A10: The long-term goal is to transition from a voluntary, evidential register to a universally recognized, treaty-backed system – potentially via a dedicated Cape Town Convention Protocol – granting full legal effect and cross-jurisdictional priority to registered interests, subject to continued industry participation and support.