SMART
Logistics Partnership
SLP alliance

PORTFOLIO

SLP Alliance – *SMART Logistics Partnership*
interoperable • compatible • connected • modular • collaborative
Physical Internet (Pi - π) – ecoNetworks – iSCM solutions (*)

> **SLP Alliance** is established as a growing partnership of companies and people with extensive industry experience and expertise to collaboratively realise the **Physical internet** (**Pi - π**), with valued innovative know-how in the areas of practical supply chain management and operations, program and project management, transformational facilitation, standardisation, digitalisation, orchestration, systemic design, engineering, and manufacturing from across industries, sectors and geographies around the globe.

(*) iSCM = interoperable Supply Chain Matrix, integrating intelligent transportation solutions.

Introduction

SLP Alliance applies a **multi-facetted phased holistic dynamic systemic** approach towards **collaboration and participation** in the T&L arena to adapt to **fit-for-purpose physical & digital connectivity solutions**, migrating towards **modular POD solutions** (read our concept paper about **mPODs & Hinterland Decoupling Points**), together with an industry-wide renewed approach to existing chaos, **NON**-compatibility and -interoperability, lacking synchronised physical & digital standardisation and digitalisation (compared to many other industries) to be applied to different **supply chain segments**, **transport modes**, **logistics nodes** & **urban nodes**, enabling a more efficient functioning **TEN-T Corridor Network** and global T&L corridors.

SLP Alliance monitors the needs of shippers, receivers, traders and supply chain actors, actively engaged in the T&L sector, with many stakeholders (cities, governments, policy makers, urban planning, infrastructure, citizens, etc…), collaboratively building and adapting to the **Physical Internet Roadmap components** as set forth by **ALICE-etp**, recognised as renowned set of standards and approaches realising physical and digital connectivity across the T&L arena.

SLP Alliance realises **Pi-readiness** for the frontrunners through its dynamic approach and creation of its unique development of **ecoNetworks** and segmentation of the market players, without echoing the siloed situations as built in the past, advancing towards an **interoperable Supply Chain Matrix**, **Innovative Transport solutions** and **Econologics Consciousness** through collaboration and participation.

Below is an outline of our services and products portfolio, provided as a guideline to realise *your* supply chain targets.

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1. Purpose of our Multi-Facetted, Phased Services and Projects

In **end-to-end forward and reverse logistics flow**s, cargo and packages are transported and distributed across both local and global parts of the journey, enabling interoperability, compatibility, modularity, connectivity, promoting collaboration across supply chain segments, logistics nodes and transport modes.

The aim of all supply chain actors and our facilitation is to:
- ⬤ enable "**liveable cities and urban areas**" and "**cities as logistics hubs**"
- ⬤ realise **Physical Internet** (**Pi-п**), **Ecological Consciousness** and **distributed ecoNetworks,**
- ⬤ towards an advanced **interoperable Supply Chain Matrix** (iSCM) with **Innovative Transport Solutions** (ITS),
- ⬤ minimal **environmental footprints**, **positive social**, **economic impact**, and **operational efficiencies** for all engaged actors, stakeholders, and citizens across supply chain segments, transport modes, logistics nodes and urban nodes.

Platform Business Design

Human-Centered and Responsible Innovation

Agile and Exponential Organizations

Readiness Check and Innovation Assessment

Digital Transformation and Mindset

Adaptive Leadership and Culture 4.0

With combined experience, the diverse expertise of partners of the **SLP Alliance** guides and facilitates organisations and their supply chains with individual and combined operations towards collaborative modus with effective utilisation of the fundamental building blocks to realise "**Pi-readiness**" and continued realisation of the **Physical Internet Roadmap components** as defined by **ALICE-etp**. This is achieved through phased consecutive and parallel activities, to be anticipated as a **journey towards compliance** across **your value-add** in the supply chains you participate in.

2. The Building Blocks towards iSCM and Econological Awareness

The essential **building blocks** to realise standardisation, digitalisation, interoperability, participation, and collaboration across supply chain segments, transport modes, logistics nodes and urban nodes, solidifying the function of the TEN-T Corridor network and other global corridor networks in which engaged supply chain actors are engaged:

- *Stakeholder Open-Dialogue Facilitation* with supply chain actors to recognise, define and improve collaboration, standardisation, digitalisation, and realisation of ecological responsible ecoNetworks, eliminating siloed operations by individual supply chain actors and improving efficiencies across their combined supply chain operations;
- *LivingLabs* and *Prototype Testing* to learn from "as-is" to "wished-for" operations across the value chain, building **collaborative Holistic Dynamic Logistics ecoNetworks**;
- *Intermodal Transfer Hubs, Port-vicinity & Urban-Edge (de-) consolidation Hubs, and independent City & Micro Hubs* for compatible long-distance cross-border multimodal transport & logistics, and (**SULP-modelled)** in-city & urban distribution (in coordination with local government Urban Planning and mobility policies), to realise ecological-responsible interoperability, compatibility, modularity, connectivity, and synchro-modal optimisation across segments, modes, and nodes;
- *Intelligent standardized modular POD & physical interface handling solutions (mPODs)* + delivery trolleys, µPODs & Smart boxes through the realisation of optimal *decoupling points* and effective conditions in their combined operations, through "*conclusive Proof of Concept*" – prototyping and testing towards TRL8, and readiness for mass-manufacturing, go-to-market, and deployment of mPODs – advancing supply chain operations, realising true interoperability across supply chain segments, transport modes, logistics nodes and urban nodes.

Ask for our *Concept Paper* on **mPODs & hinterland Decoupling Points**.

3. Physical Internet Roadmap explained as Building Blocks from Long-Distance Transport & Logistics to in-City & Urban Distribution
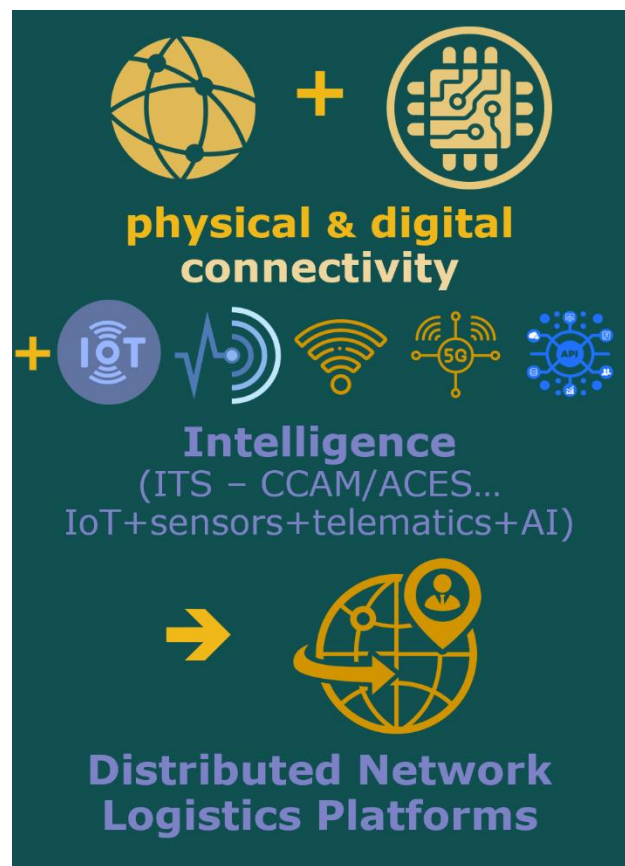
Providing the T&L communities, stakeholders, and policy makers with an overview of the **building blocks** developed by **SLP Alliance** as an interactive introduction and practical theories to the participants in the methodologies and approach towards an **interoperable Supply Chain Matrix** (iSCM):

As an initiation to the **Roadmap of the Physical Internet and Ecological Awareness**, **SLP Alliance** provides an **interactive training and awareness training** on how the entire T&L arena can move from the current **chaos of non-compatible, non-interoperable** physical & digital connectivity towards a **harmonised integrated compatible connected and interoperable efficient and effective flow of goods** across supply chain segments, transport modes, logistics and urban nodes. During this coaching we guide the supply chain actors, stakeholders, and policy makers through the **Pi-Roadmap**, highlighting the **current state** towards a

state-of-the-art efficient T&L landscape, at the same time highlighting the awareness and results towards **improved collaboration, participation, and positive ecological impact**:

- **market challenges require disruption!** as global shipping, hinterland transport & logistics, towards first/last-mile (in-city & urban) distribution are

  ## NOT interoperable – NOT compatible!

- recent findings: market expectations on **Global to/from local eCommerce** and **growing densely populated smart City & urban areas**
- maritime containers, rationalised global trade and shipping did not envision current e-commerce and mega-cities ➔ **Ocean Containers DO NOT belong in densely populated cities & urban areas**.
- **what is** Physical Internet? **what does** Ecological Awareness mean?
- the **supply chain map positions** and relevant actors within the most common supply chain configurations, **offering context for all supply chain actors**
- what is needed to realise **decentralised intelligent physical & digital standardised interconnectivity**?
- **ALICE-etp Pi Roadmap** and set timelines explained, realising **physical & digital connectivity**
- **SLP Alliance** approach towards **Physical Internet** & **Ecological Consciousness**
- **SLP Alliance** focus on **Pi components**: **Pi Nodes**, **Pi Networks** and **System of Logistics Networks**

  Physical Internet shapes a global connected logistics infrastructure
- what others are working on: Physical Internet with focus on **digital connectivity**
- **SLP Alliance** approach to **Interoperable Supply Chain Matrix** and the **Physical Internet Roadmap**: priority focus is on **Pi-readiness**, realising **participation**, **collaboration**, improving orchestrated **Multimodal Urban-Edge (de-)Consolidation Hubs**, *independent* City Hubs for **in-city & urban distribution**, adapting to **modular POD solutions** and identifying **Multimodal Decoupling Points**
- **cargo does NOT move unless data moves!** From physical documents to data, data elements, data modelling towards **semantic data sharing**
- **AI & Ledger technologies** in supply chains: hardware & software operational supply chain analytics: **OPEN methodologies**, **OPEN standards** and **technologies**
- **blockchain vs database** in supply chains: **centralised vs distributed approach**
- enabling **Distributed Network Logistics Platforms** by **5PL-NSP's**
- **NET-zero Transition** through technology
- **Architectural Design**: front-end – dBase – authorisation – data-processing – events-based operations as **digital twins** of the real world
- **SLP Alliance** introduction to **5PL-NSP** (5th-Party Distributed Network Platform Service Providers)
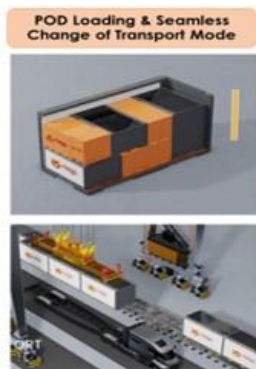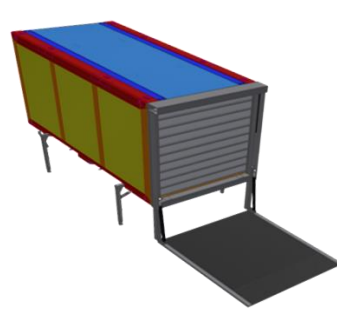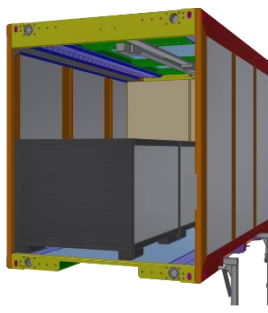- digital connectivity expanding scopes and interoperability of **CLOUD services (.X.aaS)**

physical & digital connectivity

+ IoT

Intelligence
(ITS – CCAM/ACES…
IoT+sensors+telematics+AI)

➔

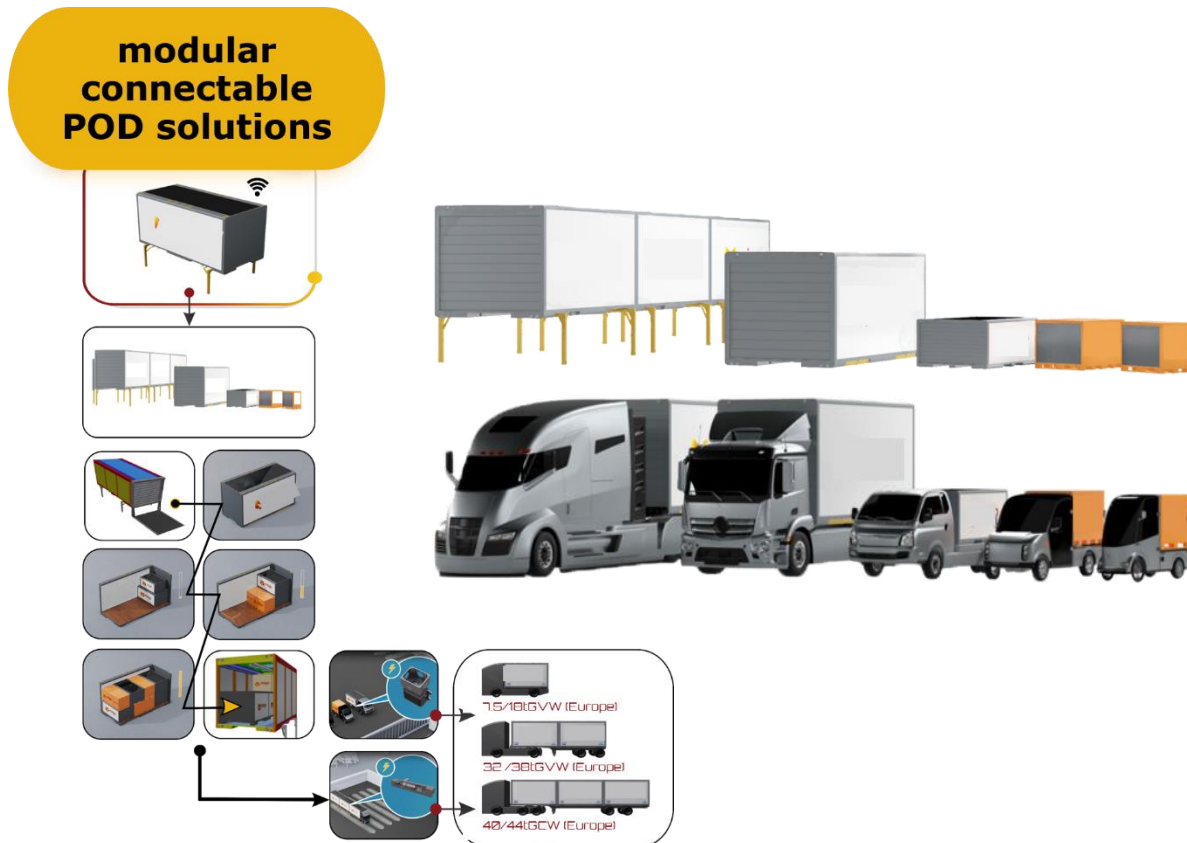**Distributed Network Logistics Platforms**

SHARE

⭕ realising "**Physical Internet**" through **physical connectivity**
⭕ realising "**Physical Internet**" through **digital connectivity**

⭕ **framework for Physical Internet deployment in cities** (sustainable measures and policies in logistics and city logistics)
⭕ Potentials and organisation of **Multimodal Decoupling Points** to minimise (up to 95%) of ocean containers in the hinterland and city & urban areas
⭕ Orchestration practice from **Multimodal Transfer Hubs** to **Urban-Edge (de-) Consolidation Hubs**, towards *independent City Hubs and Urban Logistics Solutions* to **integrated systemic in-city & urban distribution**
⭕ How to develop and integrate **Sustainable Urban Logistics Planning** (**SULP**) **tool with proposed PI framework**, in collaboration between *independent* **City Hubs, Urban Mobility & Infrastructure Planning and Policies** of local municipalities
⭕ Adapting to an **integrated Logistics & Distribution Model** (iLDM) as part of the Physical Internet Roadmap and framework
⭕ *Independent* **City Hubs** and **in-City & Urban Distribution**: neutral governance – stakeholder involvement – sustainable, bringing **SILP & SUMP** in practice, periodically revised, and updated in collaboration with **CPO sector** and **local government Urban Planning**
⭕ evolution of **in-city & urban distribution**
⭕ scalable solutions for in-city & urban distribution (F/L-Mile) as **ecoNetworks**, **Platforms** and **Marketplaces** of sales, rental, maintenance, and optimised equipment sharing of **mPODs and physical handling interfaces** for any vehicle and self-swappable carts for shared use and **integration architecture of universal modules and hardware interfaces**

| POD Loading & Seamless Change of Transport Mode | POD Splitting & Regional Haul | POD Splitting & Last Mile Delivery |

NEXT STEPS towards adapting **full compliance of the Physical Internet**

- ○ development, mass manufacturing and use of **modular POD solutions** across hinterland supply chain segments and into cities & urban areas
- ○ adapting to **Holistic Dynamic Logistics ecoSystem** (HDLe's) and **Distributed Logistics Network Platforms and 5PL-NSP services**
- ○ realising **physical internet** and **econological consciousness** in global ➔to/from⬅ local logistics of cargo flows
- ○ advancing forward towards an **interoperable Supply Chain Matrix** with **Intelligent Transport Solutions**

Our challenge is your recognition towards **opportunities in transforming** towards tangible impact from the solutions, methodologies, and approach, through its growing expertise and experience offered by the **SLP Alliance team** of the **SMART Logistics Partnership**.

Assisting your organisation and supply chains in advancing towards an **interoperable Supply Chain Matrix**, realising **physical internet** and **ecological consciousness** across supply chain segments, transport modes, logistics nodes & urban nodes, improving the **overall T&L arena**. taking full advantage of the potentials offered by the **EU TEN-T Corridors Network** and other **global to local corridors** …

interoperable • compatible • connected • modular • collaborative

4. Practical Guidance and Facilitation to Transform T&L Supply Chains

SLP Alliance practices a multi-facetted phased holistic dynamic approach, engaging all involved actors, complemented with stakeholders as deemed necessary. To ensure our methods and approach delivers on the needs and expectations of participants, **SLP Alliance** commences with smaller supply chains, but diverse enough to encompass a multitude of scenarios and logistics operations, as well as smaller and larger actors, representing a representative sample of SME's and corporates active in the manufacturing / production, wholesales, retail and trading sectors, as shipper, receiver, LSP's & carriers, DC & warehouse & hub operators, up to final receiving clients, governments and businesses from **long-distance transport & logistics** to **in-city & urban distribution**.

The results and experiences will be transposed and adopted further to other supply chains and actors, while we stay flexible to adapt our services and products portfolio to the needs and expectations for each supply chain and its actors and stakeholders.

The current structured portfolio includes the following details:

- facilitate progress through **Open-Dialogue Facilitation** for awareness towards improved **collaboration** and **participation** amongst **supply chain actors**, eliminating siloed solutions and non-effective approaches found to-date across supply chains, and identifying the potentials for **synchronised standardisation** and **digitalisation**,
- understand the role of stakeholders and practice extensive **stakeholder community engagement** from the start, with regular feedback and involvement of the core engaged representation during the entire process,
- eliminate **siloed operations** by each supply chain actor
- establish **livinglabs** – learn from "**as-is**" to "**to-be**" across value chain, practicing **Appreciative inquiry** (Ai) and **Whole Systems Transformation** (WST)
- build **collaborative Holistic Dynamic Logistics ecoNetworks**
- migrate and adapt *fit-for-purpose* solutions towards improved **interoperability and synchromodality** with **standardised physical & digital connectivity,**
- identify imminent **decoupling points** from ocean containers in the **port vicinity** (at origin for SSS and at destination for maritime transport) or ultimately at **hinterland multimodal transfer hubs**,
- realise **less disruptions** for **all parties across supply chain segments**, minimising **global location container imbalance**, diminishing **ever increasing freight demurrage costs** from containers stuck in the hinterland, and avoiding **accident-prone urban areas**, using non-compatible transport means,
- migrate to **standardised modular POD & physical handling interfaces solutions (mPODs), + delivery trolleys, µPODs & Smart boxes**, realising extensive **optimisation efficiencies** along the hinterland multimodal transport and logistics chain and **interoperability** with fit-for-purpose vehicles, with **earliest-possible identification of final destination and/or pick-up distribution**, **decreasing handling in city and urban areas,**
- establish orchestrated roles and responsibilities for **urban-edge (de-)consolidation hubs** and *independent* **city & micro hubs** through **SULP-modelled collaboration** with **Urban Planning of local municipalities**,
- adapt to **Distributed Network Logistics Platforms** and recognise the potentials for **5PL Network Services Providers**,
- link-up with **mobility data spaces, facilitators, and connectors or API's**

SLP Alliance puts its experience and expertise to practice, through the following approaches and proven methodologies. How to realise and improve collaborative supply chains?

○ identify the **current state and willingness to improve** the collaboration and approach to participation in your collaborative supply chains

○ foundations of **Whole Systems Transformation** (WST), **Systemic Design** (SD), **Systems Thinking** (ST), **Appreciative inquiry** (Ai), and other proven methodologies and practices, as integral part of the sessions towards improved participation & collaboration – where deemed essential, dedicated sessions can be organised with experts in the respective fields

○ The positive approach for **strategic change**, using **Ai SOAR** (vs traditional SWOT) **analysis**: *strengths – opportunities – aspirations – results*

○ **circular economy business models** and **regenerative design principles** (see section 6, below on this subject)

○ evaluation and implementation of mandatory (for cities belonging to the **Urban Nodes of the TEN-T Corridor Network**) **Sustainable Urban Logistics Planning** (**SULP**, in analogy with SUMP – Sustainable Urban Mobility Planning).

SOAR Analysis Matrix
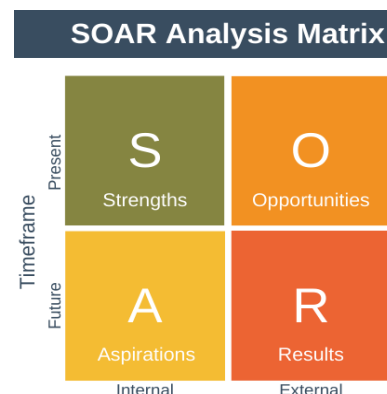
Other dialogue services will be added as we recognise the need or customised for specific situations for supply chains experiencing issues along the journey towards improved collaboration and participation.

SLP Alliance accelerates its efforts towards a **collaborative circular and regenerative economy**, through a **regenerative dynamics** approach in design and realisation to market, with toolboxes & Systems Innovation canvasses, **rethinking healthy progress** and enabling **positive environmental impact**.

5. Developing essential ecoNetworks, Platforms & Marketplaces

SLP Alliance has recognised to get an improved organisation within supply chains as well as across supply chain segments, transport modes, logistics nodes and urban nodes. Therefore, **SLP Alliance** develops **essential ecoNetworks, platforms & marketplaces** with its partners and certified service and product providers. These can be expanding and improving existing or developing new multiple ecoNetworks:

○ **mPODs ecoNetwork**: certified manufacturers and suppliers of modular POD & physical handling interface solutions + trolleys, µPODs & Smart boxes (GS1, Euro-Pool, UPU postal boxes, …) – see or ask for our *Concept Paper* on **mPODs & hinterland Decoupling Points**

○ **F/L-M equipment marketplace**: for sharing, renting/leasing, maintenance, and insurance – focus on mPODs and physical interfaces, VBB's (including assembly packs for Vehicle Body Builders), manufacturers of trikes, trailers and security chassis locking systems)

- **decoupling points & hubs ecoNetwork**: Multimodal Transfer Hubs, Urban-Edge (de-) consolidation & *independent* CityHubs (+ micro & mobile) to share and adapt best practices, aligning service offerings across borders and cities, benefiting larger shippers across sectors with common processes and procedures
- **communication technology marketplace**: IoT, Sensors, Telematics, (autonomous) robots and other optional accessories for mPODs and other hardware solutions for logistics, storage, handling, …
- **systems marketplace**: software solutions and systems for logistics, storage, handling, …
- **distributed logistics network platforms**: freight booking and logistics services marketplaces and 5PL-NSP's (5PL Network Service Providers)
- **ecoFootprint platform**: compliance and impact realisation reporting
- **data modelling ecoNetwork**: standards, standardisation, connectivity, semantic data and API sharing or integration, ensuring interoperability of data across supply chain segments and transport modes, logistics nodes and urban nodes

Future expansion in ecoNetworks, Platforms and marketplaces will be considered as needed across EU, Europe and globally, advancing towards an interoperable Supply Chain Matrix (iSCM)

6. Detailed outline of ecoFootprint Compliance & Reporting

SLP Alliance does not claim to be an expert in providing full advice to any clients or supply chain actors, relative to compliance and reporting for EU Taxonomy, ESG or any such similar legal requirement.

SLP Alliance *provides guidance* on how to approach and recommend your needed in-house personnel and/or extended with external legal certified advisors and service and products providers which can improve, align and/or develop and certify your due diligence and compliance.

The following is an unlimited list of definitions which we recommend to any client willing or asking us to assist in the related compliance requirements:

- **ESG – EU Taxonomy, or any other compliance legislation**, related to how social and environmental issues create risk for a business, assessing a company for self, a client, a supplier, or as an investment
- ESG also refers to a fast-changing area of **corporate financial reporting**, as mandates to disclose material environmental and social risks are multiplying
- Meanwhile, "sustainability" covers a much broader perspective on **a company's role in society**, whether it's operating within the limits of the planet and how it **helps (or doesn't) solve major environmental and social challenges**. But the two ideas are constantly conflated, causing confusion.

> **SLP Alliance is NOT a certified agency for EU Taxonomy, the GLEC Framework or any other ESG Compliance& Reporting Services.**
> *Any **SLP Alliance** guidance engagement on **ecoFootprint compliance and reporting** is subject to a **mutual agreed upon contractual agreement**!*

An overview of what **SLP Alliance** guiding services offer relative to **ecoFootprint** – *always in relation to realising your **Physical Internet journey**, and **supply chain actor participation and collaboration***:

- International institutes and initiatives
- Benefits of using SDG's for self-assessment and society
- Synergies between impact and sustainability start to surface
- Navigating through complexities of differing international legislation in evolution, and compliance to ESG regulations
- Improving compliance and impact reporting
- Outline of EU Taxonomy enforcement timeline
- EU Taxonomy eligibility and alignment
- Differences at industry level and across industries
- Achieving measurable KPI's along your journey
- EU Sustainability Reporting Standards (ESRS) convergence (understanding impact areas) and compliance with the Corporate Sustainability Reporting Directive (CSRD) requirements
- Relationship between CSRD, EU Taxonomy and Sustainability Finance Disclosure Regulations (SFDR)
- ESG metrics to track at the right time, using the right tools and techniques
- Use of ISO and other international accredited standards and proven frameworks – recommendation for the T&L arena: GLEC Framework (Global Logistics Emissions Council ISO 14083 + NEN CEN/TC 320 + DIN 17837-SPEC91224 & BSI equivalent)
- An overview of sector, geographic and industry specific service providers and certification agencies (ISO 27001) – most of them provide ESGcloud services, monitoring reports and comparison services by industry competitors through GHG emissions calculators and trackers
- Data comparability for compliance reporting requirements
- Reporting transparency and improving transparency in the supply chain
- Collaboration opportunities across supply chains
- Supply chain due diligence legislation, ensuring comparable data for self and with competitors
- Sustainability strategy and compliance, using SMART boxes
- Towards zero emission road transport (2Zero)

Companies to measure, manage, disclose, and ultimately reduce their greenhouse gas emissions. CDP consolidates globally, corporate reporting on climate change data, available for comparison to the global marketplace. Also, Science Based Target Initiative (SBTI) provides key resources for target validation and comparison.

7. Sustainability, Circular Economy, and Regenerative Dynamics

SLP Alliance provides guidance and facilitation in adapting the foundations of **circular and regenerative economic methodologies**, **business models** and **scenarios**, through its in-house expertise and experience:

- fundamentals of **circular economy principles driven by design**
- **think circular** – what is Circular Economy (CE)
- sustainability integrated in **products and services design** (**sustainable and circular design tools**)
- fundamentals of **regenerative approach through business models** and **scenarios**
- fundamentals of **regenerative design and engineering** with thoughtful choices of raw materials usage and always keeping in mind the "**end-of-lifecycle**" product decomposition, recovery and reuse of its raw materials used
- strengthening **design model for regenerative governance**

- from sustainability to regeneration:
  Adaptive Cycle – start asking
  different questions:
    – **exploitation** (growth)
    – **conservation** (stability)
    – **release** (collapse)
    – **reorganization** (renewal)
- how to align with the principles of
  regeneration fostering **adaptability**,
  resilience, and **responsiveness**
  in a fast-changing world and business
  environment
- value creation through **restauration** and
  regeneration, considering **resources and
  capabilities in a holistic and
  integrated** approach
- **ecoFootprint calculators**
  enable the evaluation of **your
  progress towards impact
  targets**
- **regenerative dynamics**:
  create the **conditions for
  all life to thrive**, generating
  self-sustaining **positive
  outcomes for nature,
  people, and the economy**
- redefine **Corporate Sustainability** as a shift from guilt-based to **power-based
  contributions**
- **Value creation** from recycling and re-usability **to replenishing our resources**.

Figure 2. The Adaptive Cycle of Renewal
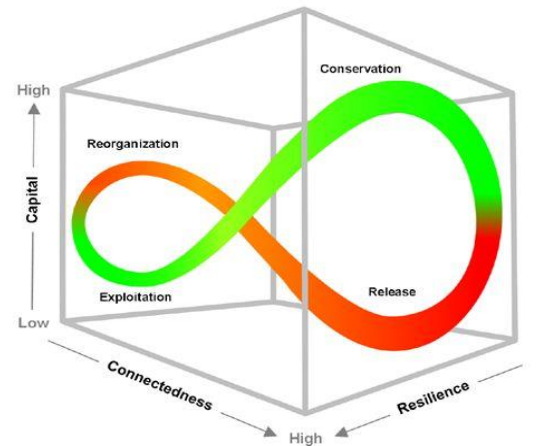
Source: "Panarchy: Understanding Transformations in Human and Natural Systems," by Lance Gunderson and C.S. Holling
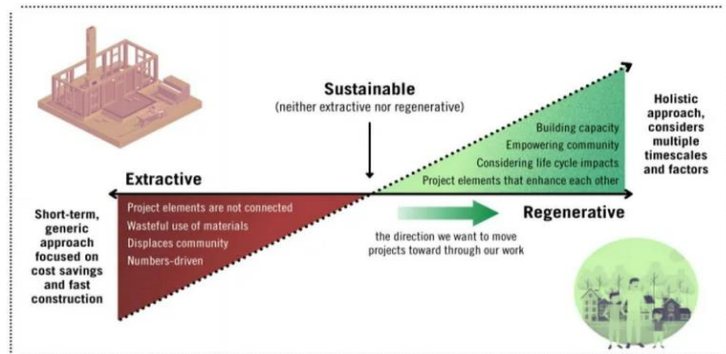
Graphic inspired by Bill Reed and the Regenesis Institute

8. Data Standardisation, Connectivity, Modelling and Semantic Sharing

SLP Alliance has in-house decades of hands-on experience and expertise in **global data standards**, **mobility data** and **data sharing methodologies**, and currently still participating in major **international and industry specific standards organisations** and **institutes** (**GDS**) amongst which: UNICE UN/Cefact, UNCTAD, IMO, ISO, DIN, BSI, GS1, EPCIS, CBV, ENI/EIN/CEVNI, CEN/CENELEC, ETSI, UPU, DCSA, ASTM, BIC-codes, BIC (SWIFT), PCO, PEPPOL, T&L, OLF, GAIA-X, (eu-)MDS, GEFEG fx, FEDeRATED, EMSWe, eFTI4EU, and others.

Cargo does NOT move unless data moves!
- all transport is driven by a trade transaction (in jargon called the **EVENT**)
- sellers and buyers ask two main questions from transportation
    - **Where are my goods?**
    - **What is their condition?**
- all transport data flows must be linked to the **trade transaction** (**event**)
TRADE ←→ TRANSPORT = **DIS**connect

Detailed outline of our services
- effective standards for supply chain are available, to be build / extended upon
- overview of **data standardisation initiatives**: from **global shipping standards** (nautical data -IMO) to **ship-2-shore cooperative processes** (operational and

administrative data), towards further **hinterland data standardisation** (ROAD, RAIL, AIR, SSS, IWW, drones, Hyperloop, … up to in-city and urban data)

- global system of standards: **identify – capture – share**
- **unifying standards** for Shippers, Carriers & Brokers
- Transport Unit IDentifiers (TUIDs) bring order to disorder
- correlation between **standards identifiers**, connecting the **physical object** (physical logistics unit) with its **digital twin**
- visual overview **supply chain parties** (actors), **location** and **entities**
- **semantic anchors**: shipment versus consignment
- **Physical Objects and Identifiers**: trade items, logistics units, transport equipment, transport means, handling equipment
- **electronic documents**: from transactional physical documents to **UN/Cefact EDIfact to global e-document standards** (eCMR, eB/L, eConsignment, eManifest, eOrder, ePurchase, eInvoicing, …
- from **business processes** to **data** and **data elements** (characteristics), through **data modelling** towards **semantic data**
- industry specific standards, shipping standards, logistics standards, distribution standards: **essential need** to ensure **interoperability**
- **SMART containers, IoT**, **telematics** and **cloud-based data**, towards **.X.aaS** (**x as a Service**)
- **Integrated track & trace** for **multi-modal T&L** (UN/Cefact)
- putting **data interoperability in perspective**
- data extending to the **value chain / trade domain**
- **interoperability defined** across **supply chains**, using **event-based data management** (EPCIS)
- link-up with mobility data spaces, facilitators, and connectors or API's
- **Semantic-level interoperability**

The ever-increasing need to combine information from many stakeholders at many stages across transport and logistics networks, nodes, and supply chain segments, requires that standards developed are "**looking at the bigger picture**". It is therefore essential that collaboration across standardisation efforts is increasing and that frameworks presented help facilitate coordination of efforts. Standards users can get better guidance on combining various standards to meet their business needs.

In conclusion

Together with collaborative supply chain actors and stakeholders**, SLP Alliance** realises **Distributed Network Logistics Platforms** and **5PL Network Services** that support the collaborative operations.

Using a **Holistic Dynamic Logistics ecoNetwork** (HDLe) & **Physical Internet** (Pi-π), advancing towards an interoperable Supply Chain Matrix (iSCM), ensuring synchronisation between **physical & digital standardised connectivity** across supply chain segments, transport modes, logistics nodes and urban nodes:

- between ports and hinterland - long-distance multimodal cross-border logistics & transportation, with multimodal transfer hubs
- to/from urban-edge (de-)consolidation hubs and *independent* city hubs for in-city & urban distribution (First/Last-mile, including in-city distribution)
- with coordinated Distributed Logistics Networks and 5PL Network Services (5PL-NSP).

SLP Alliance service & product portfolio

Facilitating distributed collaborative ecosystems between City Hubs, CEP & CPO sectors (Courier, Express & Postal Services and City Portage Operators), enabling continuous growth, healthy e-commerce, and distribution of in-city-developed/processed products, ensuring efficient digital & physical flows of goods and sourcing in/out of cities from/to hinterland and maritime transportation for regional & international export destinations & import origination.

For more information, ask for the **SLP Alliance NARRATIVE** and our *CONCEPT PAPER* on **intelligent interoperable standardised modular POD & Physical Interface solutions (mPODs) + trolleys, µPODs & Smart boxes.**

SLP Alliance – *SMART Logistics Partnership*
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Physical Internet – ecoNetworks – iSCM solutions

Contact our partners:
CLEANconnect – *innovation in motion*
FixLog Consulting – *cargo does not move unless data moves*
TRI-VIZOR – *cross supply chain orchestration*
MCG – b*lockchain-powered supply chain traceability and sustainability metrics*
CONTAI – *AnyCargo - AnySpot - AnyVehicle – AnyMile*

SLP Alliance approach to (funded and financed) projects, focuses on a combination of:
○ facilitate **stakeholder collaborative dialogue** with SC actors, urban planners, …
○ "**final proof of concept**" from TRL 7 or lower, ex R&D+I project to at least TRL8
○ selecting **best-fit physical & digital connectivity solutions** for deployment, and
○ realising the **Physical Internet Roadmap components** outlined by **ALICE-etp**.

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