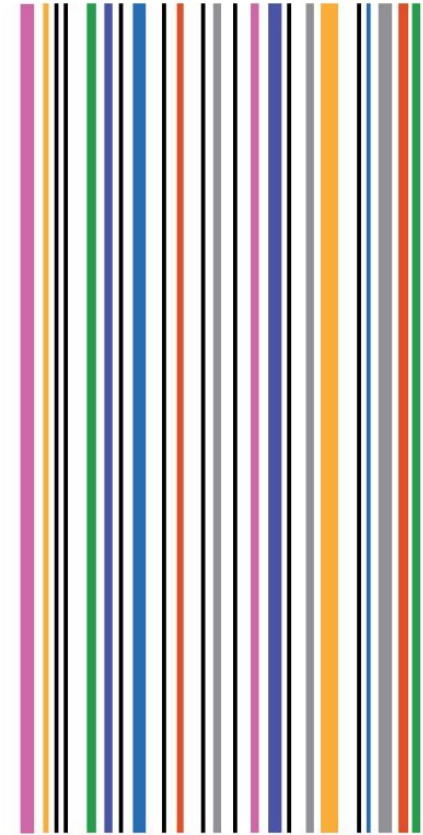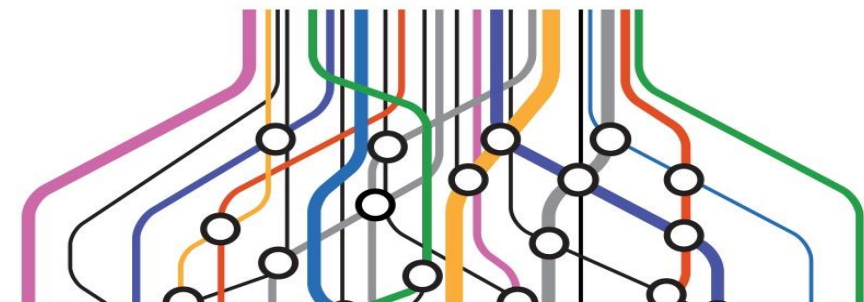# Single Windows

A peer into the future
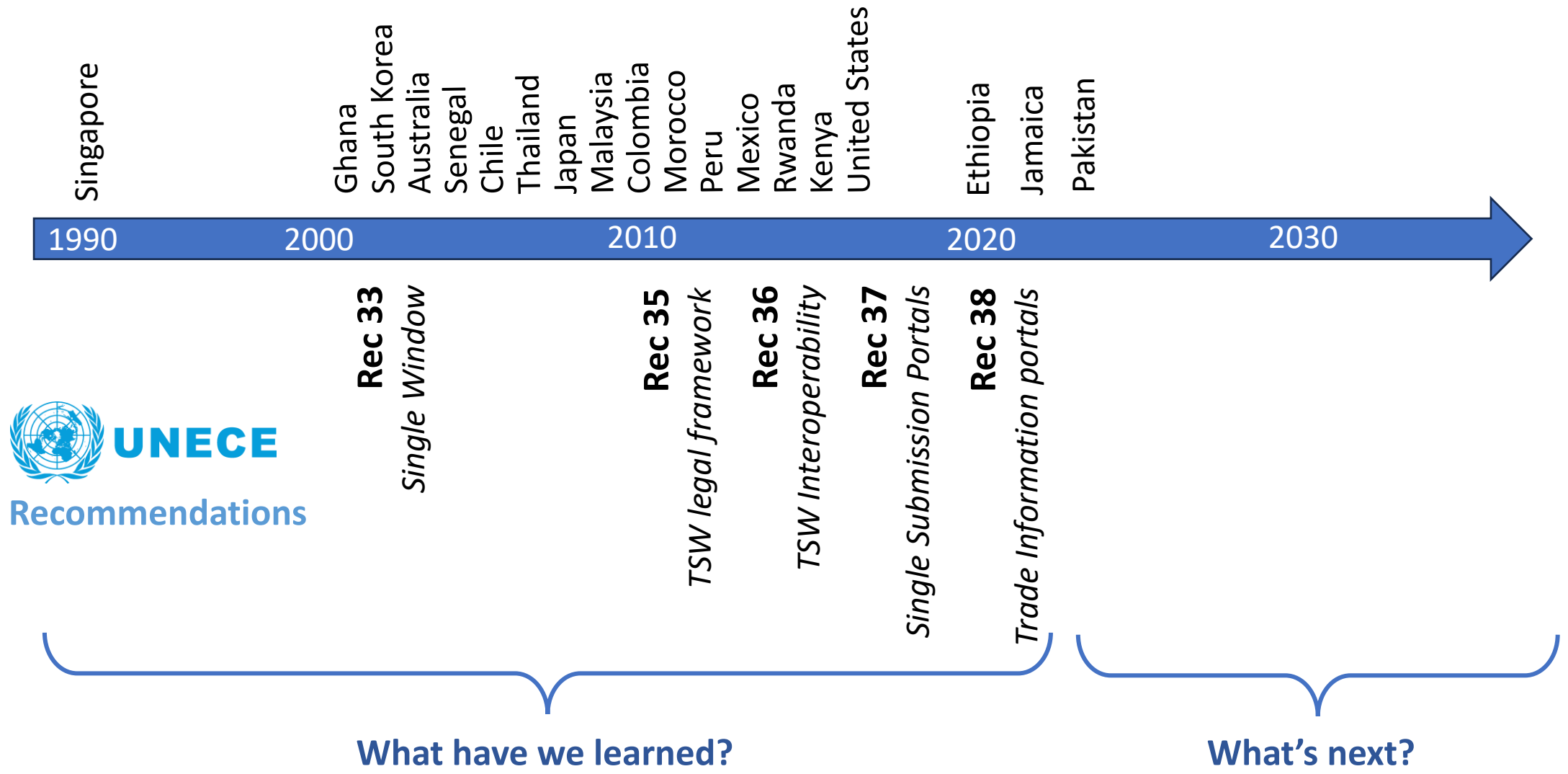
Steve Capell
steve.capell@gmail.com

A Single Window Timeline

Timeline markers: 1990, 2000, 2010, 2020, 2030

Countries (along timeline): Singapore, Ghana, South Korea, Australia, Senegal, Chile, Thailand, Japan, Malaysia, Colombia, Morocco, Peru, Mexico, Rwanda, Kenya, United States, Ethiopia, Jamaica, Pakistan

UNECE Recommendations:
- **Rec 33** *Single Window*
- **Rec 35** *TSW legal framework*
- **Rec 36** *TSW Interoperability*
- **Rec 37** *Single Submission Portals*
- **Rec 38** *Trade Information portals*

What have we learned?

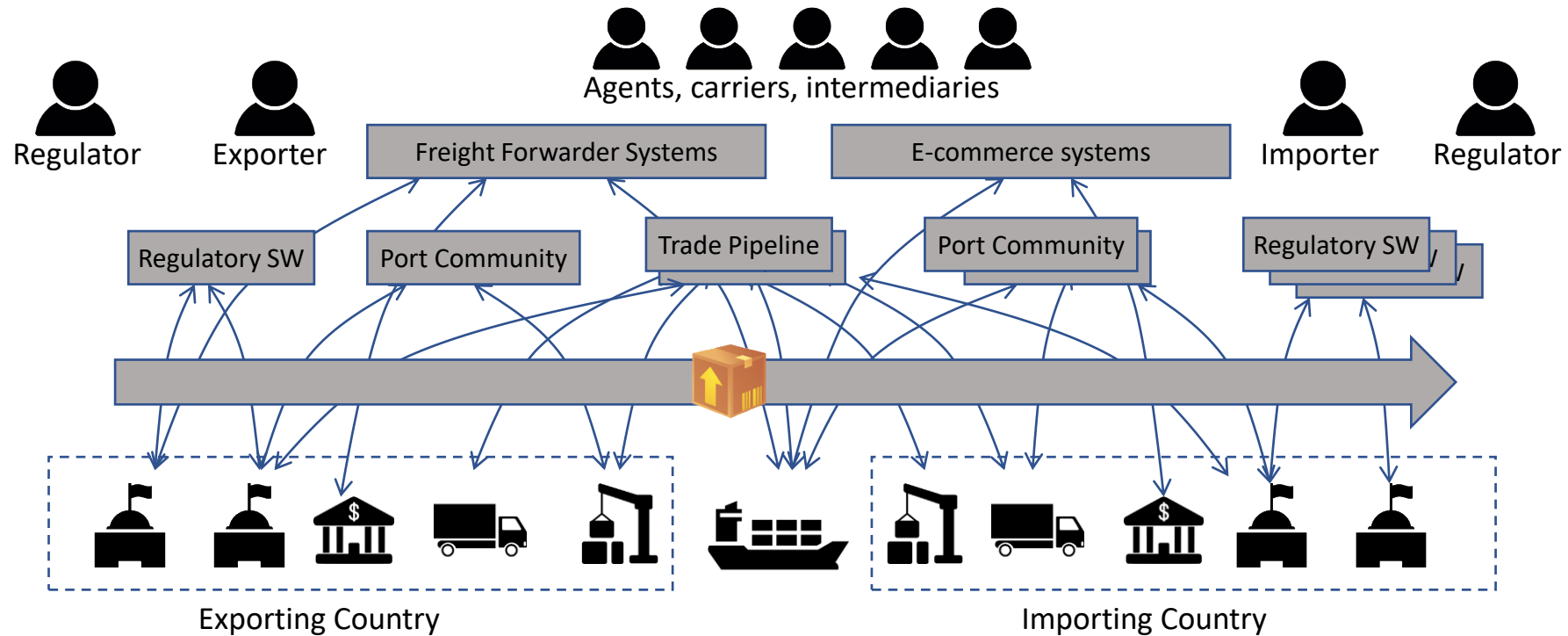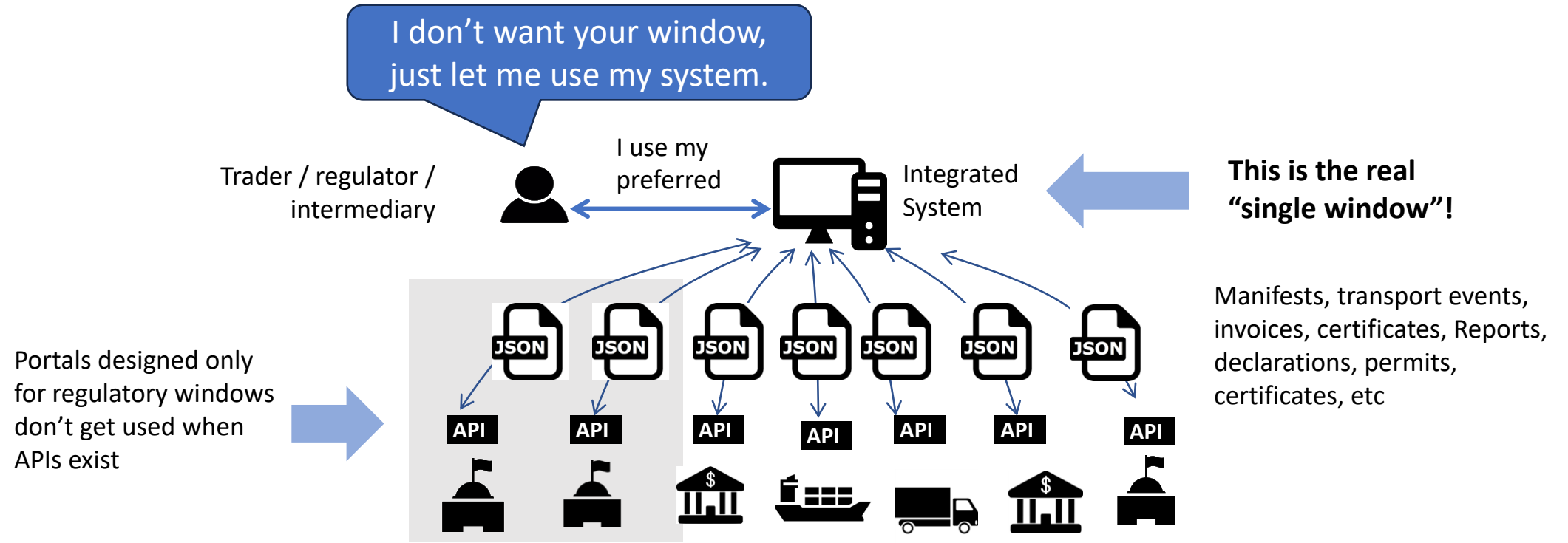**What's next?**

Lesson 1 – there's lots of "windows"

For any given shipment, there's any number of "windows" that play a role. Here's just a few.

Agents, carriers, intermediaries

Regulator   Exporter   Freight Forwarder Systems   E-commerce systems   Importer   Regulator

Regulatory SW   Port Community   Trade Pipeline   Port Community   Regulatory SW

Exporting Country   Importing Country

Portals of all kinds exist (UNECE Recommendation 37)

# Lesson 2 – API's rule – there's "no wrong door"

Evidence: Australia's integrated cargo system (ICS) experience mirrors many other nations
- 99% of transactions come from external API integrated systems – nobody uses the portal
- 100+ different external systems integrate with ICS.
- 6 of them are commercial "single windows" that combine regulatory, finance, logistics. These will always offer a more complete experience than a regulatory window alone.

Lesson 3 – The rules are awfully complicated

Many single windows focus on the transactions and assume that users understand the rules. So very few actual traders use them (mostly brokers and forwarders)
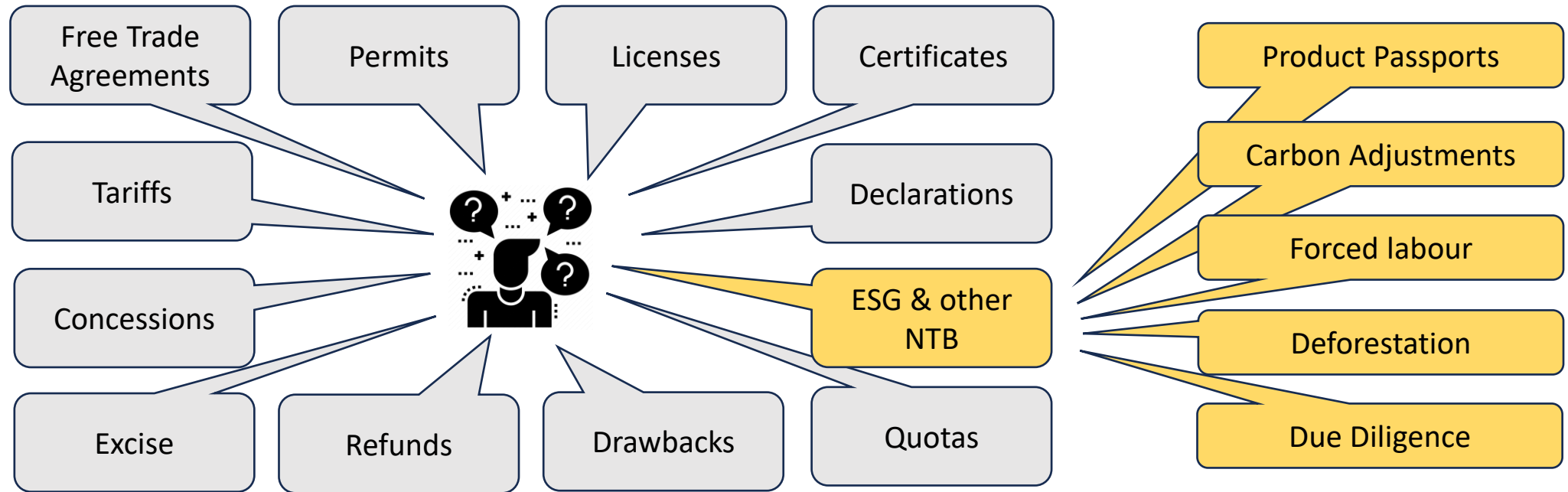
Trade Information Systems evolved to address this (UNECE Recommendation 38)

But even with trade information systems: (ABF public data):
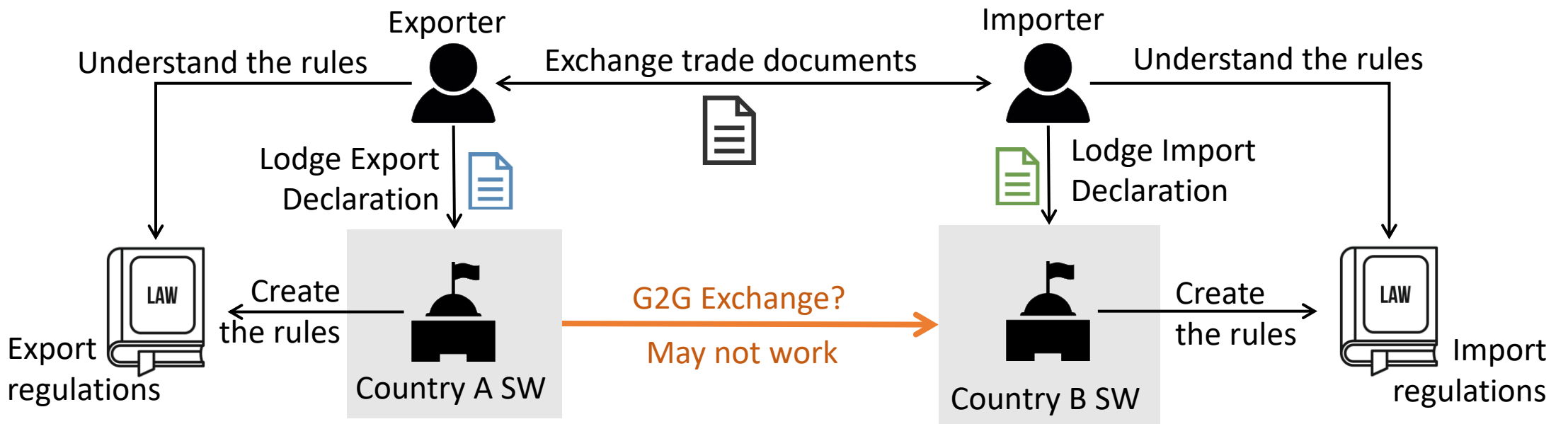
- Only 0.1% of declarations are audited – but show around **30% non-compliance**)
- Most non-compliance is involuntary – people can't get it right even when they try

Lesson 4 – Our export is not your import

Trails of G2G data exchange between customs agencies / national single windows – with goals like "your export declaration is my import declaration" have **not worked.**

- Because export declaration data is minimal but import declaration requirements are complex.
- Because there is often no legal framework for trader consent
- Because there are often no export declarations for the given import shipment.

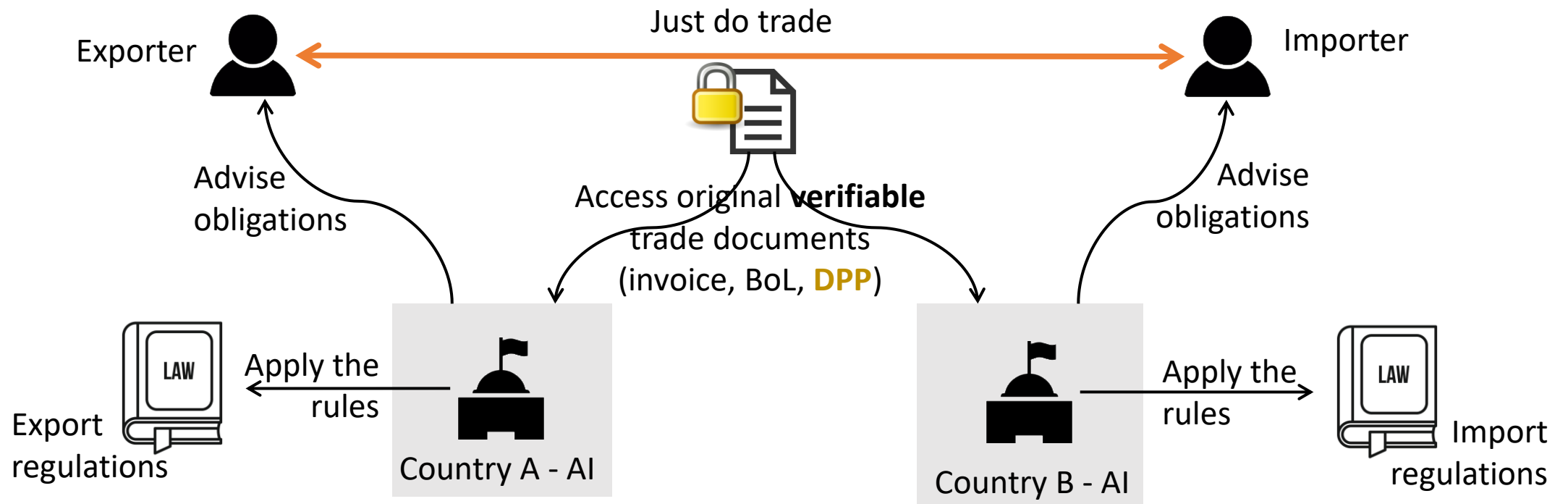A "regional single window" may not achieve it's intent.

Exporter   Importer

Understand the rules   Exchange trade documents   Understand the rules

Lodge Export Declaration   Lodge Import Declaration

Export regulations   LAW

Create the rules   Country A SW   **G2G Exchange?**   **May not work**   Country B SW   Create the rules   LAW   Import regulations

Single window **interoperability** (UNECE Recommendation 36)

The future "single window" might be "just do trade"

The thing that is common between both countries is the commercial trade and transport documents. What if regulators (and finance organisations) just had access to verifiable business documents (invoices, waybills, product passports) and did their own assessment / due-diligence?

- **Legitimate trade** would be vastly facilitated with huge reductions in cost of trade.
- **Illicit trade** would be much harder with huge improvements in risk & compliance.
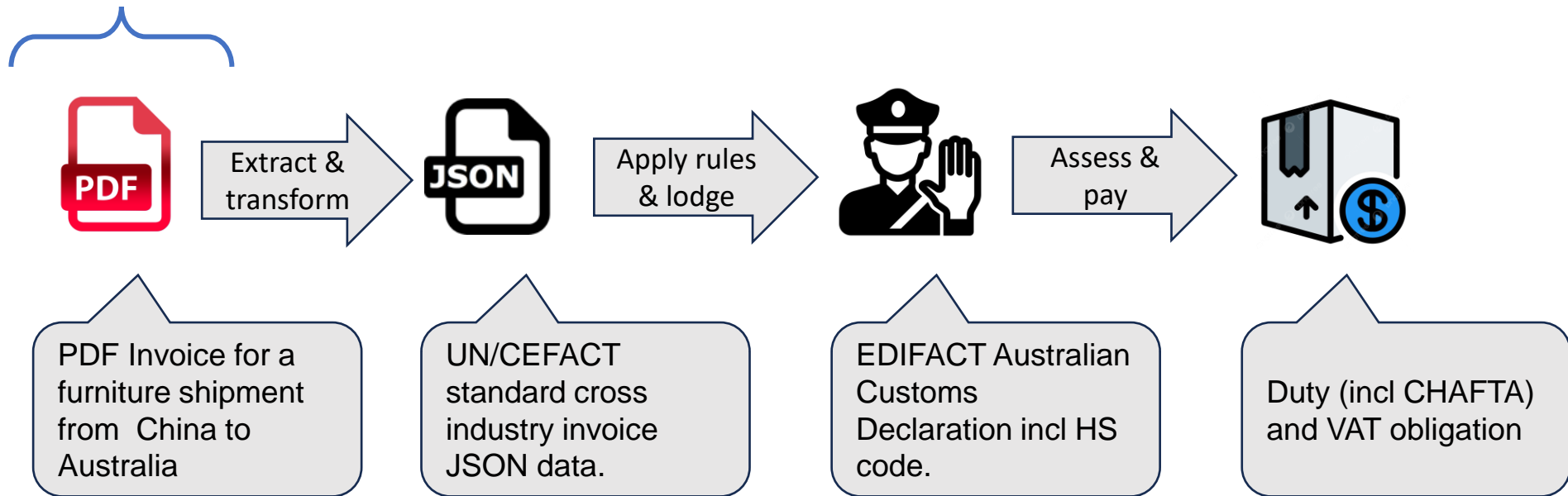
Just do trade

Exporter

Importer

Advise obligations

Access original **verifiable** trade documents (invoice, BoL, **DPP**)

Advise obligations

Apply the rules

Apply the rules

Export regulations

LAW

Country A - AI

Country B - AI

LAW

Import regulations

New UN/CEFACT projects : Verifiable Trade Document Library, Global Trust Registry

Can AI really do that?

But that means authorities access and process data in all kinds of formats. Too hard? Let's find out!

https://drive.google.com/file/d/1smmvp62qC0Urp_DlSRGFeNaLGjnNbeDp/view?usp=drive_link

Extract & transform	**Apply rules & lodge**	**Assess & pay**	
PDF Invoice for a furniture shipment from China to Australia	UN/CEFACT standard cross industry invoice JSON data.	EDIFACT Australian Customs Declaration incl HS code.	Duty (incl CHAFTA) and VAT obligation

And here's the AI conversation with Grok 3

https://grok.com/share/bGVnYWN5_69fcf0da-bc2d-43ce-b8c6-9586397f060c

Note - In real AI implementations, preserve privacy of submitted data and access private rulings via a strategy of **"take the model to the data, not the data to the model".**

And what does "verifiable" really mean?

Verifiable Credentials (a W3C standard) provide a way to digitally sign documents such as invoices and link them to other digitally signed documents such as business registration certificates to make a chain of trust.
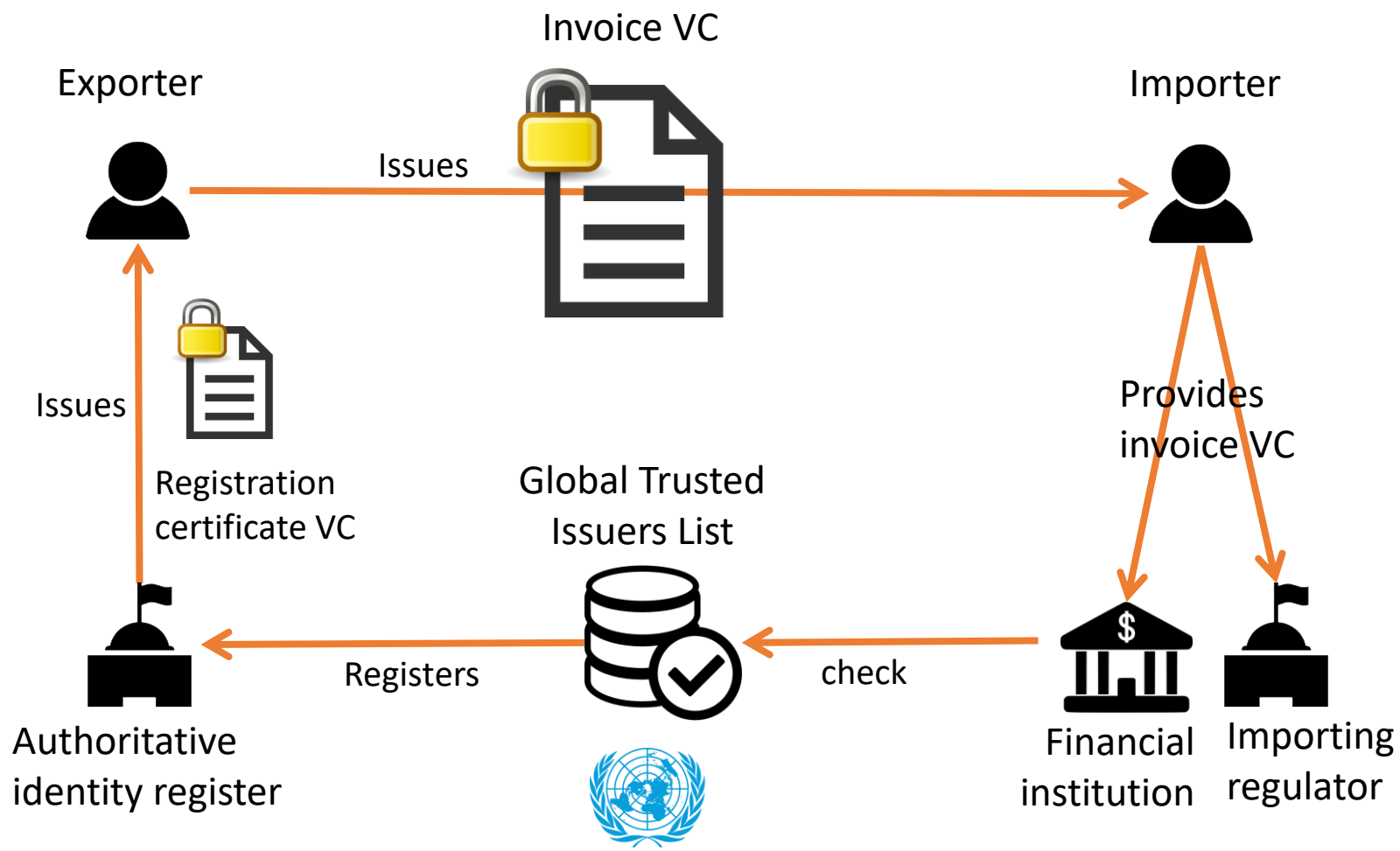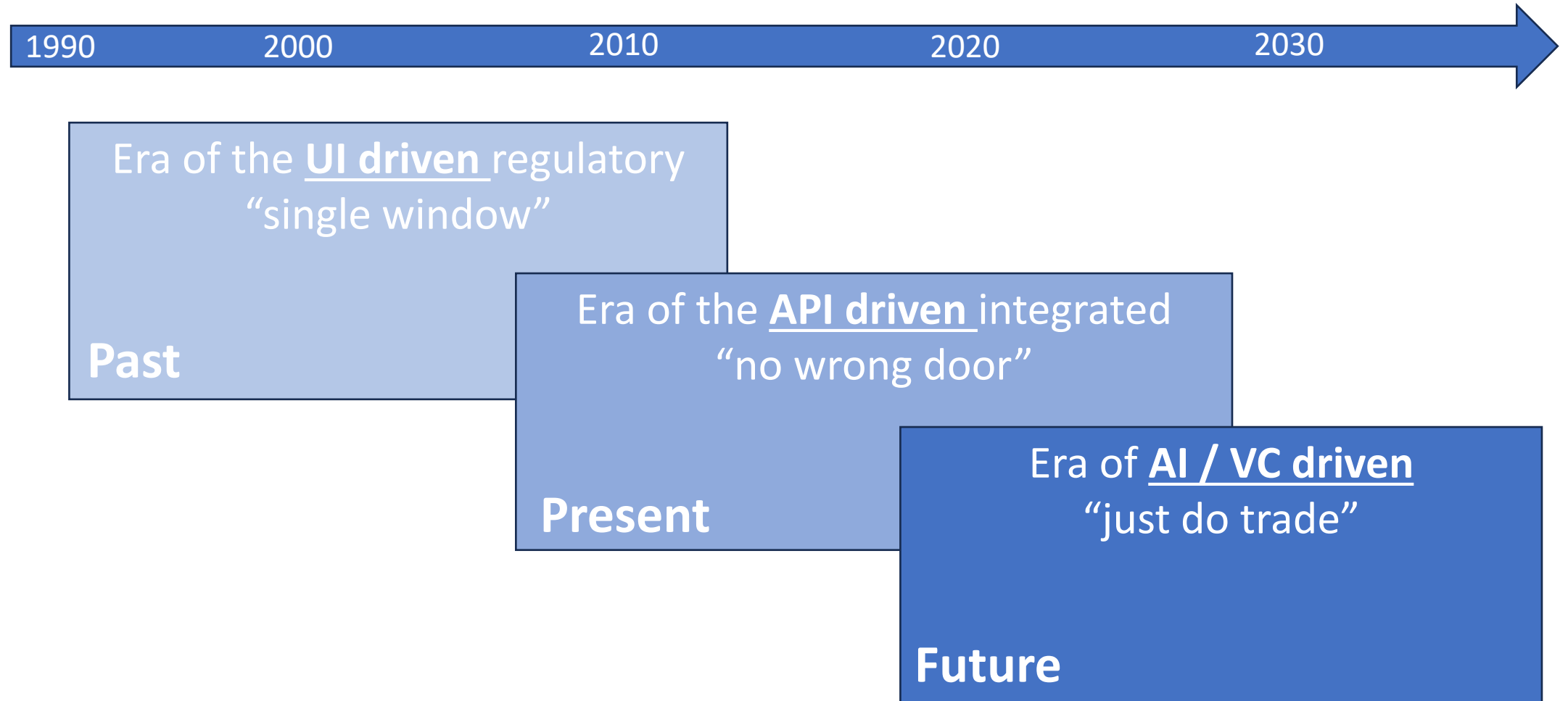

Invoice verification

✔ Document is valid and not tampered

✔ Was issued by the exporter ID

✔ Who is registered by authority ID

✔ Which is on UN trust list

✔ None of the credentials are revoked

In summary – the single window timeline again.

We've already moved from single window portals to integrated systems and no wring door. But more change is coming with artificial intelligence and verifiable credentials.
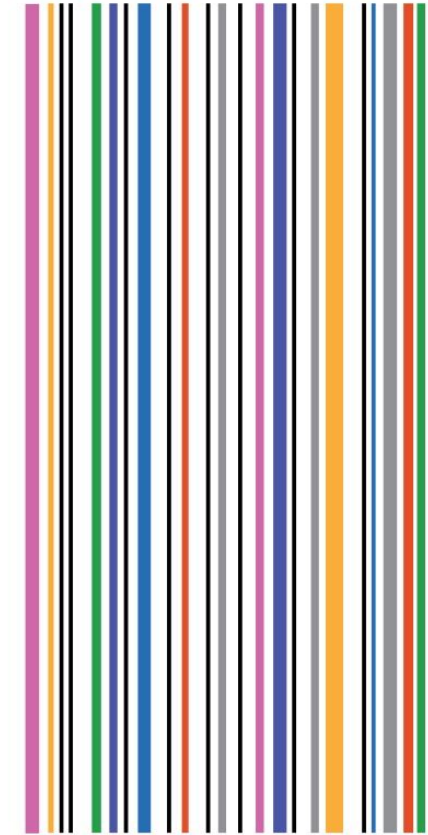
1990   2000   2010   2020   2030

Era of the **UI driven** regulatory "single window"

Past

Era of the **API driven** integrated "no wrong door"

Present

Era of **AI / VC driven** "just do trade"

Future

Single Windows

A peer into the future

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March 2025