

UN/CEFACT Project Proposal

Proposed project name:	Parcel goods traceability in last-mile delivery		
Date submitted:	May 11, 2023	Project proposed by:	Kerri Ahn and DC, eDATA Management
Date last updated:			

1. Project purpose

Required

With the development of the 4th Industrial Revolution technologies, the logistics industry is aiming at automation and unmanned processes and has been introduced to emerging technologies for this purpose.

Furthermore, as spreading the non-contact environment after the COVID-19 pandemic, the transition to non-contact services in the logistics industry has been accelerating. In addition, the transaction environment such as unmanned stores and online transactions is diversified, and unmanned transportation means are introduced to last-mile delivery due to the development of the 4th Industrial Revolution technologies, so many changes are appearing from the existing delivery environment in the logistics industry.

Unmanned transportation means, such as robots and drones, have been introduced as a new last-mile delivery method, and operations for unmanned stores have spread. In the existing logistics environment, parcel goods tracking, and status monitoring was based on exchanged data between logistics participants, requirements in the current and future logistics environment may be diversifying as follows;

- Diversification of objects that generate logistics data: autonomous vehicles, IoT devices, delivery robots, drones, etc.
- Expansion of unmanned logistics facilities: It is necessary to monitor facilities and operation conditions in facilities operated without human intervention, such as unmanned stores, unmanned warehouses, etc.
- Expansion of scope of tracking for delivery: Due to the activation of last-mile delivery, expand the service scope to include delivery to end customers.
- Support for omnichannel operation method: Inventory management and distribution management are needed to improve the quality of logistics services both online and offline with the emergence of logistics entities that simultaneously operate both online and offline.

So, it is necessary to consider how to adapt monitoring and parcel goods tracking approaches from the current logistics environment to the altered logistics environment for a seamless supply chain. Under the present and future supply chain environment, requirements from stakeholders and users are becoming more diverse; monitoring cargo status for fresh foods, agriculture products, etc., monitoring of

unmanned stores, checking delivery status between warehouses and stores in the case of Omni channels, and linkage between autonomous last-mile transport means, etc.

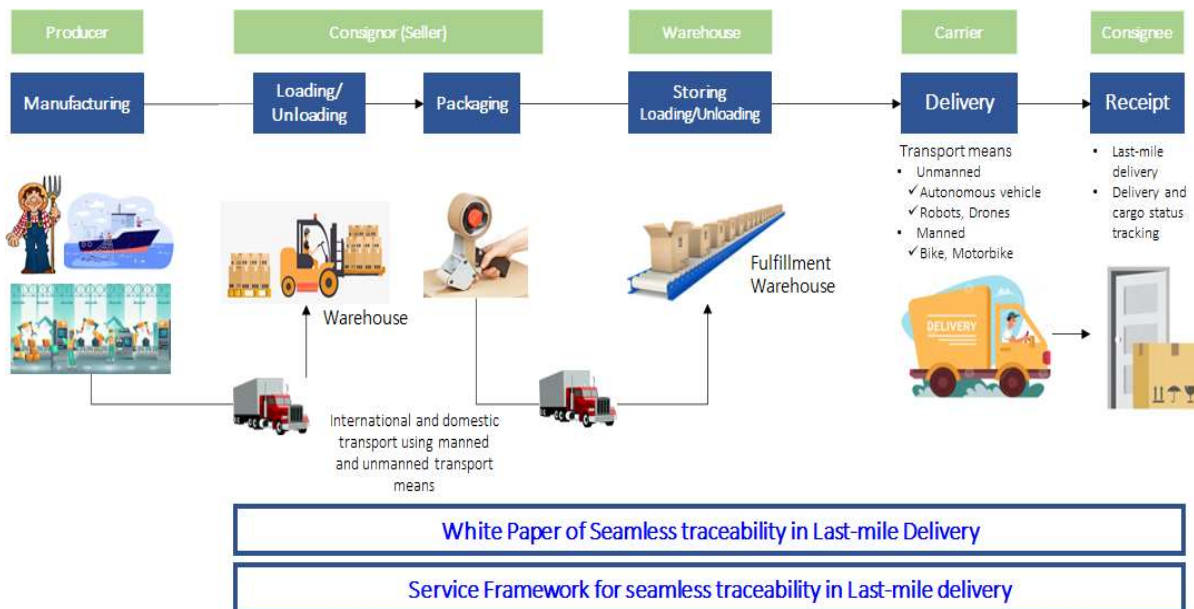
2. Project scope

Required

NOTE: Specify project scope in terms of in-scope and out-of-scope items within the context of the UN/CEFACT Programme of Work. Include a description indicating the relationship between this project and other UN/CEFACT projects, if known. In the case of a project whose deliverables include proposed Recommendations and Standards, include projects outside of UN/CEFACT of which this project could be considered a duplicate, if any, and explain why it is not.

To address these requirements, the project suggests this proposal about efficient seamless traceability in the supply chain that is for parcel goods delivery using both manned and unmanned vehicles and seamless parcel goods tracking to achieve the following objectives.

- **Accuracy:** Maintaining information accuracy and transparency throughout the entire supply chain, from producers to distribution centers, warehouses, stores, transport means, and customers until parcel goods reach the final consumer
- **Reliability:** To ensure seamless parcel goods tracking in delivery, the establishment of tracking data management of discontinuous delivery stages or between participating entities (distribution center, warehouse, store, end consumer, unmanned transport means, etc.)
- **Diversity:** Service framework for seamless traceability that will support flexibility to support various supply chain environments; manned/unmanned stores, manned/unmanned warehouses, transport means for last-mile delivery, autonomous vehicles, mobile depot, etc.



The project scope is to define and create white papers on the best practices in implementing service framework for seamless traceability in last-mile delivery with a view to examining:

- Design Service framework required for seamless traceability in last-mile delivery

- Design interface and message standard to exchange information between human (manned transport means) and machine (unmanned transport means)
- How the existing UN/CEFACT deliverables could be used by the service framework for seamless traceability
- New deliverables, that could be considered to support the service framework for seamless traceability-based trade-facilitation-related applications

3. Project deliverables

Required

NOTE: Provide name and description of each deliverable.

Deliverable 1:	BRS and eBusiness Standard for Parcel Goods waybill
Deliverable 2:	BRS and eBusiness Standard for Parcel Goods delivery receipt
Deliverable 3:	Whitepaper on Parcel Goods Traceability in last-mile delivery

4. Exit Criteria

Required

NOTE: For each deliverable, list the criteria that, when met, will indicate the deliverable has been completed.

Exit Criteria for Deliv. 1:	BRS and eBusiness Standard
Exit Criteria for Deliv. 2:	BRS and eBusiness Standard
Exit Criteria for Deliv. 3:	Draft whitepaper ready for publication

5. Project Team membership and required functional expertise

Membership is open to UN/CEFACT experts with broad knowledge in the area of:

Membership is open to UN/CEFACT experts with broad knowledge in the area related to advanced technologies, supply chain and logistics, such as from supplier and consumer, carrier, warehouses, terminals, etc. In-depth knowledge of UN sustainable development goals.

In addition, Heads of Delegations may invite technical experts from their constituency to participate in the work.

Experts are expected to contribute to the work based solely on their expertise and to comply with the UN/CEFACT Code of Conduct and Ethics and the policy on Intellectual Property Rights.

6. HoD support

NOTE: At least three HoD support is required for Technical Standards, Business Standards and UNECE Recommendations – and at the request of the UN/CEFACT Bureau. (See annex IV for an optional template).

NOTE: Projects that require HoD support must obtain this within 6 months of Bureau provisional approval.

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7. Geographical focus

The geographical focus of the project is global

8. Initial contributions

The following contributions are submitted as part of this proposal. It is understood that these contributions are only for consideration by the Project Team and that other participants may submit additional contributions in order to ensure that as much information as possible is obtained from those with expertise and material interest in the project. It is also understood that the Project Team may choose to adopt one or more of these contributions “as is”.

List any initial contributions:

Initial contributions include existing descriptions and technical specifications for the UN/CEFACT:

- UN/CEFACT Core Component Library and subset data models Supply Chain Reference Data Model (SCRDM) and the Multi-Modal Transport Reference Data Model (MMT-RDM)
- Cargo tracing and tracking BRS
- Internet of Things(IoT) for Trade Facilitation
- Artificial Intelligence(AI) for Trade Facilitation
- Verifiable Credentials(VC) for Trade Facilitation

9. Resource requirements

Participants in the project shall provide resources for their own participation. The existence and functioning of the project shall not require any additional resources from the UNECE secretariat.

NOTE: If specialized resources are required to complete the project, and such resources are not available within the Project Team, then those requirements should be clearly identified.

Any additional request:

10. Proposed project leadership

Leader:	Kerri Ahn	E-mail:	ahn.kyeongrim@gmail.com
Supporting Domain	Transport and Logistics	Email:	david@cif-consulting.co.uk
Supporting VCs	Hanane Becha	Email: Email	Hanane.becha@dcsa.org

11. Milestones

Note: repeat for each deliverable, if different.

The following are draft milestones of the project.

Yes/No*	ODP Stage	Expected Completion Date (Approval + XX months)
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Yes	Project Inception	Approval + 1 month
Yes	Requirements gathering	Approval + 3 month
Yes	Draft development	Approval + 10 month
No	Public Draft Review	
Yes	Project Exit	Approval + 12month
Yes	Publication	Approval + 13 month

* NOTE: The following stages are obligatory: Project Inception, Project Exit and Publication. Public Draft Review is obligatory for recommendations, business standards and technical standards. The presence of "Yes" in the field indicates that the stage is required for the project and an expected completion date should be provided.
