



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824269.

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Project Acronym: **infra4Dfuture**

Project Title: **Infrastructure for the Future**

Project Number: **824269**

Topic: **MG-2-4-2018 – Coordinating national efforts in modernizing transport infrastructure and provide innovative mobility services**

Type of Action: **Coordination and Support Action (CSA)**

D4.8 Information package for the strategic stakeholder conferences, including TRA 2020-Nr.3

Final 1.0

Deliverable:	D4.8 Information package for the strategic stakeholder conferences, including TRA 2020-Nr.3
Work Package:	WP4- Encouraging innovation and implementation through communication, exploitation and dissemination
Due Date:	M16
Submission Date:	31/01/2020
Start Date of Project:	01/10/2018
Duration of Project:	24 Months
Organisation Responsible of Deliverable:	CERTH/HIT
Version:	1.0
Status:	Final
Author name(s):	Eleni Mavropoulou (CERTH/HIT)
Reviewer(s):	Maria Boile(CERTH/HIT), Mary Panou(CERTH/HIT), Peter Wilbers (RWS)
Nature:	<input checked="" type="checkbox"/> R – Report <input type="checkbox"/> P – Prototype <input type="checkbox"/> D – Demonstrator <input type="checkbox"/> O - Other
Dissemination level:	<input checked="" type="checkbox"/> PU - Public <input type="checkbox"/> CO - Confidential, only for members of the consortium (including the Commission) <input type="checkbox"/> RE - Restricted to a group specified by the consortium (including the Commission Services)

Contents

Contents.....	3
List of Figures.....	4
List of Tables.....	4
List of Abbreviations	5
1 General Overview.....	6
2 Executive summary	7
2.1 Purpose of the document	7
2.2 3 rd i4Df Stakeholder Conference	7
3 3 rd i4Df Stakeholder Conference information package.....	12
3.1 Invitation e-mails and preparatory information for the 3 rd i4Df Stakeholder Conference.....	12
3.2 3 rd i4Df Stakeholder Conference agenda.....	12
3.3 3 rd i4Df Stakeholder Conference Power Point presentations	13
3.4 i4Df leaflets	13
3.4.1 Generic leaflet.....	13
3.4.2 Leaflet presenting Capabilities and IFAs	15
3.5 i4Df roll-up banners.....	16
3.5.1 Generic Roll-up banner	16
3.5.2 Roll-up presenting capabilities and IFAs.....	18
3.6 i4Df poster of “networks 4D inspiration”	20
3.7 Participant list.....	21
4 Conclusions.....	23
ANNEXES	24
ANNEX I: Invitation e-mails and preparatory information for the 3 rd Stakeholder Conference	25
ANNEX II: 3 rd Stakeholder Conference Power Point presentations	34

List of Figures

Figure 1: Panel with statements	10
Figure 2: Photos of the 3 rd Stakeholder Conference	11
Figure 3: Screenshot of the generic leaflet, page 1	14
Figure 4: Screenshot of the generic leaflet, page 2	14
Figure 5: Screenshot of Leaflet presenting Capabilities and IFAs, page 1	15
Figure 6: Screenshot of Leaflet presenting Capabilities and IFAs, page 2	16
Figure 7: Screenshot of the generic i4Df roll-up banner	17
Figure 8: Screenshot of the roll-up presenting capabilities and IFAs	19
Figure 9: Screenshot of the poster of networks for inspiration	21

List of Tables

Table 1: Conference agenda	12
Table 2: List of participating organizations	21

List of Abbreviations

Abbreviation	Definition
CEDR	Conference of European Directors of Roads
CEF	Connecting Europe Facility
COB	Centrum Ondergronds Bouwen
H2020	Horizon 2020 EU Research and Innovation Program
Ispim	International Society for Professional Innovation Management
NTIA	National Transport Infrastructure Authorities
TRA	Transport Research Arena
ISPIII	i4Df Stakeholder Platform for Infrastructure Innovation and Implementation
IFA	Innovation Focus Areas

1 General Overview

infra4Dfuture (i4Df) is a 24-month project under the H2020 topic of MG-2-4-2018-“infrastructure Innovation for the Future”.

i4Df will develop a demand-driven overarching strategy and coordination mechanism for the modernization of transport infrastructure including a shared strategic vision on future infrastructure capabilities and common pathways for innovation development and implementation.

Facing a variety of emerging challenges, such as climate change, resilience, ageing infrastructure, maintenance, digitalisation, automation, energy and electrification, the National Transport Infrastructure Authorities (NTIA) have urgent requirements for infrastructure innovation. In view of the long cycle times in infrastructure management and the rapid mounting pressure from these challenges, there is a need for fast delivery of ready-to-implement, cost-effective innovative solutions matching the requirements of the NTIA that jointly build the TEN-T network.

The i4Df consortium encompasses 20 partners from 17 countries, 19 of them being NTIA, joining forces to develop:

- a strategic coordination mechanism aiming to deliver a concerted cooperation and collaboration across a portfolio of relevant European and national innovation programmes and initiatives;
- a shared strategic vision on future infrastructure capabilities, each capability encompassing a series of focus areas for innovation.

i4Df is based on a sound and coherent consultation and dialogue process with relevant stakeholders. This process will be structured in a sequence of strategic, decision-making conferences and a supporting, tactical sequence of expert workshops and regional events. These will culminate in the founding of the i4Df Stakeholder Platform for Infrastructure Innovation and Implementation (ISPIII) at the TRA 2020. ISPIII will ensure a continuance of the coordination mechanism and shared vision beyond the duration of the action. Follow-up ISPIII events will take place at the consecutive biannual TRA conferences.

2 Executive summary

D4.8 (“Information package for the strategic stakeholder conferences, including TRA 2020-Nr.3”) includes and presents all the information and dissemination material that was provided to the high level participants of the 3rd i4Df Stakeholder Conference that took place in Bonn on the 12th of December 2019. Within the framework of the 3rd i4Df Stakeholder Conference, a sound information package was created aiming to inform the participating stakeholders about the scope and content of the conference as well as disseminate the project and its findings so far.

Material presented in terms of the present deliverable include two professionally designed i4Df leaflets, the conference agenda, one poster, roll-up banners along with the Power Point presentations given during the event. The deliverable has been developed by the Hellenic Institute of Transport (HIT) of the Centre for Research and Technology Hellas (CERTH). D4.8 refers to task 4.3 while the organisation of a series of stakeholder conferences refers to WP1. The enclosed invitation e-mails and the conference agenda have been produced by WP2 leader BAsT, while the leaflets and banners have been produced by CERTH/HIT. The poster “networks 4D inspiration” has been produced by LSR.

In the 3rd Stakeholder Conference, the details of the cooperation mechanism were presented for endorsement by the strategic stakeholder representatives from NTIAs, industrial lead suppliers, research providers and public-sector innovation programme owners. Core part of the Conference was a panel discussion with high-level representatives from the European Commission, NTIAs and other stakeholders of the i4Df initiative.

2.1 Purpose of the document

The communication and dissemination tools are the core means to share and promote the project and its activities to wider audiences. D4.8 deliverable aims to present the sound information package that has been developed in order to maximise the dissemination of the scope and outcomes of the i4Df initiative to the high-level participants of the 3rd Stakeholder Conference. This requisite information package includes both printed and digital material developed to reflect properly the great importance of the event. The digital material (agenda, second version of the i4Df leaflet etc.) was delivered in advance via mail to the participants of the conference while the printed material (i4Df roll-up banners, i4Df leaflets etc.) was available and displayed during the conference.

D4.8 refers to Task 4.3

2.2 3rd i4Df Stakeholder Conference

The 3rd Stakeholder Conference of the i4Df initiative took place at the Ministry for Transport and Digital Infrastructure (BMVI) in Bonn on the 12th of December 2019. This was the third in a series of four i4Df Stakeholder Conferences that will culminate in the launch of the coordination mechanism at the TRA 2020 Conference in Helsinki on 26th -30th of April 2020.

Attended by about 50 strategic stakeholder representatives from National Transport Infrastructure Authorities (NTIAs), industrial lead suppliers, research providers and public-sector innovation programme owners, the 3rd i4Df Stakeholder Conference gave the opportunity to develop an effective and structured dialogue on the needs, priorities and challenges of the forthcoming coordination mechanism for the modernization of transport infrastructure.

The Conference was opened by Ursula Blume and Bernard Gyergyay (BASt, DE) who gave the first welcome speech. Three subsequent key presentations were delivered by Birgitta Worringen (Deputy Director-General BMVI, DE), Cees Brandsen (Director RWS,NL) and Torsten Klimke (Deputy head of Unit-Innovation and Research, DG Move). All the speakers mentioned the imperative need for collaboration among the European countries towards a fully developed coordination mechanism for the modernization of multimodal transnational transport infrastructure.

Key part of the Conference was a panel discussion with high-level representatives from the European Commission (Torsten Klimke- Deputy Head of Unit, Innovation and research, DG Move, BE), National Transport Infrastructure Authorities (Przemyslaw Zukowski- Deputy Director, Ministry of Marine Economy and Inland Navigation, PL / Daniel Kilcher- Head of Strategy and Research, ASTRA, CH) and high level representatives from the i4Df consortium partners (Stefan Strick-President, BASt, DE / Anttila Virpi, Head of Strategy, Väylä, FI / Cees Brandsen-Managing Director, RWS, NL). During the panel discussion (with topic: “A cooperation mechanism that delivers value to National Transport Infrastructure Authorities”) each panellist presented and detailed a statement about the suggested cooperation mechanism. This was followed by questions from the presenters and the participants. All the Conference attendees were subsequently invited to react with a “like” or “dislike” to the six panellist statements, which were displayed on a massive panel (see Figure 1 & Figure 2).

The names of the six panellists along with their respective statements are listed below:

1. **Stefan Strick** (*President, BASt, Germany*):

*“NTIAs are joining forces in the most suitable constellations through bilateral, regional and European cooperation to tackle the challenges posed by a multitude of transformation processes. These success stories are evidence that groups of NTIAs are willing and able to take collaboration to the next level.
Value is generated through the cooperation mechanism by applying agile approaches with new partnerships that build on existing and trusted structures.”*

2. **Virpi Anttila** (*Head of Strategy, Väylä, Finland*):

*“Events like TRA and CEF/TEN-T days provide natural ‘anchor points’ for IFA ecosystems to meet and exchange their agendas, programmes and activities across the full range of innovation focus areas for transport infrastructure innovation and implementation.
Value can be generated when NTIAs meet with the IFA ecosystems to identify the best approaches to reach the capabilities for 2040.”*

3. **Przemysław Żukowski** (*Deputy Director at the Ministry of Marine Economy and Inland Navigation, Department of Water Management and Inland Navigation, Poland*):

“NTIAs have to be at the forefront of research and innovation but the coordination mechanism has to acknowledge that implementation of a network meeting their requirements is the key priority for most NTIAs.

Value is when this cooperation results in an intense exchange of the state-of-the-art for the benefit of a high quality and life-time performance of the transport network.”

4. **Daniel Kilcher** (*Head of strategy and research, ASTRA, Switzerland*):

“Different geographical scales from national, regional to European level offer NTIAs different opportunities for targeted collaboration and implementation of innovations.

Value is created when the cooperation mechanism promotes the knowledge transfer and allows NTIAs to tackle new challenges at the right scale with the right partners.”

5. **Cees Brandsen** (*Managing Director, Rijkswaterstaat, The Netherlands*):

“The structured, yet agile and flexible ways in which public infrastructure authorities are increasingly collaborating on innovation and implementation should be trusted by the EC, and therefore be mirrored in their framework programmes and other activities.

Value: the collaborative innovation activities of the public ‘issue owners’ and implementing clients will be better reinforced by the EC’s framework programmes, such as Horizon Europe and CEF.”

6. **Torsten Klimke** (*Deputy Head of Unit – Innovation and Research, DG MOVE*):

“We need to develop and deploy innovative solutions to make our transport infrastructure fit for sustainable, smart and safer mobility.

Value is created through demonstrations under real-life conditions supported by EU R&I funding and deployment activities, such as CEF and other instruments. This can help Europe to accelerate the transformation process.”

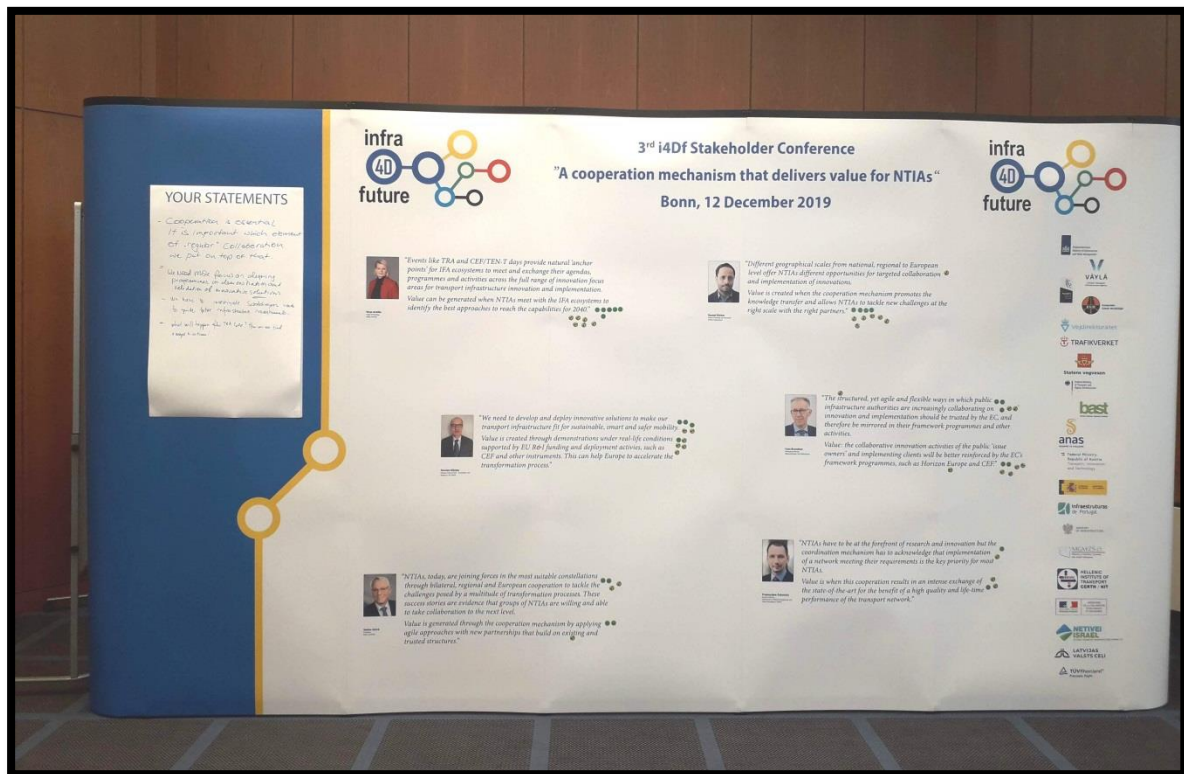


Figure 1: Panel with statements

In the afternoon session, after Bernard Gyergyay's (BAST, DE) introductory speech, three presentations followed by 1) Michael Nikowitz (bmvit, AUS) who described IFA 3.1 "Smart data and information ecosystem for accommodating automated and connected transport" and presented the activities of the Federal Ministry of Austria towards this direction and introduced the best practice cooperation between Austria and Hungary, 2) Arjan Hijdra (RWS, NL) who described IFA 1.2 "Integrated Infrastructure Network Management", emphasized the need for expanding of the existing collaboration of European infrastructure authorities and described the steps followed in order to prioritize trends through PESTLE (Political, Economic, Societal, Technological, Legal, Environmental) analysis, and 3) Markus Auerbach (BAST, DE) who described IFA 2.1 "Decarbonisation of infrastructure management" and mentioned the need for determining links with the wider stakeholder ecosystem.

The 3rd i4Df Stakeholder Conference was concluded with a brief wrap-up session, in which Tiina Jauhiainen (Vayla/FI) provided key findings of the respective discussion groups and gave a brief overview of the upcoming TRA2020 conference in Helsinki.



Figure 2: Photos of the 3rd Stakeholder Conference

3 3rd i4Df Stakeholder Conference information package

3.1 Invitation e-mails and preparatory information for the 3rd i4Df Stakeholder Conference

The event was properly and timely planned and communicated to the wider relevant stakeholder community. A “Save the date” e-mail was sent two months before, in order to attract the interest of prospective participants, notify them for the date and provide them with information on the scope and context of the Conference. The recipients of the e-mail were invited to confirm their participation to the 3rd i4Df Stakeholder Conference. Subsequently, personal invitation e-mails along with the draft agenda, a registration form and additional information regarding the Conference venue and the accommodation were sent to the confirmed participants of the Conference (see ANNEX I). One week prior to the 3rd i4Df Stakeholder Conference, all participants received the final agenda of the event and the latest digital leaflet of the i4Df initiative via mail (see 3.4.2).

3.2 3rd i4Df Stakeholder Conference agenda

The agenda of the 3rd i4Df Stakeholder Conference, as presented in Table 1, was sent to the relevant stakeholders prior to the conference.

Table 1: Conference agenda

09:00-10:00	<i>Registration, welcome coffee/tea and light breakfast</i>	
10:00-11:00	Key speeches	Birgitta Worrigen <i>(Deputy Director-General BMVI/DE)</i>
		Cees Brandsen <i>(Director RWS/NL)</i>
		Torsten Klimke <i>(Deputy Head of Unit-Innovation and Research, DG MOVE)</i>
11:00-12:30	<p>“A cooperation mechanism that delivers value for NTIAs”</p> <p>Panel discussion and discussion with the auditorium</p>	<p>Virpi Anttila <i>(Head of strategy, Vayla/FI)</i></p> <p>Cees Brandsen <i>(Managing Director RWS/NL)</i></p> <p>Daniel Kilcher <i>(Head of division “Strategy and research”, ASTRA/CH)</i></p> <p>Torsten Klimke <i>(Deputy Head of Unit-Innovation and Research, DG MOVE)</i></p> <p>Przemyslaw Zukowski <i>(Director MGM SZ/PL)</i></p> <p>Stefan Strick <i>(President BAsT/DE)</i></p>
12:30-13:45	<i>Lunch</i>	
	Interactive corner-feedback from participants	
13:45-14:45	Bringing the cooperation mechanism alive-examples Discussion	<p>Michael Nikowitz <i>(bmvit/AT)</i></p> <p>Arjan Hijdra <i>(RWS/NL)</i></p> <p>Markus Auerbach <i>(BAsT/DE)</i></p>
14:45-15:00	Conclusion and next steps	Tiina Jauhainen <i>(Vayla/FI)</i>
15:00 onwards	<i>Farewell “Gluhwein”</i>	

3.3 3rd i4Df Stakeholder Conference Power Point presentations

During the 3rd i4Df Stakeholder Conference, a number of Power Point presentations were given by the invited speakers. More specifically, Birgitta Worrinen (Deputy Director-General BMVI, DE) delivered the introductory speech to the i4Df initiative and Conference presenting the event objectives. Subsequently, Cees Brandsen (Director RWS/NL) introduced the i4Df Coordination Mechanism describing its basic principles. During the panel discussion session, each panellist's statement was displayed in a power point slide, to be visible to the conference participants.

In the afternoon session, Bernard Gyergyay (BAST, DE) delivered an introductory speech presenting the capabilities along with their IFAs. Three presentations followed by NTIA representatives: 1) Michael Nikowitz (bmvit, AUS) described IFA 3.1 "Smart data and information ecosystem for accommodating automated and connected transport". He presented the activities of the Federal Ministry of Austria towards this direction and introduced the best practice cooperation between Austria and Hungary. 2) Arjan Hijdra (RWS, NL) described IFA 1.2 "Integrated Infrastructure Network Management". He emphasized the need for expanding the existing collaboration of European infrastructure authorities and described the steps that were followed to prioritize trends through PESTLE analysis (Political, Economic, Societal, Technological, Legal, Environmental) and 3) Markus Auerbach (BAST, DE) described IFA 2.1 "Decarbonisation of infrastructure management". He mentioned the need for establishing links with the wider stakeholder ecosystem.

Tiina Jauhiainen (Vayla/FI), in the closing presentation, summarized the key findings of the discussion groups and gave a brief overview of the upcoming TRA2020 conference in Helsinki, describing the program and the key themes (see ANNEX II).

3.4 i4Df leaflets

The project leaflet is an essential tool to raise awareness on the project. As such, CERTH/HIT has produced so far two professionally designed leaflets of the i4Df initiative, in both electronic and hard-copy forms. The leaflets were made available as a handout during the 3rd Stakeholder Conference.

3.4.1 *Generic leaflet*

The generic leaflet provides all the essential project information (Project logo, origin, stakeholder engagement, approach, content, expected outcomes, consortium partners and coordinator contact details). Copies of the leaflet were printed in a threefold A4 format and were made available to all participants during the 3rd i4Df Stakeholder Conference (see Figure 4 & Figure 4).

stakeholder engagement

infra4Dfuture stakeholder engagement

The coordination mechanism will build on a structured dialogue between relevant stakeholders from public, industry and research. In this dialogue the demand side for innovation and implementation is formed by the public infrastructure managers as the 'issue owners' and hence the implementing client for innovation, and European and transnational public programme owners as funding client. The supply side in the dialogue is formed by relevant industry as lead supplier of innovation, and supporting research providers.

Innovation and Implementation DEMAND

PUBLIC ISSUE OWNERS

INNOVATION PROGRAMME OWNERS

Innovation and Implementation SUPPLY

INDUSTRIAL LEAD SUPPLIERS

RESEARCH PROVIDERS

infra4Dfuture outcomes:

- Concerted rolling transport innovation programme portfolio until 2040, spanning European, and transnational innovation programmes
- Comprehensive coordination mechanism, supported by the relevant stakeholders, to guide the development and deployment of the activities within the respective concerted portfolio of programmes with aim to drive the effective delivery of demand driven, ready to implement, cost effective innovative solutions.
- Supported framework for professional competence building in order to support the implementation and deployment of the innovative solutions up to larger network scales. On basis of this framework the stakeholders from education and training can be engaged.
- Strategic stakeholder platform to deploy the coordination mechanism during a multiannual period – 2021-2027 involving the relevant stakeholders from public, industry and research and guiding from a common vision on infrastructure capabilities for 2040.

consortium

- Rijkswaterstaat (Ministerie van Infrastructuur en Waterstaat) - NL
- Väylä - FI
- Agentschap Wegen en Verkeer - BE
- Latvijas Valsts Ceļi - LV
- Vejdirektoratet - DK
- Trafikverket - SE
- Statens Vegvesen - NO
- BMVI (Bundesministerium für Verkehr und digitale Infrastruktur) - DE
- BAST (Bundesanstalt für Straßenwesen) - DE
- ANAS S.p.A. - IT
- bmvit (Bundesministerium für Verkehr, Innovation und Technologie) - AT
- Ministerio de Fomento - ES
- Infraestruturas de Portugal - PT
- Ministerstwo Infrastruktury - PL
- Ministerstwo Gospodarki Morskiej i Żeglugli Śródlądowej - PL
- CERTH / HIT (Centre for Research and Technology Hellas / Hellenic institute of Transport) - GR
- Ministère de la Transition écologique et solidaire - FR
- Netivei Israel - IL
- Karayollari Genel Müdürlüğü - TR
- TÜV Rheinland Consulting

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Coordinator contacts:

Peter Wilbers, Rijkswaterstaat
peter.wilbers@rws.nl, +31622907812

Richard van der Elburg, Rijkswaterstaat
richard.vanderelburg@rws.nl, +31 6 25098927

www.i4df.eu
[@i4dfproject](https://twitter.com/i4dfproject)
www.linkedin.com/groups/13655794/

Building a strategy and coordination mechanism for future demand-driven multimodal transport infrastructure innovation and implementation

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824288

Figure 3: Screenshot of the generic leaflet, page 1

origin

infra4Dfuture origin

Transport infrastructure managers have an urgent need for innovative solutions that are cost-effective and readily implementable in their operations. These operations comprise of the basic physical and organisational structures and facilities needed for the operation of the transport network. This includes buildings, access roads and flanking supply networks for power and data/information.

Acknowledging the large commonality in the challenges each of them needs to address, nineteen infrastructure managers from Europe, Turkey and Israel have joined forces in the infra4Dfuture (i4Df) initiative to deliver an effective coordination mechanism for demand driven infrastructure innovation and implementation up to larger network scales. The i4Df initiative is financed as a Coordination and Support Action (CSA) by the European Commission with a duration from 1 October 2018 to 30 September 2020 (Grant Agreement No 824289). In addition, the initiative is supported by the Conference of European Directors of Roads (CEDR) and the European Rail Infrastructure Managers (EIM).

Combined, the i4Df consortium partners are responsible for managing transport infrastructure that covers the largest part of the TEN-T network. Through the support from CEDR and EIM the initiative achieves virtually complete leverage of the results across the European transport system. i4Df joins forces to address common transport infrastructure challenges.

approach

infra4Dfuture approach

In order to build awareness, understanding, trust and endorsement, over the course of the project runtime (until 30 September 2020), four high level Stakeholder Conferences will be organised, in which high level representatives from the four mentioned stakeholder groups will discuss and conclude on the (strategic) content and workings of the mechanism. The high level Stakeholder Conferences are supported by expert workshops and EU-regional outreach events.

Following endorsement of the coordination mechanism in the fourth high level Stakeholder Conference that is planned in conjunction with the TRA conference in Helsinki in April 2020, its roll-out will focus on concertation of a portfolio for European and transnational innovation programmes for the next decade.

infra4Dfuture events

1st i4Df Stakeholder Conference (Brussels, 11 December 2018)

1st i4Df Expert Workshop (Bergisch Gladbach, 25-26 February 2019)

2nd i4Df Stakeholder Conference (Brussels, 21 May 2019)

i4Df EU-regional outreach events (locations & dates TBA)

Other Outreach Opportunities

3rd i4Df Stakeholder Conference (Germany, 12 December 2019)

2nd i4Df Expert Workshop (location & date TBD)

4th i4Df Stakeholder Conference (TRA2020, Helsinki, April 2020)

content & impact

infra4Dfuture content

The i4Df coordination mechanism will drive effective demand driven innovation and implementation from a common vision on the key capabilities of infrastructure management in 2040 and corresponding guiding objectives.

Demarcation of transport infrastructure

Future transport infrastructure capabilities

Guiding objectives

Innovation focus areas

Innovation pathways / Key topics

Concerted programme calls

infra4Dfuture impact

The overall objective of delivering the i4Df coordination mechanism is to enable effective, demand driven infrastructure innovation and implementation ensuring noticeable benefits for the transport system's end-user. More in particular the impact of rolling out the i4Df coordination mechanism will be:

- More ready-to-implement, cost effective innovative solutions to address the challenges infrastructure managers are facing (already today). This will be enabled by cutting out duplications between the various corresponding innovation programmes as well as by enabling focused twinning of results, and structured gate reviewing of next stages in innovation development and implementation.
- Shorter time to market of the respective innovative solutions, enabling a faster response by the infrastructure managers –as the implementing clients– to the demands and needs of the end-users for infrastructure services. This will be enabled by anticipating follow-up stages along the designated innovation pathways towards deployment of cost-effective solutions.
- More on target solutions through concerted cooperation and collaboration of the relevant stakeholders under the guidance of a coherent set of common, long term objectives from the public infrastructure managers. This approach will ensure appropriate 'market perspective' for industrial suppliers' innovation actions and initiatives.

i4Df will deliver maximum impact from innovation and implementation funding.

Figure 4: Screenshot of the generic leaflet, page 2

3.4.2 Leaflet presenting Capabilities and IFAs

The second i4Df leaflet includes the capabilities along with their descriptions and IFAs, the capabilities guiding objectives for 2040, the figure with the basic principles for the proposed Multimodal Cooperation Mechanism, the consortium partners, the coordinator contact details and i4Df's social media accounts (also included in the first leaflet). The digital leaflet presenting capabilities and IFAs was part of the preparatory package that was sent to the high-level participants of the 3rd i4Df Stakeholder Conference. Printed copies in a threefold A4 format of this leaflet were distributed to each participant during the conference (Figure 5 & Figure 6).

Innovation Focus Areas for Multimodal Infrastructure Innovation and Implementation

Capability 1: Infrastructure optimally meeting end user needs

The ability to provide optimal transport infrastructure network capacity in order to accommodate increasing transport needs, and balancing cost, performance, safety and risk to provide infrastructure as a high quality service to end users.

Innovation Focus Areas:

- Network performance
- Integrated infrastructure network management
- Responsible and innovative procurement and finance

Capability 2: Infrastructure meeting environmental and social sustainability needs

The ability to embed transport infrastructure networks in their immediate surroundings, optimally balancing interests from economy, society, and environment.

Innovation Focus Areas:

- Decarbonisation of infrastructure management
- Preserving the environment
- Integrating multi-layer networks and nodes

Capability 3: Infrastructure achieving added value from digitalisation

The ability to harvest the benefits from digitalisation in internal processes of transport infrastructure management as well as in the relation between transport infrastructure management and its end user, to better serve the achievement of sustainability targets and needs of infrastructure end users.

Innovation Focus Areas:

- Smart data and information ecosystem for accommodating automated and connected transport
- Information provision for process optimisation in infrastructure management

consortium

1. Rijkswaterstaat (Ministerie van Infrastructuur en Waterstaat) - NL
2. Vayla - FI
3. Agentschap Wegen en Verkeer - BE
4. Latvijas Valsts Ceļi - LV
5. Vejdirektoratet - DK
6. Trafikverket - SE
7. Statens Vegvesen - NO
8. BMVI (Bundesministerium für Verkehr und digitale Infrastruktur) - DE
9. BASt (Bundesanstalt für Straßenwesen) - DE
10. ANAS S.p.A. - IT
11. bmvit (Bundesministerium für Verkehr, Innovation und Technologie) - AT
12. Ministerio de Fomento - ES
13. Infraestruturas de Portugal - PT
14. Ministerstwo Infrastruktury - PL
15. Ministerstwo Gospodarki Morskiej i Żeglugi Śródlądowej - PL
16. CERTH / HIT (Centre for Research and Technology Hellas / Hellenic Institute of Transport) - GR
17. Ministère de la Transition écologique et solidaire - FR
18. Netivei Israel - IL
19. Karayolları Genel Müdürlüğü - TR
20. TÜV Rheinland Consulting - DE

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Capabilities and Innovation Focus Areas towards a sustainable Multimodal Coordination Mechanism

Capability 1 Infrastructure optimally meeting end user needs

Capability 2 Infrastructure meeting environmental and social sustainability needs

Capability 3 Infrastructure achieving added value from digitalisation

Innovation Focus Areas:

- Network performance
- Integrated infrastructure network management
- Responsible and innovative procurement and finance

Innovation Focus Areas:

- Decarbonisation of infrastructure management
- Preserving the environment
- Integrating multi-layer networks and nodes

Innovation Focus Areas:

- Smart data and information ecosystem for accommodating automated and connected transport
- Information provision for process optimisation in infrastructure management

Coordinator contacts:

Peter Wilbers, Rijkswaterstaat
peter.wilbers@rws.nl, +31622907912

Richard van der Elburg, Rijkswaterstaat
richard.vander.elburg@rws.nl, +31625098927

infra future

www.i4df.eu @i4Dproject www.linkedin.com/groups/13655794/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824269.

Figure 5: Screenshot of Leaflet presenting Capabilities and IFAs, page 1

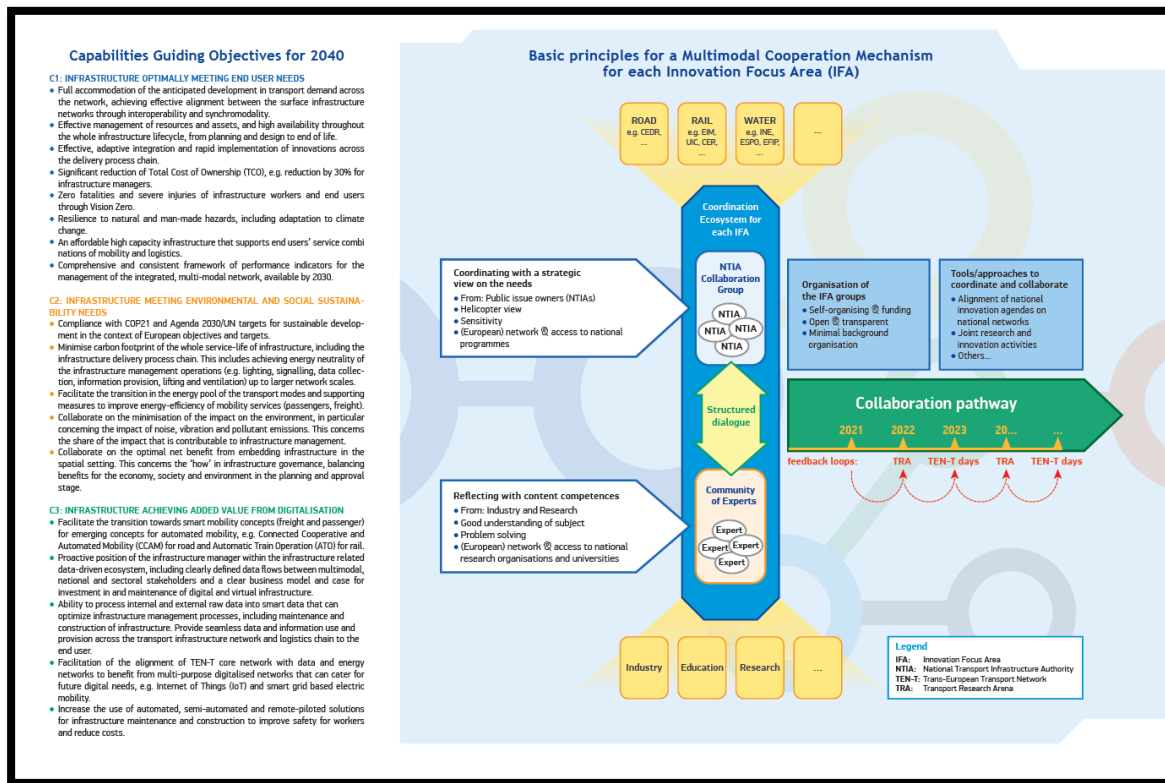


Figure 6: Screenshot of Leaflet presenting Capabilities and IFAs, page 2

3.5 i4Df roll-up banners

Within the framework of the i4Df initiative, two roll-up banners were designed by the graphic designer of CERTH/HIT; one reflecting generic information and one depicting detailed information regarding the capabilities and IFAs. Both banners have size dimensions of 85*200cm.

As the Roll-up banners are considered to be a popular type of display stands and have the advantage of being retractable by rolling into a compact transportable form and easy to assemble, three copies of each banner were printed and displayed in the 3rd Stakeholder Conference venue.

3.5.1 Generic Roll-up banner

The generic roll-up banner (see Figure 7) reflects generic information about the i4Df initiative and carries an informative role. It includes the official logo of the i4Df project in the top area, the road network image in the middle part of the banner, followed by the logos of all the i4Df consortium members. The essential information regarding the project funding, the Grand Agreement number and the flag of the EU are placed in the bottom part of the poster, with the information regarding the official website and social media channels of the i4Df project right next to them. Two copies of the generic roll-up banner were displayed in a prominent place in the conference room while a third one was displayed at the entrance of the conference room.

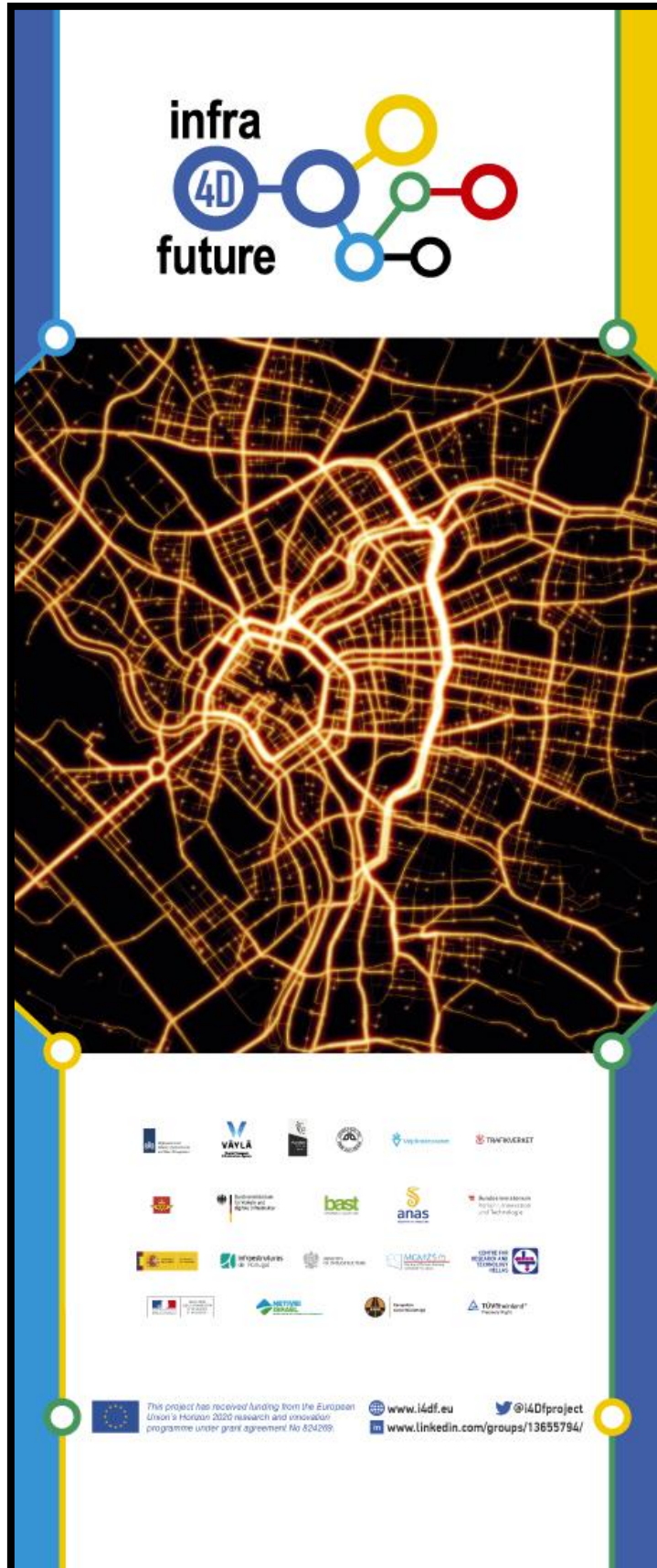


Figure 7: Screenshot of the generic i4Df roll-up banner

3.5.2 Roll-up presenting capabilities and IFAs

The second version of the roll-up banner (see Figure 8), which was created after the generic banner, presents the Capabilities and IFAs. The upper area of the banner includes the official logo of the i4Df project while the middle area depicts the Innovation Focus Areas with a brief description of each of the 3 Capabilities. The logos of all the i4Df consortium members are placed at the bottom part, followed by the essential information regarding the funding of the project under EU Horizon 2020 Research and Innovation program, the Grant Agreement number and the flag of the EU. The poster also includes the official website address of i4Df, as well as the Social Media accounts of the initiative. Three printed copies of the roll-up banner presenting capabilities and IFAs were displayed in a prominent place of the Conference room.



Figure 8: Screenshot of the roll-up presenting capabilities and IFAs

3.6 i4Df poster of “networks 4D inspiration”

Within the framework of the 3rd Stakeholder Conference, a new poster with the title “*networks 4D inspiration*” was developed in line with the rest of the dissemination material (posters and roll-up banners) aiming to constitute a source of inspiration for the coordination mechanism building.

The main message of the poster “*infra4Dfuture envisages light, flexible, transparent and open structures for effective and efficient knowledge sharing and transfer*” is placed in the upper area, under the title, and includes all the basic principles set to the structure of the i4Df initiative:

- **Light:** as a background structure
- **Flexible:** to accommodate relevant developments
- **Transparent:** in processes and outputs
- **Open:** to accommodate relevant new stakeholders and programmes.

This poster lists good examples of flexible cooperation platforms (CEDR, Shift2Rail, NordFoU, DACH, Baltic Road Association, NetLipse, Ispim and COB) that can serve as an example for the cooperation within the i4Df IFA collaboration groups. These platforms were interviewed in the frame of WP3 “Collaborative professional competence building” and selected quotes and preliminary interview findings are presented in the middle area of the poster.

A printed copy of “networks 4D inspiration” poster was displayed in the conference room and at the entrance.



Figure 9: Screenshot of the poster of networks for inspiration

3.7 Participant list

The 3rd i4Df Stakeholder Conference was attended by strategic stakeholder representatives from NTIAs, industrial lead suppliers, research providers and public-sector innovation programme owners. The list of participants included experts, policy advisors, managers and directors, among other functions, of the organisations listed in Table 2.

Table 2: List of participating organizations

Organization	Country
EC INEA	BE
EC DG MOVE	BE
Latvian State Roads (LSR)	LV
Bundesanstalt für Straßenwesen (BASt)	DE
Ministry for Transport, Innovation and Technology (BMVIT)	AT
Forum of European National Highway Research Laboratories (FEHRL)	BE
Finish Transport Infrastructure Agency (Vayla)	FI
Ministry of Economy and Inland Navigation (MGM)	PL
Ministry of Infrastructure (MI)	PL
Centre for Research and Technology Hellas/ Hellenic Institute of Transport (CERTH/HIT)	GR
Federal Ministry of Transport and Digital Infrastructure (BMVI)	DE

Rijkswaterstaat (RWS)	NL
Bundesamt für Strassen (ASTRA)	CH
Karayollari Genel Mudurlugu (KGM)	TR
Netivei Israel	IL
ANAS SPA	IT
TÜV Rheinland Consulting GmbH	DE
Conference of European Directors of Roads (CEDR)	BE
Agentschap Wegen en Verkeer (AWV)	BE
Transport Infrastructure Ireland (TII)	IRL
European Council for Automotive R&D (EUCAR)	BE
Centrum Ondergronds Bouwen (COB)	NL
Inland Navigation Europe (INE)	BE
Vegvesen	NO
Tecnositaf Spa	IT
Ministerio de Fomento	ES
Trafikverket (TRV)	SE
FFG	AT
Plataforma Tecnológica Espanola de la Carretera (PTC)	ES
Instituto da Mobilidade e dos Transportes (IMT)	PT
Highways England	UK
BKW	CH

4 Conclusions

Deliverable D4.8 presents the material that was distributed to the high-level participants of the 3rd i4Df Stakeholder Conference that took place in Bonn on the 12th of December 2019.

The 3rd i4Df Stakeholder Conference, which was the third in a series of four Stakeholder Conferences, was attended by about 50 strategic stakeholder representatives from NTIAs, industrial lead suppliers, research providers and public-sector innovation programme owners.

An information package was prepared and distributed to the Conference participants. It included two professionally designed i4Df leaflets, the conference agenda, the Power Point presentations by the invited speakers, one poster and two roll-up banners. This package will be updated and enriched for the next and last stakeholder conference, the 4th i4Df Stakeholder Conference that will be placed in Helsinki on 27th-30th of April 2020 in order to be adapted to the concept of the conference and provide up to date information on the project progress and findings.

ANNEXES

ANNEX I: Invitation e-mails and preparatory information for the 3rd Stakeholder Conference

Subject: infra4Dfuture - Save-the-date of the 3rd Stakeholder Conference

SAVE THE DATE

3rd infrastructure4Dfuture Stakeholder Conference

Bonn, 12th December 2019

Dear Mr/Ms,

We are pleased to announce the 3rd Stakeholder Conference of the infrastructure4Dfuture initiative that will take place on **12th December 2019 in Bonn** at the premises of the German Ministry of Transport and Digital Infrastructure. Aim of this conference is the presentation and endorsement of a cooperation mechanism for multimodal research and deployment for transport infrastructure managers and owners.

Background of the infra4Dfuture project

The infra4Dfuture initiative includes 17 National Transport Infrastructure Authorities (NTIAs) and aims to set up a **coordination mechanism with the objective to increase the effectiveness of innovation actions and to speed up their implementation across all modes**. This is especially important against the backdrop of urgent societal challenges such as changing end-user need, environmental and societal sustainability needs and the benefits from digitalisation.

From the feedback of the participants of the 2nd infra4Dfuture Stakeholder Conference in May 2019 in Brussels, a draft cooperation mechanism has evolved. Its structure will be light, flexible, transparent and open to accommodate relevant new stakeholders and programmes. It will preferably build on already existing structures to avoid duplication of efforts. This will allow voluntary alignment and concertation of national, regional and European activities according to the required scale and respecting the principles of subsidiarity.

Aim of the Stakeholder Conference

At the 3rd infra4Dfuture Stakeholder Conference, taking place on **12th of December 2019** at the German Ministry of Transport and Digital Infrastructure in Bonn, strategic stakeholder representatives from National Transport Infrastructure Authorities, industrial lead suppliers, research providers and public-sector innovation programme owners are invited to endorse and discuss the operationalisation of the cooperation mechanism in a peer-to-peer setting. Further, all participants are invited to express their interest to contribute to the suggested cooperation mechanism.

At the plenary discussion, high-level representatives from DG MOVE will take part as well as representatives from NTIAs, e.g. Cees Brandsen (Director of Rijkswaterstaat/NL), Juerg Roethlisberger (Director of the Federal Roads Office/CH) and Adrian Mazur (Director at Ministry for Infrastructure/Poland).

Please mark the date of the 3rd infra4Dfuture Stakeholder Conference in your calendar and do not hesitate to contact us should you have any questions!

Please note that invitations will be sent in the first week of November 2019, along with additional information. For logistical reasons, we kindly ask you to send back until **25th October 2019** who will attend the Stakeholder Conference to allow us to send the personal invitation directly (mail to blumeu@bast.de or qyergay@bast.de). For further information please visit www.i4df.eu.

With best regards,

Peter Wilbers Ursula Blume
i4Df project coordinator i4Df work package leader (in the name of the host)
 Rijkswaterstaat, The Netherlands BAST, Germany
 Mail to: peter.wilbers@rws.nl Mail to: blumeu@bast.de
 Mobile: [REDACTED] Phone: [REDACTED]

Subject: 3rd i4Df Stakeholder Conference - Invitation


Message: i4Df_3STC_Draft Agenda.pdf (92 KB) Organisational information.pdf (151 KB)
i4Df 3rd StC_12-12-19 Registration Form_S.doc (190 KB)

INVITATION

3rd infra4Dfuture Stakeholder Conference

12th December 2019, 10:00 – 15:00h

Federal Ministry of Transport and Digital Infrastructure (BMVI),
Robert-Schuman-Platz 1, 53175, Bonn, Germany



Dear Mr/Ms,

We cordially invite you to the 3rd Stakeholder Conference of the infra4Dfuture initiative at the Federal Ministry of Transport and Digital Infrastructure in Bonn on 12th of December 2019.

Through the infra4Dfuture (i4Df) initiative, national transport infrastructure authorities (NTIAs) across Europe are joining forces to set up a coordination mechanism with the objective to increase the effectiveness of innovation and research actions and to speed up their implementation across all modes. At the 3rd Stakeholder Conference, the outlines of the cooperation mechanism will be presented for endorsement by strategic stakeholder representatives from NTIAs, industrial lead suppliers, research providers and public-sector innovation programme owners.

Key part of the Stakeholder Conference will be a **panel discussion with high-level representatives** from the European Commission, several NTIAs and further stakeholders of the i4Df initiative. The draft agenda for the 3rd Stakeholder Conference is attached. The final agenda and further information about the draft cooperation mechanism will follow one week prior to the conference.


All speakers and panellists are kindly invited to participate in an informal dinner on 11th December 2019, expected start time around 19h. Further information will follow shortly.

We kindly ask you to confirm your participation by sending the completed registration form (attached) to blumeu@bast.de until **20th November 2019**.

In case you have any questions, please contact i4Df project coordinator Peter Wilbers (peter.wilbers@rws.nl) or i4Df work package leader Ursula Blume (blumeu@bast.de).

We are looking forward to welcoming you in Bonn!

<i>Mr Cees Brandsen</i>	<i>Ms Birgitta Worringen</i>
<i>Managing Director</i>	<i>Deputy Director-General</i>
<i>Rijkswaterstaat,</i>	<i>Federal Ministry of Transport and Digital Infrastructure</i>
<i>The Netherlands</i>	<i>Germany</i>



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)



infra4Dfuture - 3rd Stakeholder Conference

Hotel accomodation

We have pre-booked a contingent of rooms at the "Gustav-Stresemann-Institut" (<https://www.gsi-bonn.de/en/hotel/the-hotel.html>) which is located close to the conference venue. Price for a single room incl. breakfast: 75,- €/night. We kindly ask you to send your reservation request to Tanja Billetter (billetter@bast.de) until **13 November 2019**.

Further hotels can be found on the official website of the city of Bonn: <https://international.bonn.de/highlights/tourist-information/accomodation.php>

How to reach the Federal Ministry of Transport and Digital Infrastructure (BMVI) in Bonn

Address: Robert-Schuman-Platz 1, 53175 Bonn



Source: BMVI

How to reach BMVI in Bonn by public transport:

- **Underground train:** U66 (Stop "Robert-Schuman-Platz"), U16 or U63 (Stop "Olof-Palme-Allee")
- **Bus:** 610 or 611 (Stop "Volksbank-Haus"), 637 or 638 (Stop "Robert-Schuman-Platz")
- **Traffic Links from Cologne/Bonn Airport:** Bus SB 60 (Hauptbahnhof)

Please note:

Upon arrival at BMVI you need to register at the entrance for access (passport/ID required).



3rd i4Df Stakeholder Conference 12th December 2019, Bonn

Venue: Federal Ministry of Transport and Digital Infrastructure (BMVI)
Robert-Schuman-Platz 1, 53175 Bonn

REGISTRATION FORM

Name:
Organisation:
Address:
Email:
Phone:

i4Df informal dinner on 11th December (evening)

- I will participate in the informal dinner* Yes / No

3rd i4Df Stakeholder Conference on 12th December 2019 (10:00 – 15:00h)

- I will participate in the conference Yes / No

Do you have any dietary, vegetarian or vegan requirements? Yes / No

If Yes, please explain:

Please return the completed registration form to blumeu@bast.de
until Wednesday, 20th November 2019



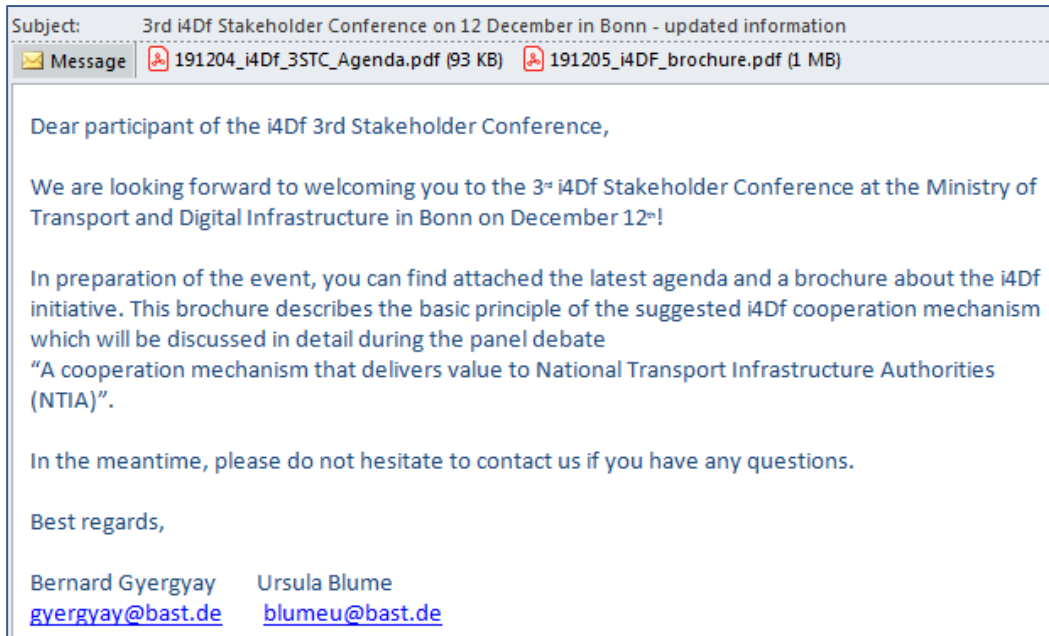
3rd i4Df Stakeholder Conference

12th December 2019, 10:00 – 15:00h

Ministry for Transport and Digital Infrastructure (BMVI), Bonn

Draft Agenda

09:00 – 10:00	<i>Registration, welcome coffee/tea and light breakfast</i>	
10:00 – 11:00	Key speeches	<p>Birgitta Worringen <i>(Deputy Director-General BMVI/DE)</i></p> <p>Cees Brandsen <i>(Director RWS/NL)</i></p> <p>Herald Ruijters <i>(European Commission)</i></p>
11:00 – 12:30	<p>Panel Discussion</p> <p>“A cooperation mechanism that delivers value for NTIAs”</p> <p>incl. open discussion with the participants</p>	<p>Cees Brandsen <i>(Director RWS/NL)</i></p> <p>Adrian Mazur <i>(tbc)</i> <i>(Director MI/PL)</i></p> <p>Juerg Roethlisberger <i>(Director ASTRA/CH)</i></p> <p>Herald Ruijters <i>(European Commission)</i></p> <p>Stefan Strick <i>(President BAST/DE)</i></p> <p>Representative from Väylä/FI <i>(requested)</i></p> <p>Representative from Infrastruturas Portugal <i>(requested)</i></p>
12:30 – 13:45	<i>Lunch</i>	
	<i>Interactive corner – feedback from participants</i>	
13:45 – 14:45	Bringing the cooperation mechanism alive - examples	<p>Michael Nikowitz <i>(bmvit/AT)</i></p> <p>Arjan Hijdra <i>(RWS/NL)</i></p> <p>Markus Auerbach <i>(BAST/DE)</i></p>
14:45 – 15:00	Conclusion and next steps	Tiina Jauhainen <i>(Väylä/FI)</i>
15:00 onwards	<i>Farewell “Glühwein”</i>	





I4Df 3rd Stakeholder Conference,

12th December 2019, 10:00 – 15:00,

Bonn, Ministry for Transport and Digital Infrastructure,

Agenda

09:00 – 10:00	<i>Registration, welcome coffee and tee</i>	
10:00 – 11:00	Key speeches	<p>Birgitta Worringen <i>(Deputy Director-General BMVI/DE)</i></p> <p>Cees Brandsen <i>(Director RWS/NL)</i></p> <p>Torsten Klimke <i>(Deputy Head of Unit – Innovation and Research, DG MOVE)</i></p>
11:00 – 12:30	<p>Panel Discussion</p> <p>“A cooperation mechanism that delivers value for NTIAs”</p> <p>incl. open discussion with the participants</p>	<p>Virpi Anttila <i>(Head of strategy, Väylä/FI)</i></p> <p>Cees Brandsen <i>(Managing Director RWS/NL)</i></p> <p>Daniel Kilcher <i>(Head of division “Strategy and research”, ASTRA/CH)</i></p> <p>Torsten Klimke <i>(Deputy Head of Unit – Innovation and Research, DG MOVE)</i></p> <p>Stefan Strick <i>(President BAST/DE)</i></p> <p>Przemysław Żukowski <i>(Director MGM¹ŚZ/PL)</i></p>
12:30 – 13:45	<i>Lunch</i>	
	<i>Interactive corner – feedback from participants</i>	
13:45 – 14:45	Bringing the cooperation mechanism alive - examples	<p>Michael Nikowitz <i>(bmvit/AT)</i></p> <p>Arjan Hijdra <i>(RWS/NL)</i></p> <p>Markus Auerbach <i>(BAST/DE)</i></p>
14:45 – 15:00	Conclusion and next steps	Tiina Jauhiainen <i>(Väylä/FI)</i>
15:00 onwards	<i>Farewell “Glühwein”</i>	

ANNEX II: 3rd Stakeholder Conference Power Point presentations

infra
4D
future



**Welcome to the 3rd
i4Df Stakeholder
Conference in Bonn!**



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)



Welcome

Välkommen

Benvenuti

Bienvenue

Powitanie

Gaidīts

שלום

Bem-vindo

Welcome to the 3rd i4Df Stakeholder Conference in Bonn!

Bienvenido

Welkom

Karşılama

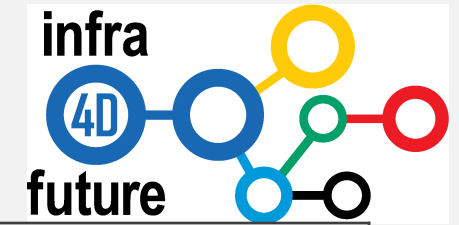
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Velkommen

Tervetuloa



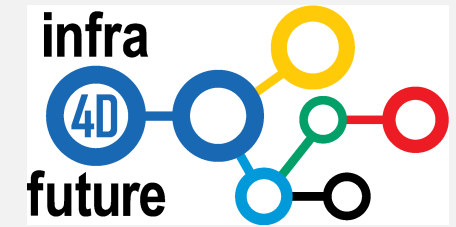
Agenda - morning -



10:00 – 11:00	Key speeches	Birgitta Worringen	Deputy Director-General BMVI/DE
		Cees Brandsen	Director RWS/NL
		Torsten Klimke	EC, DG MOVE
11:00 – 12:30	<p>“ A cooperation mechanism that delivers value for National Transport Infrastructure Authorities (NTIAs) ”</p> <p>Panel Discussion and discussion with the auditorium</p>	<p>Virpi Anttila Cees Brandsen Daniel Kilcher Torsten Klimke Przemysław Żukowski Stefan Strick</p>	<p>Head of strategy Väylä/FI Director RWS/NL Head of division “Strategy and research”, ASTRA/CH Deputy head of unit “Innovation & Research at DG MOVE Director MGMIŚŻ/PL President BAST/DE</p>
12:30 – 13:45	<p><i>Lunch</i></p> <p><i>Interactive corner</i></p>		



Agenda - afternoon -



12:30 – 13:45	<i>Lunch</i> <i>Interactive corner</i>		
13:45 – 14:45	Bringing the cooperation mechanism to life – examples Discussion	Michael Nikowitz	<i>bmvit/AT</i>
		Arjan Hijdra	<i>RWS/NL</i>
		Markus Auerbach	<i>BAST/DE</i>
14:45 – 15:00	Conclusion and next steps	Tiina Jauhiainen	<i>Väylä/FI</i>
15:00 onwards	<i>Farewell “Glühwein”</i>		





Birgitta Worringen

Deputy Director-General BMVI/DE



Federal Ministry
of Transport and
Digital Infrastructure

[https://www.bmvi.de/EN/Topics/Digital-Matters/
Digital-Test-Beds/digital-test-beds.html](https://www.bmvi.de/EN/Topics/Digital-Matters/Digital-Test-Beds/digital-test-beds.html)



www.durabast.de/durabast/EN



www.bmvi-expertennetzwerk.de/EN



infra
4D
future



i4Df Coordination Mechanism

More, faster and fit-for-purpose
infrastructure innovation!

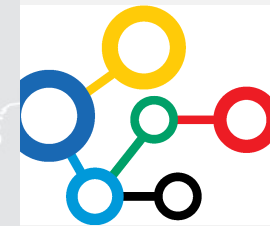
Cees Brandsen
Managing Director
Rijkswaterstaat
The Netherlands

Bonn, 12 December 2019

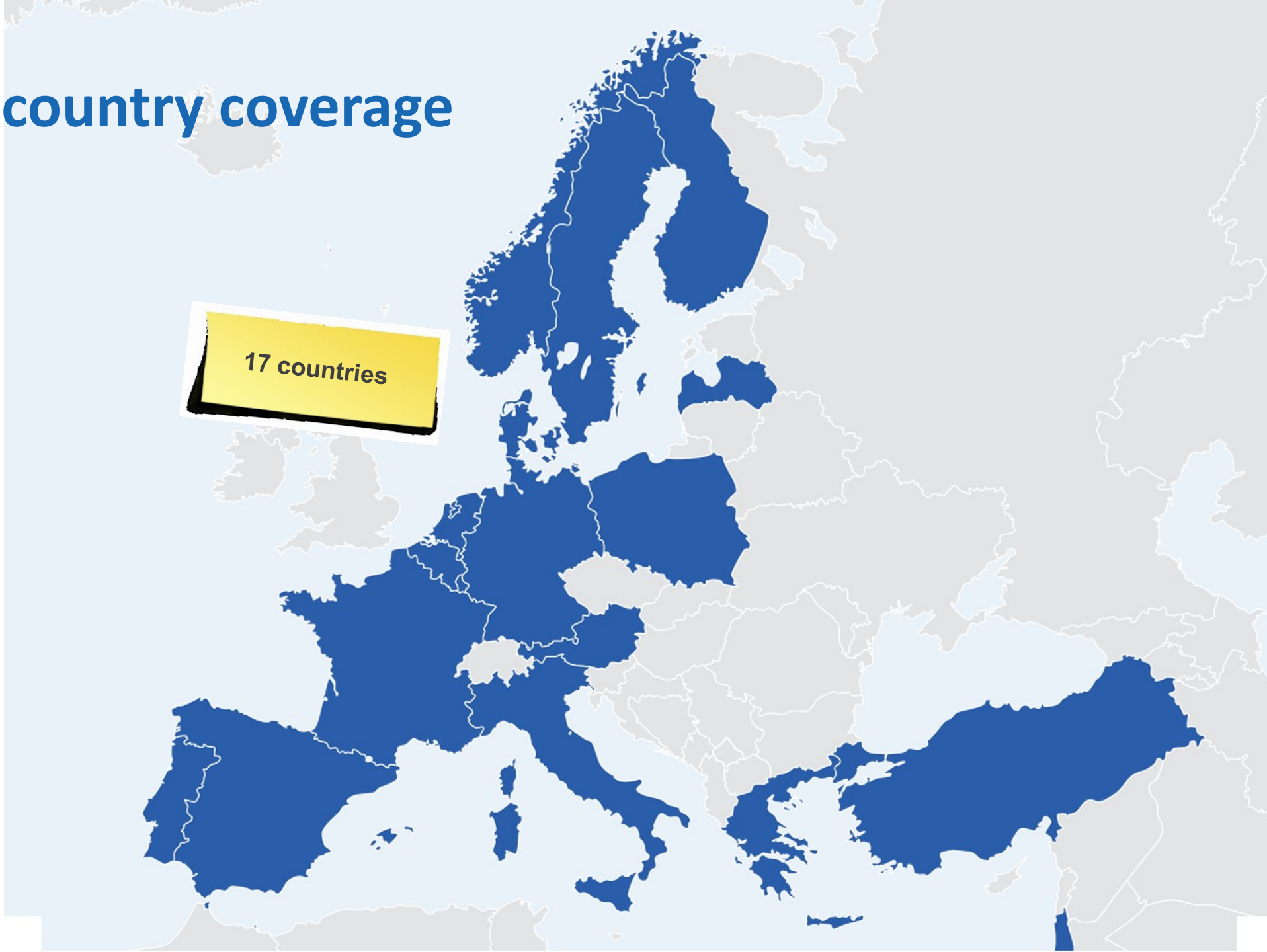


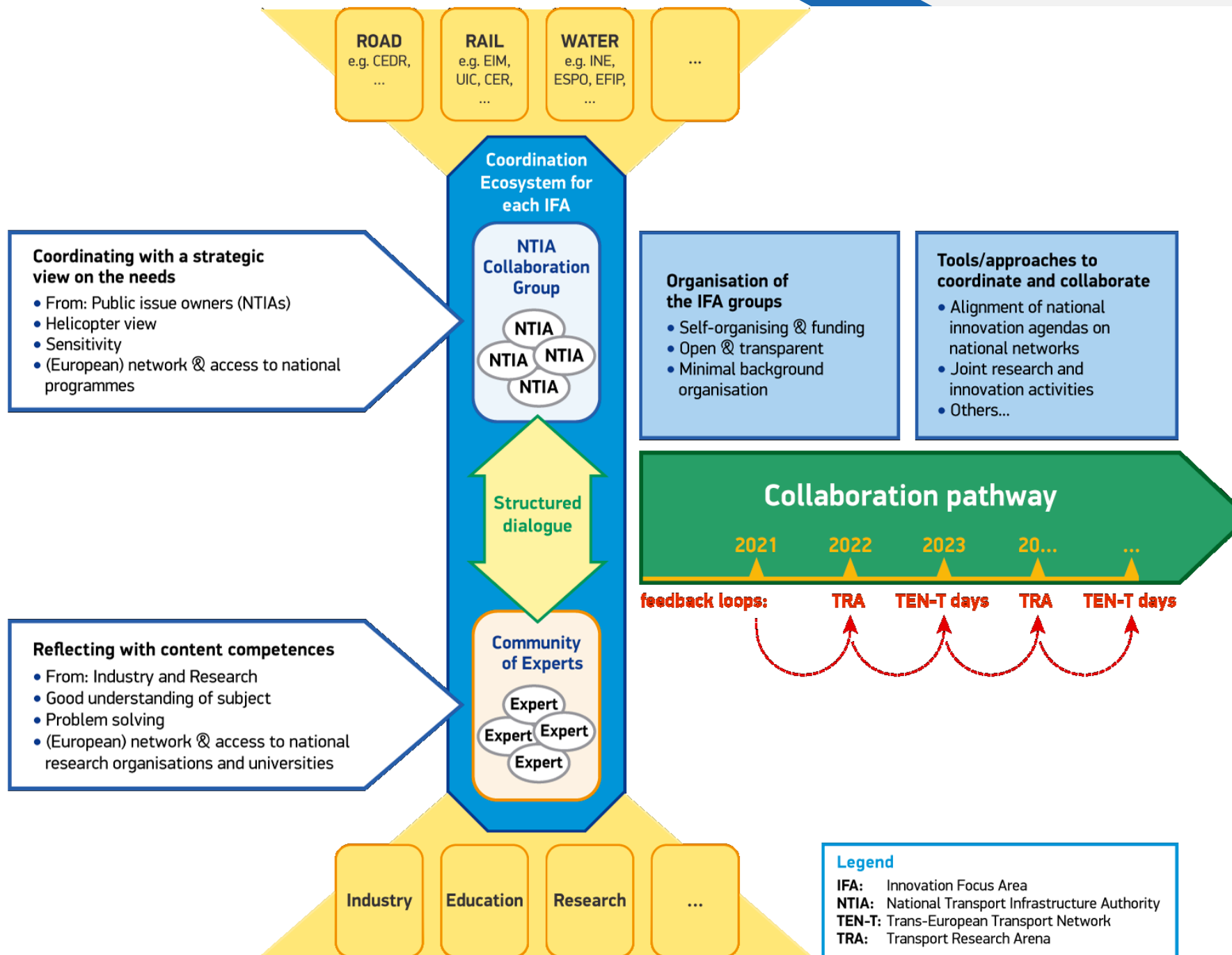
This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)

i4Df country coverage



17 countries







Thank you!





Torsten Klimke

Deputy Head of Unit – Innovation and Research, DG MOVE





Panel discussion:

**“ A cooperation mechanism that delivers
value to National Transport Infrastructure
Authorities ”**





Stefan Strick,
President, BASt, Germany

“ National Transport Infrastructure Authorities (NTIAs) are joining forces in the most suitable constellations through bilateral, regional and European cooperation to tackle the challenges posed by a multitude of transformation processes. These success stories are evidence that groups of NTIAs are willing and able to take collaboration to the next level.

Value is generated through the cooperation mechanism by applying agile approaches with new partnerships that build on existing and trusted structures. ”



Virpi Anttila,
Head of Strategy,
Väylä, Finland



“Events like TRA and CEF/TEN-T days provide natural ‘anchor points’ for IFA ecosystems to meet and exchange their agendas, programmes and activities across the full range of innovation focus areas for transport infrastructure innovation and implementation.

Value can be generated when NTIAs meet with the IFA ecosystems to identify the best approaches to reach the capabilities for 2040. “



Przemysław Żukowski,
Deputy Director, Ministry of
Marine Economy and Inland
Navigation, Poland

“ NTIAs have to be at the forefront of research and innovation but the coordination mechanism has to acknowledge that implementation of a network meeting their requirements is the key priority for most NTIAs.

Value is when this cooperation results in an intense exchange of the state-of-the-art for the benefit of a high quality and life-time performance of the transport network. “





Daniel Kilcher,
Head of Strategy and Research,
ASTRA , Switzerland

“ Different geographical scales from national, regional to European level offer NTIAs different opportunities for targeted collaboration and implementation of innovations.

Value is created when the cooperation mechanism promotes the knowledge transfer and allows NTIAs to tackle new challenges at the right scale with the right partners. “



Cees Brandsen
Managing Director,
RWS, The Netherlands

“ The structured, yet agile and flexible ways in which public infrastructure authorities are increasingly collaborating on innovation and implementation should be trusted by the EC, and therefore be mirrored in their framework programmes and other activities.

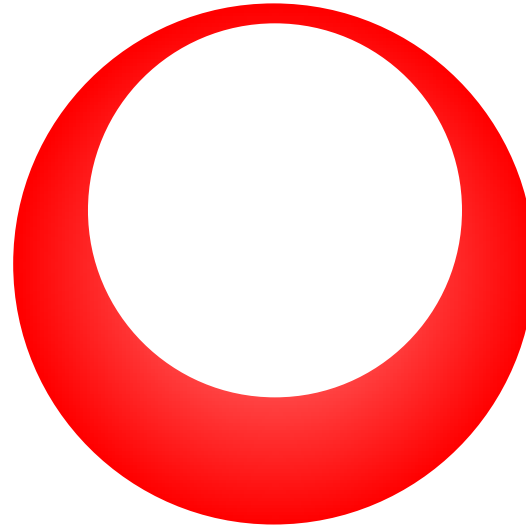
Value: the collaborative innovation activities of the public ‘issue owners’ and implementing clients will be better reinforced by the EC’s framework programmes, such as Horizon Europe and CEF. ”



Torsten Klimke,
Deputy Head of Unit –
Innovation and Research,
DG MOVE

“ We need to develop and deploy innovative solutions to make our transport infrastructure fit for sustainable, smart and safer mobility.

Value is created through demonstrations under real-life conditions supported by EU R&I funding and deployment activities, such as CEF and other instruments. This can help Europe to accelerate the transformation process. “



LUNCH & INTERACTIVE CORNER

12:30 – 13:45

Agenda - afternoon -



12:30 – 13:45	Lunch <i>Interactive corner</i>	
13:45 – 14:45	Bringing the cooperation mechanism to life – examples Discussion	Michael Nikowitz <i>bmvit/AT</i>
		Arjan Hijdra <i>RWS/NL</i>
		Markus Auerbach <i>BASt/DE</i>
14:45 – 15:00	Conclusion and next steps	Tiina Jauhiainen <i>Väylä/FI</i>
15:00 onwards	Farewell “Glühwein”	



“Bringing the cooperation mechanism to life”

*Bernard Gyergyay – BASt
i4Df Capability Coordinator*



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)

Bonn, 12 December 2019

Innovation Focus Areas



C1: Infrastructure optimally meeting end user needs

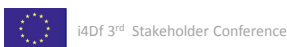
- 1-1: Network Performance
- 1-2: Integrated Infrastructure Network Management
- 1-3: Responsible and Innovative Procurement and Finance

C2: Infrastructure meeting environmental and social sustainability needs

- 2-1: Decarbonisation of Infrastructure Management
- 2-2: Preserving the Environment
- 2-3: Integrated Multi-Layer Networks and Nodes

C3: Infrastructure achieving added value from digitalisation

- 3-1: Smart Data Ecosystem for Accommodating Automated and Connected Transport
- 3-2: Information Provision for Process Optimisation in Infrastructure Management



Setting up NTIA Collaboration Groups



C1: Infrastructure optimally meeting end user needs

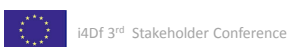
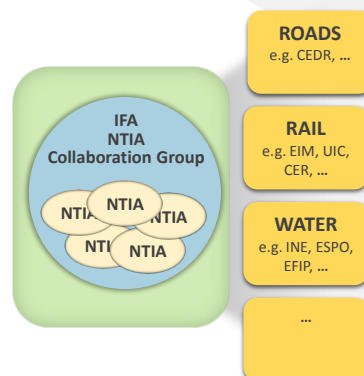
- 1-1: Network Performance
- 1-2: Integrated Infrastructure Network Management
- 1-3: Responsible and Innovative Procurement and Finance

C2: Infrastructure meeting environmental and social sustainability needs

- 2-1: Decarbonisation of Infrastructure Management
- 2-2: Preserving the Environment
- 2-3: Integrated Multi-Layer Networks and Nodes

C3: Infrastructure achieving added value from digitalisation

- 3-1: Smart Data Ecosystem for Accommodating Automated and Connected Transport
- 3-2: Information Provision for Process Optimisation in Infrastructure Management



Examples of NTIA Collaboration Groups



C1: Infrastructure optimally meeting end user needs

1-1: Network Performance

1-2: Integrated Infrastructure Network Management

1-3: Responsible and Innovative Procurement and Finance

Arjan Hijdra – Rijkswaterstaat, NL

C2: Infrastructure meeting environmental and social sustainability needs

2-1: Decarbonisation of Infrastructure Management

2-2: Preserving the Environment

2-3: Integrated Multi-Layer Networks and Nodes

Markus Auerbach – BAST, DE

C3: Infrastructure achieving added value from digitalisation

3-1: Smart Data Ecosystem for Accommodating Automated and Connected Transport

3-2: Information Provision for Process Optimisation in Infrastructure Management

Michael Nikowitz – bmvit, AUS



i4Df 3rd Stakeholder Conference



Thank you for your attention!

Bernard Gyergyay, BAST, Germany
gyergyay@bast.de



i4Df 3rd Stakeholder Conference



Innovation Focus Area
Smart data and information ecosystem for accommodating automated and connected transport
 and the
Perspective of Austria

Michael Nikowitz
 Coordinator Automated Mobility
 Federal Ministry Transport, Innovation, Technology

Bonn, 12th December 2019



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)

Innovation Focus Area

Smart data and information ecosystem for accommodating automated and connected transport
 Strategic context and challenge



The entire mobility system is currently in a **transition phase towards** higher levels of **digitalisation**:

This will result in **more connected and automated functionalities**, both for vehicles using the infrastructure and the infrastructure itself.

Guiding objectives 2040:

- Facilitate the transition towards **smart mobility concepts**
- **Proactive position of the infrastructure manager** within the infrastructure related data-driven ecosystem
- Ability to process internal and external raw data into **smart data**
- Facilitation of the alignment of **TEN-T core network**
- Increase the use of **automated, semi-automated and remote-piloted** solutions



i4Df 3rd Stakeholder Conference – Bonn 12th December 2019

8

Innovation Focus Area

Smart data and information ecosystem for accommodating automated and connected transport**Expected impacts 2030**

Innovations in this area will facilitate **infrastructure managers to become institutionally ready** to better plan and deploy strategies towards the accommodation of connected and automated transport on their infrastructure.

Aim is to deploy and manage infrastructure elements of a complex Operational Design Domain (ODD) that enables CAVs to **fulfil the expected positive effects on safety, traffic efficiency and other core business activities of infrastructures owners.**

- The **new and evolving role of the infrastructure owner** in the context of the deployment of connected and automated vehicles
- Secure, resilient and smart data and information ecosystem across **multimodal and transnational networks for all users**



i4Df 3rd Stakeholder Conference – Bonn 12th December 2019

9

 Federal Ministry
Republic of Austria
Transport, Innovation
and Technology

www.bmvit.gv.at

Automated Mobility in Austria

Michael Nikowitz
Coordinator Automated Mobility
Bonn, 12th December 2019

10

**Federal Ministry
Republic of Austria
Transport, Innovation
and Technology**

www.bmvit.gv.at

Action Package Automated Mobility

- **Goal:** Safer, more efficient & more sustainable
- **Timeframe:** 2019-2022
- **Focus:** Mobility of persons and goods
- **Mode:** Road, Rail, Aviation
- **Actions:** 34 Measures
- **Investments:** 65 Mio. € national funding

Online:
https://www.bmvit.gv.at/en/topics/alt_transport_concepts/automated/actionpackage.html

Michael Nikowitz, Bonn 12th December 2019

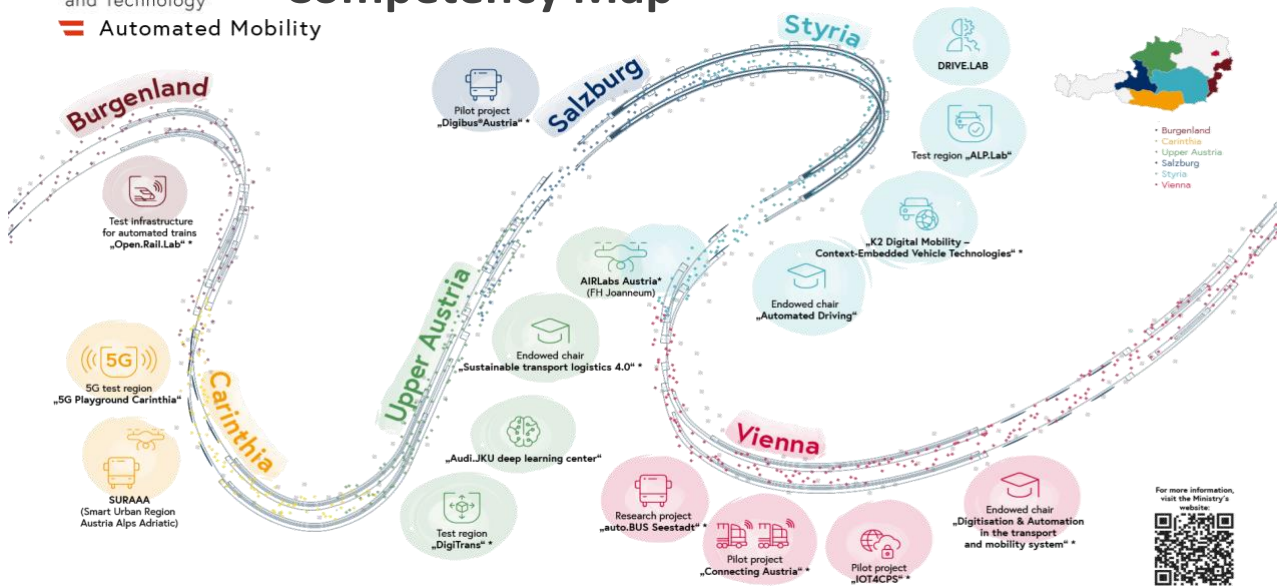


111

**Federal Ministry
Republic of Austria
Transport, Innovation
and Technology**
Automated Mobility

Competency Map

www.bmvit.gv.at



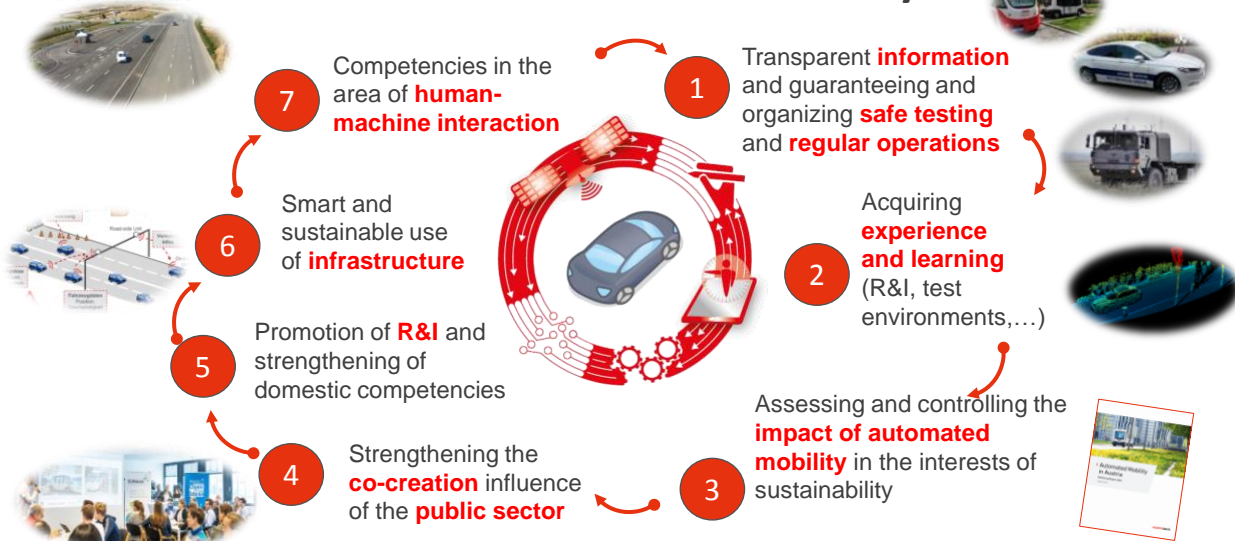
* The projects listed here are a selection of those supported by BMVIT in the area of automated mobility in Austria. In addition, BMVIT supports a large number of interdisciplinary projects in the fields of information and communications technologies, mobility and security research.

www.bmvit.gv.at/en/verkehr/automated

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Activities of the Federal Ministry



Michael Nikowitz, Bonn 12th December 2019

13

Federal Ministry
Republic of Austria
Transport, Innovation
and Technology

www.bmvit.gv.at

Transnational Cooperation is explicitly encouraged

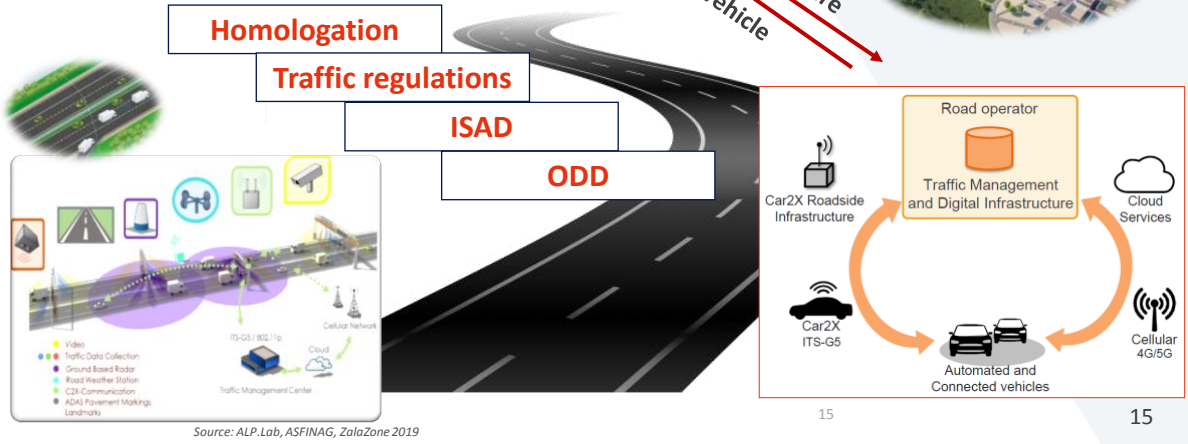
- A mature **ecosystem** with successful cooperations
- **Cross-border learning** on electric, connected and autonomous vehicles and their associated systems
- Establishing **adequate conditions** across border
- Cooperation of the sides with each other and with the European **Commission & UNECE**
- Use of learning environments and deployment of **necessary digital infrastructure**

Michael Nikowitz, Bonn 12th December 2019



14

Best Practice Cooperation AT- HU



Thanks for your attention!

Michael Nikowitz
Staff Unit Mobility Transition and Decarbonisation
michael.nikowitz@bmvit.gv.at

Andreas Blust
Unit III/I4 Mobility and Transport Technologies
andreas.blust@bmvit.gv.at

**automated and connected
mobility is an ongoing
research task in today's
world**



Integrated Infrastructure Network Management

Expanding an existing collaboration of European infrastructure authorities

Presentation to the 3rd i4Df Stakeholder Conference

Bonn, 12 December 2019

Dr. Ir. Arjan Hijdra (Rijkswaterstaat)

Description of the IFA *Strategic context and challenges*



EU public desires transport infrastructure that suits their needs:

- fluid borderless mobility,
- efficient transport,
- preserving the environment,
- improving living conditions,
- connecting physical and digital worlds.
- ...

In an evermore challenging setting by:

- changing power relations (cities)
- climate change
- funding difficulties
- technological complexity
- regulatory dynamics
- ...



Description of the IFA
Strategic context and challenges

EU public desires transport infrastructure that suits their needs:

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- ...

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- changing power relations (cities)
- climate change
- funding difficulties
- technological complexity
- regulatory dynamics
- ...

Reality is intertwined and fuzzy

How?

Integrated Infrastructure Network Management therefore requires;

A shift from cost-effective management of hardware to provision of public value through the networks in an increasingly dynamic setting of actors.

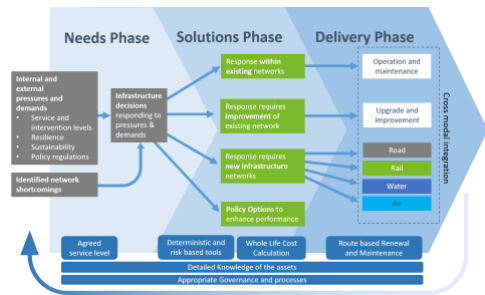


Expanding an existing collaboration of European infrastructure authorities



Endorsed common framework approach for governance and Management From AM4INFRA CSA initiative

CEDR working Group 'Network Governance'



Expanding an existing collaboration of European infrastructure authorities



Already active in CEDR Working Group 'Network Governance'	Additional expressed interests from i4Df
Belgium-VL Denmark Finland Ireland Italy Netherlands Norway Poland Slovenia Spain Sweden United Kingdom	Latvia Turkey

Includes Road, Rail, Waterways



What do we do?



4 step process:

1. Identify trends (Political, Economic, Societal, Technological, Legal, Environmental)
2. Characterize trends
3. Prioritize a selection and dive deeper
4. Show what options for governance and management are proven to be effective (according to best practices and scientific literature)

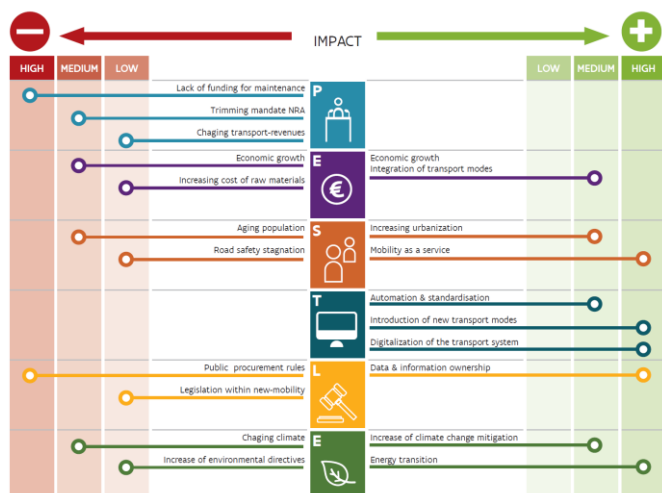
In this way we aim to structure the fuzziness and build a joint learning curve on the basis of proven mechanisms.



Sample from PESTLE analysis



PESTLE IMPACT MAP (Political, Economic, Social, Technological, Legal and Environmental)



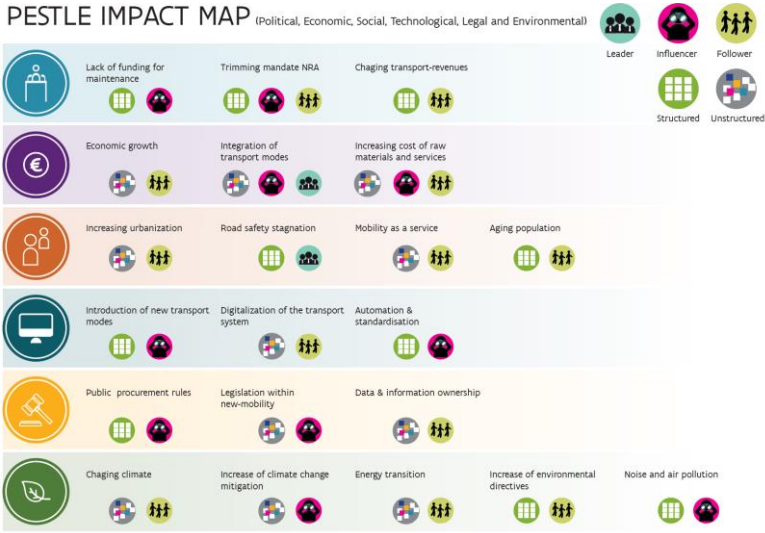
Shortlist of 21 relevant trends

Expected timing → long, medium or short

Impact on governance and management → high, medium or low



Sample from PESTLE analysis



Shortlist of 21 relevant trends

Complexity of the issue → structured or unstructured

Role and position of NRAs → leading, influencing or following



Sample from PESTLE analysis



Selection of trends for deeper analysis

TRENDS	TREND ATTRIBUTE			
	UNSTRUCTURED	NRAs INFLUENCING	PLAYING OUT NOW	HIGHEST IMPACT
Digitisation of the transport system	✓		✓	✓
Lack of funding for maintenance		✓	✓	✓
Public procurement rules		✓	✓	✓
Economic growth	✓		✓	
Mobility as a service	✓			✓
Chaging climate	✓		✓	
Data and information ownership	✓			✓
Energy Transition	✓			✓
Trimming mandate NRA		✓	✓	
Introduction of new transport modes		✓		✓
Automation & standardisation in the construction sector		✓	✓	
Urbanisation	✓			
Increasing cost of services and raw materials	✓			
Noise and air pollution		✓		
Road safety stagnation			✓	
Legislation within new-mobility			✓	



Next Steps

- Strategic Session 7 at TRA 2020
- Various special and invited sessions.
- Initiating strategic discussion on 3 of 21 PESTLE trends
Objective: options for governance and management.
- CEDR workshops in 2020
-



'We must first note that economic factors are taken into account in a world in which ignorance, prejudice, and mental confusion, encouraged rather than dispelled by the political organization, exert a strong influence on policy making.'

Ronald Coase, Nobel Laureate





**Thank you
for your attention!**

Arjan Hijdra, Rijkswaterstaat, The Netherlands
Arjan.hijdra@rws.nl



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**Innovation Focus Area 2-1
Decarbonisation of
infrastructure management**

*Markus Auerbach – BAST
IFA Initiator*



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)

Bonn, 12 December 2019

IFA Decarbonisation of infrastructure management

Strategic context and challenges

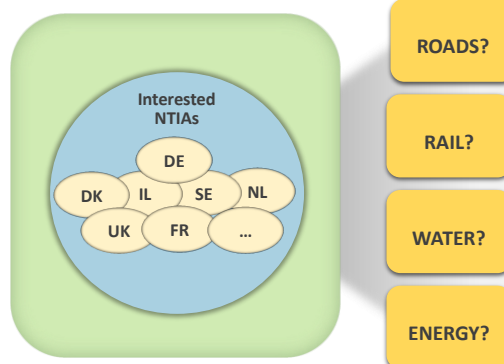


- GHG emission targets have to be met sectorwise
- Share of infrastructure of carbon emissions is not negligible
- Significant leverage on energy transition of transport system
- (Disruptive) change in energy supply: fossil fuels ➡ electricity
- A new stakeholder ecosystem (crossmodal and cross-sectoral) for energy production and exchange has to be established.

IFA 2.1: Setting up an NTIA IFA group



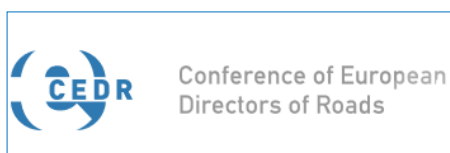
- Reduction of the carbon emissions in transport infrastructure: e.g. circular economy and decarbonisation;
- Support of infrastructure for the energy transition: electrification, renewable energy, intelligent traffic management, green procurement.
- Initial focus on: (renewable) energy production, exchange and distribution
- Interested NTIAs: NL, DK, SE, DE, IL, UK, FR
- Links with the wider stakeholder ecosystem still need to be determined



IFA 2.1: Building links to existing structures



- Previous/ongoing projects/calls
 - CEDR call 2019
 - DACH call 2019
 - National programmes: SE/DE cooperation on Electrified Road Systems
- Future calls
 - EU Horizon Europe
 - Abundance of topics in clusters 4 and 5

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33

IFA Decarbonisation of infrastructure management



- What's new about this IFA?
 - Starting from a "green field": self-organising, light and open
 - Interest is increasing
 - Crossmodal: Waterways, Rail, Road
 - Cross-sectoral: Energy and Transport
 - The most crucial feature for a transition to Renewables is cooperation in production, distribution and consumption across modes and sectors

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34

IFA 2.1: Next steps



What's next?

- Inviting further NTIAs to join the group
- Establish links to new stakeholders
- Identify collaboration activities
- Workshop of IFA in Copenhagen/Malmö on March 16th and 17th 2020



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35

Thank you for your attention!



Markus Auerbach, BAST, Germany
auerbachm@bast.de



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36



Conclusions and next steps

*Tiina Jauhainen – Väylä
Development Manager Research &
International Cooperation*

Bonn, 12 December 2019



This project is co-funded by the European Union under the Horizon 2020 (H2020) Research and Innovation Programme (grant agreement No 824269)

Why and How – what we learned today?



- Enable connectivity between countries, do not set-up borders for research and innovation.
- Find the right solutions to be and level to be standardised and in the right time.
- Use network meetings as integral part of continuous, targeted collaboration. fit-to-purpose
- Show positive attitude and willingness to share the knowledge.
- Bring new ideas in, break cycles with respect.
- Participate in preparations of funding programmes, e.g. Horizon Europe, Pillar II: Climate, energy and mobility.
- Present the added-value for the money you are asking for.



i4Df - General Information

2



Obviously we are approaching critical mass of success factors 😊 and needs for cooperation mechanism.

Let's join forces and create future success stories in/with research and innovation.



i4Df - General Information

3

networks 4D inspiration



light, flexible, transparent and open structures for effective and efficient knowledge sharing and transfer

ecosystems of Innovation Focus Areas will learn from the existing networks

8 international cooperation networks shared their experiences in detailed interviews. Selected quotes and main findings so far.

Quotes from the interviews

...it's like a peer review... colleagues who can help answer your questions...

we call it knowledge network so its all about open access

network meetings is an important communication tool

we share stories of innovations

we create arena for open discussions

the network acts on the principle that all participants are equal

participation itself is already one of the most powerful ways of developing and embedding knowledge

Initial lessons learned

create clear governance structure, with well-planned economy

enable possibilities for continuous learning

create open and informal atmosphere for knowledge creation and capture

find the optimal size of the network, not growing too big

manage the network, it needs dedicated and enthusiastic people to push and pull

ask constantly "why" to keep up interest and added value:

- why this topic attracts such a high interest?
- why is there a need for a common exchange of knowledge?
- why should we take part in this development process of knowledge development and exchange?
- why should we go for exactly this model of knowledge exchange?



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824269.

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4



Rethinking transport

Towards clean and inclusive mobility
27–30 April 2020, Helsinki, Finland

Rethinking transport

Towards clean and inclusive mobility
27–30 April 2020, Helsinki, Finland



Rethinking transport
traconference.eu
#TRA2020

Hosted and organised by:



Co-organised by:



Together with:



Programme at a glance

Sunday, 26 April 2020	Monday, 27 April 2020 9.00–18.30	Tuesday, 28 April 2020 9.00–18.30	Wednesday, 29 April 2020 9.00–18.30	Thursday, 30 April 2020 8.30–15.30
TRA2020 Pre-event in Tallinn: Innovation and entrepreneurship, tour of a Tallinn bypass and maritime culture	Press conference			
	Opening ceremony	Parallel sessions	Parallel sessions	Parallel sessions
	Keynotes	Coffee break	Coffee break	Coffee break
	Lunch	Plenary: Data-driven mobility for users by users	Plenary: Infrastructure as an asset – are we there yet?	Strategic sessions
	Plenary: Clean transport – URGENT ACTION!	Lunch	Lunch	Lunch
	Coffee break	Strategic sessions	Strategic sessions	Plenary: Staying competitive and seizing the opportunities
	Strategic sessions	Coffee break	Coffee break	Closing ceremony
	Coffee break	Parallel sessions	Parallel sessions	
	Parallel sessions	Coffee break	Coffee break	
	Opening the exhibition	Parallel sessions	Parallel sessions	
	Welcome Reception by the City of Helsinki 19.00–20.30	TRA Party 19.00–23.00		
Exhibition, interactive demonstrations, poster sessions and technical tours				



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TRA2020 key themes

Towards clean and inclusive mobility

CLEAN TRANSPORT – URGENT ACTION!

We do not talk about climate change in the future tense any longer. Urgent actions are needed in the transport sector, not only to mitigate but to adapt to the challenges we are facing.

DATA-DRIVEN MOBILITY

Digitalisation is shaping transport and mobility in a way never seen before. The sharing economy has a growing role, and the popular demand is to put users at the core of transport systems.

INTELLIGENT INFRASTRUCTURE

Rethinking the use of physical infrastructure assets together with the digital and energy layers opens new opportunities. We need to improve efficiency, multimodality, connectivity and automation, and electric vehicle charging infrastructure.

EUROPEAN COMPETITIVENESS

The research field should play a significant role in supporting and shaping policymaking at national, European and global levels. We need to rethink how, with the help of RDI, we can create a more competitive and sustainable European label.



Rethinking transport
traconference.eu
#TRA2020



Vielen Dank und willkommen in Finnland, Helsinki!
Kiitos ja tervetuloa Suomeen, Helsinkiin!
Thank you and welcome to Finland, Helsinki!

 Tiina Jauhiainen
 +358 40 6533384
 Tiina.jauhiainen@vayla.fi
 www.vayla.fi