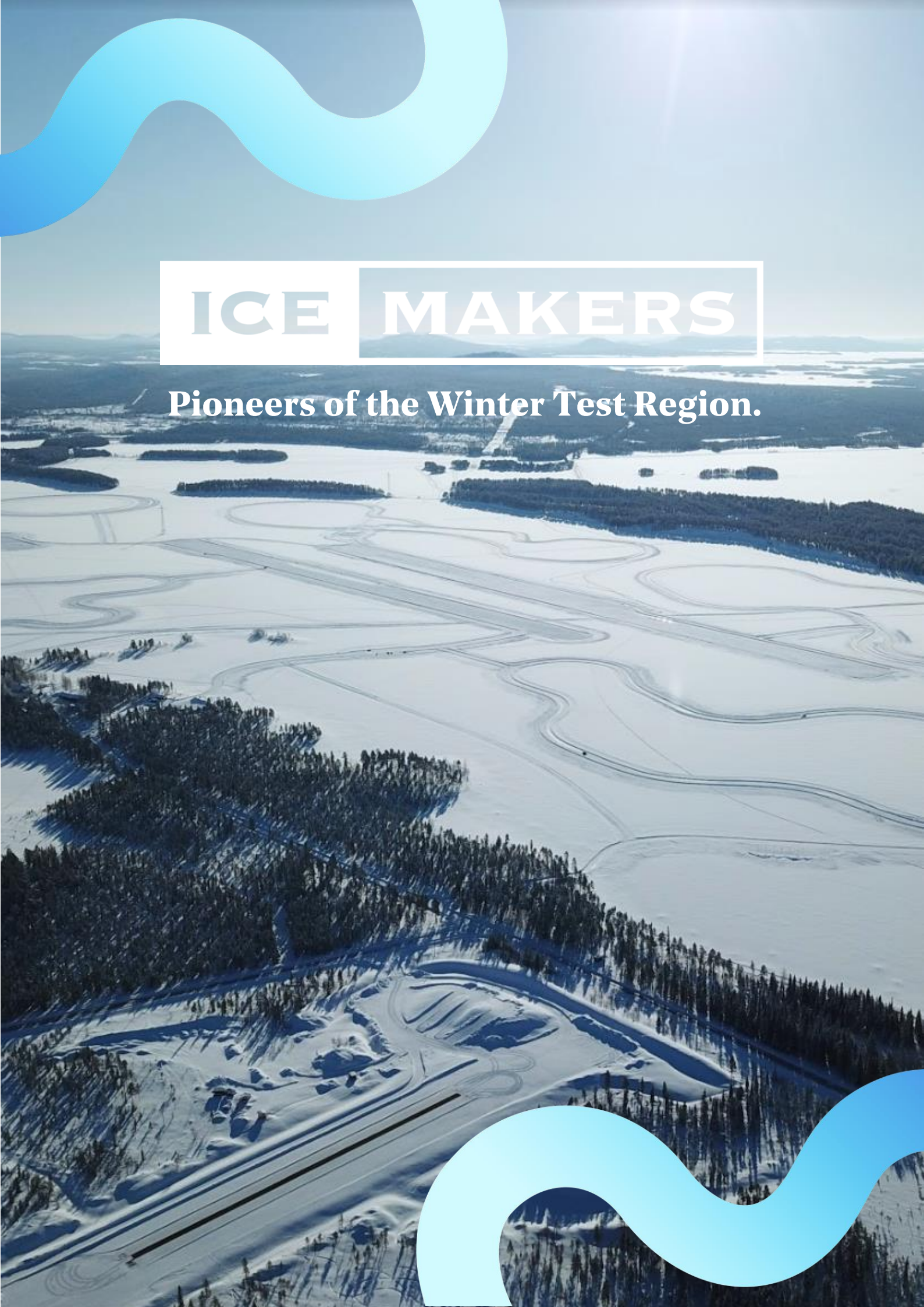
ICE MAKERS
Pioneers of the Winter Test Region.

Welcome to Icemakers

World leading in ice track construction and -operation, Icemakers is the pioneer company of the Winter Test Region in Swedish Lapland, a full-service supplier of winter testing facilities and services to our clients.

Michael Lindeman
Managing Director
Icemakers Test AB

Welcome to Arjeplog and the world-class winter testing cluster. Icemakers, with more than 45 years experience in this business, would be happy to assist you in planning your next test project. We have the competence, resources and know-how to assist you in the best possible way.

You can rent access to tracks and workshops or let us take responsibility for carrying through a complete project from instrumentation to report writing.

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Lars Sundström
Managing Director
Icemakers AB

Since 1973, Icemakers has been world-leading in developing state-of-the-art winter test services. We cooperate closely with our clients and our aim is always to create a long-term business relationship. Working with us as a partner means that you can rely on a strong personal commitment from our staff in understanding your specific needs.

We take pride in seeing satisfied clients return home from the Winter Test Region after having successfully accomplished their test programmes.

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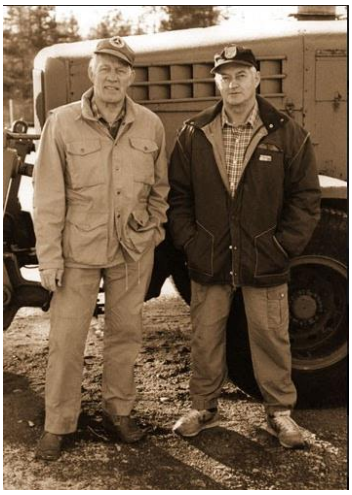
ICE MAKERS



The start...

The history of cold weather testing in northern Sweden goes back to the day in the early 1970s when representatives from Teldix (now Bosch) met the founders of Icemakers, David Sundström & Per-Axel Andersson, when they were preparing a runway for their aircraft on the ice of Lake Hornavan. David & Per-Axel were quick to help the test engineers with a lake track and other necessary facilities.

Icemakers expanded their partnership with Bosch during a number of years in the 1970s and -80s.

In 1984, construction of our first land-based test track area, with artificial ice and heated asphalt, commenced.

1990-2010

Icemakers Test AB, jointly owned by Michael Lindeman & Lars Sundström, was established, focusing on developing new services and gaining new clients in new markets.

In 2005-2006 we worked extensively with BMW, assisting in the construction of a large, integrated test facility. All BMW's winter test activities are concentrated within this test center and Icemakers operate all facilities.

A split-friction test hill with µ-jump was built as an in-house project near Icemakers HQ, complete with workshops and cold chambers.

2010-2015

We became the first company in the Winter Test Region to offer cold chamber services for heavy vehicles such as commercial trucks and buses.

Icemakers were chosen by Continental as their new service partner to operate test tracks for Teves & Tyres at their test centers in Arvidsjaur.

New land-based tracks, including a split-µ straight and test hills were built on a newly acquired piece of land in connection to our lake track area.

2015-

Substantial annual investments have been made in expanding the EV-charging infrastructure throughout all our facilities. Additional cold chambers were also constructed.

An apartment building in central Arjeplog was purchased and refurbished to offer quality accommodation clients during their time in the Winter Test Region.

A new land-based handling track for testing vehicle dynamics was constructed close to the lake track area.

All the services Icemakers offer are focused on the needs of the individual working for the automotive industry.

Our cooperation begins several months before you arrive here. We assist with:

- Adjustments to facilities and tracks
- Handling invoices from third party suppliers
- Shipping
- Reservations
- Temporary licence plates
- Sparetime activities and events

Once you get here, we stay in frequent contact to assist you with any needs that might arise.

ICE MAKERS

Complete Test Projects

Icemakers can take compete responsibility for a test project, from suggesting relevant test methods and -protocol, to consultation up until the final report.

These are a few examples of what could be included in such a project:

Instrumentation → **Engineering Work** → **Test Driving** → **Evaluation** → **Report Writing**

Endurance Tests

Icemakers can take care of the basic setup of an endurance test project; including hiring trained local drivers, planning routes and handling administrative work.

We provide daily project coordination and mechanical assistance while the project is under way and ensure access to suitable workshops, offices and other facilities.

There is an extensive public road network in the region, available for use all year round. Whether you need main roads for maximum mileage per shift, country roads for testing handling & driving characteristics or a city environment for low-speed testing in cold temperatures, we can help you find the best possible routes to meet your requirements.

We also operate fast charging stations for electric vehicles in both Arjeplog & Arvidsjaur, allowing maximum flexibility for endurance testing of EVs.

Lake Ice Tracks

We can provide ice tracks customized to the specific requests of our clients, but present these tracks as part of our standard offering every season.

Dynamic Straight Track

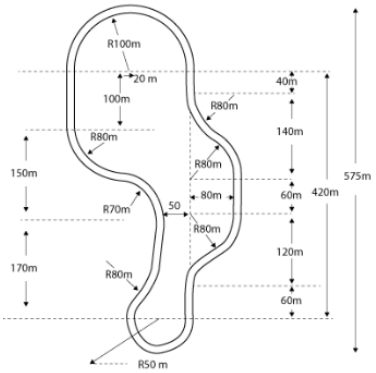
Consisting of a ploughed lane with a section of polished ice.

Length 800-2 000m
Width 40-100m
Common Tests ABS, ESP, Manoeuvrability

Handling Course

The length and layout of this track is variable depending on the design input received from clients. The course is designed to give a large variation in driver handling with a balanced mixture of sharp and smooth curves and low- and high speed sections.

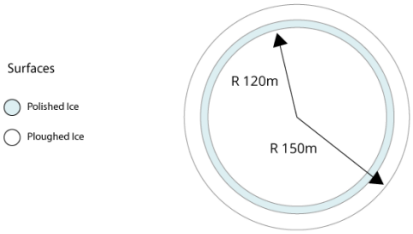
Length 1 500-3 000m
Common Tests Manoeuvrability, Chassis Settings, Driveability



Circular Tracks

Constructed with an inner lane of polished, low friction ice, the track has two outer sections with a courser, rougher ice surface.

Diameter 50-300m
Common Tests ESP, Driveability, Snow Intrusion



Land Based Tracks

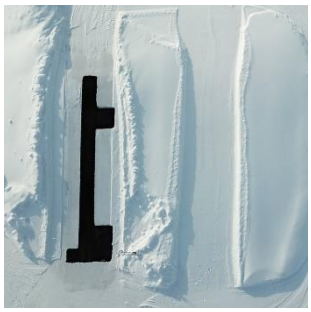
On land, testing can begin as early as November. We offer a variety of land based tracks to suit most testing purposes.

Split-μ Straight Track

The straight track has a 600m long acceleration road leading to a 150m long split-μ section with heated asphalt, polished ice and packed snow, offering different μ-jump possibilities.

Length 750m including acceleration road
Common Tests ABS, ESP, ADAS, Manoeuvrability

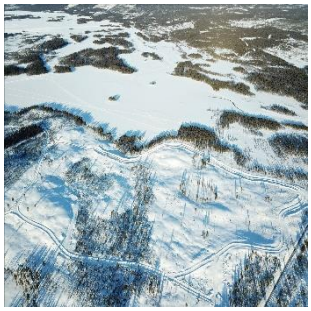
Test Hills



We offer test hills in multiple locations throughout our facilities, some with split-μ possibilities.

Inclinations 10, 15, 20%
Common Tests ESP, Auto Hold, Hill Start

Land Handling Track



Designed to simulate Scandinavian backroads driving in a safe and enclosed environment, the land handling course offers a combination of low- and high speed sections in hilly terrain.

Length 2 400m
Common Tests Manoeuvrability, Chassis Settings, Driveability

Special Tracks

In cooperation with our clients, we can create special tracks for testing suspension, noise, vibrations, chassis etc.

Track Examples Stair Track, Bumpy Road Track, Pothole Track, Chassis Torsion Hill, Frequency Sweep Track

Electric Winterland

At Icemakers, we take great pride in enabling the automotive industry to develop its vehicles and technical systems of the future.

A significant part of all test vehicles visiting the Winter Test Region today are propelled by non-fossil fuels and they will not be fewer in the coming years.

In order to accommodate them, we have a well built-out charging infrastructure and offer the possibility for EV Charging throughout all our facilities. We are also making substantial annual investments in expanding this network even further.

Available Charging Points

Shuko / 230V | **CEE 3-Phase** / 400V | **Type 2** / 11 & 22kW | **CCS Combo** / 50kW | **CHAdeMO** / 50kW

Public Fast Chargers

Icemakers operate charging stations in both Arjeplog & Arvidsjaur, accessible to all our clients as well as the general public 24 hours a day. Charging capacity is up to 50kW through CCS Combo or CHAdeMO*

**CHAdeMO not available in Arvidsjaur*

ICE MAKERS

Cold Chambers

When testing requires vehicles, or specific parts, to be operated at exactly the same temperature on multiple occations, cold chamber units variable down to -30°C are useful.

New emission regulations and testing of EV-battery performance are two important reasons why cold chambers are increasingly being requested.

Icemakers offers cold chamber units in multiple locations, always in close connection to workshops and testing grounds.

Cold Chamber for Heavy Vehicles

We also offer cold chamber services for full-size trucks, buses and other larger vehicles, operational down to -30°C.

Workshops & Garages

Icemakers can present a variety of facilites to non-contracted, short-term clients who are visiting us.

Our workshop facilities all contain car lifts, compressed air, running hot and cold water, electrical outlets, work benches and basic tools.

We have workshops to fit all vehicle sizes, including larger trucks and commercial vehicles.

Secure, high speed Internet is available throughout all workshops.

Offices & Conference Rooms

In connection to the workshops, we also rent out offices and conference rooms of varying sizes. Secure, high speed Internet (WiFi & Cable) is available throughout and included in the rental cost.

Events & Presentations

We can cooperate closely with your staff and organize all the services needed to make your next product presentation or event a success.

Icemakers have multiple venues suitable for all kinds of events and all sizes of groups. We have local knowledge that lets us work closely and efficiently with local partners, with professional, service minded people in all positions.

Accommodation

We have an apartment buildning in central Arjeplog where we offer modern, well-equipped apartments for 1-4 people. Here you can stay in ultimate comfort during your time in the Winter Test Region. Every unit has its own kitchen/kitchenette and bathroom and are available for both short- and long term rental.

We can also assist with hotel bookings and rental of private villas and apartments with the help of our trusted, local partners.

ICE MAKERS

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