International Standards Olympiad

Preliminary Round Task and

Application Form

2020

Korean Agency for Technology and Standards

KSA KOREAN STANDARDS ASSOCIATION

Preliminary Round Tasks: Select a "daily inconvenience caused by the lack of standardization" falling under one of the five standard categories, and propose a solution.

<What is a Standard?>

A standard is established to prevent inconveniences affecting people's lives and to promote safety and efficiency. The term "standard" refers to a decision regarding objects, performance, capabilities, operational procedures, methods, processes, responsibilities, or obligations for unification and simplification to ensure the fair acquisition of profit and conveniences among related persons. Meanwhile, "standardization" refers to the process of establishing standards and achieving convenience and profit by complying with such standards.

Standards innovate production and expand markets. Furthermore, they promote the development of new technologies, increasing profits for businesses. Standards also provide consumers with unified information regarding products and services, and protect consumers' interests. In particular, they can be broken down into five major categories.

<Standard Categories>

Category	Description
Standards for the Elderly and People with Disabilities	In the 2019 World Population Prospects report, the United Nations (UN) projected that the world population will grow older faster, with the percentage of people aged 65 years or older increasing from 9% in 2019 (1 in 11 people) to 16% by 2050 (1 in 6 people). According to the World Health Organization (WHO)'s World Health Survey (2002–2004), people with disabilities account for 15.6% of the world's population that is aged 15 or older (approximately 785 million people), which represents an increase from the organization's estimate of approximately 10% in the 1970s. These social trends have increased demands for products designed to promote convenience for the elderly and people with disabilities. So far, standardization efforts mainly focused on improving the quality and performance of products used by the general population. As such, the future calls for standardization efforts aimed

	at developing products for promoting the self-reliance and social activities of the elderly and people with disabilities while considering the environments in which they use those products.
Service Standards	The world is witnessing the emergence of new types of services in the travel, education, and entertainment sectors, as well as an increase in new forms of transactions, such as electronic commerce. In addition, health care, law, design, accounting, advertising, and other knowledge-based service industries are hailed as new growth drivers. France has been developing tourism service standards to promote the country's tourism industry. Now, the country holds approximately 150 national standards in the sector. Austria also boasts almost 100 national standards. Meanwhile, Korea exerts various efforts to standardize its service industry. In particular, the country adopted a "Standard CV" format to help job seekers and established various standards regarding funeral home services and building cleaning services. As can be seen, the standardization of services is crucial for the country's efforts to prepare for the opening of its service markets to overseas businesses and to preempt newly created service markets.
Health and Safety-Relevant Standards	The improved quality of living came with a record-high level of interest in health and safety. However, in more than a few cases, consumers experience confusion because of insufficient standards for food and other everyday products. In addition, people are exposed to the risks of safety accidents in everyday situations. Children are particularly vulnerable to such accidents, resulting in active discussions about the safety of food, toys, and leisure facilities frequently used by children. These issues affect the health and safety of the public and encompass numerous food products and other frequently used items. As such, we urgently need more standards in this area.

Energy and Environment Standards	Carbon dioxide (CO_2) is one of the main culprits of the greenhouse effect. It takes up the highest percentage of the total amount of gas created by human activities. Consequently, it is the largest contributor to global warming. Unlike methane, dinitrogen monoxide, and other gases from natural sources, CO_2 emissions can be controlled by humans. Global warming negatively impacts the ecosystem, water resources, food, and human health. To address this issue by improving energy efficiency, the International Standardization Organization (ISO) has been working toward establishing strategies on many fronts, including the efficient use of electric energy as well as new and renewable energy; the reduction of energy consumption by buildings, industries, and transportation activities; and the emissions trading system. Countries need to establish standards for products that consume less energy and emit and contain less hazardous substances, thereby helping the public take part in the global efforts to preserve our environment.
Compatibility	Compatibility refers to the ability to access services from systems besides those previously used without specific knowledge about the services or systems and the ability to effectively exchange operate services between different systems. Rapid advancements in information technologies, the diverse needs of users, and a web of interests among manufacturers have shortened and diversified product life cycles. Companies with high market shares often apply their own standards, making their products incompatible with other companies' products, as we experienced with regard to mobile phone cables. Such incompatibilities cause inconvenience for consumers, cost increase, and energy waste. Accordingly, we need common standards to ensure compatibility.

(Form 1) Application and Preliminary Round Task Submission Form

Application area		Team name	
Supervising Teacher's name		Team nationality	
Supervising Teacher's mobile no.		Supervising Teacher's email address	
School name			
School address			
Name (member no. 1)			
Mobile no. (member no. 1)		Email address (member no. 1)	
Name (member no. 2)			
Mobile no. (member no. 2)		Email address (member no. 2)	
Name (member no. 3)			
Mobile no. (member no. 3)		Email address (member no. 3)	
Preliminary round task	Daily inconveniences caused by the lack of standardization	Standard category	
Task title			
Inconveniences requiring standardization or caused by the lack of standardization			
Standardization solution			
Supplementary materials (if required)			

(Form 2) Preliminary Round Task Evaluation Criteria

No	Evaluation item	Criteria	Assigned points	Very poor	Poor	Fair	Good	Excellent
1	Understanding of Standardization	Does the team have a good understanding of the importance and necessity of standards?	20	4	8	12	16	20
2	Logic	Is the content of the proposed standards logical and comprehensive?	40	8	16	24	32	40
3	Originality	Do the standards provide diverse ideas?	20	4	8	12	16	20
4	Feasibility ①	Is it possible to develop an actual standard based on the proposed improvements?	10	2	4	6	8	10
5	Feasibility ②	Does the team provide concrete images of the implementation of the standardization ideas?	10	2	4	6	8	10

[Selection Rules]
① The score for each task is determined by calculating the arithmetic mean of the scores given by evaluators.
② The top 15 or so teams will be selected based on the scores.

(Form 3) Preliminary Round Evaluation Sheet

No	Team name	Understanding of standardization (20)	Logic (40)	Originality (20)	Feasibility ① (10)	Feasibility ② (10)	Total
1	Ns Inventors						
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

Evaluation Date: mm-dd-yy   **Evaluator:**   **(seal)**