ISO FORM 1
ISO TS/P XXX

PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY

PROPOSER:

KATS

DATE OF CIRCULATION:

Click or tap to enter a date.

CLOSING DATE FOR VOTING:

Click or tap to enter a date.

A proposal for a new field of technical activity shall be submitted to the Office of the CEO, which will process the proposal in accordance with ISO/IEC Directives, Part 1, Clause 1.5.

Furthermore, a proposal will be considered as complete if every information field is complete and follows the guidelines for proposing and justifying a new field of activity given in the ISO/IEC Directives, Part 1, Annex C.

TITLE
(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.2)

Urban Logistics

SCOPE
(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.3)

Standardization in the field of urban logistics technology and services, including, but not limited to, terminology, functions, assessments, service models, and requirements across the logistics.

The objective of the committee is to standardize urban logistics activities and services for sustainable, social, and economic responsibility.

Standardization activities are technologies and services for efficient and sustainable urban logistics required for cities that are constantly evolving and expanding with digital transformation. For example, it includes unmanned storage facilities such as non-contact service and e-commerce, unmanned delivery, back-end logistics for sales facilities, delivery services such as urban fulfilment, safety of urban logistics workers, and consideration for the environment, etc.

Excluded from its scope are items covered by ISO/TC8, TC20, TC22, TC34, TC51, TC86, TC92, TC94, TC96, TC101, TC104, TC110, TC122, TC163, TC176, TC184, TC204, TC207, TC262, TC292, ISO/IEC JTC1, TC308, and TC315.

PURPOSE AND JUSTIFICATION (Please use the field immediately below or attach an annex.)
(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.13)

The rapid increase in cargo volume in cities and metropolitan areas causes traffic congestion, air pollution, noise, and logistics costs, ultimately increases costs and various types of risks. An efficient urban logistics system is required to maintain and enhance the city's competitiveness, which is an important factor in the city's economy and improves employment and living conditions.

Logistics is consisted of technologies and services to deliver goods between the point of origin and the point of consumption while meeting the requirements of customers and/or corporations. The logistics activities usually involve the integration of information flow, materials handling, production, packaging, inventory, transportation, warehousing, and often security.

-*

According to ResearchAndMarket.com, the global logistics market is expected to grow by 95.42 billion US dollars by 2024, factored with increasing cross-border trade, rise in the use of multimodal transport, fresh food delivery, and growing e-commerce market.

The logistics industry is involved in a huge number of market players with numerous operations and interfaces throughout the supply chain. With increasing globalization and the expansion of the global market, however, there are more challenges to be considered ever before. The logistics industry must run more secure, safe, healthy, and environmentally friendly operations while continuously improving its overall performance.

These challenges are obviously too much for small and medium-sized enterprises and many developing countries. The market demand for logistics standards is huge. Take Walmart, for example, which deals with over 100,000 suppliers — a massive network of manufacturers, distributors, and subcontractors, from different countries with varying laws and regulations.

Driven by digitization and socio-economic trends further fuelled by the COVID-19 pandemic, e-commerce is now experiencing dramatic growth. The EU's e-commerce market is expected to grow at a annual growth rate (CAGR) of 6.3% between 2019-23 (Statista).

Demographic trends indicate an increasing concentration of urban logistics activities such as last mile delivery in urban areas. According to the latest UN statistics, 55% of the world's population currently lives in urban areas, and this figure is expected to reach 60% by 2030. In Europe, 77% of the population is expected to live in cities by 2030.

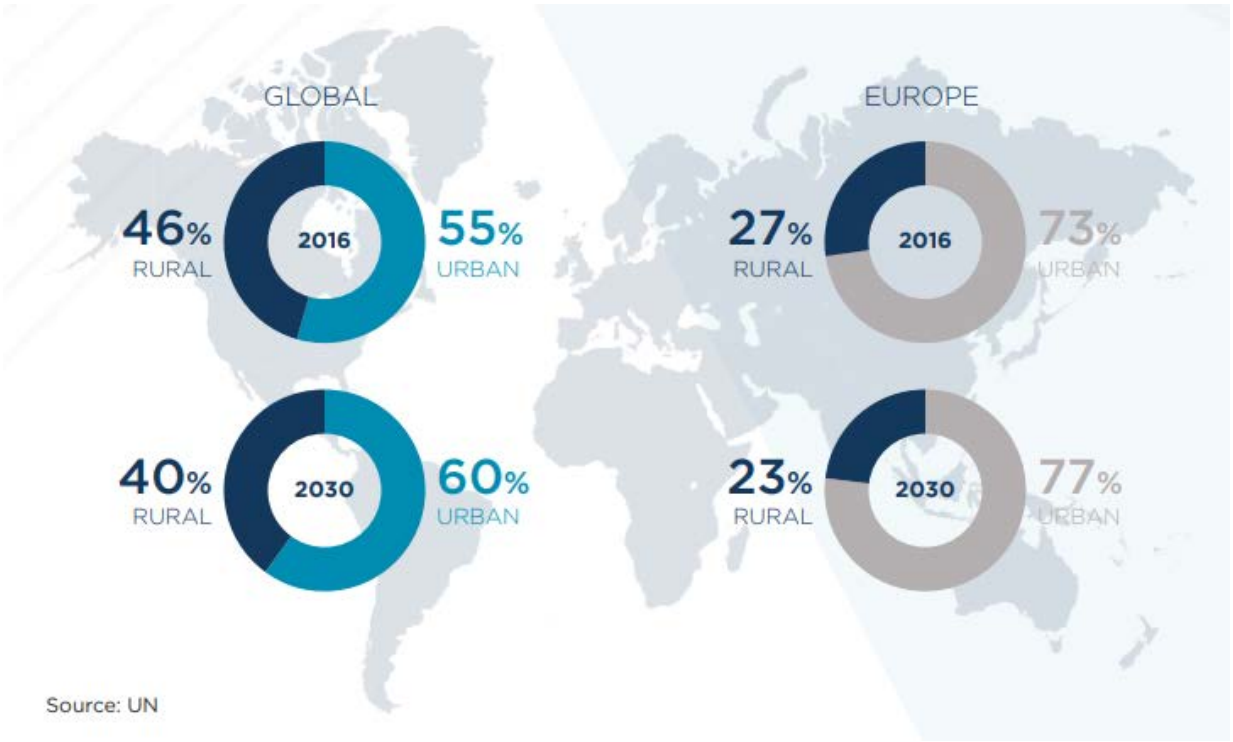
This trend creates many new economic concepts in urban societies. Some trends are:

- A rise of the on-demand economy. The on-demand economy refers to an economic activity that is technology-based and provides consumers access to a product or service immediately upon request. The growth of the on-demand economy is disrupting many sectors, from food delivery to other sectors such as groceries, music and video, learning and education, healthcare and, of course, logistics.

- The sharing economy on the one hand enables better distribution and use of idle resources, reducing carbon footprint and resource use, while increasing access to previously unaffordable goods and services and creating shared goods or infrastructure.

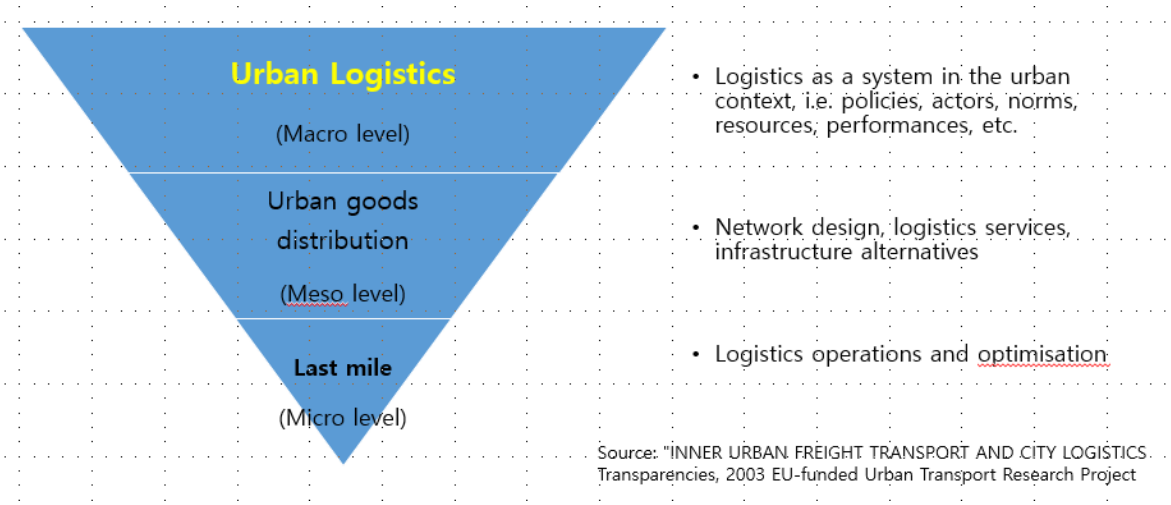
- The crowdsourcing economy refers to the involvement of individuals or organizations that provide services or provide products by offering tangible goods, services, ideas and/or technologies.

These economic concepts are closely related to urban logistics. Logistics in cities is often customer-centric rather than business-centric, with direct contact with customers. Online purchases and last-mile delivery are increasingly concentrated in cities. Processes, infrastructure and services related to urban logistics must be optimized, taking into account the ever-increasing population of cities and the complexity of their infrastructure.



Source: Report from Urban Logistics, Cushman & Wakefield. https://www.cushmanwakefield.com/-/media/cw/emea/united-kingdom/insights/download-pdfs/2017-cushman-wakefield-urban-logistics-report.pdf

The vertical hierarchies of urban logistics are as follows:



Especially after the COVID-19 pandemic and digital transformation, the development of urban logistics is remarkable with following issues.

- (Worldwide high urbanization rate) Growing demand for urban logistics due to increase in urban population and e-commerce.
- (Cost-intensive, economically competitive) Urban logistics (including last mile) accounts for about 50% of total distribution costs.
- (Digitalization) Change from 'labor-intensive industry' to 'technology-intensive industry' through the digitalization of logistics activities using 4th industrial technologies such as big data, IoT, artificial intelligence, and block chain.

- (Global Supply Chain Expansion) The issue of increasing logistics efficiency between cities is highlighted by expanding the scope of cross-border purchasing and trade.
- (Increased environmental concerns and sensitivity) Promotion of ecosystem of urban logistics to solve environmental problems such as air and noise.
- (Improvement of living convenience) Improving the convenience of people's lives and improving working conditions through continuous improvement of urban logistics services and transportation efficiency

Although there are some TCs and standards in ISO covering packaging and logistics means, there are no harmonized international standards for urban logistics technologies and services. In this area, the need for standardization was discovered belatedly as various logistics technologies and services developed worldwide due to the rapidly changing value chain of urban logistics and changes in market demand.

The proposed new activity (TC) will develop urban logistics technologies and service standards so as not to overlap with the scope of existing TCs. Additionally, the new committee will work closely with existing TCs as well as various national and industry stakeholders to develop new standards where appropriate.

The proposed new technical committee can

- Help improve social, economic, and sustainable urban logistics
- Improve the stable and sustainable quality of logistics processes and services
- Help continue sustainable growth of urban logistics market
- Reduce the risk of workplace accidents
- Help respond to changed value chain of logistics due to continuous digital transformation
- To reduce overall logistics costs and burdens globally

It's time to start standardizing for urban growth, shifting consumer awareness, and harmonious and efficient linking of global and urban supply chains. The new TC will help promote innovation in urban logistics technologies and services, increase the overall value of logistics, and ultimately help to remove trade and communication barriers through standardization.

PROPOSED INITIAL PROGRAMME OF WORK (Please use the field immediately below or attach an annex)
Please see the ISO/IEC Directives, Part 1, Annex C.4.4 and C-4.5)

For each item, the initial work programme shall define the deliverable type and target dates. The initial work programme shall also assign priorities to the different items.

Proposed initial programs of work are as follows.

Technologies	• Urban logistics technologies for efficient storage, transport, and distribution such as micro-fulfillment center, self storage system (including parcel locker), last mile delivery
Processes/Services	• Frameworks for economic, environment and social responsible urban logistics planning and execution • Personal and workplace safety, hygienic working conditions, health, and security during urban logistics activities and processes
Evaluation/Testing	• Terminology, functions, assessments and performance measures on urban logistics technologies and services • Quality inspection • Performance Evaluation • Testing

Some potential items are

- Terminology, functions and general requirements of urban logistics technologies and services
- General requirements, structures and quality inspection methods for unmanned parcel locker
- Assessments and performance - Measurement of quality of service for urban logistics (e.g. last mile delivery)

The standards to be developed will be extended, not limited to:

- Urban logistics technologies, services and evaluations related to safety, environment, hygiene, etc. in response to changes in the value chain of urban development
- Terms, performance criteria and testing methods for urban logistics technologies and items such as micro-fulfillment center, self-storage, unmanned store, etc.
- Quality measurement of urban logistics operations and services such as last mile delivery

RELATION OF THE PROPOSAL TO EXISTING INERNATIONAL STANDARDS AND ON-GOING STANDARDIZATION WORK

☒ The proposer has checked whether the proposed scope of the new committee overlaps with the scope of any existing ISO or IEC committee or JTC1 sub-committee

☒ If an overlap or the potential for overlap is identified, the affected committee has been informed and an agreement has been reached between proposer and committee on
   i. modification/restriction of the scope of the proposal to avoid overlapping,
   ii. potential modification/restriction of the scope of the existing committee to avoid overlapping.

☐ If agreement with the existing committee has not been reached, please explain why the proposal should be approved.

Click or tap here to enter text.

☐ Have proposals on this subject been submitted into an existing committee and rejected? If so, what were the reasons for rejection?

No

LISTING OF RELEVANT DOCUMENTS (SUCH AS STANDARDS AND REGULATIONS) AT INTERNATIONAL, REGIONAL AND NATIONAL LEVEL

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.6)

- ISO/TC 268 - Sustainable cities and communities
- (ISO/TC 268/SC 2 - Sustainable cities and communities - Sustainable mobility and transportation)
- ISO/TC 315 - Cold chain logistics
- ISO/TC 154 - Processes, data elements and documents in commerce, industry and administration
- ISO/TC 204 (WG 7 General fleet management and commercial/freight)
- ISO 26000: Guidance on social responsibility
- ISO 28000:2007: Specification for security management systems for the supply chain
-
- Standards in CEN/TC320 - Transport - Logistics and services
- Standards in CEN/TC331 - Postal services
- Standards in CEN/TC273 - Logistics (currently, inactive)
- Standards in CEN/TC119 - Swap bodies for combined goods transport
- GS1 standards (e.g. Product Classification(GPC), GS1 Global Data Model, GS1 Digital Link)
- WHO (World Health Organization): QAS/04.068 on Good Distribution Practices
- Korean standards on logistics, packaging, transport and information flow
- Enterprise Certification, Association for Supply Chain Management (ASCM)

* CEN (TC320 & TC331): Standards that have already been developed in relation to urban logistics may be established into ISO standards and a standard cooperation system between relevant TCs in CEN and ISO should be established.

The scopes and differences of the most relevant TCs in ISO are compared below.

ISO TCs	SCs / WGs	Title	Scope	Gap
ISO/TC 268	ISO/TC 268/SC 2 - Sustainable cities and communities - Sustainable mobility and transportation	Sustainable cities and communities	Focusing on development of requirements, frameworks, guidance and supporting techniques and tools related to the achievement of sustainable development to help all Cities and Communities and their interested parties in both rural and urban areas become more sustainable.	Mainly focusing on the field of sustainable mobility and transportation for passenger movements. The sustainable development approach based on ISO 37101 remains similar
ISO/TC 315		Cold chain logistics	Standardization in the field of cold chain logistics	New TC will excluded the field of cold chain logistics
ISO/TC 154		Processes, data elements and documents in commerce, industry and administration	Business, and administration processes and supporting data used for information interchange between and within individual organizations and support for standardization activities in the field of industrial data.	New TC will exclude the activities in TC154. New TC will mainly focusing on physical specifications, technologies and services within/between urban area.
ISO/TC 204	WG 7 - General fleet management and Commercial/freight	Intelligent Transport System	Overall system aspects and infrastructure aspects of intelligent transport systems (ITS)	New TC will exclude the activities in TC204. New TC will cooperate with WG7 for information frameworks and electronic information exchange guidelines developments

LISTING OF RELEVANT COUNTRIES WHERE THE SUBJECT OF THE PROPOSAL IS IMPORTANT TO THEIR NATIONAL COMMERCIAL INTERESTS
(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.8)

Urban logistics is concerned with all the different activities involving cargo flows, workers, and consumers from the beginning to the end of ever-expanding regional and global supply chains. The proposed new activities are relevant for all countries.

LISTING OF RELEVANT EXTERNAL INTERNATIONAL ORGANIZATIONS OR INTERNAL PARTIES (OTHER THAN ISO AND/OR IEC COMMITTEES) TO BE ENGAGED AS LIASONS IN THIS WORK
(Please see the ISO/IEC Directives, Part 1, Clause C.4.9)

- Standards in CEN/TC320 - Transport - Logistics and services
- Standards in CEN/TC331 - Postal services
- Standards in CEN/TC273 - Logistics (currently, inactive)

IDENTIFICATION AND DESCRIPTION OF RELEVANT AFFECTED STAKEHOLDER CATEGORIES
(Please see ISO Connect)

	Benefits/Impacts/Examples
Industry and commerce – large industry	**E-commerce, logistics, distribution and retail businesses**
Industry and commerce – SMEs	**E-commerce, logistics, distribution and retail businesses**
Government	**All governments, city authorities**
Consumers	**All consumers**

Labour	**E-commerce, logistics, distribution and retail industries**
Academic and research bodies	**Logistics, retailing, Urban planning, SCM, etc**
Standards application businesses	**Standards related to city logistics, retailing, urban planning, etc**
Non-governmental organizations	**Global city logistics, intechopen, and many sustainable urban logistics related organizations**
Other (please specify)	**Relavent stakeholders such as urban freight distribution operators, planners and governers, etc**

EXPRESSION OF LEADERSHIP COMMITMENT FROM THE PROPOSER

(Please see the ISO/IEC Directives, Part 1, Annex C, Clause C.4.12)

If accepted, KATS (Korea) is willing to undertake the work of secretariat and fully support the new committee including chairmanship and secretariat.

Since the scope of the proposed TC is relatively wide, several sub-committees and working groups are needed and it is suggested to divide the roles according to the interests of each country and standard body

☒ **The proposer confirms that this proposal has been drafted in compliance with iso/iec directives, part 1, annex c**

SIGNATURE OF THE PROPOSER

KATS

COMMENTS OF THE ISO CENTRAL OFFICE (IF ANY)

Click or tap here to enter text.

Urban Logistics

April 4, 2023

Prepare by JK Kim
KATS

Content

1. Background
2. Title and Scope
3. Proposed work items
4. GAP analysis: relevant ISO TCs and external international organizations
5. Future plan

1. Background

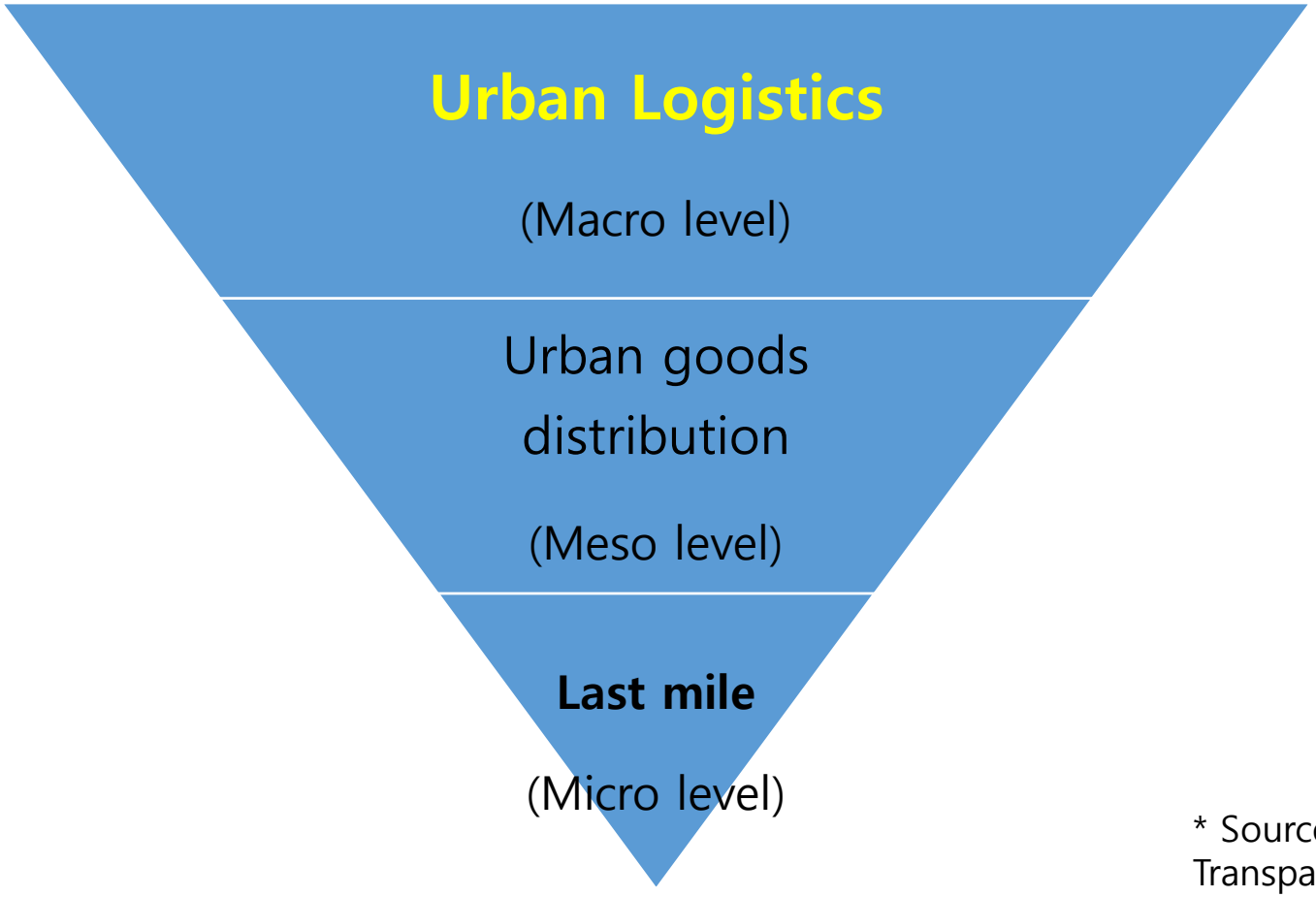
Logistics

- **Logistics** deals with the flow of goods and related information from one point to another, ensuring an item is delivered at the right place and at the right time while minimising the total operational costs. The resources managed in logistics may include tangible goods such as materials, equipment, and supplies, as well as food and other consumable items.

https://en.wikipedia.org/wiki/Logistics

1. Background

Urban Logistics



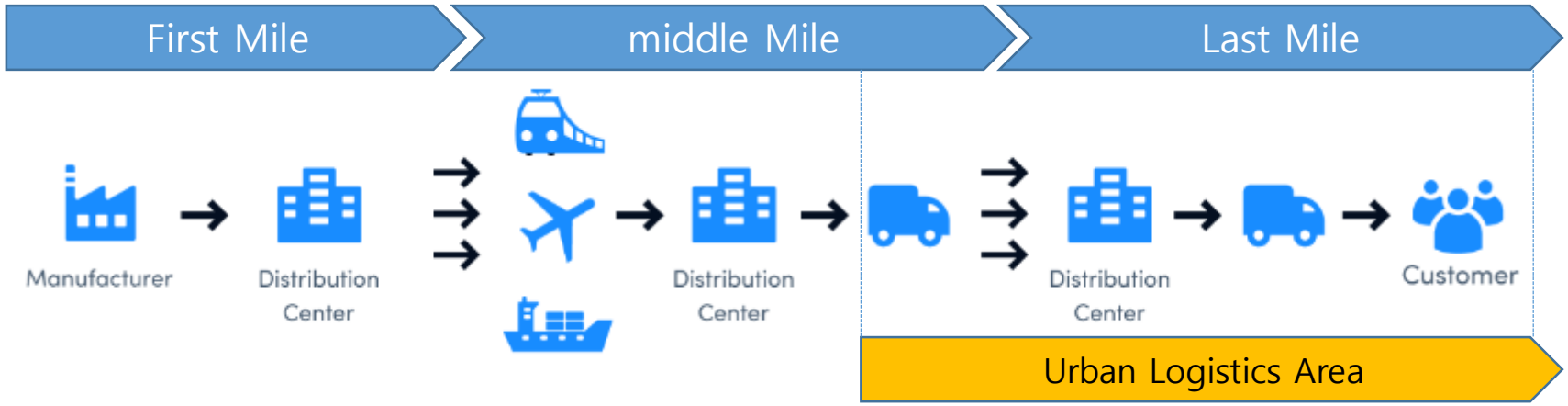
- Logistics as a system in the urban context, i.e. policies, actors, norms, resources, performances, etc.
- Network design, logistics services, infrastructure alternatives
- Logistics operations and optimisation

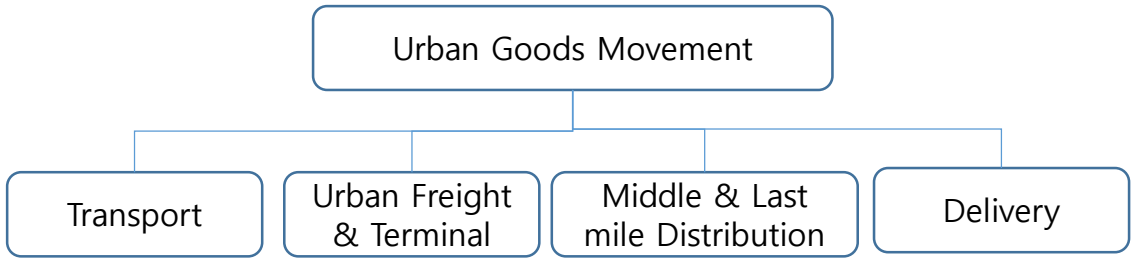
* Source: "INNER URBAN FREIGHT TRANSPORT AND CITY LOGISTICS Transparencies, 2003 EU-funded Urban Transport Research Project

1. Background

Urban Logistics

- The scope of urban logistics is the middle mile that moves from the city boundary to the city center and the last mile that is delivered to customers.





* Figure Source: Kwon, Gu-po, Youngsan University, 2023

1. Background

Definition

- **Urban Logistics Technology**
  - **The goal of urban logistics technology is to make urban delivery operations more efficient, environmentally friendly, and responsive to the changing needs of cities and their residents.**
  - refers to the use of digital tools, systems, and devices to manage and optimize city logistics operations, such as delivery routes, vehicles, inventory, and real-time tracking. This technology can include geographic information systems (GIS), route optimization software, real-time tracking systems, automated inventory management, and other solutions that use data analytics and connectivity to improve the efficiency, speed, and sustainability of urban logistics operations.

1. Background

Definition

- **Urban Logistics Service**
  - **The goal of urban logistics services is to provide efficient, reliable, and sustainable product movement solutions that meet the needs of businesses and individuals in urban environments.**
  - plays a critical role in ensuring that goods and supplies reach their intended destinations efficiently and effectively, supporting the functioning of cities and the daily lives of their residents.
  - refers to the various ways in which goods and supplies are moved and managed within an urban area, including delivery, transportation, warehousing, and distribution services. These services may be provided by third-party companies or in-house logistics departments, and may be tailored to meet the specific needs of different industries, such as retail, healthcare, or manufacturing.

1. Background

Evolving urban logistics

E-commerce, micro-fulfillment

Self storage

Unmanned locker

Robot delivery

Last mile delivery

Unmanned store (smart store)

1. Background

Concentration of urban population

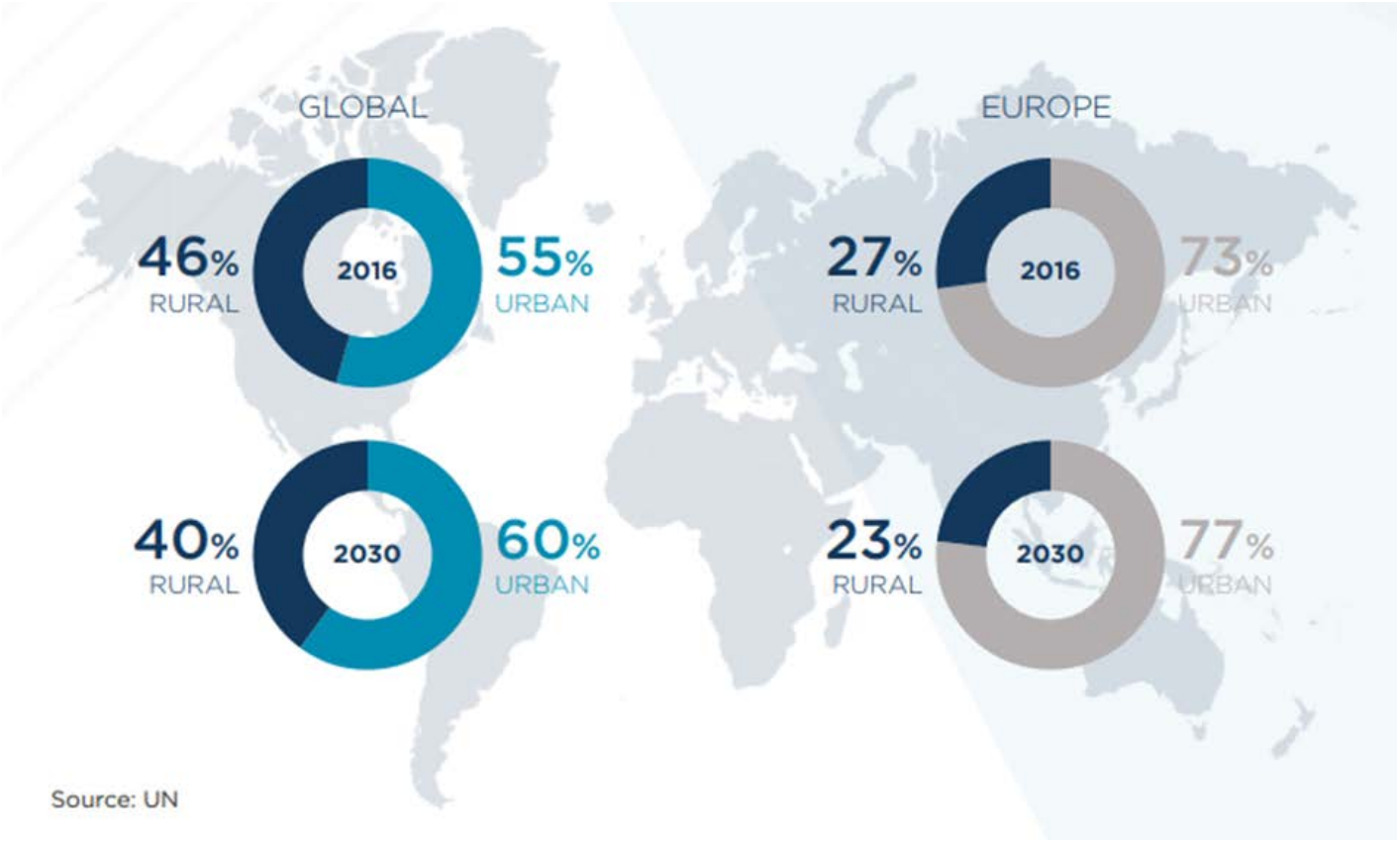


Figure Source: Report from Urban Logistics, Cushman & Wakefield. https://www.cushmanwakefield.com/-/media/cw/emea/united-kingdom/insights/download-pdfs/2017-cushman-wakefield-urban-logistics-report.pdf

1. Background

Common issues and challenges of urban logistics

Performance and productivity

- Economic & environmental performance
- Logistics productivity

Sustainable growth

- Improving circular economy toward sustainable cities
- Improving the working environment of logistics activities

Infrastructure and management

- Sustainable urban logistics management
- Planning and executing effective urban logistics infrastructure

1. Background

Importance of Urban Logistics

- **(Worldwide high urbanization rate)** Growing demand for urban logistics due to increase in urban population and e-commerce
- **(Increased environmental concerns and sensitivity)** Promotion of ecosystem of urban logistics to solve environmental problems such as air and noise. In urban areas freight generates up to 20% of traffic / 30% of street occupation and 50% of greenhouse-gas emissions (from transport, https://www.iru.org/sites/default/files/2016-03/en-effective-city-logistics.pdf)
- **(Cost-intensive, economically competitive)** Urban logistics (including last mile) accounts for about 50% of total distribution costs
- **(Digitalization)** Change from 'labor-intensive industry' to 'technology-intensive industry' through the digitalization of logistics activities using 4th industrial technologies such as big data, IoT, artificial intelligence, and block chain
- **(Global Supply Chain Expansion)** The issue of increasing logistics efficiency between cities is highlighted by expanding the scope of cross-border purchasing and trade
- **(Improvement of quality of human life)** Improving the convenience of people's lives and improving working conditions through continuous improvement of urban logistics services and transportation efficiency

1. Background

Impact of Urban Logistics Standards

Urban logistics standards will provide guidelines and criteria used to provide a common framework for evaluating and comparing the performance of different urban logistics systems, ensuring that urban logistics systems perform in a safe, environmentally friendly and efficient manner.

These standards aim to improve the efficiency and sustainability of the supply chain processes and reduce the negative impacts of urban delivery activities on the environment and quality of life in cities.

2. Title and Scope

- Title
  - **Urban Logistics**

- Scope
  - **Standardization in the field of urban logistics technology and services, including, but not limited to, terminology, functions, assessments, service models, and requirements across the logistics.**
  - The objective of the committee is to standardize urban logistics technologies and services for sustainable, social, and economic responsibility.
  - Standardization activities are technologies and services for efficient and sustainable urban logistics required for cities that are constantly evolving and expanding with digital transformation.
  - For example, it includes unmanned storage facilities such as non-contact service and e-commerce, unmanned delivery, back-end logistics for sales facilities, delivery services such as urban fulfilment, safety of urban logistics workers, and consideration for the environment, etc.

- Goal
  - **Environment protection, social responsibilities, and economic growth in the long term**

2. Title and Scope

What is Urban Logistics Standard?

- Work place safety
- Urban logistics information
- Last mile delivery
- Product delivery security
- Quality analysis and evaluation
- Self storage and lockers
- Good Logistics Practice
- Micro fulfillment
- Urban logistics operation
- Product protection

2. Title and Scope

Main Activities

Includes	Excludes
• Urban logistics technologies, services and evaluations related to safety, environment, hygiene, etc. in response to changes in the value chain of urban development • Urban logistics terms, performance evaluation and measurement methods • Urban logistics technologies and items such as micro-fufillment center, self-storage, unmanned store, etc. • Urban logistics operations and services such as last mile delivery	its scope are items covered by ISO/TC8, TC20, TC22, TC34, TC51, TC86, TC92, TC94, TC96, TC101, TC104, TC110, TC122, TC163, TC176, TC184, TC204, TC207, TC262, TC292, ISO/IEC JTC1, TC308, and TC315.

2. Title and Scope

Possible work items

Suggested work items

• The standards to be developed will be extended, not limited to:
  • Terminology, functions, assessments and performance measures on urban logistics technologies and services including last mile delivery
  • Urban logistics operation and service standards for economic, environment and social responsibility
  • Urban logistics technologies and service activities for storage, transport, and distribution
  • Personal and workplace safety, hygienic working conditions, health, and security during urban logistics activities and processes

3. Proposed work item

Technologies	• Urban logistics technologies for efficient storage, transport, and distribution such as micro-fulfillment center, self storage system (including parcel locker), last mile delivery
Processes/Services	• Frameworks for economic, environment and social responsible urban logistics planning and execution • Personal and workplace safety, hygienic working conditions, health, and security during urban logistics activities and processes
Evaluation/Testing	• Terminology, functions, assessments and performance measures on urban logistics technologies and services • Quality inspection • Performance Evaluation • Testing

(initial work item) General requirements and quality inspection methods for unmanned parcel locker

General requirements and quality inspection methods for unmanned parcel lockers

1 Scope

These standards apply to general requirements and quality inspection methods for unmanned parcel lockers installed indoors to be used by the public (hereinafter referred to as "locker")

Note: These standards shall apply to the collective cluster box units installed in apartment houses, subways, companies, and public facilities at room temperature (1~30℃), and mailboxes, storage spaces, or containers for keeping personal belongings shall be excluded.

2 Normative references

Standards stated in this document shall constitute parts of the provisions of these standards as they are quoted to describe these standards. To quote such standards, their latest versions shall always be applied.

3 Terms and definitions

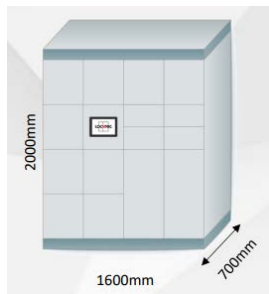
For the purposes of this document, the terms and definitions given in ISO 21067 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

—→ ISO Online browsing platform: available at https://www.iso.org/obp

—→ IEC Electropedia: available at http://www.electropedia.org/

3.1
unmanned parcel locker
locker that lets a user temporarily keep or receive items safely without the help of others



M
메인, 제어부,
현금기능

MCR-6
메인, 제어부,
우편함 4함, 소형 2함

MCR-5
메인, 제어부,
우편함 4함, 소형 1함

4. Gap Analysis

Relevant TCs and standard activities

ISO

ISO/TC 268 - Sustainable cities and communities
(ISO/TC 268/SC 2 - Sustainable cities and communities - Sustainable mobility and transportation)
ISO/TC 315 - Cold chain logistics
ISO/TC 154 - Processes, data elements and documents in commerce, industry and administration
ISO/TC 204 (WG 7 General fleet management and commercial/freight)

CEN

CEN/TC320 - Transport - Logistics and services
CEN/TC331 - Postal services
CEN/TC273 - Logistics (currently, inactive)

Relevant documents

- ISO 28000:2007: Specification for security management systems for the supply chain
- GS1 standards (e.g. Product Classification(GPC), GS1 Global Data Model, GS1 Digital Link)
- WHO (World Health Organization): QAS/04.068 on Good Distribution Practices
- Korean standards on logistics, packaging, transport and information flow
- Enterprise Certification, Association for Supply Chain Management (ASCM)

4. Gap Analysis

GAPs with current ISO TCs

ISO TCs	SCs / WGs	Title	Scope	Gap
ISO/TC 268	ISO/TC 268/SC 2 - Sustainable cities and communities - Sustainable mobility and transportation	Sustainable cities and communities	Focusing on development of requirements, frameworks, guidance and supporting techniques and tools related to the achievement of sustainable development to help all Cities and Communities and their interested parties in both rural and urban areas become more sustainable.	Mainly focusing on the field of sustainable mobility and transportation for passenger movements. The sustainable development approach based on ISO 37101 remains similar and collaborated if necessary
ISO/TC 315		Cold chain logistics	Standardization in the field of cold chain logistics	New TC will exclude the field of cold chain logistics
ISO/TC 154		Processes, data elements and documents in commerce, industry and administration	Business, and administration processes and supporting data used for information interchange between and within individual organizations and support for standardization activities in the field of industrial data.	New TC will exclude any activities in TC154. New TC will mainly focusing on physical specifications, technologies and services within/between urban area.
ISO/TC 204	WG 7 - General fleet management and Commercial/freight	Intelligent Transport System	Overall system aspects and infrastructure aspects of intelligent transport systems (ITS)	New TC will exclude any activities related in TC204. New TC will cooperate with WG7 for information frameworks and electronic information exchange guidelines developments

4. Gap Analysis

GAPs with CEN TC 320 (1/2)

CEN TCs	SCs / WGs	Title	Scope	Gap
CEN/TC 320 Transport - Logistics and services	CEN/TC 320/WG 1	Application of the ISO 9000/EN 29000 series to the transport and distribution industries	guidance on the application of EN ISO 9002 to the road transport, storage and distribution industries.	Withdrawn
	CEN/TC 320/WG 10	Energy consumption and GHG emissions in relation to transport services	No documents found	
	CEN/TC 320/WG 11	Furniture removal activities	the minimum qualitative and quantitative rules and characteristics of the provision of a furniture removal service, the service specifications of the furniture removal service being defined in prEN 12522-1	Not much relevant with proposed TC activities.
	CEN/TC 320/WG 2	Freight transport	Development of standards for activities and services for freight transport. CEN/TR 14310:2002: Freight transportation services - Declaration and reporting of environmental performance in freight transport chains. a guideline for preparing environmental declarations and reporting. EN 13011:2000: requirements for making declarations with regard to the quality of performance of a goods transport service	This area is highly relevant for the proposed TC, which will discuss environmental issues and sustainable freight transport services in the city.

4. Gap Analysis

GAPs with CEN TC 320 (2/2)

CEN TCs	SCs / WGs	Title	Scope	Gap
CEN/TC 320 Transport - Logistics and services	CEN/TC 320/WG 3	Quality of transport of dangerous goods	a system of quality/safety assurance for undertaking which carry out transport of dangerous goods; including loading and unloading of bulk goods and the securing of loads of packaged goods.	This can be relevant in terms of safety and security of freight transport services in the city
	CEN/TC 320/WG 4	Furniture Removal Activities	in the field of removal activities: - private individual belongings, - warehousing and storage of household goods, - offices removals, - fine arts removals.	Not much related
	CEN/TC 320/WG 5	Passenger transport	Development of standards for activities and services for passenger transport.	New TC will exclude the field of passenger transport
	CEN/TC 320/WG 6	Terminology	EN 14892:2005: Transport service - City logistics - Guideline for the definition of limited access to city centers	This area is highly relevant for the proposed TC. This document provides guidance on its elements with the aim of making freight planning and operation more efficient and avoiding bottlenecks for urban environmental protection.
	CEN/TC 320/WG 9	Self Storage Services	EN 15696:2008(MAIN): Self storage - Specification for self storage services This European Standard specifies requirements for the provision of self storage facilities and related services, for both personal and business purposes.	This area is highly relevant for the proposed TC.

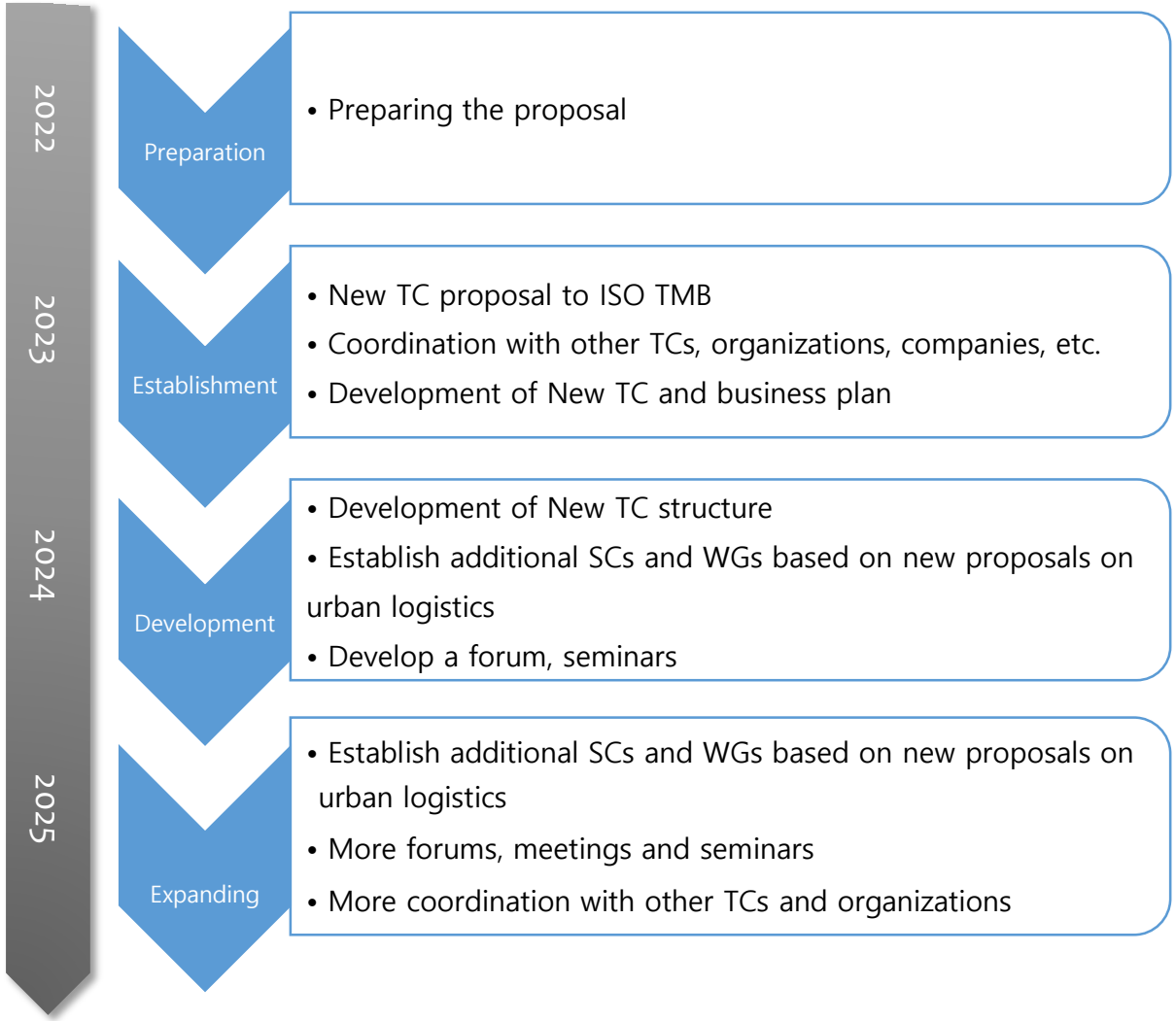
4. Gap Analysis

GAPs with CEN TC331

The standardization of various aspects of the measurement of quality of service, hybrid mail, (automatic) identification and tracing of mail items, apertures in letter boxes, receptacles, address data, and forms in order to increase the interoperability of postal networks and to improve the quality of service.

CEN TCs	SCs / WGs	Title	Scope	Gap
CEN/TC 331 - POSTAL SERVICES	CEN/TC 331/WG 1	QUALITY OF SERVICE	Quality of service EN 13850:2020: Postal services - Quality of services - Measurement of the transit time of end-to-end services for single piece priority mail and first class mail EN 14012:2019(MAIN) Postal services - Quality of service - Complaints handling principles CEN/TS 15472:2016(MAIN) Postal services - Method for measurement of parcel transit time for cross-border parcels within the European Union and EFTA using Tracking and Tracing	This area is relevant for the proposed TC.in terms of measuring the quality of logistics service in the city

5. Future plan



Questions & comments

- Jiyoun Ryu (KATS)
  - material@korea.kr
- Jongkyoung Kim (KCL)
  - logiscodi@kcl.re.kr

ISO/WD xxxxx:2022(E)

ISO TC 000

General requirements and quality inspection methods for unmanned parcel locker

Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

An unmanned parcel locker has emerged as a new business model that can be used as a base to send and receive parcels. As the domestic unmanned parcel locker market is largely led by countless small and medium-sized companies, however, the types and functions of unmanned parcel lockers are varied. Unmanned parcel lockers have become sophisticated to be provided in various types including general lockers, specialized ones by industry (food (refrigerated/frozen, etc. temperature/duration setting, etc.)), those for medical purposes (hygiene and safety), and those for ordinary items (existing lockers). Meanwhile, the need for the development of standards (in terms of size, operation, inspection, etc. of unmanned parcel locker) related to the centre for unmanned parcel delivery service to allow "contactless" logistics service for safe and efficient delivery of products with the least contact between delivery personnel and customers became evident (in terms of size, operation, inspection, etc. of unmanned parcel locker). Still, the current unmanned parcel lockers are not linked with the cargo management system, serving the role of parcel storage boxes only.

Although the legal grounds for the unmanned parcel locker can be found regionally, there are no provisions on its performance and standards in detail, leading to failure to consider the spread and extensive use of unmanned parcel lockers. The development standards can be said to be the core standards of contactless logistics and distribution services and are designed to help both companies and consumers.

General requirements and quality inspection methods for unmanned parcel lockers

1 Scope

These standards apply to general requirements and quality inspection methods for unmanned parcel lockers installed indoors to be used by the public (hereinafter referred to as "locker")

Note: These standards shall apply to the collective cluster box units installed in apartment houses, subways, companies, and public facilities at room temperature (1~30℃), and mailboxes, storage spaces, or containers for keeping personal belongings shall be excluded.

2 Normative references

Standards stated in this document shall constitute parts of the provisions of these standards as they are quoted to describe these standards. To quote such standards, their latest versions shall always be applied.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21067 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
unmanned parcel locker
locker that lets a user temporarily keep or receive items safely without the help of others

3.2
Cluster Box Unit
CBU
Individually installed box units to constitute a cluster

3.3
product quality inspection
procedure for confirming whether the completed machine, equipment, and system are appropriate for their purpose of use

3.4
installation quality inspection
procedure for confirming whether the installed or modified facility, machine, equipment, and system comply with the approved design and supplier recommendations

3.5
operation quality inspection

procedure for confirming whether the installed or modified facility, machine, equipment, and system operate as intended within the expected scope

4 General

4.1 Overview

A locker shall be designed and manufactured in compliance with the following requirements so that it can be used for the intended purpose accordingly:

a) A locker shall be operable regardless of potential impact or pressure from outside

b) A locker shall be designed to withstand the weight of the parcel to be stored, and the available size and weight of the parcel shall be marked in a way that enables easy recognition.

c) A safety device shall be provided to respond to risks of fire, leak, electric shock, etc.

d) A locker shall be installed in a place that does not interrupt the movement of pedestrians and goods

e) A universal design shall be applied to the location and intensity of illumination of kiosk (control panel)

f) so that children, the elderly, and people with disabilities do not have any problem using it.

g) Safety and security facilities may be installed additionally for safe management and hacking prevention of the locker.

h) A locker shall be fixed tightly so that it cannot be reversed due to vibration or impact

i) A locker shall be used to store parcels weighing below 30kg, which is equivalent to the ordinary weight of light baggage, and the storage weight standards shall be marked

j) As for lockers for storing refrigerated or frozen products, the standards for setting the temperature, duration, ways of checking the temperature, and limit of liability shall be marked.

k) Manuals for cleaning and maintenance of locker shall be placed.

l) A locker shall be installed in places with fine ventilation and drainage systems.

4.2 Locker materials

The materials to be used to manufacture the locker shall be determined within the scope that does not cause any trouble to protect items, and they shall meet the requirements for the mechanical and chemical properties stated in these standards.

4.3 Classification

Lockers shall be classified as follows according to the shape and purpose of use:

4.3.1 Storage input method

a) Front input type: A method wherein multiple lockers in one/several row(s) is(are) placed and sending and receiving parcels are available on the front of lockers

b) Reverse input type: A method wherein multiple lockers in one/several row(s) is(are) placed and sending and receiving parcels are available on the back of the lockers

4.3.2 Locker size

a) Standard type: A locker that has the standard size stated in these standards

b) Non-standard type: A variable locker that has an atypical size or whose size may be changed

4.3.3 Functions of locker

a) General type: A locker that does not have extra functions other than storage of items

b) Functional type: A locker with functions appropriate for the items or purposes

EXAMPLE Locker with temperature maintenance function for refrigerated and frozen items

4.3.4 Installation location of locker

a) Indoor locker: Install inside the building

b) Outdoor locker: Install outside the building

Note: Facilities surrounded by more than three walls with roof and ceiling or inside a building shall be considered indoor, and those whose more than two walls are open for natural ventilation shall be considered outdoor

4.4 Appearance of locker

The colors and finishes of the inside and outside of the locker shall be determined by the manufacturer. However, outdoor lockers shall be designed with measures to prevent insulation resistance and electric shock. They shall have a structure wherein rainwater shall not flow into the shelves, with anti-rust coating applied on locks and hinges.

4.5 Installation of locker

a) After installation, lockers shall be fastened with bolts, etc. to be fixed tightly so that they are not moved. As for the facilities, they shall be fixed tightly by fastening their top or bottom with wall mounting plate after installation so that they neither move nor fall down.

b) A locker shall be installed at a location that neither protrudes nor interrupts the passage of customers or users considering the movement of pedestrians.

c) Components of the installed lockers shall be easily replaceable in case of damage or failure.

d) CCTVs may be installed in response to incidents such as loss, theft, etc.

4.6 Door

a) All boxes of the front input-type lockers shall have a separate door.

b) Door hinges shall be hidden or designed not to be operable from the outside.

c) Doors shall be designed to be opened, closed, and locked without joints or excessive gaps.

d) All doors shall be open for over 90 degrees at the least for user convenience.

e) Doors shall be designed to have even gaps between them at the least length so that they cannot be forced open by using a simple tool such as knife, screw driver, and thin metal scrap.

Note: Lockers with refrigeration or freeze functions shall have a structure that does not leak cold air and a sealing function that minimizes loss of cold air.

4.6.1 Identification

The door of the locker shall have a unique number or mark to allow users to identify each locker. In addition, the control panel (kiosk) shall have a feature wherein users can find the location of their item with voice or text for user convenience.

4.6.2 Information on locker and authentication

A user or an authorized user may send the information on the address of the selected locker via the locker operating system through linkage between user and locker and authentication procedure.

A device for authentication via password, QR code/barcode, biometrics, etc. may be installed for user convenience and safety. In such case, an automatic locking system after time lapse shall be installed when the door lock is released and the door is opened after authentication.

4.7 Size of individual box

The height of the cluster box unit (CBU) excluding leveller shall be less than 1,600mm from the bottom of the upper top box so that users can store and take out their items without any inconvenience.

The standard size of the individual box shall be as follows:

(Unit: mm, Inside diameter)

Locker Type	Size		
	Height	Width	Depth
Standard	360 +- 20	350+- 20	560+- 20
Small	Less than 360	350+- 20	560+- 20
Mid	360-550	350+- 20	560+- 20
Large	551-1,030	350+- 20	560+- 20

4.8 Operating system

Installation of system to operate the cluster box unit (CBU) and locker shall be optional, and it may have the following functions:

a) A network operable to external servers such as wired LAN or wireless router, etc.

b) A function that enables remote control of locker status check and system management

c) A function of opening lockers remotely or resetting the system upon emergency

d) A function that can check the history of use and items abandoned for a long time

e) A function that enables checking the parcel delivery status via home network device for apartment houses, locker management server

5 Inspection method

5.1 General

Inspections on lockers largely consist of Product Quality (PQ), Installation Quality (IQ), and Operation Quality (OQ)

5.1.1 Product quality inspection

A locker shall not be damaged by corrosion but shall maintain good condition in general when seen with the naked eye.

For quality inspections of product hardware, the following items shall be checked:

a) Bubbles, bleach, or discoloration on the surface of the locker

b) Distortion in the shape and structure of locker

c) Normal operation of doors of lockers

d) Network connection of operating system

e) Connection of hardware related to communication and detailed operation of locker

f) Operation of kiosk touch panel and barcode reader

g) Operation of attached hardware including camera, payment terminal, printer, etc.

h) (For refrigerated locker) temperature value via communication with refrigerator board

i) For quality inspections of product software, the following items shall be checked:

   A. Operation of kiosk program

   B. Operation of operating system

   C. Normal operation of remote control system, if any

   D. State of access to database

5.2 Installation quality inspection

5.2.1 Pre-installation inspecion

a) Check whether the side where the locker is installed is flat (ex. gradient shall be less than 2°) to ensure the stability of locker and system operation and make the side flat by using a leveler, if necessary.

b) Check the dimensions to ensure that there are spaces for the safe operation of each locker and additional rooms to use the service (we recommend having over 10% of enough space from the left, right, and top).

c) Power: Check whether single circuits are installed in the distribution box connecting the power lines of lockers (ex. 2P 15A AC 220V, earth C-type)

d) Check whether there are areas that generate dust, heat, and leaks within 2m where lockers are installed for the safe use of the system.

e) Inspections on the wiring for the interoperability of separate system shall be conducted based on matters separately agreed upon according to the system specifications.

f) Test the interoperability and current flow of power lines, check whether each wiring has at least 3m gap from the entrance, and mark the given function to each wire.

5.2.2 Installation

a) Assemble the control panel and each locker set to install in the corresponding location.

b) To install each set, fasten by considering gaps on the right and left as well as the overall proportions of the product.

c) When the fastening of each set is completed, connect the inner wiring of the I/O board at the top/bottom.

5.2.3 Post-installation inspection

a) Check the operation of the door sensor of each locker.

b) Check the operation and function of lockers.

c) Check the covers and wiring conditions of the product and complete the finishing work of the appearance.

d) Test-run the entire systems to check whether they operate normally for inspection.

e) Check whether the authentication number is sent normally for parcel delivery.

f) Check whether customer authentication and locker opening operate normally.

g) Check whether the auto execution of programs operates normally upon restarting the system

h) Check whether related information is displayed normally upon linking with the home network

5.3 Operation quality inspection

5.3.1 Opening/Locking device

a) Check whether the locker is open and closed normally.

b) Check whether the opening and closing sensor of the locker operates normally.

5.3.2 Hardware maintenace

a) Check the network connection status of the operating PC.

b) Check the connection of hardware related to communication and detailed operation of the locker.

c) Check the operation of kiosk touchpad and barcode reader.

d) Check the operation of attached hardware including camera, payment terminal, printer, etc.

e) (For refrigerated locker) check the temperature value via communication with the refrigerator board.

5.3.3 Software maintenance

a) Check the operation of the kiosk program.

b) Check the operation of remote access program for operating the PC.

c) Check the operation of remote control program of boxes.

d) Check the state of access to database.

e) Check whether the use data of box users (locker no., time of use) is saved.

5.3.4 Other matters related to security and safety

Be sure to read the laws and regulations related to ICT security and safety.

6 Quality management system

6.1 Development of quality management system

The quality management system shall be established to ensure that the finished product complies with the design requirements and facilitate a series of quality management activities such as installation, operation, return, and collection.

6.2 Operation of quality management system

To facilitate the operation of the established quality management system, a company shall provide detailed guidelines for quality management, detailed plans to conduct quality management, improvement measures, education and training, etc.

The result of quality management shall be reviewed on a regular basis within the company. and measures shall be taken for improvement.

Bibliography

[1]