



Eurocodes – National Implementation



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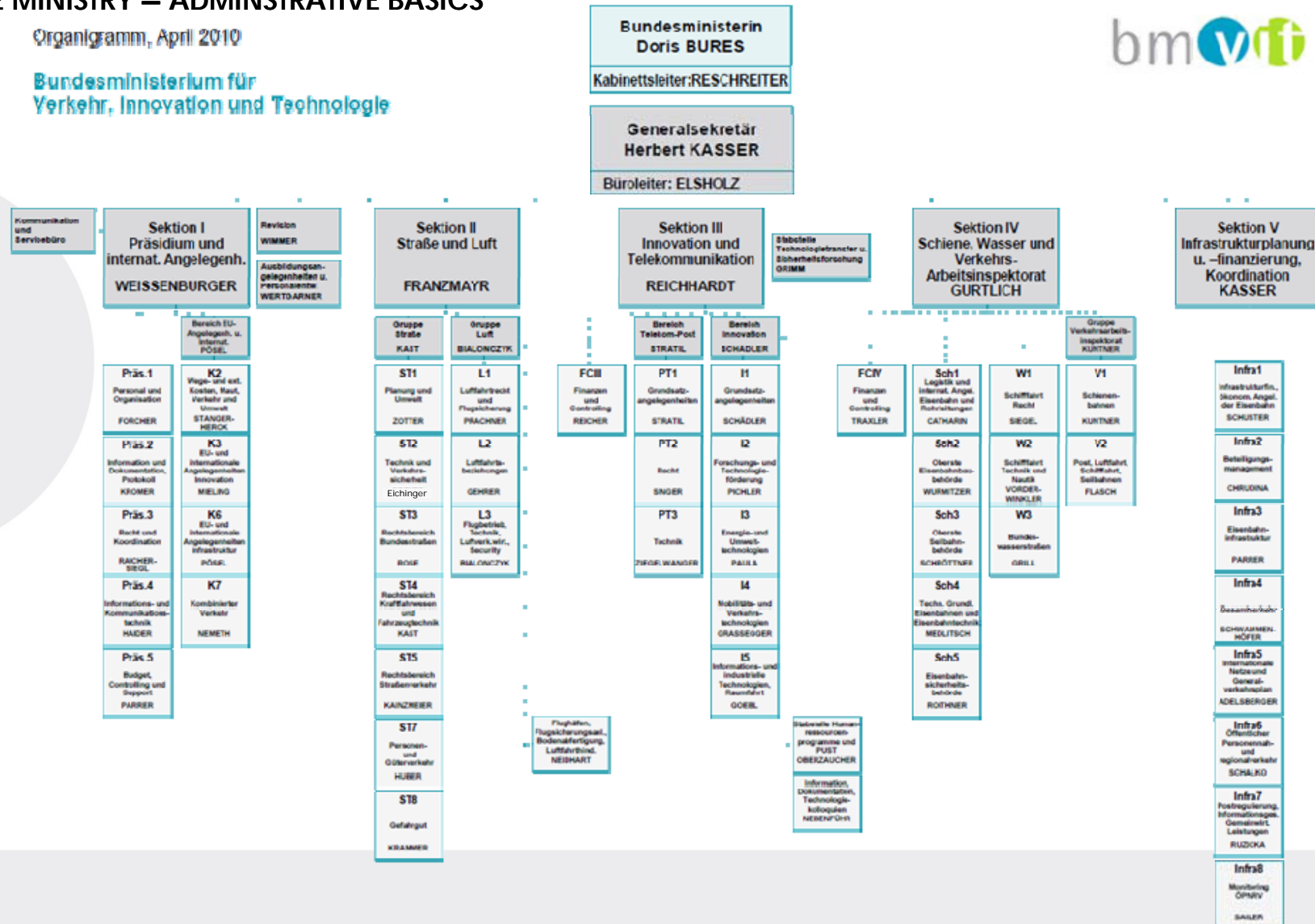


General Introduction to the Ministry for Transport, Innovation and Technology

THE MINISTRY – ADMINSTRATIVE BASICS

Organigramm, April 2010

Bundesministerium für
Verkehr, Innovation und Technologie



Organigramm, April 2010

Bundesministerium für
Verkehr, Innovation und Technologie



Bundesministerin
Doris BURES
Kabinettsleiter: RESCHREITER

**FEDERAL
MINISTER**

**SECRETARY
GENERAL**



**Department I:
Coordination &
Internal Affairs**

**Department II:
Road &
Aviation**

**Department III:
Innovations &
Telecommunications**

**Department IV:
Rail, Water &
Labour Inspectorate**

**Department V:
Infrastructure
Planning**

- Divisions for:*
- Internal Administration
 - General coordination
 - EU-policies
 - Financing strategies, toll
 - Controlling & Evaluation
 - etc.

- Divisions for:*
- Road/Aviation Transport
 - Operational affairs
 - Approval & Assessment
 - Transport Administration
 - Safety and Security
 - Goods Transport
 - etc.

- Divisions for:*
- Innovation
 - Telecommunication
 - Research
 - Technology promotion
 - etc.

- Divisions for:*
- Rail/Water Transport
 - Strategic Planning
 - Operational affairs
 - Approval & Assessment
 - Transport Administration
 - Safety and Security
 - etc.

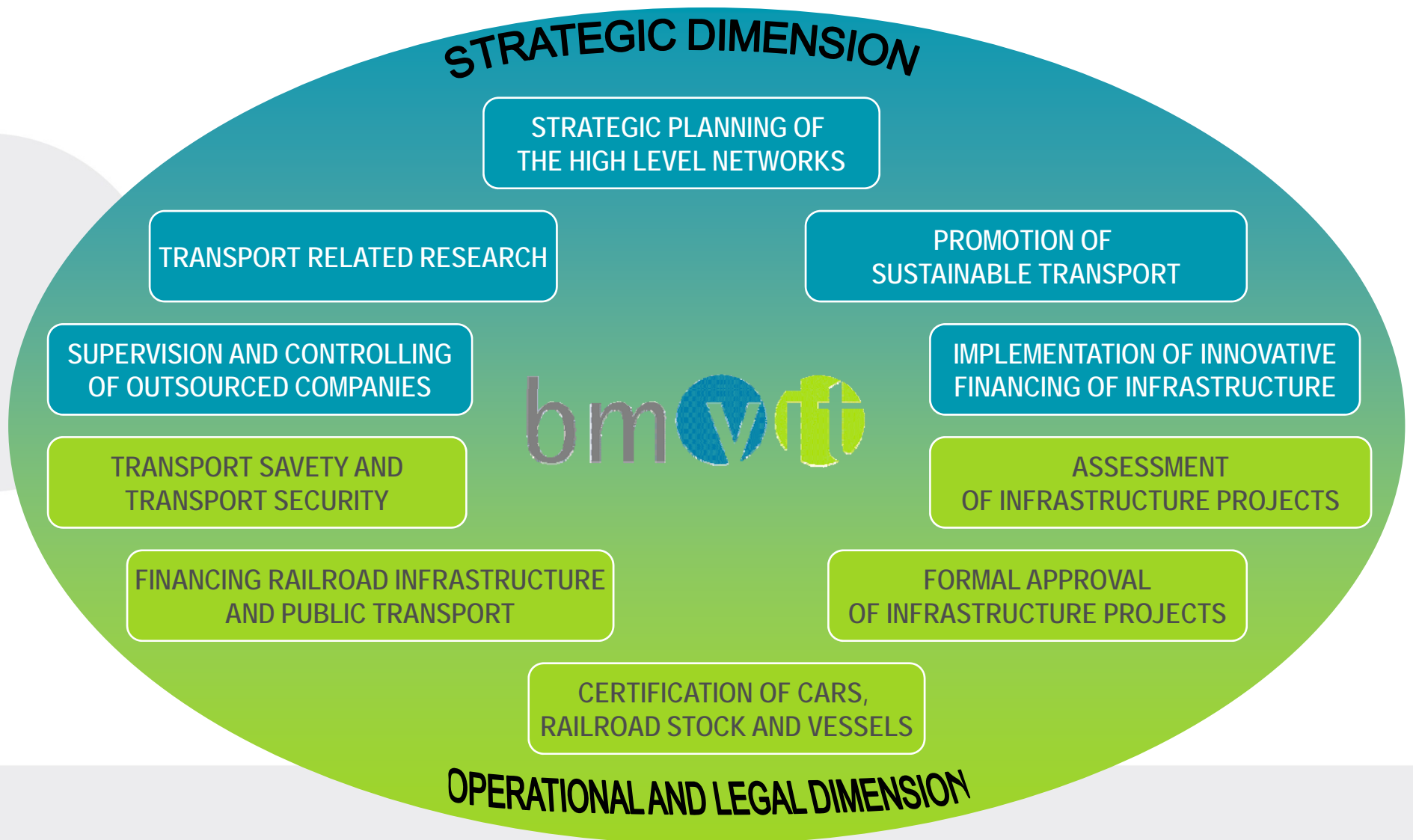
- Divisions for:*
- Strategic Affairs
 - Integrated Transport
 - International Networks
 - Infrastructure Planning
 - Infrastructure Financing
 - etc.

SIB
Grafenort
KRAMER

Elektronische
Autoguiden
NUR für UNK

Infra7
Postregulierung,
Informationsgesetz,
Gemeinnutz,
Leistungen
RIZ/DiKA
Infra6
Mitarbeiter
GmbH
KLEBER

SELECTED TRANSPORT RELATED POLICIES AND TASKS



SELECTED MAJOR OUTSOURCED BUSINESS UNITS



THE AUSTRIAN TRANSPORT NETWORKS

ROADS (km)

Highways in operation	2.100
Mid-Level Road Network	10.000
Provincial Road Network	95.000

Total + Rural Roads ca. 107.100

RAILROADS (km)

All Railroads	6.600
... consisting of ...	
Federal main network	3.600
Trunk lines network	1.800
Other Lines	245
Private lines network	590
Tramway network	365

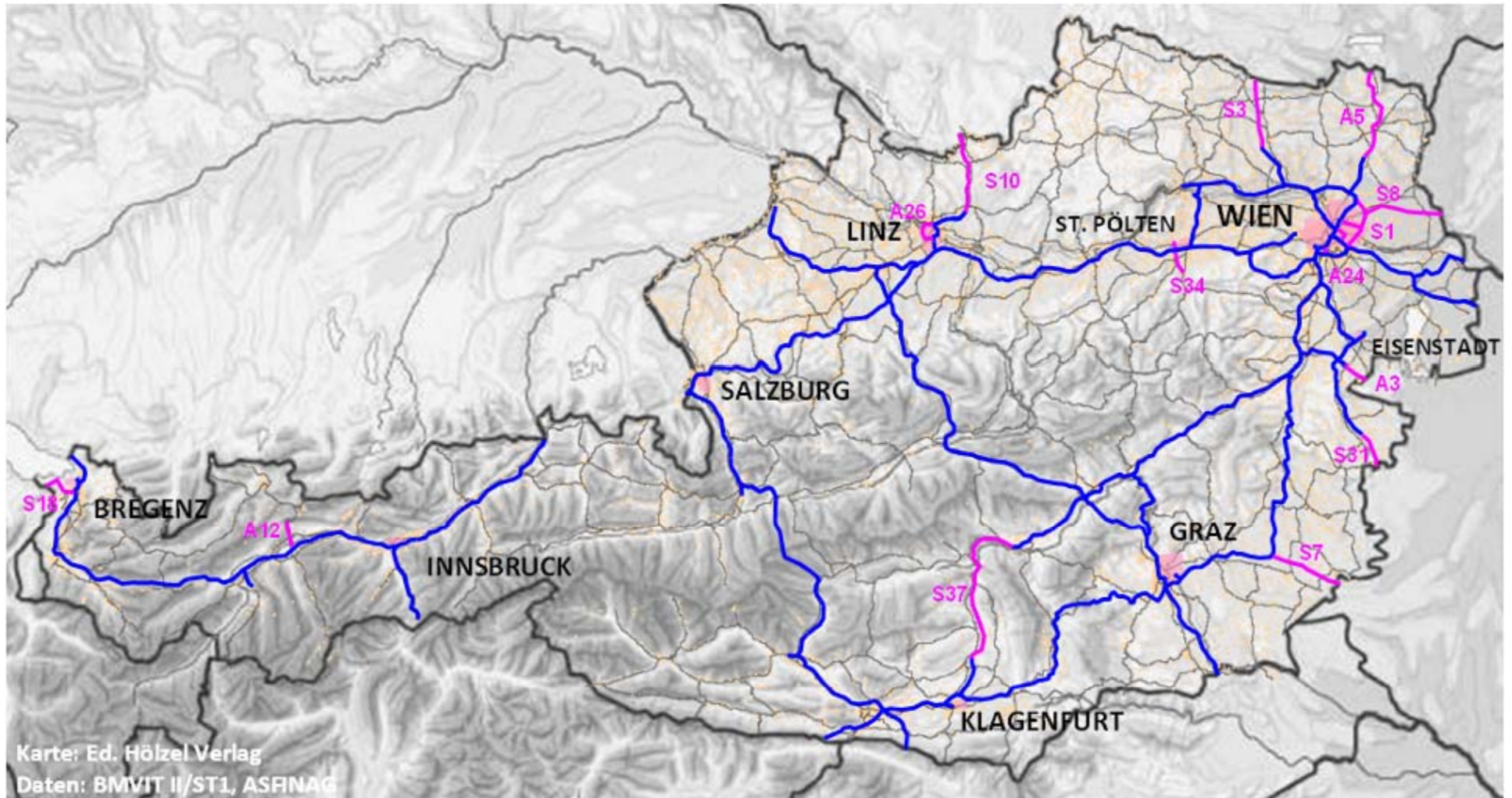
INLAND WATERWAYS (km)

Danube river	351
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PIPELINES (km)

Oil pipelines	777
Gas pipelines	2.722

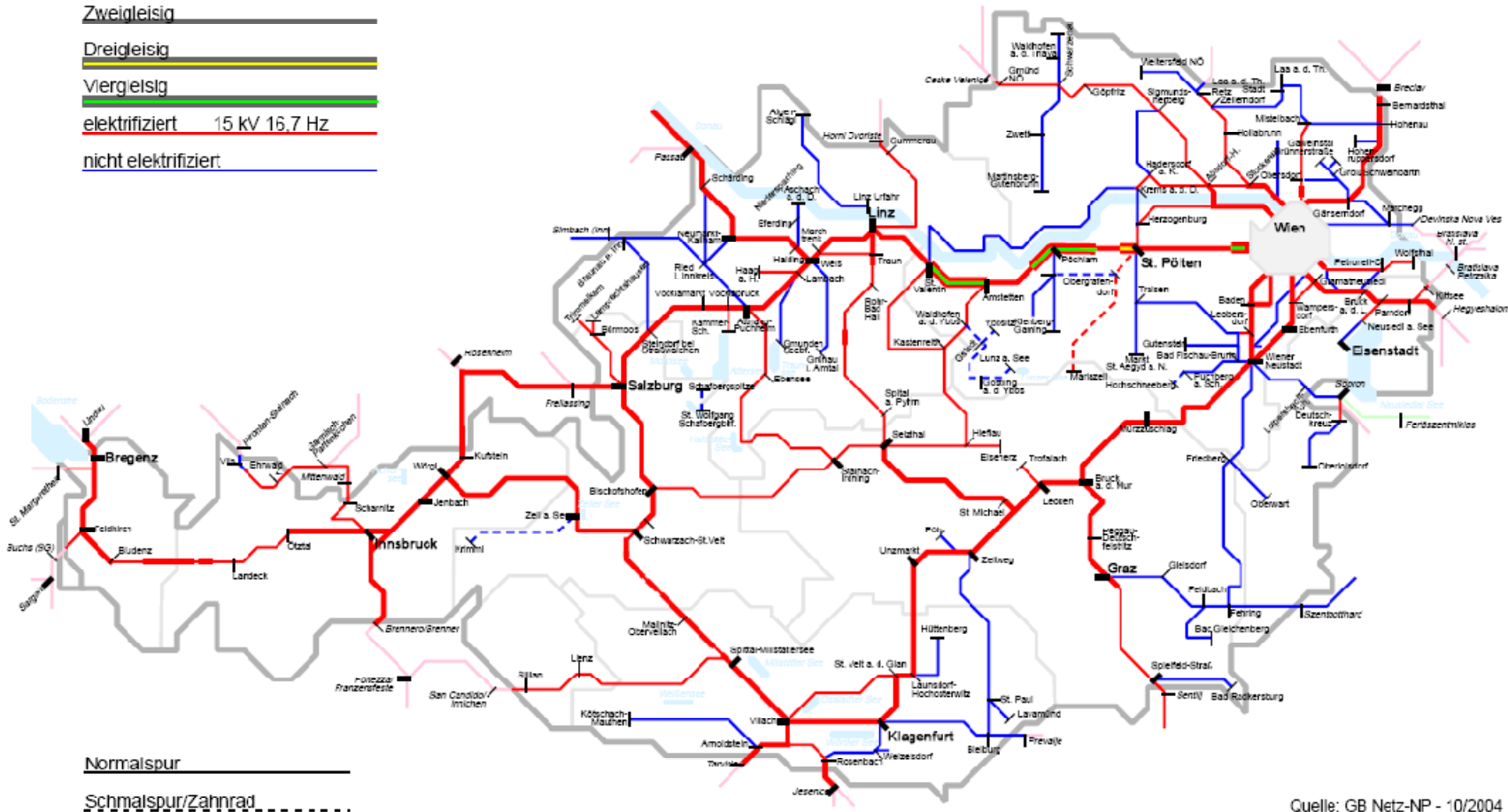
THE HIGH LEVEL ROAD NETWORK



THE RAILROAD NETWORK

Traktionsart und Anzahl der Gleise

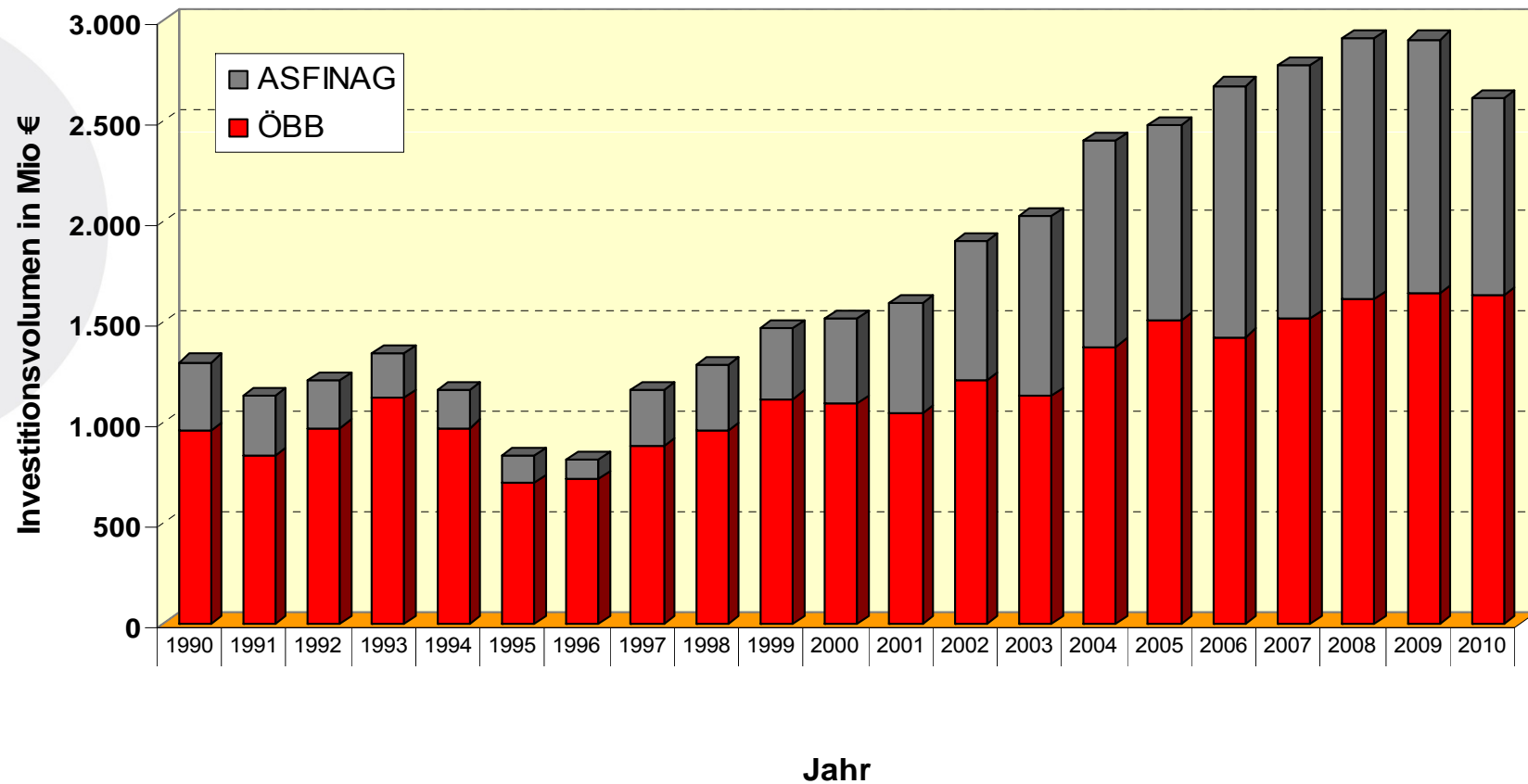
- Engleisig
- Zweigleisig
- Dreigleisig
- Viergleisig
- elektrifiziert 15 kV 16.7 Hz
- nicht elektrifiziert



- Normalspur
- Schmalspur/Zahnrad

INVESTMENTS IN THE HIGH LEVEL NETWORKS

Jährliche Investitionen in die Bundesinfrastruktur 1990 - 2010





Implementation of the EUROCODES

Questions to be answered

- How do we implement Eurocodes?
- Who is responsible for the implementation?
- Why is implementation necessary?
- Do we need national annexes?
- Who are the interested parties?

Implementation - Responsibility in Austria

ON-WG 1011.01 Eurocodes

ON-K 010
Concrete

ON-K 012
Timber

ON-K 013
Steel,
Composite
Aluminium

ON-K 176
Actions on
structures

ON-K 207
Masonry

ON-K 023
Geotechnic

ON-K 014
Bridges -
General

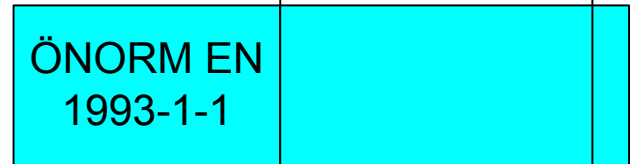
Example: Timetable Eurocode EN 1993-1-1

DOW AT
31 May 2009

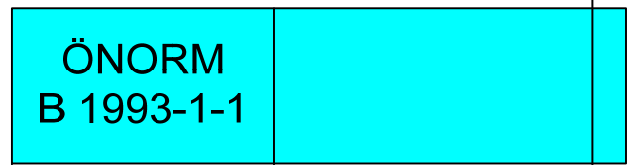


2003-12 2005-05

DOP → 2005-11 ~~DOW 2010~~
+ 6 Monate



2005-11



National Implementation of the EN Eurocodes

- Ministry of Transport in liaison with the Austrian Standards Institute and the Provinces (“Bundesländer”)
 - designed and set-up an [implementation plan](#) for the Eurocodes
 - set the [Nationally Determined Parameters](#)
 - published the [National Standards](#) (NDPs, non-contradictory complementary information) and notified the European Commission
 - adapted National Provisions so that the Eurocode Parts can be used
 - promotes [training](#) on the Eurocodes

National Implementation of the EN Eurocodes

- During the coexistence period, both the national standard transposing the Eurocode and the existing national standard were used.
- At the end of the coexistence period of the last Eurocode part of a [package](#), the Austrian Standards Institute withdrew all conflicting national standards.

National Standards, National Annex



Nationally Determined Parameters ^{1/3}

The national choice

- National Annex contains information on the Nationally Determined Parameters, to be used for the design of buildings and other civil engineering works to be constructed, i.e.
 - values and/or classes where alternatives are given in the Eurocode;
 - values to be used where a symbol only is given in the Eurocode;
 - country specific data (geographical, climatic, etc) e.g. snow map;
 - procedure to be used where alternative procedures are given in the Eurocode.
- It may also contain:
 - decisions on the application of informative annexes;
 - references to non contradictory complementary information to assist the user to apply the Eurocode.

Nationally Determined Parameters ^{2/3}

- chosen from the classes included in the Eurocodes
- the recommended value or a value within the recommended range of values was generally used
- when alternative methods were given, the recommended method, where the Eurocodes make a recommendation, was generally used
- coherence of the NDPs laid down for the different Eurocodes and the various parts thereof was taken into account

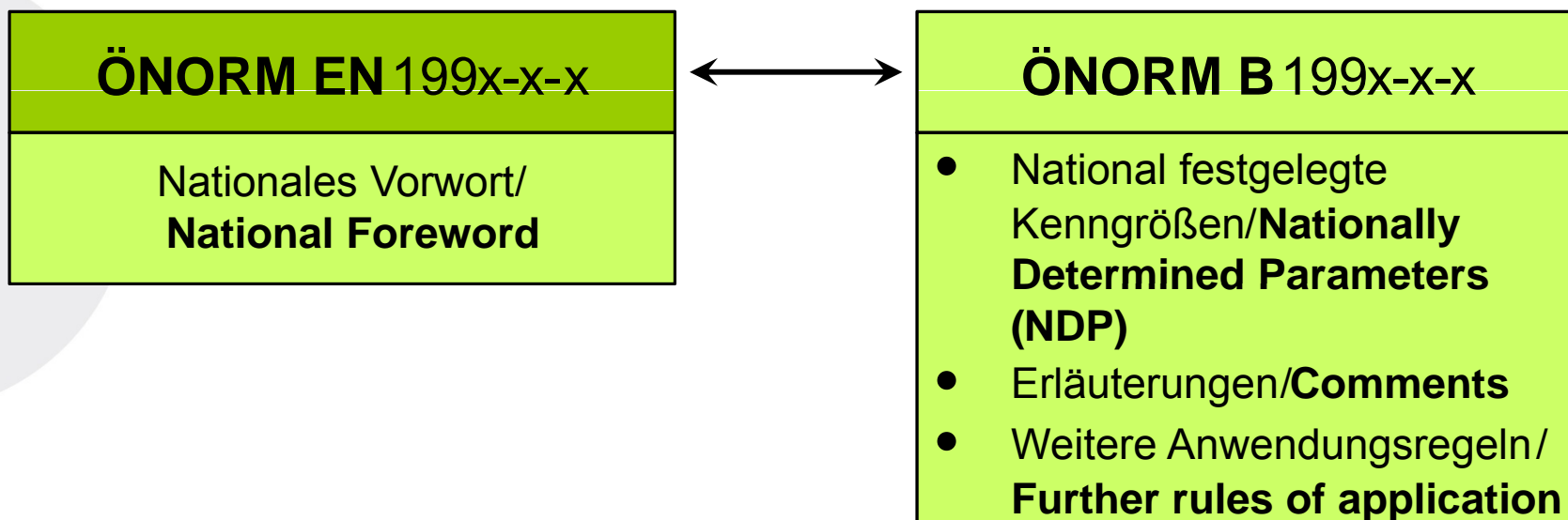
Nationally Determined Parameters ^{3/3}

- When the Eurocodes are used in Austria for the design of construction works, or parts thereof, the Austrian NDPs have to be applied.
- Austria tried to minimize the number of cases where recommendations for a value or method are not adopted for its NDPs to enhance the benefits of the use of the Eurocodes.


National Implementation in Austria ^{1/2}

- The possible national decisions to a **ÖNORM EN 199x-x-x** can be found in a **National Annex**. This is a national standard, designated **ÖNORM B 199x-x-x**, which has to be applied in conjunction with the Eurocode.
- The **connection between** those two standards is **established by a National Foreword** in **ÖNORM EN 199-x-x-x**.

National Implementation in Austria 2/2



Example



ÖNORM
EN 1991-1-1

Ausgabe: 2003-03-01

Normengruppe B
Ident (IDT) mit EN 1991-1-1:2002

Ersatz für VORNORM ÖNORM ENV 1991-2-1:1996-03


ICS 91.010.30

Eurocode 1: Einwirkungen auf Tragwerke
Teil 1-1: Allgemeine Einwirkungen – Wichten, Eigengewicht, Nutzlasten im Hochbau

Eurocode 1: Actions on structures – Part 1-1: General actions – Densities, self-weight, imposed loads for buildings

Eurocode 1: Actions sur les structures – Partie 1-1: Actions générales – Poids volumiques, poids propres, charges d'exploitation bâtiments

Die Europäische Norm EN 1991-1-1 hat den Status einer Österreichischen Norm.



ÖNORM
B 1991-1-1

Ausgabe: 2006-01-01

Ersatz für Ausgabe 2003-12

ICS 91.010.30

Eurocode 1 – Einwirkungen auf Tragwerke
Teil 1-1: Allgemeine Einwirkungen – Wichten, Eigengewichte, Nutzlasten im Hochbau
Nationale Festlegungen zu ÖNORM EN 1991-1-1 und nationale Ergänzungen

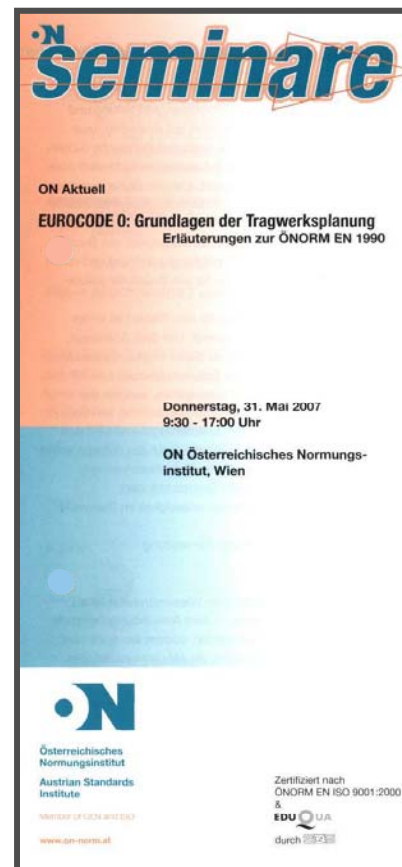
Eurocode 1 – Actions on structures – Part 1-1: General actions – Densities, self-weight and imposed loads for buildings – National specifications concerning ÖNORM EN 1991-1-1 and national supplements

Eurocode 1 – Actions sur les structures – Partie 1-1: Actions générales – Poids volumiques, poids propres, charges d'exploitation des bâtiments – Spécifications nationales concernant ÖNORM EN 1991-1-1 et suppléments nationaux

National Implementation – Details

- Eurocodes were given the status of a National Standard by publication of an identical text and conflicting National Standards were withdrawn **by 31 May 2009** (instead of March 2010)
- The National Standards implementing Eurocodes comprise
 - the full text of the Eurocode (including any annexes), as published by CEN
 - a National title page
 - a National foreword
 - the link to the [National Annex](#) in the National foreword ([own standard](#))

Dissemination process



- Designers' Guides
- Training Workshops
- Seminars
- www.eurocode.at
- Newsletters
- Handbooks

Home
Contact
German
English

Fakten & Infos

Einführung

Nationale Umsetzung

Normen und Recht

Technische Änderungen

Links

Fachbereiche

Übersicht

EN 1990 - Grundlagen

EN 1991 - Einwirkungen

EN 1992 - Betonbau

EN 1993 - Stahlbau

EN 1994 - Verbundbau

EN 1995 - Holzbau

EN 1996 - Mauerwerk

EN 1997 - Geotechnik

EN 1998 - Erdbeben

EN 1999 - Aluminiumbau

Training

Seminare

Publikationen

EUROCODES in der Praxis

Pressespiegel

[EUROCODES](#)

EUROCODES - Eine Revolution im Bereich Bauwesen findet statt!

Die Bemessungsregeln im Bauwesen werden durch die EUROCODES auf eine neue, europaweit einheitliche Basis gestellt.

Alle Daten auf einem Blick

Eine Übersicht zeigt den derzeitigen Status jedes Eurocode Teiles sowie der verfügbaren nationalen Errata Sheets - monatlich aktualisiert. → [mehr Info](#)

News

Februar 2008

ÖNORM B 1992-3
"Eurocode 2 - Bemessung und Konstruktion von Stahlbeton- und Spannbetontragwerken - Teil 3: Silos und Behälterbauwerke aus Beton - Nationale Festlegungen zu ÖNORM EN 1992-2" ist als ÖNORM B erschienen. → [mehr Info](#)

Dezember 2007

ÖNORM B 1991-1-4 Beiblatt 1
"Eurocode 1 - Einwirkungen auf Tragwerke - Teil 1-4: Allgemeine Einwirkungen - Windlasten - Beiblatt 1: Berechnungsbeispiele" ist als ÖNORM B erschienen. → [mehr Info](#)

ÖNORM B 1993-1-4
"EUROCODE 3: Bemessung und Konstruktion von Stahlbauten - Teil 1-4: Allgemeine Regeln - Ergänzende Regeln zur Anwendung von nichtrostenden Stählen - Nationale Festlegungen zu ÖNORM EN 1993-1-4 und nationale Ergänzungen" ist als ÖNORM B erschienen. → [mehr Info](#)

ÖNORM B 1993-1-11
"EUROCODE 3: Bemessung und Konstruktion von Stahlbauten - Teil 1-11: Bemessung und Konstruktion von Tragwerken mit Zuggliedern aus Stahl - Nationale Festlegungen zu ÖNORM EN 1993-1-11, nationale Erläuterungen und nationale Ergänzungen" ist als ÖNORM B erschienen. → [mehr Info](#)

→ [Archiv - Normen](#)

→ [Errata Sheets](#)

Seminare

ON-Seminar "Meteorologische Einwirkungen auf Baukonstruktionen - Windlasten" 28. November 2007, Salzburg 23. Jänner 2008, Wien

→ [mehr Info](#)

→ [Fachartikel "Wie Windlasten auf Tragwerke wirken"](#)

10 EUROCODES – 58 Basisdokumente

EN 1990

EN 1995

EN 1991

EN 1996

EN 1992

EN 1997

EN 1993

EN 1998

EN 1994

EN 1999

Anwendung der EUROCODES in Österreich

Zur Einführung der EUROCODES in Österreich wurde die ONR 21990 erstellt. Diese Regel wurde vom Ausschuss ON-W 1011.01 "ENC-EUROCODES" verfasst und beschreibt u. a. die Gültigkeitsdauer bestehender Konstruktionsnormen in Österreich (z. B. Serie ÖNORM B 4300 und B 4700).

→ [ONR 21990 - Volltext](#)

Ihr Beitrag ist gefragt!

Sollten Ihnen bei der Anwendung der EUROCODES Unklarheiten auffallen, können diese mittels nachstehender Vorlage dem ON mitgeteilt werden.

→ [Vorlage - Errata Sheet](#)

→ [Kontakt - Errata Sheet](#)

Design Handbook - Motivation

- Eurocodes are very detailed – Eurocode parts for actions on bridges sum up to approx. 1,300 pages
- EN and National Annex have to be used in parallel
- Practical, easy to use document for daily work and design of „standard“ bridges was needed
- Handbook developed by experts from the Committees responsible in the Austrian Standards Institute

Contents of the Handbook

- Basis of Design (ÖNORM EN/B 1990)
- Densities, self-weight, imposed loads (ÖNORM EN/B 1991-1-1)
- Actions due to fire (ÖNORM EN/B 1991-1-2)
- Snow loads (ÖNORM EN/B 1991-1-3)
- Wind actions (ÖNORM EN/B 1991-1-4)
- Thermal actions (ÖNORM EN/B 1991-1-5)
- Actions during execution (ÖNORM EN/B 1991-1-6)
- Accidental actions (ÖNORM EN/B 1991-1-7)
- Traffic loads (ÖNORM EN/B 1991-2)
- Seismic actions (ÖNORM EN/B 1998)

Structure of the Handbook ^{1/2}

- Inclusion of NDPs, explanatory rules and non-contradictory complementary information into the Eurocode text
- Contents that are not directly connected to bridges design were removed
- Basic structure of Eurocodes was used including headlines, only some sections have been re-grouped
- Eurocode contains many references – tried to avoid these by including the relevant text passages
- National comments and further rules of applications were added and marked in colour
- *Explanations of the authors to potentially unclear texts from the Eurocodes were printed in italic*

Result

- Document that is rather easy to use in practice or for “Eurocode newcomers”
- Summarizes all rules for actions on bridges that have to be used in Austria
- 124 pages
- Contents are conform with the Eurocode, but in case of doubt no replacement
- Valid for „standard bridges”



**Austria is glad that
a new area has begun
on 1 June 2009.**



Thank you for your kind attention.
