



Stowarzyszenie Polski Kongres Drogowy

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3rd PIARC International Conference on Road Tunnel Operations and Safety – CALL FOR ABSTRACTS Cracow, 30.09-2.10.2026

Call for Abstracts:

To cover our plans and the expectations of the tunnel community in the best possible way, we are announcing the “call for papers” for the conference.

We invite representatives from road administrations, designers, supporting scientists, engineers, contractors and suppliers, bodies responsible for operation and maintenance of tunnels and/or for tunnel safety, and any other stakeholders dealing with tunnels at any stage of their lifecycle to send abstracts with proposals of presentations.

In each speech/presentation proposal we are expecting valuable input covering one or more of the three main conference thematic blocks (listed and described below), with a special focus on safety, operation and maintenance of road tunnels.

We would like to encourage open discussion between different stakeholders involved in the planning, designing, construction of tunnels with the authorities and owners responsible for their operation and maintenance. Which of the solutions, requirements, equipment, safety systems etc. should be a mandatory standard, which should be considered as an option, and which may be economically unprofitable?

Each author is asked to propose the most suitable thematic block for their presentation and possibly marked in the Notes whether any aspects from the other main thematic blocks will be mentioned.

We expect from the authors extended abstracts of their proposed presentation **by the 15th October 2025.**

The extended abstract should have a length of maximum 1 000 words and could also contain figures for better illustration.

Abstract guidelines are available at the link←

There will be not Full Paper required for authors.

Once accepted for presentation at the conference we will expect 15-20 minutes speeches with power-point presentations.

The presentations and extended abstracts will be shared after the conference and available to download from the PIARC website. Authors whose abstracts are not offered a presentation session may be offered a poster session to have the opportunity to present their topics and share their knowledge with the international tunnel community during the conference in Cracow.

Planning Timeline:

17 July 2025: Call for abstracts site operational

15 October 2025: Deadline to submit abstracts

15 December 2025: Notice of acceptance of abstracts

20 January 2026: Newsletter n° 2, start online registration

15 June 2026: Deadline to submit full presentations/posters

30 June 2026: Definitive program published

30 July 2026: Newsletter n° 3 (includes full program)

Conference thematic blocs for the conference with possible expected topics:

A. Planning and designing

tunnel planning in road networks: highway network & cities (urban areas), underwater tunnels;

structural design: new theories and numerical simulations (2D & 3D);

new structural solutions: portals and tubes (portal design, lay-bys design, cross connection and emergency exits design, cross section of the tunnel, number and width of lanes, traffic mode – single or double tube, unidirectional or bidirectional tunnel, ...);

codes and standards: structural safety, serviceability, durability and fire design – new developments;

tunnel design supporting Tunnel Safety and Road Safety and Tunnel Operation

life cycle analysis: cost, environmental, social;

design impact of tunnels in soils and (complex geology) rock mass

modern tools for tunnel designing: digitalization, automation, BIM, AI;

B. Construction technologies and tunnel equipment: best practices and experiences

severe and untypical geological conditions (earthquake, gas, mining hazards, ground settlement, urban areas etc.);

technological design for construction issues;

Conventional and mechanized tunnelling (drill and blast methods, NATM, TBM, what's new in tunnelling methods, pros and cons – comparison of different methods);

new technological solutions;

tunnel equipment, technology and systems needed for operation (ventilation system, electric installation, drainage system, dewatering system, pavement, waterproofing, traffic signs, ITS devices, lighting system etc.);

environmental and social issues during construction;

case studies in construction: highway network & cities (urban areas);

C. Safety, operation, maintenance and human factors

safety systems in tunnel operation: structural monitoring, ITS & road safety, fire protection etc;

safety management: methods of preventing and mitigating the risk of incidents in tunnels;

efficient evacuation methods minimizing the effects of incidents;

sustainability of tunnel operation: energy efficiency; lifecycle perspective of operation (cost, environment, social),

digitalization and automation of tunnel management (digital twins, automation, etc...);

methods of reducing maintenance and life cycle costs;

tunnels maintenance and inspection assessments;

human factors and human behaviour in terms road safety (inside the tunnels and in approaching zones);

drivers' behaviour and education;

road tunnel operation and safety issues related to usage of New Energy Carriers (NEC) in road vehicles (experiences from fire issues in existing tunnels, firefighting strategies and fire incidents in tunnel...)

tunnel operation and safety from the Manager and Tunnel Safety Officer perspective

active modes of Transport (walking, cycling, wheelchair) in Road Tunnels.