Single Window

It's time to embrace technology convergence

TECTALK 1
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Single Window Models – A Recap

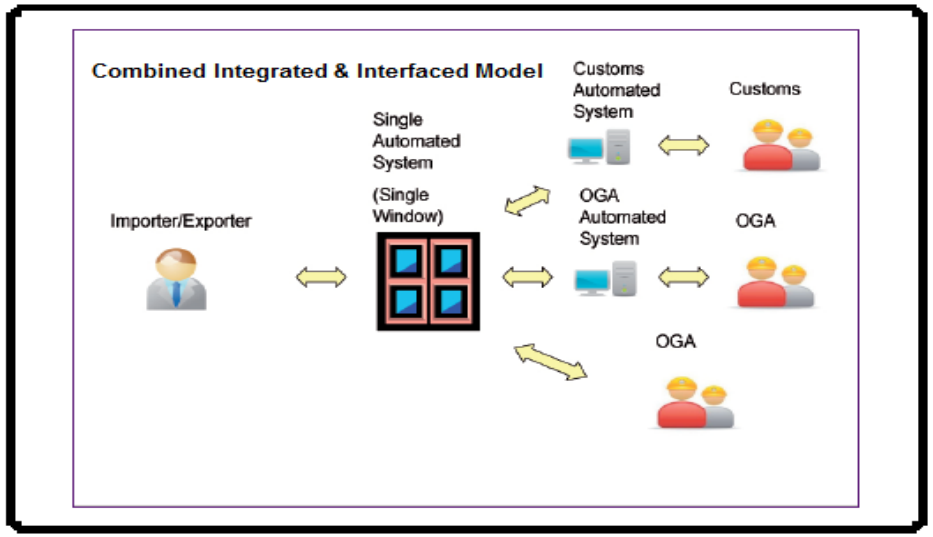
*"A Single Window is a **facility** that allows parties involved in trade and transport to **lodge standardized information and documents with a single entry point** **to** **fulfill all import, export, and transit-related regulatory requirements**.*

If information is electronic, then individual data elements should only be submitted once".

UNECE Recommendation 33

***"A network of cooperating facilities** bound by **agreed collaboration mechanisms** in which government and trade have **seamless access** to **services and information** to fulfil their legitimate roles."*

WCO



Source: Adaptation from UNECE Publication

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Evolution of Single Windows

Step 1
The Isolated Organisation

Objective:
Automate internal processes

Technology:
Internal LAN

Step 2
The Connected Organisation

Objective:
Connect with port agents for critical business processes
- Many to one connectivity
- To exchange messages

Technologies:
- Ethernet Connection
- WAN

Step 3
The Community System

Objective:
Linking all trading parties within the community to exchange messages/data electronically through a single connectivity
- Regulatory declarations
- Manifests

Technologies:
- Community Portal
- Integration with web technology
- use of message standards

Step 4
National Single Window

Objective :
Increase efficiency in the trade facilitation value chain by exchanging messages/data electronically through a single connectivity and promoting the reusability of data; a paperless and error-free process environment
- Increased connectivity and integration with all trading parties
- Foster integration by connecting sea port land operations
- Improving cooperation between port community stakeholders

Technologies:
- Webservices
- Use of message standards

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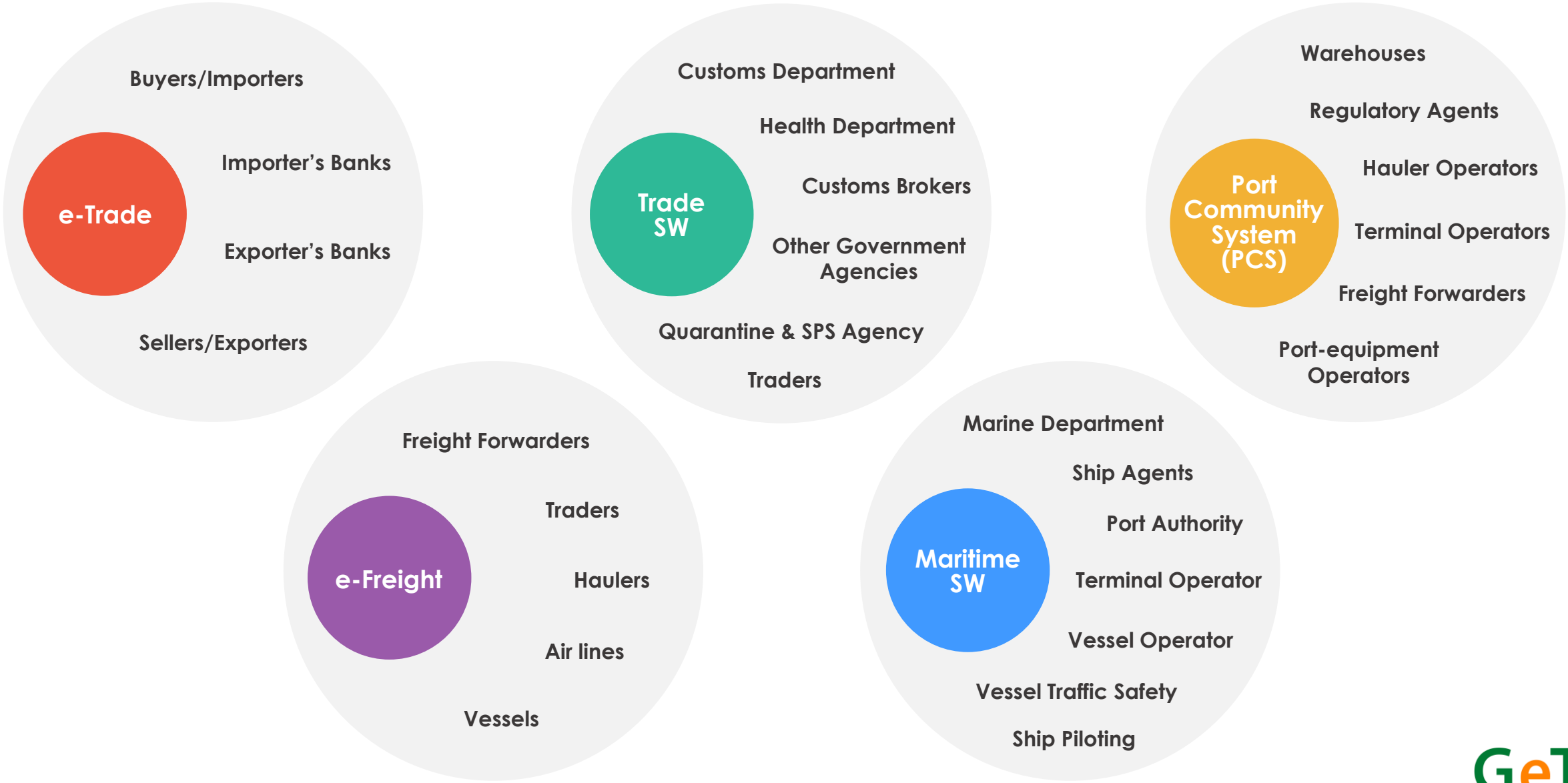
Emergence of Multiple Single Windows



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Challenges

- Traders are forced to submit data across ***multiple*** systems (Regulatory Transport Related SW, Port-related SW or B2B transport/Logistics SW systems or EXIM's ERPs, etc.)
- Traders spend significant time in ***collating*** *data* to fill regulatory forms
- Human ***errors*** in filing forms
- ***Standardizing*** and ***complying*** to integrate with other systems is often challenging and time-consuming.
- Users are ***overloaded*** with information on the supply chain and Trade compliance requirements and procedures or there is no clear authoritative source of information.

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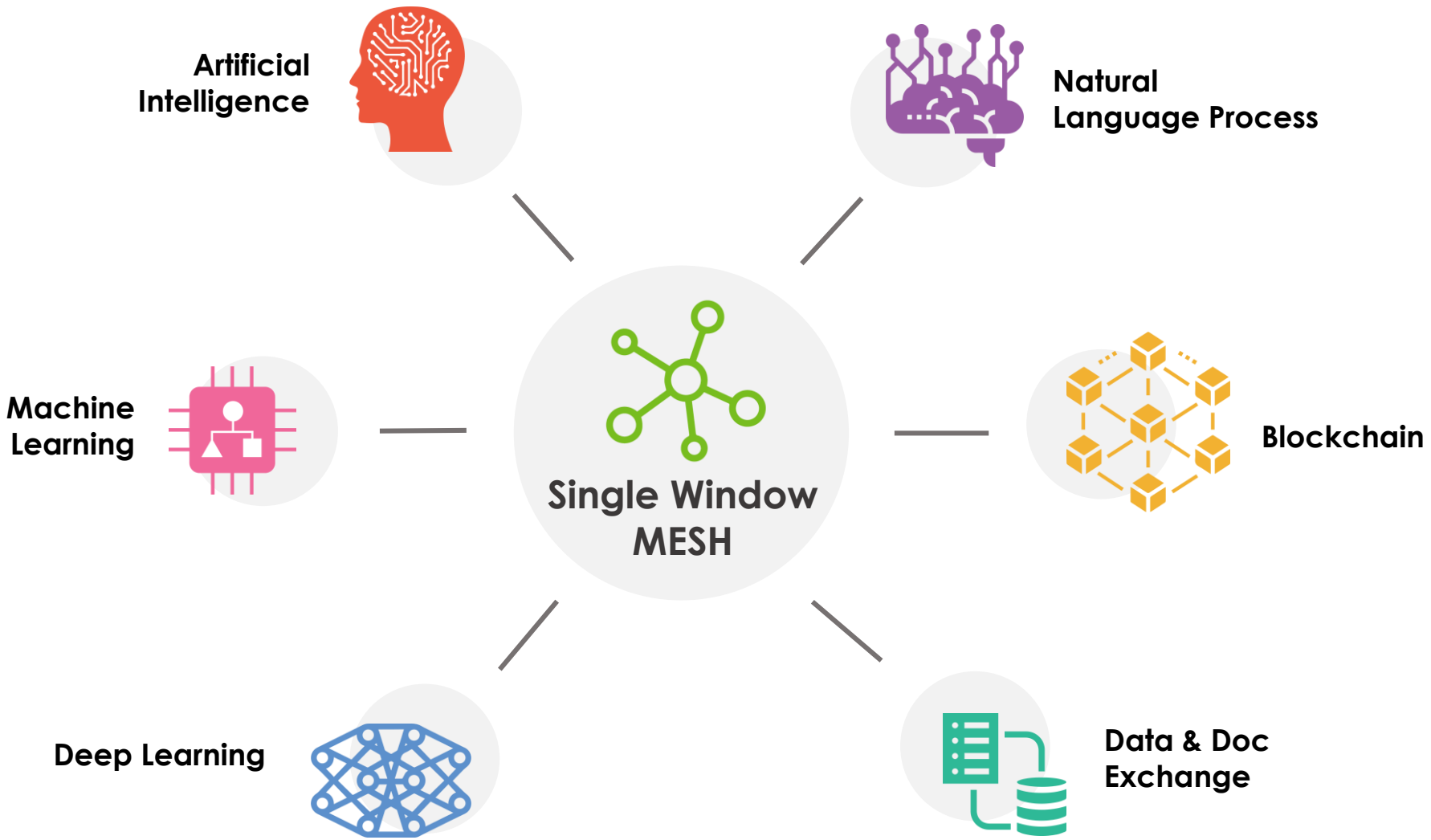
Single Window MESH

"Powered by AI, RPA and deep learning algorithm to dynamically aggregate and co-relate data collected from structured and unstructured sources across the entire trade eco-system"



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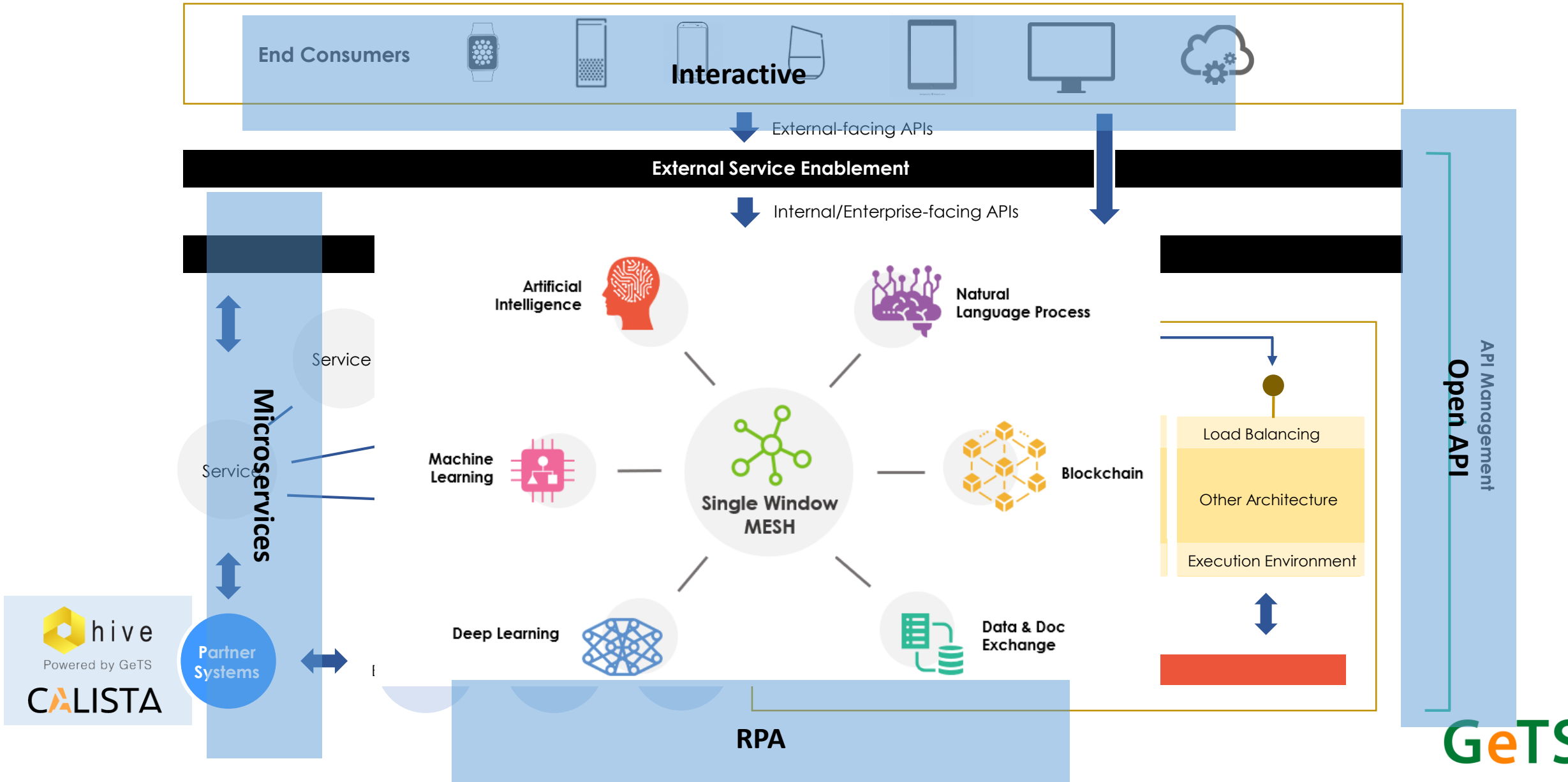
Single Window MESH



Single Window MESH - Key components

1

Automation & Data-driven Decision-making

2

Interoperability

3

360 Degrees Risk Management

4

Real-time Customer Engagements

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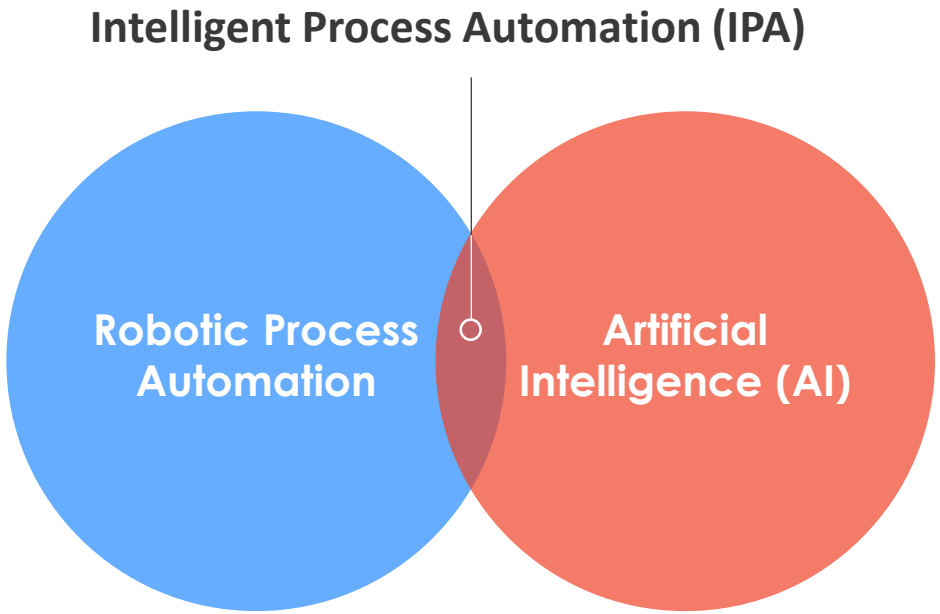
CRUX of Single Window MESH - Automation & Data-driven Decision-making



- It works by connecting to all the disparate systems in the supply chain process and draws the data from them in order to ***aggregate the data*** required for the compliance process.
- SW Mesh has the capability to ***associate the data*** aggregated from various sources and identify what is missing to complete the regulatory filing process.
- For example, SW Mesh will ***collate data*** such as invoice, BL, Packing List, etc received from importer/exporter ERP systems to prepare regulatory documents such as Manifest and it will notify the trader of additional data required to fulfil submission requirements.

Automation & Data-driven Decision-making

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Automation & Data-driven Decision-making

Trader

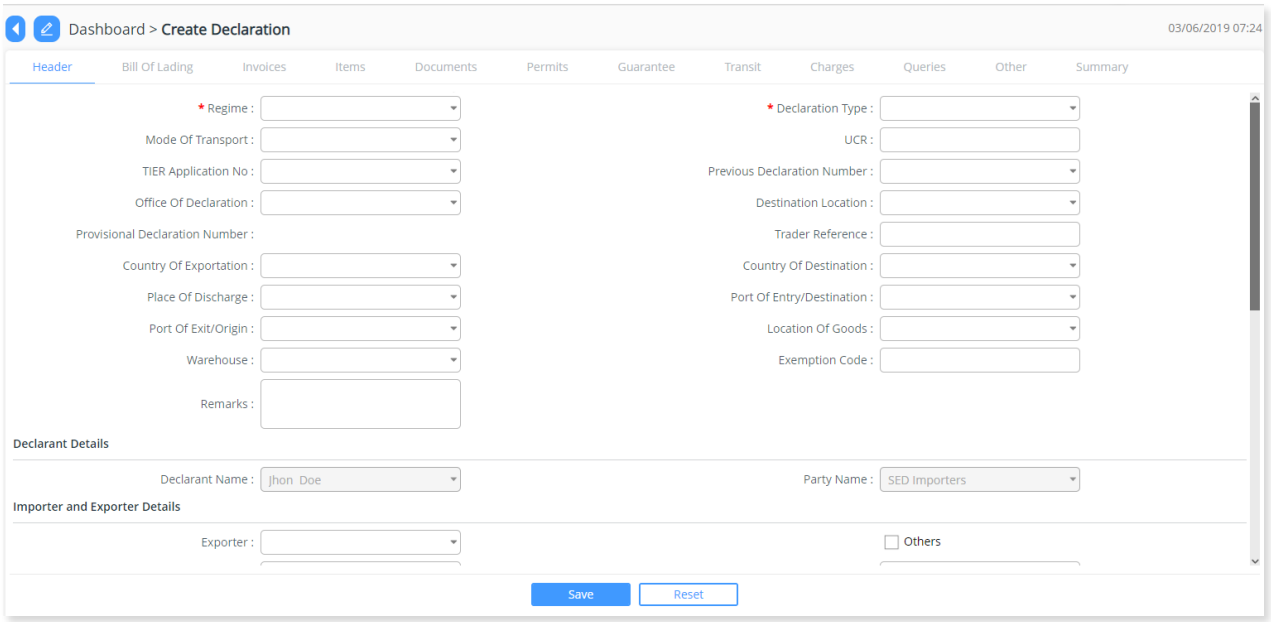
Invoice

ERP

Packaging List

FMS

Bill of Lading/
Airway bill



Permits

Cognitive Document Automation can recognize the **Arrival Report/Manifest**, checks **associated invoice availability**, and then **triggers an action to file Cargo Declaration** - all without human interaction. If invoice is not available, SWM will notify trader to upload.

Automation &
Data-driven
Decision-making

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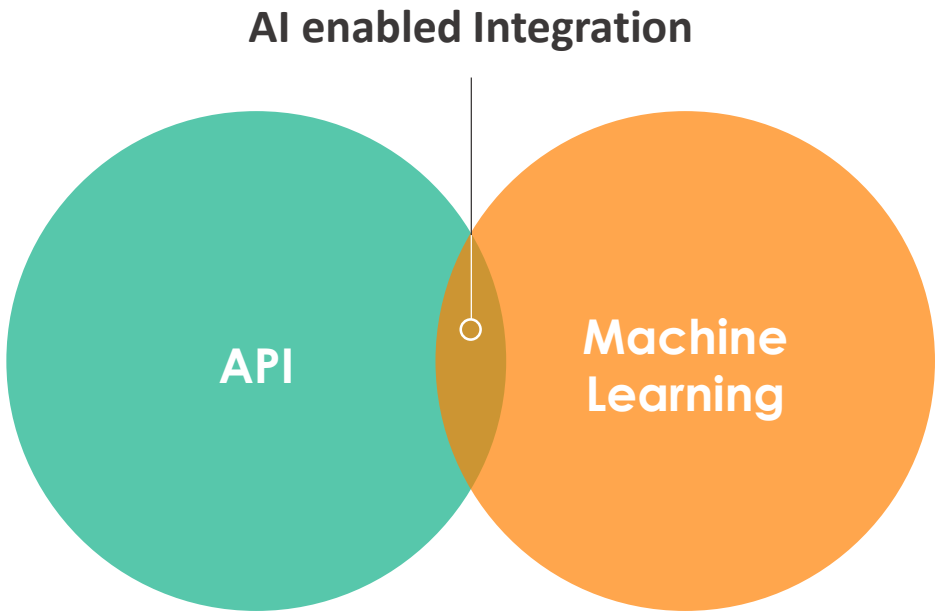
CRUX of Single Window MESH - Interoperability



- Mesh makes it ***easy to connect*** by supporting multiple protocols (Web Services, FTP, etc)
- ML algorithm ***extracts required*** fields and most commonly used fields to map input fields to destination fields
- Deployed with a range of ***pre-packaged*** and configurable AI-infused ***integration artefacts*** for optimal alignment
- Accepts ***any standard formats*** (XML, iDoc, CSV etc) with no integration efforts required on trader's side

Interoperability

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Interoperability

SA

ERP

FMS

Interoperability

Enterprise Service Bus + SWM Agent

Supporting multiple formats and protocols

JSON

```
{"data":
        {
                "invoice_no":"INV0001",
                "invoice_date":"2019-06-03",
                "inv_amount":1000,
                "inv_currency_id":"SGD"
        }
}
```

XML

```
<data>
  <invoice_no>INV0001</invoice_no>
  <invoice_date>2019-06-03</invoice_date>
  <inv_amount>1000</inv_amount>
  <inv_currency_id>SGD</inv_currency_id>
</data>
```

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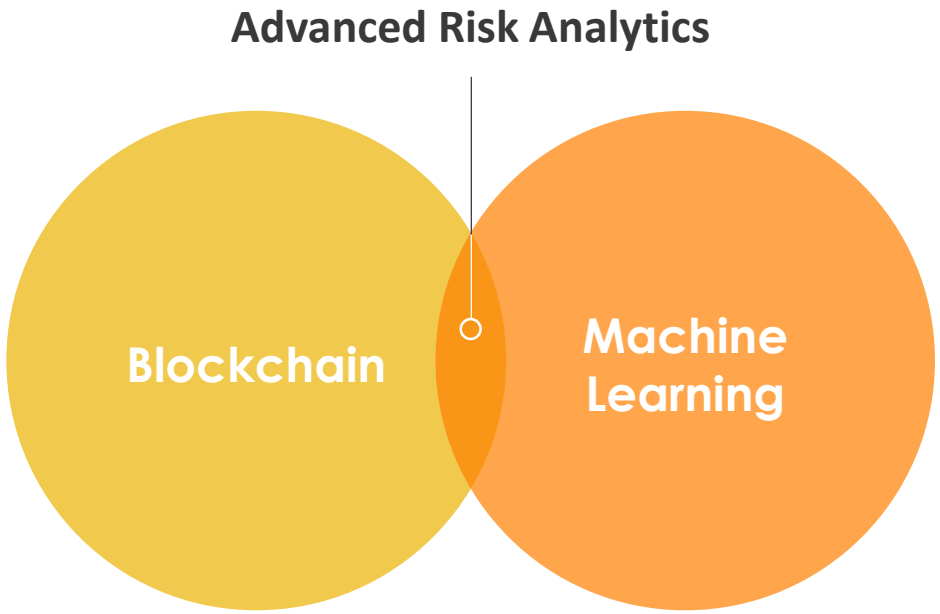
CRUX of Single Window MESH - 360 degrees Risk Analysis



- Mesh Platform will begin analysing supply chain data ***earlier in the process than ever before*** by giving you **360 visibility** of upcoming threats and potential risks
- **Accurate freight and cargo information** is essential in order to 'de-risk' goods and identify suspicious containers as effectively as possible, thus minimising the border controls that businesses are exposed to
- Ensuring the **right** logistics and **declaration data** are always available, while privacy and security are also guaranteed

360 Degrees Risk Management

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360 Degrees Risk Analysis

Network analysis – identifies associations with blacklisted individuals, entities or locations

Anomaly detection – uses AI to identify unusual behaviours in declarations

Risk rules – used to flag shipments that display known risk characteristics

Business Intelligence – quickly identify discrepancies between information on manifest and declaration

Predictive analysis – identifies correlations or similarities with previous shipments that were mis-declared

Manifest & Declaration Reconciliation Details

BI No	Decl No	Means Of Transport Name	Submission D..	Dec Gross We..	Dec No Of Pkgs	Gross Weight	No Of Pkgs	No of Pkgs Diff
2CBG150	141200837046	EMIRATES SKYCARGO	12/15/2014	1,796	4	1,800	5	1
7EYP930	141100836841	EMIRATES SKYCARGO	11/3/2014	513	34	514	42	8
607-61199434	141200837060	ETIHAD AIRWAYS	12/21/2014	45	1	45	2	1
724-43752122	141200837025	SWISS WORLDCARGO	12/12/2014	172	2	173	3	1
724-44139804	141200837023	SWISS WORLDCARGO	12/12/2014	321	13	322	22	9
724-45056616	141200837012	SWISS WORLDCARGO	12/10/2014	194	32	194	40	8

360 Degrees Risk Management

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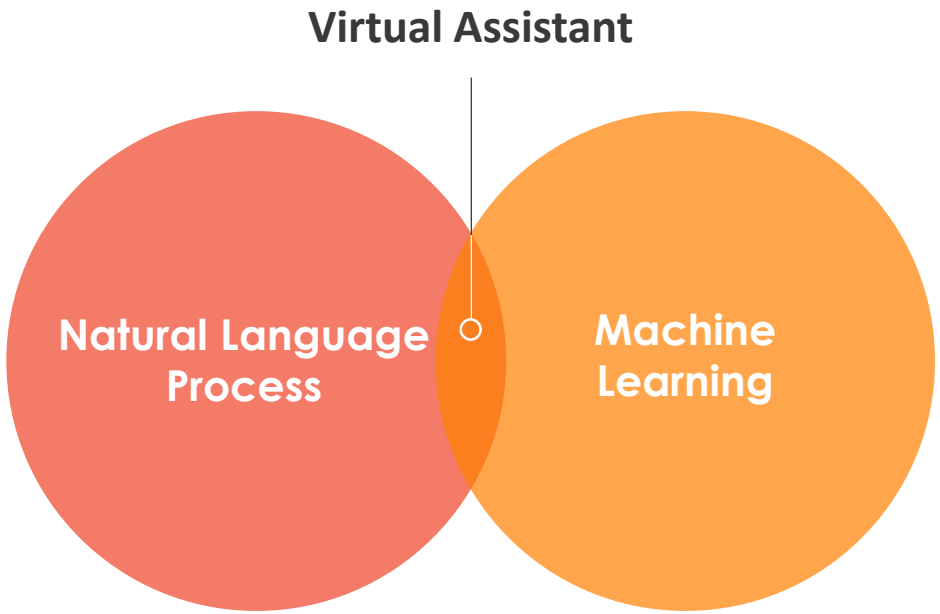
CRUX of Single Window MESH - Real-time Customer Engagements



- Chatbot leverages on NLP (Natural Language Processing) and AI (Artificial Intelligence) for trade and advisory-related computer assisted conversations with the users
- It harnesses the information aggregated from various sources and applies ML to provide users with contextually accurate data in an appropriate and natural manner

Real-time Customer Engagements

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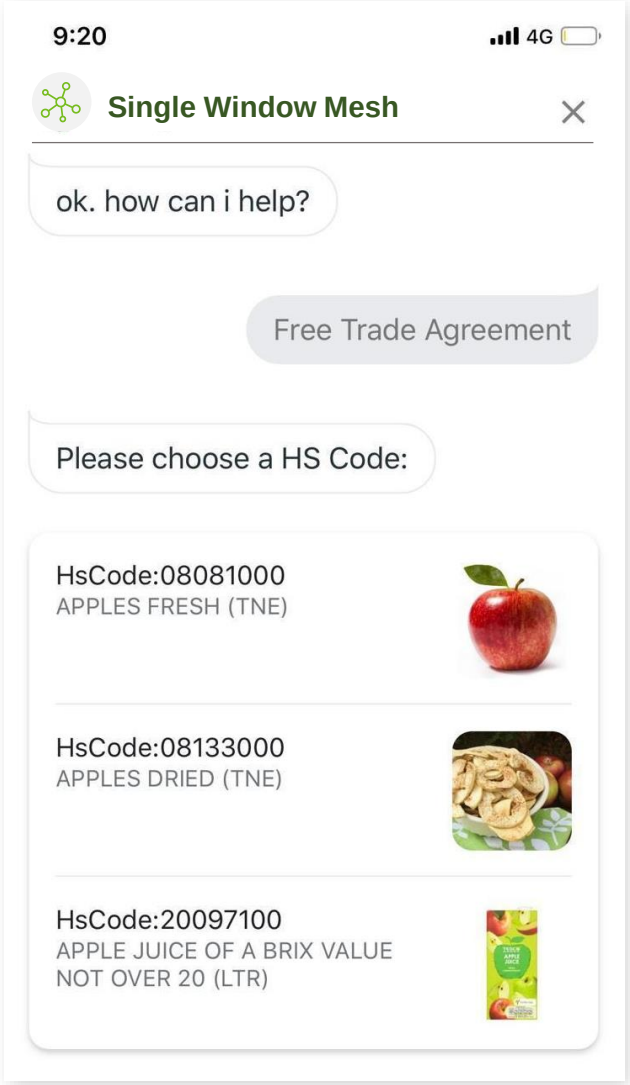
CRUX of Single Window MESH - Real-time Customer Engagements



Real-time Customer Engagements

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To be continued...

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Sit with us @ our **BOOTH!**

Thank you!

Any questions?

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