



# STRMTG

TECHNICAL SERVICE IN CHARGE  
OF SAFETY FOR ROPEWAYS AND  
GUIDED TRANSPORTS

## ACTIVITY REPORT 2025



**MINISTRY OF  
TRANSPORT**

*Liberté  
Égalité  
Fraternité*

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# EDITORIAL

Daniel Pfeiffer,  
director STRMTG.



For many years, STRMTG has maintained a strong international presence and, in return, enjoys significant visibility and recognition. It is able to rely on these to promote the French approach to the safety of transport systems falling within its remit, as well as the expertise of French stakeholders in the sector.

These international activities take many different forms. In 2025, STRMTG organised the 73rd edition of ITTAB, bringing together 20 delegations representing supervisory authorities from around the world to discuss the key issues relating to safety, innovation and the operation of ropeway transport systems. STRMTG also hosts numerous foreign delegations seeking to establish (or improve) a technical and legal framework capable of ensuring the safety of their ropeway installations and other guided transport systems. In addition, STRMTG plays an active role in standardisation work (EN and ISO), as well as in discussions on the drafting and implementation of European legislation.

These activities are costly in terms of both time and money, but they are necessary. Indeed, they help ensure that international rules remain relevant and, wherever possible, consistent and compatible with our national legislation. This commitment will continue and will even be broadened to encompass new topics, in particular artificial intelligence.

Another key area of focus for STRMTG is the continued development of the skills of all professionals in the sector. For example, the actions undertaken have made it possible to ensure that there is at least one approved qualified organisation (AQO) in each of the seven technical fields provided for by the regulations governing automated road transport.



This work will continue, both for these innovative systems and for others. Indeed, the number of entities holding STRMTG accreditation remains limited, and they are generally modest in size. STRMTG is working both to sustain existing stakeholders, strengthen their organisation and expand their knowledge, and also to increase their number. This constant focus serves as a reminder that the safety of our transport systems depends on the existence of competent and committed professionals.

In a context that remains challenging, particularly from a budgetary perspective, STRMTG will continue its efforts to adapt its working methods and build its knowledge. This is how we will be able to respond effectively to the new challenges that arise and maintain the highest possible level of safety for our transport systems.

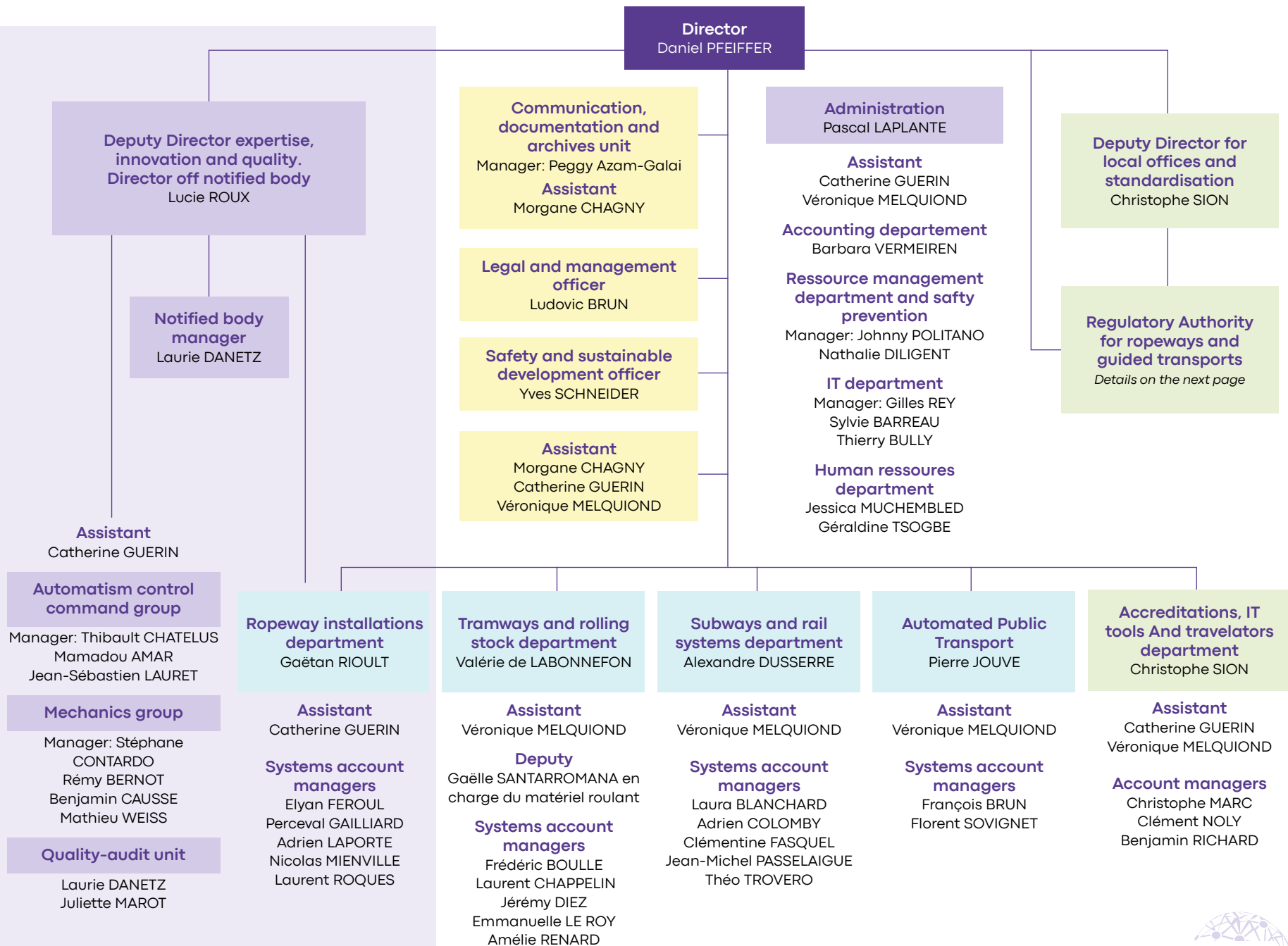


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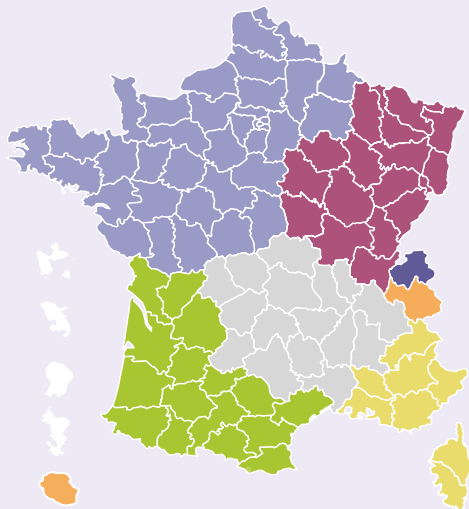


# ORGANISATION CHART

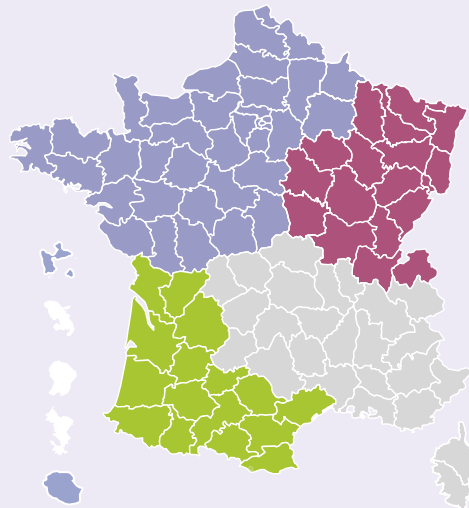


# TERRITORIAL POWERS

## Local offices ropeways



## Local offices guides Transports



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Muriel ETCHEVERRY

**Deputy**  
Denis CURBELIÉ  
Sébastien BERGEROU

**Assistant**  
Barbara MANFRINATO

**Account managers**  
Manuel CAU  
Philippe CONSTANTIN  
Jean-Marc LABRUE  
Frédéric LEGER  
Lucie LETRAUBLON  
Anne-Laure MATHIEU

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Anatole ARMADA

**Deputy**  
Olivier PERRONNET

**Assistant**  
Chrystèle CHASTAN

**Account managers**  
Françoise DUDOUYT  
Adryan GRAFF  
Luc LACHARPAGNE  
Philippe LAFFONT  
Olivier MARIN  
Thomas TRITZ  
Laurent UGNON

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**Deputy**  
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Jean-Marc ETAIX

**Assistants**  
Nathalie CHTOUKI

**Account managers**  
Alexandre AUGUET  
Guy CHARTOIRE  
Dominique GAUTIER  
Carnot MICHAUX  
Olivier PAAL  
Gabriel SAMUEL  
Renaud SENEQUIER-CROZET  
Thomas VUILLET

### NORTH-WEST OFFICE PARIS

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Nathalie NOËL

**Deputy**  
Amélie-May LUPINSKI

**Assistant**  
Véronique LATOUCHE-  
BACHELARD

**Account managers**  
Thibault CHARLOTIN  
Xavier FROMAGEAU  
Hugues JARDINIER  
Léo MAISONOBE  
Arnaud MARVILLE  
Martial MASSELOT  
Paul MEYRIGNAC  
Gurvann REBILLON

### BUREAU ALPES DU SUD GAP

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Bruno ANDEOL

**Deputy**  
Fabrice MARCIEN

**Assistant**  
Cathy GENDROT-PELLOUX

**Account managers**  
Dimitri BERTRAN  
Vincent DELMOTTE  
Lisa GONTARD  
Nicolas PERSINI  
Lucas POLIFRONI

### NORTH-EAST OFFICE BESANÇON

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Cynthia LEMAÎTRE

**Deputy**  
Hervé HENRY

**Assistant**  
Nathalie GOGUEL

**Account managers**  
Zakir BOUHTIYYA  
Vincent PASSANI  
Céline VUILLET

### SOUTH-EAST OFFICE GRENOBLE

**Manager**  
Claude MERLE

**Deputy**  
Marine BLANCHETON  
en charge des TG  
Damien MOUNIER  
en charge des RM et des CFT

**Assistant**  
Carolyn CARGNEL

**Account managers**  
Jérôme BOUAT  
Patrick BOUCHET-MICHOLIN  
Ryad BOUDJEMA  
Louis BOUHOURS  
Loïc MEYER  
Aurore PANIER  
Olivier VALOIS  
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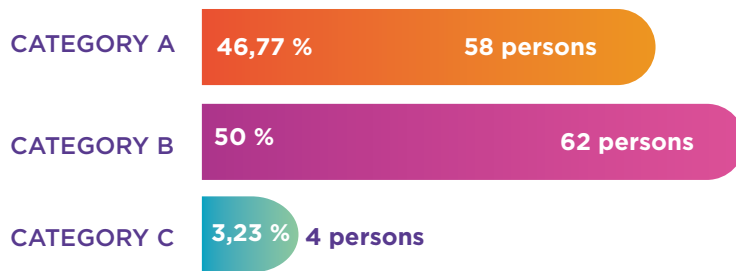
# STRMTG IN NUMBERS

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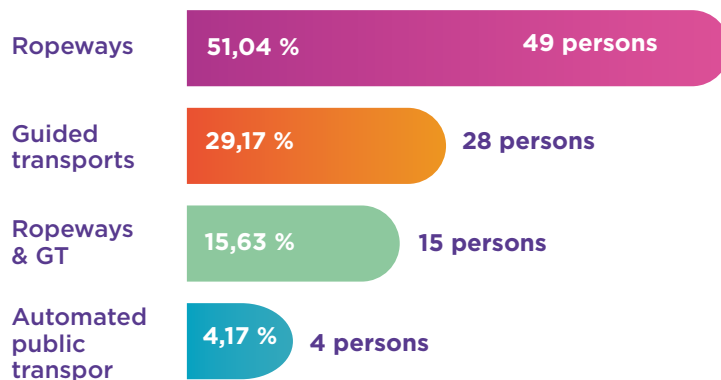


# BREAKDOWN OF STRMTG STAFF BY GRADE AND AREA OF EXPERTISE

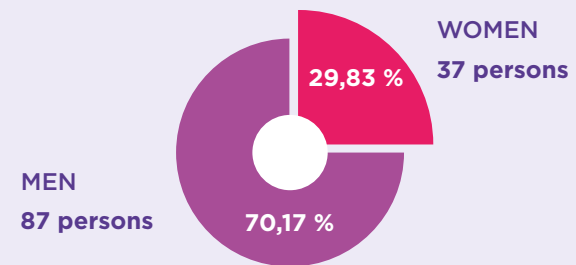
## WORKFORCE BY MACROGRAD



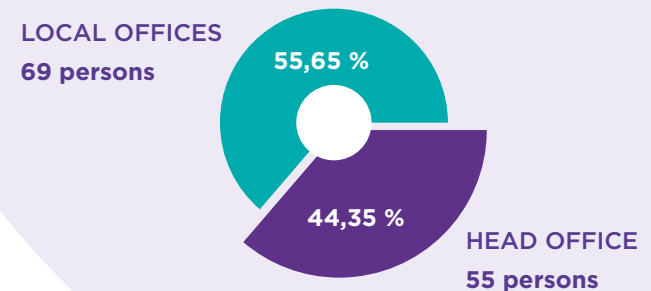
## WORKFORCE BY TRANSPORT SYSTEM



## GENDER DISTRIBUTION



## LOCAL OFFICES AND HEADQUARTERS BREAKDOWN



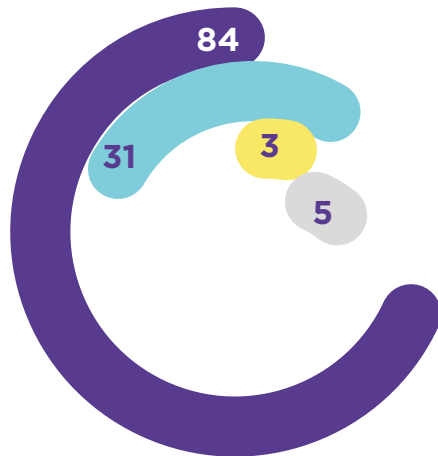
# SYSTEMS MONITORED BY STRMTG

Key figures january 1, 2026



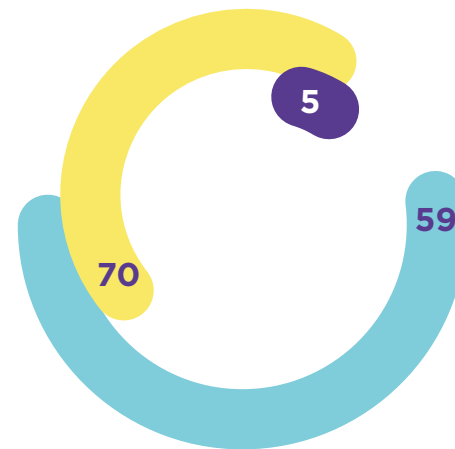
## URBAN GUIDED TRANSPORT NETWORKS FLEET: 123 LINES

- Trams
- Metro
- Light rail system
- Railway systems commuter



## LOCAL RAIL NETWORKS AND RAIL BIKE FLEET: 134 LINES

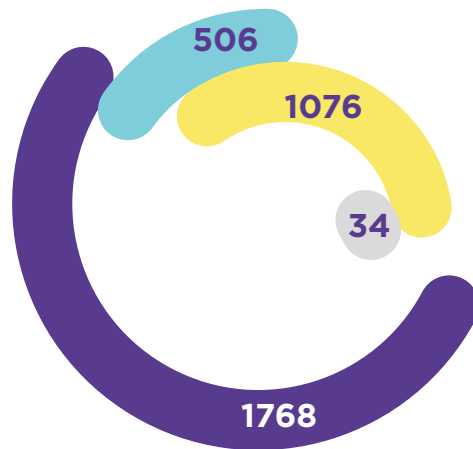
- Metre-gauge railways
- Tourist and heritage railways
- Rail bikes\*\*



\*\* Of which 14 networks are mixed Tourist and heritage railways and rail bike.

## ROPEWAYS PARK UNITS: 3384

- Ski lifts
- Travelators
- Aerial ropeways
- Other installations\*



Rail bike are not subject to guided transport regulations. However, STRMTG provides assistance to prefects at their request, within the framework of their general police powers.

\* «Other installations» include rack trains, funicular railways and inclined elevators.

# 01



Before building a lift system, a guided transport system or automated public transport system, you need to be familiar with the rules governing this type of construction, particularly in terms of safety. These rules include all official regulations (European laws, decrees, orders, regulations and directives), technical guides and standards.



## REGULATIONS AND STANDARDS

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# SIMPLIFICATION OF REGULATIONS applicable to mountain resort conveyor belts



The year 2025 was marked by work to simplify regulations applicable to mountain resort conveyor belts.

Publication of the harmonised European standard NF EN 15700:2023, “Safety for conveyor belts for winter sport or tourist use”, revising the previous 2011 version, made it necessary to align the following national legislation with European regulations:

- the Order of 29 September 2010 on the design, construction, modification, operation and maintenance of the mountain resort conveyor belts mentioned in Article L. 342- 17- 1 of the French Tourism Code
- the “STRMTG Technical Guide - Mountain resort conveyor belts - Technical instructions - Version 2 of 13/07/2017”.

For this purpose, the Order of 10 April 2025 amended the above-mentioned Order of 29 September 2010 by removing a large part of the provisions relating to “design”, since these are now covered by the revised NF EN 15700:2023 standard.

For the sake of consistency, the guide “STRMTG Technical Guide - Mountain resort conveyor belts - Technical instructions - Version 3 of 15/07/2025” was also simplified as regards design. It replaced Version 2 of 13/07/2017.

This work was carried out in consultation with the profession throughout 2024 and 2025.

*This guide is available on the STRMTG website.*



# TRANSPORT STANDARDISATION: STRMTG's commitment in 2025



In 2025, STRMTG continued its commitment to the standardisation of transport systems. Through several working groups, it presented and defended its safety doctrine, thereby contributing to the development of standards applicable to urban guided transport and ropeway installations.



## URBAN GUIDED TRANSPORT

- › **Designing tram front ends for pedestrian safety:** STRMTG is participating in work to transform the technical report “Designing tram and light rail vehicle front ends for pedestrian safety” into a standard. DTRM remains vigilant in relation to this work, as it falls within the scope of the STRMTG technical guide “Design of tram front ends”, which remains applicable in France.
- › **Access door systems for rolling stock:** STRMTG took part in the European working group whose work led to the publication in 2025 of the revised EN 14752 standard;
- › **Braking systems for urban and suburban public transport:** STRMTG continues its involvement in the revision of standard EN 13452, which was submitted to the public enquiry in 2024;
- › **Digital simulation:** STRMTG is taking part in work to turn the CEN/TR 17833 technical report into a standard. This technical report focuses on digital simulation as an alternative to physical tests.
- › **Platform barrier systems:** STRMTG is contributing to international work to migrate standard EN 17168 “Platform barrier systems”, published in 2021, to the ISO;
- › **Cybersecurity:** STRMTG is participating in international work to migrate the European technical specification CLC/TS 50701 “Cybersecurity”, published in 2021, to the IEC.



## ROPEWAY INSTALLATIONS

- › **Vehicles:** STRMTG is leading the revision of standard EN 13796- 1, with several objectives:
- Better address the risk of passengers becoming trapped between the guardrail and the armrest of chairlifts,
  - Improve the consideration of dynamic loads in the dimensioning of cabin or carriage walls,
  - Supplement fatigue calculation requirements for cabins used on intensively operated monocable aerial ropeways.
- › **Evacuation and recovery:** STRMTG is leading work to amend standard EN 1909 to include integrated recovery. This provision means that vehicles and passengers can be returned to stations without the need to use another method (in particular vertical evacuation). It applies to a growing number of ropeway systems, particularly urban ropeway systems, which are expanding rapidly.
- › **Fire prevention and firefighting:** STRMTG is leading the work to revise standard EN 17064. This includes, in particular, incorporating recent French national provisions aimed at substantiating the acceptability of the fire risk associated with overflowed buildings and roads. These aspects are also essential in supporting ropeway installation projects, particularly in urban environments.
- › **STRMTG is taking part in the new TC 242** working group on “Aerial ropeways as a mobility service”. This working group aims to:
- provide mobility stakeholders with guidance to ensure that the specific characteristics of aerial ropeways deployed as mobility services are properly taken into account from the earliest stages,
  - support the development of aerial ropeways integrated into public transport networks in Europe and worldwide.
- › **STRMTG is also involved in the revision of the following standards:**
- EN 13223 “Drive systems and other mechanical equipment”
  - EN 1908 “Tensioning devices”
  - EN 12927 “Ropes”
  - EN 12929-1 “General requirements”, in particular to incorporate new rules for taking wind into account in vehicle inclinations when determining clearances. The revised draft standard was submitted for public enquiry in 2025;
  - EN 13243 “Electrical equipment other than for drive systems”
  - EN 13107 “Civil engineering works”



The year 2025 was marked by STRMTG’s strong mobilisation in the standardisation work relating to urban guided transport and ropeway installations. Through its active involvement, it helps to ensure safer, more reliable infrastructure better suited to current challenges.



# DECREE NO. 2025-375 OF 24 APRIL 2025

## on the safety of guided public transport systems (STPG Decree)

The publication of Decree No. 2025-375 was accompanied by that of two implementing orders:

- Order of 13 June 2025 pertaining to the safety files for urban guided public transport systems
- Order of 13 June 2025 pertaining to the safety files for guided public transport systems intended for tourism or heritage purposes, and for rail bike systems

Among the objectives pursued through these regulatory changes were:

- creation of an authorisation and monitoring framework for rail bike systems;
- incorporation of field experience;
- better integration of emerging issues such as innovation and cybersecurity.

### New rules for the authorisation and monitoring of rail bike systems

Rail bike systems are now subject to the same rules as those laid down by the STPG Decree for tourist and heritage railways. Accordingly, any new or substantially modified rail bike network must obtain authorisation from the prefecture before commissioning. In addition, and in order to take account of the specific features of rail bike systems as compared with tourist and heritage railways, the Decree introduces an Opinion that must be obtained before a rail bike system may be commissioned. This opinion is issued by STRMTG on the basis of a file submitted by the manufacturer and assessed by an AQO. It specifies the technical characteristics and the conditions of use of the rail bike system required to ensure user safety.

A transitional regime was introduced in order to support implementation of the new authorisation framework. All networks brought into service before 31 December 2025 must be regularised no later than 31 March 2026, including in particular the submission of:

- a system presentation file,
- Operation Safety Rules (RSE),
- an Intervention and Safety Plan.

### Other regulatory developments

The new legislation amends the regulations in several other respects, in particular:

Operators must now incorporate into their safety management system “management of exported cybersecurity constraints liable to affect the safety of passengers, operating staff and third parties”. This first reference to cybersecurity in the STPG legislation reflects the importance of this issue in relation to the safety of guided transport systems.

The legislation also strengthens certain deadline requirements in order to ensure that both the AQO and government departments have sufficient time to carry out their assessments/reviews under satisfactory conditions. Accordingly:

- AQOs now have a mandatory regulatory period of 8 working days from receipt of the final documents to be assessed in which to prepare their report,
- any amended or supplementary documents must be submitted to the Prefect no later than fifteen days before the end of the review period.

The legislation also provides for several administrative simplification measures, for example:

- discontinuing safety definition files for projects involving the automation of urban guided transport systems,
- removing the requirement for approval of Police Regulations (for operating) under the STPG Decree.

Lastly, in order to promote innovation, the Decree provides for the possibility of testing, on an already authorised system, unauthorised guided vehicles operating without passengers. In order to ensure the safety of third parties and, where applicable, of users of the authorised system, the operation of these innovative guided vehicles is subject to authorisation by the Prefecture on the basis of an innovation management file, together with an assessment by an AQO (Art. 81-1).



# ENTRY INTO FORCE OF the new occupational safety reference guide



The latest version of guide RM2 (general design and substantial modifications of aerial ropeways), published in July 2023, applies in France to all installations for which the authorisation to carry out the works (AET) was issued after 1 September 2023.

One of the main areas covered by the revision of the guide concerns occupational safety measures, which are set out in Part B. This topic is a major concern for STRMTG, in order to enable staff to operate and maintain aerial ropeways safely.

The changes made are also consistent with the proposals developed by working group WG15 of CEN/TC242 to improve account taken of occupational safety. These measures therefore foreshadow the standard provisions that are expected to apply once the current revisions of the harmonised standards for ropeway installations have been completed.

Accordingly, all installations commissioned in 2025 were affected by the new design rules. These include, in particular, improvements aimed at:

- generally, widening staff circulation and working areas (ladders, walkways);
- making access routes to station technical rooms safe by limiting the risk of falls and collisions with vehicles;
- systematically making safe, by means of monitored gates, access to areas exposed to risks associated with moving parts not protected by guards (for example, the brake area on pulleys);
- incorporating devices to signal the presence of a hatch being temporarily open on station walkways and to block access to that area;
- for service vehicles, systematically providing a gate closing off access to them and ensuring safety-function protection of all mobile elements affecting the clearance envelope (for example, a handling jib).



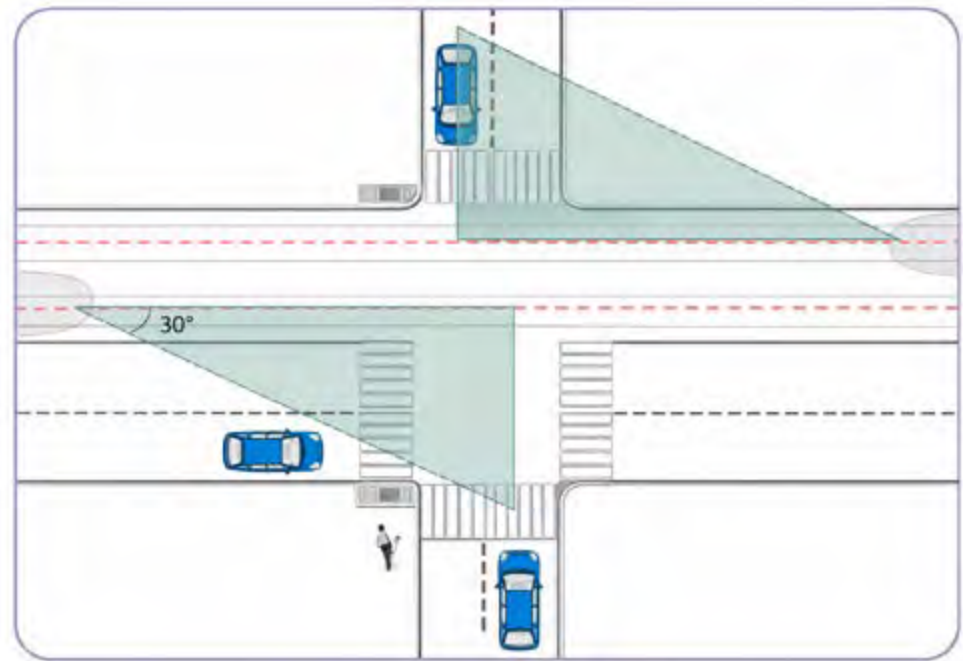
# DECREE N° 2025-1310 OF 24 DECEMBER 2025 on enhancing safety in transport



This is the implementing Decree for Article 14 of the Act of 28 April 2025 on enhancing safety in transport. On a trial basis until 28 June 2028, it authorises use of onboard forward-facing cameras on tram and tram-train rolling stock. The trial will give rise to a detailed review and to a report submitted to Members of the National Assembly.

The images captured may be used to improve understanding of accidents. They may also be used for driver training purposes. In this respect, the Decree follows up on a recommendation made by BEA-TT in its report on the runaway of a Line T4 tram in Clichy-sous-Bois in 2020.

The Decree lays down numerous provisions designed to guarantee respect for privacy. Accordingly, it provides for a maximum camera opening angle of 60° in the horizontal plane and for pseudonymisation of the images. The images must be stored in a secure location accessible only to specifically authorised personnel, for a maximum period of 30 days.



**Several networks have expressed their wish to take part in this trial scheme. If the review carried out at the end of the trial proves positive, the scheme could be made permanent.**



## REFERENCE GUIDE for tourist and heritage railways and rail bikes

Initiated in 2022, the Department for metros and rail systems (DMF), launched a process to update the reference guides relating to the safety of tourist and heritage railways and rail bike systems. The purpose of this revision was to incorporate the field experience since the previous versions and to prepare for the updated decree on the safety of guided public transport, which took effect in 2025.

As regards tourist and heritage railways, a working group brought together representatives of the sector (UNECTO and non-affiliated operators), AQOs and inspection offices. In total, sixteen meetings were held between 2023 and 2024, during which the developments presented by DMF across the entire document were discussed by the members of the working group. This work led to the publication, on 24 March 2025, of Version 7 of the technical reference guide on the operational safety of tourist and heritage railways. A new version will be published in 2026 in order to incorporate the regulatory changes resulting from the April 2025 update of the STPG Decree. These regular working sessions with operators, together with the discussions that took place during the UNECTO Congress (French Federation of Tourist and Heritage Railways) in Bussang in November 2025, highlighted the need to meet regularly with UNECTO. Quarterly meetings with UNECTO will therefore be organised from 2026 onwards.

As regards rail bike systems, a working group was set up comprising representatives of the sector (Vélorails de France and UNECTO), AQOs, operators, manufacturers and inspection offices. Nine meetings were held between 2023 and 2024. The update of the reference guide (RTCD) made it possible to take into account the field experience gained since 2018. Version 6 of the RTCD was published on 27 June 2025, following the update of the STPG



Decree. This version therefore takes into account the integration of rail bike systems into the STPG Decree and the resulting implications for these activities. This updated version of the RTCD incorporates the expected elements relating to the technical design file, which is required in order to obtain Opinions for rail bike models. It also sets out the requirements applicable to electrically powered rail bike systems, which are likely to expand over the coming years.

Discussions with the sector also highlighted the need to draft a specific guide for mixed tourism and heritage railway and rail bike operations. Indeed, these mixed networks have grown significantly since 2020 and therefore required the definition of specific requirements. There are currently 17 mixed networks in France. Version 1 of the Guide on the safety of mixed tourism and heritage railway and rail bike operations was published on 3 July 2025.

**Lastly, further in particular to the publication of these Guides, two Recommendations were issued in 2025 for operators of tourism and heritage railway and rail bike systems. These Recommendations invite them to update their Operation Safety Rules in line with the new requirements set out in the reference guides.**



## INTEGRATION OF FREIGHT TRANSPORT into STRMTG guides for ARTS

Following publication of Decree No. 2024-1063 on automated road freight transport in November 2024, STRMTG began work to update the guides and reference documents dedicated to automated road transport systems (ARTS).

Various working groups were active throughout 2025 in order to extend the scope of each guide, initially limited to passenger transport, to include automated road freight transport systems. In practice, the work focused mainly on definitions, additions to be made to safety demonstrations and their assessment, specification of the scope of analyses, and the inclusion of examples specific to freight transport.

Following this work, new versions of the following guides were published:

- Implementation Guide concerning the mission of the approved qualified organisation for the safety assessment and the operational safety audit;

- GAME Implementation Guide
- Technical Guide for GAME.

Work will continue in early 2026 so that all guides can be made available online by 30 April 2026.



## REGULATORY WORK on road vehicle type approval

The automated road transport systems (ARTS) monitored by STRMTG use road vehicles that must first have obtained type approval (also referred to as reception) under the Highway Code. Type approval consists in verifying compliance with several dozen international regulations intended to ensure that motor vehicles provide a high level of safety and environmental protection. These regulations relate to the vehicle platform (dimensions, lighting and signalling, steering, braking, etc.) and, more recently, to advanced driver assistance systems and automated driving systems that may equip such vehicles.

Regulatory work is under way at French, European and international (UNECE) levels to define the type-approval regulations applicable to automated driving systems. DTRA is participating in this work together with the General Directorate for Transport Infrastructure and Mobility (DGITM) and the General Directorate for Energy and Climate (DGEC), in particular to ensure consistency and compatibility between vehicle type-approval requirements and those of the Transport Code applicable to ARTS. At the outcome of this work, adoption of the UNECE regulation on automated driving systems is notably scheduled for June 2026.





## ACCREDITATION OF THE FIRST APPROVED QUALIFIED ORGANISATION (AQO) for the overall safety assessment of ARTS

The commissioning of an automated road transport system (ARTS) is decided by the transport authority. This decision is conditional upon the prior favourable opinion of a qualified organisation approved by STRMTG (ARTS AQO), following the safety assessment carried out for seven technical areas (six specific technical areas in addition to the technical area covering the “overall system safety assessment”).

Under the French Transport Code, STRMTG is responsible for granting accreditations to these organisations. To this end, it conducts an in-depth review of:

- skills,
- professional experience,
- technical and human resources,
- and the working methods implemented by applicant organisations.

They must demonstrate their ability to ensure, on a long-term basis, the quality and objectivity of safety assessments in the technical fields in which they wish to operate.

Since 2023, STRMTG has approved several organisations, enabling coverage of all six specific technical areas. In December 2025, STRMTG approved UTAC for the overall safety assessment of ARTS, which was the last area for which no approved qualified organisation had yet been designated. All seven technical areas relating to the safety assessment of ARTS are now covered by qualified organisations approved by STRMTG. This means that the French regulatory framework governing the deployment of these systems under the Law on Orientation of Mobility (LOM) is now fully operational.

## GUIDE TO THE AQO mission for urban ropeway transport

*The guide was published on 29 August 2025.*

Decree No. 2017-440 of 30 March 2017 on the safety of guided public transport (STPG) applies to ropeway installations that do not fall under the Tourism Code: this includes, in particular, funicular railways and aerial ropeways in urban environments. For each new project or substantial modification, the Decree provides for the involvement of an approved or accredited qualified organisation (AQO). This organisation assesses the safety of the design, construction and operation of the ropeway installation, acting as an independent review. An STRMTG guidance document specifying the missions and expected deliverables of the AQO has existed since 2006, but its content is tailored to the assessment of guided transport projects.

With several urban ropeway projects under development in France in the early 2020s, it was decided in 2023 to launch the creation of a new *Application Guide regarding the mission of the Qualified Organisation for the safety assessment of urban ropeway transport projects*. This guide clarifies the expectations relating to AQO missions specific to urban ropeway transport.

Representatives from the sector, including designers, AQOs for lift systems, operators, manufacturers, structural inspection bodies for superstructures (BCT), inspection offices and STRMTG headquarters, took part in three meetings organised in 2024. The structure of the new guide was developed on the basis of the AQO guide for guided transport. It was then refined to take into account:

- the jointly agreed expectations of STRMTG and the profession regarding the specific features of lift systems,
- field experience from the various stakeholders following the initial urban ropeway transport projects (Saint-Denis, Brest and Toulouse).





# NEW PROJECTS LIFT SYSTEMS



# 02

Once regulations, standards and procedures are known, it is then possible to design and build new transport systems or modify existing ones.

The transit authority will then take all the necessary steps to obtain permits for its transport system. STRMTG is responsible for the technical assessment of the files required by the regulations prior to commissioning.

# COMMISSIONING OF THE URBAN AERIAL ROPEWAY: **Angelo in Ajaccio**



**The Angelo aerial ropeway in Ajaccio was the first urban aerial ropeway to be inaugurated in 2025, on 18 October. Its name comes from the nearby hill, Mont Sant'Anghjulu, which is visible from the cabins. The Ajaccio Area Urban Community (CAPA) is the project owner; the Ajaccio ropeway Op-erating Company (SECA) is the operator.**

This 3 km-long aerial ropeway links two multimodal interchanges: St-Joseph in the Ajaccio basin and Mezzavia on higher ground. With four stations, it serves in particular the Miséricorde Hospital (new premises since 2023), the U Palatinu sports and events arena, the Stiletu stadium and second-ary school (new premises since 2019), as well as the extensive Mezzavia retail area.

Although the line does not pass over residential buildings, the installation crosses over vegetation typical of the Corsican maquis, passes above the sports arena and then close to the retail zone at the end of the line.

The Angelo installation is a detachable monocable system with continuous unidirectional movement, operating at a maximum speed of 5.5 m/s. The line is equipped with 19 towers ranging in height from 5 to 37 metres over a length of 3 km, with a current capacity of 1,000 passengers per hour; this may be increased in the future to 1,500 passengers per hour, which is the installation's ultimate de-sign capacity. The cabins have a 12-seater capacity and are designed to accommodate a wheelchair user who is able to manoeuvre inside the cabin, as well as two bicycles.

As regards the safety of the ropeway installation system and of the persons carried, several issues were the subject of regular discussion, in particular those related to the urban nature of the installa-tion. These include, for example, fire risk, given that the line passes over vegetation and buildings, and the monitoring arrangements put in place to detect the outbreak of smoke or fire liable to affect the Angelo installation. Another example is the organisation put in place by the project owner in the event of an evacuation of the installation. This scenario, which is rare but may arise during the ser-vice life of the installation, is not straightforward

given that the operator has only a single installation and therefore a limited number of staff. Indeed, a vertical evacuation requires mobilisation of a sig-nificant number of rescue personnel and must be carried out within three and a half hours. The Ajaccio Area Urban



Community (CAPA) rose to this challenge by making local authority staff avail-able in the event that an evacuation scenario is triggered. These staff members will be trained in ad-vance in rescue procedures and in access to cabins from the cable.

This aerial ropeway, built by POMA as part of a consortium, is also the first to have applied the up-dated provisions and to take account of the amendments made to Decree No. 2017-440 of 30 March 2017 on the safety of guided public transport (also known as the STPG Decree), as amended on 25 April 2025 by Decree No. 2025-375.



## COMMISSIONING OF THE URBAN AERIAL ROPEWAY: C1 in the Paris region



**On 13 December 2025, the Paris region transport network inaugurated its first aerial ropeway, Cable Car Line 1 (C1), in Val-de-Marne (94).**

With an interchange to Metro Line 8, the 4.5 km C1 links the towns of Créteil and Villeneuve-Saint-Georges via Valenton and Limeil-Brévannes, serving five stations. Designed to improve access to a densely populated area, the route passes over roads and railway lines, buildings and vegetation.

The design-and-build contract was awarded to Doppelmayr France (DMF). C1 is a monocable detachable gondola lift with an initial capacity of 1,600 passengers per hour at 6 m/s. Its 105 ten-seater cabins are fitted with folding seats, platform speed is 0.11 m/s, and the stations are level-access. To ensure full landscape integration, the 33 towers feature a wing-shaped design. The three cable loops, fitted with plastic liners, provide quiet operation. C1 comprises two lines with a double-tension drive station incorporating two garages, a maintenance workshop and a central control room.

The areas overflowed were the subject of a substantial fire risk analysis, which led in particular to the installation of line-side detection provided by ten infrared cameras. The evacuation principle is based on the concept of integrated recovery, making it possible to bring vehicles and passengers back to the stations, with vertical evacuation used only as a last resort. The Highstep ascent system, consisting of a rail fixed to the tower shafts, enables the use of pedals or an electric lift in place of traditional ladders.

After two and a half years of work, C1 reduces journey time to 18 minutes, compared with 40 minutes by bus. The stations are intermodal, with direct connections to buses and a greenway.

Operation has been entrusted to Transdev, with major maintenance entrusted to DMF. Come and discover Europe's longest urban aerial ropeway for the price of a metro ticket!



## REFURBISHMENT OF THE Rhodos gondola lift - Méribel Alpina



The Rhodos gondola lift is a two-section installation (four stations) that was brought into service in 1989. It is located on the La Chaudanne snowfront at the Méribel Alpina ski resort.



43

cabins



18

pylons



464

metres  
of elevation gain



1543

metres  
in length

In order to extend the life of the installation while increasing comfort and safety levels, the Méribel Alpina company carried out a complete refurbishment of the installation in 2025:

- Replacement of the 11-seater cabins with 8-seater cabins (10 standing passengers), Specific cabin suspension assemblies had to be developed,
- Replacement of the electrical equipment,
- Replacement of the carrying-hauling rope,
- Replacement of the tensioning system.

In order to ensure the long-term durability of the installation, the fatigue life of all the metal civil engineering structures along the line was assessed, taking into account actual operating hours and the installation's real load factors. This assessment makes it possible to guarantee a remaining service life of at least 15 years.



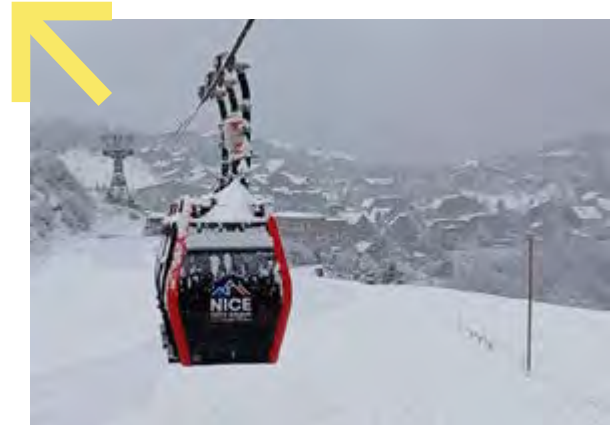
This operation delivers an installation offering customers a standard comparable to a new one, while having a much lower impact on the environment and on resources.



## MODERNISATION OF SEVERAL CABINS ON BICABLE AERIAL ROPEWAYS (Pic Blanc 3, Cime Caron, Las Donas, Télériou)



Major refurbishment projects involving bicable aerial ropeways have been carried out over the past two years, generally on installations originally built in the 1970s and 1980s. For users travelling on a ropeway installation, the cabin is the most visible element of any change to, or refurbishment of, the installation.



Among the reversible aerial ropeways recently refurbished, examples in 2025 include the new cab-ins for Cime Caron in Val Thorens (two 127-passenger cabins), Las Donas (two 52-passenger cab-ins) and Télériou (six 10-passenger cabins) in Auron, and Pic Blanc 3 (two 72-passenger cabins) in Alpe d'Huez; in 2024, La Saulire in Courchevel also received two new 131-passenger cabins.

These large-scale refurbishments are initiated either by the operator or, in some cases, triggered by specific events. In all cases, they represent a key stage in the modernisation of the installation in order to:

- preserve its service life,
- improve passenger comfort,
- facilitate operation and maintenance.

Since the original construction of the installation, and through the various modifications made over the life of the system, regulations and technical reference documents (technical guides, standards) will have changed. These refurbishments are reviewed by STRMTG with regard to accepted engineering practice relating to the safety of ropeway installations. They therefore provide an opportunity to analyse the modifications made in light of these developments.



# 03



## NEW PROJECTS GUIDED TRANSPORT

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Once regulations, standards and procedures are known, it is then possible to design and build new transport systems or modify existing ones.

The transit authority will then take all the necessary steps to obtain permits for its transport system. STRMTG is responsible for the technical assessment of the files required by the regulations prior to commissioning.

# NEW TRAMS in Besançon, Strasbourg and Montpellier



The end of 2025 was marked by the commissioning of new trams in Besançon and Strasbourg, supplied by Alstom, and in Montpellier, supplied by CAF, Citadis X03.1/X05.1.

In Besançon and Strasbourg, although the trams have different architectures, they share a number of common technological developments. These include:

- integration of a new traction chain,
- implementation of an enhanced vigilance system taking driver actions into account.

On these projects, particular attention was paid to the tram validation plan, especially for tests carried over from other projects.



## Urbos 100X: the arrival of a new tramway range

In Montpellier, the CAF Urbos 100X trams are the first of this generation to be brought into service in France. The review process required extensive discussions with all project stakeholders, on both technical and methodological aspects.

STRMTG visited the Bagnères-de-Bigorre plant and took part in DAEP performance tests.

## Extremely tight schedules

While these projects reflect the dynamism of the networks, they also shared one common feature: a very tight timetable for producing the files. The handling of certain issues considered non-blocking for commissioning was postponed until after entry into service, with a request for subsequent submission of a Safety Review File (DRS), in Besançon and Montpellier.

## An overall system approach that still needs to be consolidated

Particular attention was paid to how network-specific features were taken into account in the safety demonstration for the trams and their integration at overall system level. In Besançon and Montpellier, this complexity was illustrated in particular by the management of platform gaps. Works to modify platforms sometimes continued right up until commissioning.

The year 2025 made it possible to identify points requiring particular attention in the files and to build on this field experience for future projects across all systems.



## COMMISSIONING AND EXTENSION: **Montpellier tramway**



**In 2025, the Montpellier tramway network underwent two major developments:**

- **the extension of Line 1 to the Sud de France high-speed rail station,**
- **the commissioning of the new Line 5 serving the western and northern parts of the metro-politan area.**

Montpellier Méditerranée Métropole (the Montpellier Metropolitan Authority) delegated project ownership for these major schemes to the network operator, TAM (Projects Department).

With a length of 1.2 km, the Line 1 extension runs from the current “Odysseum shopping centre” terminus to the Sud de France high-speed rail station. It connects the city centre and Saint-Roch station to the recently opened high-speed rail station, while also serving the new Cambacérés district. Ultimately, the latter will include nearly 400,000 m<sup>2</sup> of office buildings, hotels and higher education establishments.



The project required the crossing of a stream and the A709 motorway, with the technical challenges this entails in terms of engineering structures. A new station was created adjacent to the high-speed rail station, as part of a new multimodal interchange bringing together tramways, bus rapid transit services, long-distance trains and parking facilities.

**This extension was commissioned on 18 October 2025.**



The fifth tramway line, with a commercial length of 15.2 km, serves the northern and western parts of the Montpellier metropolitan area. It uses the existing infrastructure in the historic city centre (shared section with Lines 1, 3 and 4). It has 24 stations, including 19 new ones.

The Clapiers terminus near the Girac roundabout to the north and the Grès de Montpellier terminus to the west near the Genevaux roundabout have been designed as interchange hubs with parking facilities.

This new line, which is structurally important for the area, was built

to accommodate new CAF Urbos 100X trams, decorated in a “leaf of life” theme. This motif symbolises the union between humankind and the plant and animal worlds. However, the Alstom Citadis 302, 401 and 402 trams already operating on the Montpellier network must also be able to run on it, for network interoperability.

**Line 5 was commissioned on 20 December 2025.**



The South-West office, together with the tramway and rolling stock department, took part in the review of the safety files relating to these major projects. It also participated in numerous technical meetings and site visits prior to commissioning, in order to support the project owner on the regulations relating to the safety of guided transport. Lastly, the office attended the night-time route opening tests on the western section of Line 5, with both Alstom Citadis trams and the new CAF Urbos 100X trams.





## MF19 ROLLING STOCK: A revolution for the Paris Metro

The MF19 rolling stock is an ambitious project to modernise Paris Metro trains. These new-generation trains, built by Alstom, will gradually replace the older MF67, MF77 and MF88 trains from 2025 onwards.

MF19 trains will be deployed on several Paris Metro lines, in particular Lines 3, 3bis, 7, 7bis, 8, 10, 12 and 13. Lines 3bis and 7bis will be equipped in 2026 and 2027 respectively, followed by Line 13 in 2027. Lines 3, 7, 8 and 12 will see the arrival of MF19 between 2028 and 2033. In total, 410 trains will be brought into service by 2035.



### Adaptation of infrastructure

The arrival of the MF19 on Line 10 required infrastructure to be adapted to the new trains, with works including:

- adaptation of trackside and rear-view equipment,
- adaptation of infrastructure to train clearance and train length,
- installation of platform gap warning devices to prevent the risk of falls.

System modernisation works also had to be carried out, including:

- installation of driving assistance systems,
- replacement of signalling equipment,
- deployment of a beacon system enabling the MF19 to locate itself along the line,
- implementation of the OCTYS Type 3 system to control driver speed and signal overruns,
- adaptation of the central command centre,
- upgrade of the traction power supply and distribution system.

### Scope and impact of the MF19

In the longer term, MF19 rolling stock will cover eight metro lines and their associated maintenance depots. This will represent 50% of the network's transport infrastructure (103 km) and 40% of journeys, i.e. around 610 million passengers per year. This project represents a major modernisation in terms of the comfort and efficiency of the Paris Metro, while also ensuring improved train circulation and fleet management.

### Technical features and innovations

MF19 trains will be delivered for manual driving, but may later be converted to full automation. Automation of Line 13 is therefore planned by around 2035. For Lines 3bis, 7bis and 10, the trains will be equipped with the OCTYS Type 3 automatic train operation system developed by Alstom. This system is based on a GOA1 level of automation, that is to say manually controlled driving. In addition, MF19 trains will be fitted with a door-drag detection system.

### Inter-car circulation and passenger comfort

A major feature of the MF19 is full inter-car circulation: passengers will be able to move freely from one end of the train to the other. Train length will vary between 62 and 77 metres. They will be equipped with the ASVA passenger audio and visual information system, and the doors have been widened and fitted with gap fillers to facilitate access.

### Deployment on Line 10

The first line to be equipped is Line 10, on which the MF19 has been authorised to operate since October 2025. Ultimately, 30 trains will be deployed on this line. Static and dynamic tests were successfully carried out, with the participation of STRMTG, prior to official commissioning on 6 and 7 October.





04



## INNOVATION



STRMTG encourages and supports the rise in innovation in transport systems, ensuring that safety is well integrated from the beginning of development.

# 2025

## SUPPORT FOR INNOVATIVE PROJECTS in guided transport



**The year 2025 was marked by sustained momentum around innovative projects in the field of guid-ed transport.**

Further to the discussions initiated in previous years, STRMTG continued to support project developers via regular technical meetings. These discussions help to clarify the regulatory frameworks to be applied in light of the specific characteristics of each system, as well as the arrangements for carrying out tests. They also confirm the need for particular vigilance in addressing specific issues such as level crossings, line crossings and other specific interfaces.

The Urbanloop project is continuing to develop in France, with deployment prospects in Nancy, Toulouse and Dunkirk. Its high degree of innovation, affecting most of the subsystems, requires the development of a specific framework in order to govern safety demonstrations and commissioning authorisation files.

The Drais and Écotrain projects aim to develop innovative light trains suited to dedicated or mixed low-traffic lines. Discussions with the French public railway safety authority (EPFS) and STRMTG are helping to coordinate the technical analysis, clarify the regulatory frameworks, particularly as regards testing conditions, and ensure the required level of safety.

Two road-rail systems, the Flexy and Ferromobile projects, combine rail and road operation and promote the reuse of very low-traffic lines. The work carried out with STRMTG focuses on the technical and regulatory issues associated with this type of system, the testing conditions, and demonstration of the expected level of safety.

Lastly, changes to the regulatory framework in 2025, through the introduction of the innovation management file into Decree No. 2017-440 on the safety of guided public transport, help facilitate the testing of innovative vehicle prototypes.



# 05



STRMTG conducts important studies and research work, essential to maintaining and building knowledge of systems and the skills of its employees. STRMTG therefore oversees a number of studies each year. Some are conducted with partners from the scientific and technical network of the Ministry of Ecological Transition and Territorial Cohesion, and others are conducted by consulting firms.



## STUDIES AND RESEARCH

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# STUDY OF SIMPLE TRAMWAY TRACK CROSSINGS by motor vehicles



The study of accidents involving trams and road vehicles at simple crossings, in connection with their layout and operation, was completed in 2025. This is the third most accident-prone configuration among all existing types of tramway intersections. There are around 500 such configurations in France, with over one hundred accidents recorded at them each year.

The purpose of the study was to identify the factors influencing accident rates between trams and road vehicles at simple crossings, in order to pinpoint the configurations most likely to cause accidents and, conversely, those most conducive to good safety conditions.

The study identified three specific issues associated with this type of intersection and proposes design recommendations for each of them:

## 1. Perception and legibility

A simple crossing constitutes a localised break within a generally continuous stretch of infrastructure that must be easily identifiable. The study therefore sets out design and (vertical and horizontal) signage recommendations to address this issue.

## 2. Simplicity of layout

As the attention of motor vehicle drivers should be focused on the tramway conflict, it is recommended to avoid, upstream or downstream, superfluous signage, traffic-calming features (such as raised platforms) or other conflicts such as pedestrian/cycle crossings. These elements disperse drivers' attention and increase the risk of collisions with a tram.

## 3. Control of behaviour through design and signage

Most accidents at simple crossings are due to inappropriate driver behaviour (excessive speed, overtaking, failure to comply with signage, etc.). The study recommends controlling behaviour first and foremost through the layout itself (for example by reducing speed via narrower lane widths, avoiding overtaking opportunities, etc.). Secondly, the choice and positioning of signage must enable users to understand the situation quickly and clearly (left-hand repeaters for "R24" flashing red tramway signals, positioning as close as possible to the crossing, etc.).

In 2026, STRMTG will draft, in consultation with Cerema, an Urban Integration of Surface Public Transport factsheet summarising all recommendations relating to the design, operation and maintenance of simple tramway track crossings by motor vehicles.



## WORKING GROUP ON CYBERSECURITY for transport systems

Cybersecurity is now a major issue for all systems using automated control systems and digital data, particularly those falling within the scope of the STPG Decree and presenting safety-related risks. This concerns all stakeholders involved in the design, operation and monitoring of these systems. For several years, STRMTG has been reflecting on the cybersecurity of the transport systems it oversees. This work began with the publication of guides in the field of automated road transport systems (ARTS), aimed at defining the scope of its intervention. Integration of this issue, which requires specific expertise, is being carried out progressively.

Consideration of cybersecurity for guided transport systems was thus formalised in the amendment of Decree No. 2017-440. The Decree introduces a definition of cybersecurity and requires operators to set out, in their safety management system, the arrangements for managing exported cybersecurity constraints. These constraints must take into account the potential risks to the safety of passengers, operating staff and third parties. .

Following publication of this Decree, STRMTG received a large number of requests concerning the government's expectations and the way in which these new constraints should be taken into account. A dedicated working group was set up to promote a shared understanding, build on practices already implemented on certain networks, and feed into collective reflection. Led by STRMTG with the support of a specialised service provider, it brings together all the relevant stakeholders. The work undertaken is intended to produce an implementation guide setting out the expectations relating to exported cybersecurity constraints.





# 06

## DISCUSSIONS AND TRAINING

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STRMTG strives to build its own skills and those of other stakeholders through training initiatives and its ties with organisations in the Scientific and Technical Network (RST). It involves the industry in drawing up rules to ensure that safety issues are properly understood.



## 2025 TRAMWAY AND METRO Discussion Day



The year 2025 saw a change in the STRMTG tramway discussion days. For the 8th biennial edition bringing together the whole profession, metro systems were included, with great success.



On 11 and 12 June in Lyon, nearly 230 participants (transport organising authorities, operators, de-signers, manufacturers, qualified bodies, road managers, experts, etc.) came together. They discussed current issues relating to tramways and metros, whether field experience, changes to reference guides, innovations or expert studies. Half a day was devoted to each system, and another half day was dedicated to topics common to both metros and tramways.

A wide range of themes were addressed and prompted questions and discussions among the various participants. For the metro section, this first year focused on accidentology, various studies carried out by STRMTG, such as the issue of platform gaps and mass evacuations. Regulatory developments were also discussed. For the tramway section, this year provided an opportunity to address accidentology, the results of studies on tramway platform lighting and simple crossings, regulatory developments in the field of urban integration, as well as cycling infrastructure in the vicinity of the platforms.

This format bringing metros and tramways together received very positive feedback. We would like to thank all speakers and participants for the quality of the presentations and discussions. STRMTG looks forward to the next edition in 2027!



## SEMINAR

# “Climate change and the safety of mountain ropeway transport”



With the support of PARN (the Alpine centre for natural hazards) STRMTG organised a technical seminar dedicated to the impacts of climate change on the safety of ropeway transport installations in mountain areas.



The event took place on 15 May 2025 on the Grenoble university campus. It brought together:

- **professionals from the lift system sector** (ski area operators, manufacturers and specialist designers),
- **academic and institutional stakeholders with expertise in climate-related issues.**

Practical presentations focused on issues specific to mountain areas, characterisation of the risks involved, and measures already taken or under consideration. These discussions then made it possible to initiate more targeted debates on ways of maintaining infrastructure safety in this context, in particular through:

- dissemination of knowledge,
- forward-looking action on modelling,
- promotion of cross-sector approaches,
- studies into means of adaptation.

STRMTG intends to contribute to initiatives falling within these objectives by including a specific component on this subject in its study programmes.

*See also on  
the strmtg website*





# 07

## PATHOLOGIES AND ACCIDENTS



Accidents and incidents can occur throughout the life of a system. STRMTG monitors and analyses these events and draws lessons from them to improve safety.

## RECOMMENDATION REGARDING tramway rail build-up welding

**As part of long-term maintenance of tramway networks, operators have used rail build-up welding techniques to regenerate the track.**

In spring 2025, one tramway network reported to STRMTG a deterioration in braking performance in areas where the rail running surface had been rebuilt using a non-magnetic filler material. Comparative tests under emergency braking (FU3), applying the magnetic track brakes, confirmed a significant loss of deceleration incompatible with safety requirements.

To date, there is no rail build-up process using a magnetic filler material that benefits from favourable field experience in terms of magnetism, cost and durability.

In response to this issue, a working group was set up to develop an action plan taking into account maintenance and operating impacts while ensuring that safety levels are maintained. This made it possible to define a methodology for dealing with areas already re-surfaced and areas that will require build-up welding in the short term. Its conclusions were reflected in the STRMTG Recommendation of 24 October 2025:

- Discontinue build-up welding on the rail running surface using non-magnetic filler material;
- For areas requiring essential build-up welding to ensure operational continuity, and until the end of October 2026, to allow the use of alternative and temporary processes capable of achieving improved braking performance;
- For areas that have already undergone build-up welding, and until the end of December 2025, to submit to STRMTG the results of the methodology detailed in the Recommendation, indicating the areas subject to speed restrictions. In the case of areas not subject to speed reductions, and until the end of October 2026, to apply the preceding paragraph;
- At the beginning of November 2026, a review will be carried out in order to take account of technical developments proposed by suppliers and/or of any tests carried out on the networks, so as to define the long-term solutions that may be implemented.



## COLLISION BETWEEN TWO TRAMS on the Strasbourg network

**On 11 January 2025, a tram travelling between the Gare Centrale and Ancienne Synagogue stations underwent a runaway for more than 500 metres on the tunnel exit ramp. It collided with another tram that was in the process of passenger boarding and alighting. The collision caused a large number of injuries as well as significant material damage.**

At the time of the accident, traffic was disrupted due to demonstrations. A partial service was being operated at the crossover located after Ancienne Synagogue station. The initial analyses carried out by STRMTG, on the basis of the information available and supplemented by discussions with BEA-TT, identified several causes and risk factors.

STRMTG sent tramway operators a survey aimed at identifying their practices regarding use of the emergency brake. At the same time, STRMTG drew up a corrective action plan, aimed in particular at reducing the occurrence of trams stopping in the tunnel and improving driver training. These measures enabled STRMTG to propose that the Prefect authorise the resumption of operations in the tunnel on 20 February 2025.

Pending progress in the investigations, which are still ongoing, STRMTG used the national day held in June 2025 to present the initial findings of the inquiry. This presentation provided an opportunity to raise awareness of runaway risk management and of the need to define unambiguous rules regarding the use of the emergency brake.



## MONITORING OF DEFECTS AFFECTING the carrying ropes of aerial ropeways



All lift system ropes are subject to non-destructive testing in accordance with a schedule defined by the regulations. These inspections make it possible to assess their condition and monitor how it evolves. In particular, the most heavily stressed areas of the carrying ropes of aerial ropeways are inspected every five years.

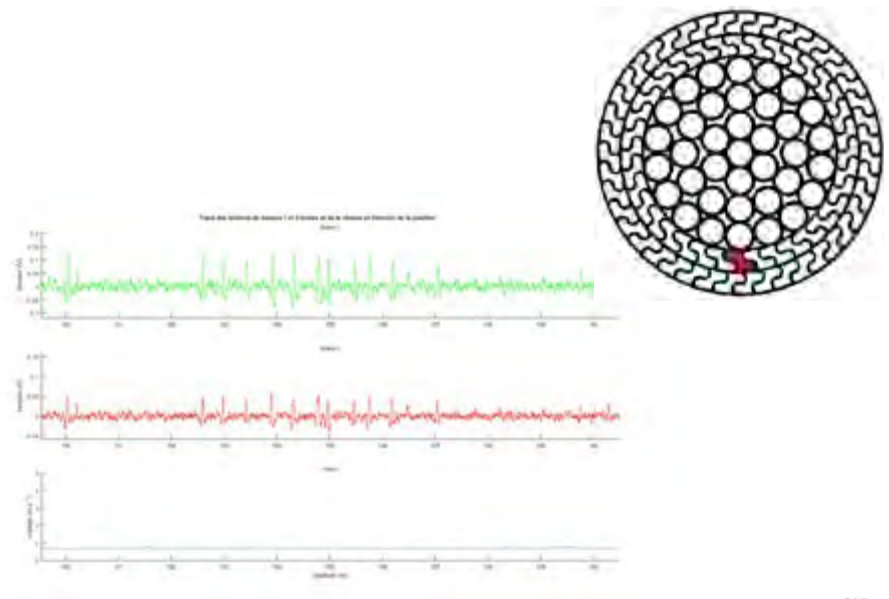
Three quarters of French bicable aerial ropeways are more than 30 years old; for those still fitted with their original carrying ropes, these inspections may therefore reveal normal wear. Some installations may also cause faster deterioration of their ropes. STRMTG intervenes by ensuring that all inspections are carried out and that their results are compatible with safe operation. In a few cases each year, this analysis must be examined in greater depth with operators and their advisers (rope inspectors, designers, etc.) in order to authorise operation pending further expert appraisal or a decision to replace the rope.

Before the 2024/2025 winter season, defects were detected during inspections on two bicable aerial ropeways.

On the Ruillans aerial ropeway in La Grave, significant damage was detected at several cable support points. This is a known type of defect, in which the pressure exerted by the vehicle rollers causes breaks in the second layer of Z-wires, which are not visible from the outside of the rope. STRMTG took part, together with the operator,

its rope inspector and its designer, in analysing the issue and defining additional inspections. STRMTG then supported the operator in replacing the most damaged carrying rope in order to allow the installation to return to service in spring 2025.

On the first section of the Dôme des Rousses aerial ropeway in Vaujany, the carrying ropes showed signs of wear, the exact nature of which had not been determined. Initially, an analysis made it possible to confirm that safe operation was possible for the winter season by anticipating the greatest probable loss of cross-section. Additional inspections carried out during the season then confirmed that these defects were not getting worse. Lastly, at the end of the season, expert examination of the first carrying rope to be removed made it possible to identify the causes of this wear, quantify it more accurately and, ultimately, assess more precisely the condition of the three other carrying ropes, which were able to remain in service.



## SECURING OF OVERHUNG pulley assemblies



**On 18 January 2025, around midday, a serious accident occurred at the Astún ski resort, located in the Aragonese Pyrenees, not far from the French border. The accident was caused by the fall of an overhung return pulley, resulting in derailment of the carrying-hauling rope. Although the rope was retained at station structure level, it moved backwards by around 2 metres, causing significant dy-namic movements along the line.**



Unlike a pulley mounted between two support points (clevis mounting), an overhung pulley is mounted on a shaft fixed to a rigid structure on one side only, leaving the other side free. In an overhung arrangement, the shaft may be fixed either below (as in this diagram) or above.

In the light of the Astún accident and of two incidents that occurred in similar configurations in France in 2009, STRMTG, DSF and the French section of IARM (International Association of Ropeway Manufacturers) met to exchange available information. Together, they decided to launch an inquiry in order to identify similar assemblies in operation and assess their potential danger. This work resulted in a recommendation aimed at identifying all fixed-grip chairlifts equipped with over-hung return pulleys and at identifying the various mounting configurations in existence (in particular the presence of a retaining frame, a mechanical locking device, or pulley attitude detection).

Analysis of the survey results and consultations between the various stakeholders made it possible to focus on the risk of the return pulley coming off its shaft. This risk corresponds to the field experience from 2009 in France and also appears to match the scenario of the 2025 Astún accident. Minimum mounting configurations were defined, including at least either a retaining frame around the pulley or pulley wobble detection. These measures are regarded as an acceptable response to the risk of the pulley coming off, irrespective of the pulley position.

Given the large number of installations concerned, as they do not meet either of the two minimum configurations mentioned above, and considering that this is part of a broader safety improvement process for the fleet with limited short-term implications, the deadline for compliance was set at the end of 2028.



# 08



STRMTG shares its expertise with various international bodies. It provides training, exchanges and assistance to foreign supervisory authorities outside France. Finally, it participates in international meetings in the field of transport safety.



## INTERNATIONAL



## VISIT BY A **Korean delegation**



**On 3 September 2025, STRMTG took part in a meeting with a delegation at the premises of the French public railway safety authority (EPFS) in Paris, at EPSF's request.**

The South Korean delegation consisted of one representative from the Korea Railroad Research Institute and one representative from the Korea National University of Transportation (KNUT).

The topics presented by STRMTG and EPFS concerned:

- the organisation of railway safety oversight in France (conventional railways and urban guided transport),
- the automation of existing metro lines (for example, projects between 2010 and 2025),
- risks to passengers related to the platform/train/track interface and to tunnel evacuations.

The Korean delegation presented the missions of the two organisations represented, as well as the organisation of railway safety oversight. This organisation stems from a fire that occurred on 18 February 2003 on the Daegu metro. That accident caused the deaths of 192 people and injured 151 others at Jungangno station. Following this event, the authorities modernised safety equipment on the various metro lines by:

- enhancing the fire-resistance characteristics of rolling stock,
- improving tunnel ventilation systems,
- installing platform screen doors on all metro lines, whether driver-operated or fully auto-mated.

These discussions made it possible to compare safety frameworks in Korea and France and to high-light the specific points requiring attention in this type of automation.



## DISCUSSIONS WITH RTC, **future operator in Quebec**



**In August 2025, STRMTG welcomed a representative of the future Quebec tramway operator (Réseau de Transport de la Capitale, RTC).**

As part of the future tramway project in Quebec City, a safety committee will be set up. Its main mis-sions will be to:

- verify the completeness of the safety files,
- \$review these files from the very beginning of the design phase, scheduled to start in early 2026.

In this context, RTC approached STRMTG for support in order to assess the amount of time that should be allocated to review of the safety files.

The meeting took place on STRMTG premises, and provided an opportunity for rich, productive discus-sions. It was held over two days, during which the Tramways and Rolling Stock Department and the South-East inspection office were able to present the safety file review practices laid down by French regulations.



# TAIEX WORKSHOP - San Salvador 2025



**The TAIEX programme (Technical Assistance and Information Exchange) mobilises the expertise of public authorities from European Union Member States in order to support reforms and disseminate European best practices worldwide.**

In this context, the El Salvador Ministry of Public Works and Transport (MOPT) asked STRMTG to take part in the organisation of a workshop. This workshop focused on the integration of aerial ropeways into urban public transport networks.

A small Central American country bordered by Guatemala, Honduras and the Pacific Ocean, El Salvador is the most densely populated country in the region, with over 6.5 million inhabitants, including 1.5 million in the capital, San Salvador. The metropolitan area does not yet have a back-bone public transport network, and travel mainly relies on the road network. This leads to chronic congestion, which has a major impact on daily life and economic development.

To improve the situation, the Salvadoran government has launched a major investment programme including the creation of two metro lines and six ropeway transport lines. The first project, a 10-seater gondola lift called “Los Mejicanos”, was awarded to the French manufacturer POMA. It will comprise three sections and four stations, with commissioning scheduled for 2026.

The request addressed to France and to STRMTG reflects El Salvador’s interest in the experience gained in the field of ropeway transport, especially through the urban projects carried out in recent years in Brest, Saint-Denis de La Réunion, Toulouse, Ajaccio and the Paris region.

While STRMTG primarily provides expertise on safety matters, other areas of expertise were also mobilised in order to fully meet El Salvador’s expectations. Consultants Cabinet ERIC and operator Tisséo Collectivités were therefore also associated with the assignment. The team was further strengthened by a representative



of the Austrian Federal Ministry for Innovation, Mobility and Infrastructure, in accordance with the principle of TAIEX workshops, which systematically involve at least two European countries.

The workshop took place from 29 to 31 July 2025 in San Salvador and brought together more than thirty MOPT staff members from the various departments involved in implementing the investment programme.

These three days provided an opportunity to address a wide range of topics:

- operation and characteristics of aerial ropeways,
- technical rules and commissioning procedures;
- key stages in the design and development of an urban line,
- urban planning, environmental and safety aspects,
- fare policy and passenger information issues.



# URBAN AERIAL ROPEWAYS: Meeting with representatives of Nepal and the Asian Development Bank



The Asian Development Bank (ADB) is a regional financial institution. It provides loans and technical assistance to its member countries across Asia and the Pacific.

Its actions are aimed at:

- improving quality of life,
- reducing poverty,
- supporting development and financing infrastructure projects,
- strengthening governance and institutional capacity.

Accordingly, ADB launched a project to support sustainable aerial ropeway transport in the Kathmandu Valley, Nepal. This project is expected to provide an affordable public transport offering while reducing traffic congestion and pollution.

In this context, ADB organised a study trip to France in order to gather advice and information from various stakeholders involved in the development of urban aerial ropeways.

A delegation of around fifteen people, including transport experts and officials from national authorities and from the cities of Kathmandu and Lalitpur in Nepal, travelled to France. The delegation was thus able to meet public transport authorities in the Paris region and in Toulouse, as well as the industrial companies that designed and built the corresponding systems (Câble 1 and Téléo).



STRMTG was asked to address this delegation on 7 November 2025 in order to present:

- the French framework for authorising and ensuring the safety of this type of transport; the French philosophy regarding safety management;
- the importance of having high-quality technical reference guides;
- the measures taken to facilitate the development of urban ropeway transport (for example, enabling lines to pass over dense urban areas);
- the experience of recent years with the commissioning of five aerial ropeways in French cities.



## VISIT BY A DELEGATION **from Côte d'Ivoire**



**On 2 December 2025, at STRMTG headquarters, its Department for Metros and Rail Systems (DMF) welcomed a delegation from Côte d'Ivoire in order to discuss the future Abidjan metro project.**

As the country's first metro system, the Abidjan metro is expected to enter service in 2028. The line, which will be 37 km long, will have 18 stations and will be capable of carrying up to 500,000 passengers per day. The system will be operated with GOA2 automation (semi-automatic operation with a driver), without platform screen doors. It will be implemented on an existing railway line. Alstom is in charge of the project as regards rolling stock and automation systems.

On this occasion, STRMTG presented its organisation and French regulations, particularly the process for validating safety files. DMF also shared its experience of French metro systems in terms of safety issues. DMF presented accident figures for metro/RER systems over recent years in order to highlight the main safety issues. In particular, it focused on two important themes regarding new metro lines and risk management from STRMTG's perspective:

- risks at the platform/train/track interface (in particular the risk of falling into the gap and drag incidents),
- derailment risk following loss of equipment.

As regards the risks of falling into the gap and drag incidents, DMF presented field experience, in particular the accident that occurred in 2023 at Bourg-la-Reine station. This event on RER B illustrated the issues associated with platform gaps and rear-view monitoring. The objective was:

- to share STRMTG's policy regarding these risks,
- to give examples of solutions implemented on the various French projects to address them,



- to mention the platform gap study and the ongoing BEA-TT investigations on these issues.

As regards the risk of equipment loss, DMF presented the 2022 recommendation on the loss of underframe components. This document stems from the derailment on the Marseille metro in 2018 following the loss of a negative collector shoe. This recommendation makes it possible to monitor, each year, loss of equipment, particularly collector shoes, across the various metro networks, and thereby reduce the risk of derailment caused by loss of equipment.

This meeting enabled the Ivorian delegation to gain an initial overview of the main safety issues for metro systems in France, based on field experience. It also helped identify points requiring particular attention for the commissioning of the future Abidjan metro line.





## RESCOR 2025 in Dublin



On 7 and 8 October 2025, the members of the RESCOR group (European network of services responsible for oversight and regulation regarding the safety of urban guided transport systems such as metros and/or tramways) met in Dublin. This meeting, organised at the premises of Transport Infrastructure Ireland (TII), brought together around fifteen participants from Spain, Germany, the UK, Ireland, Slovakia, Denmark, the Netherlands, Switzerland and France.

The first morning provided an opportunity to present the organisation and missions of the Irish supervisory authority (CRR), as well as those of Transport Infrastructure Ireland. A presentation was also given on the outlook of the transport regulatory authority regarding:

- the Dublin tramway network,
- the metro project in the Irish capital. .

The day continued with a visit to the Dublin tramway depot and control centre.

The second day was devoted to participants' presentations and discussions. The French delegation presented several topics relating to metro safety, in particular:

- management of platform gaps, especially on legacy metro lines,
- management of evacuations on automated metro lines.

On the tramway side, the event that occurred in Strasbourg on 11 January 2025 was presented, together with the issue of rail build-up welding affecting magnetic braking.

British, German, Spanish, Irish, Danish and Swiss participants also shared feedback, indicators and trends relating to the safety of guided transport systems. Guided transport projects were also presented.



**Discussions held during the 2025 session once again confirmed the importance and positive impact of these presentations and exchanges of information.**

## UTF 2025 in Amsterdam

**The 2025 session of the Urban Tram Forum was held in Amsterdam, the world capital of cycling. It is the annual international meeting on tramway urban integration, stemming from the European network of experts created following the success of COST Action TU1103.**

This year, STRMTG and Cerema had the opportunity to co-organise the event with the city transport operator GVB (Gemeentelijk Vervoerbedrijf). This edition was a great success, and the organisers were particularly pleased to welcome new members this year, such as Quebec and the Netherlands. Nearly 25 international members came together to address the following themes:

- The interface between tramways and soft mobility (challenges related to bicycles, etc.);
- Interfaces between tramways and motorised transport (30 km/h speed limits on surrounding urban roads, simple tramway tracks crossings by road vehicles, etc.);
- Driving assistance systems implemented on tramways to support drivers in driving-on-sight operation.

Participants had the privilege of visiting Amsterdam's century-old tramway network aboard a historic tram.



# 73<sup>RD</sup> INTERNATIONAL MEETING of Technical Authorities for Ropeways (ITTAB) organised in Toulouse



ITTAB (Internationale Tagung der Technischen Aufsichtsbehörden) is an international congress bringing together, once a year, ropeway supervisory authorities. The 73<sup>rd</sup> edition was held in Toulouse from 21 to 26 September 2025 and was organised by STRMTG. It brought together 20 international delegations representing supervisory authorities from around the world (Europe, North America, South America and Asia) around the key issues of safety, innovation and operation of ropeway transport systems.

## A varied programme

As in previous editions, ITTAB 2025 combined technical sessions and site visits. Participants were able to discover:

- the Pic du Midi aerial ropeway in a high-mountain environment,
- one of the flagships of the French aeronautics and space industry, Airbus,
- and an innovative urban ropeway transport installation, Téléo in Toulouse.

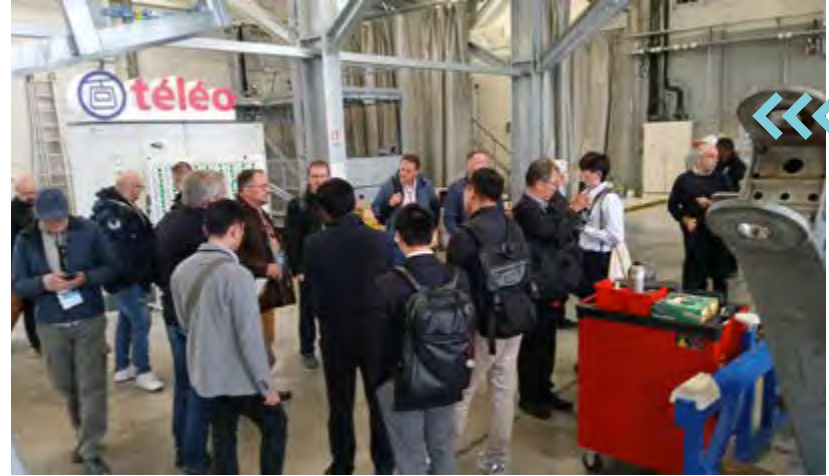
## Highlights of the discussions

Throughout the plenary sessions, discussions focused on major themes:

- the safety of aerial systems and urban ropeway systems,
- technological innovations and operational optimisation,
- harmonisation of regulatory practices between countries,
- the impact of environmental conditions on installations in a variety of contexts.

These discussions enabled rich interaction between international authorities, further strengthening the collaborative dimension of the congress.





### Recognition of French expertise

The Congress also provided an opportunity to showcase French expertise. Toulouse was therefore a natural choice: the city is home to several emblematic installations, including the Téléo urban aerial ropeway built by POMA.

This project, the first urban aerial ropeway in 3S technology in France, attracted strong interest. This three-cable system (two carrying ropes and one hauling rope) stands out for:

- improved cabin stability and reduced vibration,
- lower noise impact,
- a reduced number of towers (5 instead of 20 for a monocable aerial ropeway) and significant clearance heights (up to 70 m), allowing more discreet landscape integration and reduced environmental impact,
- the ability to adjust frequency and speed in real time.

The strong international participation highlights STRMTG's role in promoting safety and French expertise in the field of ropeway transport.

### Thanks and outlook

STRMTG warmly thanks all speakers, foreign delegations, operators and companies that shared their expertise. Particular gratitude also goes to the local teams and partners for their involvement in the organisation. The discussions and field experience from this edition will feed into our future thinking, so that we can continue to strengthen safety, sustainability and innovation in ropeway transport.





# 09



## NOTIFIED BODY

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STRMTG is also a notified body under European Regulation (EU) 2016/424 on cableway installations and, as such, assesses the compliance of cableway installation safety components and subsystems with the regulation's essential requirements on behalf of manufacturers.

# THE 2025 KEY FIGURES for the Notified Body



95

**new certificates**

(or revisions) of design assessment for safety components and/or subsystems



75

**changes to previously evaluated components or subsystems**



13

**manufacturer audits**



1,592

**procedures**

(modules H1 §3.6, B, F and G) and 97 manufacturer audits. From 2018, under Regulation (EU) 2016/424



3,821

**procedures**

(modules H7, B, F, G) and 141 manufacturer audits. Since 2003, under Directive 2000/9/EC

## FIRST “SRNOVA” CERTIFICATIONS

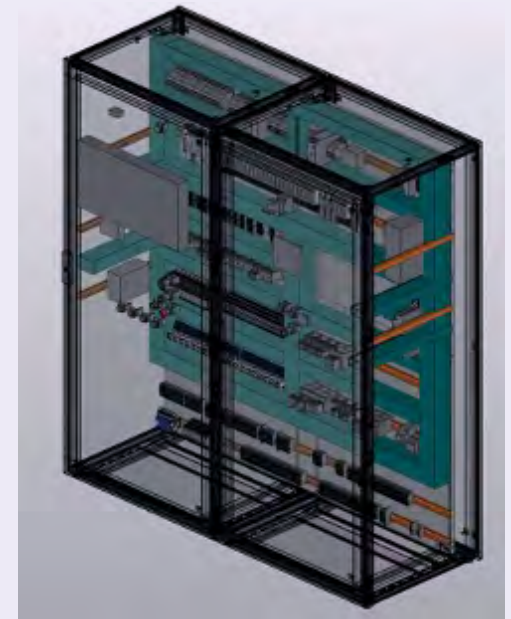
“SRNOVA is a new SEIREL product range specially designed for the electrical refurbishment of lift systems, with dedicated versions for:

- F100: Fixed-grip
- D100: Detachable grip

SEIREL designed the SRNOVA product in response to a rapidly growing refurbishment market. This development forms part of a standardisation approach covering architectures, practices and tools. It therefore promotes greater harmonisation and industrialisation of refurbishment processes, from design through to commissioning.

The SRNOVA component is based on a ropeway transport standard dating from 2004, in order to ensure its integration in refurbishment projects for installations built before that date.

STRMTG-ON carried out the design assessment of the first two electro-technical safety components in this range. For 2025, this assessment resulted in the issue of the two EC certificates, covering seven refurbished installations.



# NOTIFIED BODY

## Certification of the new HTI stations



A new range of detachable gondola lift and chairlift installations from the HTI Group (POMA, LEITNER & BARTHOLET) is succeeding the legacy station designs developed and installed since 2005.

STRMTG-ON assessed the design of various mechanical and electro-technical safety components, as well as one subsystem, in accordance with Regulation (EU) 2016/424.

As regards the electrical architecture, the review carried out by the STRMTG-ON automation and control-command group enabled certification of one safety component together with the associated subsystem. This certification validated the complex interfaces with another component certified by a different Notified Body. The range is based on a common platform, but includes features specific to each manufacturer, for certain functions such as wind monitoring.

On the mechanical side, the main new features concern the station devices. New bogies were developed. Independent verification calculations were carried out by STRMTG's mechanical group for the drive carriage, and by its subcontractor CEREBRUM for the brake pads. EC certificates were issued for different configurations (drive stations and return stations with regulated tensioning or fixed anchorage).

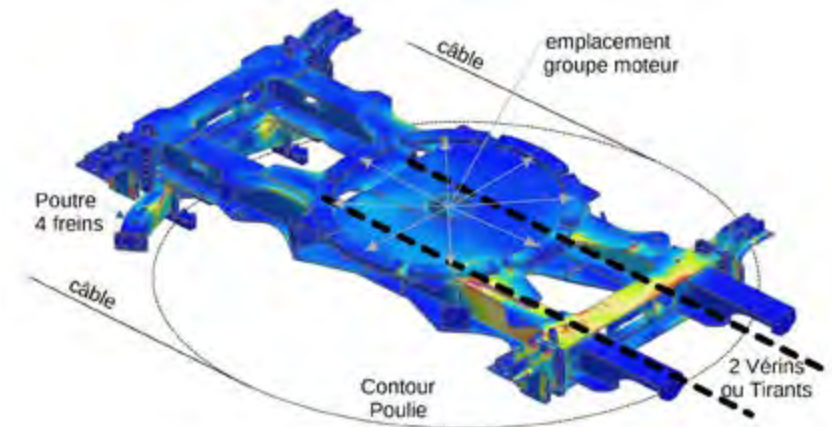


The two tension cylinders are movable, so that the tensioning device can adapt to rope elongation.

In addition, STRMTG-ON validated the compatibility of the new detachable grip with all line devices by updating the EC certificates for LP07 LCI roller batteries.

The first two installations were commissioned in December 2025:

- by POMA: the 10-seater Chenus gondola lift in Courchevel,
- by LEITNER: the 6-seater detachable Glück chairlift in Speikboden (Italy).





# STRMTG

TECHNICAL SERVICE IN CHARGE  
OF SAFETY FOR ROPEWAYS AND  
GUIDED TRANSPORTS

The Technical service in charge of safety  
for ropeways and guided transports

1461 rue de la Piscine  
Domaine Universitaire  
38400 Saint-Martin d'Hères - FRANCE  
Tel. +33 4 76 63 78 78

[www.strmtg.developpement-durable.gouv.fr](http://www.strmtg.developpement-durable.gouv.fr)

Publishing director:  
Daniel Pfeiffer

Coordination:  
Peggy Azam

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