Emissions Management in Oil and Gas

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OFS Portal 20th Annual Conference

September 2022

Agenda

1. An investor perspective on Oil & Gas
2. An assessment of current emissions approaches
3. The value case for improved emissions measurement and management
4. The Inflation Reduction Act makes good measurement good business

Remember these headlines from 2020...

Forbes

ENERGY • EDITORS' PICK

How NextEra Overtook ExxonMobil As The Largest U.S. Energy Company

Robert Rapier Senior Contributor

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Oct 3, 2020, 06:00am EDT

Listen to article 4 minutes

Source: Forbes October 3, 2020

Near term investors have seen Oil and Gas stocks outperform this year

…driven by soaring fossil fuel prices

However, fundamental concerns about climate risk and energy transition remain

United Nations

COP26: Together for our planet

What was agreed?

Recognizing the emergency

Countries reaffirmed the Paris Agreement goal of limiting the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit it to 1.5 °C. And they went further, expressing "alarm and utmost concern that human activities have caused around 1.1 °C of warming to date, that impacts are already being felt in every region, and that carbon budgets consistent with achieving the Paris Agreement temperature goal are now small and being rapidly depleted." They recognized that the impacts of climate change will be much lower at a temperature increase of 1.5 °C compared with 2 °C.

Accelerating action

Countries stressed the urgency of action "in this critical decade," when carbon dioxide emissions must be reduced by 45 per cent to reach net zero around mid-century. But with present climate plans – the Nationally determined Contributions — falling far short on ambition, the Glasgow Climate Pact calls on all countries to present stronger national action plans next year, instead of in 2025, which was the original timeline. Countries also called on UNFCCC to do an annual NDC Synthesis Report to gauge the present level of ambition.

Moving away from fossil fuels

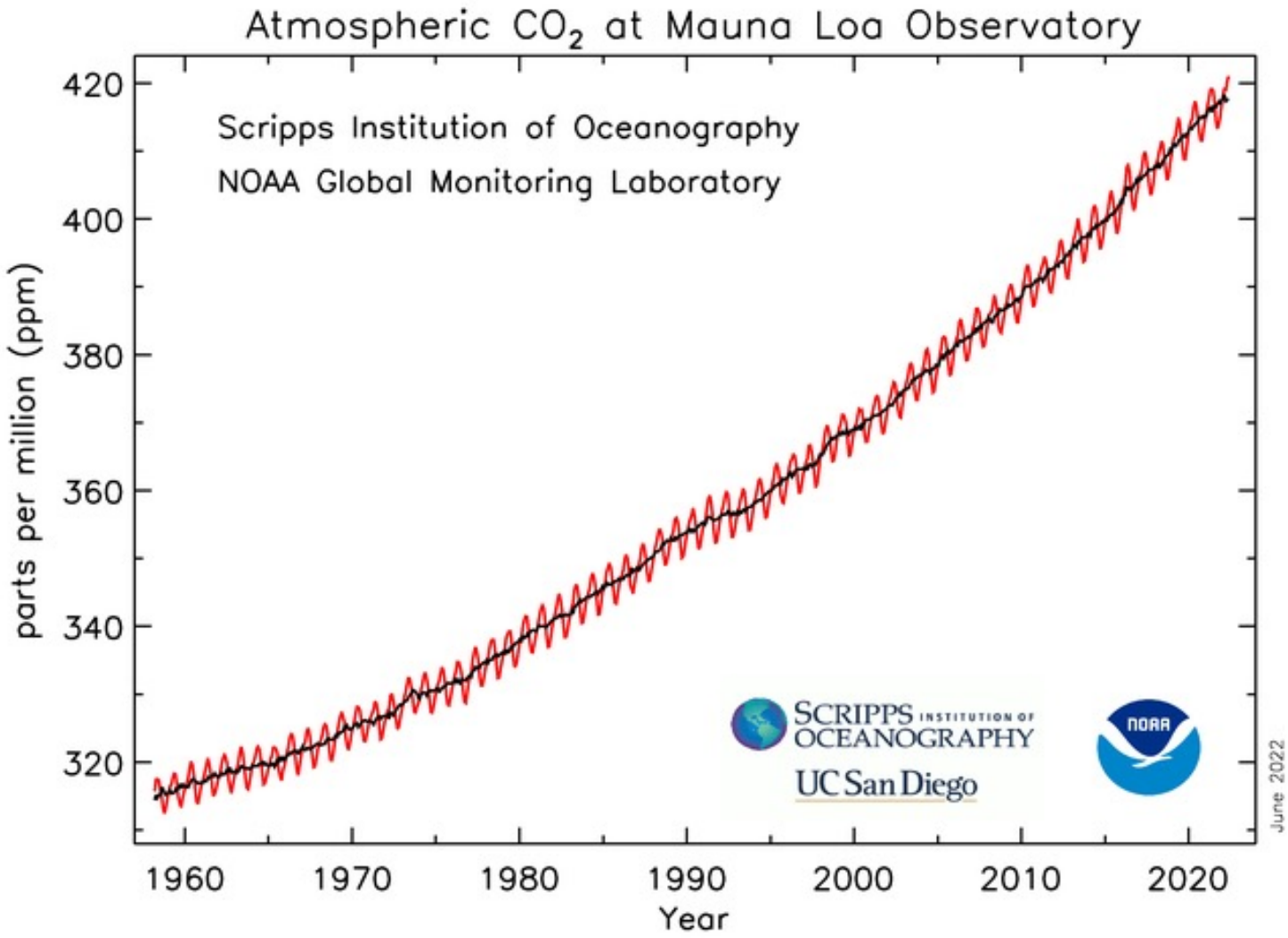
In perhaps the most contested decision in Glasgow, countries ultimately agreed to a provision calling for a phase-down of coal power and a phase-out of "inefficient" fossil fuel subsidies – two key issues that had never been explicitly mentioned in decisions of UN climate talks before, despite coal, oil and gas being the main drivers of global warming. Many countries, and NGOs, expressed dissatisfaction that the language on coal was significantly weakened (from phase-out to phase-down) and consequently, was not as ambitious as it needs to be.

Delivering on climate finance

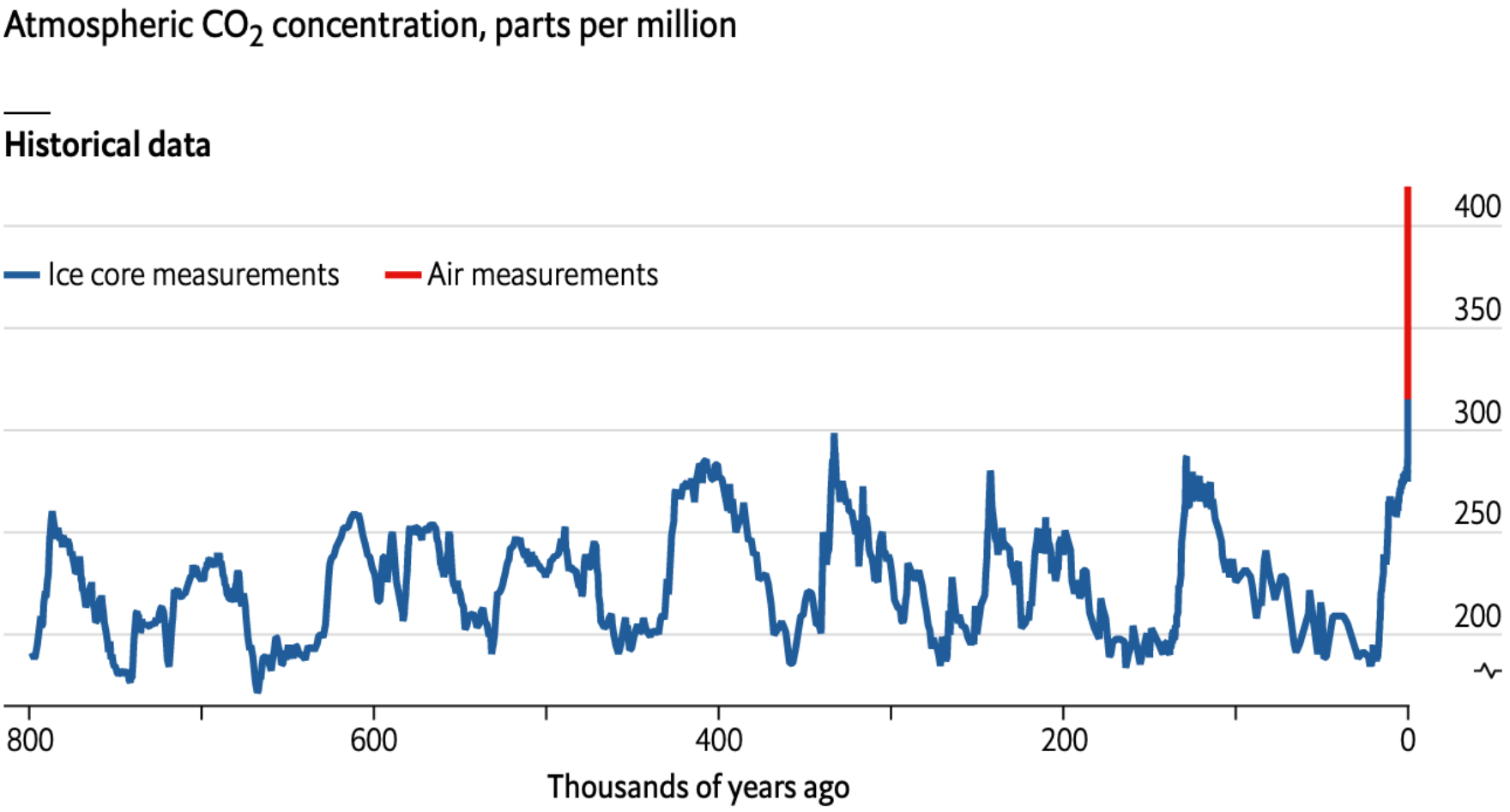
Developed countries came to Glasgow falling short on their promise to deliver US$100 billion a year for developing countries. Voicing "regret," the Glasgow outcome reaffirms the pledge and urges developed

Source: United Nations

In June 2022 atmospheric CO_2 exceeded 420 parts per million



…for the first time in 800,000 years



Sources: "High-resolution carbon dioxide concentration record 650,000-800,000 years before present", Lüthi et al., *Nature*, 2008; Scripps Institution of Oceanography; "The Law Dome CO_2, CH_4 and N_2O Ice Core Records Extended to 2000 years BP", by MacFarling Meure et al., *Geophysical Research Letters*, 2006

Climate change is driving increased physical and transition risk

Physical

Extreme weather and asset risk is already a feature of the Oil & Gas industry.

For example, in 2008, hurricanes Katrina and Rita shut down oil and gas production from the Outer Continental Shelf in the Gulf of Mexico, the source for 25% of U.S. crude oil production and 20% of natural gas output

- 113 production platforms were destroyed and an additional 53 severely damaged
- 19 mobile offshore drilling units lost their moorings and became adrift dragging anchors and other infrastructure
- There were 611 reported hazardous-material releases directly attributed to offshore platforms and pipelines affected by the two hurricanes
- Major pipeline terminals and gas plants were flooded, and their controlling electrical and mechanical equipment damaged or destroyed

Whilst the Oil and Gas industry is used to responding to and managing extreme weather conditions, climate change and global warming will likely increase weather variation and the frequency of extreme weather, increasing physical asset risk for Oil and Gas assets across the value chain.

Source: Researchgate

Transition

For Oil & Gas companies, climate change and the energy transition represents an existential concern that goes right to the heart of their businesses.

Whilst Oil & Gas will continue to play a part in meeting global energy demand for the foreseeable future, changing patterns of energy consumption, driven by societal change, national energy strategies and carbon regulation, are likely to affect demand for oil & gas in the long term, with a knock-on effect on industry economics & profitability.

In the shorter term, pressure from society, governments, regulators and the investment community requires companies to demonstrate they are responding to the challenge and reducing emissions and the carbon intensity of their products.

Without change, Oil and Gas companies face increasing reputational and brand risk, constraints in access to capital as well as increased operational costs, driven by carbon taxes and increased financing costs.

Whilst strategies will vary depending on size and segment focus, all companies will need to reduce and/or offset their emissions, through operational improvements, electrification and adoption of technologies such as CCS and H2. Companies can also look to high grading of their assets (shift to gas) and/or diversification of their businesses into wider renewables and energy sectors, all of which require investment and will likely impact the long-term balance of return on capital and profitability.

Finance

Big Oil Takes Unsteady Steps to Cut Transition Risk

For the least prepared in a low-carbon economy, the verdict is in.

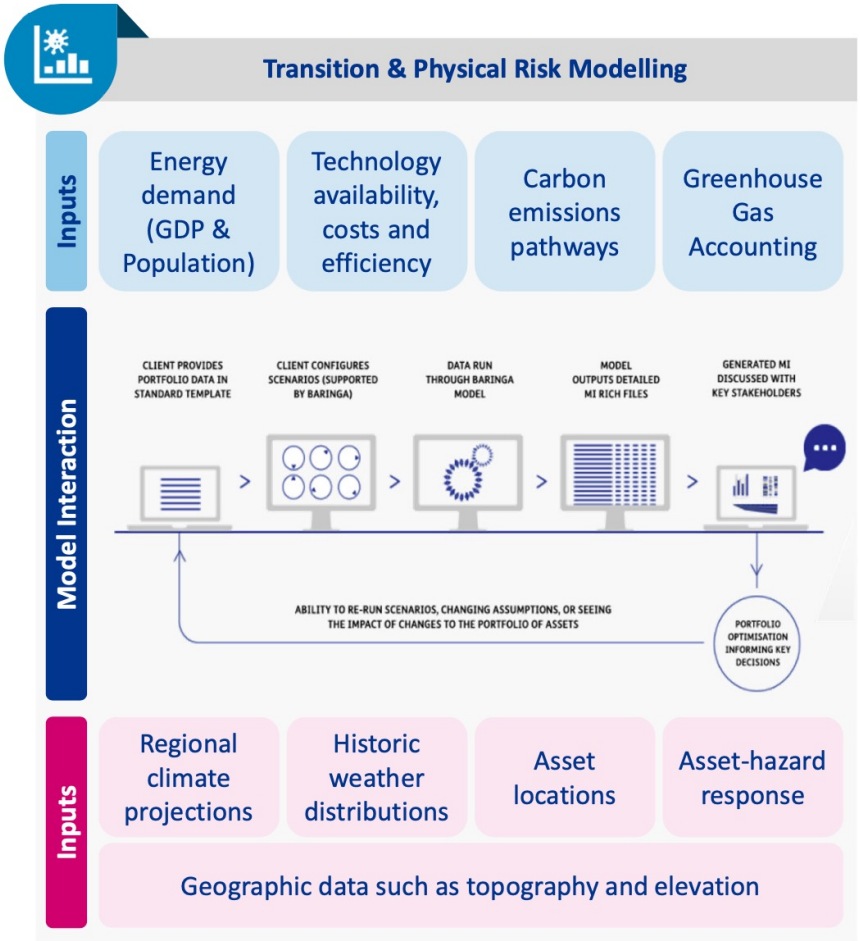
By Tim Quinson
20 January 2021, 11:00 GMT

Source: IEA

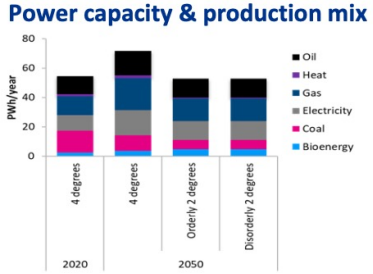
Long term investors carefully model climate risk

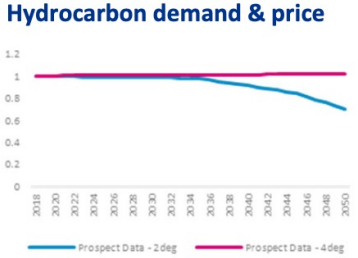
Baringa

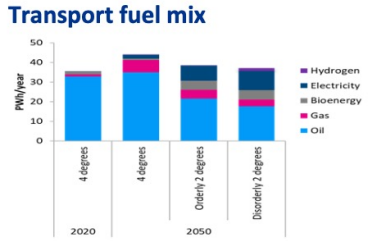
The Blackrock / Baringa assesses Climate Risk, informs capital allocation, loan approvals, and portfolio monitoring & reporting in response to regulatory and investor pressures



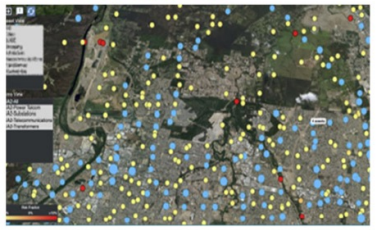
Transition Risk Outputs

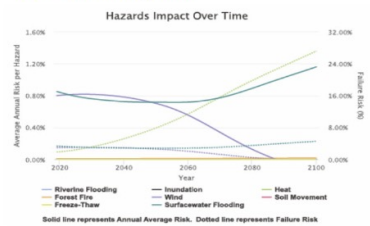






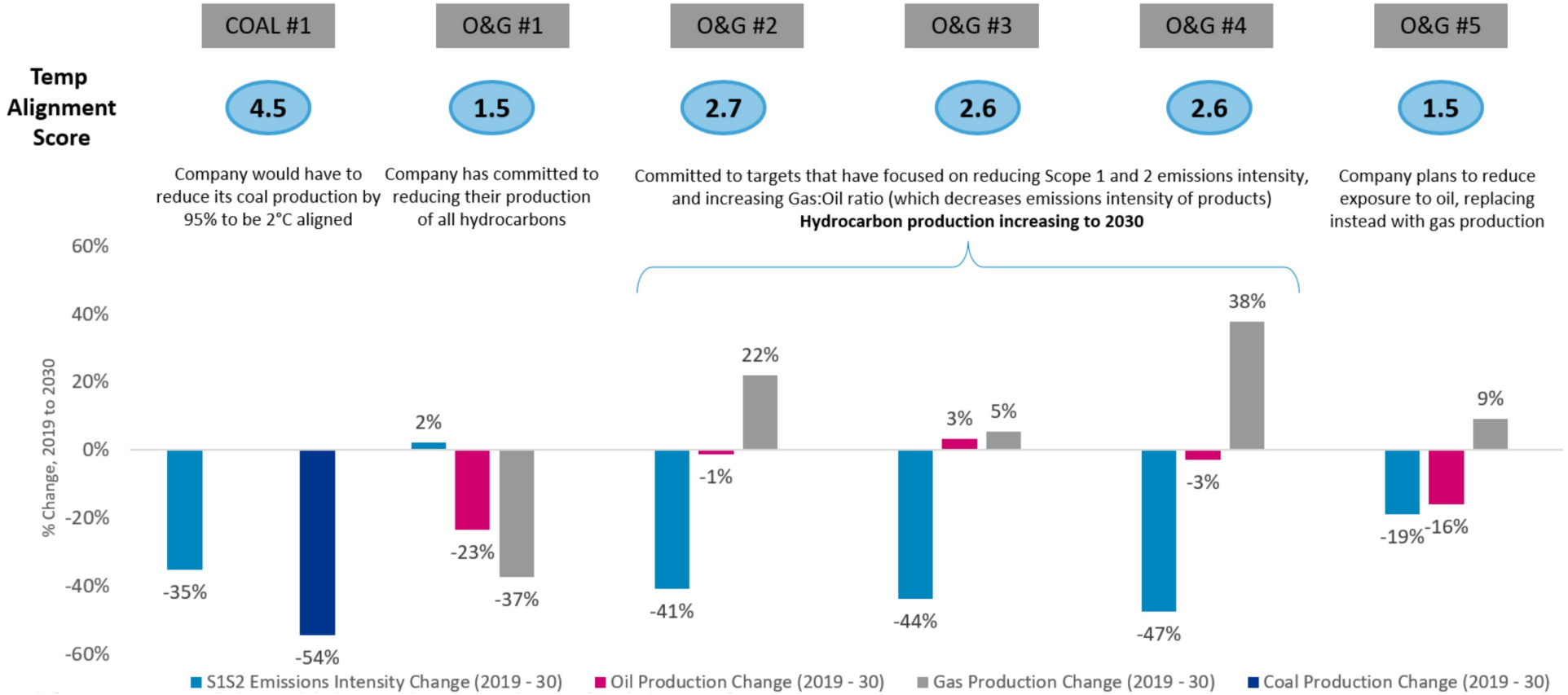
Physical Risk Outputs





Including the Paris alignment of their portfolios

Example Company Temperature Alignments



But these Oil & Gas companies are committed to net zero, so shouldn't they score higher?

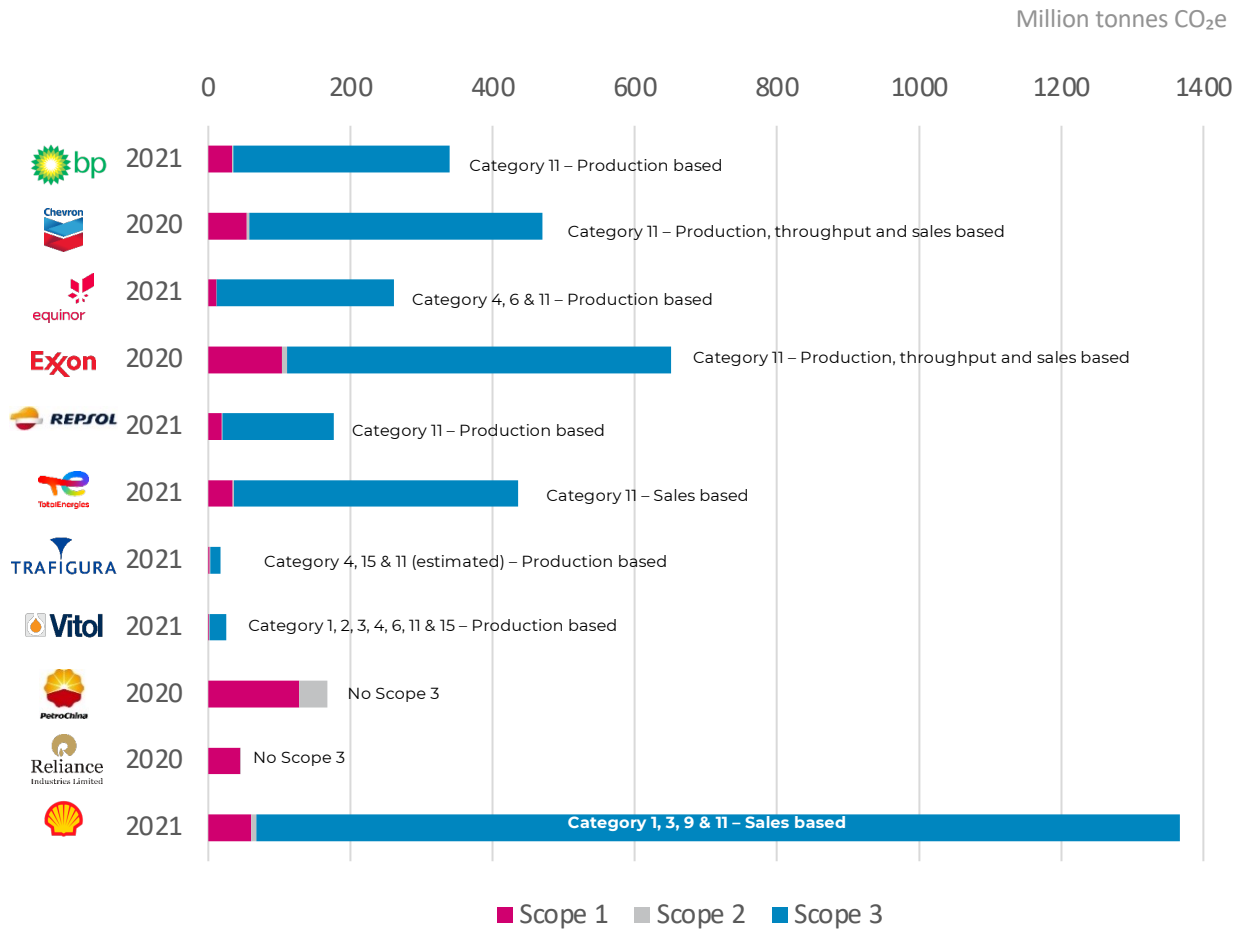
Baringa

Rank	Company	Metric	1. Characteristics		2a. Coverage		2b. Scale	
			End use emissions	2030 goal on absolute basis	Global production on full equity share basis	Includes global downstream products from third party crude	2030 reduction (absolute basis)	Net zero goal
1	Eni	Emissions of all O&G products	Yes	Yes	Yes	Yes	35%	2050
2	Repsol	Emissions of upstream O&G products	Yes	Yes	Yes	–	30%	2050[1]
3	Total-Energies	Emissions of all O&G products	Yes	Yes	Partial (Europe sales only)	Partial (Europe sales only)	30%	2050
4	bp	Emissions of upstream O&G products	Yes	Yes	Partial (Excludes Rosneft)	–	35-40%	2050
5	Shell	Emissions intensity of all energy products	Yes	–	Yes	Yes	–	2050[1]
6	Equinor	Emissions intensity of all energy products	Yes	–	Yes	–	–	2050[1]
7	Occidental	Emissions intensity of all products	Yes	–	Partial (Operated only)	Yes	–	2050
8	Chevron	Emissions intensity of all products	Yes	–	Yes	Yes	–	–
9	Conoco-Phillips	O&G operational emissions intensity	–	–	Yes	n/a	–	*2050*
10	EQT	O&G operational emissions intensity	–	–	Partial (Operated only)	n/a	–	*2025*[2]
11	EOG Resources	O&G operational emissions intensity	–	–	Partial (Operated only)	n/a	–	*2040*
12=	Devon	O&G operational emissions intensity	–	–	Partial (Operated only)	n/a	–	*2050*
12=	Pioneer	O&G operational emissions intensity	–	–	Partial (Operated only)	n/a	–	*2050*
14[3]	Suncor	O&G operational emissions intensity	–	–	Partial (Operated only)	–	–	*2050*
15[3]	Exxon-Mobil	O&G operational emissions intensity	–	–	Partial (Operated only)	–	–	*2050*

Source: Company disclosures, Carbon Tracker analysis

Measurement is key to close the gap between company commitments and current performance

There is a high degree of variance in emissions reporting across the O&G sector, pointing to underlying issues and inconsistencies in the boundaries and methodologies applied



Emissions Reporting System & Data Challenges

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Accurately measuring & reporting on emissions is a considerable challenge…

	Challenges	Key Questions	Our Solutions
Complex System Landscapes	Disparate legacy systems with inherent data silos preventing data connectivity	*Where is the necessary data stored?* *What sources of (trusted) data already exist* *What 3rd party data is required and is this data ingested in a form that is readily usable?*	• **Identify existing data sources** (Voyage Management/ Shipping System, Supplier & Customer Data) • **Map data sources** against for specific use-case requirements • Identify **third party data** requirements and ingestion process
Poor Data Quality	No single source of truth of emissions data readily available	*How valuable is the existing data and can it be used to meet your use-case requirements?* *How accurate and relevant is the data captured?* *What opportunities exist to increase the quality of data?*	• Define business rules and key **data quality metrics** (e.g., completeness, accuracy, consistency, timeliness, integrity) • Evaluate **quality and accessibility** of data from sources identified • Identify **opportunities to enhance data** through process/ system changes and develop backlog
Lack of Data Ownership	Emissions Data not effectively maintained resulting in poor data quality and accessibility	*How do we prioritise data collection efforts for MVP?* *Who owns each data source and is responsible for its accuracy and relevance? Who owns the outputs?* *Who is responsible for QA of external data sources?*	• **Prioritize** data collection efforts based on use case requirements • Establish governance including; data **stewardship** and a culture of **data accountability** • Manage the **ingestion of external data** from market sources/ customers, including for example emissions factors
Reliance on 3rd Party Data Sources	Data acquired and ingested in formats that are unusable and require significant manipulation	*Given the data quality/ accessibility and business requirements, what is the minimum viable product?* *Can our emissions engine be expanded over time to increase the accuracy and scope of reporting?*	• Based on data quality and use-case requirements, define the reporting architecture for the **minimum viable product** (e.g., excel model, off-the-shelf, bespoke system) • Implement / build **emissions engine** to calculate your emissions
Variance in Use-Case Requirements	Differing internal and external demands may result in a variety of data requirements	*What outputs are you generating and how do they meet your use-case requirements?* *How accessible is this data for decision-makers?* *How does this data incentivise emissions reductions?*	• Define **outputs** and **visualizations** based on use-cases • Enable data to be **readily interrogated** by users to identify key business insights (e.g. where emissions could be reduced) • Identify opportunities to move from **passive monitoring to active management**

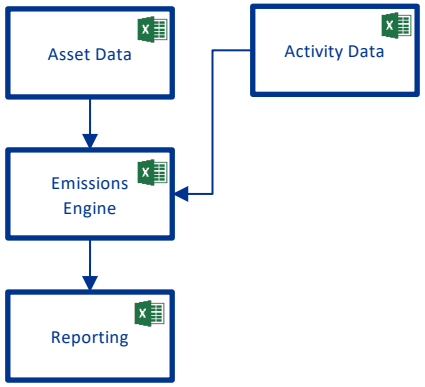
Emissions Management System Maturity

How we progress from **Passive Monitoring** to **Active Management**

Static data based on extracts from master data stores for emissions reporting

STAGE 1

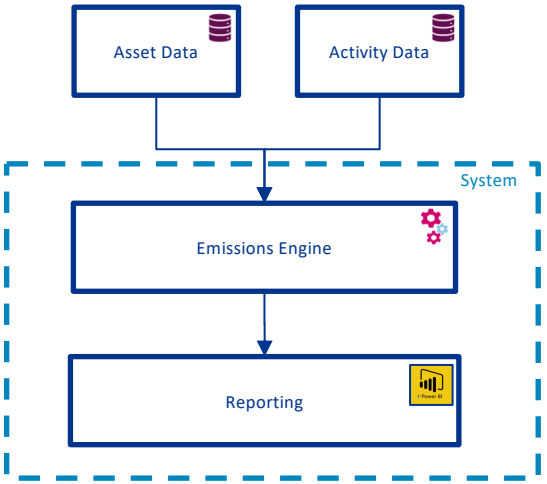
***PoC in Excel**. Based on extracts from central transport and logistics systems*



Interactive visualisations and reporting where data can be readily interrogated

STAGE 2

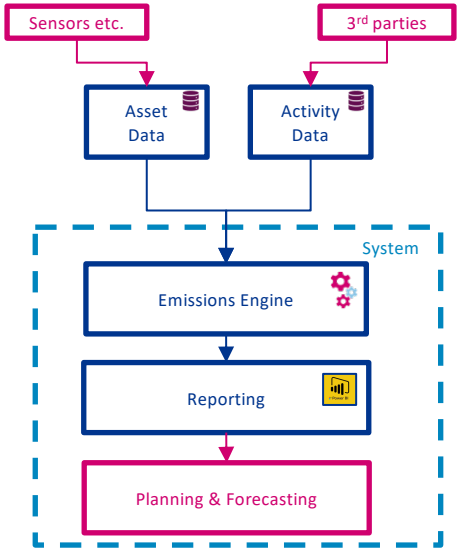
***Emissions management system** using data directly from the master data sources.*



Active emissions management and reporting enabling real-time emissions optimisation

STAGE 3

***Emissions management system** interfacing directly with data sources in order to provide real-time reporting and forecasting.*



Accurate measures enables operations excellence

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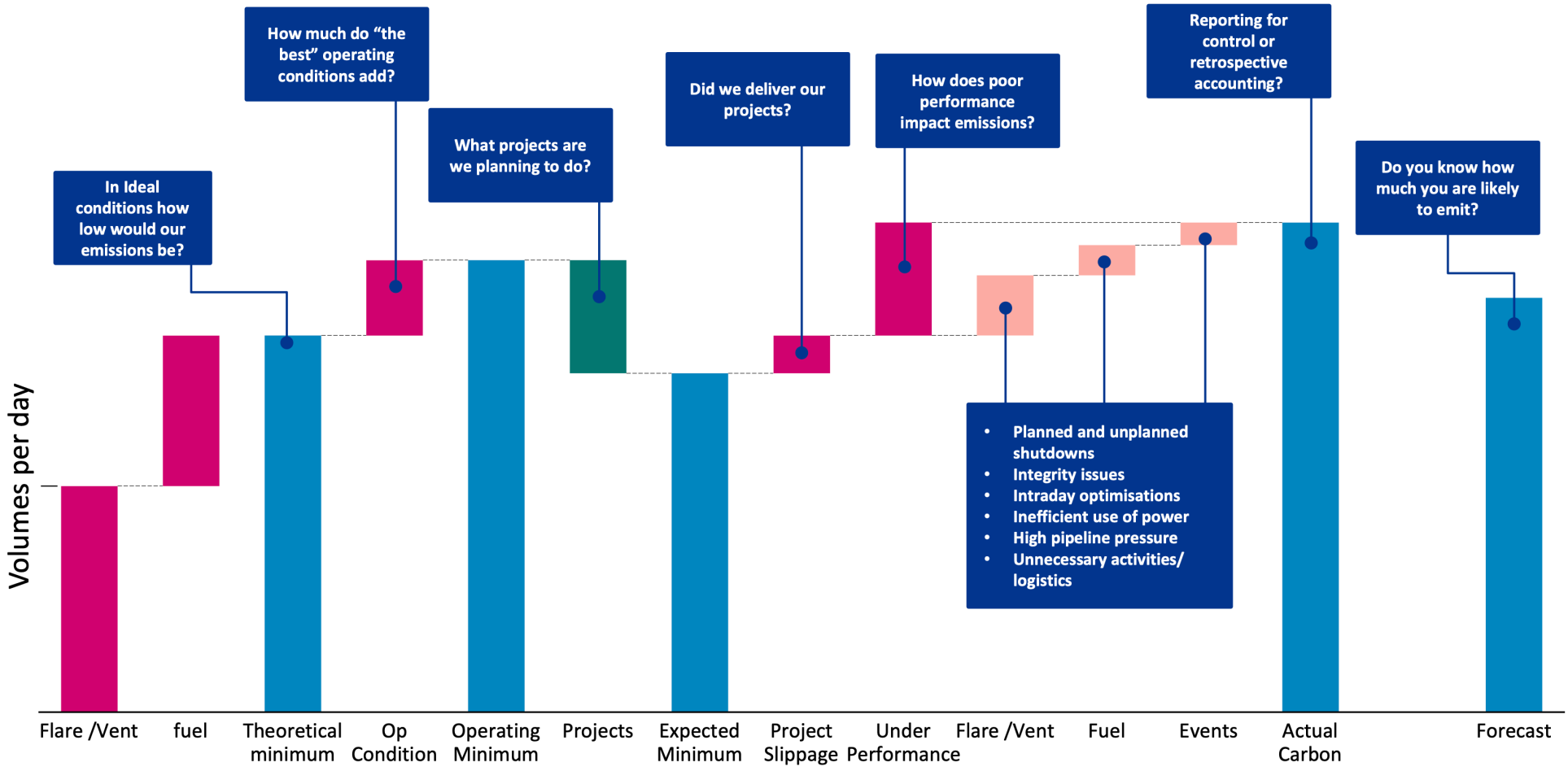
Fundamentally we need to run our business with a functionally agnostic emissions “lens” to deliver better efficiency and less emissions



The Inflation reduction act increases the urgency to overhaul emissions measurement

Taxes

- The inflation reduction act
  - Introduces a $900/t rising to $1,500/t fee on excess methane emitted from wells, processing equipment, storage tanks and pipelines
  - $1.9bn per annum tax revenue expected

- Implications
  - Methane emissions measurement and reporting systems may need to be rebuilt
  - New critical data to collect e.g. how long is a valve in operational service
  - Publicly available data on actual measurements (e.g. from satellites) will be used to verify company reports

Revenues

- Hefty carrots introduced for carbon capture and biofuels

- $180/t for operations that suck carbon dioxide out of the air for projects that capture 1,000t p.a.

- $85/t for carbon capture from a smokestack (up from $50/t today) and minimum threshold of 12,500t p.a. (down from 100,000t p.a.) will make industrial facilities e.g. cement plants commercially viable

Conclusions

- Short term investors are happy but long-term climate fundamentals remain unchanged. Long term investors are asking about Paris alignment of companies
- We see a gap between companies' current performance and Paris temperature goals
- Measurement is key to managing gap between pledges and current performance, in operational excellence and product sales
- Standards and e-commerce are key enablers
- The inflation reduction act increases the need for organisations to upgrade their emissions management systems

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Supplier Scope 3 Emissions Reporting - Supporting Multiple Customer Requirements for Top Down and Bottoms Up Reporting

GHG reporting in the United States

Since 2009, the United States has required facilities emitting at least 25,000 metric tons or more of carbon dioxide to report their greenhouse gas emissions to the Environmental Protection Agency (EPA) every year.

ISO 14064-1:2018: Greenhouse gases — Specification

This document specifies principles and requirements at the organization level for the quantification and reporting of greenhouse gas (GHG) emissions and removals.
It includes requirements for the design, development, management, reporting and verification of an organization's GHG inventory.

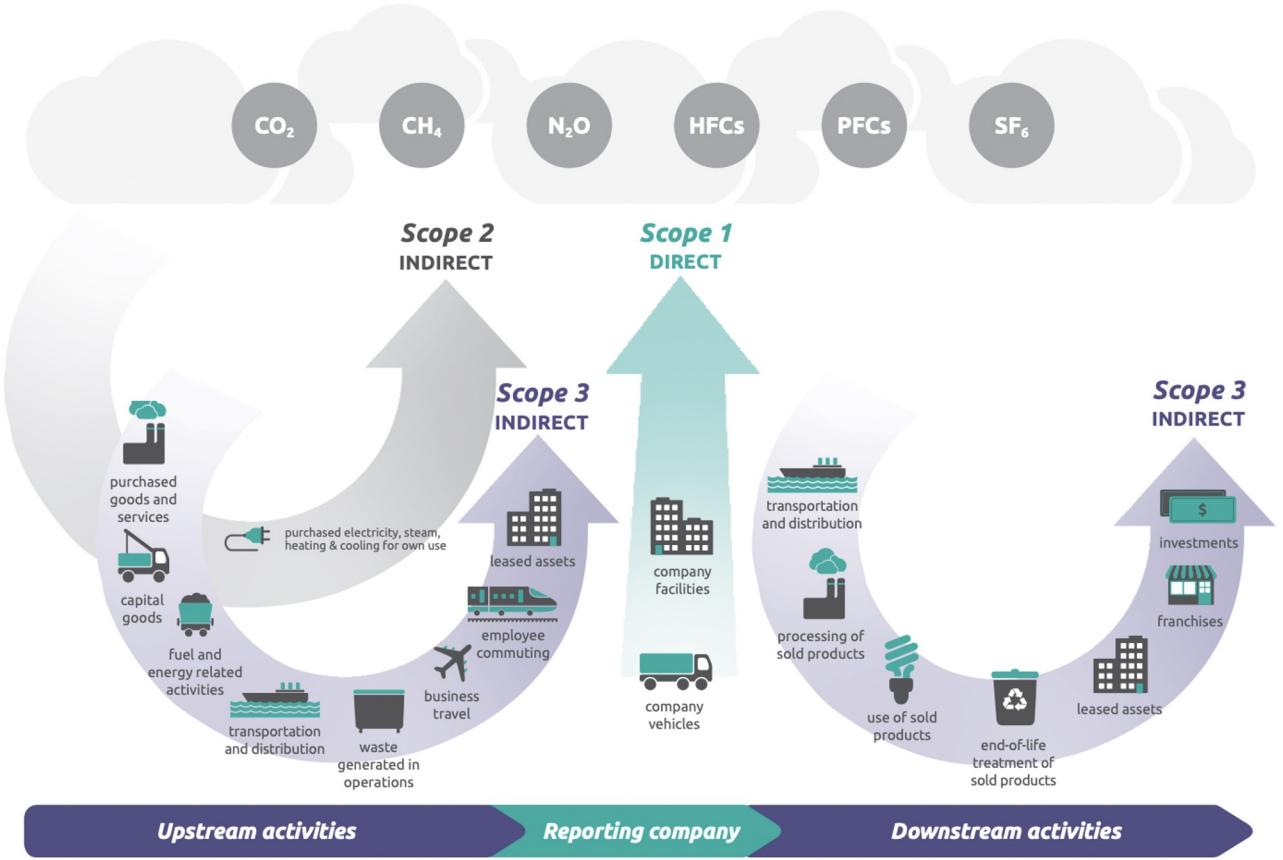
International Organization for Standardization

Source:https://www.epa.gov/

Source:https://www.iso.org/standard/66453.html

Scope 3 Emissions

Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain.



Source: [WRI/WBCSD Corporate Value Chain (Scope 3) Accounting and Reporting Standard](#) (pdf)

Scope 3 emissions fall within 15 categories

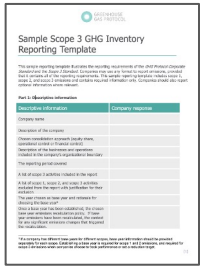
	Scope 3 Category	Description
1	Purchased goods and services	Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 - 8.
2	Capital goods	Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year.
3	Fuel-and-energy related activities (not included in scope 1 or 2)	Extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in Scope 1 or Scope 2.
4	Upstream transportation and distribution	Transportation and distribution services purchased by the reporting company in the reporting year, including inbound logistics, outbound logistics (e.g., of sold products), and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company).
5	Waste generated in operations	Disposal and treatment of waste generated in the reporting company's operations in the reporting year (in facilities not owned or controlled by the reporting company).
6	Business travel	Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company).
7	Employee commuting	Transportation of employees between their homes and their worksites during the reporting year (in vehicles not owned or operated by the reporting company).
8	Upstream leased assets	Operation of assets leased by the reporting company (lessee) in the reporting year and not included in Scope 1 and Scope 2 – reported by lessee.
9	Downstream transportation and distribution	Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company).
10	Processing of sold products	Processing of intermediate products sold in the reporting year by downstream companies (e.g., manufacturers).
11	Use of sold products	End use of goods and services sold by the reporting company in the reporting year.
12	End of life treatment of sold products	Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life.
13	Downstream leased assets	Operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in Scope 1 or Scope 2 reported by lessor.
14	Franchises	Operation of franchises in the reporting year, not included in Scope 1 and Scope 2 – reported by franchisor.
15	Investments	Operation of investments (including equity and debt investments and project finance) in the reporting year.

Source: https://www.sustainablefinance.hsbc.com/-/media/gbm/sustainable/attachments/guide-to-net-zero.pdf

Full cycle of Emission data collecting and reporting

Top Down Approach

Consolidated Greenhouse-gas emissions report



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ERP

Integration:
Consolidation of all Emission Data

3

Bottoms Up Approach

ERP

PIDX Invoices (XML)

SUPPLIER

1

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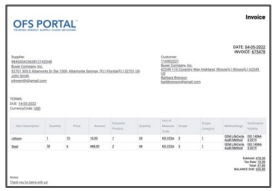
2



PIDX Invoice with Emission Data (XML+PDF)

BUYER

Multi-Supplier Scope 3 Emissions Reporting System

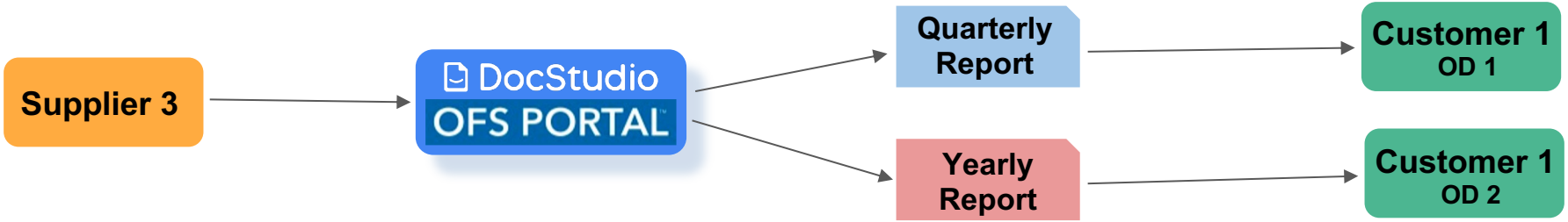
Top Down Reporting

Requirements:

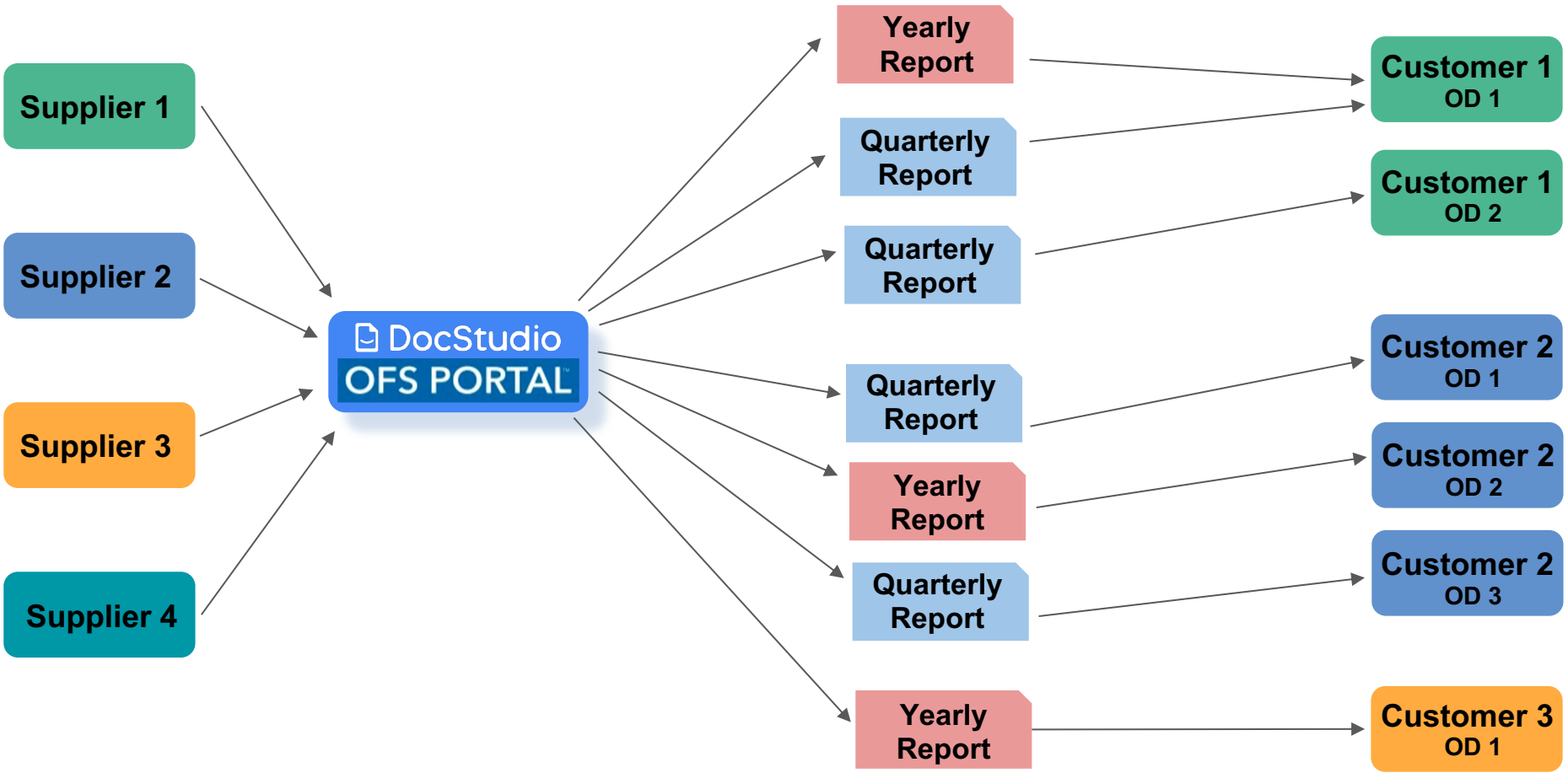
- Suppliers must report Scope 3 emissions to their customers on a regular basis;
- Suppliers will be required to submit reports to customers with varying content and scope;
- The system must support multiple suppliers distributing reports to multiple customers;
- Suppliers will distribute reports at different frequencies based on customer demands.

Sample Customer Requirements:

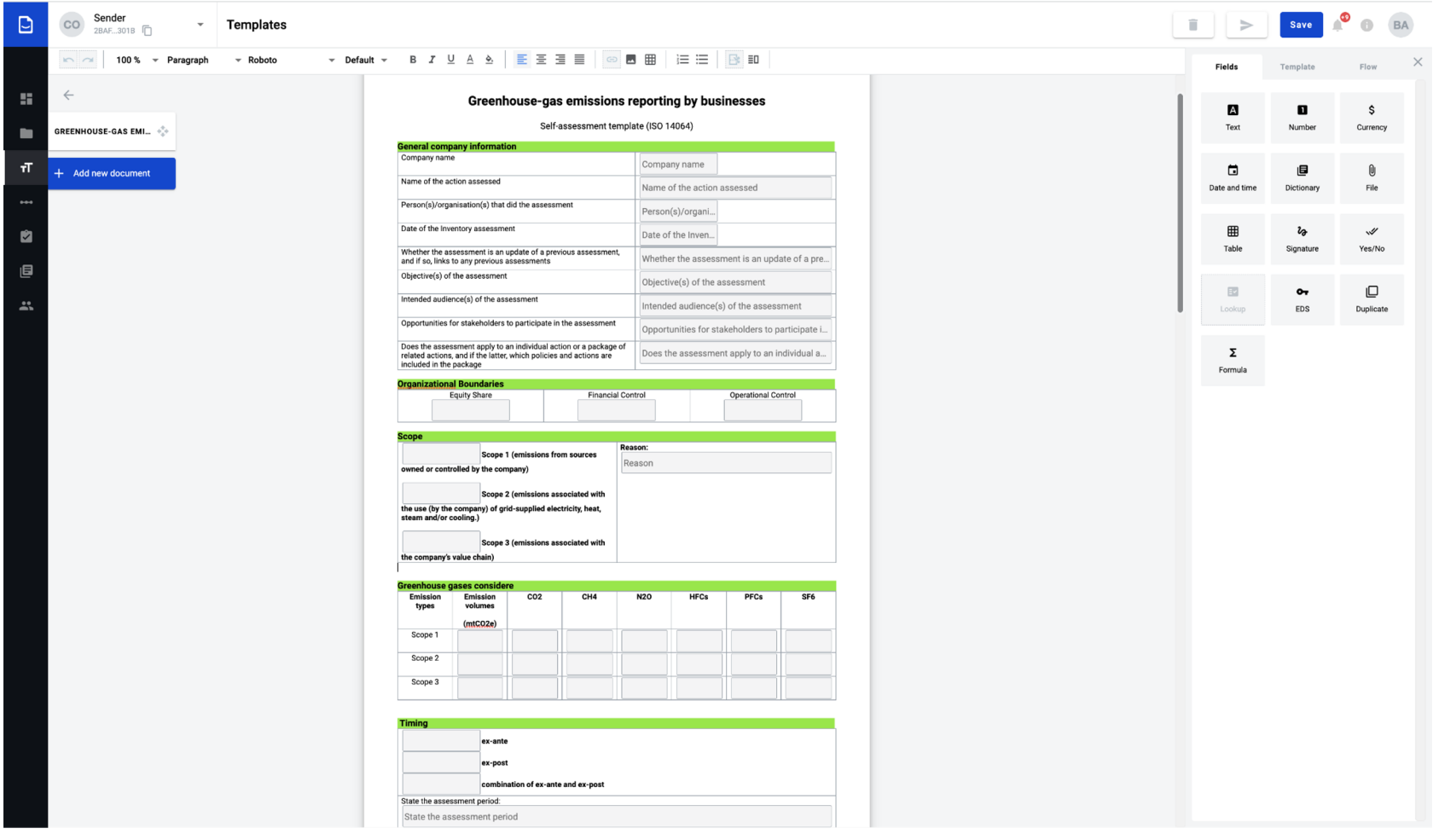
- Scope 3 YEARLY report covering all Materials and Services provided by supplier in previous year
- Scope 3 QUARTERLY report covering all Materials and Services for this specific Business Unit



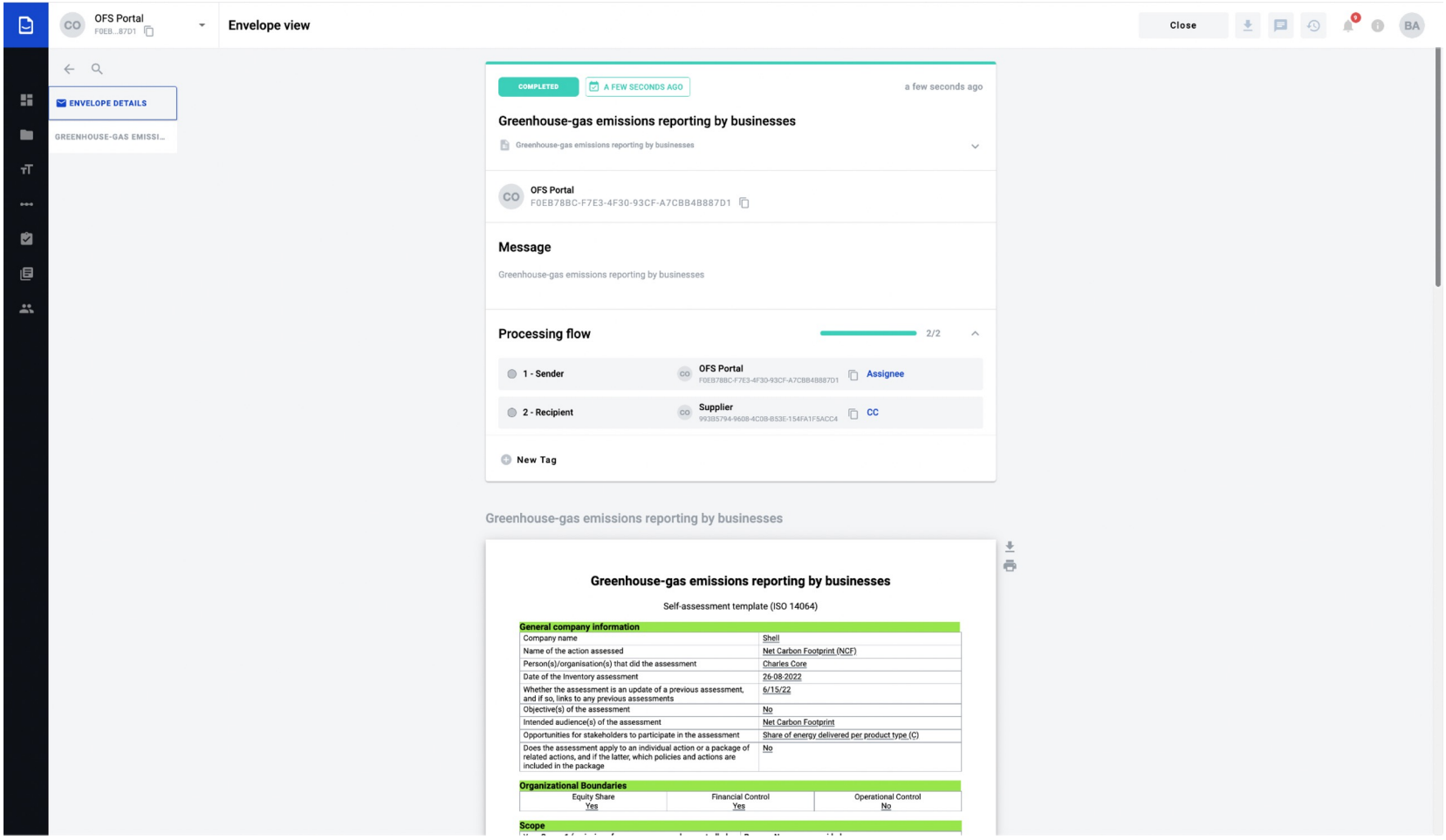
Multi-Supplier Scope 3 Emissions Reporting System



Document template: Greenhouse-gas emissions reporting by businesses ISO 14064



Greenhouse-gas emissions reporting by businesses ISO 14064



Completed document in PDF and XML format

Greenhouse-gas emissions reporting by businesses

Self-assessment template (ISO 14064)

General company information

Company name	Shell
Name of the action assessed	Net Carbon Footprint (NCF)
Person(s)/organisation(s) that did the assessment	Charles Core
Date of the Inventory assessment	8/26/22
Whether the assessment is an update of a previous assessment, and if so, links to any previous assessments	6/15/22
Objective(s) of the assessment	No
Intended audience(s) of the assessment	Net Carbon Footprint
Opportunities for stakeholders to participate in the assessment	Share of energy delivered per product type (C)
Does the assessment apply to an individual action or a package of related actions, and if the latter, which policies and actions are included in the package	No

Organizational Boundaries

Equity Share	Financial Control	Operational Control
Yes	Yes	No

Scope

Yes **Scope 1 (emissions from sources owned or controlled by the company)** No **Scope 2 (emissions associated with the use (by the company) of grid-supplied electricity, heat, steam and/or cooling.)** **No Scope 3 (emissions associated with the company's value chain)**	**Reason: No reason provided**

Greenhouse gases considere

Emission types	Emission volumes (mtCO2e)	CO2	CH4	N2O	HFCs	PFCs	SF6
Scope 1	64	61	1.7	1	30	0	0
Scope 2	11	0.159	0	0	15	0	0
Scope 3	147	1.054	9	0	0	0	0

Timing

Yes ex-ante
No ex-post
No combination of ex-ante and ex-post

State the assessment period:
1 year (2021)

Base year
Year chosen as base year: 2017

Base year emission

Emission types	Emission volumes (mtCO2e)	CO2	CH4	N2O	HFCs	PFCs	SF6
Scope 1	50	58	1.2	1	22	0	0
Scope 2	10	0.159	0	0	13	0	0
Scope 3	137	1.001	0.1	0	0	0	0

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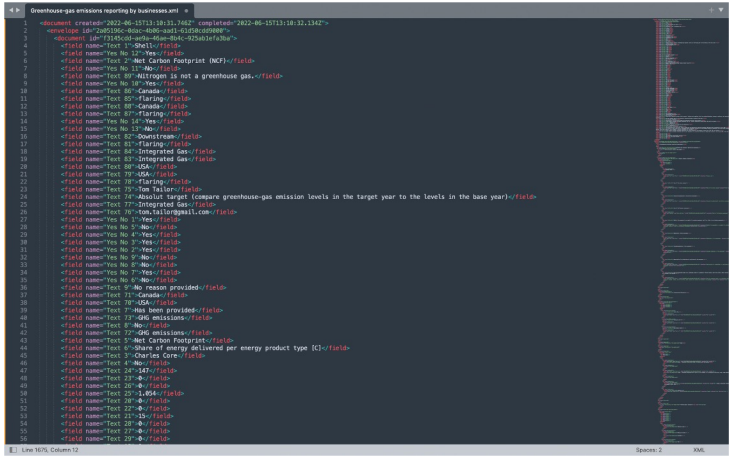
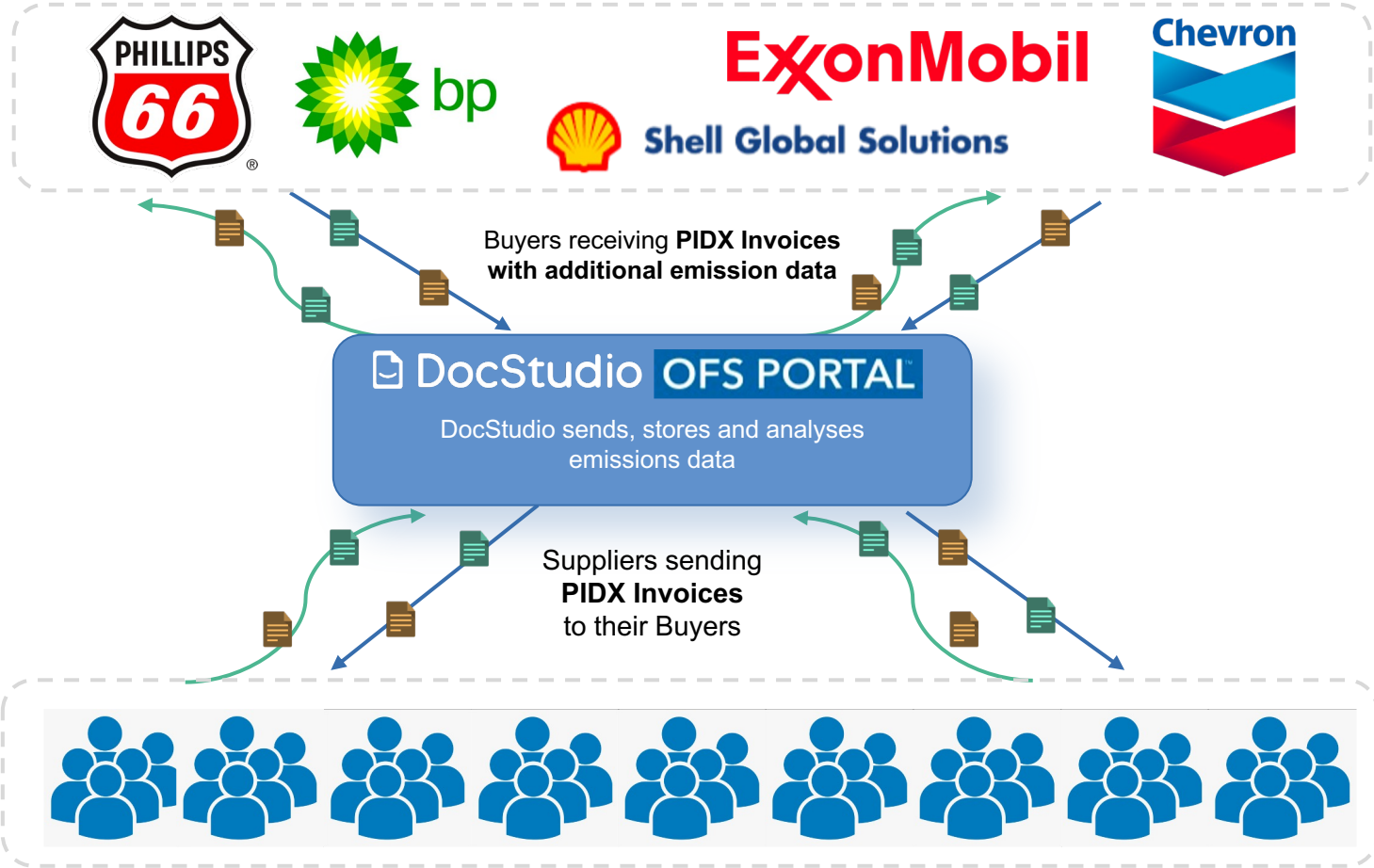
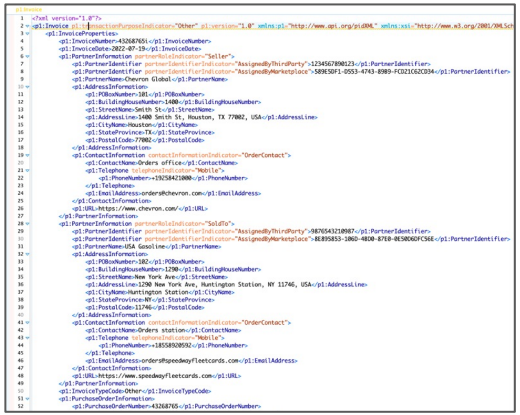


Scope 3: Bottoms Up Approach in Emission Reporting



How it looks like inside?

SUPPLIER



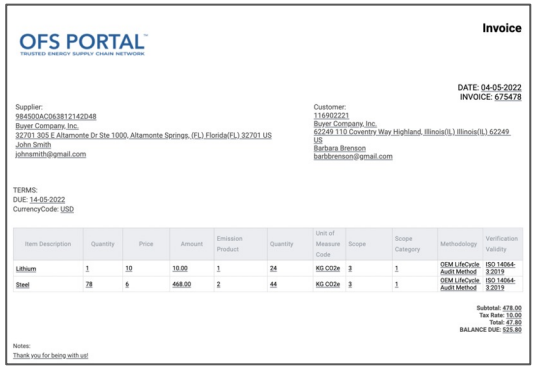
PIDX Invoice (XML)

PIDX Invoice (XML)

DocStudio
OFS PORTAL

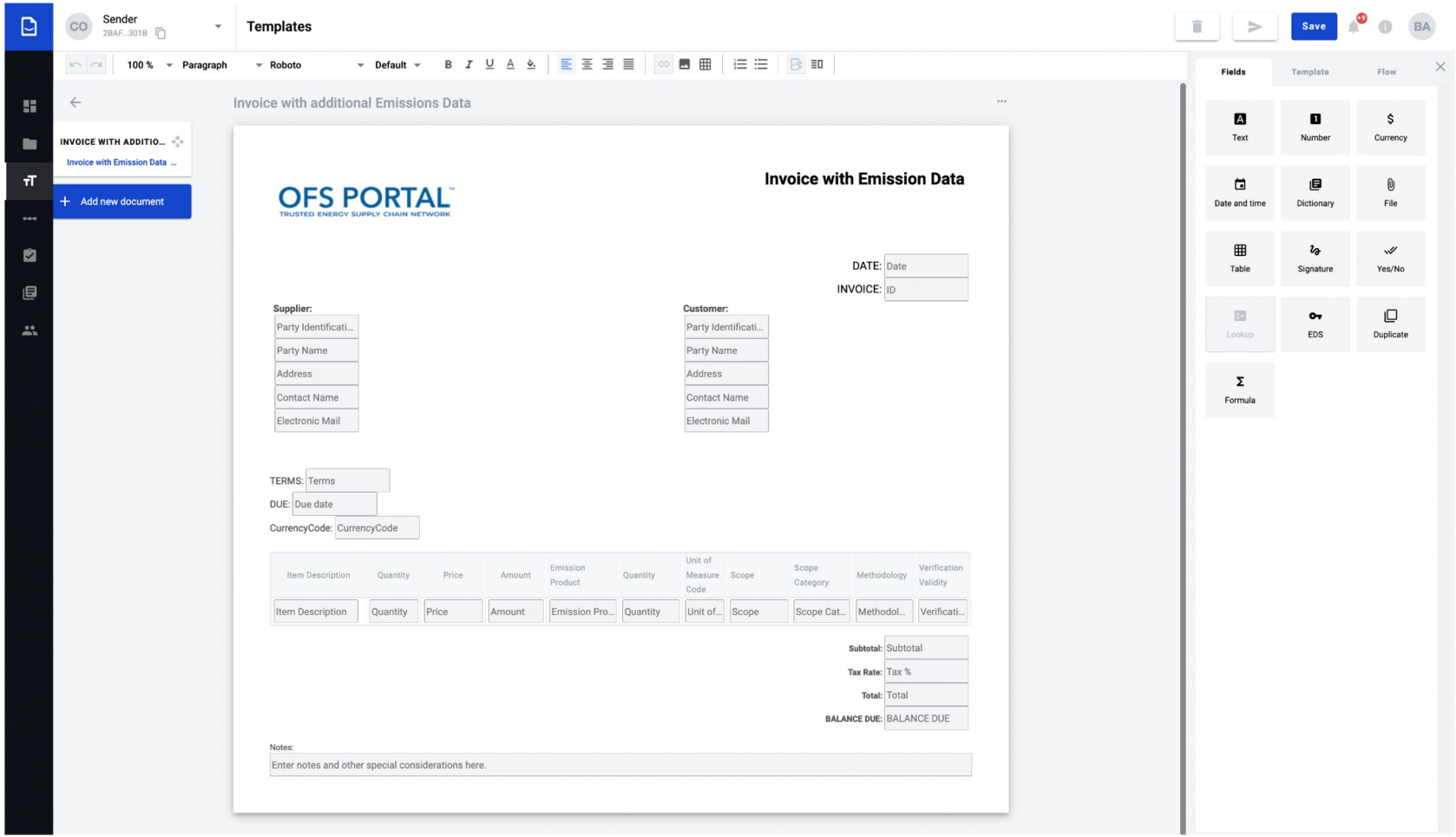
PIDX Invoice with Emission Data (XML+PDF)

BUYER

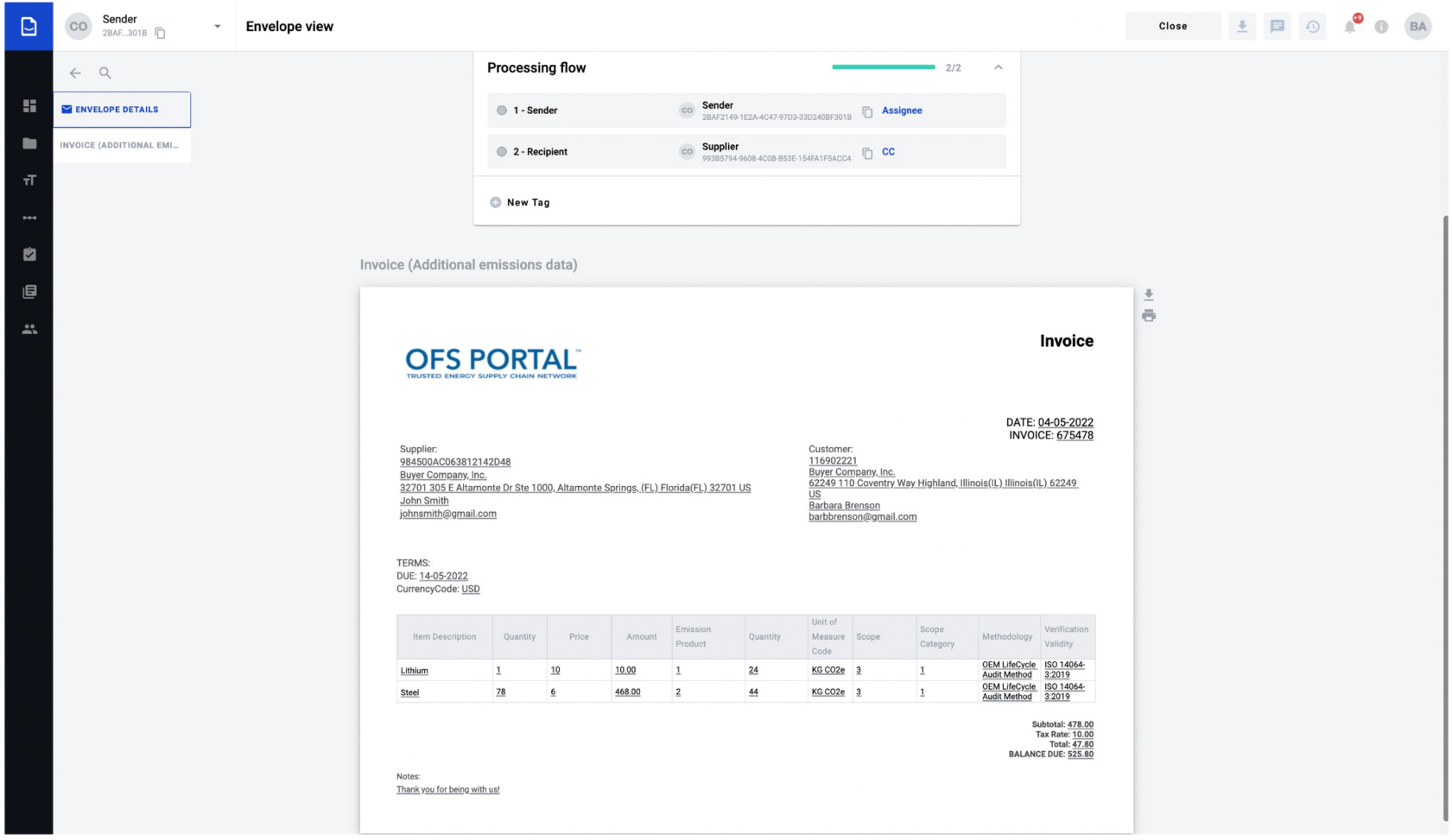


PIDX Invoice with Emission Data (XML+PDF)

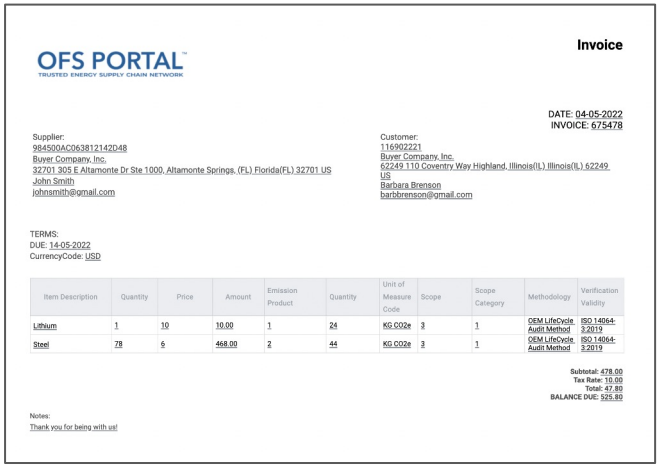
Document template: PIDX Invoice with Emission Data



PIDX Invoice with Emission Data



Completed document in PDF and XML format



OFS PORTAL
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Invoice

DATE: 04-05-2022
INVOICE: 675478

Supplier:
984500AC063812142D48
Buyer Company, Inc.
32701 305 E Altamonte Dr Ste 1000, Altamonte Springs, (FL) Florida(FL) 32701 US
John Smith
johnsmith@gmail.com

Customer:
116902221
Buyer Company, Inc.
62249 110 Coventry Way Highland, Illinois(IL) Illinois(IL) 62249 US
Barbara Brenson
barbbrenson@gmail.com

TERMS:
DUE: 14-05-2022
CurrencyCode: USD

Item Description	Quantity	Price	Amount	Emission Product	Quantity	Unit of Measure Code	Scope	Scope Category	Methodology	Verification Validity
Lithium	1	10	10.00	1	24	KG CO2e	3	1	OEM LifeCycle Audit Method	ISO 14064-3:2019
Steel	78	6	468.00	2	44	KG CO2e	3	1	OEM LifeCycle Audit Method	ISO 14064-3:2019

Subtotal: 478.00
Tax Rate: 10.00
Total: 47.80
BALANCE DUE: 525.80

Notes:
Thank you for being with us!

DocStudio

Document processing certificate

Detailed information about the electronic document

Document information

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Title of the document	Invoice (Additional emissions data)
Date of the document	6/17/22, 2:38 PM
Template UUID	32fc336f-6e8f-43cf-ba03-c241f5a14a97
Template version	03155faa-accd-482e-bdba-9c499ec2f144
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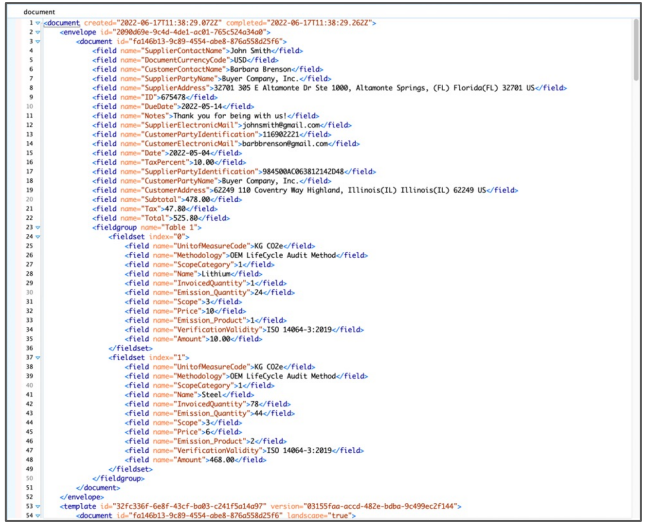

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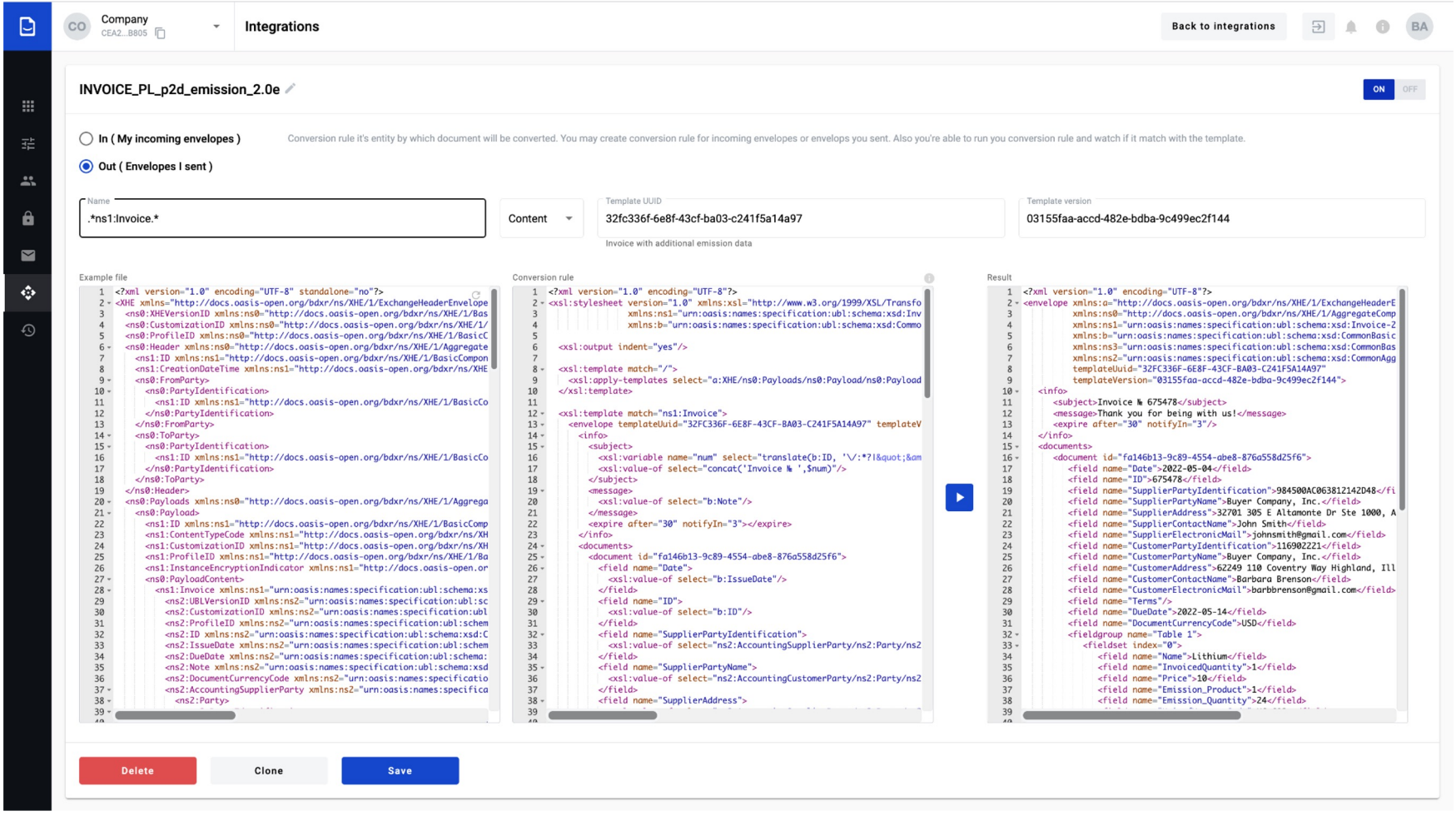
DocStudio Integrations



Q & A

DocStudio

Thank you!

Zack Dikhtyar, CEO
dz@docstudio.com

Eugene Soloviov, CTO
js@docstudio.com

Alisa Enotaeva
VP of Business Development
ae@docstudio.com

ISO 14064
GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS PROTOCOL

PIDX INTERNATIONAL

PIDX EMISSIONS TRANSPARENCY

EVOLUTION of the ENERGY SUPPLY CHAIN NETWORK

OFS PORTAL™

TRUSTED ENERGY SUPPLY CHAIN NETWORK

Chris Welsh

CEO

September 2022

What is OFS Portal

Established in 2000 by a group of ~20 globally diverse oilfield services Suppliers

Best in Class Standard Interoperability Legal Framework for Digital Integration

530+ Oil Companies & NOCs

45+ eCommerce Networks

Standard catalog process for all Suppliers & Operators - JCATALOG

Standard Transaction Management using open industry standards – PIDX

Standard Global Service for Government eInvoice Requirements - EDICOM

SCALABLE DIGITAL SUPPLY CHAIN FOR THE GLOBAL OIL & GAS INDUSTRY

MEMBERS

Baker Hughes

HALLIBURTON

Schlumberger

SELECT ENERGY SERVICES

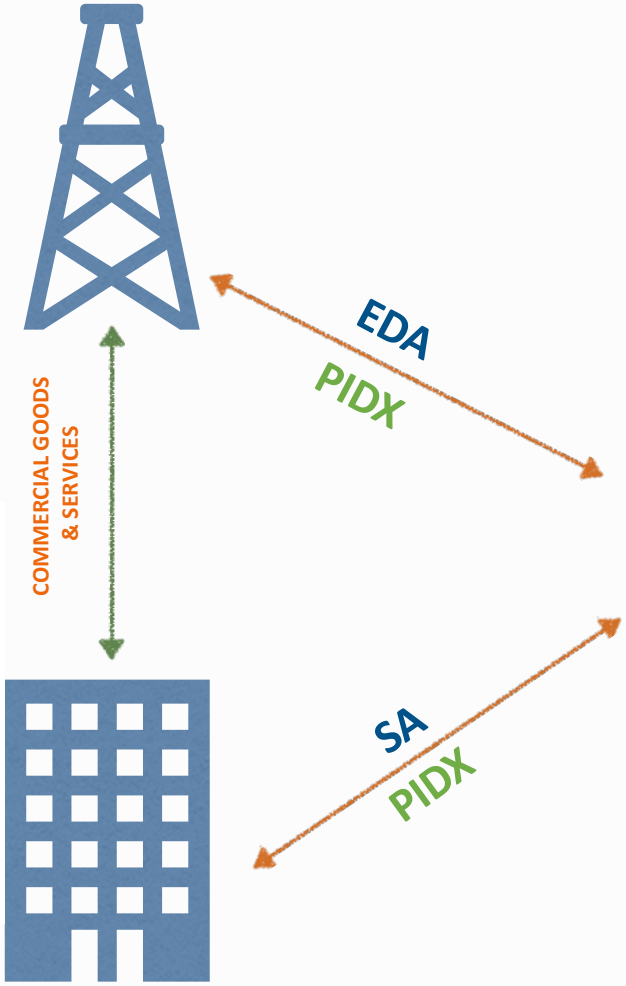
Weatherford®

Wellbore Integrity SOLUTIONS

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Legal Framework

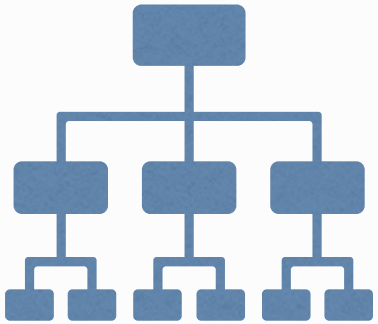
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK



LEGAL AGREEMENTS THAT PROTECT YOUR DATA & TRADE SECRETS

OFS PORTAL™

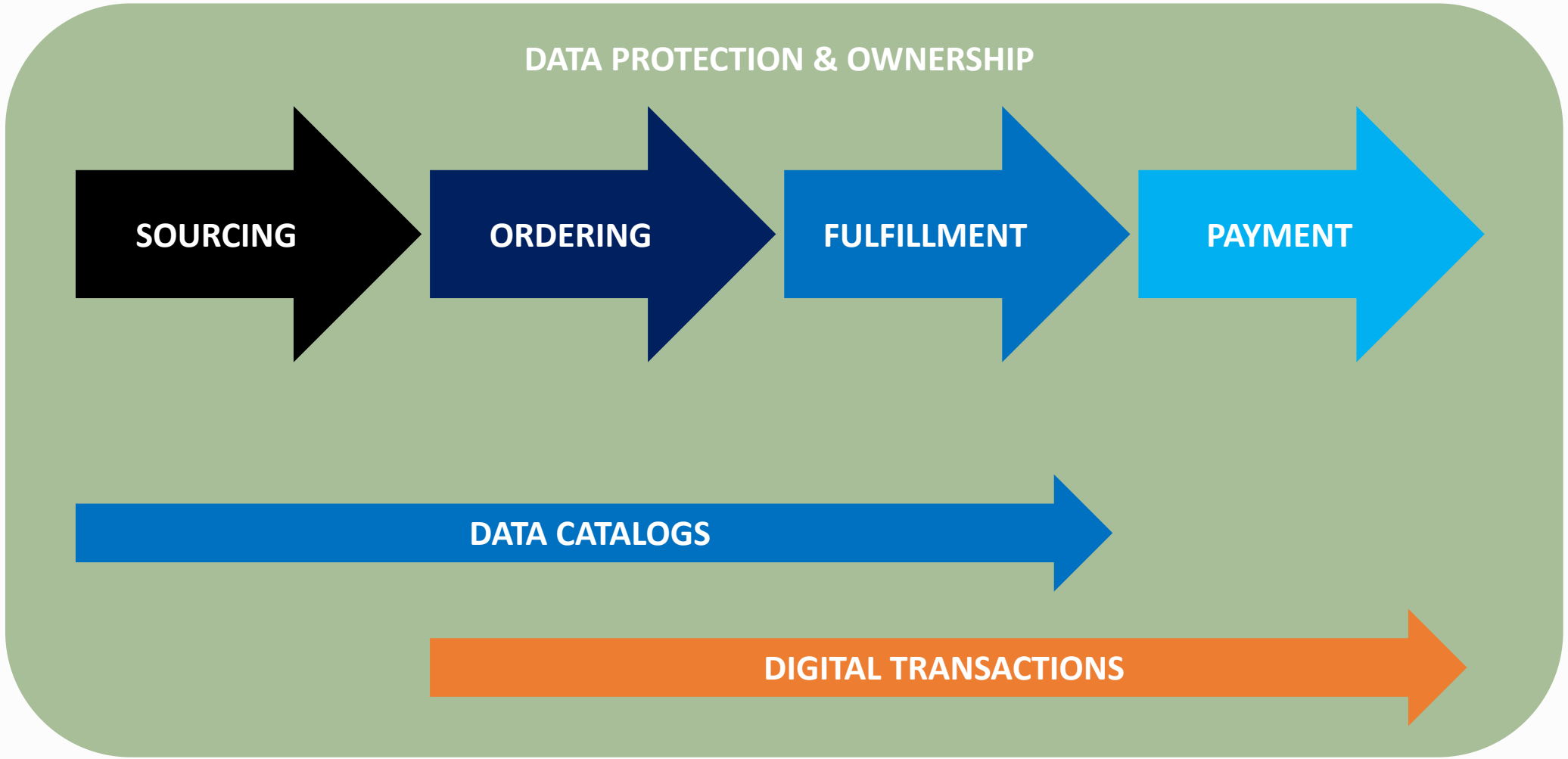
IOA
PIDX



SA Supplier Agreement
EDA Electronic Data Agreement
IOA Inter-Operability Agreement

Digital Integration between Operator's P2P & Supplier's O2C

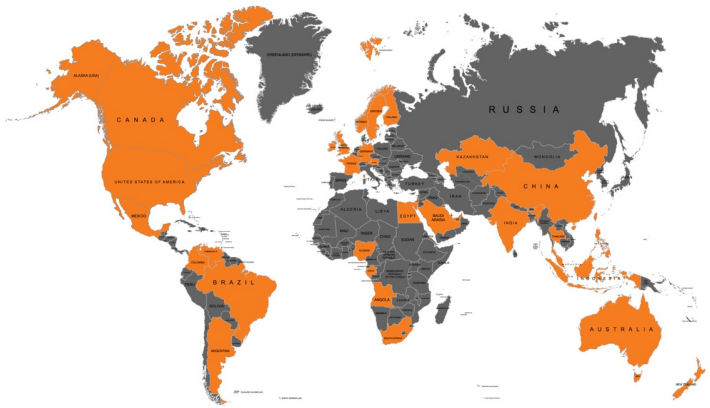
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK



End-to-End Digital B2B Document Exchange

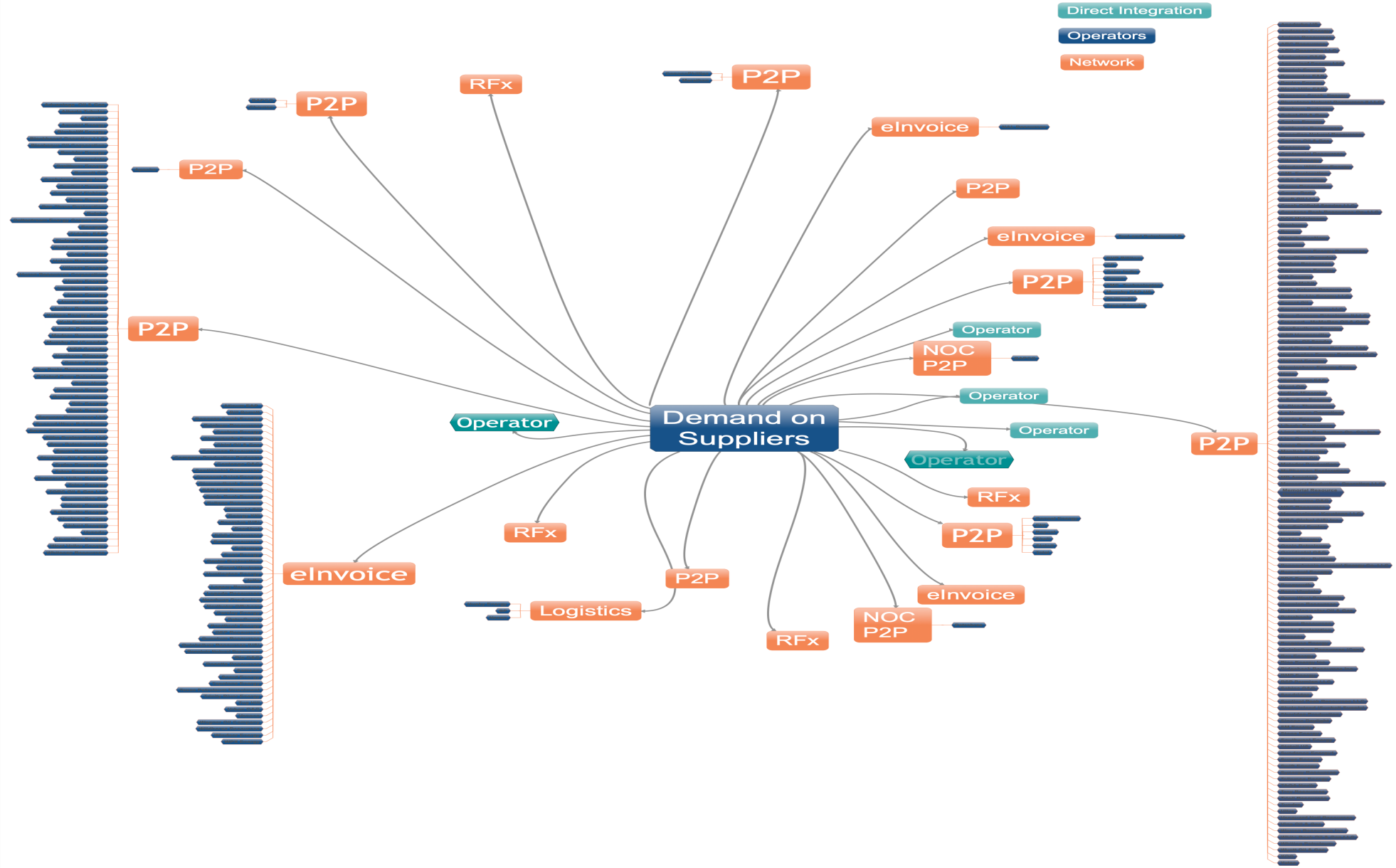
P2P		O2C
Sourcing RFI/RFP	←	Bid Response
Master Data Management		
Contract Management		
Catalogs	←	Catalog Data
Request for Quote	→ ←	Quote Provided
Purchase Requisition		
Purchase Order	→ ←	PO Change/Confirmation
Goods Receipt/Service Entry Field Ticket Response	← →	Field Ticket/Delivery
Invoice Response	← →	Invoice
Payment Remittance Advice	→	Payment Received

WORLDWIDE USE OF PIDX STANDARDS



Complex Web of 3-Corner Connections

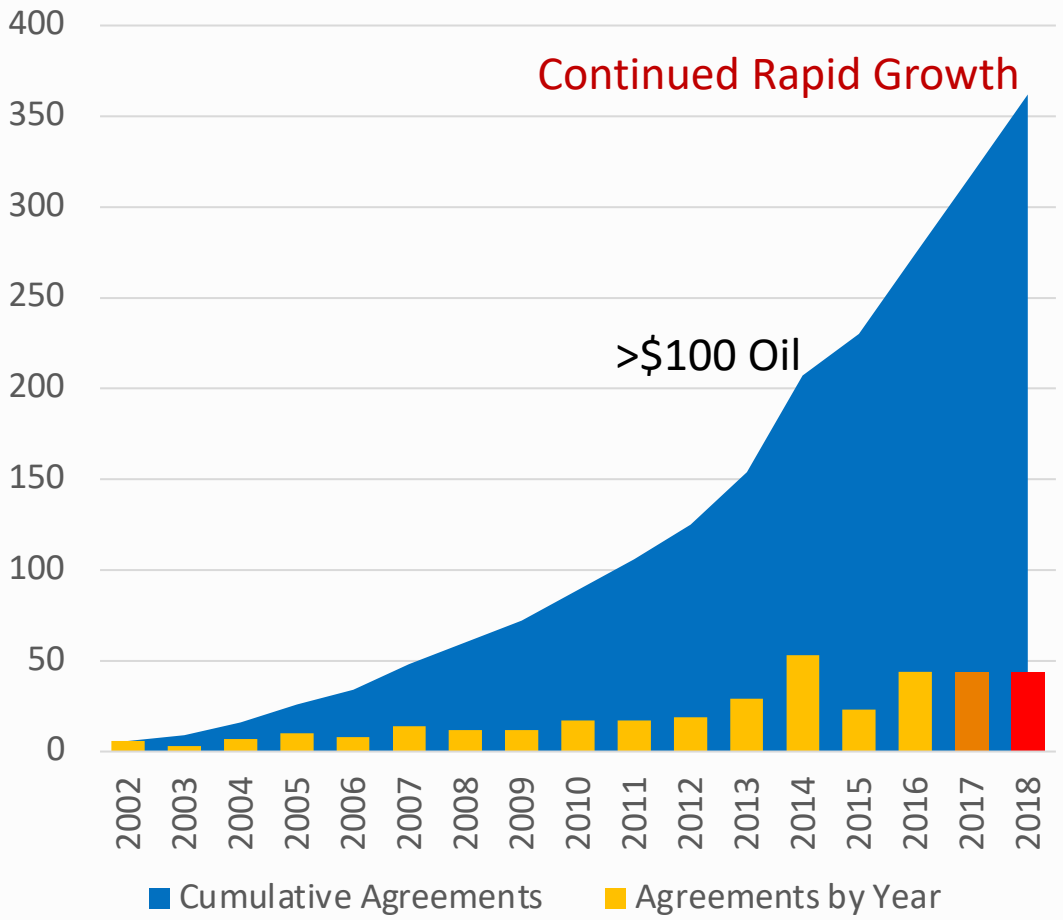
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK



2017 Oil & Gas Legal Agreements

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

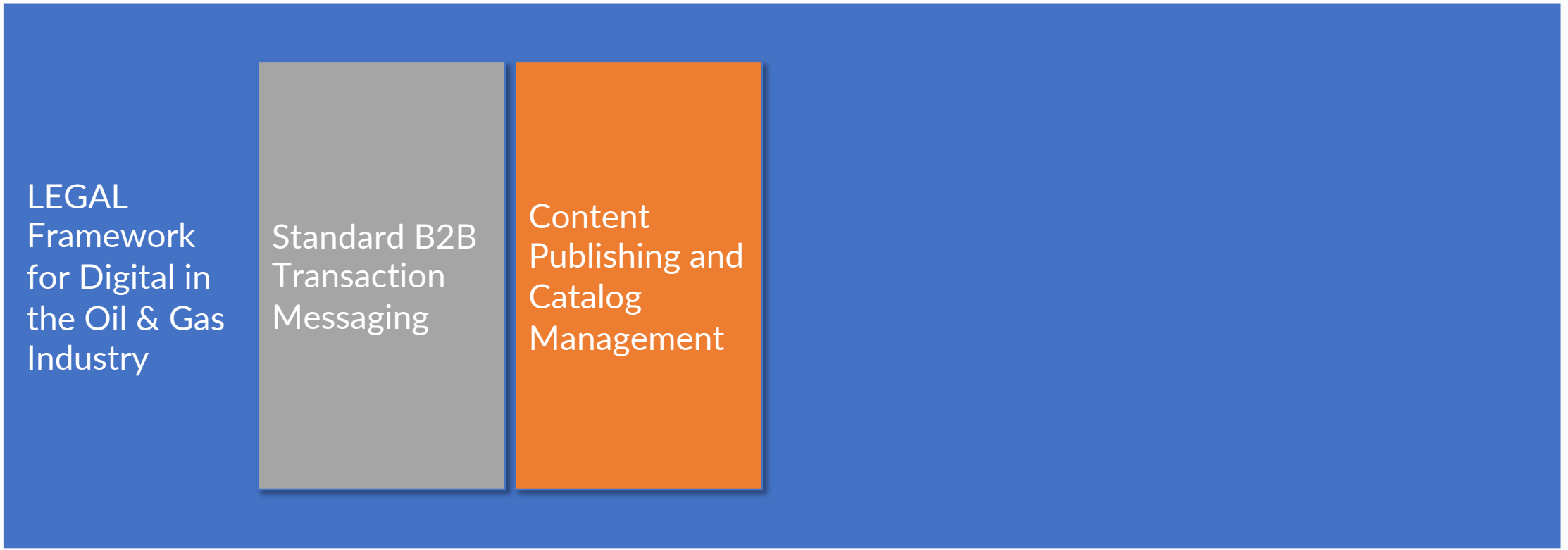
285 Operator & 34 Network Agreements



2017

Key Services

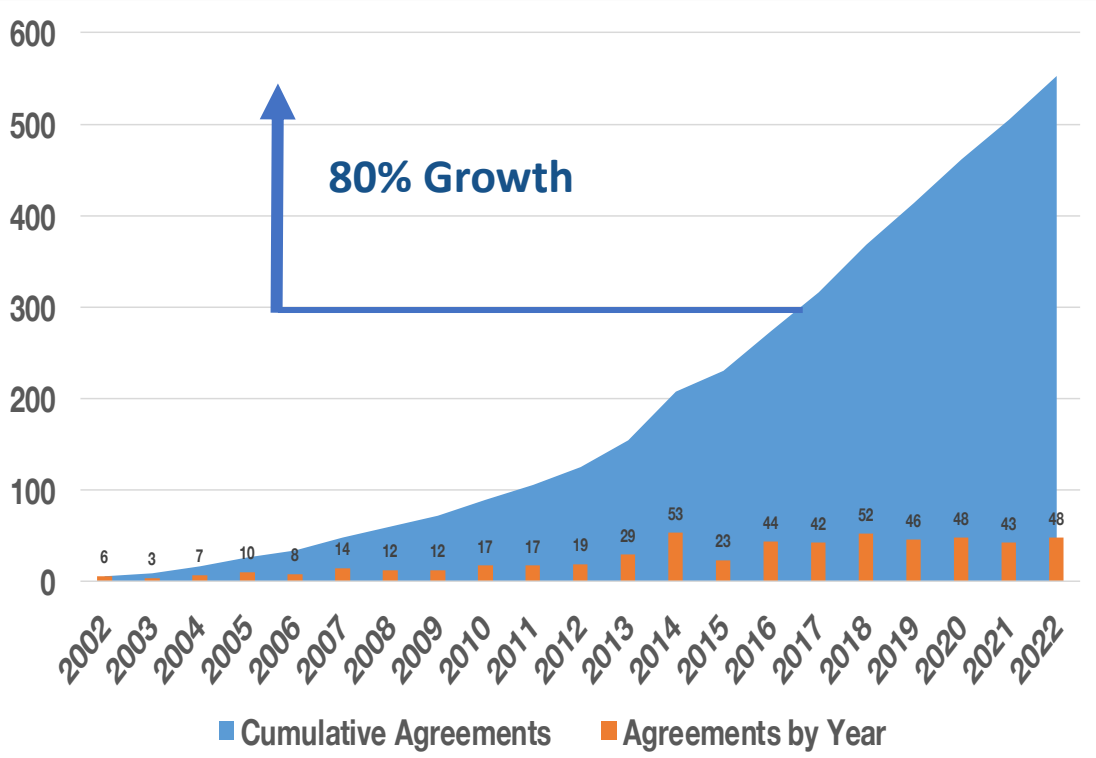
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK



2022 Oil & Gas Legal Agreements

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

536 Operator & 47 Network Agreements



Government eInvoicing

Continuous Transaction Controls – GOV eInvoice

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

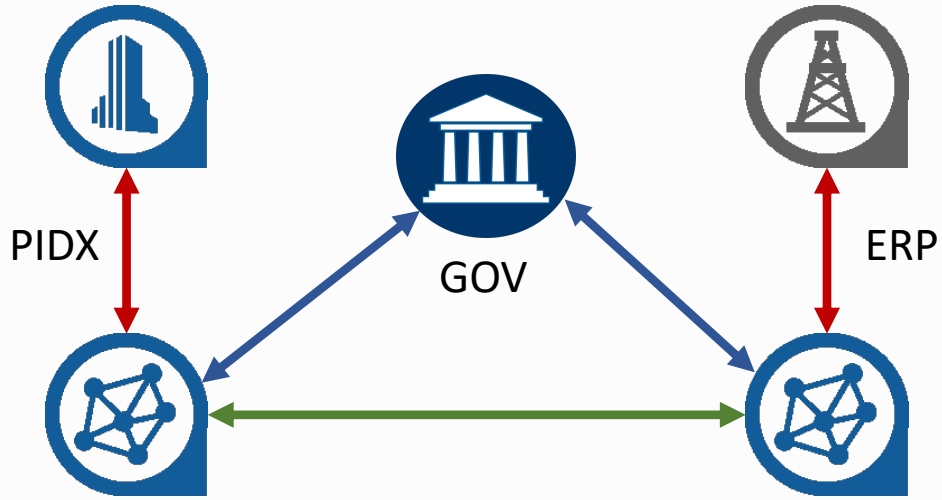
Government Mandates on eInvoicing

Mexican CFDI

Colombian DIAN

Italian FatturaPA

Norwegian EHF



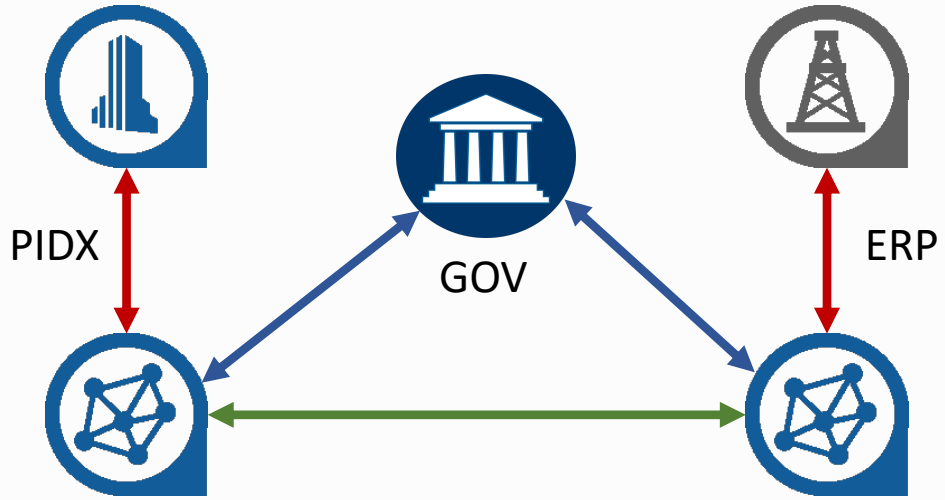
5 Corner Model

Continuous Transaction Controls – Access Point Model

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Government Mandates on eInvoicing

Argentina
Bolivia
Guatemala
Paraguay
Panama
Dominican Republic
Portugal
Germany
Vietnam
India
Egypt
Saudi Arabia



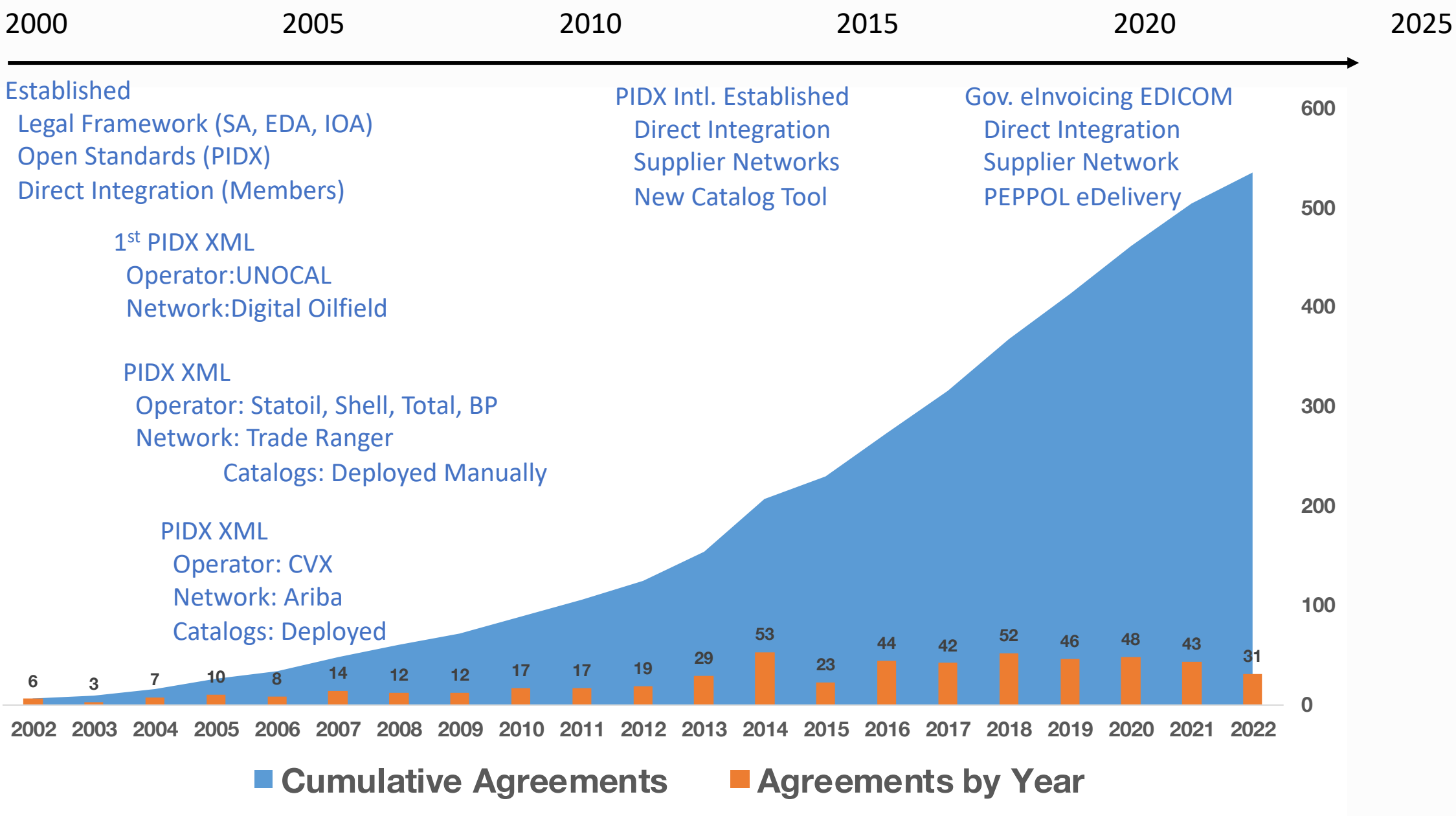
5 Corner Model

Key Services

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

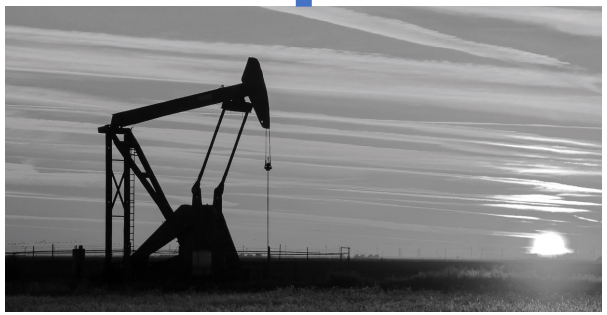
LEGAL Framework for Digital in the Oil & Gas Industry

- Standard B2B Transaction Messaging
- Content Publishing and Catalog Management
- International Government eInvoicing and Tax Reporting



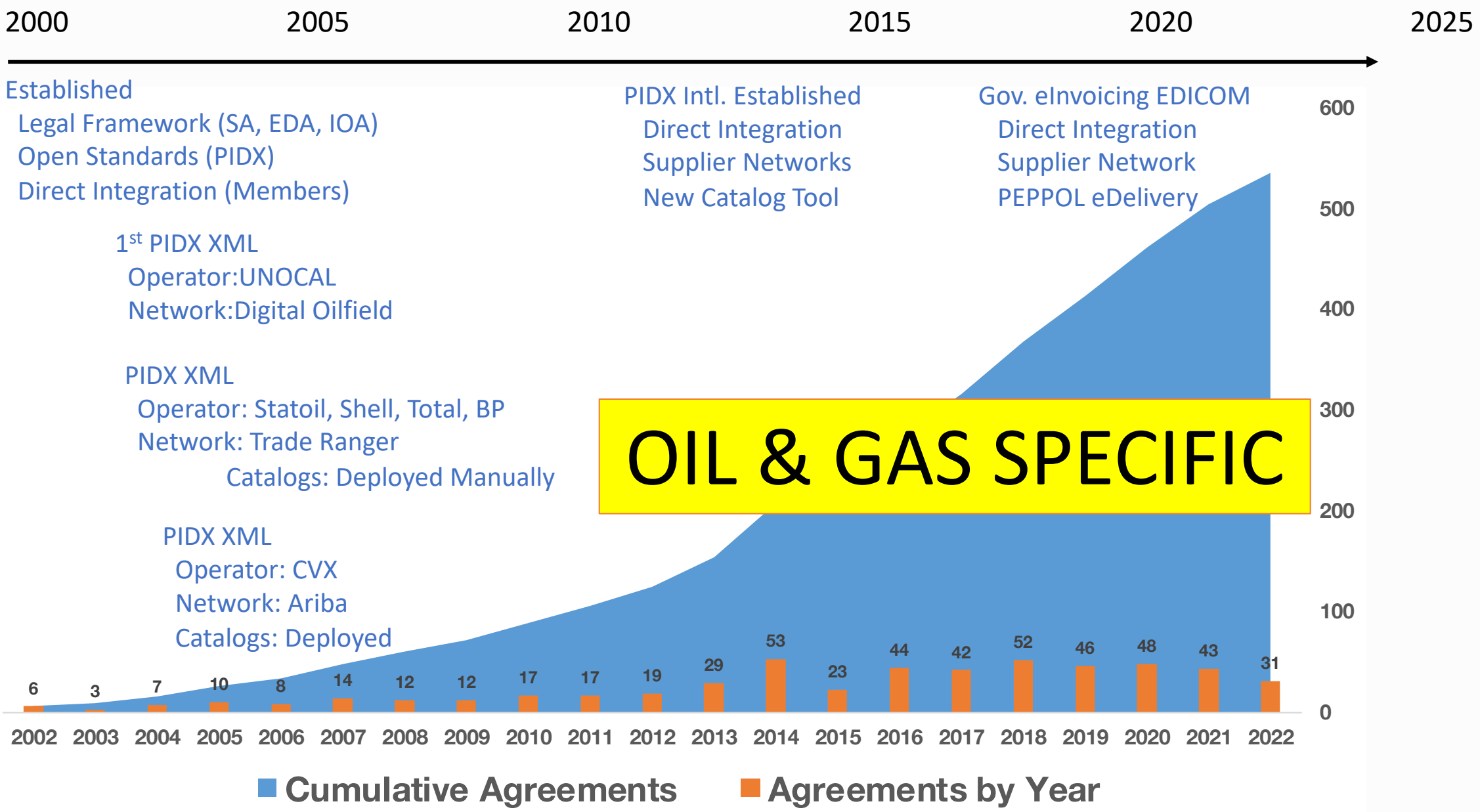
Industry Transition

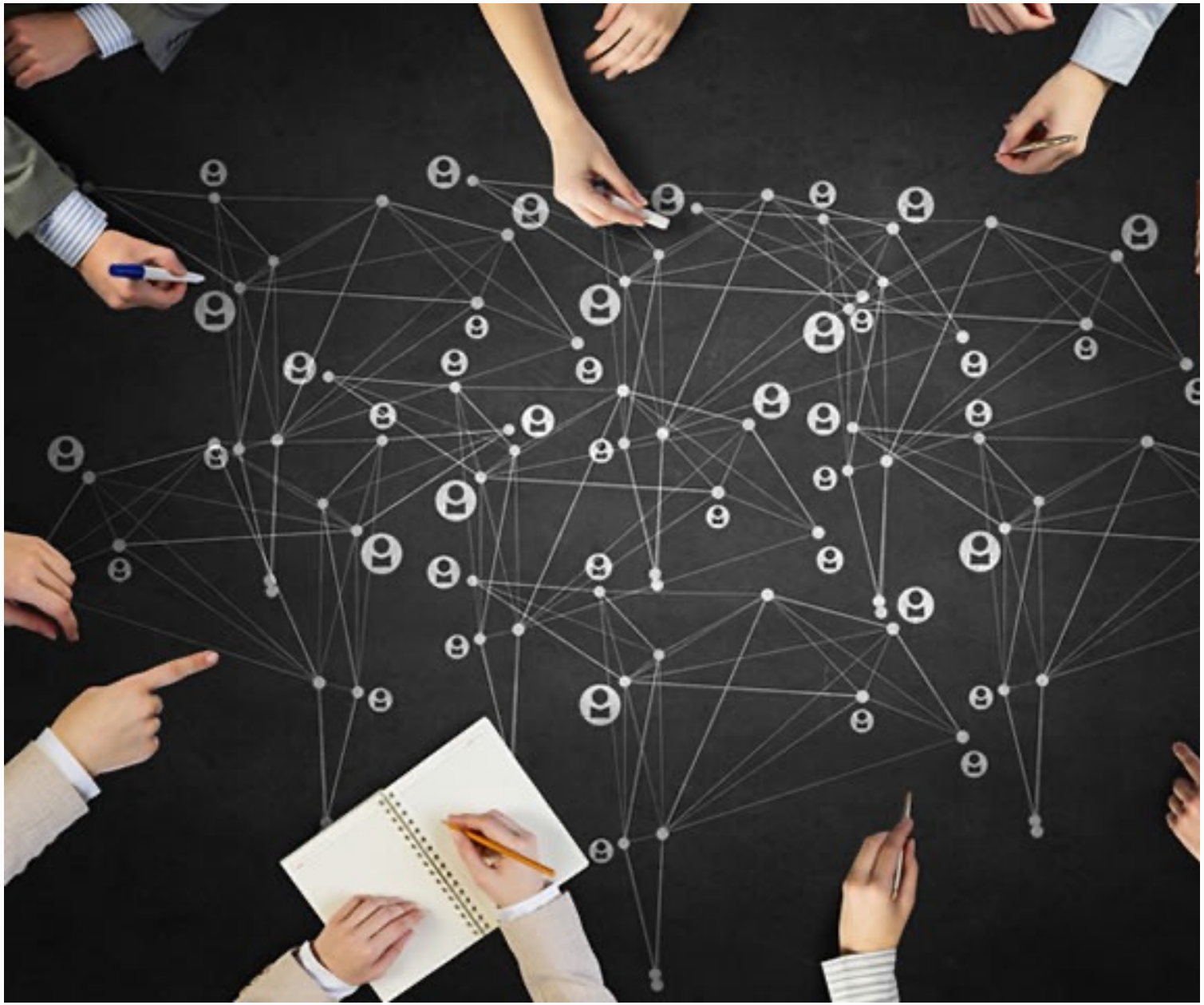
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK



Pressures to Diversify

Cyclical Nature of the Oil Price
Decarbonisation and Emissions Reduction
Move to Greener Sources of Energy
Reduction in Fossil Fuels
Public Perception
Market Investment
Shorter Contracts with More Diverse Partners





EMISSIONS REPORTING

GLOBAL TARGETS

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

2015

196 countries adopted the historic Paris Agreement to reduce global warming and build resilience to climate change. Its overall goal: limit warming to no more than 1.5 degrees Celsius.

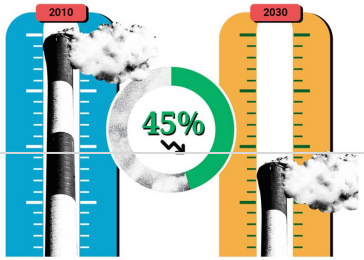
2020-2021

In the lead-up to the COP26 climate talks, countries have begun revising their NDCs to strengthen climate action. With science affirming a shrinking window of opportunity, the plans must include urgent actions to cut carbon emissions and reach net zero by 2050.

2015-2017

Parties to the agreement began submitting climate action plans known as nationally determined contributions (NDCs). Initial commitments, even if fully implemented, would only be enough to slow warming to 3 degrees. Urgent calls for action and ambition gained momentum as the plans would not stop catastrophic impacts.

100
80
60
40
20
0



2030

To keep warming to 1.5 degrees, countries must cut emissions by at least 45 per cent compared to 2010 levels.

2050

The transition to net-zero emissions must be fully complete.

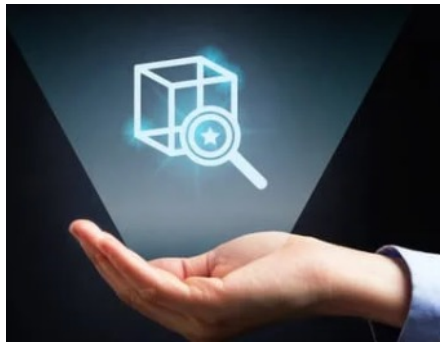
2015 2017 2020 2030 2040 2050

Source: https://www.un.org/en/climatechange/net-zero-coalition

Challenges with calculation and reporting of emissions

PIDX™
EMISSIONS TRANSPARENCY

Stakeholder and reporting pressures



Lack of standards

Or abundance

Slow, manual processes

Value Chain

Scope 3 emissions

"Today, carbon accounting suffers from data quality issues, measurement and reporting inconsistencies, siloed platforms, and infrastructure challenges. This makes it difficult to compare, combine and share reliable data, particularly for companies."

The Carbon Call – Feb 10, 2022

Emissions Reporting

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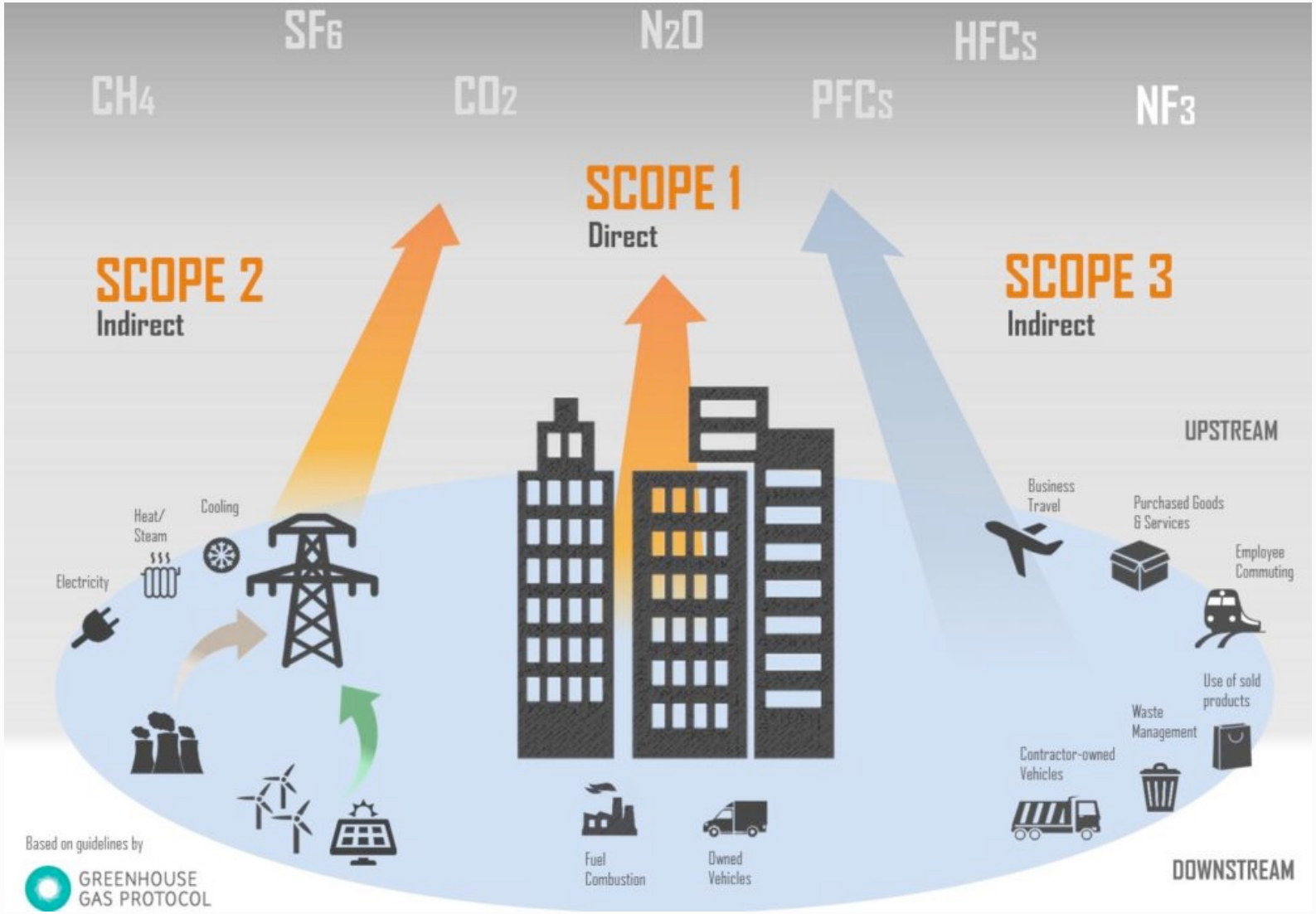
TRUSTED ENERGY SUPPLY CHAIN NETWORK

PIDX ETDX workgroup focus is to standardize the Emissions Reporting for the Oil & Gas Market.

OFS Portal is working to syndicate the content similar as the catalog service and as a standard service for our Members



TWO APPROACHES

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

1. TOP DOWN

What are ‘science-based targets’?

Science-based targets provide a clearly-defined pathway for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and future-proof business growth.

Targets are considered ‘science-based’ if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

*https://sciencebasedtargets.org/how-it-works

Accountancy Based

Looks as Total Spend and Apportions to Revenue

Sample Calculation

Spend = $20BN x GHG Industry Factor = 5 Mega-Tons

Sales to Customer 1 = 20% of Revenue

Emissions Reporting for Customer 1 = 1 Mega Ton CO2e

WHAT IS AVAILABLE TODAY – TOP DOWN

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Scope 3 GHG emissions [A] [B]

	Unit	2021	2020	2019	2018	2017	IPIECA	SASB	GRI
Purchased goods and services (Category 1)									
Third-party products [C]	million tonnes CO_2e	**147**	147	178	190	186	CCE-4	–	305-3
Fuel and energy-related activities (not included in Scope 1 or Scope 2) (Category 3)									
Third-party power [D]	million tonnes CO_2e	**136**	103	102	96	87	CCE-4	–	305-3
Downstream Transportation and Distribution (Category 9)									
Sold own energy products [E]	million tonnes CO_2e	**6**	–	–	–	–	–	–	305-3
Use of sold products (Category 11)									
Use of sold products [F]	million tonnes CO_2e	**1,010**	1,054	1,271	1,351	1,318	CCE-4	–	305-3
Own production [G]	million tonnes CO_2e	**380**	452	564	594	582	CCE-4	–	305-3
Third-party products [H]	million tonnes CO_2e	**630**	602	708	757	736	CCE-4	–	305-3

[A] The values in this table reflect estimated Scope 3 emissions included in our net carbon intensity. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's carbon intensity metric.
[B] Estimated emissions from other Scope 3 categories are published on www.shell.com/ghg. 2021 data will be available in June 2022.
[C] This category includes estimated well-to-tank emissions from purchased third-party refined oil products, natural gas, LNG, crude oil and biofuels.
[D] This category includes estimated well-to-wire emissions from generation of purchased power included in our net carbon intensity.
[E] Estimated emissions from transportation and distribution of sold own oil products, LNG, GTL, natural gas, and biofuels.
[F] This category includes estimated emissions from sales volumes of oil products, natural gas, LNG, GTL and biofuels.
[G] This category includes estimated emissions from our refinery production, natural gas, LNG and GTL products.
[H] Estimated as the difference between own production and total sold products.

https://reports.shell.com/sustainability-report/2021/our-performance-data/greenhouse-gas-and-energy-data.html

Companies Produce Sustainability Reports at a Macro Level using Industry Averages

2020 GHG Emissions Reported by Category (metric tonnes of CO_2e)

Scope	Emissions	Notes
Scope 1 (Direct) Emissions	1,973,000	Manufacturing process, onsite fuel combustion, refrigerants, onsite fleet/ air travel
Scope 2 (Indirect, Electricity)	909,000	Market-based method;[1] includes renewable energy purchases.
Scope 1 and 2 Total	**2,882,000**	
Scope 3 Total	**29,866,000**	Indirect/value chain.
Leased Vehicles and Commuting	296,000	Employee leased vehicles and commuting.
Logistics and Distribution	189,000	Upstream and downstream transport and distribution.
Employee Business Travel	24,000	Air travel, car rentals, and hotel stays.
Supply Chain	4,484,000	Represents the 2020 estimate based on key suppliers' 2020 CDP Climate Change Questionnaire information.
Capital Goods	93,000	Extraction, production, and transport of capital goods purchased.
Fuel and Energy Related Activities	95,000	Impacts related to extraction, production, and transportation of fuels and energy purchased, not already included in Scope 1 or 2. Market-based method.[2]
Waste Generated in Operations	7,000	Disposal and treatment of waste generated in our operations.
Product Energy Usage	24,407,000	Represents the GHG emissions of the product lifetime (5,596,000 metric tonnes of CO_2e annualized).
Processing of Sold Products	271,000	Processing of intermediate products sold to down-stream manufacturers.

[1] Location-based method Scope 2 emissions (does not account for any renewable energy purchases) = 3,700,000 metric tonnes CO_2e/year.
[2] Market-based method includes renewable purchases. Location-based method emissions (does not account for any renewable energy purchases) = 253,000 metric tonnes of CO_2e/year.

TWO APPROACHES

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

2. BOTTOMS UP

What is Bottoms Up reporting?

Line item Emissions reporting of products and services and their measured emissions as calculated by a verifiable method.

Requires the Supplier to perform life-cycle measurements such as the GHG Protocol “Cradle-to-Gate” measurement process and send these emissions on a per product or service basis to the Buyer.

Buyer aggregates the line item emissions to create a complete picture of their Scope 3 Emissions.

PIDX™
INTERNATIONAL

TWO APPROACHES

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

2. BOTTOMS UP

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ORCHESTRATION OF SUPPLY CHAIN MESSAGES

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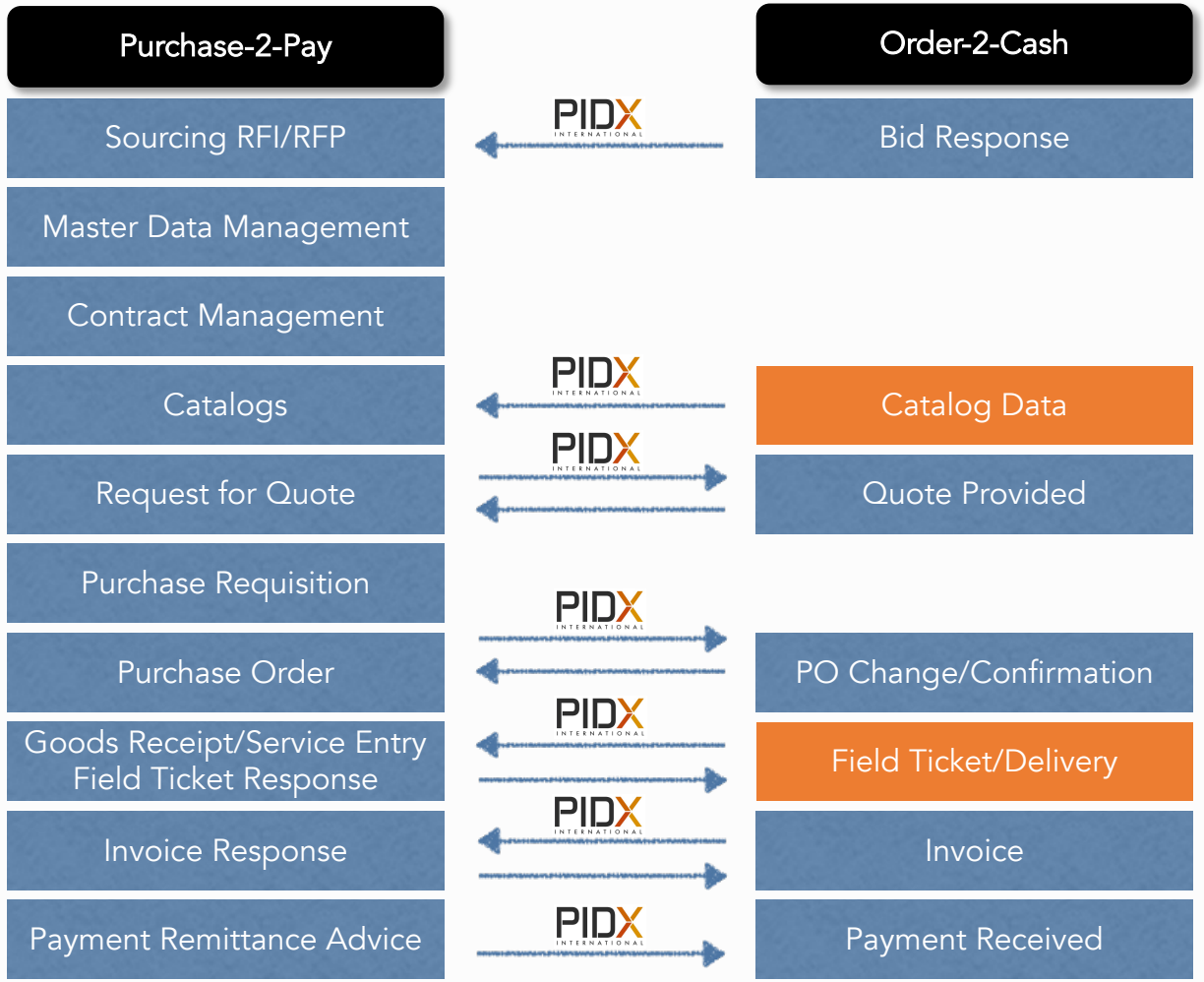
PIDX™
EMISSIONS TRANSPARENCY

Operator



Supplier

DATA RAMP UP AND CONVERSION

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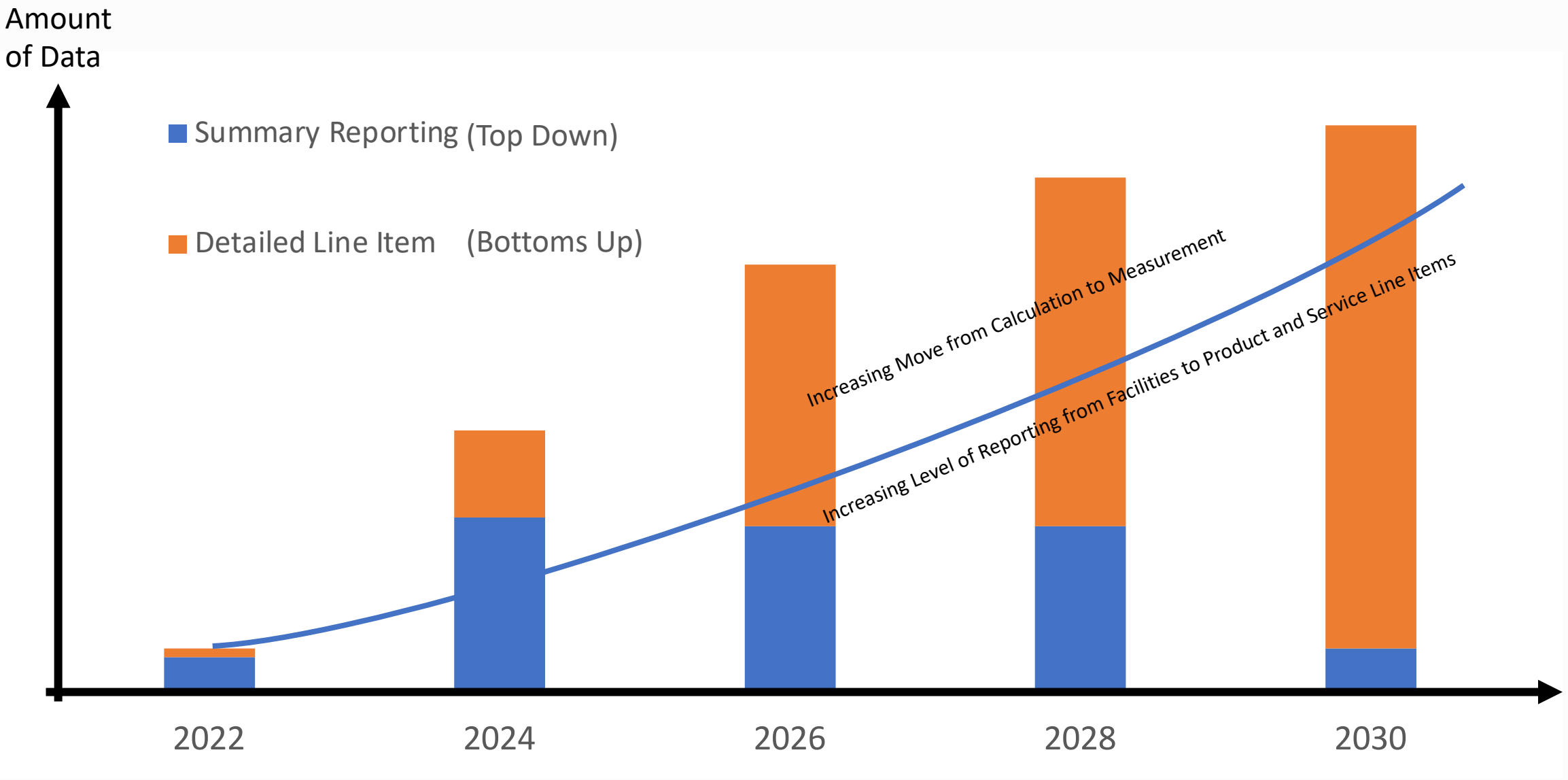

THERE IS A CLEAR PATH - STANDARDS

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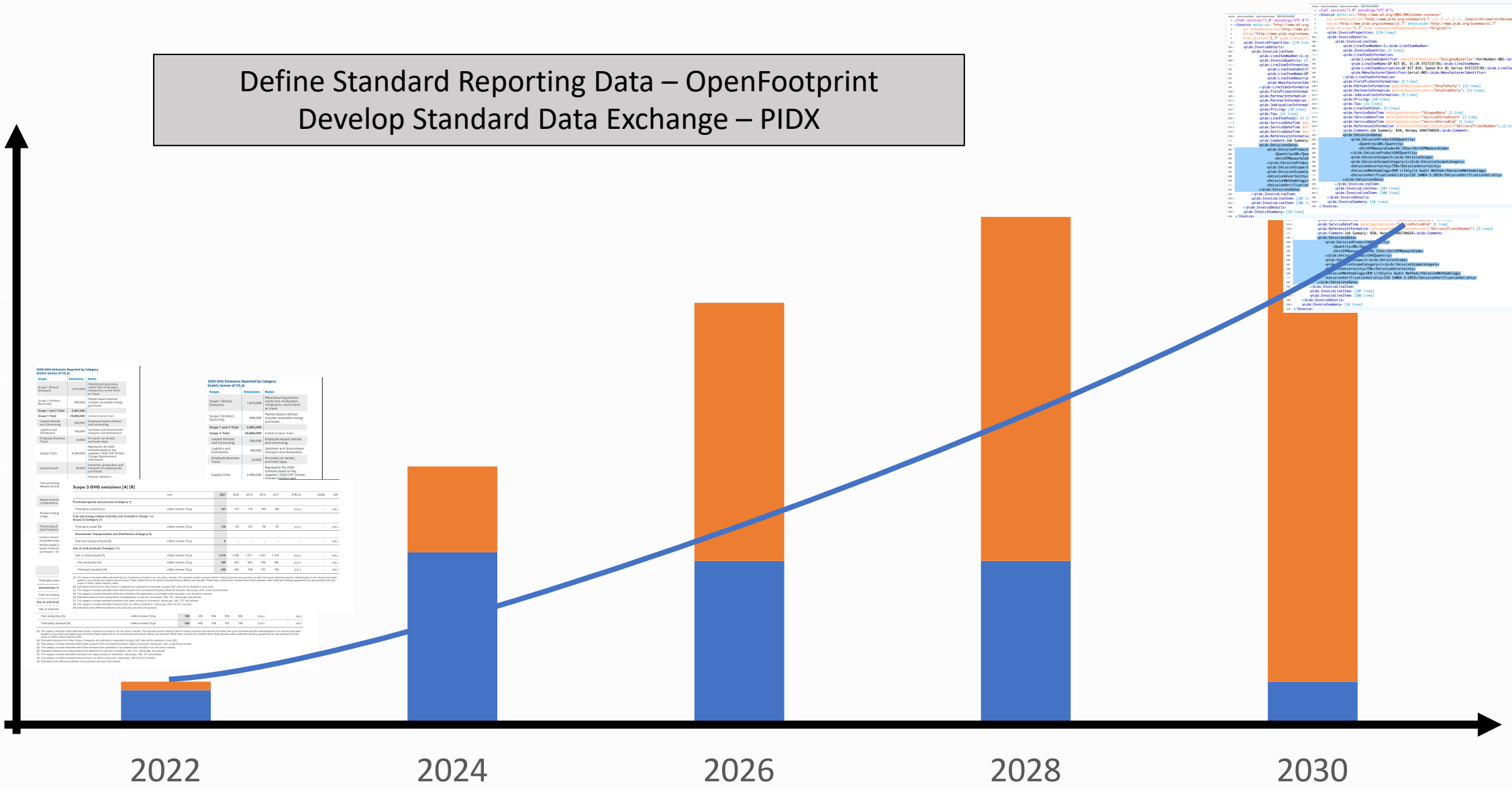
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Define Standard Reporting Data – OpenFootprint
Develop Standard Data Exchange – PIDX



Digital Integration between Operator's P2P & Supplier's O2C

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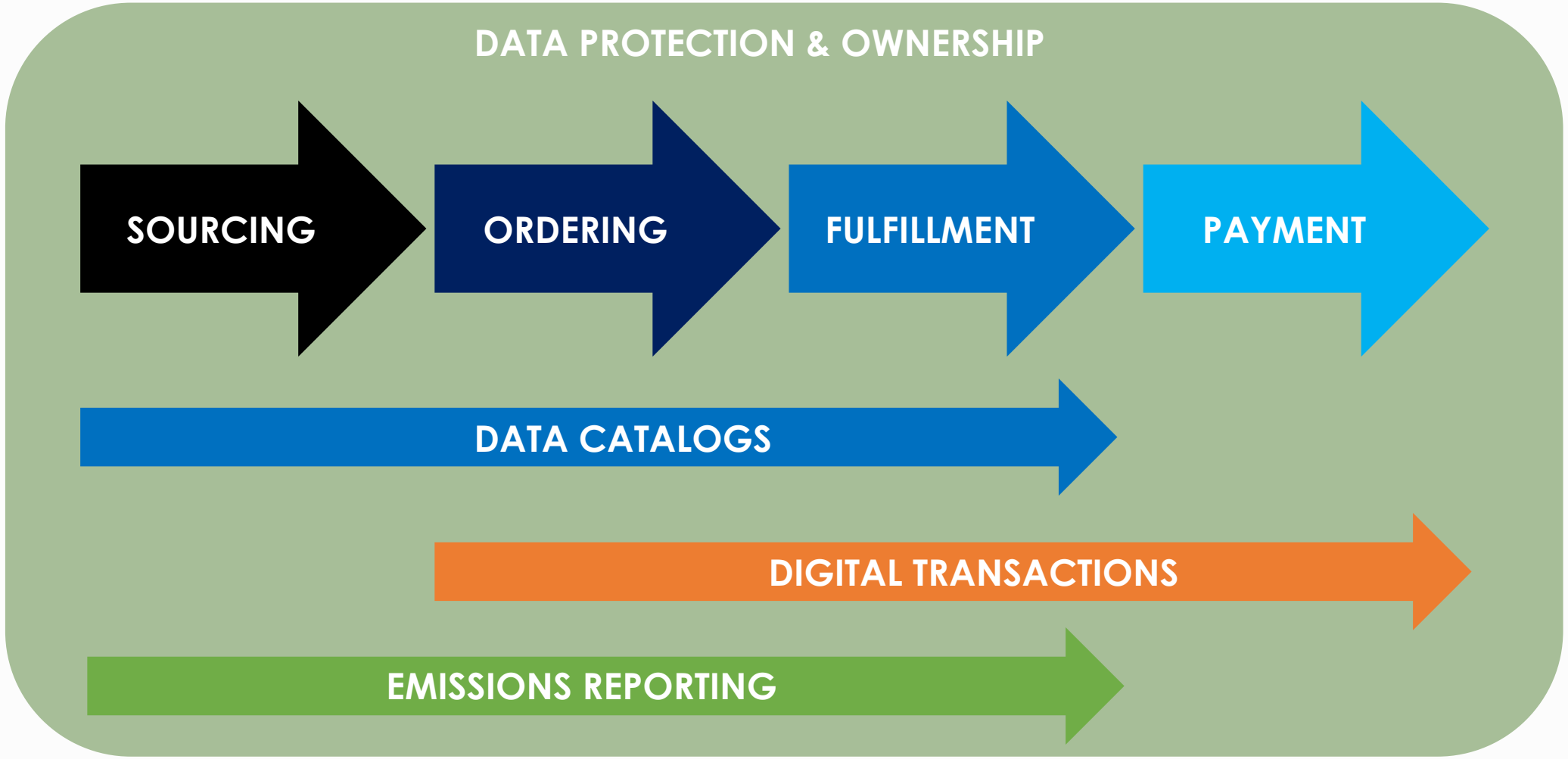

Key Services

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

Industry Transition

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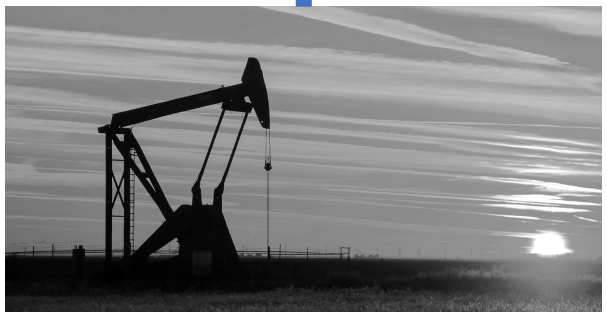
TRUSTED ENERGY SUPPLY CHAIN NETWORK



Pressures to Diversify

Cyclical Nature of the Oil Price
Decarbonisation and Emissions Reduction
Move to Greener Sources of Energy
Reduction in Fossil Fuels
Public Perception
Market Investment
Shorter Contracts with More Diverse Partners

BOOM & BUST

Complex Web of 3-Corner Connections

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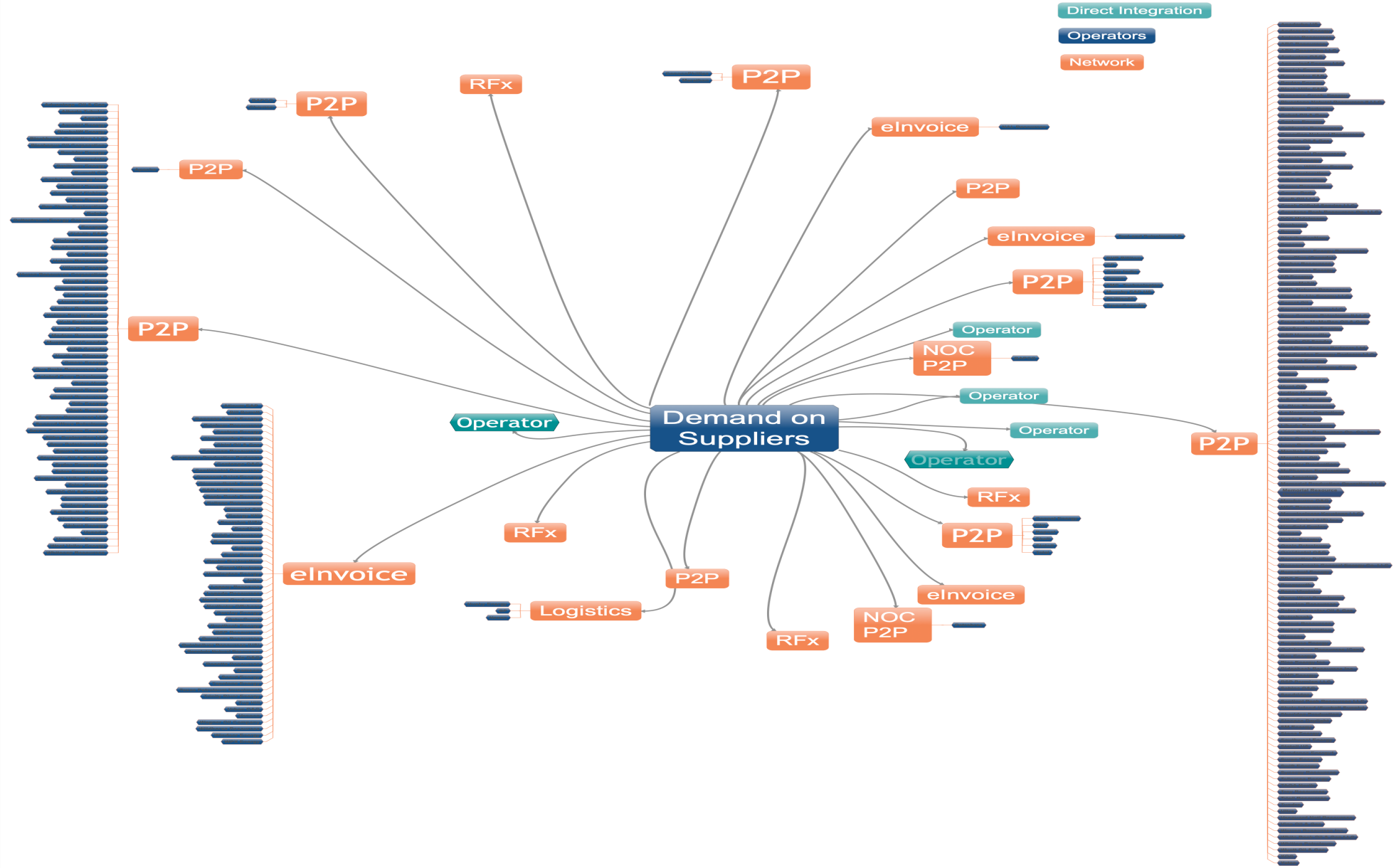
TRUSTED ENERGY SUPPLY CHAIN NETWORK



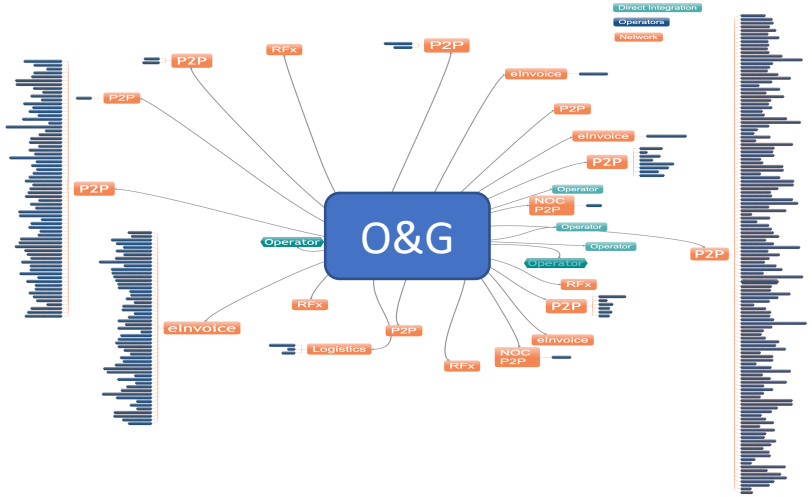
Oil & Gas Model not Transferrable

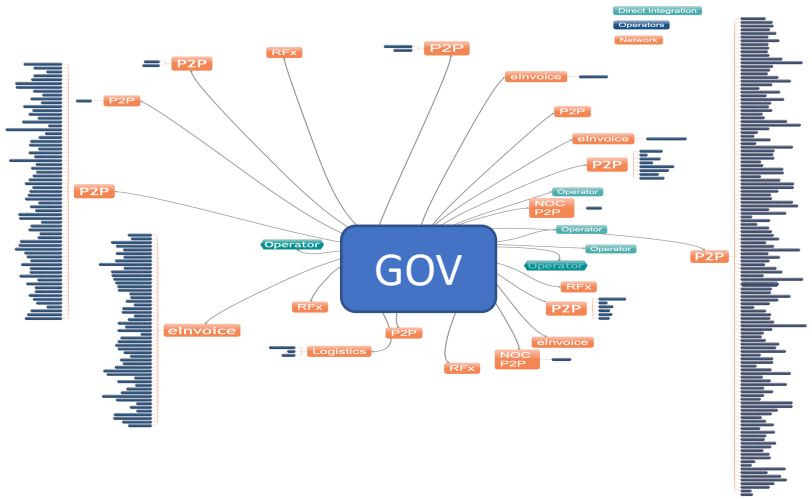
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

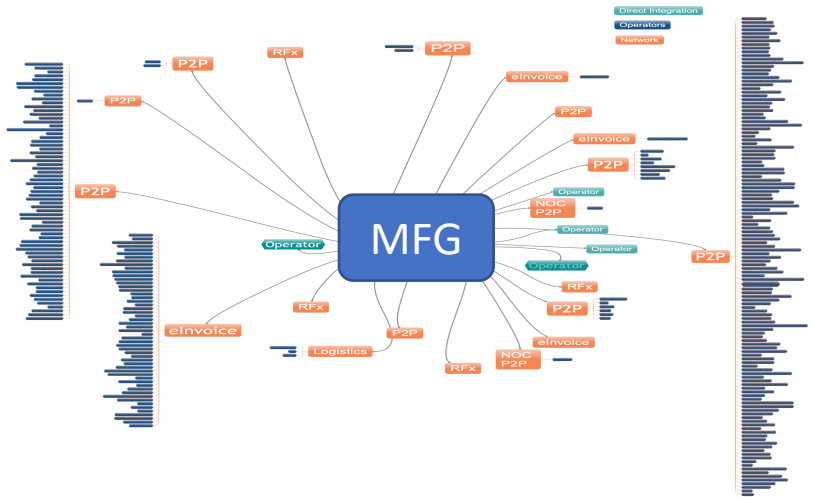
PIDX

CTC

ANSI X.12
EDIFACT







Oil & Gas Model not Transferrable

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

Fin Tech

Nuclear

PIDX

Construction

FMCG

Wave

Logistics

CTC

Aerospace

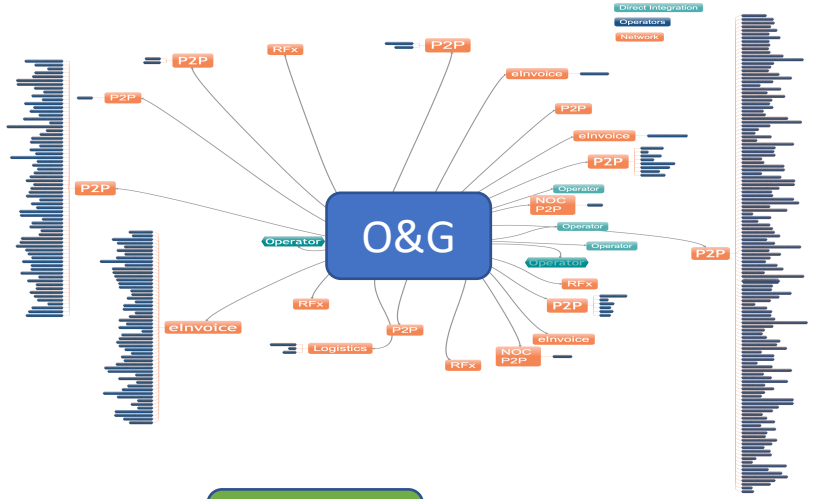
Pharma

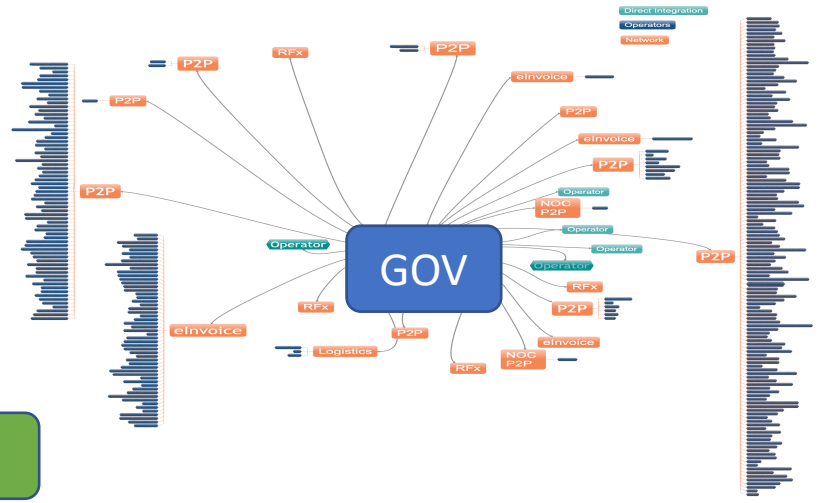
ANSI X.12
EDIFACT

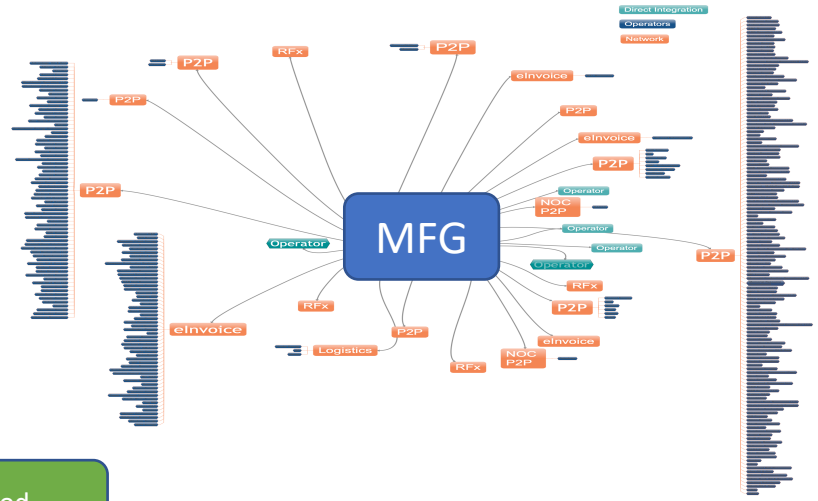
Solar

Wind

Food







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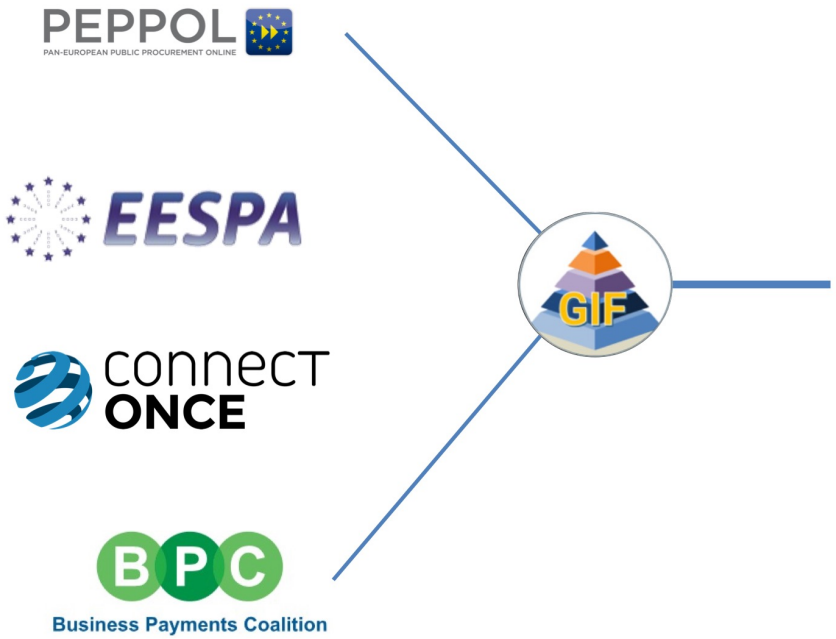
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Genesis of the GIF and other eDelivery Networks

2017 2018 2019 2020 2021 2022 2023 2024

eDelivery Connecting Europe



Global Interoperability Framework

a. A "**neutral vehicle**" to facilitate open collaboration on common issues and, where possible, to agree common artefacts that are supported on a global, or regional, basis.

Leading to ..

b. Agreement on common interoperability '**building blocks**', the adoption of which will:

- *Accelerate digital business adoption*
- *Reduce adoption costs*
- *Save time*

Simplifying Connectivity for all Parties

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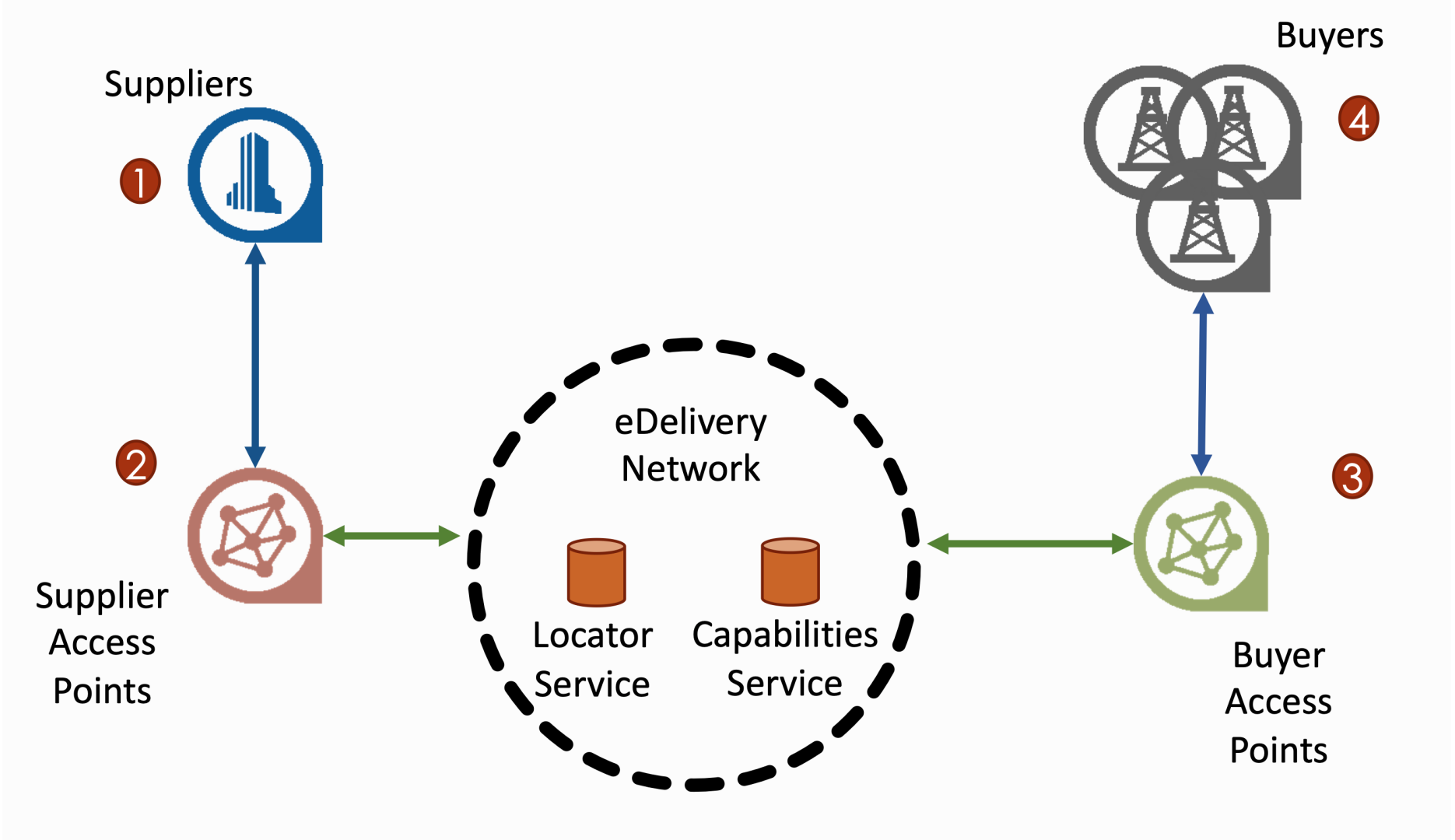
TRUSTED ENERGY SUPPLY CHAIN NETWORK



Maintaining the Legal Framework Outside of Oil & Gas

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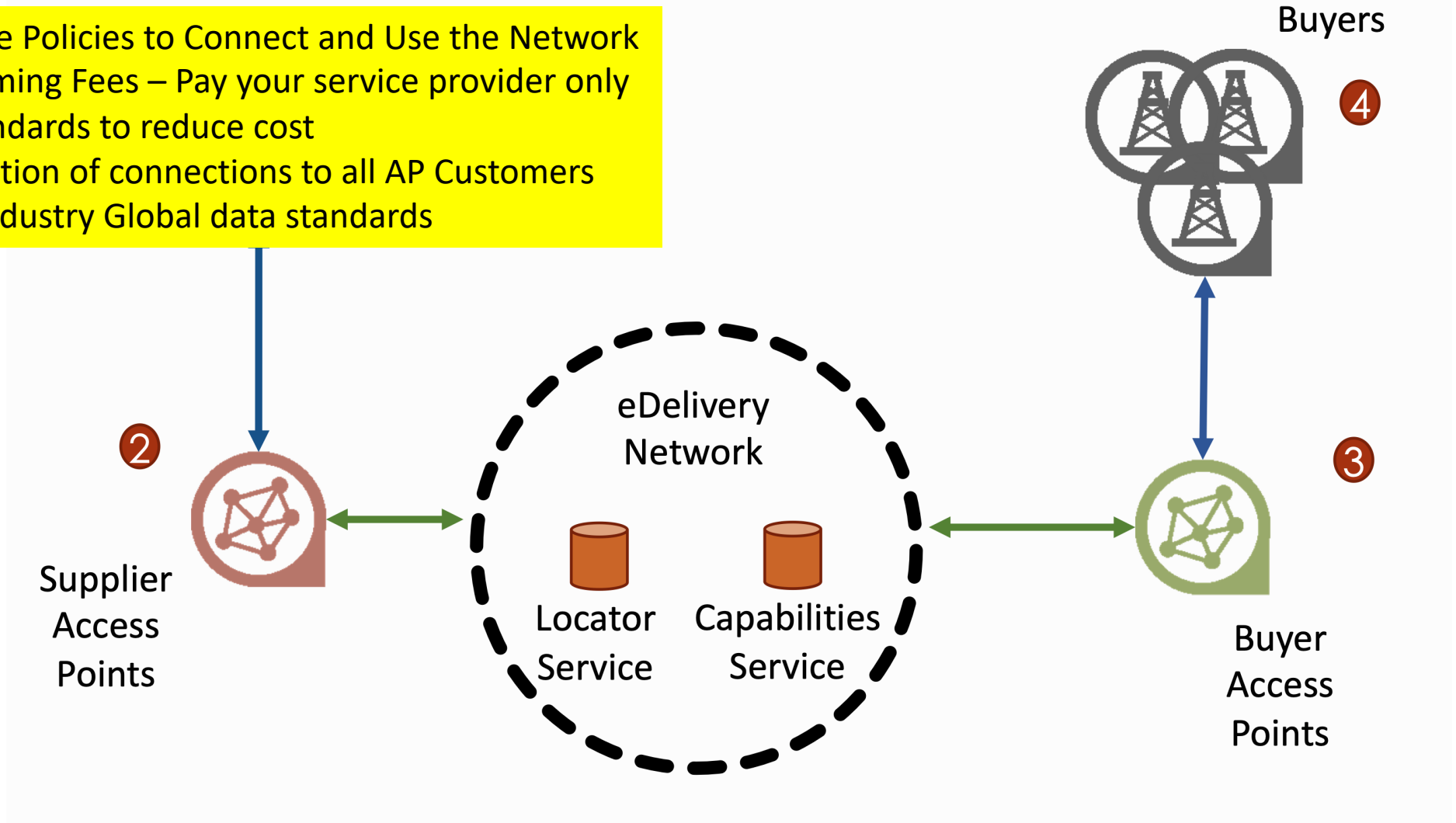
TRUSTED ENERGY SUPPLY CHAIN NETWORK

- Data Use Policies to Connect and Use the Network
- No Roaming Fees – Pay your service provider only
- Use standards to reduce cost
- Aggregation of connections to all AP Customers
- Cross-Industry Global data standards



OFS PORTAL™
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Genesis of the GIF and other eDelivery Networks

2017 2018 2019 2020 2021 2022 2023 2024

eDelivery Connecting Europe

PEPPOL
PAN-EUROPEAN PUBLIC PROCUREMENT ONLINE

EESPA

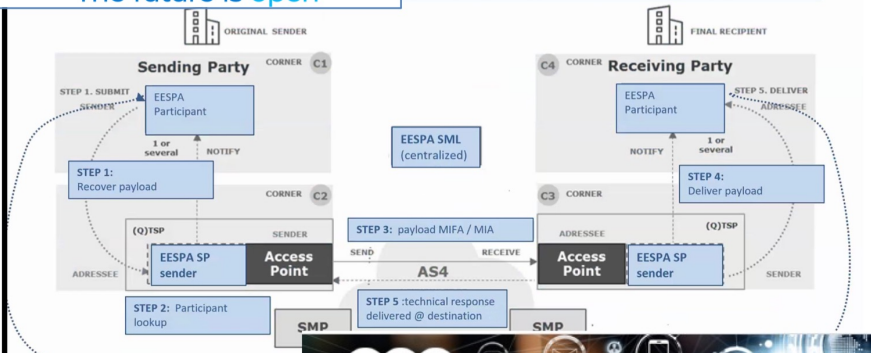
connect ONCE

BPC
Business Payments Coalition

Peppol
The future is open

EESPA
Interoperability Network

EF eDelivery – GIF compliant



Business Payments Coalition
E-invoice Exchange Market Pilot

PIDX
INTERNATIONAL

GIF Compliant Non-O&G eCommerce Networks

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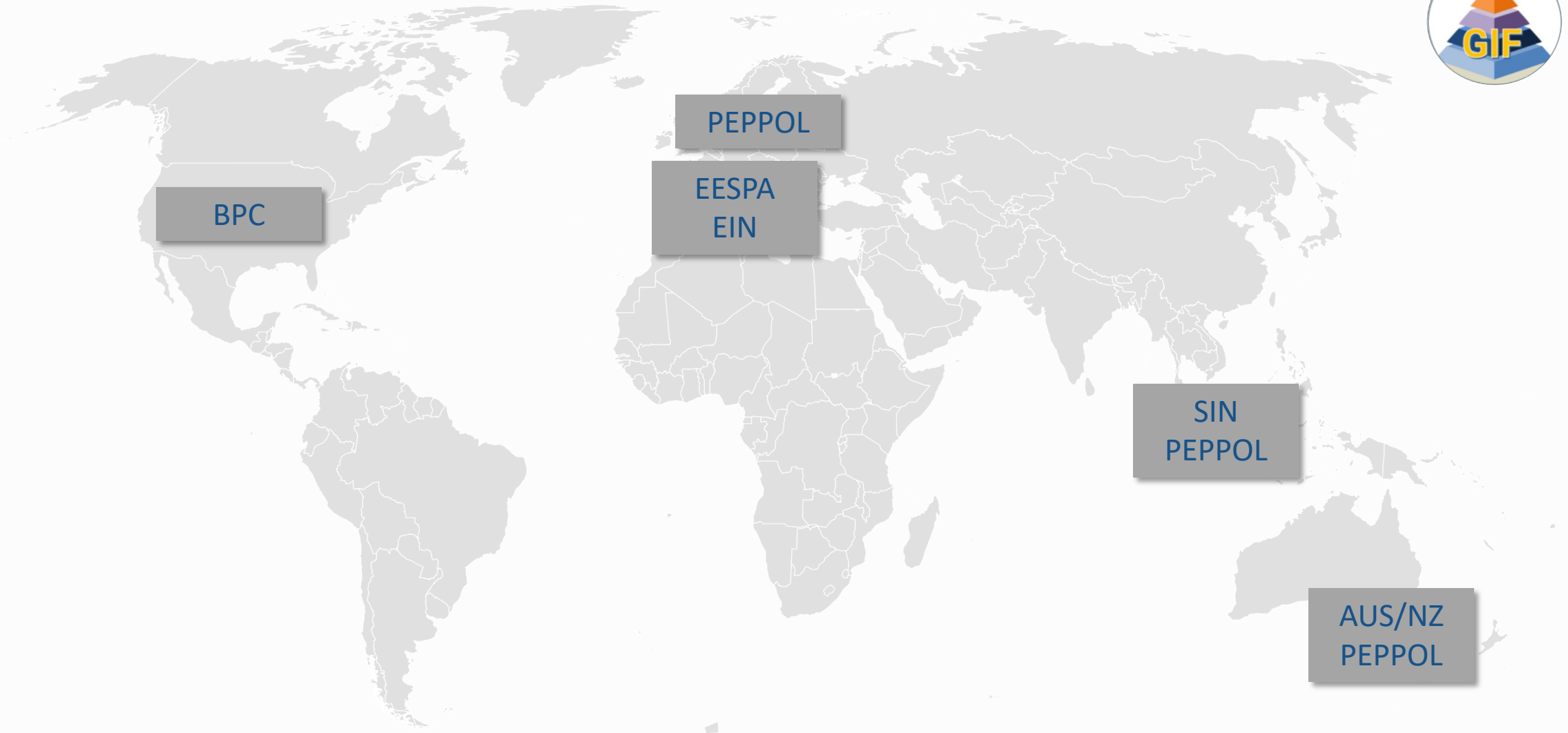
TRUSTED ENERGY SUPPLY CHAIN NETWORK



GIF Compliant Non-O&G eCommerce Networks

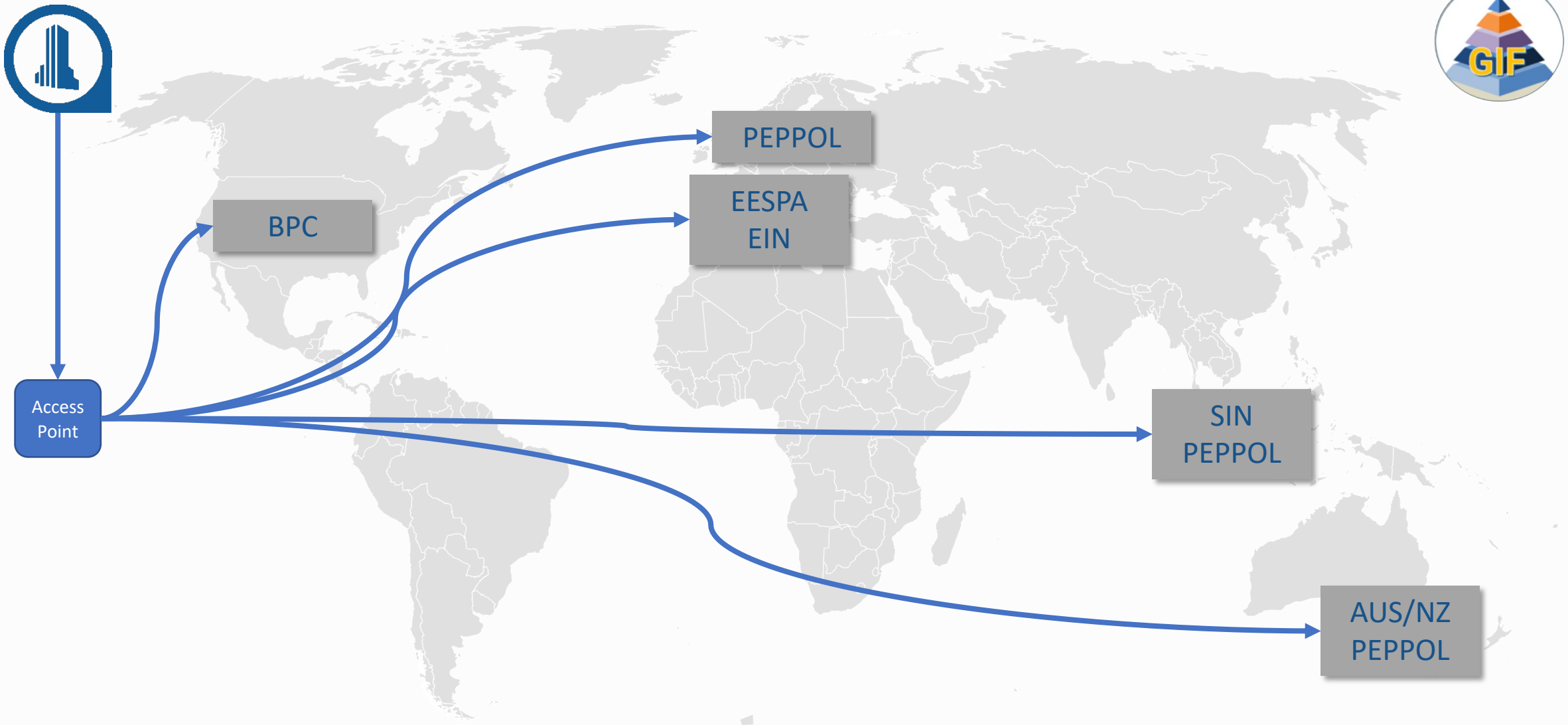
OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Diversified Oilfield Suppliers

GIF Compliant Non-O&G eCommerce Networks

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

Diversified Oilfield Suppliers



GIF Compliant Non-O&G eCommerce Networks

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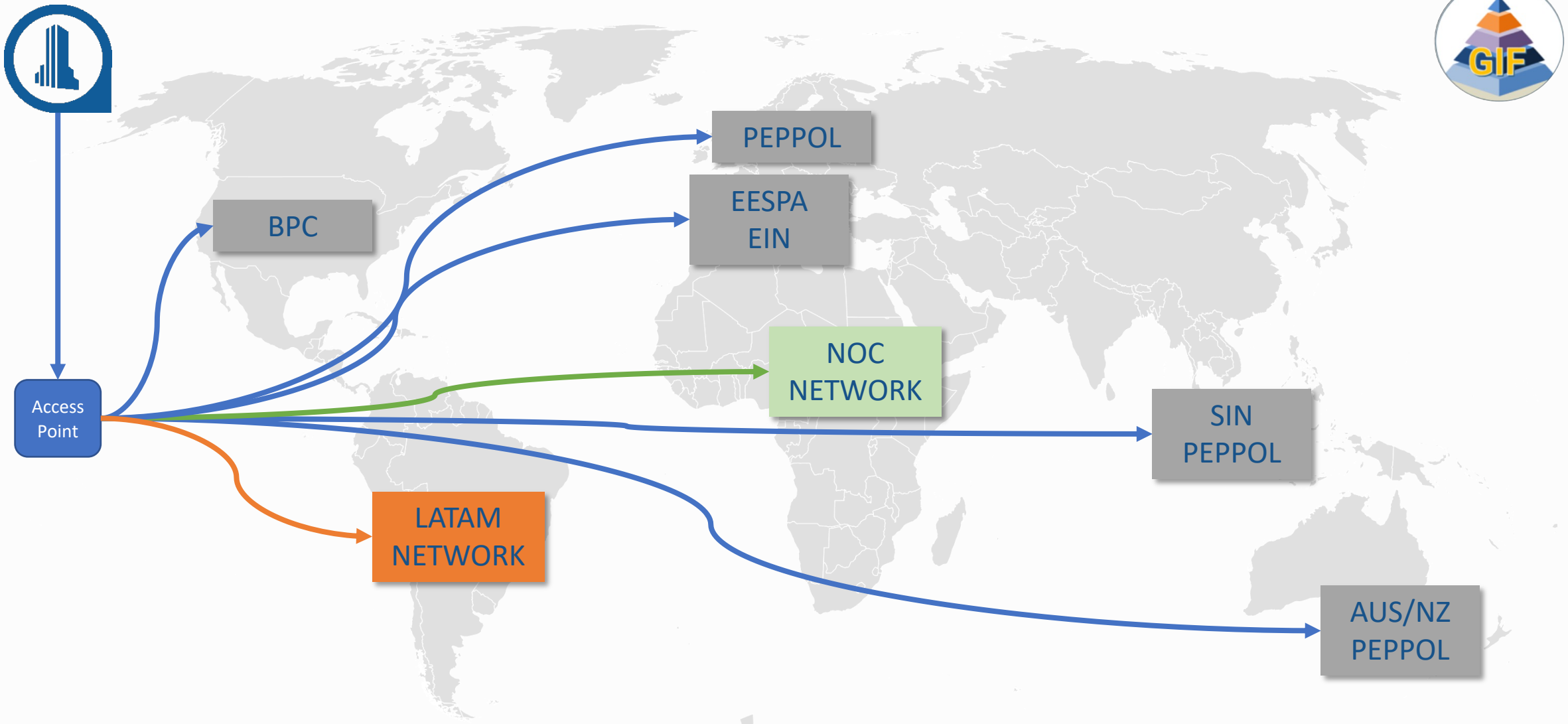
Diversified Oilfield Suppliers



Emergence of the Energy Supply Chain Network

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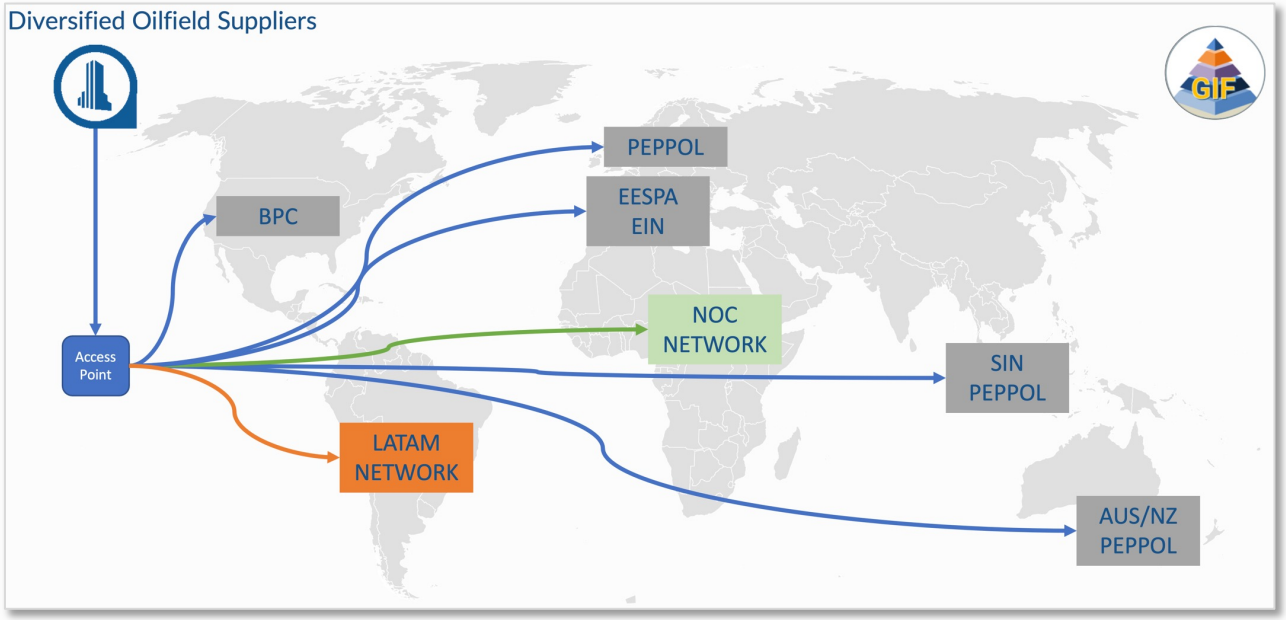
TRUSTED ENERGY SUPPLY CHAIN NETWORK



Key Services in the ESCN

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

Exchange Framework – Update from the BPC

September 12, 2022

BPC
Business Payments Coalition

Speaker

Todd M. Albers

Senior Payment Consultant

Federal Reserve Financial Services

Federal Reserve Bank of Minneapolis

todd.albers@mpls.frb.org

Todd joined the Federal Reserve Bank in 2016, where his duties include research and coordinating initiatives with industry stakeholders in B2B payment efficiency, standards, and electronic invoicing. He is the convener of the Business Payments Coalition e-Invoice Market Pilot Work Group. He also participates in several standard development organizations, including:

- ASC X9
- ASC X12
- ISO 20022 - Payments Standard Evaluation Group
- OASIS - Universal Business Language (UBL) and Business Document Exchange (BDXR) Technical Committees

Todd's background includes 20+ years in the Financial Services and Technology Industry; where he was responsible for strategy and new product development for products including electronic accounts payable (EAP), electronic invoice presentment and payments (EIPP), commercial credit cards, and expense report management solutions. Also, he has experience in business process reengineering and deploying ERP solutions supporting the procure-to-pay process in manufacturing.

Disclaimer: Opinions expressed are those of the presenters and not those of the Business Payments Coalition, Federal Reserve System, or any Federal Reserve Bank

Topics

- Federal Reserve Role in B2B Payments Modernization
- Overview of the Business Payments Coalition
- Exchange Framework Initiative
- Roadmap to a future “B2B Digital Highway”

Business Payments Coalition

What is B2B Payments Modernization?

"The automation of a B2B transaction from end-to-end, including invoice, payment, remittance information and reconciliation, with the goal of achieving straight-through processing (STP)."

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Why we see the need for B2B Payments Modernization

The exchange of invoice and remittance information is **highly manual, labor-intensive and costly**. The result is **reduced efficiency** in the B2B payments process.

Transformation Means Benefits

Lower Costs

Better Cash Management

Reduction in Errors

Fraud Risk Mitigation

Increased Transparency

Business Payments Coalition

Making the Move to Modernization

The challenge	• The B2B industry is challenged by inefficient, costly manual processes.
Now is the time to act	• The increasing adoption of instant payments and same day ACH is an impetus for change. • The COVID-19 pandemic has exposed the necessity for businesses to reduce manual processes in favor of digitalization.
Join the journey	• BPC efforts are laying crucial groundwork to build, implement and test the infrastructure to facilitate the exchange of e-invoices and e-remittance information in order to enable straight-through processing.

Business Payments Coalition

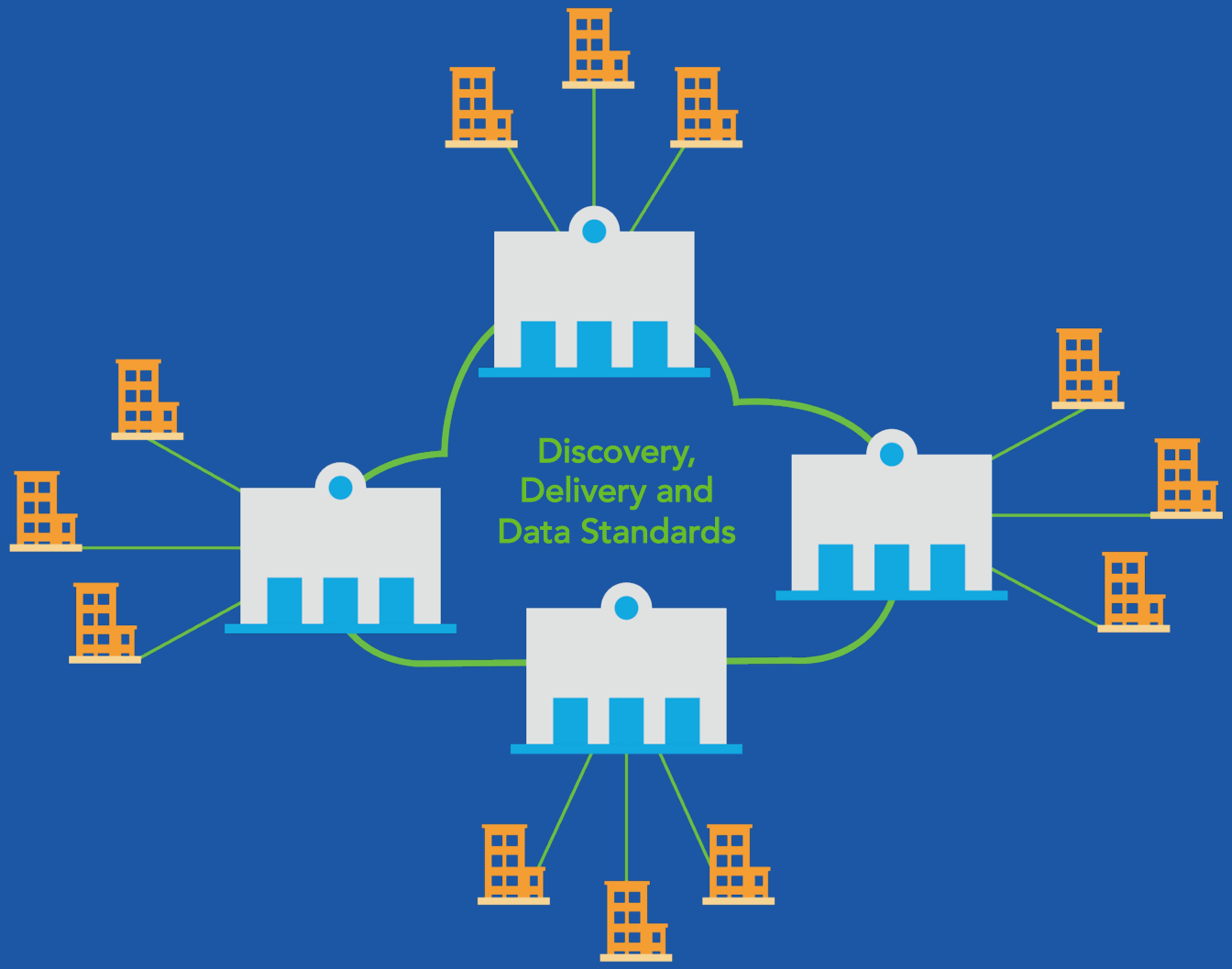
An Exchange Framework

Business Payments Coalition

What is an Exchange Framework?

An exchange framework is a set of standards, policies and guidelines that enables businesses to connect once and exchange electronic documents with anyone, independent of the platform, system, or application for exchanging electronic documents.

It extends the reach and opportunities for all participants in the exchange community.



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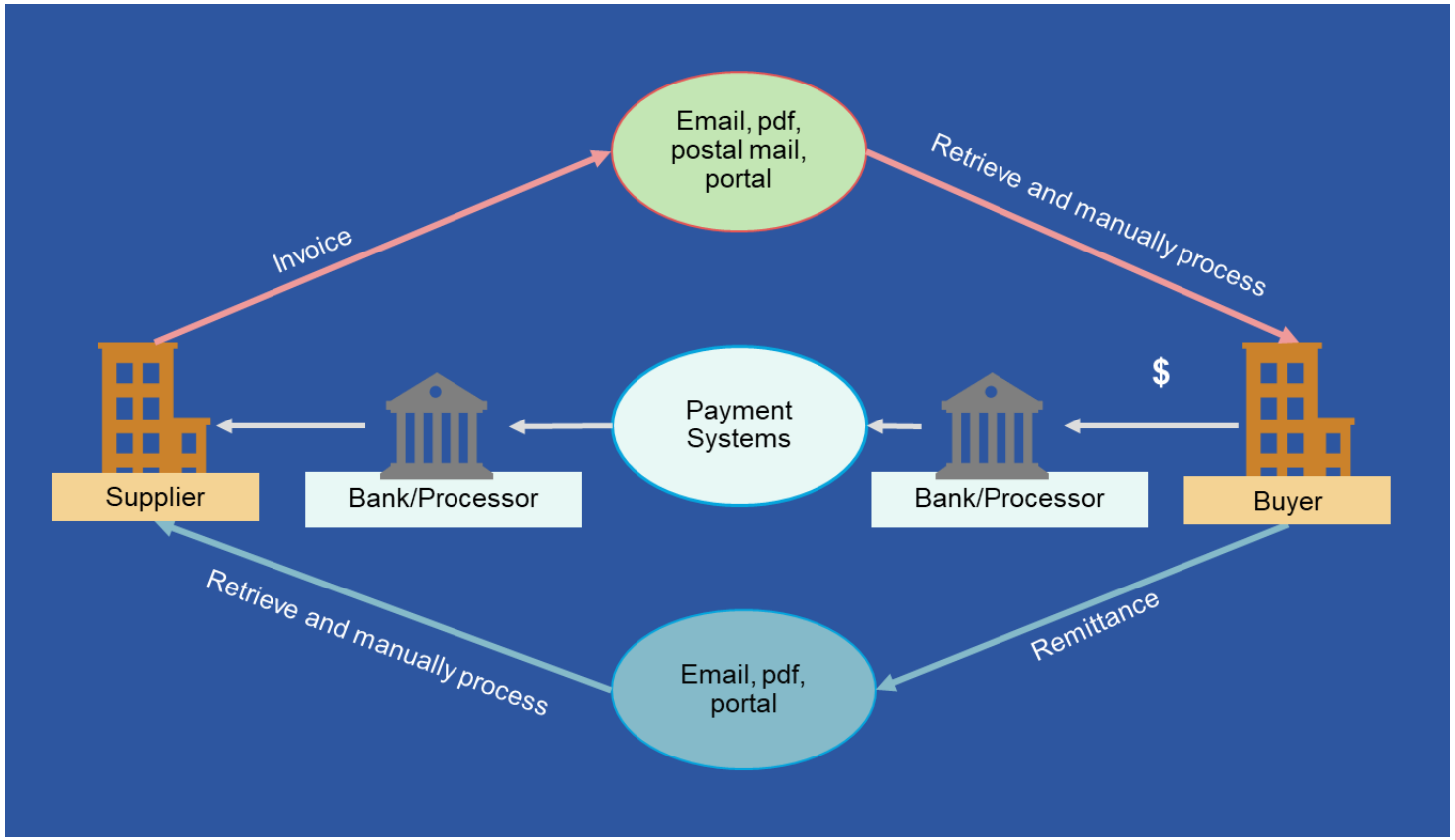
Exchange Framework: Why It Matters

The Situation: In the U.S. over 75% of Delivery and Processing of Invoices and Remittance Information is Manual, Costly and Creates Electronic Payment Adoption Friction



- Receiver retrieves the document and manually inputs into AP (invoices) and AR (remittance information)
- An estimated 45% of B2B payments are delayed when manual intervention is required
- Leads to manual, paper payments. Estimated 40% of B2B payments are still check payments.

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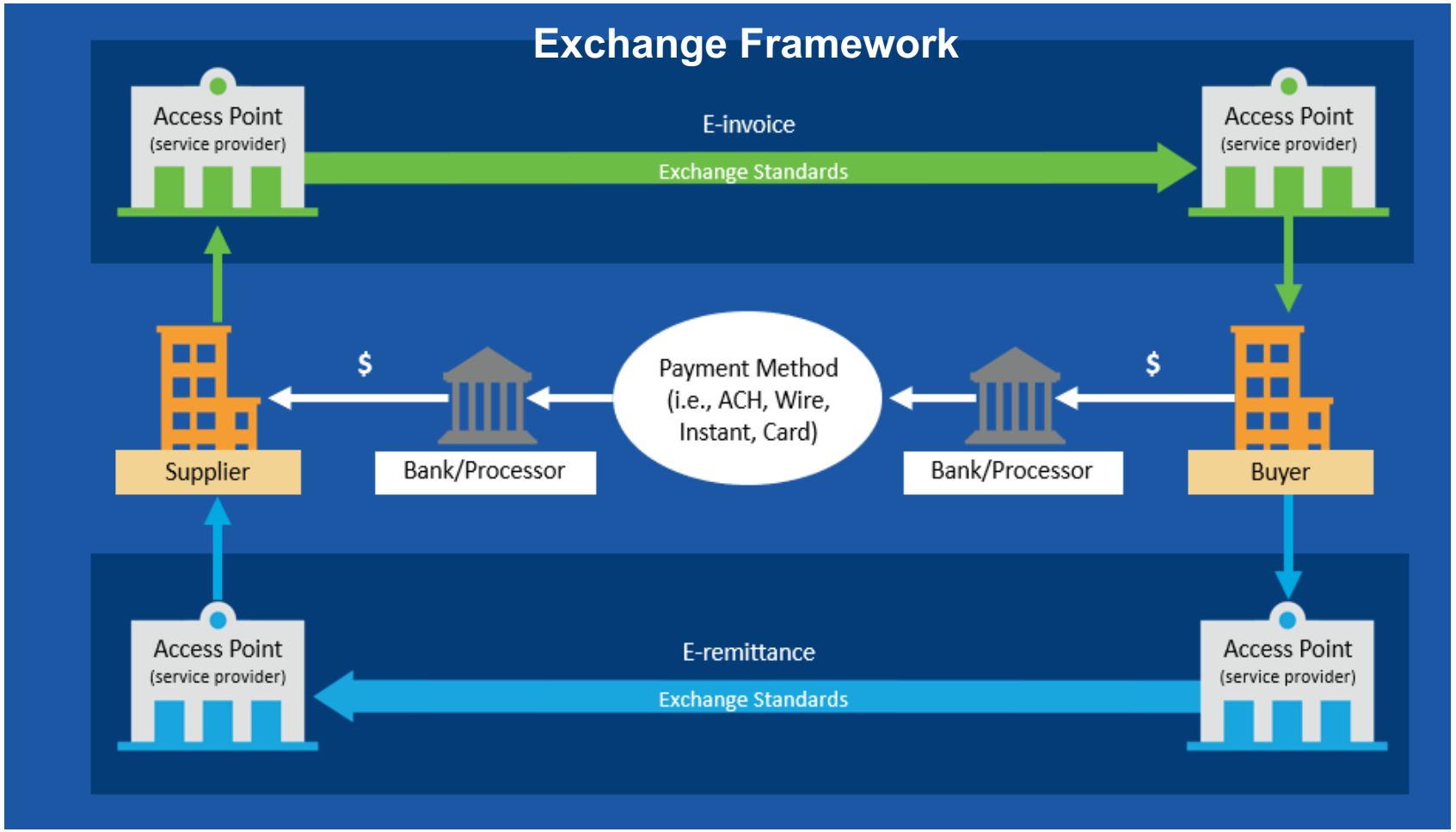
The Ideal State of B2B Payments Modernization



- **Payment Method Agnostic**
  - Supports all B2B payment methods and formats
- **Non-Disruptive**
  - Minimal or no change to corporate payment systems
  - Does not displace current processes and service providers, complements what is working today
- **System Agnostic**
  - No central operator or service provider controls the network
  - Addresses the most challenging efficiency pain point: invoice and remittance processing

Business Payments Coalition

The Business Payments Coalition

Since 2011, the BPC has been the only industry forum that brings all stakeholders together to drive end-to-end B2B payments processing efficiency

- Promotes electronic payments
- Facilitates B2B payment industry stakeholder collaboration to solve electronic payment processing inefficiencies
- Researches and identifies approaches to solve electronic payment inefficiencies
- Promotes standards and automation of payments-related processes
- Advocates for industry best practices to facilitate straight through processing

businesspaymentscoalition.org

Business Payments Coalition

The Exchange Framework Initiative

Currently in the Market Pilot step, this work centers on advancing the development, testing, implementation and interim oversight of the U.S. e-invoice exchange framework to enable businesses of all kinds to exchange invoices.

2022

- Implement pilot and interim oversight of the U.S. e-invoice exchange
- Develop long-term policies, rules, and guidelines for the oversight organization

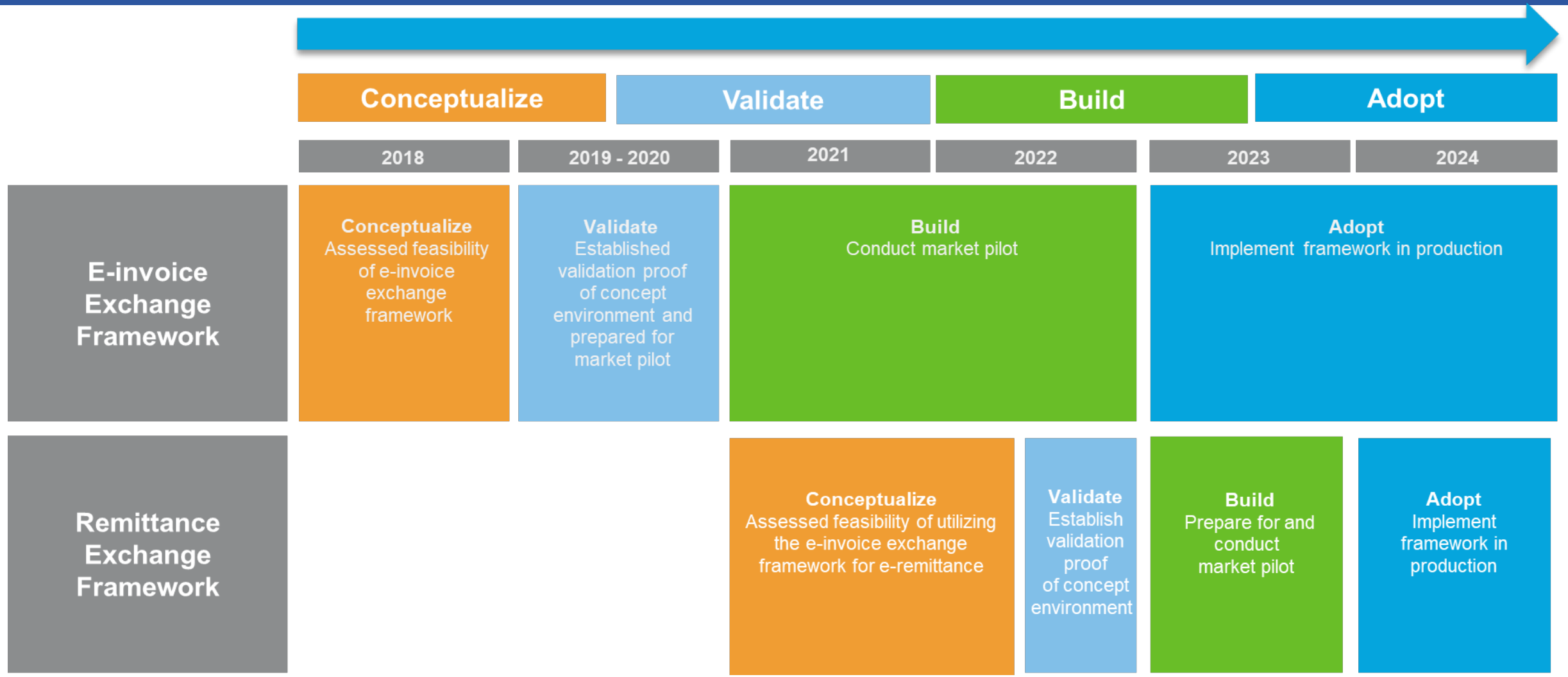
2023

- Establish the oversight organization and launch the Exchange Framework
- Pilot e-remittance in the Exchange Framework

Outcome:
An operational B2B exchange framework for the U.S. market in 2023.

Business Payments Coalition

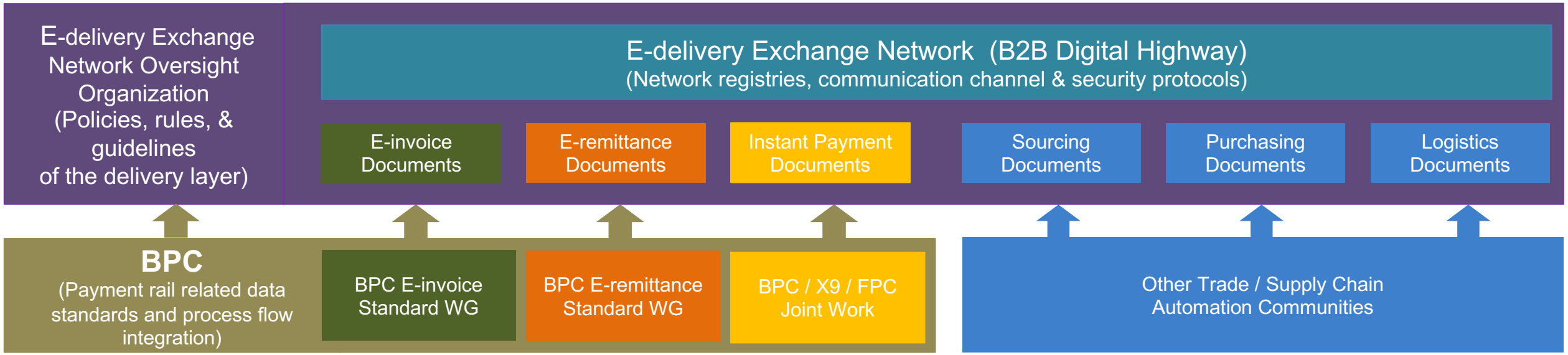
BPC Roadmap - The Steps to Electronic Exchange



Business Payments Coalition

Long Term Vision of the Exchange Framework

Long-term vision is to establish an E-delivery exchange network that supports the delivery of electronic payment and supply chain documents



Business Payments Coalition

Get Connected. Stay Engaged.

- ✓ Get involved with the E-invoice Exchange Framework Pilot
- ✓ Join the Business Payments Coalition and FedPayments Improvement Community

Business Payments Coalition

THANK YOU!

The Global Interoperability Framework (GIF)

Collaboration in the Connected World

OFS Portal Annual Conference

12 September 2022

Charles Bryant

GIF-WG Secretariat

Agenda

1. Introduction to the GIF
2. The GIF Components- the 4 ‘D’ s
3. Activities and next steps
4. Selling the benefits

EESPA

Peppol

connect ONCE

BPC

Business Payments Coalition

GIF Overview

- **The GIF** a set of **recommended practices**, policies, standards and guidelines
- Is a **neutral** vehicle
  - To guide the creation of individual interoperability networks (global, regional, national, sectoral) based on open collaboration
  - That supports buyers and suppliers to embrace digital business
  - That will help service providers to meet their customer's requirements
- That identifies **common interoperability artefacts**
  - That are proven, fit-for-purpose, robust, secure and can be supported and deployed irrespective of location
  - That will deliver faster implementation of network and end-user connections.
- **And importantly … the GIF is NOT:**
  - A proposal for a single global or a physical network
  - A solution in every situation

Essentially the GIF will:

- Support the operation of **any** ‘four-corner’ interoperability network
- Provide a network of dedicated access points, offered by service providers. to allow service providers to connect their customer networks for the secure and robust exchange of digital supply chain-related transactions such as e-invoices and orders.
- Enable smooth implementation of end-user business connections by building economies of scale and scope. As a state-of-the-art reference model, it includes well-accepted technology components and building blocks. and is open to innovation and evolution.
- Promote maximum alignment of various instances of interoperability frameworks in different geographical and sectoral settings. Interoperability between them will be facilitated to create a globally connected networ

GIF Working Group Members

Chris Welsh: Chair-GIF WG and ConnectONCE, and CEO OFS Portal

Todd M. Albers: Business Payments Coalition (USA)

Ahti Allikas: OpenPEPPOL and Opus Capita (ES)

Kenneth Bengtsson: Co-opted Expert, Chair UBL and BDXR TCs, and CEO Efact (PE)

Tim Cole: EESPA and Causeway Technologies (UK)

Michel Gilis: EESPA and CEO Advalvas Europe (BE)

Louis Hendriks: ConnectONCE and CEO Global Value Web (NL)

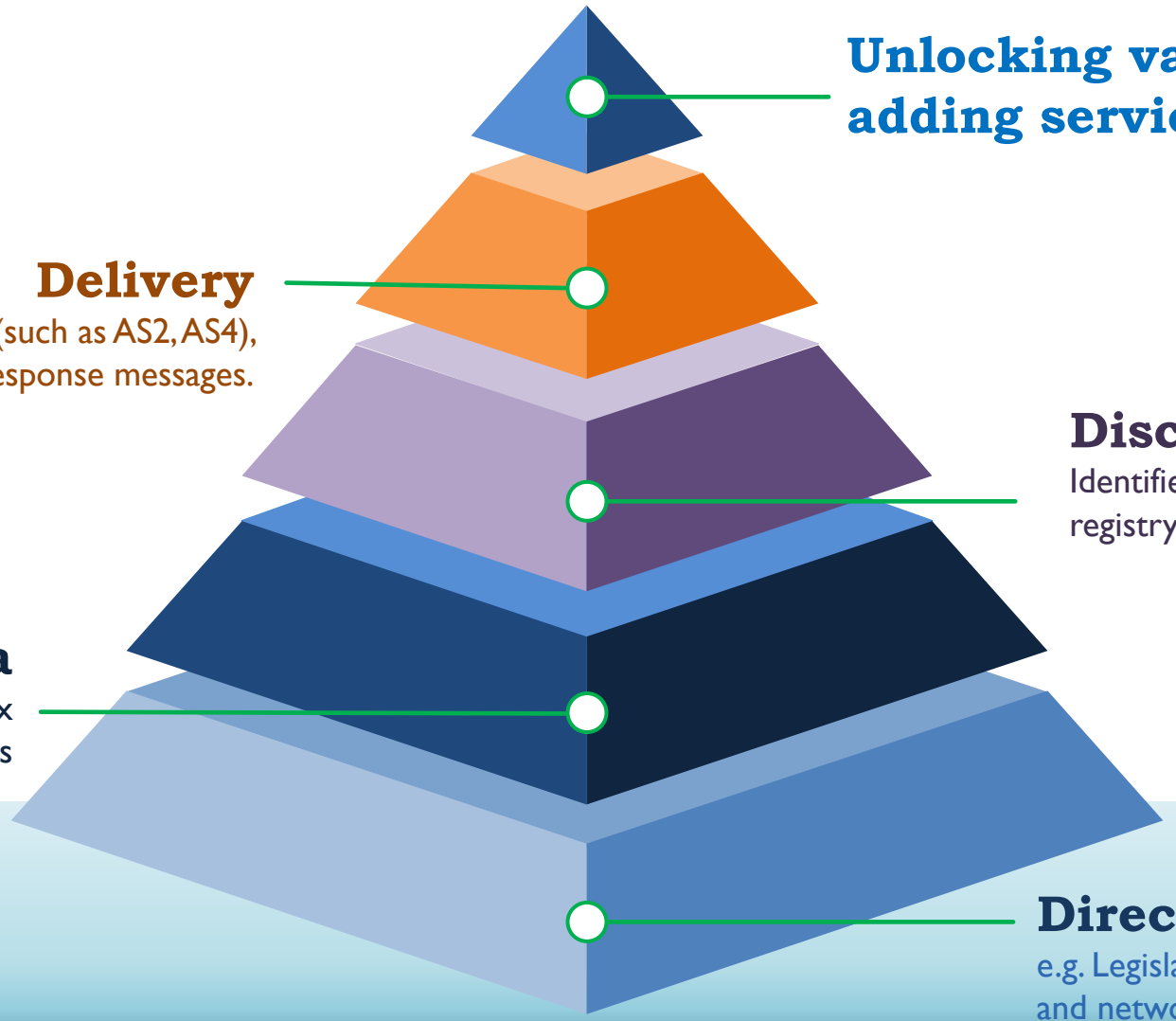
Arne Johan Larsen: OpenPEPPOL and Equinor (NO)

Cyrille Sautereau: Co-opted Expert and Chair French National e-Invoicing Forum (FR)

Charles Bryant: Secretary/Editor and EESPA founder (UK)

Their GIF recommended practices document version 1.0 was published in 2020 and is free to download at http://gifworks.io/

Global Interoperability Framework - Building Blocks



Unlocking value-adding services

Delivery
Transfer protocols (such as AS2, AS4), envelope, response messages.

Discovery
Identifiers, addressing, registry, etc.

Data
Semantic & Syntax standards

Directives
e.g. Legislative, business and network requirements.

GIF Overview - the components

Delivery:

The fundamental delivery / transmission network, based on protocols and technical artefacts, which permits interoperability at the technical level.

Discovery:

The basis on which information about a trading party is accessible to another trading party. Such information would include addressing, routing and service capabilities; be provided at the network level and complement information already known to the sender.

Data:

The business content that needs to be conveyed between parties.

Directives:

The legislative, regulatory and governance rules that surround the business environment.

GIF activities: supporting compliant implementations

1. Peppol: our ‘pioneer’ with mature solutions in numerous markets has recently delivered stream-lined agreements and created a Continuous Transaction Control (CTC) solution for fiscal reporting

2. EESPA is rolling out the new EESPA Interoperability Network (EIN) for inter-member exchanges

3. The BPC has moved from assessment to conducting its market pilot for North America including technical, oversight and registration components

4. Connect ONCE/OFS Portal is evaluating a GIF-compliant Energy Network

GIF- alignment and communication activities in 2022

1. Assessment of deeper convergence of technical components, such as profiles for AS4, identifiers, response messages, discovery messaging

2. Review of network governance/oversight models, policies and rules; progress a model multilateral agreement for network exchanges

3. Evolve the approach to data formats: for example, specific industry requirements anchored in a common approach

4. Communicate the benefits for all stakeholders: end-users, service providers and policy-makers

5. Reach-out to potential new opportunities: national, regional and sectoral

GIF - benefits

- **Meet the needs of end-users (buyers and suppliers):**
  - Accelerate the use of automated digital processes
  - Make it simpler and faster to connect to trading partners through common delivery rails
  - Support full end-to end compliance and process traceability
  - Is cost-effective through economies of scale and scope

- **Support industry service providers and network access points**:
  - Provide a base layer of common services agreed at a cooperative level
  - Provides common interoperability ‘building blocks’
  - Reduce and control adoption costs, whilst allowing a focus on value-added services

- **And for the whole digital economy:**
  - Create a secure, robust and scalable environment
  - Save time and effort by all parties
  - Support more harmonised real-time models for reporting, procurement, accelerated payments and archiving

The Global Interoperability Framework (GIF)

Open registration to be on the GIF Contact List

Download the Publication at: http://gifworks.io/

To contact the GIF Workgroup for Advice

Email: info@gifworks.io

Questions?

Peppol

The future is open

OFS Portal Annual Conference
September 12, 2022

GIF Implementation in Peppol

Ahti Allikas

Head of Partners and Networks, OpusCapita Solutions
Leader of Service Provider Community, OpenPeppol
Member of Management Committee, OpenPeppol

About Peppol and OpenPeppol

Peppol is what we do

- We integrate business processes by standardising the way information is structured and exchanged
- **Peppol** is the name of the Network and Business Interoperability Specifications that we provide, as part of a comprehensive Peppol Interoperability Framework, which includes legal agreements, governance and compliance measures

OpenPeppol is who we are

- We are a not-for-profit, democratic, member-led international association
- **OpenPeppol** was established in 2012 as a follow-up to the PEPPOL project launched in 2008
- Our members come from the public and private sectors, with membership continuously increasing as new members join from all around the world

Peppol members

End Users

- are buyers and sellers that send and receive business documents
- are ***not required*** to be members of OpenPeppol to send and receive messages

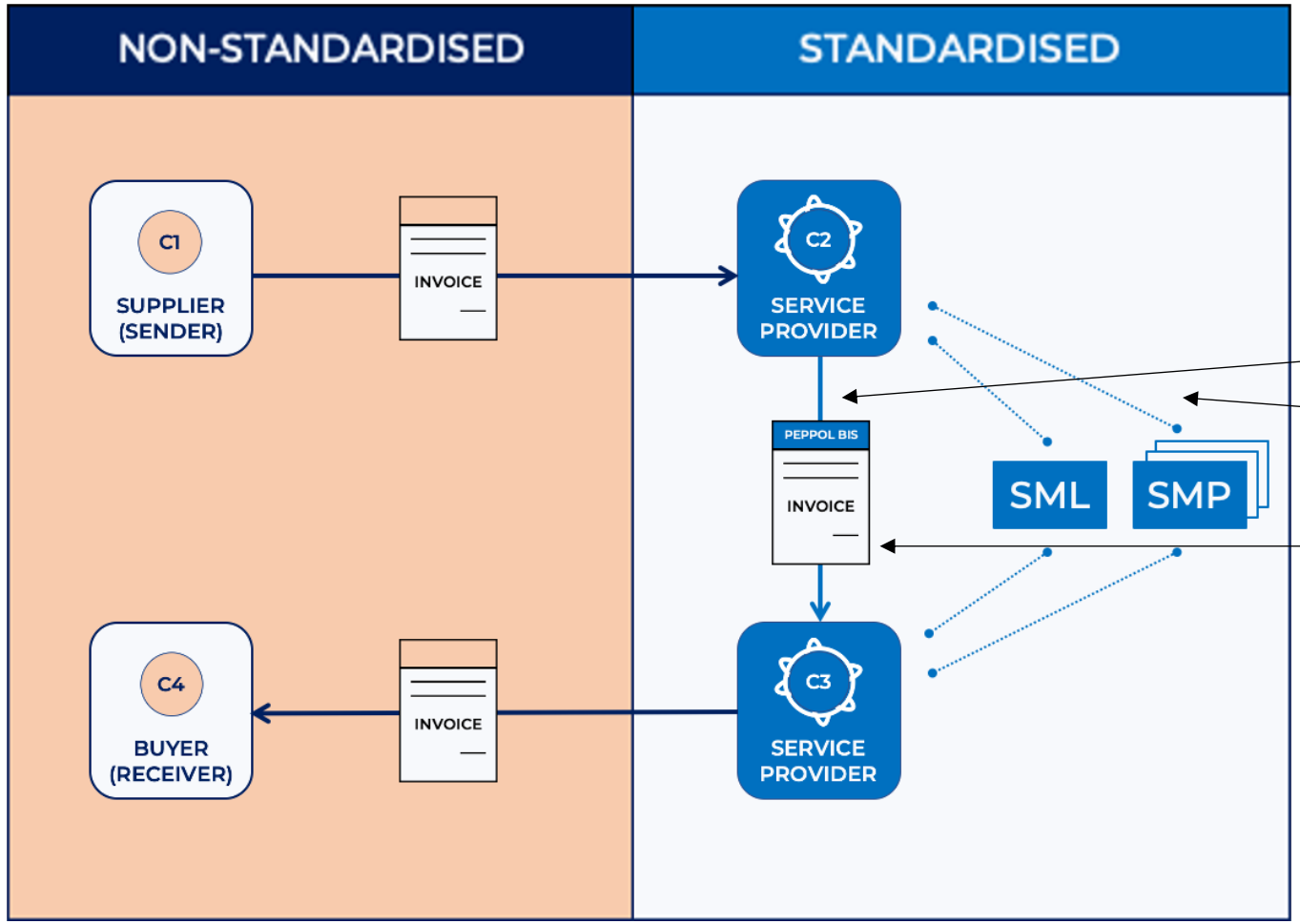
Service Providers

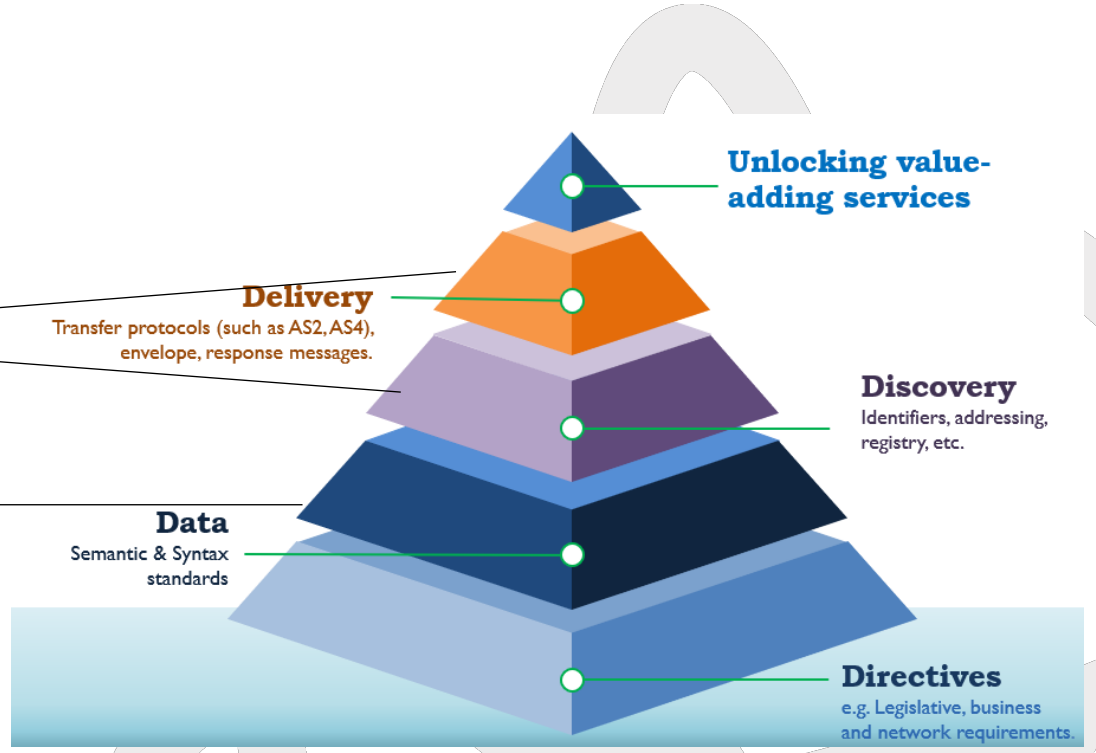
- enable business process interoperability between End Users
- provide Peppol *Access Point* and/or *Addressing and Capability Lookup* services

Peppol Authorities

- drive the adoption of Peppol in a jurisdiction
- all are government departments or agencies

The Peppol four-corner model





Peppol D’s

Data

Standardized message types described by Business Interoperability Specifications:

- 16 in prod
- 5 in test
- 6 in development

Discovery

Discovery is based on unique id of the receiver.

Receiver capabilities are registered in distributed SMP environment.

Receiver Data capabilities and Delivery technicalities are standardised

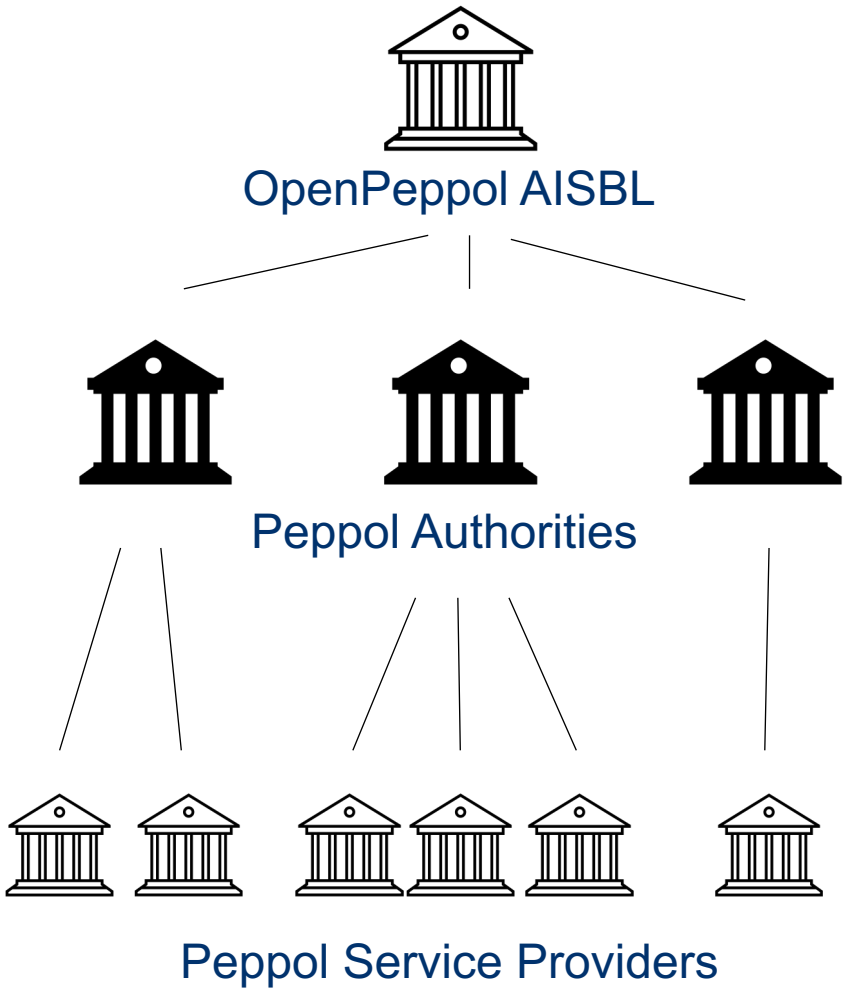
Centralised SML based on DNS stores information on unique ID and its SMP

Delivery

AS4 based delivery.

Centraliazed trust model based on delivery certificates.

Peppol Interoperability Framework and trust model



Peppol Interoperability Framework

Peppol Governance Framework

- Authority Agreement
- Service Provider Agreement
- Policies for the Use of the Peppol Network (Internal Regulations Part II)
- Operational Procedures for the Use of the Peppol Network
- Domain Specific Requirements
  - List of Applicable Specifications
  - Service Level Requirements
- PA-specific Requirements

Peppol Architectural Framework

- Peppol message specifications
  - Peppol Business Interoperability Specifications – Peppol BIS
  - PA governed specifications
- Peppol Network specifications
  - Packaging and Security
  - Messaging
  - Capability lookup and addressing

THANK YOU!

MORE INFORMATION

info@peppol.eu
www.peppol.org

FOLLOW US

B2B integration over the 4-corner model

Equinor's strategy for B2B interaction

OFS Portal annual conference
Sep 2022

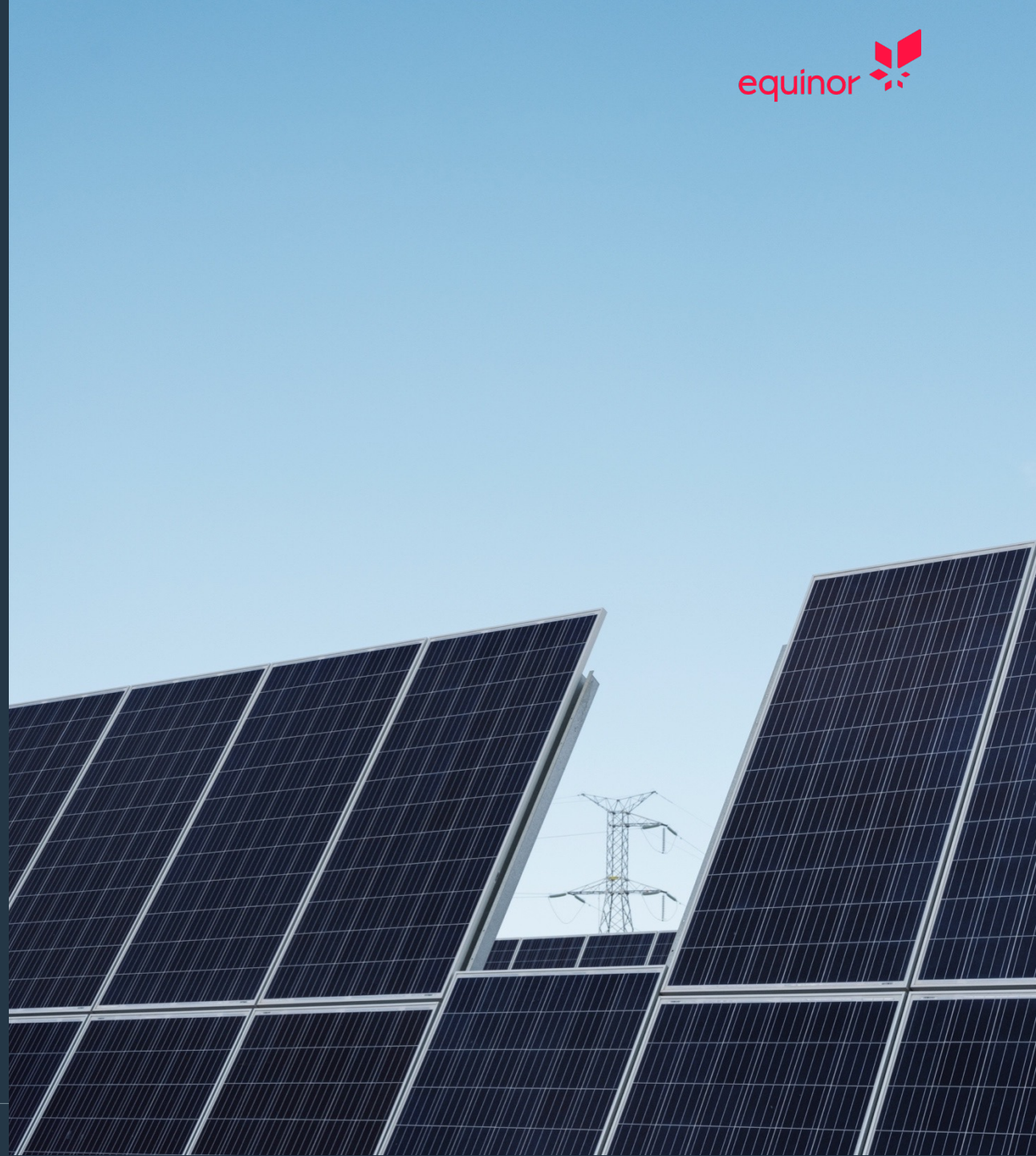
Equinor:
Driven by purpose, inspired by vision, guided by values

Our purpose
Turning natural resources into energy for people and progress for society

Our vision
Shaping the future of energy

Our values
Open, courageous, collaborative and caring

Our strategy
Always safe, high value, low carbon



A leading company in the energy transition

Turning natural resources into energy for people, and progress for society

Why we are changing

- Creating value through the energy transition
- Net-zero ambition gives new industry opportunities
- Technology excellence and innovation define winners
- Market dynamics set margins under pressure

Accelerating our transition

High value growth in renewables

New market opportunities in low carbon solutions

Optimised oil and gas portfolio

How we will get there - together

- Safe and secure operations
- Guided by our values
- Building on competencies and our experience
- Together as one team – engaging partners and society

Facts and figures 2021

4.397

Billion USD
adjusted earnings as of Q4 2021

>21,000

Employees

30*

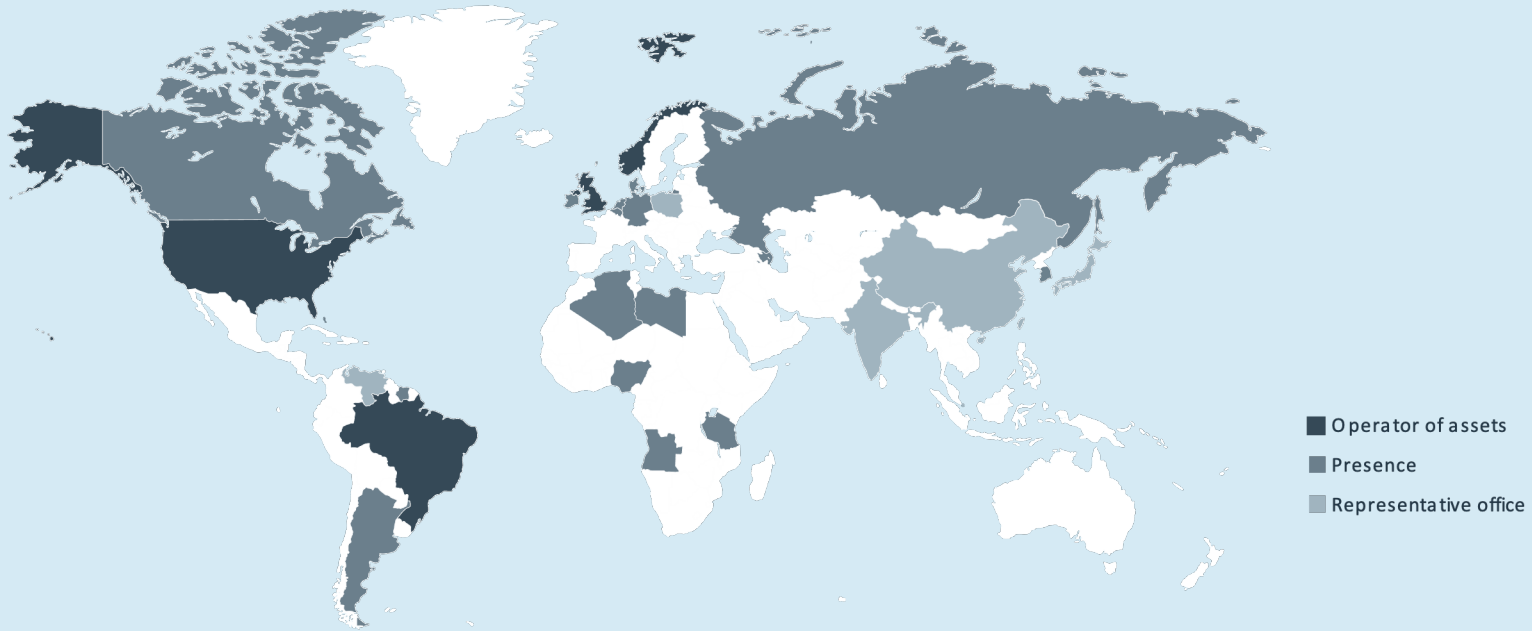
Countries

2.079

Million barrels
of oil equivalent per day

1,562

GWh
Renewable energy equity production



*In February 2022, Equinor announced its intention to exit its business activities in Russia.

Delivering together

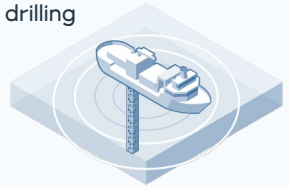
We engage with business partners and society as we work together to find solutions for a low carbon future.

Equinor supports the goals of the Paris Agreement. We report on climate related risks and opportunities and our portfolio and investments are assessed towards a well below 2°C scenario.

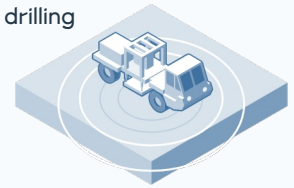
Our value chain

Exploration

Offshore seismic and drilling

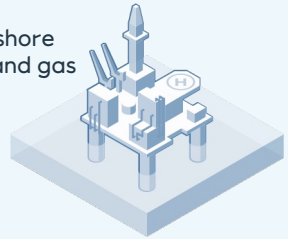


Onshore seismic and drilling

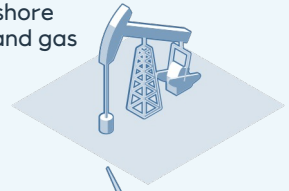


Development and production

Offshore oil and gas

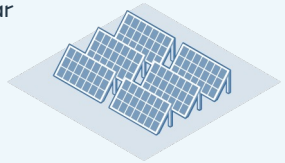


Onshore oil and gas



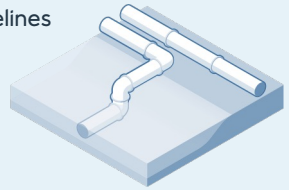
Offshore Wind

Solar

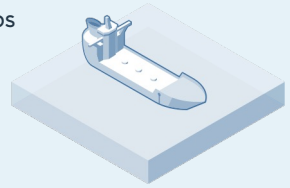


Transportation

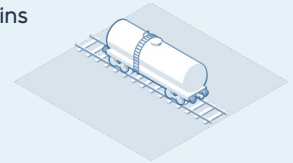
Pipelines



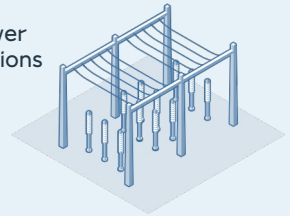
Ships



Trains

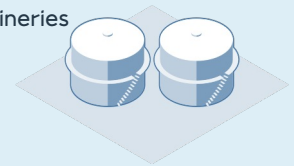


Power stations

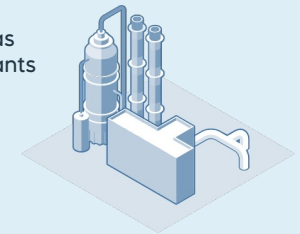


Processing and refining

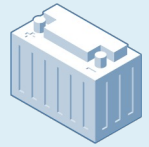
Refineries



Gas plants



Energy storage

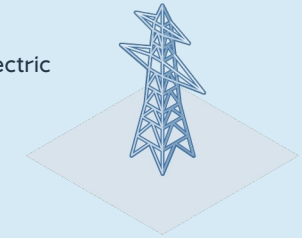


Marketing and trading

Oil

Gas

Electric



Our activities in the US

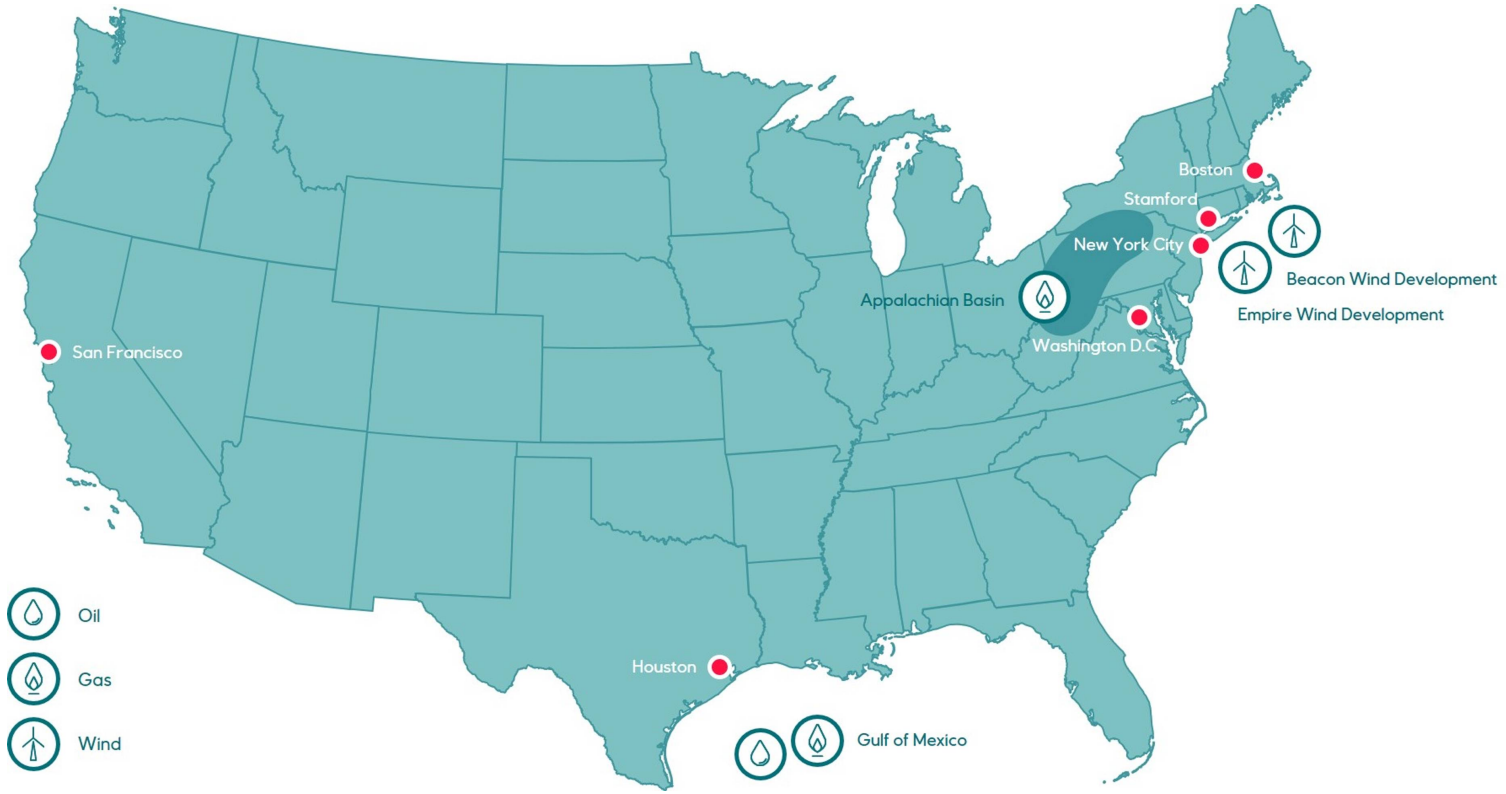
Since 1987, Equinor has had a presence in the United States. Today, our US offices are key to our strategy and helps drive innovation in our company.

The US is a core area for Equinor's oil & gas production.

- We are the 5th largest producer of oil & gas in the US Gulf of Mexico.

Lowering emissions

- In the US we are ambitiously working to reduce our emissions towards a zero emissions future.
- We're pursuing the development of offshore wind projects in the US and quickly becoming a leader in the country's growing offshore wind industry.



Equinor's history on business-to-business (B2B) digital interaction

- We were an early adopter of B2B, starting over 20 years ago when our company and many other oil and gas operators started the Trade-Ranger industry initiative.
- Even though we were following the "best practices" of supplier integration, we used a lot of efforts on onboarding, modification and maintenance on a multitude of solutions, formats and ways of integration
- We often spent much more time to agree on format, version and infrastructure than the actual content and business integration

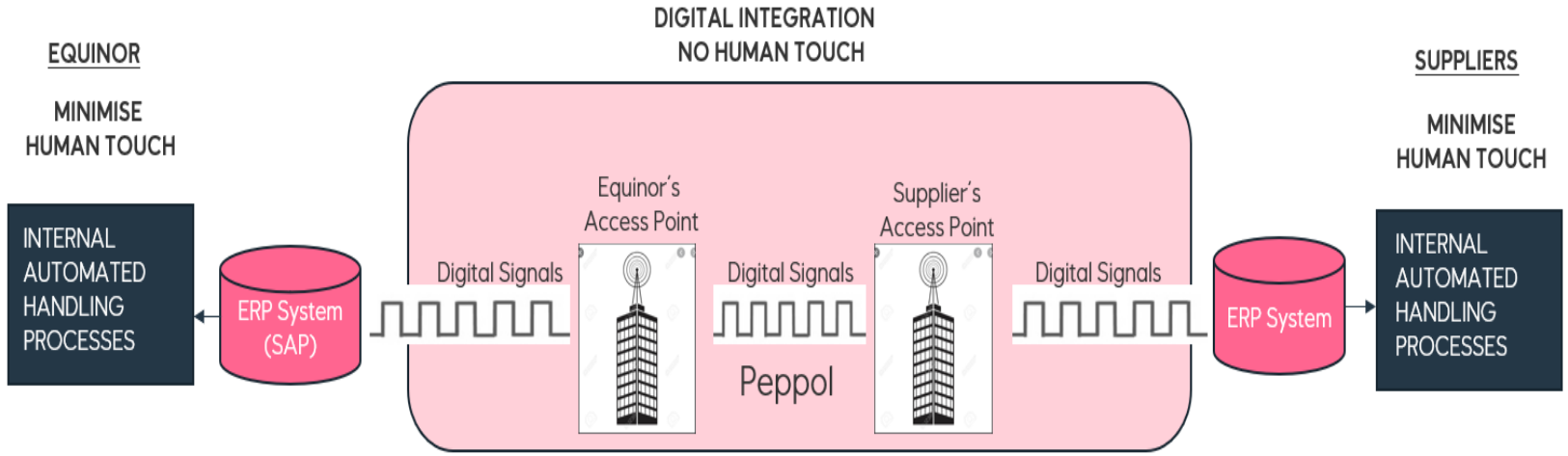
Finding solutions to reduce administration cost in Europe (2015)

- We were challenged to contribute to cost effective solution to bring down cost and administration within supplier collaboration
- Identified Peppol format and eDelivery infrastructure as the fastest and easiest to implement for both Equinor and our suppliers
- Solution was in production after 3 months of implementation consuming structured business messages and achieved the expectations for more automation that gave a lower cost and reduced administration for both our company and the suppliers
- The results was so good and achieved in such a short time frame, that we saw that this was a solution that successfully could support B2B interaction with relative low effort

Our ambition with B2B integration

Achieve a touchless digital interaction between Equinor and the suppliers with exchange of structured business transactions

Digital interaction includes electronic purchase orders, order confirmations, advance shipping notifications, VOR, invoices, invoice responses, logistics events++



To be able to deliver upon our ambition, the Global Interoperability Framework Model – UBL over a 4-corner "eDelivery" model (like Peppol and "BPC") is the preferred solution for supply chain business to business integration.

Equinor is standardizing on UBL business messages over a 4-corner model according to the recommendations from the Global Interoperability Framework. Examples from our Peppol implementation below have successfully enabled automation and simplification of work processes.

- This also an indicator for what we would like to see in the US

Equinor has already implemented:

- (basic) Ordering
- Advanced ordering
- Change Order Request
- Order response (approve/change/reject)
- Invoice & Credit Note
- Simple ASN (Despatch Advice)
- Complementary **Block Chain** / Smart Contracts for automated service approval (replacing field tickets and manual verification)

Equinor is in the early stage for piloting:

- Extended ASN
- Transportation booking
- Transportation planning
- Transport Status
- Weight Statement
- Waybill
- Invoice response (in process/approved/rejected/paid)

Planned for later:

- Catalog/Pricebook

Equinor parametric table for country specific settings

- Regardless if we as a sender and receiver produce and consume data in native UBL XML, or let an access point/service provider take care of this mapping, we see the need to control the use of master data from our ERP backend to the identifiers in the XML payload

CountryCode	Format	EPID_Indicator	EPID_SchemeID	PartyID_Indicator	PartyID_SchemeID	PartyTS_Indicator	PartyTS_Company ID_Text	PartyLE_Indicator	PartyLE_Company ID_SchemeID
BE	Peppol_V3	VAT	9925	ORG	0208	TAX1	BE/	ORG	0208
DE	Peppol_V3	VAT	0204	VAT	0204	TAX1	DE/	VAT	0204
DK	Peppol_V3	ORG	0184	ORG	0184	TAX1	DK/	ORG	0184
FR	Peppol_V3	VAT	9957	VEN	-	TAX1	FR/	VAT	9957
GB	Peppol_V3	LEI	0199	LEI	0199	TAX1	GB/	LEI	0199
IT	Peppol_V3	VAT	0201	VAT	0201	TAX1	IT/	VAT	0201
NO	Peppol_V3	ORG	0192	ORG	0192	VAT	/MVA	ORG	0192
SE	Peppol_V3	ORG	0007	ORG	0007	TAX1	SE/	VAT	-
SG	Peppol_V3SG	GST	0195	GST	0195	GST	-	GST	0195
US	BPC_10	DUNS	DUNS	TAX2	EIN	TAX2	-	TAX2	-
US	Peppol_V3	DUNS	0060	TAX2	-	TAX2	-	TAX2	-

Benefits with the 4-corner model in BPC and Peppol setting

- Works across industries
- Agnostic to a specific ERP system
- Open, independent network vs lock in to a specific business network
- Freedom to choose any of the certified access points (service providers)
- Implement once, re-use many times
- Enable trading partners to communicate without a previous bilateral agreement.
- The 4-corner model can be used for all business documents
- Even as an oil & gas operator, a substantial amount of procurement is not related to oil & gas (general consumables, IT equipment, consultancy hire, etc.)

US is important for Equinor, we will support to bring everything we can do in Peppol to the US Exchange Framework – and visa versa when the US Exchange Framework introduce capabilities not found in Peppol

During the US market pilot phase:

- We welcome our suppliers and partners to test with us in the ongoing BPC's E-invoice Exchange Market Pilot

After the US Exchange Framework is production ready:

- Equinor will be ready from day 1 and will request our suppliers and partners to join us on the US Exchange network from day 1

Join us on the **US Exchange Framework for the journey ahead!**

B2B integration over the 4-corner model

Arne Johan Larsen, Lead Analyst, SCM B2B/Supplier Integration
ajla@equinor.com, For B2B team enquiries: gm_ecommintegration@equinor.com

Emission-, climate-, environmental reporting is already part of our day-to-day operations

- Examples:
- Catalog, Order, Invoice (using elements that already exist in UBL)
  - Commodity classification - The commodity codes are used for classification of materials for reporting environmental data
  - Environmental code lists from the ISO 14000 series

- Additional for Logistics & ASN messages (using elements that already exist in UBL)
  - Transport Mode Code to calculate environmental emissions for the transport such as CO2 emissions
  - Transport service elements – self declaration of environmental impact

Global Interoperability networks

OFS Portal 20th Annual Conference,
Houston, Texas
September 12, 2022

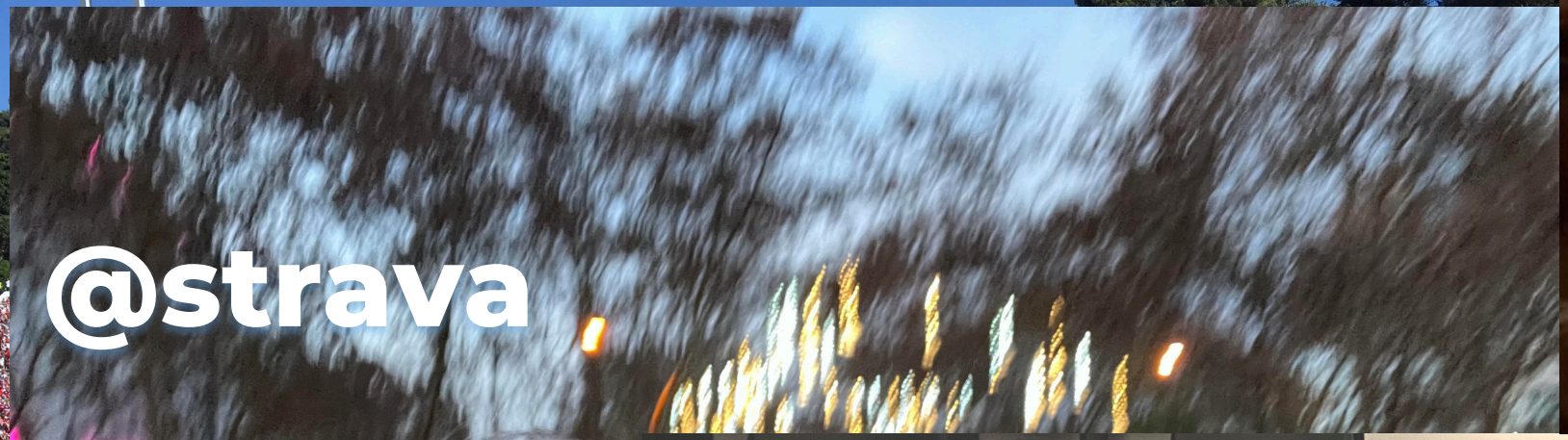
A relaxed approach...
or what you should know...
or why you shouldn't care...
or maybe is this my (biased) opinion...
... and you probably don't care*
*(and you are just feeling seek for reading this sub-title)

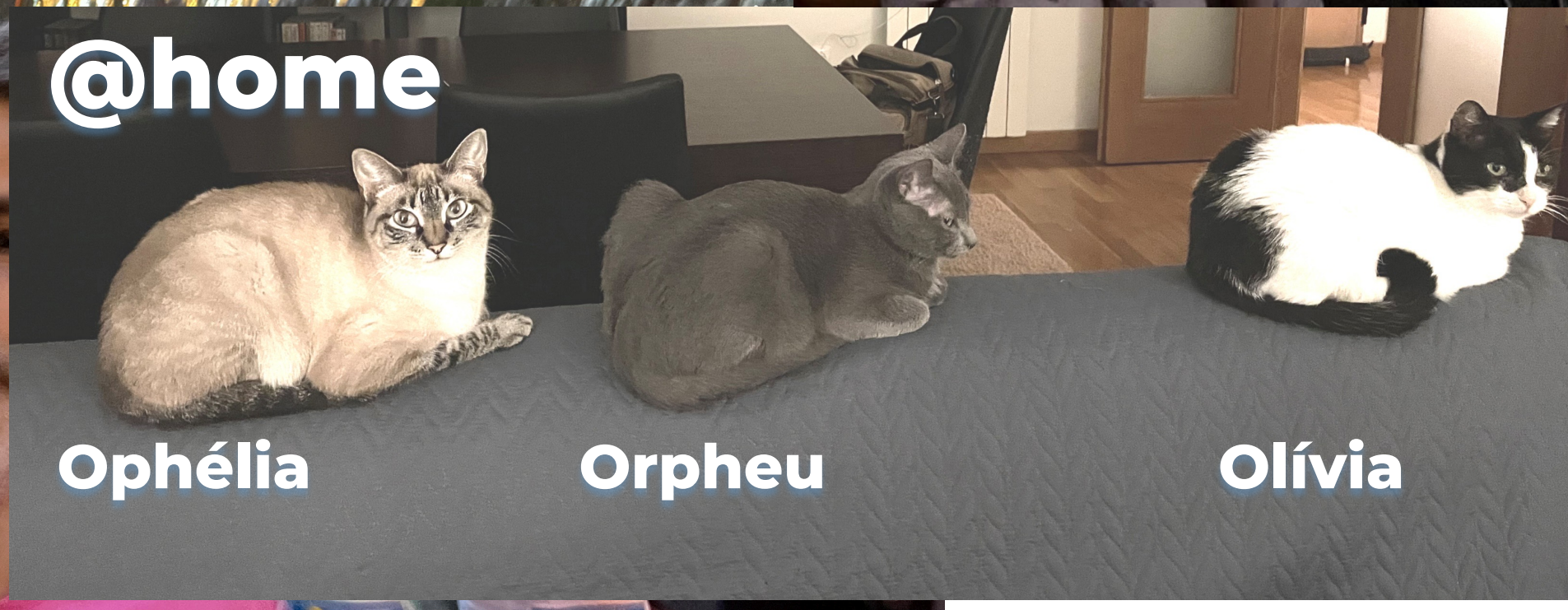
*Senior Vice President, CTO, **Saphety***
*Director, PD **SOVOS***

Jorge.Teixeira@saphety.com
Jorge.Teixeira@sovos.com


@Lisbon, Portugal

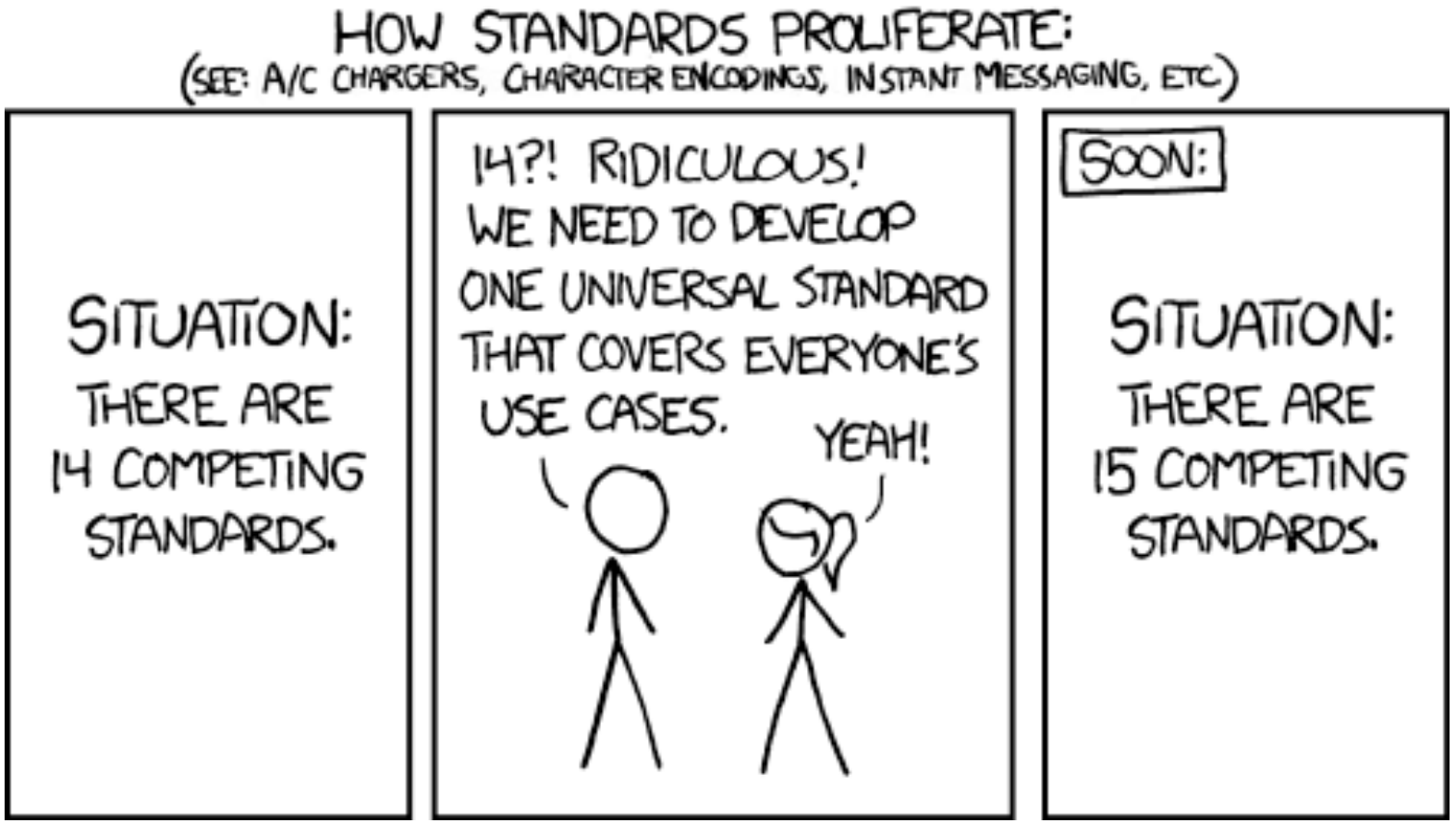

@Humor
Harmless nonsense*


@strava


@home
Ophélia
Orpheu
Olívia


sovos saphety
the invoice
network

The Messiah paradigm on standards



in : https://xkcd.com/927/

Saphety the invoice network

The boring stuff...

saphety the invoice network

The net buzzword bingo

BINGO

Sci-fy style world map	Standard	Secure	Encrypted	Resilient
Open	Global	Non-repudiation	Build on existing tech	Auditable
Best practices	Enterprise / SMB / Micro	**FREE SPACE**	Legally supported	Cross industry
(so) Easy to connect	Free	Your ERP/System is there	Everybody else is already there	Business will growth
Traceability	GDPR	Less costs + Efficiency		Acknowledgments


concept
brand
positioning


Compliance
Compliance
e-Delivery

10k
COMPANIES
Customer portfolio

190k
USERS
All over the world

52
COUNTRIES
In 4 continents

Business Areas

Electronic Invoicing

Saphety's electronic invoicing solutions help to automate and optimize business processes, with numerous advantages and savings. Whether issuing or receiving invoices, they are suited to different realities, regardless of geography, industry, volume, and legal or technological requirements.

34k
Users

123M
Archived invoices

48M
Financial Docs

43000M€
Transacted amount

Electronic Invoicing | Bill Presentment | Invoice Financing | Data Synchronization

https://corporate.saphety.com/en

2 Locations
LISBON, BOGOTA
Locations

~100
EMPLOYEES
88 - PT / 12 CO

~11
M€
Business volume

Business Areas

Electronic Invoicing

Saphety's electronic invoicing solutions help to automate and optimize business processes, with numerous advantages and savings. Whether issuing or receiving invoices, they are suited to different realities, regardless of geography, industry, volume, and legal or technological requirements.

34k
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Electronic Invoicing | Bill Presentment | Invoice Financing | Data Synchronization

About being global and biased

北冰洋
太平洋
大西洋
印度洋
欧洲
亚洲
非洲
大洋洲
北美洲
南美洲
俄罗斯
中华人民共和国
蒙古
哈萨克斯坦
印度
伊朗
土耳其
沙特阿拉伯
阿富汗
巴基斯坦
日本
朝鲜
韩国
印度尼西亚
菲律宾
泰国
越南
老挝
柬埔寨
缅甸
孟加拉国
尼泊尔
不丹
斯里兰卡
也门
阿曼
伊拉克
叙利亚
阿尔及利亚
利比亚
埃及
苏丹
乍得
尼日尔
马里
毛里塔尼亚
尼日利亚
埃塞俄比亚
索马里
肯尼亚
刚果民主共和国
安哥拉
赞比亚
纳米比亚
博茨瓦纳
南非
马达加斯加
莫桑比克
坦桑尼亚
乌干达
加蓬
喀麦隆
中非
摩洛哥
西班牙
葡萄牙
法国
英国
德国
波兰
意大利
瑞典
挪威
芬兰
乌克兰
白俄罗斯
冰岛
澳大利亚
新西兰
巴布亚新几内亚
美国
加拿大
墨西哥
古巴
委内瑞拉
哥伦比亚
厄瓜多尔
秘鲁
巴西
玻利维亚
巴拉圭
智利
阿根廷
乌拉圭
格陵兰（丹）
北京
东京
上海
莫斯科
新德里
伊斯兰堡
乌兰巴托
阿斯塔纳
德黑兰
开罗
利雅得
雅加达
马尼拉
曼谷
堪培拉
惠灵顿
华盛顿
渥太华
墨西哥城
利马
巴西利亚
圣地亚哥
布宜诺斯艾利斯
伦敦
巴黎
柏林
罗马
马德里
里斯本
安卡拉
内罗毕
比勒陀利亚
国际日期变更线
夏威夷群岛
阿留申群岛
北马里亚纳群岛
马绍尔群岛
密克罗尼西亚联邦
所罗门群岛
瓦努阿图
斐济群岛
法属波利尼西亚
新喀里多尼亚（法）
塔斯马尼亚岛
南磁极（2000年）
北磁极（2001年）

Being global

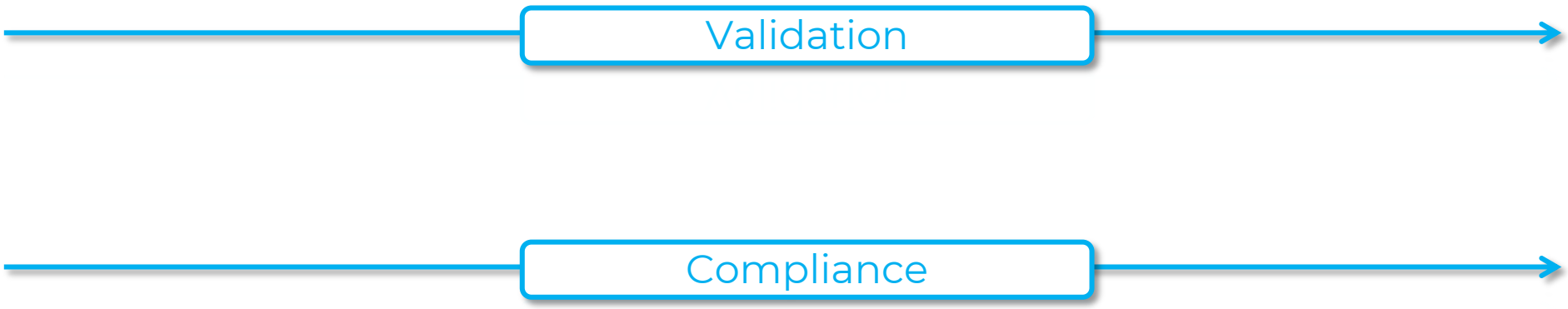

For sure this image is a from a different presentation deck...
DIVERSITY
EQUALITY
INCLUSION

We could tell a lie...

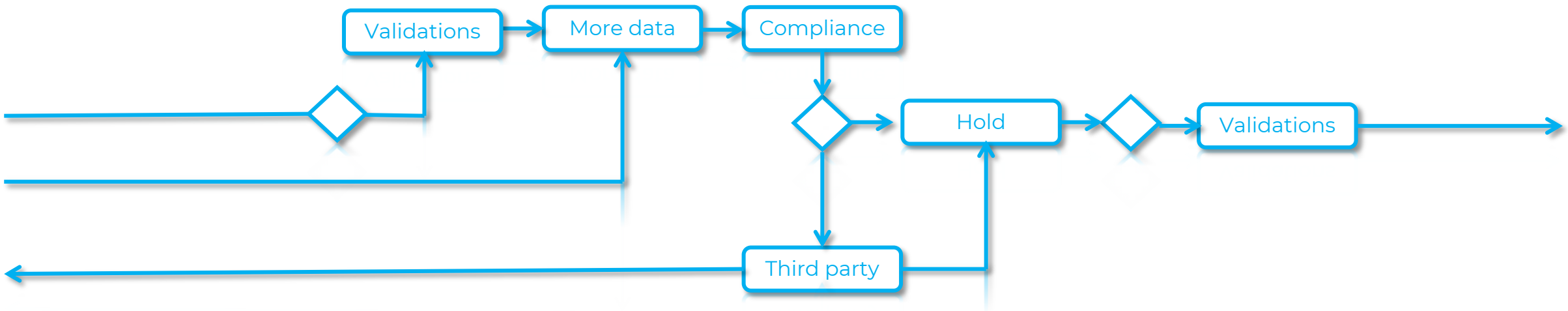
but...we don't know much about your business


From oil to olive oil
From corianders to gas stations

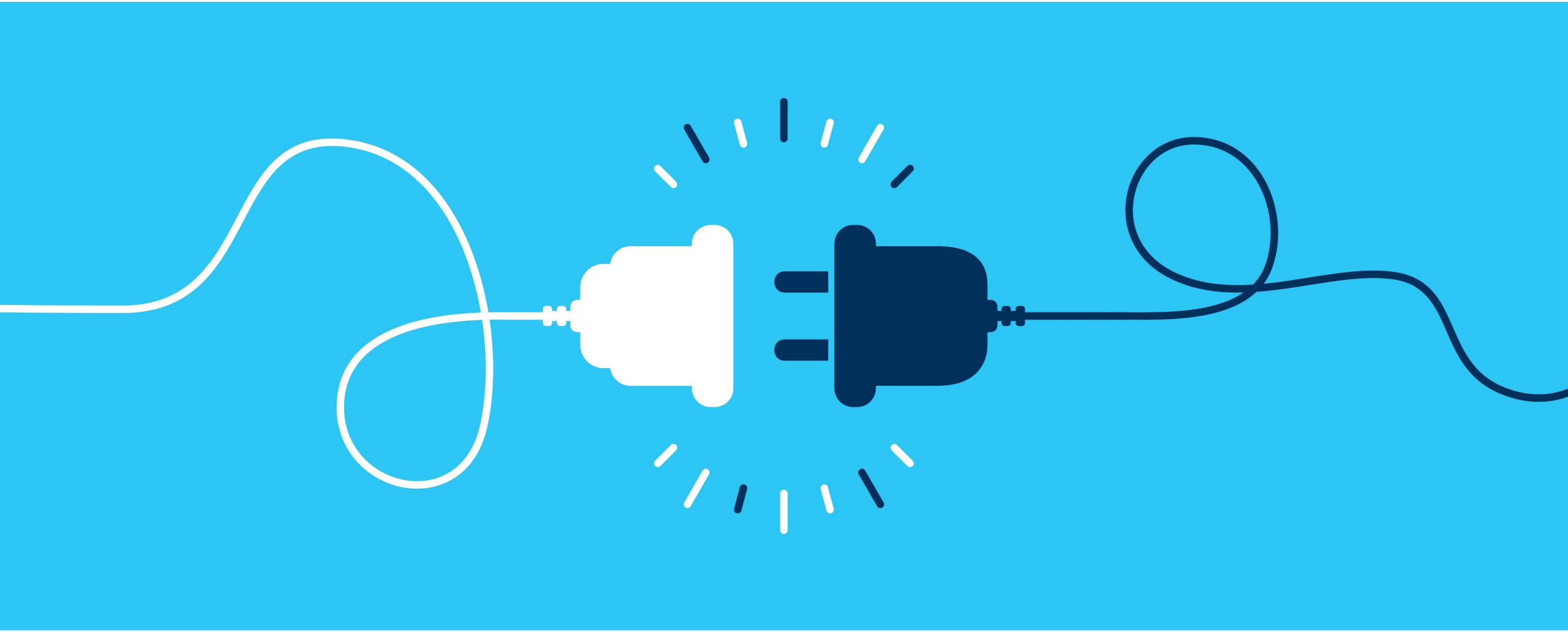
Simple flows



Complex flows



(Global) Networks we participate in



GDSN, PEPPOL, EESPA, BPC*, ourselves**

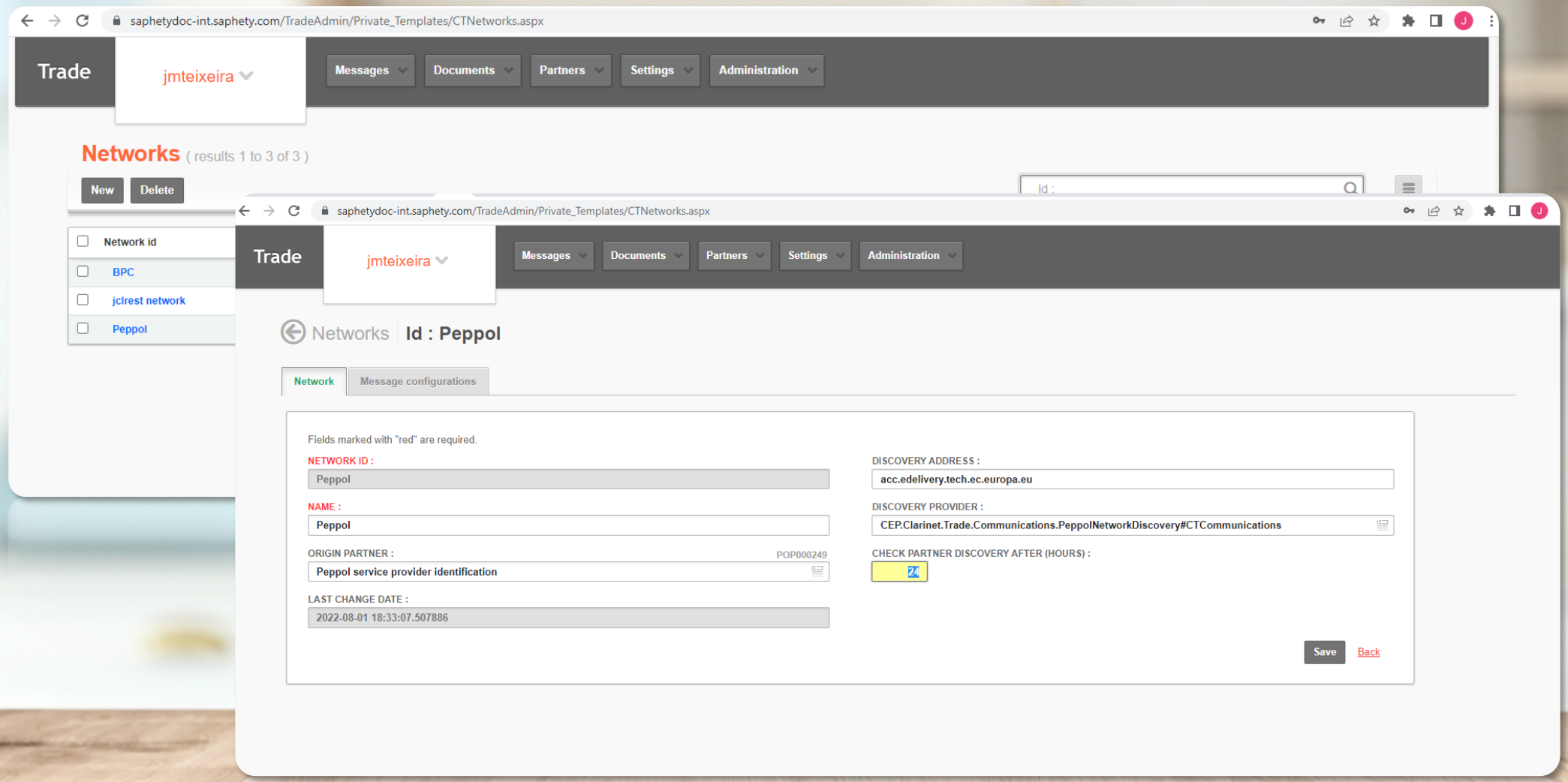

Boring and relaxed...


Same blueprints

This allow us to apply the same recipe

There is always a discovery system


There is always
a registration


saphetydoc-int.saphety.com/TradeAdmin/Private_Templates/CTNetworks.aspx
Trade
jmteixeira
Messages
Documents
Partners
Settings
Administration
Networks (results 1 to 3 of 3)
New
Delete
Id :
Network id
BPC
jclrest network
Peppol
saphetydoc-int.saphety.com/TradeAdmin/Private_Templates/CTNetworks.aspx
Trade
jmteixeira
Messages
Documents
Partners
Settings
Administration
Networks
Id : Peppol
Network
Message configurations
Fields marked with "red" are required.
NETWORK ID :
Peppol
NAME :
Peppol
ORIGIN PARTNER :
POP000249
Peppol service provider identification
LAST CHANGE DATE :
2022-08-01 18:33:07.507886
DISCOVERY ADDRESS :
acc.edelivery.tech.ec.europa.eu
DISCOVERY PROVIDER :
CEP.Clarinet.Trade.Communications.PeppolNetworkDiscovery#CTCommunications
CHECK PARTNER DISCOVERY AFTER (HOURS) :
24
Save
Back

Our kitchen

dcn-solution-int.saphety.com/Dcn.Client/private/groups/search

saphety
the invoice network

Home
Documents
Networks
Notifications
Help

Simão Godinho BO

List of networks

In addition to the Saphety Invoice Network, you will be able to connect to more entities that are your customers that belong to other networks. We are connected to more than 2200 entities outside the Saphety network.

Search entity across all networks

NETWORKS WITHOUT ACTIVATION COST

Saphety
See 150 Entities

Network connected — Since 29/06/2022

Espap
See 7 Entities

Requires to accept Terms & Conditions / Privacy Policy

Waiting network approval — Since 20/07/2022

NETWORKS WITH ACTIVATION COST

PEPPOL
See 800+ Entities

(Some message)

iLink
See 1 Entities

Network connected — Since 29/06/2022

Indra
See 4 Entities

Network connected — Since 29/06/2022

Seres
See 3 Entities

Waiting network approval — Since 02/08/2022

Yet
See 9 Entities

Requires to accept Terms & Conditions / Privacy Policy

Make payment — 1€ (+ VAT)

Feedback

(Did you notice the payment button?)

Our kitchen

dcn-solution-int.saphety.com/Dcn.Client/private/groups/search

saphety
the invoice network

Home
Documents
Networks
Notifications
Help

Simão Godinho BO

Mi

6 resultado(s) encontrado(s)

Ver todas as redes

Saphety
150 Entities

Network connected

ADMINISTRAÇÃO REGIONAL DE SAUDE DO NORTE, I.P. PT503135593	R. SANTA CATARINA, 1288 4000-447, PORTO, Portugal
SPMS - SERVIÇOS PARTILHADOS DO MINISTÉRIO DA SAÚDE, E.P.E. PT509540716	Av. República, 61 1050-189, LISBOA, Portugal
Secretaria-Geral do Ministério da Administração Interna PT600014665	Praça do Comércio, Lisboa 1223-802, Lisboa, Portugal

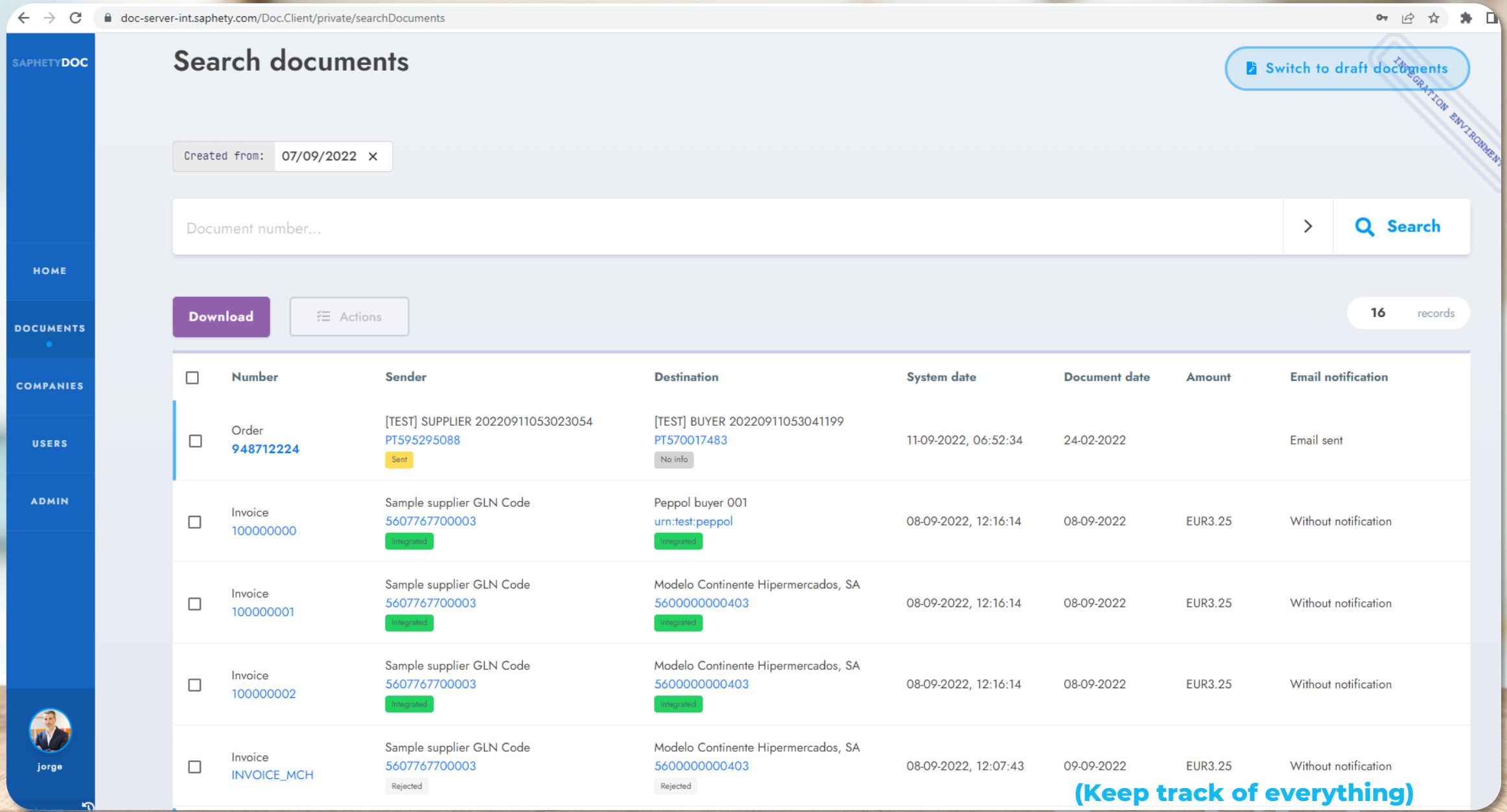
PEPPOL
50 Entities

Waiting network approval

This is the main name (English) iso6523-actorid-upis::0007:sgdirectory	Geographical information 1600-001, Thailand, TH
TEST Insurex 00 (English) iso6523-actorid-upis::0007:testinsurex00	Sweden Sweden (SE),
TEST Insurex 01 (English) iso6523-actorid-upis::0007:testinsurex01	Sweden, Sweden [SE]

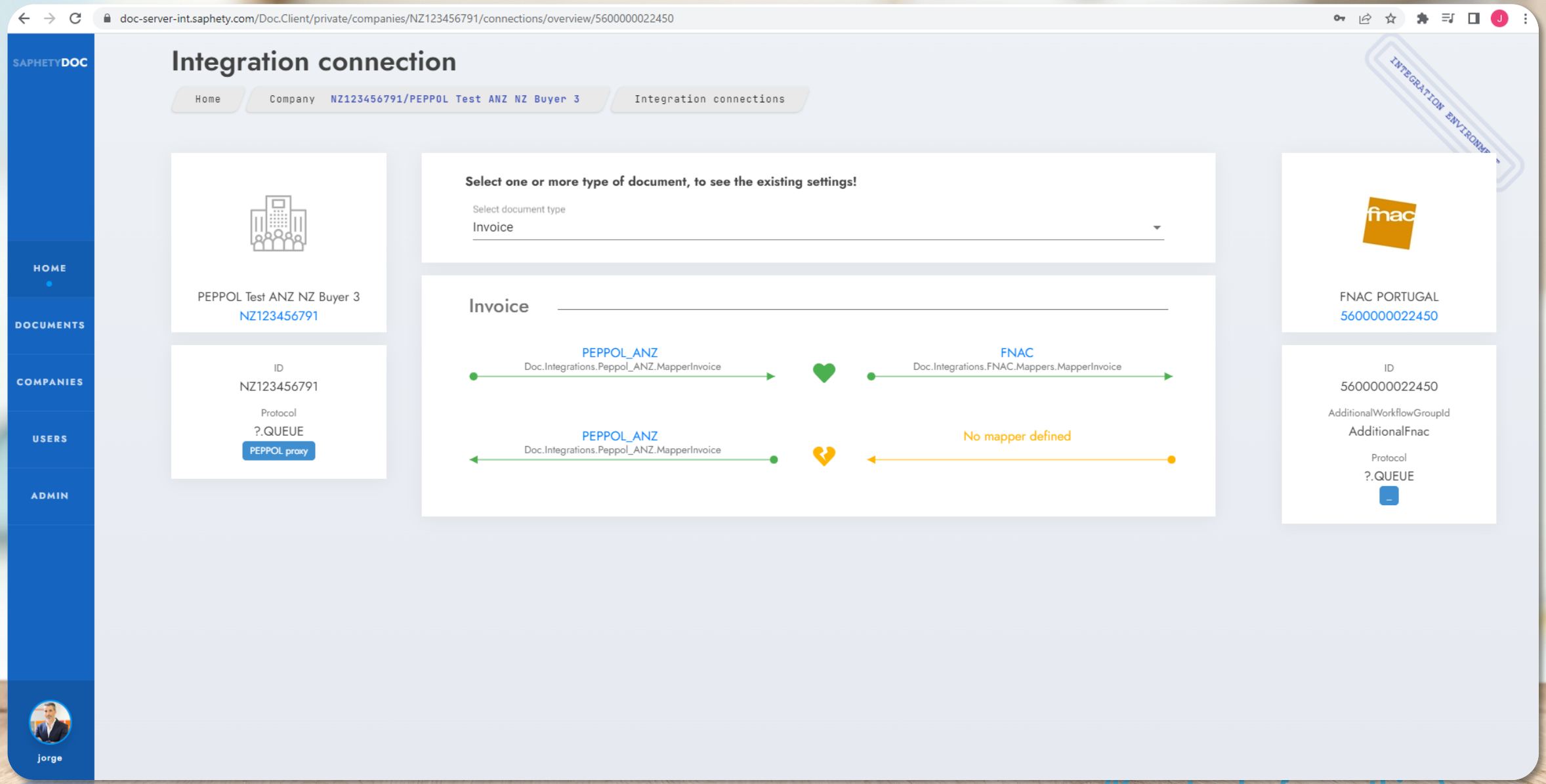
Feedback

(Discover by yourself)
Our kitchen



(Keep track of everything)

Our kitchen



(Keep track of everything)

Our kitchen

Thank you!

See you in Lisbon, Portugal


In the center
and globally connected

Halliburton Electronic Invoicing

Business-to-Government (B2G)

Tax Authority Requirements Case Study

HALLIBURTON

Value Moment – First Steps to Mindfulness

Mindfulness is best defined as "paying attention in a particular way on purpose, in the present moment, and non-judgmentally."

- Jon Kabat-Zinn

You can be mindful in two main ways by:

Doing simple practices (medications) but also by being completely in the moment enjoying something simple like eating your lunch so you really taste and appreciate it rather than gulping it down.

Neuroscience is helping us understand how our brains work and the effects mindfulness can have upon it. Mindfulness can be used in two way to help you when you encounter stressful situations in your every day lives.

1. It can help keep you calm. Feeling some stress and anxiety around a presentation or an important meeting is natural and indeed can help boost performance. It's when it becomes too much that is becomes a problem. Mindfulness helps calm activity in a bit of your brain associated with worry.

2. Mindfulness can also help increase the neural connections in the front of your brain. This is part of the brain associated with memory, your ability to solve problems and helps manage distractions.

One of the simplest mindfulness practices is focusing in on your breadth. This helps create a sense of calm which is great for reducing worry and helps increase your focus and memory as well as helps you to make better, more skillful decisions.

HALLIBURTON

Agenda

Business to Government (B2G) Deployments

- Overview
- Challenges and Risks
- Similarities and Variances
- Key Deliverables
- Standardized Approach
- Key Takeaways

Overview of Business-to-Government (B2G)

How do we define a Business-to-Government (B2G) deployment?

- Federal mandate requiring legal entity invoices be submitted electronically for certification.
- Coordinate with 3rd Party vendor (EDICOM) to validate and format PIDX XML invoices for submission to Tax Authority on behalf of Halliburton for certification.
- PDF certified invoice are made available by EDICOM in order to incorporate into our invoice pack.

Why are these deployments significant for suppliers in the Oil and Gas market?

- Ensure invoices comply w/ Tax Authority decrees to avoid customer invoice rejection due to missing invoice certification.
- Key drivers include reduction in tax fraud, in country revenue recognition reporting, and accurate VAT compliance accuracy across market sectors.

What is unique about this type of invoicing?

- Unless you adhere to the federal requirements and timelines you will not be able to invoice in country.
- Transmission of all invoices based on Tax Authority requirements while still being able to automate customer invoice delivery.
- Federal invoice requirements are not static and get updated regularly with hard go-live dates.
- Contingency invoicing is required as a backup method for key business scenarios should it be needed.

Overview of Business-to-Government (B2G) cont.

How are Tax Authority decrees communicated?

- Stakeholders/ Tax/ or Finance Departments contact eCommerce regarding Tax Authority decrees and timelines.
- EDICOM (3rd Party) provides monthly updates to OFS Portal Members on future B2G mandates and decrees.

Our current and in progress B2G deployments include…

- **India:** (GST)
- **Egypt:** (ETA)
- **KSA:** (GAZT)
- **Mexico:** (SAT)
- **Colombia:** (DIAN)
- **Argentina:** (AFIP)
- **Italy:** (SDI)
- **Bolivia:** (SIN)

Challenges and Risks

B2G deployments are by far the most complex as a result of the number of validations that take place (3).

Deployments can take as long as 12 months to complete.

Deployments require coordination between multiple stakeholders such as BD, CFS, Tax, OTC, IT and Billing.

Change Management is a critical step in any B2G deployment requiring training, communication, defining user roles and responsibilities as well as post-production support.

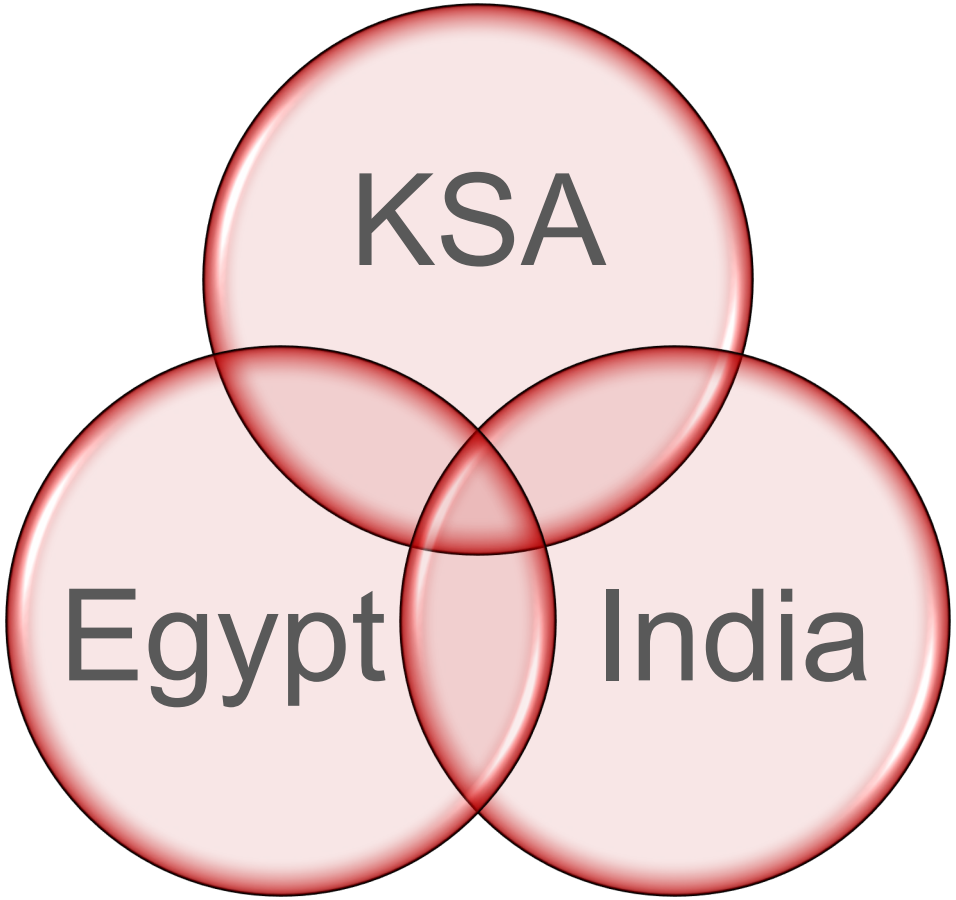
Stakeholders will continue to own the sales order and invoicing process post deployment

Each country deployment has their own unique set of federal requirements causing potential code changes.

- Mandatory data requirements by the Tax Authority for certification that do not currently exist.
- These mandatory fields directly impact our ability to meet the federal Go-Live date resulting in the use of workaround solutions.

B2G deployments are never static on average updates are communicated 6 to 12 months after the initial deployment.

Similarities



In highlighting three of our most challenging B2G deployments as part of our case study we were able to identify similarities between these integrations.

KSA/ Egypt/ India

- The Tax Authority requires invoices to be submitted in local currency.
- UOMs from SAP/ XML will be converted to Tax Authority acceptable UOMs.

KSA/ Egypt

- VAT invoice amount needs to be submitted in local currency.

KSA/ India

- Invoices for Services are presented to the customer as a lump sum invoice (one line item).

Egypt/ India

- Tax Authority requires invoices to have a code (provided by the Tax Authority) added for each line item on the invoice.
- All line items and invoice summaries are required to be submitted in local currency.

Variances

Egypt (ETA)

Required certificate (USB token) to be registered w/ the ETA.

Registration for each SAP material w/ the ETA for EGS code assignment.

EGS code is different per legal entity.

KSA (GAZT)

GAZT requires invoices w/ UUID, QR Code and invoice numeration from the issuer.

GAZT requires invoices to be in local language.

India (GST)

Invoice Number Reference (IRN) will be generated by the Invoice Registration Portal (IRP) for all invoices.

Supplier Legal name is registered by the Plant where materials and services were provided.

GST requires HSN Code per line item. (Material & Services)

Key Deliverables

- Country specific PIDX XML Invoice
- Country specific certified PDF Invoice
- Functional mailbox for delivery of certified invoices
- EDICOM invoice validation disputes are received electronically with dispute details
- Local personnel training (Internal/ External)
- Project/ Communication Plan (Internal/ External)
- Go-Live Hypercare
- Post Go-Live Hypercare Support

Standardize Approach

- EDICOM provide a list of requirements from the Tax Authority which includes both optional and mandatory data elements.
- In-country workshop (Kick-Off) to review scope, federal requirements, identify all business scenarios, project plan, and develop standardized PDF invoice layout.
- If there are any mandatory fields that do not exist in SAP Halliburton and EDICOM will determine how these fields will be included in the file sent to the Tax Authority if either by Halliburton, EDICOM, or both.
- Review and mapping of all the required fields resulting in the provision of XML tags to EDICOM for certification.
- In-country workshop (Change Management) to review dispute mitigation process, communication plan, and EDIWIN portal.
- Before testing begins training is provided to local teams to outline the key differences in the future state vs the current state.
- Configuration of in-country customers and transmission setup in SAP for electronic invoicing (Test and Prod).
- During Go-Live a large sample of invoices are monitored one at a time to ensure delivery and successful certification.

Key Takeaways

- B2G deployments are driven by Federal mandates requiring in country legal entity invoices be submitted electronically for certification.
- EDICOM is our 3rd Party vendor for validating and formatting PIDX XML invoices for submission to the Tax Authority on behalf of Halliburton.
- B2G deployments are by far the most complex as a result of the number of validations that take place (3) in addition to the change management components required for successful transition.
- Country specific Federal requirements cause additional code changes, which directly impact Federal Go-Live dates resulting in the need for workaround solutions.
- Federal invoice requirements are not static and get updated regularly within 6 to 12 months.
- There are similarities and differences between B2G deployments:
  - Similarities: Invoices in local currency, Federal approved UOMs, standardized certified invoice PDF, and invoicing is Federal Tax ID driven.
  - Variances: Federal requirements are unique per country, token registration to transact with Tax Authority is necessary, and material/ services Federal codes are mandatory.

Key Takeaways cont.

- **Key Deliverables:**
  - Country specific PIDX XML Invoice
  - Country specific certified PDF Invoice
  - Archiving of certified PDF Invoices
  - Training (Internal/ External)
  - Project/ Communication Plan (Internal/ External)

- **Key Milestones:**
  - UAT Sign-Off
  - Go/ No-Go
  - Go-Live Hypercare
  - Post Go-Live Hypercare Support

Thank You!

Adan Solis

Sr. Mgr. OTC – Global eCommerce

Miledy Paris

Mgr. OTC – Global eCommerce

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