

Digital Asset

Trade Finance Transformation
& Innovation with Daml

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HYPERLEDGER

DISCUSSION AGENDA

- 01 Introduction to Digital Asset & Daml
- 02 Daml for Trade Finance
- 03 Daml Trade Finance Demo
- 04 Q&A

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Digital Asset & Daml

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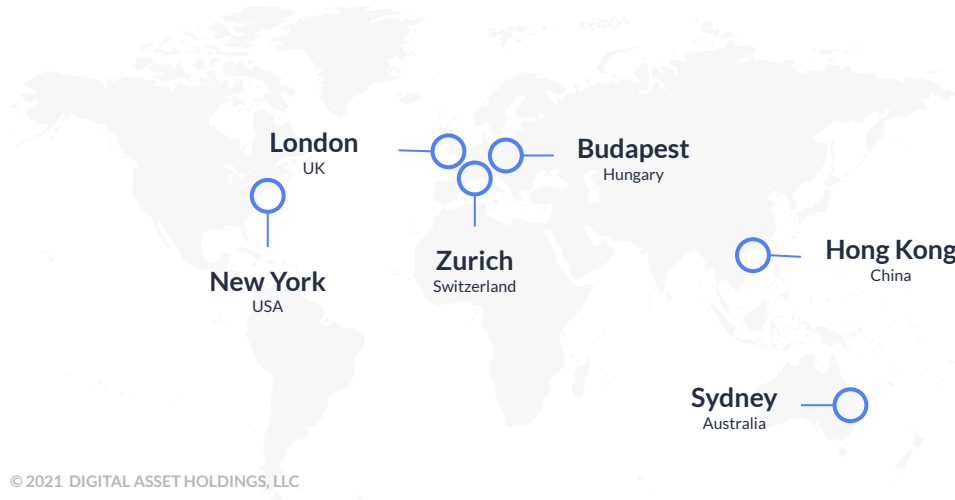
Digital Asset At-a-Glance

2014
Founded

6
Offices

180+
Employees

4 April
DamI Day



ABN-AMRO

accenture



BNP PARIBAS

Broadridge



CME Group



DTCC
Securing Today. Shaping Tomorrow.™

Goldman Sachs



J.P.Morgan

NEX

PNC BANK



SAMSUNG

Santander

vmware

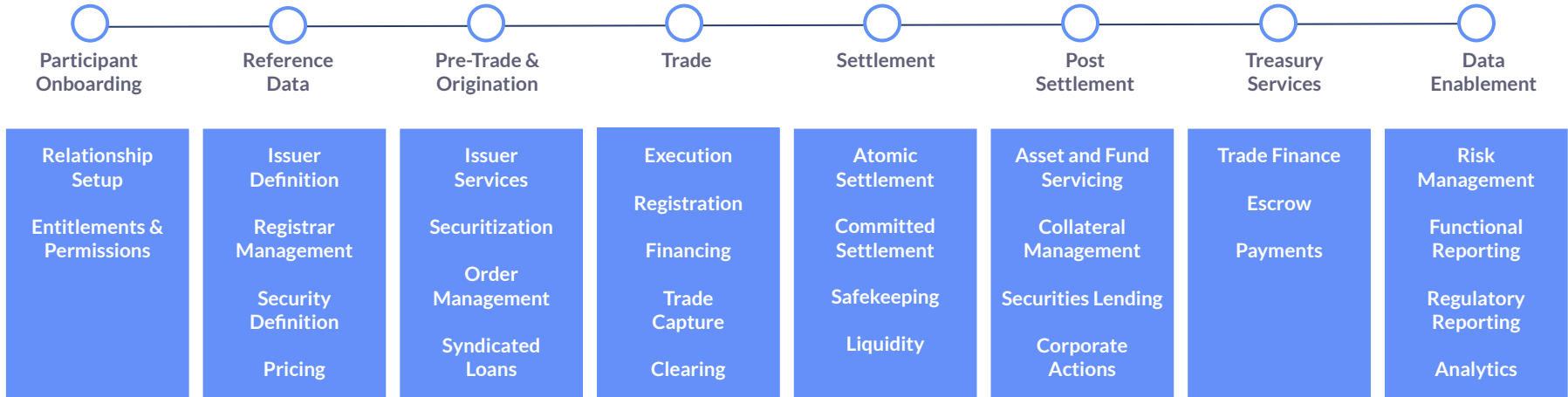
RIDGE
VENTURES

ELDRIDGE

Financial services reimaged

Daml empowers financial institutions to reimagine and differentiate the way they do business, establishing themselves as the provider of choice within a given market by:

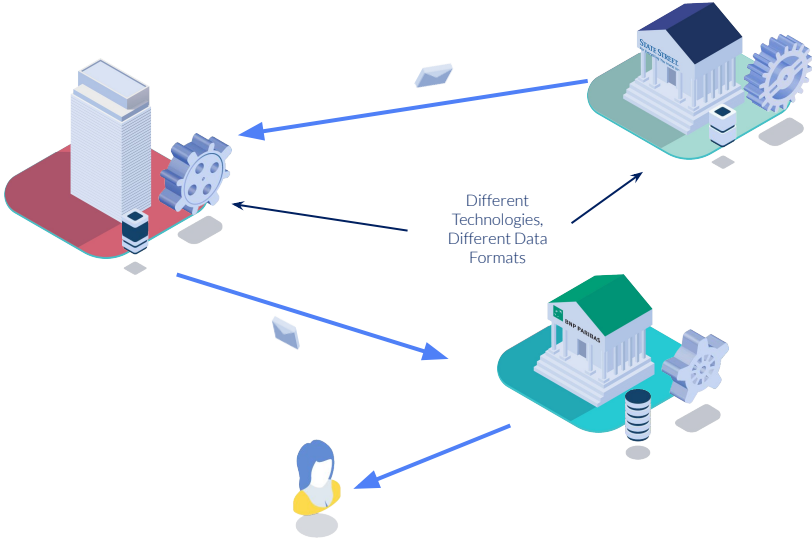
- Improving processing across the end-to-end lifecycle of nearly all functions
- Automating functions from participant onboarding to corporate actions
- Creating new services for our clients and their customers



What is Daml?

Daml is an application platform unconstrained by organizational boundaries. Companies can create multi-party solutions that **transform disparate silos into synchronized networks**, eradicating latency and errors by guaranteeing consistent, shared, and secured data.

What are the core problems We are trying to solve?



COMPLEX
WORKFLOWS

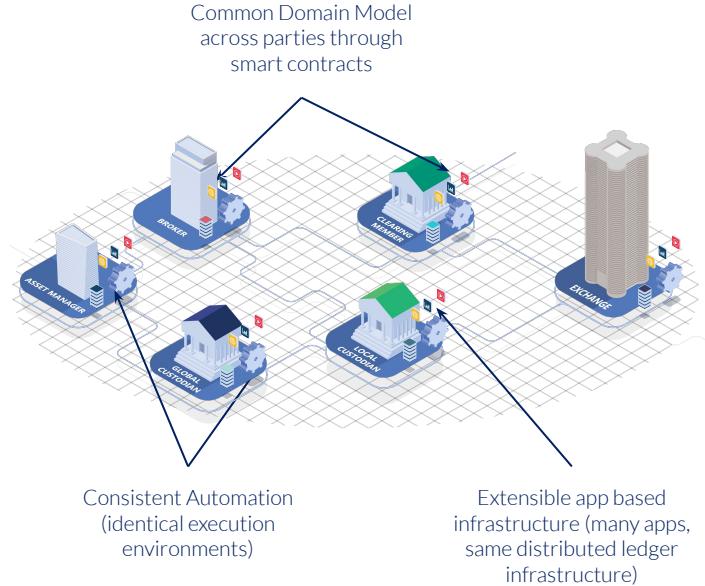
NO COMMON
DATA MODELS

DIFFERENT
TECHNOLOGIES

BILATERAL
MESSAGING

MANUAL
RECONCILIATION

How can Daml smart contracts improve business processes?

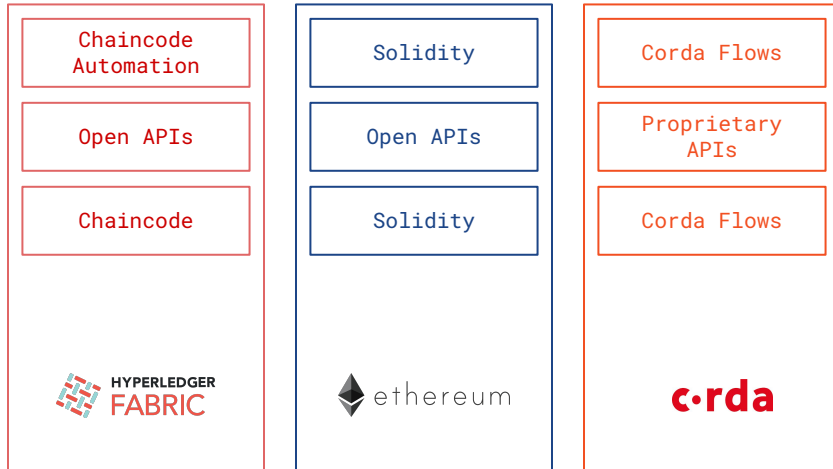


RULE-BASED WORKFLOWS	COMMON DATA MODEL	SINGLE SOURCE OF TRUTH	SEAMLESS FLOW OF DATA	SUB-TRANSACTION PRIVACY
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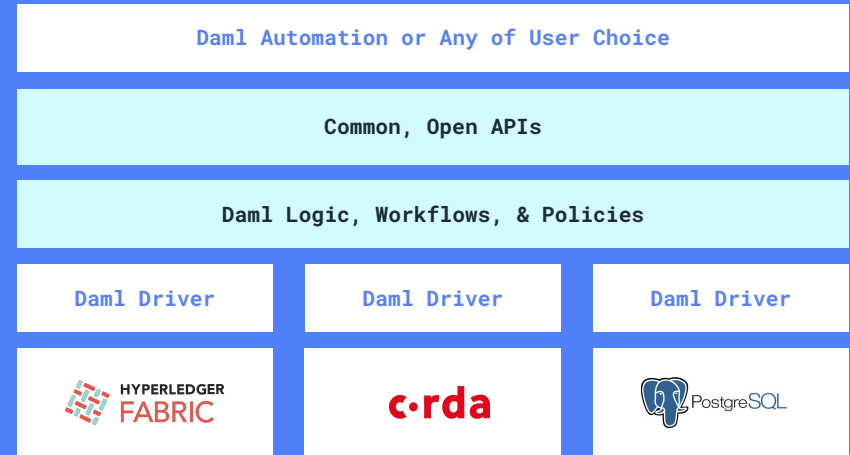
Blockchain is Infrastructure

Current implementations are full vertical stacks that are tightly integrated with little flexibility.



Smart Contracts are the Value

Daml decouples the business logic value from the underlying infrastructure.



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Delivering Value Today

Modernization projects cannot be a multi year investment before proving the business case.

We have worked with some of the most complex organizations in the world to drive value now.

With a Vision for Tomorrow

However, decisions you make today can limit the potential of your project in the future.

We are building the global economic network of seamlessly interconnected businesses.



ISDA
Safe
Efficient
Markets

Broadridge

HSBC

ASX

Nasdaq

HKEX
香港交易所

CHANGE
HEALTHCARE

BNP PARIBAS

Goldman
Sachs

DEMEX

What are Daml smart contracts?



Simplified Example [Tokenised Bond](#)

Smart contracts are small computer programs that are **executed consistently** by each node in a distributed network

Daml is a unique smart contract language, that starts from the building blocks of **rights** and **obligations**

Any asset class (such as an LOC) can be accurately tokenised as the **bundle of rights and obligations** for the **affected parties**

Daml rights and obligations can also **model shared workflows** (rights and obligations + time / ordering) to fully automate the complex, multi-party processes across any ecosystem of parties.

Data model

Authorization

API

Composable actions
(atomic execution)

```
5  template Bond
6  |
7  | with
8  |   issuer: Party
9  |   owner: Party
10 |   quantity: Int
11 |   isin: Text
12 |   parValue: Decimal
13 |   currency: Currency
14 |   couponsRemaining: Int
15 |   couponRate: Decimal
16 |   regulator: Party
17 |
18 | where
19 |   signatory issuer
20 |   observer regulator
21 |   ensure quantity > 0 && couponsRemaining > 0
22 |
23 | controller owner can
24 |   Transfer: ContractId Bond
25 |   with newOwner: Party
26 |   do create this with owner = newOwner
27 |
28 | controller owner can
29 |   Split: (ContractId Bond, ContractId Bond)
30 |   with splitQty: Int
31 |   do
32 |     assert (splitQty > 0 && splitQty < quantity)
33 |     split <- create this with quantity = splitQty
34 |     rem <- create this with quantity = quantity - splitQty
35 |     return (split, rem)
36 |
37 | controller owner can
38 |   Merge: ContractId Bond
39 |   with otherCid: ContractId Bond
40 |   do
41 |     otherCdata <- fetch otherCid
42 |     assert (otherCdata.isin == isin && otherCdata.owner == owner
43 |             && otherCdata.issuer == issuer)
44 |     archive otherCid
45 |     create this with quantity = quantity + otherCdata.quantity
```

Write Once, Run Everywhere, Connect to Anything

Go to market faster with new products and services

Reduce cost to develop products with 10x developer productivity

Future proof by de-risking technology choices made today

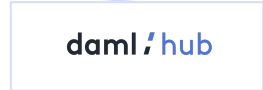
Write once... Applications are portable across technologies

Run everywhere... Remove technology vendor lock-in

Connect to anything... Get true ledger interoperability



LEDGERS



DAML DRIVERS

DAML AAS

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Daml for Trade Finance

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Current Challenges in Trade Finance

The Global Trade Finance Ecosystem is worth \$5.2T with the gap in trade finance availability est. at \$1.7T*.

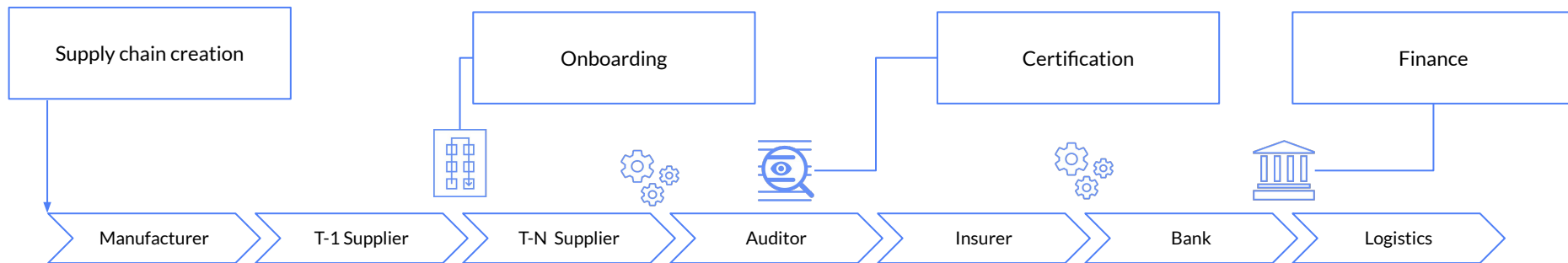
Global supply chain uncertainty over the last 24 months has impacted banks' appetite for risk. SMEs make up the majority of firms in global economies, but 40% of SME trade finance requests were rejected in 2020*

- The trade finance ecosystem is a complex web of technology, systems and data models across multiple parties
- Trade finance relies on time consuming manual, paper based processes
- The transactions are complex prone to delays and involve multiple parties
- Bureaucracy and regulation, creates barriers to raising STF and increases costs for SMEs



Daml: Solution

A shared ledger amongst multiple organizations makes time consuming reconciliations between parties unnecessary. Smart contracts allows automation of processes that were previously time consuming and error prone



daml

Benefits



Shared Ledger



Shared Workflow



Advanced Analytics



Audit Trail



Privacy

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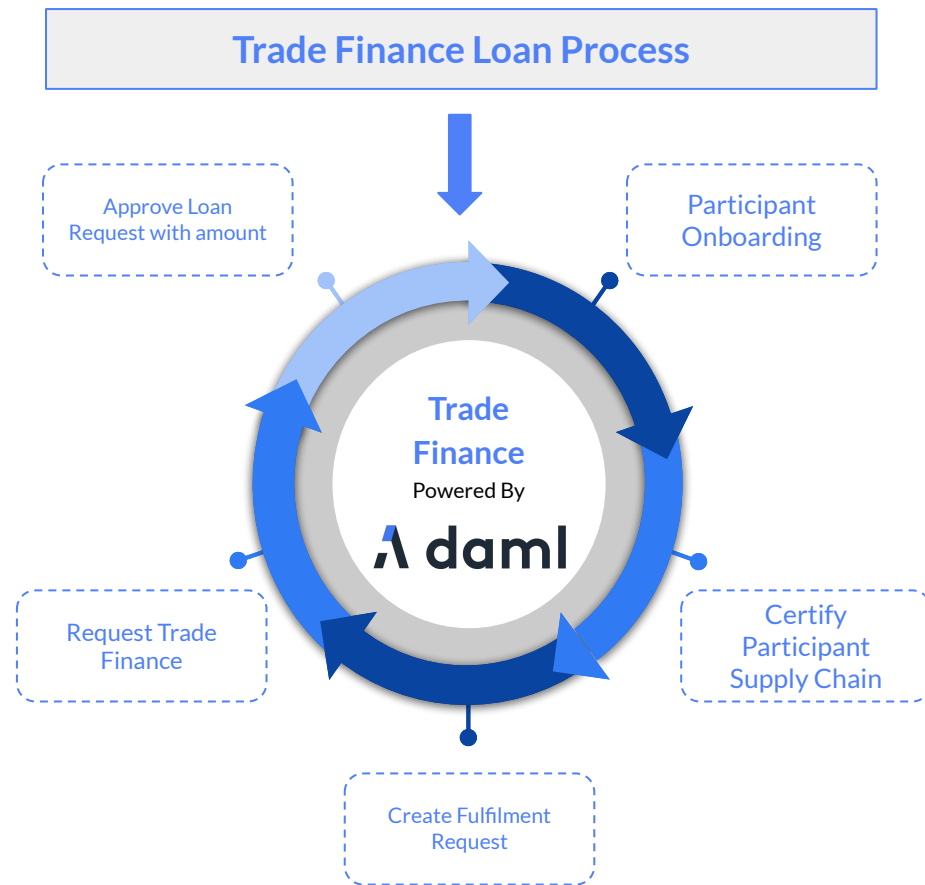
Demo Overview

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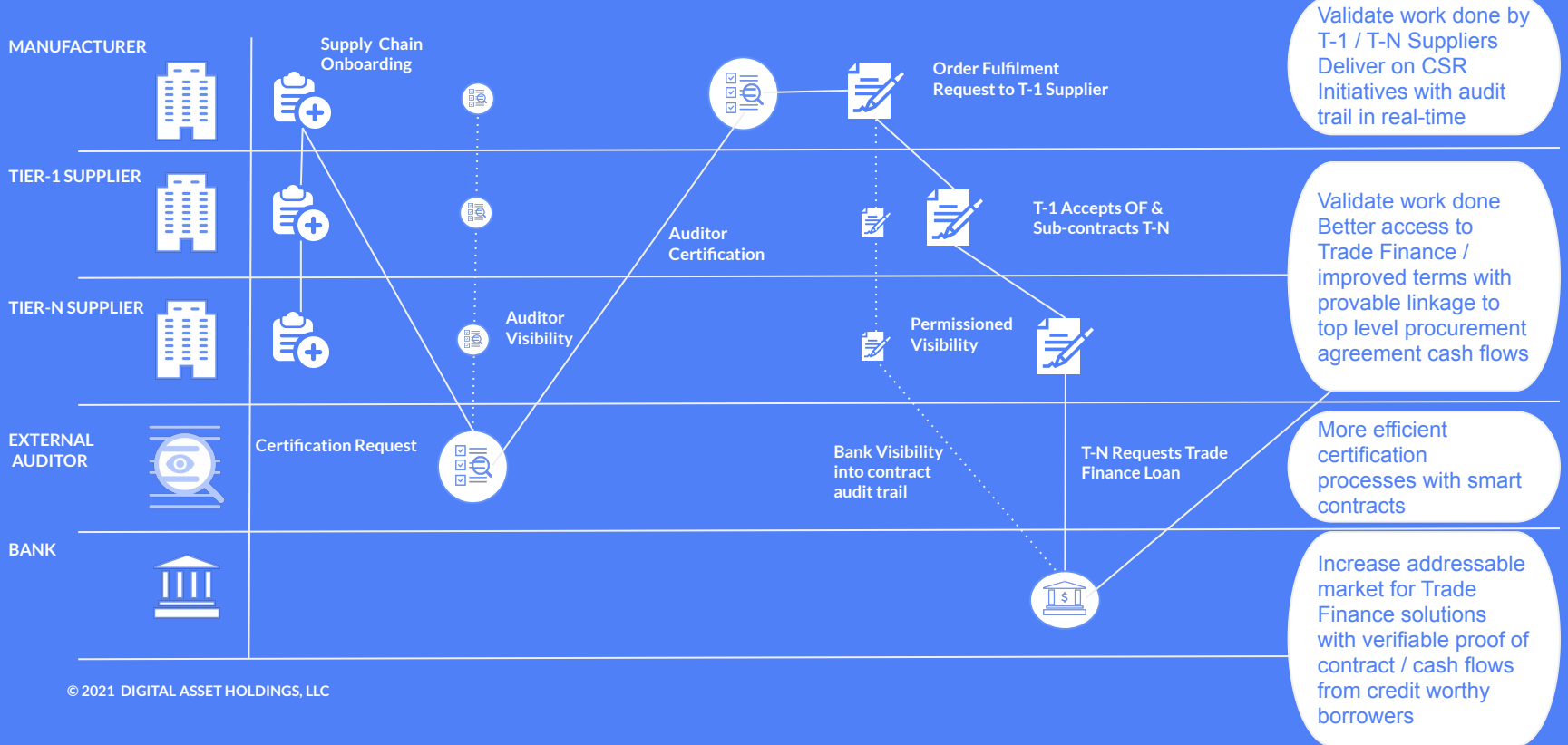
Structured Trade Finance Demo

Create an efficient and secure supply chain and trade finance loan approval process, reducing manual processes and the need for reconciliations.

- Supply Chain set up and onboarding of Participants roles and relationships
- External Certification of supply chain, CSR, Green Credentials
- Cascading Fulfilment requests from Manufacturer to Tier-N Suppliers
- Trade Finance Loan Request and Approval
- Simplified Process for Demo purposes
- Open Source Demo available on [github](#)



Trade Finance Demo Flow



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Demo

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Benefits of Structured Trade Finance using Daml

By leveraging DAML, participants benefit from:

- **Create supply-chains by onboarding participants** through an easy-to-use, transparent workflow
- **Real-time notification and visibility** of participants into parts or the entire workflow based on their eligibility
- **Sub-transaction level privacy**: Participants can only view contract details they are entitled to see
- **Improved efficiency** of processing Trade Finance requests for Banks and Participants
- **Increase addressable market for structured trade finance solutions** (e.g. pre-export financing) to Tier-2 and Tier-3 suppliers
- An **immutable, time stamped, and real-time record** of what Participant choices have been made, by whom, and when
- **Increased and streamlined compliance** with regulatory requirements, in addition to a full audit trail in the event of a dispute

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Questions

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Thank you

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tom.corbett@digitalasset.com