



PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY

PROPOSER:

DATE OF CIRCULATION:

SAC

2026-03-24

CLOSING DATE FOR VOTING:

2026-06-16

A proposal for a new field of technical activity shall be submitted to the Office of the CEO (to tmb@iso.org), 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](#))

Artificial ice and snow landscape

SCOPE

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

Responsible for the standardization of safety, design, construction, operation, maintenance and sustainable development of artificial ice and snow landscape constructions (both indoor and outdoor), excluding the standardization in permanent buildings with residential functions (ISO/TC 59), ice and snow sports and recreational facilities (ISO/TC 83), bases for design of structures (ISO/TC 98) and tourism and related services (ISO/TC 228).

Note: The term "operation" here refers exclusively to good practices related to the internal operation and management of artificial ice and snow landscapes, and does not cover services provided externally to tourists.

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](#))

Artificial ice and snow landscape (both indoor and outdoor) refers to landscape that take natural or artificial ice and snow as the main constituent elements and are planned, designed and constructed by human in a low-temperature environment, with or without internal steel support structures. These landscapes are a complex that possess functions such as appreciation and entertainment, and interacts with the surrounding ecosystem, including examples like large - scale ice and snow constructions, ice sculptures, snow sculptures, and ice lanterns.

In terms of the scale of the ice and snow-related industries, more than 100 countries are already engaged in such industries, with an average annual total economic scale of nearly 1 trillion U.S. dollars. The geographical boundary is gradually spreading from Europe and the United States to Asia. However, due to factors such as climate warming and reduced snowfall, traditional projects such as skiing sports and natural landscape viewing will inevitably face problems such as a sharp decline in the number of tourists and a drop in revenue. The international ice and snow-related industries need to find new business opportunities, and artificial ice and snow landscape will be a new development path. Currently, countries such as Sweden and Finland focus on the development of ice and snow hotels, while Russia, the United States, Canada, and Japan actively hold ice and snow sculpture

competitions. China is developing sightseeing scenic areas with ice and snow structures as the core elements. For example, there are the ice hotels and snow castles in Finland, the ice and snow structures at the Quebec Winter Carnival in Canada, the snow sculptures at the Sapporo Snow Festival in Japan, and the Harbin Ice and Snow World tourist attraction in China (see Appendix A and Appendix B).

In terms of sustainable development, the use of recyclable materials, energy-saving lighting equipment, etc. in the construction of artificial ice and snow landscapes can better achieve their sustainable development. Meanwhile, the use of natural snowfall or river water is given the priority during the construction of artificial ice and snow landscapes, which greatly saves the construction resources. After demolition, the melted ice and snow water can naturally seep into the ground to participate in the water resource cycle and maintain the water balance of the construction area. However, if the demolition process of artificial ice and snow landscape is not properly handled, it is highly likely to cause groundwater pollution and pose a long-term potential threat to the ecological environment. To better promote the sustainable development of the global artificial ice and snow landscape, it is necessary to develop international standards to better support the realization of the United Nations Sustainable Development Goals (UN SDGs). For example, in the field of "Affordable and Clean Energy", the development of international standards will promote the energy utilization efficiency of artificial ice and snow landscape facilities; in terms of "Industry, Innovation and Infrastructure", the development of international standards will promote technological innovation and facility upgrades in the ice and snow landscape related industries; in the construction of "Sustainable Cities and Communities", the development of international standards will ensure the harmonious coexistence of artificial ice and snow landscape with the surrounding environment.

In terms of existing standard practices, more than 30 countries or international organizations worldwide are conducting research on ice and snow standardization. International Organization for Standardization (ISO) has formulated international standards for the methods of determining snow loads on roofs, ice management in petroleum and natural gas industries in the Arctic and cold regions, and sustainable development; European Committee for Standardization (CEN) has formulated standards for deicing in winter road maintenance and determining snow load values in structural design; American Society of Testing Materials (ASTM) has formulated standards for road ice and snow management and control, sustainable development, etc.; the Finnish Association of Civil Engineers (FACE) issued the *Design and construction guidelines for snow structures* (RIL 218-2001) as early as 2001, providing technical reference for the construction and use of Finnish snow hotels; China has formulated standards for the construction and safety specifications of artificial ice and snow landscapes, such as the *Technical Standard for Ice and Snow Landscape Buildings* (GB 51202-2016). There have been consensus and converging points among these existing standards in aspects such as the design of ice and snow structures or management. However, there are few relevant standards, and even fewer international standards, in areas like the design, safety, and full life cycle management of artificial ice and snow landscape. The lack of international standards for artificial ice and snow landscapes will hinder the effective dissemination of artificial ice and snow landscape technology, increase the safety risks caused by the lack of unified standards, restricted international exchanges and cooperation in artificial ice and snow landscapes constructions and projects, and reduced the development of the artificial ice and snow landscape industry.

In conclusion, it is necessary for ISO to establish a technical committee for artificial ice and snow landscape to specifically carry out international standardization activities in this field. Artificial ice and snow landscape is a comprehensive and highly professional technical field, covering safety, design, construction, operation, maintenance and sustainable development of artificial ice and snow landscape constructions. Therefore, the establishment of a technical committee in this field and the development of relevant international standards will further enhance ISO's role and influence in providing technical solutions for the ice and snow industries in various countries. It will promote exchanges and cooperation in artificial ice and snow landscape technologies among relevant parties globally, improve the quality of artificial ice and snow landscapes, ensure safety, and facilitate the harmonious and sustainable development of artificial ice and snow landscapes in relation to their surrounding environments.

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.

The proposed technical committee will develop the following standards:

- 1) Basic and general standards for artificial ice and snow landscape, such as terms related to artificial ice and snow landscape, principles for design and frameworks, etc.;
- 2) Technical standards for artificial ice and snow landscape, such as technical specification for the construction of artificial ice and snow landscape, etc.;
- 3) Management standards for artificial ice and snow landscape, such as the safety and protection specifications for artificial ice and snow landscape, sustainability management system for artificial ice and snow landscape, etc.

The projects in 1), 2) and 3) are planned to be formulated as international standards. The principles for design and frameworks in 1), the technical specification for the construction in 2) and the safety and protection specification in 3) should be preferentially formulated as international standards, which are expected to be completed within 3 years. Other projects will be launched in a timely manner depending on the consensus of the international community in this field and market demands.

RELATION OF THE PROPOSAL TO EXISTING INTERNATIONAL 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.
- ☐ Have proposals on this subject been submitted into an existing committee and rejected? If so, what were the reasons for rejection?

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)

STANDARDIZATION DOCUMENTS:

- ISO 4355:2013 Bases for design of structures-Determination of snow loads on roofs;
- EN 16811-1-2016 Winter service equipment and products-De-icing agents-Part 1: Sodium chloride-Requirements and test methods;
- EN 1991-1-3:2003+A1: 2015 Eurocode 1. Actions on structures-General actions. Snow loads;
- ASTM F3627-24 Standard Guide for Premises Design Considering Snow and Ice Management for the Reduction of Pedestrian Slips;
- ASTM E3073-22 Standard Guide for Development of Waste Management Plan for Construction, Deconstruction, or Demolition Projects;
- RIL 218-2001 Design and construction guidelines for snow structures;

- GB 51202 Technical standard for ice and snow landscape buildings;
- OECD 2007 Climate Change In The European Alps: Adapting Winter Tourism And Natural Hazards Management.

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)

Canada, Finland, USA, Germany, Denmark, Russia, Korea, Sweden, Norway, Switzerland, Mongolia, etc.

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)

The following organizations may serve as liaison organizations:

- ISO/TC 59, Buildings and civil engineering works;
- ISO/TC 83, Sports and other recreational facilities and equipment;
- ISO/TC 98, Bases for design of structures;
- ISO/TC 205, Building environment design;
- ISO/TC 228, Tourism and related services;
- WICA, World Ice Carving Association;
- ASCA, Accredited Snow Contractors Association;
- ASTM F27, Snow and Water Sports.

IDENTIFICATION AND DESCRIPTION OF RELEVANT AFFECTED STAKEHOLDER CATEGORIES

(Please see ISO Connect)

	Benefits/Impacts/Examples
Industry and commerce – large industry	Through the design and operation of artificial ice and snow landscapes, large enterprises can not only drive the development of the whole industry chain of ice and snow tourism, but also master more advanced ice and snow landscape technologies and concepts, obtain sustainable economic benefits, and lead the development of the ice and snow industry. For example, Harbin Ice and Snow World Co., Ltd.in China, Vail Resorts in USA, Sorrisniva Igloo Hotel in Norway , and Lapland Hotels Snow Village in Finland and so on.
Industry and commerce – SMEs	With the help of the standardization of artificial ice and snow landscapes, small and medium-sized enterprises can better seize business opportunities and give full play to their own advantages in the industrial chain. For example, Kirkenes Snowhotel in Norway; Hôtel de Glace in Canada, and so on.

Government	It will improve the government's resource allocation efficiency in artificial ice and snow landscapes, and provide the government with systematic and diversified supervision methods.
Consumers	Consumers can enjoy the ice and snow landscapes in a safe environment, consumers' viewing experience will be improved.
Labour	It will help to improve the work efficiency and skills of relevant staff of the enterprise, ensure the safety of employees in construction, and improve the working environment and welfare of employees.
Academic and research bodies	It will provide standard guidance and practical cases for academic research, and promote the integration of theory and practice. It will be conducive to cultivating personnel with ice and snow landscape design and construction skills. For example, ETH Zurich, Eindhoven University of Technology, Harbin Normal University, and so on.
Standards application businesses	It will help optimize the allocation of resources, improve efficiency, reduce costs, and disseminate relevant technologies and methods to countries around the world to achieve economies of scale. Various organizations that apply relevant standards will benefit from it.
Non-governmental organizations	It will help the non-governmental organizations to provide consultant services for organizations engaged in the design, construction, maintenance, and other related activities of artificial ice and snow landscapes and their associated elements., which will help them to understand and implement related standards. For example, World Association of Ice Sculptors, Technical committee on ice research and engineering (CIRE) of International Association for Hydro-Environment Engineering and Research.
Other (please specify)	

EXPRESSION OF LEADERSHIP COMMITMENT FROM THE PROPOSER

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

China is willing to undertake the work of the secretariat of the Technical Committee.

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

SIGNATURE OF THE PROPOSER

SAC

COMMENTS OF THE ISO CENTRAL OFFICE (IF ANY)

Appendix A Outdoor artificial ice and snow landscapes

Appendix A provides pictures regarding outdoor artificial ice and snow landscapes. A.1 provides an overview of ice and snow landscapes in various countries. A.2 provides details during the production and operation process of artificial snow landscapes, using the Sapporo Snow Festival in Japan as an example, covering stages such as snow collection, construction and building, detail carving, and operation and management. A.3 outlines the production and operation process of artificial ice landscapes, including raw materials, construction and building, integration of audio-lighting effects, and operation and management.

A.1 Overview of Artificial Ice and Snow Landscapes in Various Countries



Figure A.1 The snow hotel in Finland



Figure A.2 The ice restaurant in Finland



Figure A.3 The large-scale ice constructions in Canada



Figure A.4 The ice hotel in Canada



Figure A.5 The 2025 Sapporo Snow Festival in Japan



Figure A.6 Main tower of Harbin Ice and Snow World in China



Figure A.7 Ice landscapes of Harbin Ice and Snow World integrated with lighting

A.2 Production and Operation Process of Artificial Snow Landscapes—The Sapporo Snow Festival in Japan

A.2.1 Stage 1—Snow Collection



Figure A.8 Snow Collection-1



Figure A.9 Snow Collection-2

A.2.2 Stage 2—Construction and Building



Figure A.10 Construction and Building-1



Figure A.11 Construction and Building-2

A.2.3 Stage 3—Detail Carving



Figure A.12 Detail Carving-1



Figure A.13 Detail Carving-2

A.2.4 Stage 4——Operation and Management

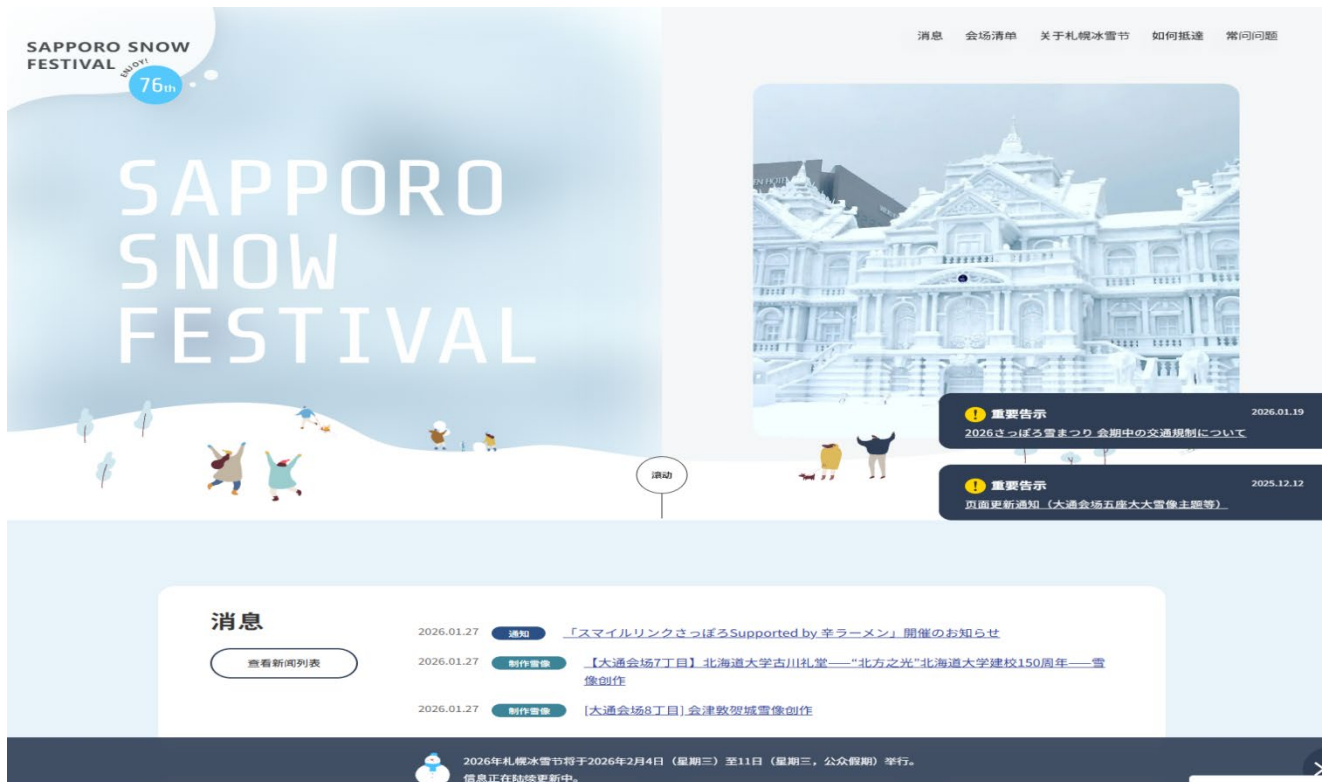


Figure A.14 Operation and Management-1

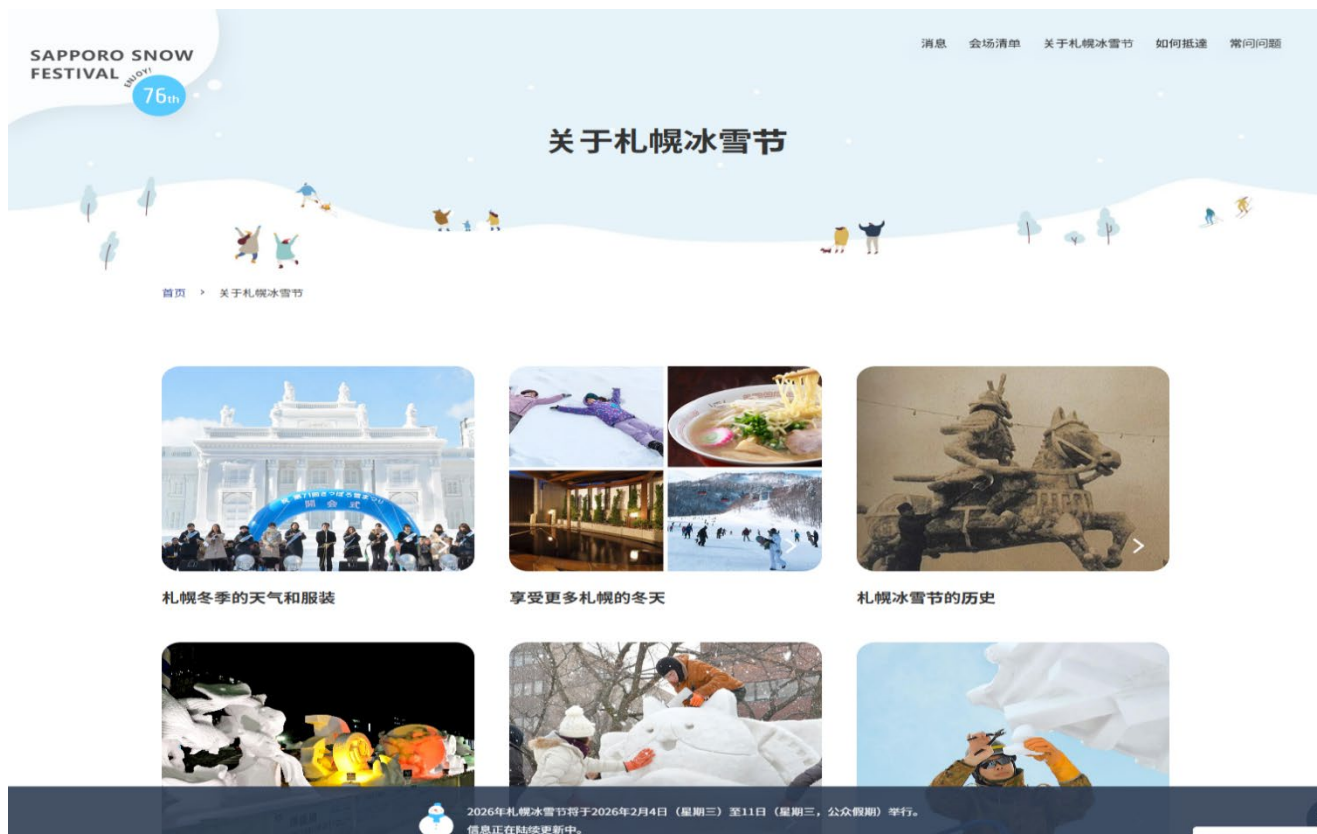


Figure A.15 Operation and Management-2

A.3 Production and Operation Process of Artificial Ice Landscapes——Harbin Ice and Snow World Co., Ltd.

A.3.1 Stage 1——Ice Production and Harvesting



Figure A.16 Ice Production and Harvesting-1



Figure A.17 Ice Production and Harvesting-2

A.3.2 Stage 2——Construction and Building



Figure A.18 Construction and Building-1



Figure A.19 Construction and Building-2

A.3.3 Stage 3—Integration of Landscapes with Lighting, Sound, and Special Effects



Figure A.20 Integration of Landscapes with Lighting, Sound, and Special Effects-1



Figure A.21 Integration of Landscapes with Lighting, Sound, and Special Effects-2

A.3.4 Stage 4—Operation and Management



Figure A.22 Operation and Management-1



Figure A.23 Operation and Management

Official link : <https://ice.hrbicesnow.com/>

Appendix B Indoor artificial ice and snow landscapes

The indoor ice and snow landscapes mentioned include the Dream Ice and Snow Pavilion of Harbin Ice and Snow World Co., Ltd in China, Gramado Snowland in Brazil, Snow Lim Wonderland in Malaysia, and Frost Magical Ice of Siam in Thailand. Below are images and official website links.

B.1 China——Dream Ice and Snow Pavilion of Harbin Ice and Snow World Co., Ltd in China



Figure B.1 Dream Ice and Snow Pavilion-1



Figure B.2 Dream Ice and Snow Pavilion-2

Official link : <https://www.hrbicesnow.com/post/index/20>

B.2 Brazil—Indoor Ice and Snow Theme Park in Gramado



Figure B.3 Gramado Theme Park-1



Figure B.4 Gramado Theme Park-2

Official link : <https://www.snowland.com.br/>

B.3 Malaysia's Ice and Snow Theme Park—Snow Lim Wonderland

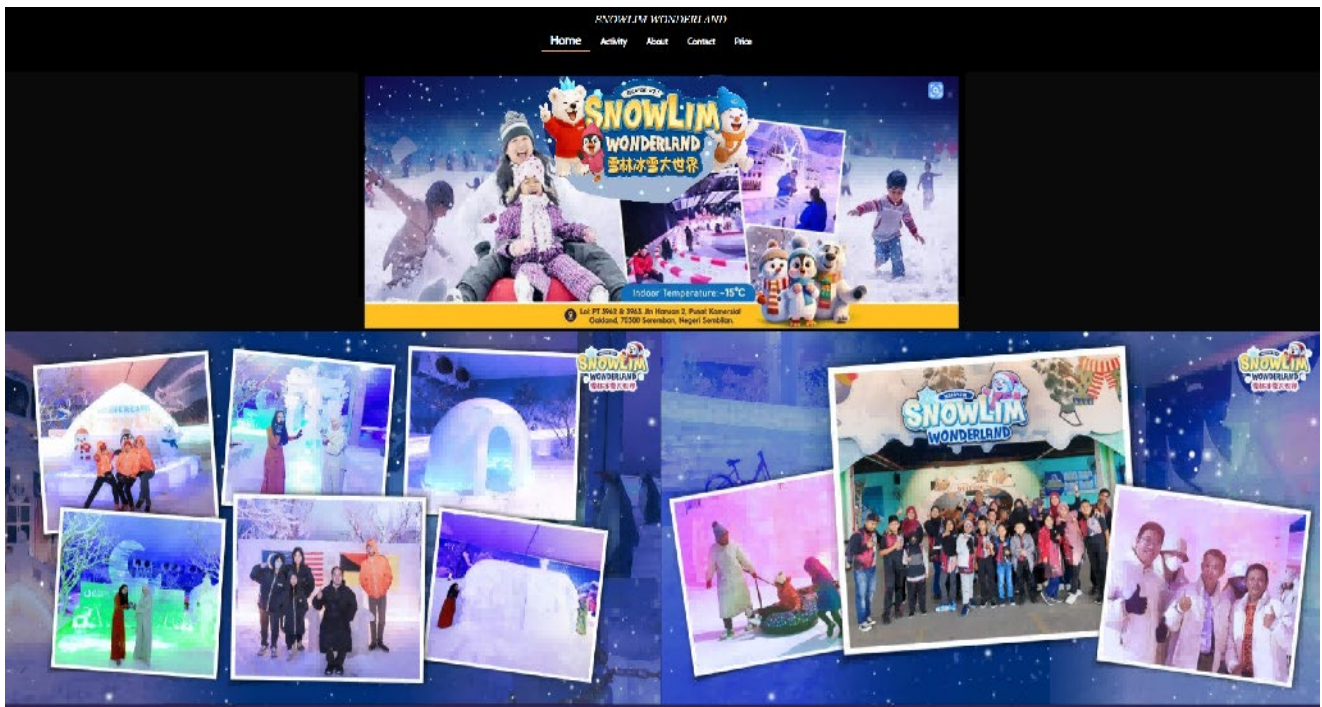


Figure B.5 Snow Lim Wonderland-1



Figure B.6 Snow Lim Wonderland-2

Official link : <https://snowlimwonderland.com/>

B.4 Thailand —Frost Magical Ice of Siam



Figure B.7 Frost Magical Ice of Siam-1



Figure B.8 Frost Magical Ice of Siam-2

Official link : <https://www.frostmagicaliceofsiam.com/>