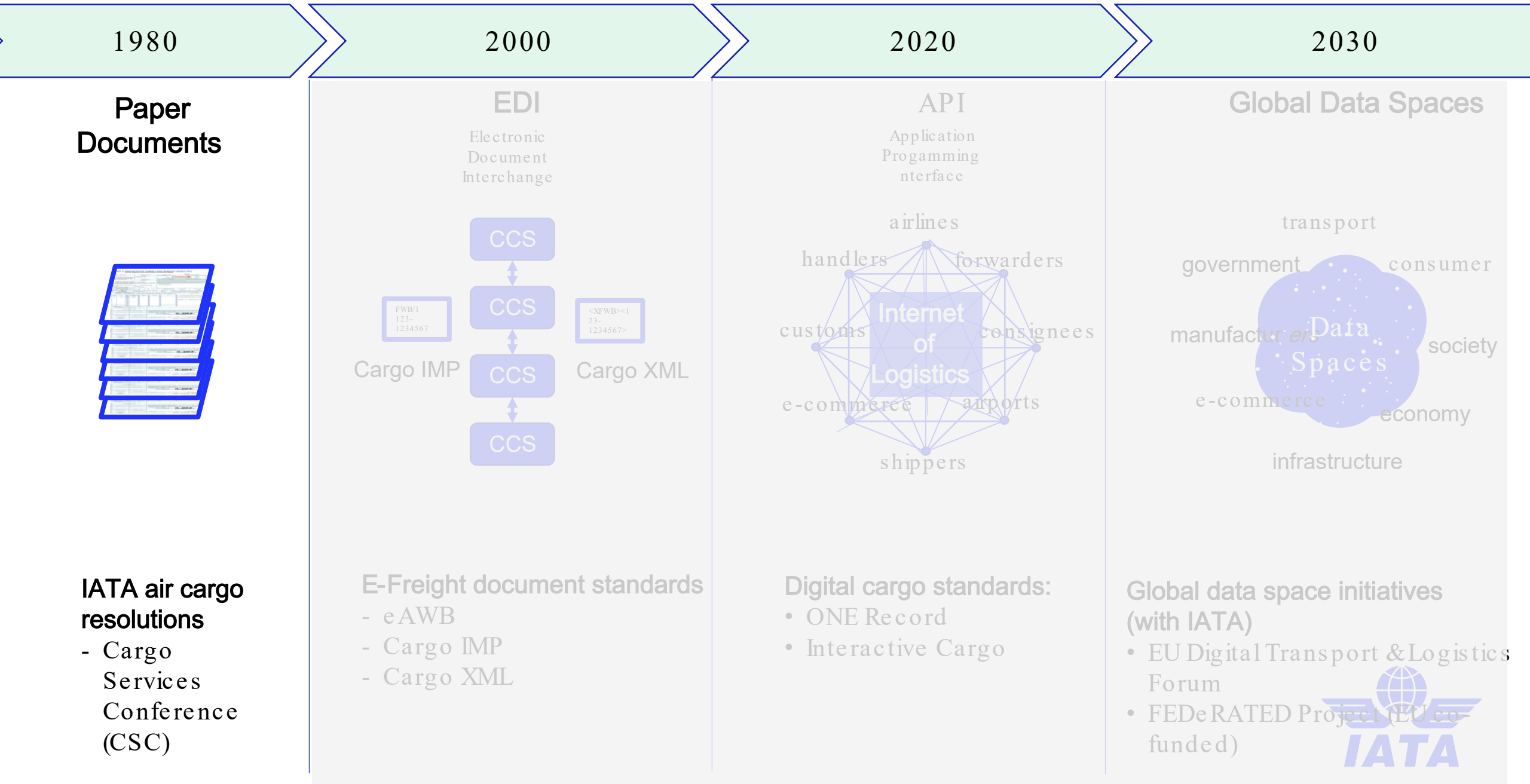


# Digital Cargo

Henk Mulder,  
Head of Digital Cargo



# evolution of air cargo data exchange technologies



# evolution of air cargo data exchange technologies

1980

Paper Documents



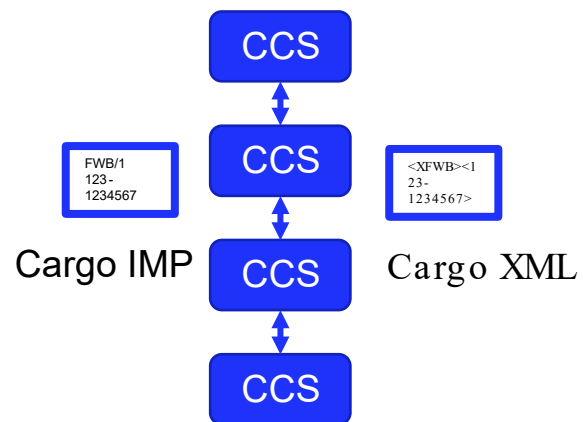
IATA air cargo resolutions

- Cargo Services Conference (CSC)

2000

EDI

Electronic Document Interchange



E-Freight document standards

- eAWB
- Cargo IMP
- Cargo XML

2020

API

Application Programming interface

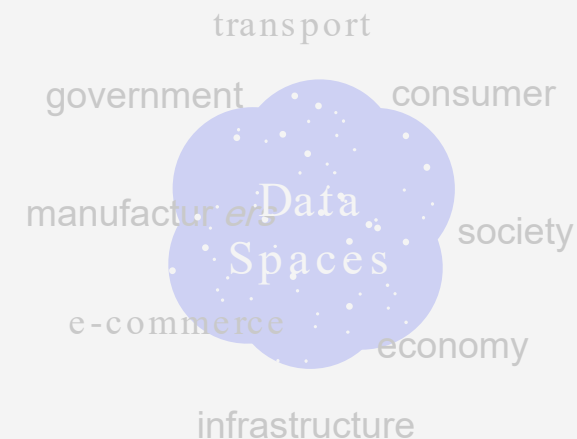


Digital cargo standards:

- ONE Record
- Interactive Cargo

2030

Global Data Spaces



Global data space initiatives (with IATA)

- EU Digital Transport & Logistics Forum
- FEDeRATED Project (EU co-funded)



# evolution of air cargo data exchange technologies

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Paper Documents



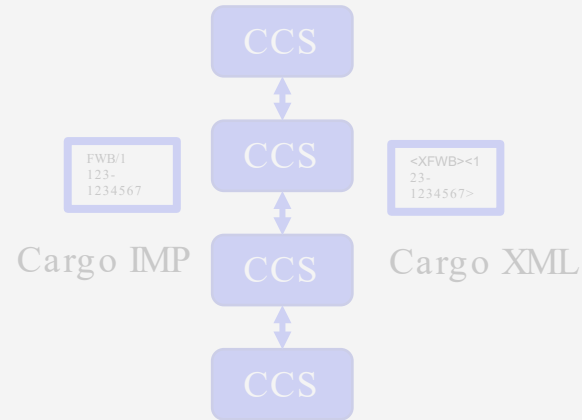
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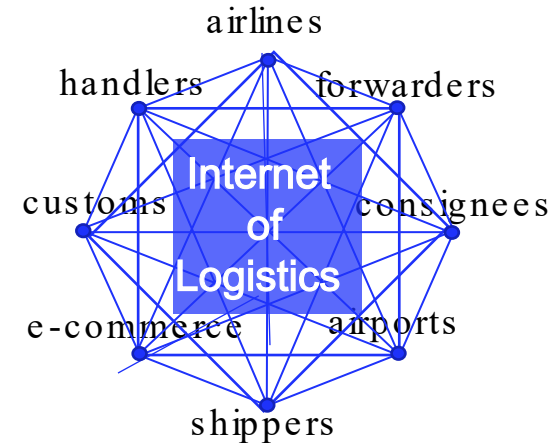
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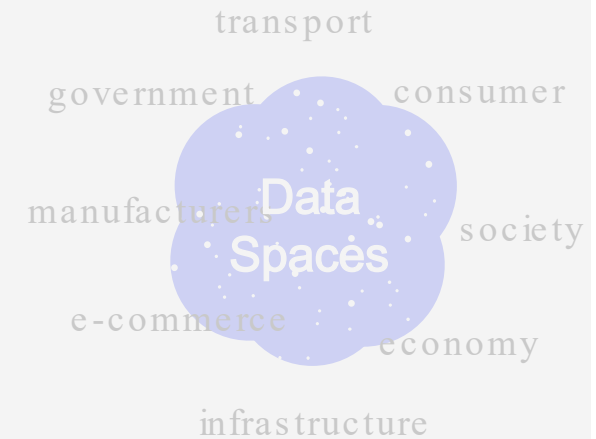


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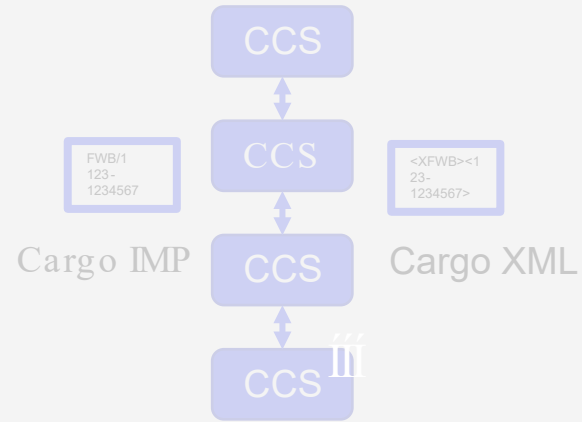
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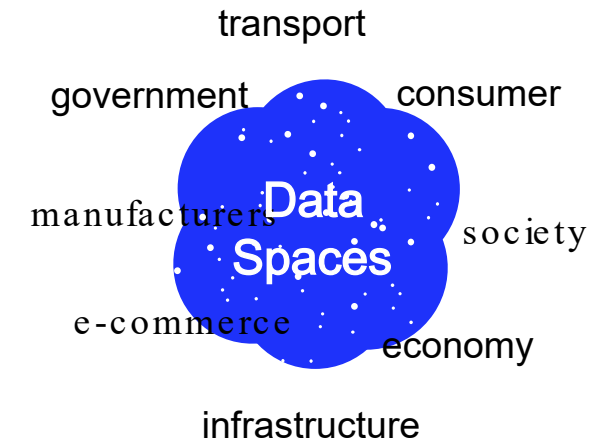


Digital cargo standards:

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2030

Global Data Spaces

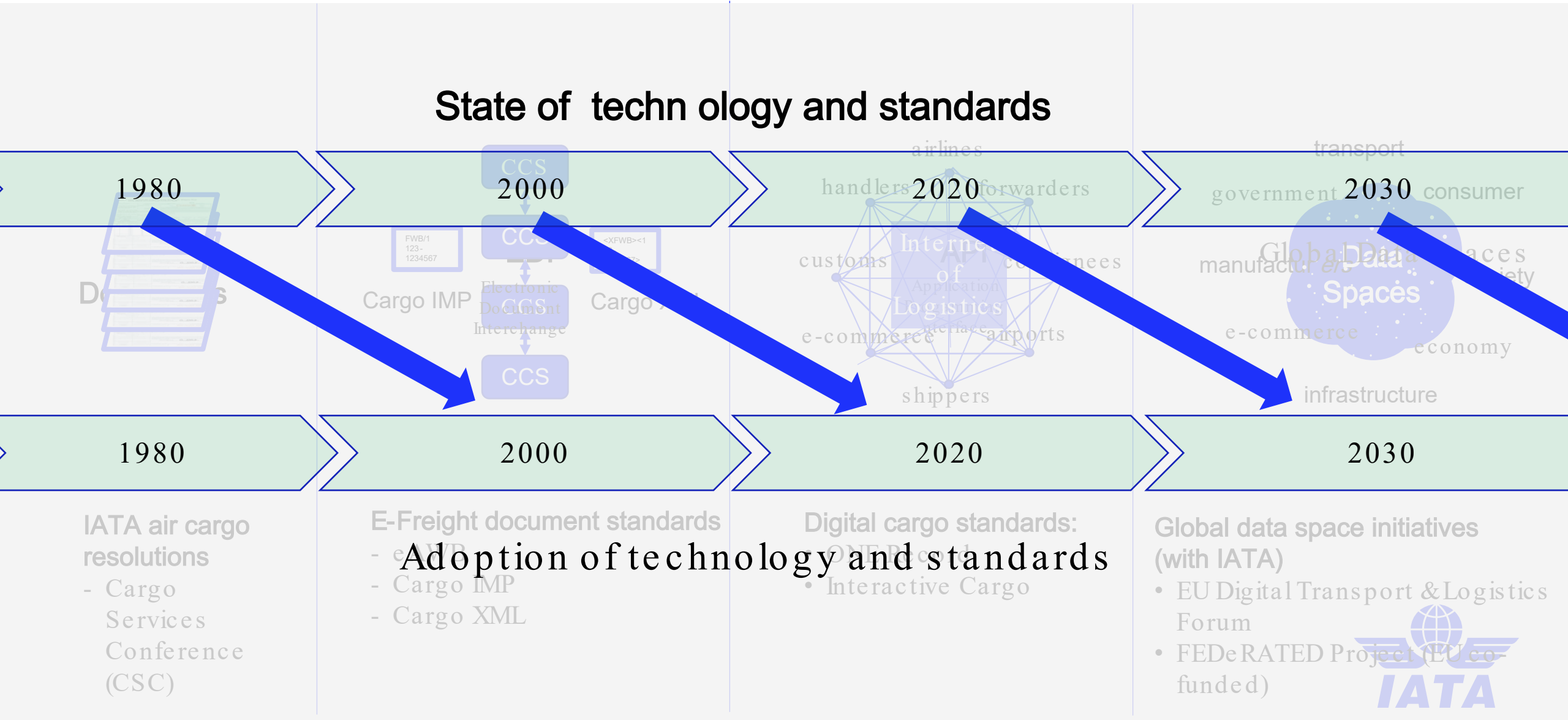


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# State of technology and standards



# evolution of air cargo data exchange technologies

1980

Paper Documents



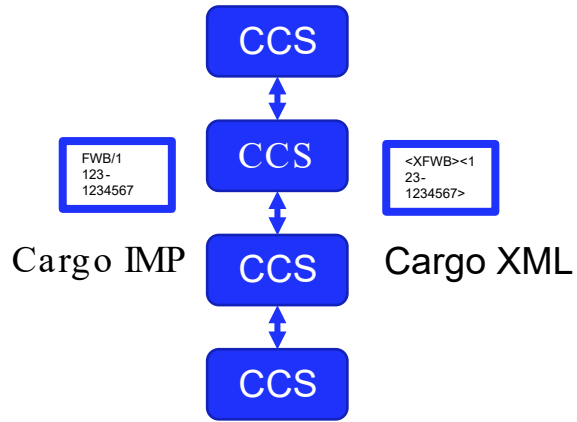
**IATA air cargo resolutions**

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Electronic Document Interchange



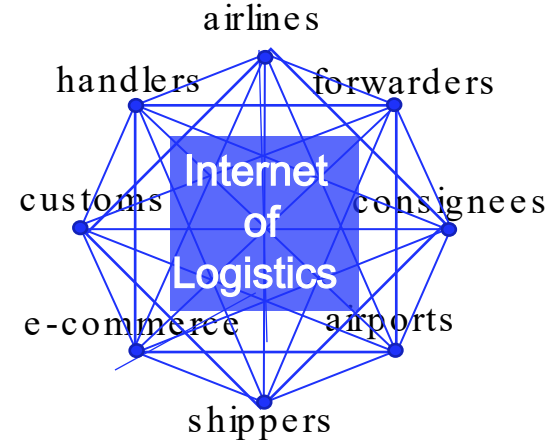
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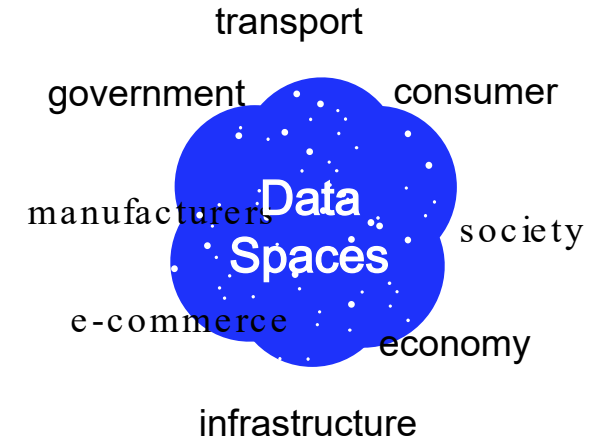


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**Global Data Spaces**

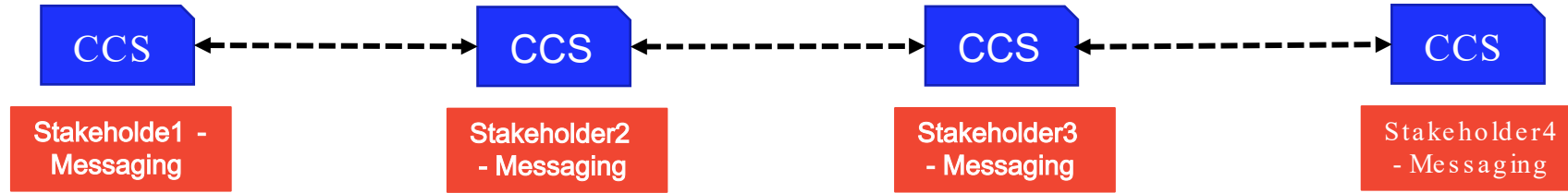


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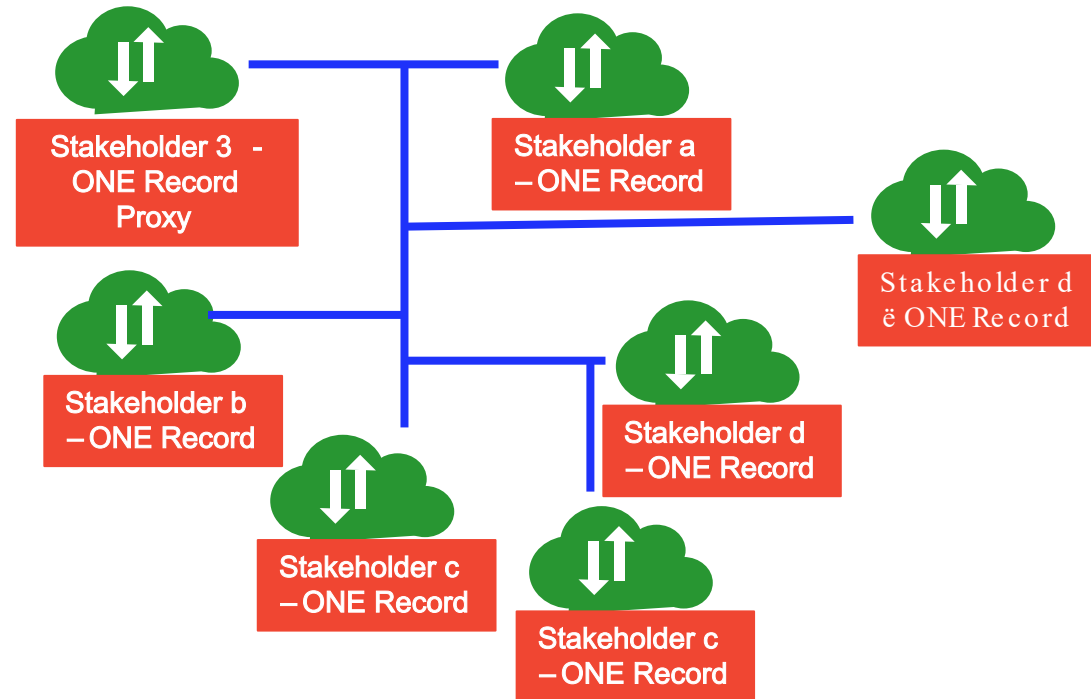


# messaging

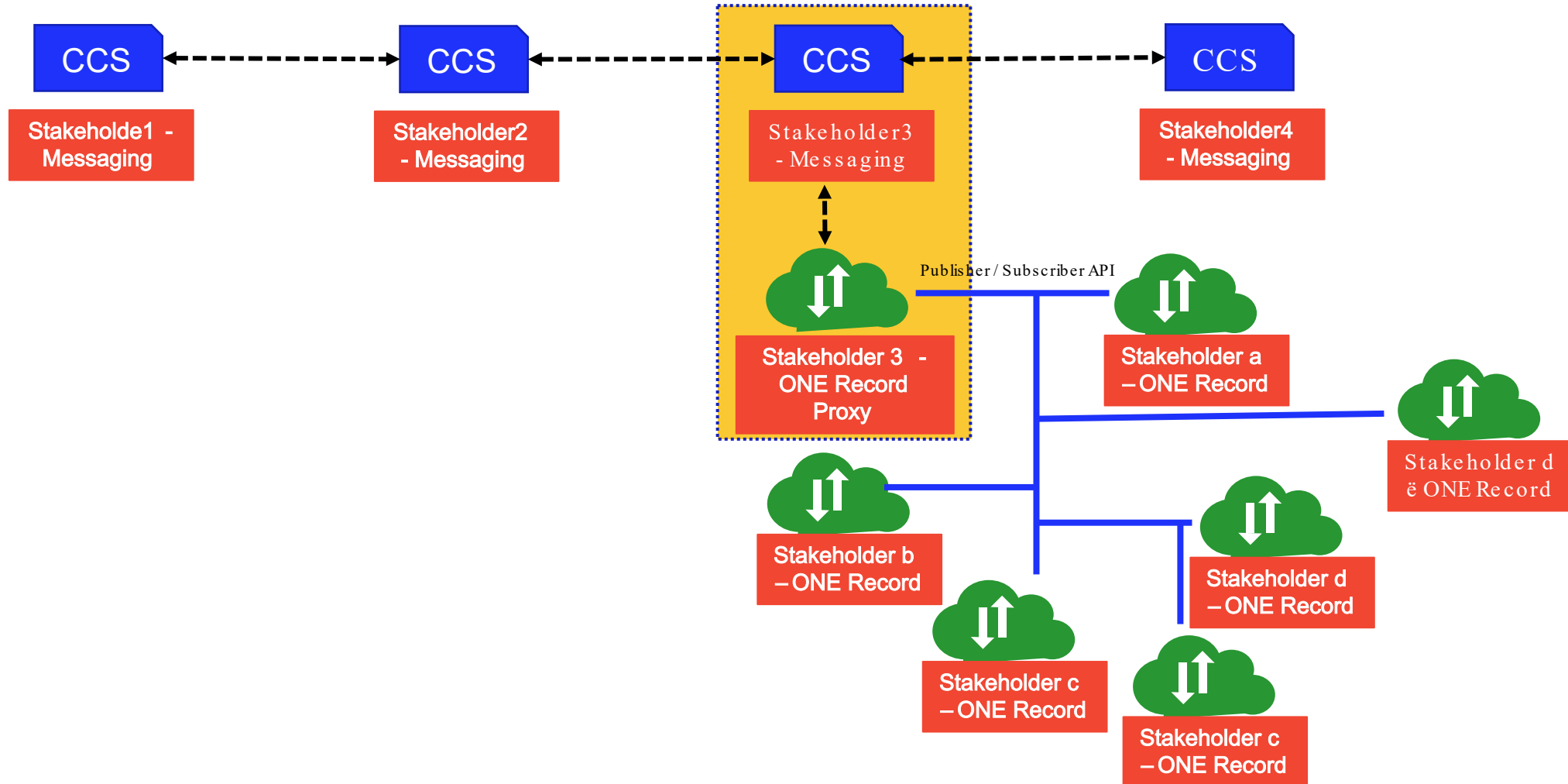




# data sharing

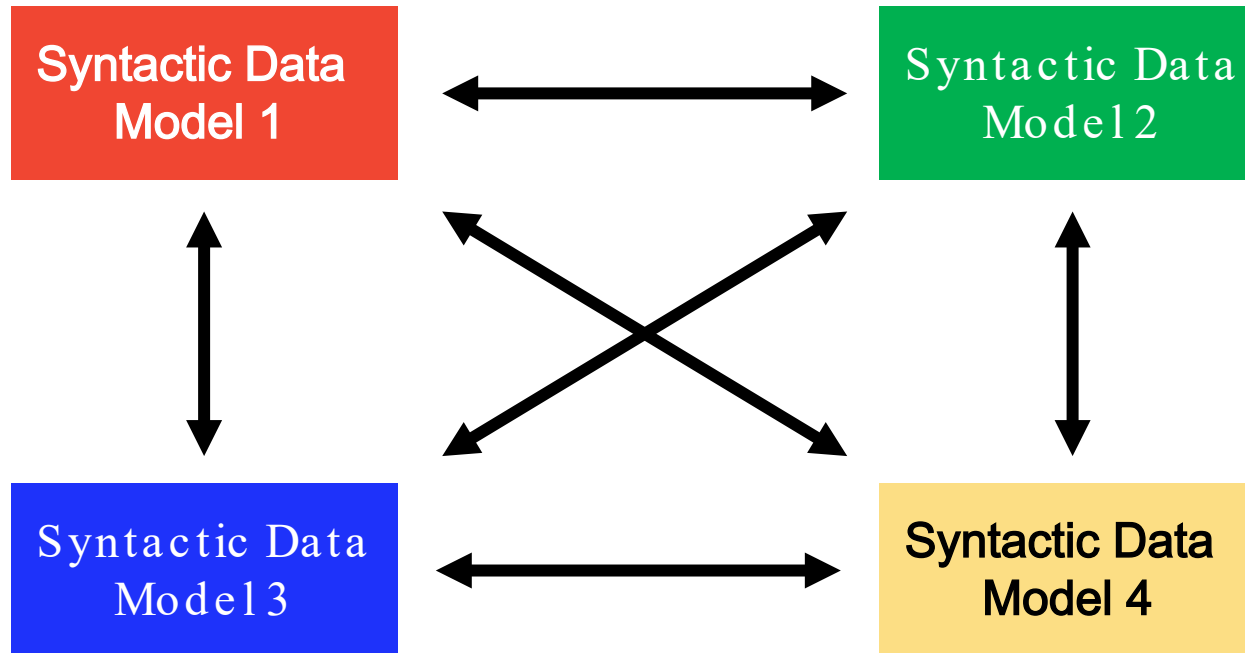


# messaging and data sharing interoperability



# data model interoperability ... is hard ...

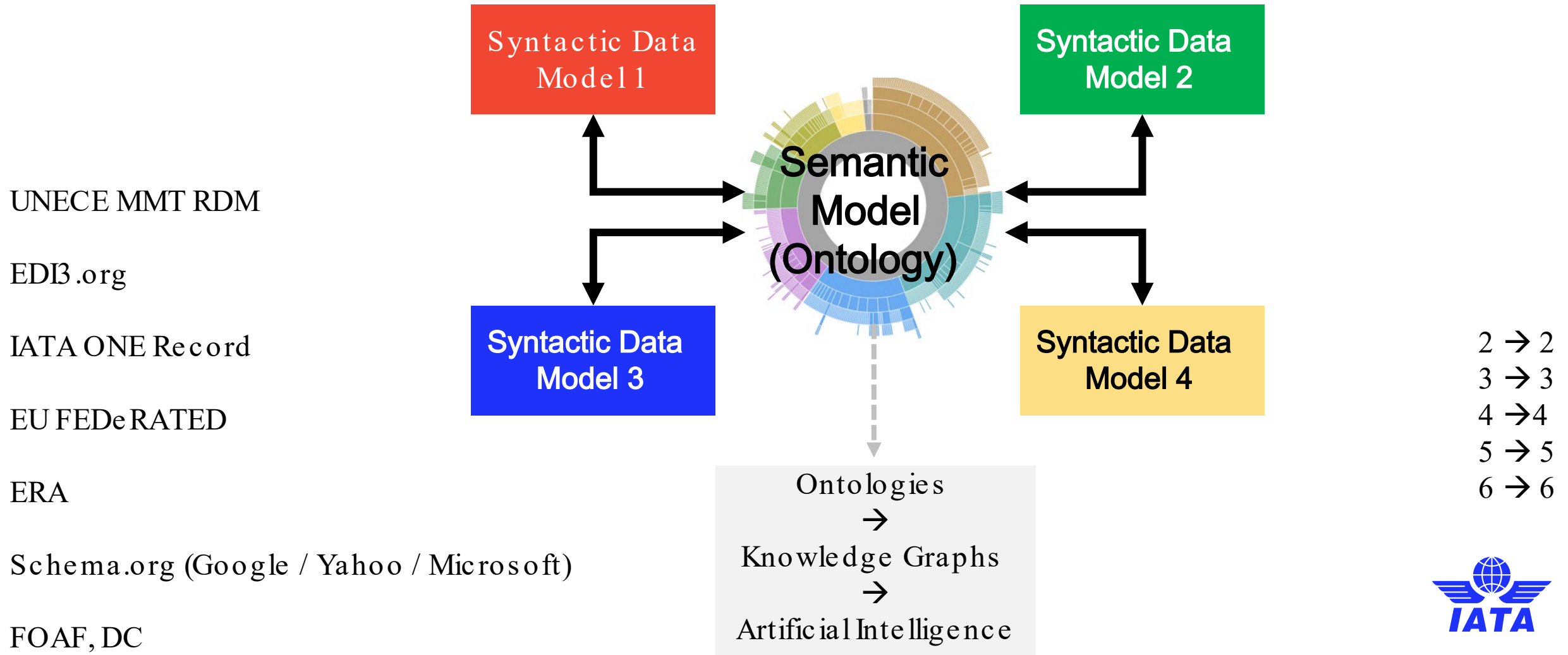
UNCEFACT  
WCO  
IATA  
Maritime  
Rail  
Road  
Inland waterways  
National models  
Bespoke models



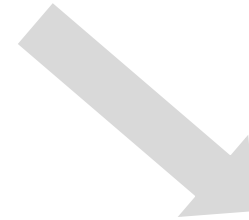
2 → 2  
3 → 3  
4 → 6  
5 → 10  
6 → 15

1-on-1 data mapping is hard due to overwhelming complexity

# Semantic model interoperability ... is smart



# Interoperability: the way forward



Transport Conventions  
and Treaties are  
mostly unimodal.

We need multimodal...

