



Finding new ways.



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FINDING NEW WAYS.



OUR ACTIVITIES AND AIMS

The Austrian Research Association for Roads, Railways and Transport (Österreichische Forschungsgesellschaft Straße - Schiene - Verkehr - FSV) - has a very long history. It was founded in the 1950s as a specialised subgroup of the Austrian Association for Engineers and Architects under the name "Roadway Research Association" (Forschungsgesellschaft für das Straßenwesen). Till now, the scope of the Organisation's activities expanded and therefore the whole fields of roads, railways and transportation was included.

Today the FSV is a big platform for experts who deal with designing, planning, constructing, maintaining and operating with and in transportation structures. The FSV regards itself as a competence centre for all professionals working in economics, science and administration. In its capacity as the contact agency for both clients and contractors, the FSV acts as connector between the public and the private sector in traffic and transportation.

The FSV defines the state of the art in engineering by preparing guidelines for both road and railroad engineering. In preparing and revising these guidelines, the FSV pursues the aim of guaranteeing optimised, safe and sustainable transportation infrastructure including contract related aspects and the standardisation of specifications of works.

The FSV committees form a network of more than 1,400 experts related to the exchange of knowledge and the research development on national and international level.

The main duty of the FSV is to develop, to document and to communicate the knowledge gained in the fields of roads, railways and transportation combining science, economics and administration.

The managing board is the leading committee of the FSV and is supported by some expert committees. Recommendations from the experts may be adopted by the managing board. This board consists of top representatives of road and railway transportation entities as well as representatives of the Austrian Federal Ministry for Climate Action, Environment, Energy, Moblility, Innovation and Technology, and top representatives from engineering companies, science and construction industry. The chair led by Univ.-Prof. Dr.-Ing. Martin Fellendorf prepares topics for decision making by the managing board.

CHAIR, BOARD AND COMMITTEES

Chair:

Univ.-Prof. Dr.-Ing. Martin Fellendorf | Technical University of Graz

Deputies:

Dipl.-Ing. Judith Engel, MBA MSc MSc | ÖBB Austrian Railways
Dipl.-Ing. Vera Hofbauer | Austrian Federal Ministry for Climate Action,
Environment, Energy, Mobility, Innovation and Technology
Dipl.-Ing. Georg Kichler | Werner Consult ZT-GmbH

Further boards members:

Dipl.-Ing. Josef Decker | Government of Lower Austria

Dipl.-Ing. Dr. Eva Eichinger-Vill | Vill ZT GmbH

Dipl.-Ing. Andreas Fromm | ASFINAG

Dipl.-Ing. Dr. Peter Lux | Magistrate of the City of Vienna

Dipl.-Ing. Dr. Christian Molzer | Government of Tyrol

Univ.-Prof. Dipl.-Ing. Dr. Norbert Ostermann | Technical University of Vienna

Dipl.-Ing. Martin Russ | (coopted) AustriaTech

Dipl.-Ing. Hubert Wetschnig | Porr





MANAGING BOARD

GENERAL SECRETARY

14 Working groups

Working Committees ROADS

Working Committees RAILS

Committees

Advisory Committee ROADS

Advisory Committee RAILS

Approval Committee ROADS

Approval Committee BRIDGES

Approval Committee RAILS

Advisory Committee Traffic Signs

Steering Committee

Advisory Committee Road Safety

Monitoring Group Climate Agreement and Transportation

WORKING GROUPS AND COMMITTEES IN DETAIL



ASPHALT ROADS

- Quality Assurance
- Reclaimed Asphalt
- Maintenance
- Asphalt Research
- Layers of Hot Bituminous Mixes



CONCRETE ROADS

- Concrete Pavements in Highways
- Maintenance and Operation
- Other Concrete Paved Streets
- Concrete Technology and Research



BRIDGE CONSTRUCTIONS

- Specifications of Works for Bridge Constructions
- Waterproofing and Pavement Layers on Bridges
- Fundamentals of Planning and Design
- Bridge Equipment
- Bridge Maintenance and Database
- Corrosion Protection
- Monitoring and Inspection of Bridges and Other Engineering Structures
- Service Descriptions for Bridge Constructions



FUNDAMENTALS OF TRANSPORTATION

- Economic Efficiency and Financing
- Traffic Demand
- Traffic Telematics
- Ethical Questions in
- Transportation Planning
- Traffic Analyses
- Mobility Management
- Road Traffic Census
- Freight Traffic
- Traffic Modeling
- Traffic Policy and Politics
- Autonomous Driving



- Conditions and Guidelines
- Technology and Inspection
- Technological Mineralogy
- Protection of Slopes and Banks Using Heavy Stones
- Stone Pavements, Stone Slabs and Kerbs



PLANNING AND TRANSPORT SAFETY

- Alignment and Cross Section Design
- Junctions
- Operational Aspects of Transport Safety
- Transportation Experts
- Motorcycle Traffic
- Railway Crossings
- Strategic Planning for Transport Safety
- Structural Transport Safety
- Road Requirements

TUNNEL CONSTRUCTIONS

Tunnel Constructions in Urban Areas

 Maintenance and Operation - Operational and Safety Facilities Ventilation and Fire Extinguishing Systems Service Descriptions for Tunnel Inspections

 Constructional Fire Safety Tunnel Construction Site Safety

Tunnel Communication

Construction Design

Tunnel Lighting

Photovoltaic Systems

Risk Analysis

- Specifications of Works for Tunnel Constructions

Service Descriptions for Tunnel Maintenance

- Rural Roads and Tracks in Rural Areas
- Service Descriptions for Street Planning
- Visual Signations and Disturbances



ROAD PAVEMENT

- Specifications of Works for Road Constructions
- Design of Road Pavements



SUBGRADE

- Soil Consolidation
- Geosynthetics in Road Construction
- Structures against Natural Disaster
- Embedded Pipes and Outlets
- Farthworks



- Monitoring and Assessments of Roads
- Road Drainage Systems
- Slit Trenches



TRANSPORTATION AND ENVIRONMENT

OPERATION OF ROADS.

Management of Road Operations

Internal Communication Systems

Reclaiming materials in road operation

Traffic signs and directional signs

Fundamentals of Training

Construction site security

Vehicles and Equipment for Road Maintenance

ROAD EQUIPMENT

Winter Service

Road Markings

Wrong-way drivers

Crash barriers

E Mobility

- Protection of Soil and Waterbodies
- Traffic related Noise
- Traffic related Air Quality
- Environmental Assessment
- Amphibian Protection
- Landscaping
- Environmental Site Oversight and Support
- Specifications of Works for Water Supply and Sewage
- Specifications of Works for River Engineering
- Restauration and replacement measures
- Bird Protection
- Wildlife Protection
- Protection of Endangered Species
- Mammals in the Wild
- Bat Protection
- Bioengineering



URBAN TRANSPORTATION

- Urban Transport Planning and Land Use in Urban Areas
- Touring Coaches
- Accessibility and Design of Public Spaces
- Child-Friendly Transportation
- Strategic Traffic Management
- Active Mobility
- Installation and Operation of Traffic Signals
- Optimization of Urban Public Transportation
- Urban roads



- Effects of Vibrations and Secondary Noise
- Railway Tunnel Constructions
- Noise Protection Barriers
- Railway Stations
- Dangerous Goods
- Experts for Railway Engineering and Operation
- Railway Noise
- Service Descriptions for Railway Structures
- Environmental Design and Landscaping
- Superstructures
- Specifications of Works for Superstructures
- Road Infrastructure surrounding Railway Tracks
- Regional and Branch Lines



TENDERING PROCESS FOR ENGINEERING WORKS

- Value Engineering
- Specifications of Works
- Awarding Criteria
- Public Procurement System Conditions of Contracts
- Service Descriptions for Surveying
- Index of Prices and Costs
- Certification of Conformity
- Inspection Record
- General Catalogue of Constructional Elements

Environment Dangerous Goods

Seite 1

MANIPULATION OF FLAMMABLE LIQUIFIED RVE 04.04.01 PETROLEUM GAS (LPG) ON RAILWAY INFRASTRUCTURES

Umwelt Gefährliche Güter

Manipulation von entzündbaren Flüssiggasen auf Eisenbahnanlagen

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WG: Railway WC: Dangerous Goods



This RVE was subject to a notification procedure. In relation to the translation only the German version is valid.

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Road Planning Rural Roads Geometric Road Design

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SPATIAL ALIGNMENT Issued 1st April 2022

RVS 03.03.21

Straßenplanung Freilandstraßen

Trassierung Räumliche Linienführung

Table of contents

1	Scope
2	Terminology
3	General
4	Requirements for spatial alignment
4.1	Requirements with relevance for road safety
4.2	Requirements with relevance for the aesthetic effect
5	Effects through planting
6	Cited Guidelines
7	Appendix - Image examples

Scope

This RVS is to be applied as a supplement to RVS 03.03.23 for the new construction and rerouting of rural roads.

However, this RVS is not applicable for road tunnels with a length of 80 m or more and for rural minor roads and rural access roads.

RVS 09.01.21 is to be applied for the alignment of road tunnels 80 m and longer, RVS 03.03.81

is to be applied for rural minor roads and rural access roads. However, analogous consideration of the present RVS may also be expedient here.

2 Terminology

The definitions of the FSV-dictionary apply and additionally:

Positional change of the direction of the road, usually composed of the design elements clothoid and circular arc.

Spatial alignment

Three-dimensional course of a road route

3 General

Good spatial alignment is an essential prerequisite for the safety and traffic quality of a road. With a spatially well-coordinated arrangement of the design elements in position and height, a visual guidance can ideally be achieved that allows the vehicle driver to clearly identify the course of the road with the standard elements of road equipment (longitudinal markings, deli-

WG: Planning and Traffic Safety WC: Alignment and Cross Section design



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Technical Contract Conditions Surface Protection and Sealing of Metal

QUALITY CRITERIA APPLICABLE TO COMPANIES FOR CARRYING OUT CORROSION PROTECTION WORKS FOR SURFACE PROTECTION AND METAL SEALING

Issued 1st April 2023

Technische Vertragsbedingungen Oberflächenschutz und Abdichtung von Metall Qualitätskriterien für Unternehmen zur Ausführung von Korrosionsschutzarbeiten für Oberflächenschutz und Metall auf der Baustille

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1	Scope of application
2 2.1 2.2	Terms and abbreviations Terms Abbreviations
3 3.1 3.2 3.3	General information for approvals Temporary approval Approval Recertification approval.
4 4.1 4.2 4.3	Requirements Company-related minimum requirements Company-related minimum requirement for the scope of training of the staff Construction site-related minimum requirements for the number of personnel as well as machinery and equipment. Transitional provision (reclassification of existing or temporary approvals)
5	
-	Quoted guidelines, standards, and further literature
6	ANNEX: Information tables for tendering

0 Preliminary remarks

Goods which have been lawfully placed on the market in another Member State of the Euro-pean Union or in Turkey, or which originate from an EFTA State party to the Agreement on the European Economic Area and have been lawfully placed on the market there shall be deemed compatible. The application shall be subject to Regulation (EU) 2019;515 of the European Par-liament and of the Council of 19 March 2019 on the mulual recognition of goods lawfully mar-keted in another Member State and repealing Regulation (EC) No 764/2008.

1 Scope of application

This RVS is to be applied for metallic coatings and organic coatings of the surfaces of steel and aluminium in the course of the construction or repair of bridges, traffic structures and their ancillary structures by site corrosion protection.

WG: Bridge Design and Construction WC: Corrosion Protection

This RVS was subjected to a notification procedure. In relation to the translation only the German version is valid.



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WE CREATE RULES FOR THE TRAFFIC.

RVS and RVE published by the FSV represent the state of the art. During designing and construction stages we recommand them.

RVE - guidelines for planning, construction and maintenance of rails, and RVS - guidelines for planning, construction and maintenance of roads, support all companies, experts, roads and rails operators and administration in planning and construction work.

The use of these "rules" guarantees a uniform quality level in terms of planning, construction and operation of transportation infrastructures and provides high level safety and quality for the customers of the infrastructures. Thus, at the same time national economic benefits are generated as well.

Today more than 350 RVS and RVE are developed and administered by experts working committees. The voluntary members of these committees are sent from administration offices, planning bureaus, science, construction industry and infrastructure operators.

TENDERING AND CONTRACT REGULATIONS

According to the Austrian Federal Contracts Act the development of contract documents shall follow standardized specifications.

These standardized specifications of works are compilations of standardized texts, which make reliable comparisons of different offers possible.

Since 2008 the standardized specifications of works for traffic and infrastructure (LB-VI) has been widely used as a basis for the preparing of tender documents in civil engineering. Continuously improved and updated it brings together clients and contractors. It has become a standard system widely used in the field of civil engineering.

An impressive milestone in the collection standardized texts was the compilation of different fields of civil engineering, the fields of water supply and sanitation, river engineering and traffic and transport planning. The actual LB-VI includes most of the specification texts that are relevant for civil engineering. Amongst others it includes the fields of road construction, landscaping, bridge construction, rail superstructure and landfill construction.

In 2021 version 6 of LB-VI was published. The FSV will continue to provide regular improvements and updates with the collaboration of 170 experts in order to maintain the high quality level of this compendium. Eight working committees are working together to provide the state of the art in the LB-VI.



Green bridge

Dictionary Transportation & Infrastructure German – English, English – German **Corrosion protection**

Asphalt

Portal area

ygroscopicity

Engineering

Geoinformation

Reclaimed asphalt

Construction inspections

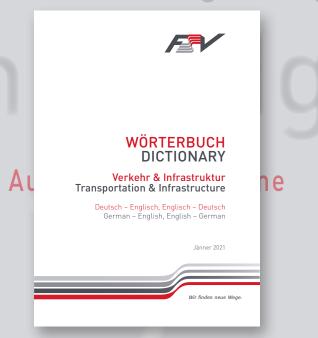
Mobility

Corrosion protection

Impact strength

Envelope spectrums

Jet grouting



DO YOU UNDERSTAND EXPERTS?

The technical vocabulary in the field of transportation becomes more complex – the international exchange gets more important.

This is the reason why the FSV develops dictionaries in the field of transportation.

The following published editions were developed:

- Dictionary Transportation Term Definitions (only in German)
- Dictionary Transportation & Infrastructure German English, English – German
- Digital Dictionary Term Definitions in German completed by English terms

Facts:

- Term definitions (only in German): > 18.500
- Translated terms (German and English): > 6.000
- Sources: laws and regulations, LB-VI, RVS, RVE, DIN, ÖNORM, ASFINAG. EN
- Topics: transportation planning, transportation safety, transportation and environment, tendering and contracting, road construction, bridge construction, tunneling, railway construction and landscaping as well as quality assurance with regard to both planning and construction.

According to EU directive 2008/96/EG – Road infrastructure safety management – specialists trained in road safety have to carry out road safety audits (RSA) and road safety inspections (RSI) regularly.

The FSV has published the following guidelines for the education and the certification of experts for RSA and RSI:

- RVS 02.02.33 Road Safety Audit
- RVS 02.02.34 Road Safety Inspection
- RVS 02.02.35 Certification of Road Safety Auditors and Road Safety Inspectors

The FSV has developed a training module system lasting several days as a basis for achieving the certification. The aim is to offer advanced training according to directive 2008/96/EG to highly qualified traffic and transport planning experts and in similar other fields of engineering. The FSV Advisory Committee Road Safety has been established to develop training programs, to coordinate the courses for interested experts and finally to evaluate the quality of these experts. Only the best are gaining certifications.

The FSV has thus established itself as a competent Austrian service centre for the training and evaluation of road safety auditors and inspectors. The certification can be taken also into other member states of the European Union.

EXPERTS TRAININGS



Federal Ministry
 Republic of Austria
 Climate Action, Environment,
 Energy, Mobility,
 Innovation and Technology





WITH OUR APPROVALS YOU ARE DRIVING BETTER.



Many RVS and RVE contain criteria for technical examinations the clients are responsible for. FSV-approvals confirm the conformity with the guidelines.

The FSV offers approvals for corrosion protection, bridge sealing systems and noise barrier walls.

Since 2007 the established approval for tendering and carrying out corrosion protection of steel structures is a success. The approval is building a complete system together with the LG36 of the standardized specifications of works and the corresponding RVS 15.05.11 for steel and aluminum constructions.

The RVS 08.09.04 published in 2012 offered entrepreneurs the possibility to obtain an additional licence to carry out corrosion protection works on site. On the one hand both the preparing of tender documents and the carrying out of steel corrosion protection works is much easier. On the other hand national and international industry producing corrosion protection systems forwarding their licences are no longer obliged to prove the suitability of their systems for each project and contract.

Since the publishing of the RVS for "Waterproofing Systems using Polymer-Modified Bitumen Sheets" and the RVS for "Liquid applied Waterproofing Systems" in 2015 an approval for bridge sealing systems was established. Furthermore, in 2015 also the approval for noise barrier walls used for railtracks was developed using the RVE 04.01.01.

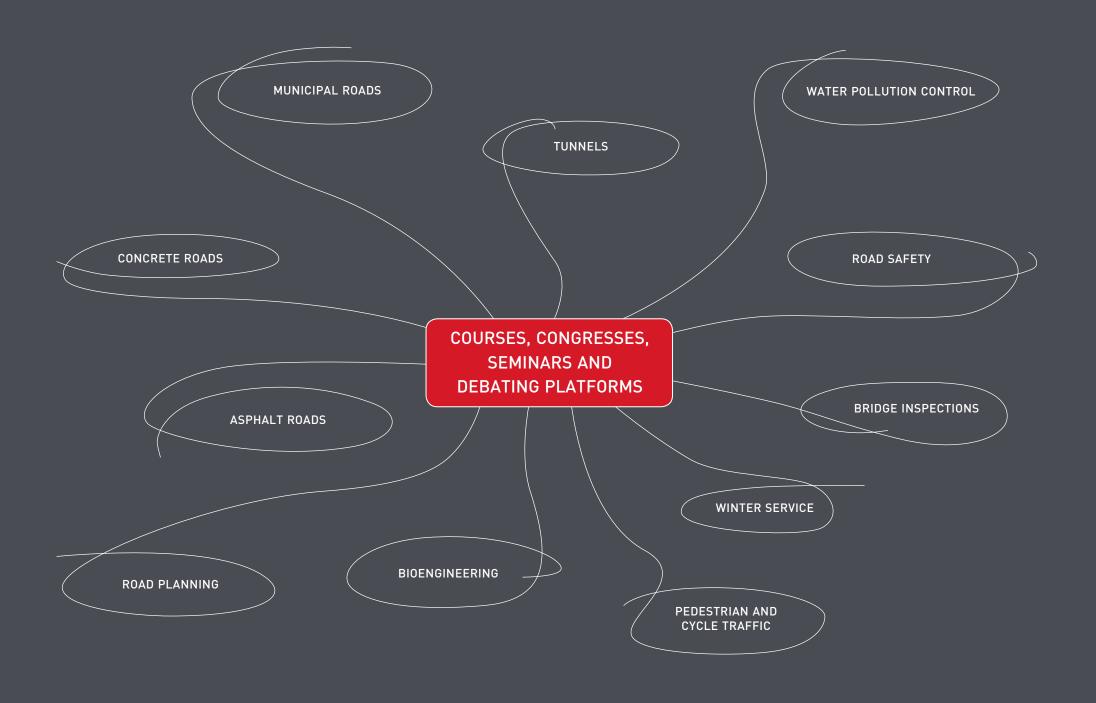
The more than 200 certificates of approvals for corrosion protection, bridge sealing systems and noise barrier walls can be downloaded from the FSV-website up-to-date.

One of the most important FSV activities is the organisation of events aiming at distributing the knowledge collected and documented in working groups and working committees. Thus, a variety of events dealing with FSV publications and important transportation-related issues are offered regularly.

Administrative authorities, planners and builders who are using FSV publications have the opportunity to gain new knowledge by attending seminars or informative meetings. For all experts from various fields education is offered. Large meetings and congresses offer good opportunities for immediate knowledge exchange and networking. Therefore, they are very well attended, attracting hundreds of participants. The FSV provides experts debating platforms and panel discussions.

When planning such events, special attention is paid to collaborate with other entities such as transportation associations, universities, ministries, Austrian provinces and building associations in order to address a broader audience.

EDUCATE, DEBATE, NETWORKING





STAY **INFORMED** IN ALL QUESTIONS OF TRAFFIC AND TRANS-PORT!

FSV-Transportation Day is Austria's most important event within the transportation sector taking place in Vienna every year. Each year it is a favourite connecting event for experts and it is attended by a great number of decision makers for road and rail administration. The Transportation Day is offering an ideal platform for networking and exchanging knowledge.

Lectures held by transportation experts concerning new developments have always been and a fixed part of the annual FSV-congress and always will be. It offers a great variety of lectures covering the majority of transportation topics. A list of former Transportation Days can be found at www.verkehrstag.at.

The exhibition accompaning the congress offers the ideal framework for connecting attendees, companies and lecturers. Additional effect: attendees gain further knowledge in the field of transportation while having the opportunity of making new contacts for benefits in the future.

The FSV-administration office is also the chair of Austrian National Committee of the World Road Association (PIARC). Austria is one of 142 PIARC member states.

The FSV is connected to many international organisations mainly to the associations in Switzerland (VSS) and Germany (FGSV). In annual international meetings a lot of experience in the field of transportation is exchanged.

Furthermore, a regular exchange of mindsets with the association in Hungary (MAUT) has led to a cooperation of experts and administration. Close contacts are also maintained with the Slowenian road research association (DRC).

INTER-NATIONALLY CONNECTED

















ANY QUESTIONS?

The team of the FSV led by the Secretary General Martin Car, MSc, provides support in all matters related to professional, organisational, event-related and administrational know-how. We keep you informed about possible media in relation to the level of specification needed.

FSV-Website

Current information is available at www.fsv.at.

The website contains information about:

- Upcoming courses and events
- RVS (Guidelines for Planning, Construction and Maintenance of Roads)
- RVE (Guidelines for Planning, Construction and Maintenance of Railways)
- Specifications of works used in the fields of transportation and infrastructure
- Published papers (road research journals, traffic censuses, journal series, etc.)
- FSV-approvals
- · Certifications of RSI and RSA experts
- The organisation itself and leading transportation experts

FSV-Shop

The FSV Shop is our web-based distribution system. Guidelines, instructional documents, working papers, specifications of works, etc. are available via the online shop.

FSV-Intern

The FSV internal communication system provides for both communication and exchange of information between all working committees, members and employees.

FSV-Newsletter

The monthly FSV newsletter in German offers current updated information about newest releases and upcoming events via e-mail for interested persons and companies.

FSV-aktuell - the official publishing voice of the FSV

- The journal "FSV-aktuell" is the official print medium of the FSV.
 It includes information about FSV activities and updated guidelines.
- The road journal "FSV-aktuell Straße" is published monthly as a supplement to the journals "Straße + Autobahn" (roads and highways) and "Straßenverkehrstechnik" (Road Traffic Engineering).
- The rails journal "FSV-aktuell Schiene" covering rail transportation is published four times a year as a supplement to the journal "ETR – Eisenbahntechnische Rundschau" (railway engineering review).

Around 1,400 individuals and companies are members of the FSV. Ministries, provincial governmental athorities, communal departments and operators of roadway and railway tracks are counted among as well as the construction industry, designing offices, research units, product manufactures, test labs and technical specialised schools.

Full members are independent, volunteer experts in designing, construction and operation in traffic and transport facilities (roads and rails). They are permanently involved in the duties of FSV and are well-informed.

In addition to full members, many legal entities and individuals are regularly sponsoring the association as **extraordinary members**.

Extraordinary sponsoring members are mostly independent companies working in the field of transportation and are supporting (sponsoring) the FSV through annual contributions. This offers them many advantages referred to below:

- 5 vouchers for free entry to informational afternoon events covering topics from guidelines
- 5 tickets for free entry to the FSV-Transportation Day
- Reduced prices for joining FSV-lectures (member conditions)
- Regular current information
- Sponsors are listed in the FSV-annual report
- Preferential treatment with regards to public visibility of your company
- Price reductions with regards to both sponsoring and exhibitions
- Participation in the annual FSV-Plenum

OUR MEMBERS ARE TRANSPORTATION EXPERTS.





















































GRASPOINTNER

Sustainable innovation.









































Impressum

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