INTERNORDIC LIFT STANDARDIZATION
INSTA/M Hiss
History – Part 2
2014–2021

by Søren Tybring Haug and Knut Løe
2025

Contents

Introduction

The history of the INSTA lift committee “INSTA/M Hiss” has been previously recorded by long-term Finnish member Ilkka Mäntyvaara. The first part[1] covered years 1989 to 2005 and it can be downloaded from INSTA web-pages (https://metsta.fi/nordic-lift-standardization).

From 2014 to 2021, the INSTA/M Hiss undertook substantial work in the harmonization of lift-related regulations across Nordic countries. This historical review captures the essence of that work—a period marked by significant advancements in safety, modernization, and standardization. As the group navigated evolving technologies and regulatory environments, it fostered deeper collaboration among Nordic countries, developed new INSTA standards, and contributed meaningfully to the global conversation through CEN and ISO.

The following chapters trace the major developments year by year, offering insight into the challenges faced, the decisions made, and the milestones achieved. The narrative is structured to present both the chronological evolution and thematic focus of the group's efforts.

This historical review stands as a record of dedication, collaboration, and the steady pursuit of excellence in lift safety and performance.

Photo: The authors of this INSTA history, Knut Løe (left) and Søren Tybring Haug at Standard Norway premises, Oslo, August 2025.

[1] Internordic standardization INSTA M/lifts 1989 – 2005, Mäntyvaara, Ilkka.

Background

The INSTA/M Hiss, established as a technical working group under the INSTA cooperation, grew notably in activity during this period. Initially chaired by Knut Løe from Standards Norway until 2012, leadership was passed to Ari Ketonen of KONE Finland, who chaired the group throughout the covered years. Ari brought valuable insight from his active roles in CEN/TC 10 and ISO/TC 178, enabling unique two-way communication between regional and international standardization efforts.

During this period, INSTA underwent an organizational transformation. The INSTA Technical Board (INSTA BT) was established following a revision of the governing rules. This brought INSTA into closer structural alignment with its European and international counterparts, streamlining governance, approval, and publication processes for new standards.

The INSTA/M Hiss maintained a strong focus on safety. Every meeting included thorough reviews of reported accidents and near-accidents. Reports were meticulously analyzed to determine root causes, ranging from user behavior to installation flaws. This continuous learning loop fostered improvements in both standardization and regulatory oversight.

In the following it is not reflected on accidents and near accidents themselves, but describe the way they are delt with, how reports are stored and how each country can access its own data from a common database. The database tool was named INSTA 500 (see description of INSTA 500-1).

INSTA 500 Series: For a Safer Lift Industry

The INSTA 500 series became the primary standards through which INSTA/M Hiss implemented its harmonization vision. Each part address critical gaps or inconsistencies in the regulation and oversight of lifts and associated devices across member countries.

- **INSTA 500-1: Accident recording system for lifts, lifting platforms, escalators and moving walks**
  Initiated in 2013 and published in several member countries by 2014, this standard formed the basis for a unified web-based tool for tracking accidents and near accidents. Developed initially by Hans Jørgen Larsen with input from INSTA members, the system was structured with user-friendly forms covering various parameters—lift- and lift equipment types, event type, phase of lift operation, components involved, and injury classification. Norway's building authorities DiBK digitized the system and distributed it to member countries without cost, greatly enhancing the quality and consistency of safety data collection.
- **INSTA 500-2: Periodic safety inspection of lifts, stair lifts, lifting platforms, escalators and moving walks**
  Built on the foundation of NS 3810 *Periodic Safety Inspection of lifts*, stair lifts, lifting platforms, escalators and moving walks, this standard defined minimum requirements for periodic safety inspections across lift types, including stair lifts lifting platforms, escalators and moving walks. The checklist approach together with associated control points helps to ensure uniformity, eliminating discrepancies in inspection scope and interpretation across national borders. The standard also promoted a common understanding of high-risk components and operational faults.
- **INSTA 500-3: Safe working on lifts**
  Based on the Finnish SFS 5880 *Safe working on lifts*, this work focused on the safety of technicians and workers. While SFS 5880 was deeply rooted in Finnish legislation, INSTA 500-3 sought to generalize the principles and eliminate references to national law, making it more universally applicable. The standard addressed a wide range of topics including risk assessment, protective equipment, qualification requirements, and communication protocols.
- **Work item INSTA 500-4: Modernization of lifts, lifting platforms, escalators and moving walks**
  Based on NS 3808 *Existing elevators, lifting platforms, escalators and moving walks – Improvement of safety*, this standard work item was planned to give modernization practices. The idea of this work was to synchronize the different rules in member countries concerning this type of work where national approaches differed significantly. Key challenges include defining the borderlines between replacement and modernization, assessing impact on conformity declarations, and addressing components such as control panels, drive systems, and safety features. The proposed standard also examined modernization's legal implications in terms of CE marking and liability.
- **INSTA 730: Steel wire ropes for lifts - Code of practice for discard**
  Revised during this period, this standard focused on discard criteria for wire ropes used in lifts. Initiated by SIS, the update reflects technological advances, operational feedback, and the growing emphasis on predictive maintenance.

Annual Highlights

2014

The groundwork for a more systematic approach to lift safety and regulation was laid. INSTA 500-1, published in Finland and Norway in 2013, was on the verge of adoption by other Nordic countries. A pivotal step was the development of the INSTA 500 web tool, which allowed stakeholders to input and analyze accident and near-accident data. During the April meeting, members agreed on the need to create INSTA 500-2 to guide periodic inspections. The English translation of NS 3810—Norway's national standard—played a foundational role.

In August, Søren Tybring Haug presented the prototype of the INSTA 500 reporting tool at the Copenhagen meeting. This demonstration got significant support, and DiBK confirmed its intention to distribute the tool freely. December saw the formal handover of the INSTA 500 system to the member countries, setting the stage for data-driven safety improvements across the Nordic region.

At this meeting it was informed that CEN/TC 10 had decided to start developing a standard for lifting platforms with fully covered chair and impulse buttons. Søren Tybring Haug and Thomas Heltorp participated from Norway. The standard was given id number EN 81-42.

2015

The year marked a significant expansion of the INSTA framework. INSTA 500-3 was initiated, inspired by the Finnish SFS 5880, with a focus on harmonizing lift work safety standards. This move acknowledged that while technical equipment might be standardized, the human element required equally rigorous attention.

In parallel, significant discussions were held around European harmonization, particularly regarding EN 81-41[2], EN 81-42[3] and EN 81-20[4]. Norway and Finland actively participated in drafting these standards.

The recurring topic of sprinklers in lift shafts led to the shared conclusion that such installations posed unacceptable risks to electrical and mechanical systems. These discussions reflected a maturing regulatory culture emphasizing preventive over reactive safety.

It was also a presentation of the digitized accident register. All countries have now published the INSTA 500-1.

[2] EN 81-41 *Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 41: Vertical lifting platforms intended for use by persons with impaired mobility*
[3] EN 81-42 *Vertical lifting appliances with enclosed carrier intended for use by persons, including persons with disability*
[4] EN 81-20 *Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 20: Passenger and goods passenger lifts*

It was concluded that drafting INSTA 500-4 about modernization was important due to the huge number of old lifts in the member countries.

2016

INSTA/M Hiss made strides in refining and expanding its existing standards. Presentations on NS 3808 laid the foundation for the INSTA 500-4 modernization standard. SFS 5999, Finland's national implementation of EN 81-80, provided a comparative framework for modernization efforts.

Discussions with ADCO highlighted unresolved challenges: unintended movement of lift cars (UCMP), two-way emergency communication, fall prevention, and the evolution of risk assessment practices. A major milestone came when INSTA 500-2 successfully passed public enquiry, receiving unanimous approval. Funding arrangements for the Finnish secretariat were also solidified through membership contributions.

2017

With INSTA 500-2 published in Norway, focus shifted toward INSTA 500-3 and INSTA 500-4. A comprehensive comparison of modernization regulations in the member countries began, with table 1 from NS 3808 serving as the foundation. German regulations, particularly TRBS-1121, were also analyzed for applicability.

The December meeting highlighted harmonization opportunities for modernization standards. The revision of INSTA 730 was finalized and published. Car door safety rules diverged across member states, prompting in-depth discussion. Denmark had not yet published INSTA 500-2.

INSTA 500-3 work item was approved by INSTA BT and the work speeds up.

The main task in this meeting was INSTA 500-4 about modernizations and the discussion about the differences in the member states. The possible harmonizing of these differences is an important topic. The basis for this work was NS 3808 about modernizations and table 1 was expanded with common interpretations of the different points. All members were asked to confirm the replacement of national rules for modernization with INSTA 500-4.

Sweden informed about the accident reporting system from European Lifts Association ELA.

Norway informed about the work with prNS 3807 *General design – delayed safe stop of lift by fire alarm*.

2018

Technical development peaked as INSTA 500 tool was finalized. A live demonstration showcased its functionality and impact. The tool was now mandatory in Norway, reflecting its effectiveness.

INSTA 500-3 moved forward, emphasizing a life-cycle approach and multi-stakeholder engagement. Debate continued about national versus INSTA standards, with Finland stressing

the continued use of SFS 5880 in training. Modernization efforts under INSTA 500-4 continues.

The revised standard INSTA 730 *Steel wire ropes for lifts – code of practice for discard* is published.

Issues about car doors were discussed. Sweden has rules for car doors and light curtains as an alternative for 10 years. Finland has not implemented any rules for doors. Norway requires car doors according to NS 3808 edition 2017.

The work concerning NS 3809 *Requirements for inspections, maintenance and repair for lifting devices* and SN/TS 3807 *General design – delayed safe stops of lifts in case of fire alarm* are under preparation, but they are not proposed as INSTA standards yet.

2019

Discussion on modernization of small lifts deepened, with consensus forming around the idea that full replacements equate to new installations, not upgrades. The discovery of 5000 unregistered lifts in Norway underlined the critical role of national lift registries. This led to calls for similar systems across other member states.

Parking lifts became a focal point, with a working group in Norway analyzing their regulation under EN 14010[5]. INSTA 500-3 neared completion, and in December, INSTA 500 tool's copyright was formally transferred to the committee.

[5] EN 14010 *Safety of machinery. Equipment for power driven parking of motor vehicles. Safety and EMC requirements for design, manufacturing, erection and commissioning stages.*

Photo: INSTA meeting in December 2019 in Helsinki hosted by METSTA.

2020

The pandemic introduced new dynamics. All meetings were held virtually. Despite this, progress continued. The user guide for INSTA 500 was completed and embedded in the tool. Finland launched the official INSTA/M Hiss website[6], consolidating publications and work programs.

Ari Ketonen reported the publication of important EN standards: EN 81-72 (firefighters' lifts) and EN 81-73 (behavior of lifts in the event of fire). Discussions turned toward national regulations on modernization and escalator safety, revealing uneven progress across the region.

2021

The year saw expansion into emergency and evacuation scenarios. Sweden introduced SIS 763510, based on Norway's prNS 3807, detailing lift requirements during evacuations. Finland's dual-standard approach—maintaining SFS 5880 alongside INSTA 500-3—was reaffirmed. This reflected the importance of training materials in Finnish vocational programs.

The group committed to accelerating INSTA 500-4 through dedicated meetings. A national administrator system was proposed for the INSTA 500 tool, ensuring better oversight and implementation.

[6] https://metsta.fi/nordic-lift-standardization/

Conclusion

Between 2013 and 2021, INSTA/M Hiss significantly advanced the cause of lift safety, modernization, and regulatory harmonization across the Nordic region. The INSTA 500 series stands as a legacy of this period—an integrated system of standards that not only raised safety levels but also strengthened regional cooperation and influenced global discussions. Through consistent collaboration, technical excellence, and a shared commitment to safety, the group shaped a safer future for lift users and technicians alike.

The group's work is an example of how regional cooperation can yield practical, meaningful results—providing scalable models for harmonization in other technical fields.

Appendix I

Documents developed by INSTA/M Hiss

- INSTA 500-1: Accident reporting system for lifts, lifting platforms, escalators, and moving walks (Published)
- INSTA 500-2: Periodic safety inspection of lifting devices (Published)
- INSTA 500-3: Safe working on lifts (Published)
- Work item INSTA 500-4: Modernization of lifts and related equipment (this work item was cancelled later)
- INSTA 730: Code of practice for discard of steel wire ropes (Published).

Appendix II

INSTA members 2014-2021

Name	Representing	Country
Morten Vestergaard	DN	Denmark
Hans J Larsen	DS	Denmark
Sören Nielsen	DS	Denmark
Lauri Elers	SFS	Finland
Ari Ketonen	SFS	Finland
Jukka-Pekka Rapinoja	SFS	Finland
Antti Savola	SFS	Finland
Niko Sivén	SFS	Finland
Olli Vitikka	SFS	Finland
Arngrímur Blöndahl	IST	Iceland
Guðjón Einarsson	IS	Iceland
Heimir Guðmundsson	IS	Iceland
Magnús Guðmundsson	IST	Iceland
Sigurður Sigurðsson	IS	Iceland
Torkel Drivenes	SN	Norway
Søren Tybring Haug	SN	Norway
Thomas Heltorp	SN	Norway
Knut Løe	SN	Norway
Frode Magnussen	SN	Norway
Bjørn Terje Paulsen	SN	Norway
Ulf Bengtsson	SIS	Sweden
Lars Björk	SIS	Sweden
Kjell Johansson	SIS	Sweden
Jaan Karsna	SIS	Sweden
Erik Paulsson	SIS	Sweden
Lennart Strandman	SIS	Sweden
Krister Svensson	Boverket	Sweden
Per-Olof Svensson	SIS	Sweden
Jörgen Wyke	SIS	Sweden

Appendix III

List of INSTA meetings 2014-2021

2014
1/2014: 9–10 Apr 2014, Helsinki, Finland
2/2014: 19–20 Aug 2014, Oslo, Norway
3/2014: 3–4 Dec 2014, Copenhagen, Denmark

2015
1/2015: 24–25 Mar 2015, Helsinki, Finland
2/2015: 9–10 Sep 2015, Karlskrona, Sweden
3/2015: 2–3 Dec 2015, Reykjavík, Iceland

2016
1/2016: 15–16 Mar 2016, Helsinki, Finland
2/2016: 23–24 Aug 2016, Oslo, Norway
3/2016: 13–14 Dec 2016, Helsinki, Finland

2017
1/2017: 5–6 Apr 2017, Stockholm, Sweden
2/2017: 22–23 Aug 2017, Helsinki, Finland
3/2017: 12–13 Dec 2017, Oslo, Norway

2018
1/2018: 4–5 Apr 2018, Stockholm, Sweden
2/2018: 21–22 Aug 2018, Helsinki, Finland
3/2018: 4–5 Dec 2018, Helsinki, Finland

2019
1/2019: 10–11 Apr 2019, Oslo, Norway
2/2019: 27–28 Aug 2019, Stockholm, Sweden
3/2019: 11–12 Dec 2019, Helsinki, Finland

2020
1/2020: 1–2 Apr 2020, Teleconference
2/2020: 26–27 Aug 2020, Teleconference
3/2020: 1–2 Dec 2020, Teleconference

2021
1/2021: 30–31 Mar 2021, Teleconference
2/2021: 19 Aug 2021, Teleconference
3/2021: 15 Dec 2021, Teleconference