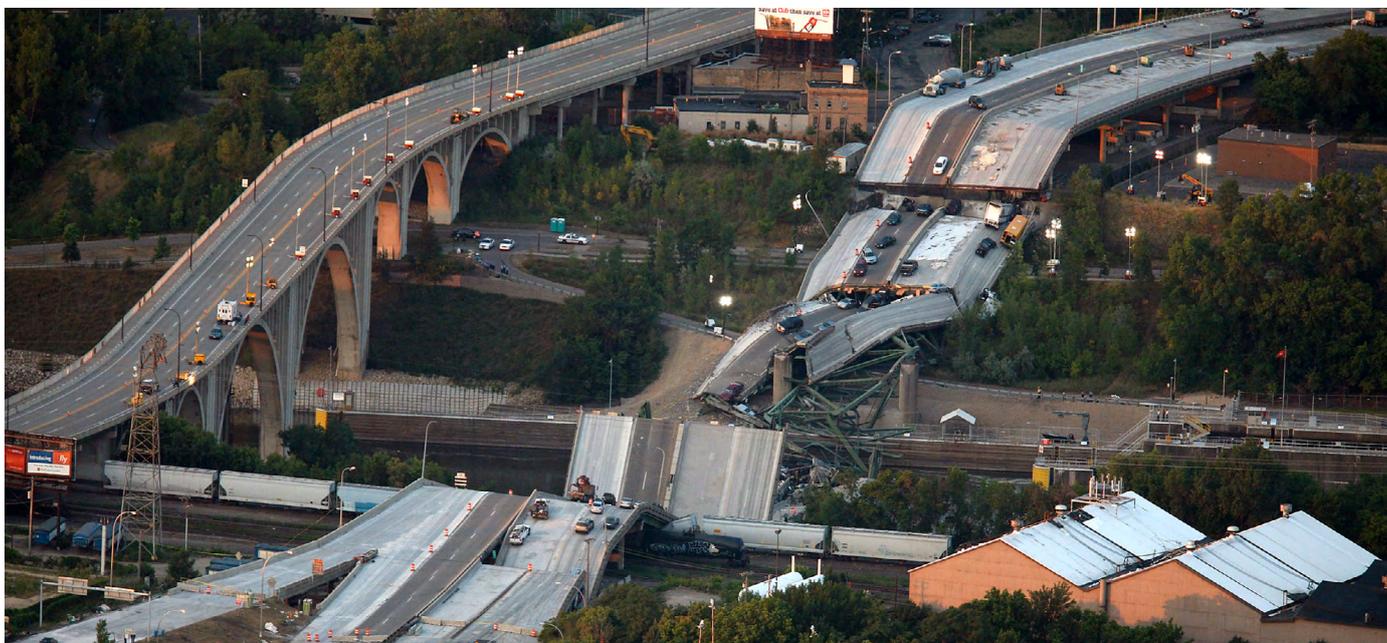


WORKSHOP EXTENDING THE SERVICE LIFE OF CIVIL STRUCTURES – TOWARDS A SHARED INNOVATION PROGRAMME



TNO innovation
for life

All over Europe, structures such as bridges, viaducts and locks are nearing the end of their service life. Meanwhile, traffic loads are increasing. The degradation of materials determines the long-term safety of the structures. Replacement and renovation are costly, and cause inconvenience for users. Service life can be extended by anticipating degradation, carrying out repairs or taking preventive measures. In order to plan this work properly, infrastructure operators need to know what type of maintenance is required and where, and which resources will produce the best result for the lowest outlay.

Decisions such as these require knowledge of the type of maintenance that is needed. For the past twenty years, TNO has specialised in assessing the structural safety and service life of civil and other structures. We use methods such as assessing load-capacity reserves, and we carry out measurements and load tests to reduce uncertainty. These methods help to produce more accurate service-life calculations, and therefore also help to make structures more reliable.

When maintenance is a necessity, expert knowledge of maintenance techniques is essential. In the first place, maintenance work must be geared to extending the service life of existing structures, thereby avoiding the unnecessary replacement of structures and the related costs.

KNOWLEDGE-SHARING AT EUROPEAN LEVEL

TNO has in-depth specialist knowledge of all aspects of monitoring and maintaining civil infrastructure and extending its service life. This knowledge is mostly used in projects in the Netherlands, but can also be applied in other countries in Europe. Other European knowledge institutes, in turn, have expertise that can be of use in the Netherlands. It therefore makes sense to exchange knowledge more often at European level. TNO is aiming to provide an added stimulus with the workshop 'Extending the Service Life of Civil Structures – Towards a Shared Innovation Programme'.

For more information about the workshop, please contact Jeroen Kruithof: tel. +31 88 866 32 44, e-mail jeroen.kruithof@tno.nl.

Further information about TNO's techniques for extending service life can be found at TNO.NL.

JOINT INTERNATIONAL APPROACH

During the workshop, prominent speakers will present their visions for future developments in the monitoring and maintenance of concrete and steel civil infrastructure. They will also share their knowledge of innovative technologies, and there will be plenty of opportunity for contributions from participants.

In this way we can bring about an exchange of knowledge that participants can use in their own country. This can ultimately result in a joint international approach and a shared R&D agenda, enabling cost savings and the more efficient use of scarce resources, and reducing nuisance for infrastructure users.

PROGRAMME

10.00-10.45 Welcome

10.45-11.00 Opening by Arie Bleijenberg (TNO)

11.00-12.30 Challenges of ageing European infrastructure

- Prof. dr Werner Rothengatter – KIT and advisor to the Pällmann Commission and Daehre Commission (Future of transport infrastructure financing)
- David Ashurst – Associate Director, ARUP

Workshop: Exploring European collaboration

- Kim van Buul-Besseling (TNO)
- Dr Hanneke Duijnhoven (TNO)

12.30-13.30 Lunch

13.30-14.30 Parallel sessions about ageing structures

Steel structures, led by Prof. dr Johan Maljaars (TNO)

- Frank van Dooren (Rijkswaterstaat): Experience and future challenges with existing steel civil structures in the Netherlands
- Heinz Friedrich (BAST): Practical experience, solutions and research into steel bridges in Germany
- Remaining service life of steel structures: practice in offshore; speaker follows

Concrete structures, led by Prof. dr Raphaël Steenbergen (TNO)

- Prof. dr Robby Caspeele (University of Ghent): Safety of existing structures: linking theory and practice
- Prof. dr Max Hendriks (Norwegian University of Science and Technology): Future in FEM for concrete structures
- Peter Tanner (IETcc-CSIC and CESMA Ingenieros): Innovative methods for the preservation and retrofitting of existing structures
- Claus K. Larsen (Norwegian Public Road Administration): Present and future challenges of aging concrete infrastructure in Norway

14.30-16.00 Workshop: Exploring promising innovations and collaborative R&D
Kim van Buul-Besseling (TNO) and Dr Hanneke Duijnhoven (TNO)

16.00-16.30 Conclusions, Arie Bleijenberg (TNO)

16.30-18.00 Drinks reception

DATE

November 27

LOCATION

Sheraton Airport Hotel & Conference Center, Amsterdam

TNO.NL

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