



Grant Agreement Number: 723016

Project acronym: **INFRAMIX**

Project full title: INFRAMIX - Road INFRAstructure ready for MIXed vehicle traffic flows

D6.2

Communication kit description

Due delivery date: 31/05/2018

Actual delivery date: 05/10/2018

Organization name of lead participant for this deliverable: **ICCS**

Project co-funded by the European Commission within Horizon 2020		
Dissemination level		
PU	Public	x
PP	Restricted to other programme participants	
RE	Restricted to a group specified by the consortium	
CO	Confidential, only for members of the consortium	



Project funded by the European Union's Horizon 2020 Research and Innovation Programme (2014 – 2020)



Document Control Sheet

Deliverable number:	D6.2
Deliverable responsible:	ICCS
Work package:	WP6
Editor:	Nikoletta Karitsioti

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Document Revision History			
Version	Date	Modifications Introduced	
0.1	20/05/2018	Draft Outline	ICCS
0.2	27/05/2018	Draft Outline circulated internally	ICCS
0.3	28/05/2018	Review comments by ICCS members	ICCS
0.4	30/05/2018	Circulated to partners for input	ICCS
0.5	15/06/2018	Review comments by partners	ICCS
0.6	30/06/2018	First description of the communication kit	ICCS
0.7	30/07/2018	Description updated as the communication kit updated based on consortium feedback. Video updated based on consortium input and feedback (AAE, ASF, ATE, BMW, TUC, VIF).	ICCS
0.8	12/08/2018	Review comments by partners	
0.9	17/09/2018	Video link added to the document after the video approval from all the consortium. Circulated to partners for feedback.	ICCS
1.0	01/10/2018	Final Communication Kit description	ICCS

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Abbreviations and Acronyms

Acronym	Definition
EC	European Commission
PO	Project officer
GA	Grant Agreement
WP	Work Package
ITS	Intelligent Transport Systems



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Executive Summary

This document is the description of the first update of the D6.2 Communication kit, which includes the development of the dissemination material consisted of the leaflet, the poster, the general presentation, the e-newsletters, the videos and the brochure. The communication kit is updated periodically and two other descriptions will be reported on M24 and M36 in the project timeline.



1. Introduction

During the first year of the INFRAMIX project, the communication kit aims to generally inform the public, relevant search, academic and industrial community on the project's general concept, including the objectives and expected results. This will be the basis for the further development of the communication kit and the communication and dissemination strategy in general, since the communication kit has already been produced on a large scale at this stage and will be updated periodically within the project's lifetime.

More specifically, the communication kit, as has been described, includes the project brochure, banner, general presentation, e-newsletters and finally promotional videos. This kit will be yearly updated (M12, M24, M36). In the second section is presented the dissemination kit as it is shaped and realized up to this moment.

2. Communication kit

2.1 INFRAMIX leaflet

The INFRAMIX leaflet was designed and published within TRA Conference 2018 in Vienna where INFRAMIX had a strong presence. More specifically, the leaflet included the objectives and the expected impact of the project, the traffic scenarios that will be investigated as well as images from the two test sites in Spain and in Austria (including pictures of its equipment). The main contact points (the project coordinator and the dissemination manager) of the project, the partners, the website and the INFRAMIX social media were also included in the leaflet. The leaflet was updated in the framework of ITS World Congress so as to include new pictures and elements which resulted from the project's evolution.

The general idea of the leaflet is to present the project briefly and in a comprehensible way so as to inform the targeted audiences about INFRAMIX. The leaflet is constantly updated according to the projects' need and included in the online repository.

2.2 INFRAMIX banner

INFRAMIX banner has as objective to promote the project mainly in the scientific community and secondly in the general public. To reach this objective, the banner has been adjusted to the project's site in terms of language, text and visual elements. The first version of the INFRAMIX banner was developed and published in the TRA Conference 2018 in Vienna. It was designed in line with the INFRAMIX brand identity and the communication guidelines, has been updated in the framework of ITS World Congress and stored in the online repository. The banner includes information such as the INFRAMIX's general idea, the objectives, the expected impact and the interim major results as well as the partners, the main contact points, the website and the social media of INFRAMIX project.

The banner will be updated within the project's duration, in order to get aligned with the INFRAMIX presence on specific events. It will be used at conferences, exhibitions and public meetings.

2.3 INFRAMIX general presentation

In order to provide a homogenous image of the project to the external actors and the public, a standard presentation of the project has also been prepared and may be used by all partners to present or take some basic slides in order to prepare their individual presentations when participating in external events.

The presentation includes the following information: the INFRAMIX objectives and facts, the consortium, the main activities and the expected impact. It also provides all the information



to access the project's website and social media as well as to contact the project's representatives. The presentation has been stored in the online repository and will be updated regularly depending on the project's progress and the achieved results.

2.4 INFRAMIX e-newsletters

The project aims to publish periodic e-newsletter on important milestones of INFRAMIX in order to support the ongoing needs of the project after launching all the project's activities. The newsletter's objective is to summarize the project's activities and outcomes and to proactively initiate conversations with multiple stakeholders about on-going research topics. The e-newsletters include information about the project's process and will address both scientific community as well as SMEs and Industry. A mailing list has been created, including all the people that expressed their interest about INFRAMIX project and specifically its newsletter according to the recent GDPR rules. The [first INFRAMIX e-newsletter](#) has been issued and uploaded in the INFRAMIX website, as well as the online repository the consortium uses.

2.5 INFRAMIX promotional videos

The INFRAMIX project aims to provide videos so as to communicate the INFRAMIX messages in an easy and impactful way. The videos will be available on the project's website and social media, as well as on other available channels and platforms, such as YouTube, forums supporting the project's realization, the partners' websites e.t.c. The videos will be also displayed in relevant events and conferences which INFRAMIX will participate or organize.

Since the project runs the first year of its lifetime and does not have yet results to present in the video, our plan is to provide a more "promotional" video of the partners that participate in INFRAMIX and their affiliation to the project's activities, as well as the general information of the project.

The first INFRAMIX video has already been realized and presented in the English language. It is stored in the INFRAMIX account on YouTube in order to be available for all partners and visitors. It was also shown at the [ITS World Congress](#) 2018 at the project stand.

Given the fact that the first INFRAMIX video contains information about the partners and their activities, there was a long process for the partners to assure the approval to provide this material to the consortium. There were issues of ownership rights that had to be safeguarded. Therefore, there was a delay on the video development, in order the consortium to be totally vested.

2.6 INFRAMIX brochure

In addition with the project's leaflet, we decided to provide a more informative brochure. The INFRAMIX brochure has been developed and uploaded in the online repository. It is a 12 page booklet which contains extensive information of the project and its activities.

The INFRAMIX brochure will be distributed in different occasions and exhibitions to provide more specific information of the project. As we already have an INFRAMIX leaflet and due to our limited project results because of the first year of the project running, we have the flexibility to further improvements and edits on the brochure so as to secure an updated content.

3. Conclusion

In order to summarize, the INFRAMIX communication kit has been developed so as to



support all the communication and dissemination activities of the project. The general aim of the kit is to communicate the project, its activities and results in an effective way and make the results and deliverables of the project available on a comprehensible manner to all the potential audiences. The communication kit will be a live kit, which will be updated yearly as has been indicated in the Grant Agreement.



Annexes

INFRAMIX leaflet



QR code, @INFRAMIX, INFRAMIX project

Partners

austriatech, ASFINAG, Fraunhofer, SIEMENS, virtual vehicle, Tomtom, enjide, autopistas

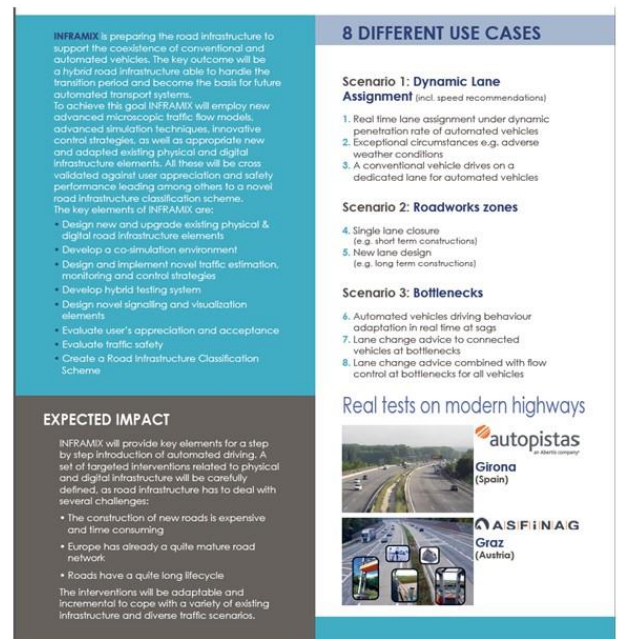
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Preparing road infrastructure for mixed vehicle traffic flows

www.inframix.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 723014.



INFRAMIX is preparing the road infrastructure to support the coexistence of conventional and automated vehicles. The key outcome will be a hybrid road infrastructure able to handle the transition period and become the basis for future automated transport systems. To achieve this goal INFRAMIX will employ new advanced microscopic traffic flow models, advanced simulation techniques, innovative control strategies, as well as appropriate new and adapted existing physical and digital infrastructure elements. All these will be cross validated against user appreciation and safety performance leading among others to a novel road infrastructure classification scheme. The key elements of INFRAMIX are:

- Design new and upgrade existing physical & digital road infrastructure elements
- Develop a co-simulation environment
- Design and implement novel traffic estimation, monitoring and control strategies
- Develop hybrid testing system
- Design novel signaling and visualization elements
- Evaluate user's appreciation and acceptance
- Evaluate traffic safety
- Create a Road Infrastructure Classification Scheme

EXPECTED IMPACT

INFRAMIX will provide key elements for a step by step introduction of automated driving. A set of targeted interventions related to physical and digital infrastructure will be carefully defined, as road infrastructure has to deal with several challenges:

- The construction of new roads is expensive and time consuming
- Europe has already a quite mature road network
- Roads have a quite long lifecycle

The interventions will be adaptable and incremental to cope with a variety of existing infrastructure and diverse traffic scenarios.

8 DIFFERENT USE CASES

Scenario 1: Dynamic Lane Assignment (incl. speed recommendations)

1. Real time lane assignment under dynamic penetration rate of automated vehicles
2. Exceptional circumstances e.g. adverse weather conditions
3. A conventional vehicle drives on a dedicated lane for automated vehicles

Scenario 2: Roadworks zones

4. Single lane closure (e.g. short term constructions)
5. New lane design (e.g. long term constructions)

Scenario 3: Bottlenecks

6. Automated vehicles driving behaviour adaptation in real time at sag
7. Lane change advice to connected vehicles at bottlenecks
8. Lane change advice combined with flow control at bottlenecks for all vehicles

Real tests on modern highways

autopistas (Spain)
Girona
ASFINAG (Austria)
Graz



INFRAMIX banner

<https://www.inframix.eu>

INFRAMIX

INFRAMIX will help prepare road infrastructure to support the coexistence of conventional and automated vehicles. Its main objective is to design, upgrade, adapt and test both physical and digital elements of the road infrastructure. The key outcome will be a "hybrid" road infrastructure able to handle the transition period and become the basis for future automated transport systems. The project developments will be validated via simulation and on real stretches of advanced highways. This will help to ensure that the proposed adaptations will not jeopardise safety, quality of service, efficiency and will be appreciated by the users. INFRAMIX builds on three traffic scenarios: dynamic lane assignment, roadworks zones and bottlenecks. INFRAMIX addresses existing highways, as they are expected to be the initial hosts of mixed traffic, but the key results can also be transferred to urban roads.

Cases, expected impacts and interim major results

- Adaptation and development of simulation environments for mixed traffic scenarios
- Linking simulation environments to real traffic test sites (hybrid testing)
- Development, implementation and validation of traffic state estimation and traffic control algorithms for mixed vehicle traffic
- Specification of digital and physical elements (e.g. new visual signs) of the road infrastructure
- Evaluation of users' appreciation
- Evaluation of proposed INFRAMIX infrastructure measures with regards to traffic safety and efficiency
- Development of safety performance criteria for road infrastructure in mixed traffic
- Development of an infrastructure classification scheme for automated transport (similarity to the SAE levels of automation)
- Roadmap towards the long term vision of automated transport

Simulation framework

Partners

austriatech, ASPINAG, Fraunhofer, SIEMENS, INTEL, AUTOTRAFFIC, autopistas, enjje, TOMTOM

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INFRAMIX e-newsletter

Dear INFRAMIX follower,

We're thrilled to present to you our first INFRAMIX Newsletter, which includes:

- An overview of the successful participation of INFRAMIX at the TRAC2018 conference:
- INFRAMIX participation highlights
- INFRAMIX presentation at the session "Connected and Automated Transport – Automated transport: enabling methods and technologies" by Dr. Angelika Kienast
- Dissemination material used during conference

- The latest updates from the project official deliverables:

- D2.1 Requirements catalogue from the status quo analysis (*)
- D2.2 Architecture and interface specification of the co-simulation environment (*)

- A video of the state-of-the-art technology and equipment of the test site in Austria.

(*) This document has not yet been approved by the EC services

InfraMix is preparing the road infrastructure to support the transition period and the coexistence of conventional and automated vehicles. INFRAMIX aims to design, upgrade, adapt and test (in simulation and in real-world) both physical and digital elements of the road infrastructure, to enable the coexistence of automated and conventional vehicles, in specific scenarios, ensuring an uninterrupted, predictable, safe and efficient traffic. The key outcome will be a "hybrid" road infrastructure able to handle the transition period and become the basis for future automated transport systems. Find more information about the project at <https://www.inframix.eu/>.

VIENNA 2018 TRA
A digital era for transport
Innovations for mobility, security and environment

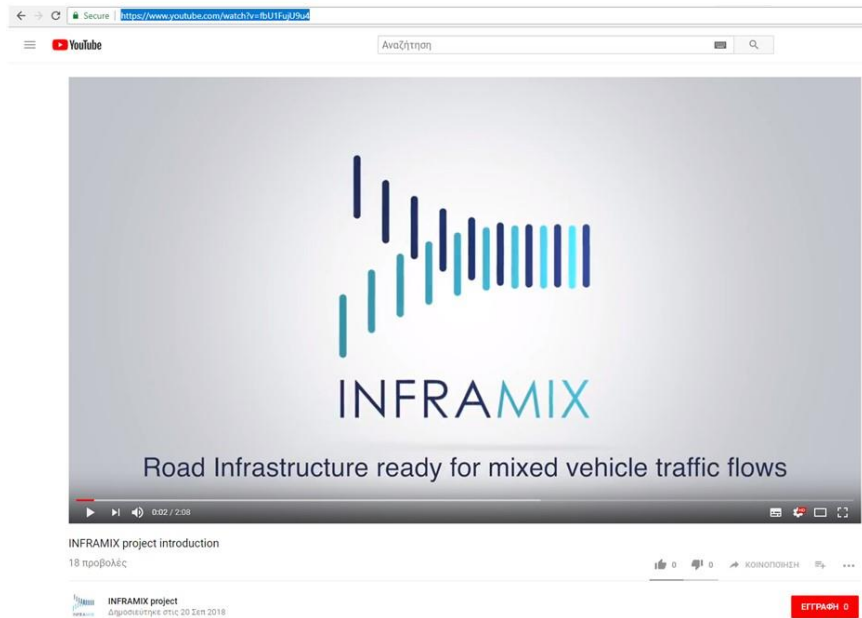
<https://www.inframix.eu/autonomous/>

1/5



INFRAMIX video

<https://www.youtube.com/watch?v=fbU1FujU9u4>





INFRAMIX brochure

PARTNERS

austriatech **ASFINAG**

Fraunhofer FOKUS **SIEMENS** **virtual vehicle**

TOMTOM **enide** **autopistas**

We are on the Web!

www.inframix.eu

Get social

INFRAMIX project

@inframix

PROJECT FACTS

Project title: Road infrastructure ready for mixed vehicle traffic flows

Starting Date: 01/06/2017

Duration: 36 Months

Budget (EU funding): 5.000.000 €

Coordinator

AustriaTech – Gesellschaft des Bundes für technologiepolitische Maßnahmen GmbH

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INFRAMIX

Road infrastructure ready for mixed vehicle traffic flows

EUROPEAN UNION

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723014.

QR Code

02

Road infrastructure ready for mixed vehicle traffic flows | Volume 1, Issue 1

What is INFRAMIX?

INFRAMIX is an EU funded project in the framework of ARI-05-2016 "Road infrastructure to support the transition to automation and the coexistence of conventional and automated vehicles on the same network". Its full title is "Road infrastructure ready for mixed vehicle traffic flows" and its duration is 36 Months (June 2017–May 2020).

Within the project, 11 partners collaborate targeting to design, upgrade, adapt and test both physical and digital elements of the road infrastructure, ensuring an uninterrupted, predictable, safe and efficient traffic.

To meet this high-level objective INFRAMIX is working on different technologies, combining simulation, traffic flow modelling, traffic estimation and control algorithms e.i.c. This work includes ways of informing all types of vehicles about the control commands issued by the road operator and the proposal of new kind of visual and electronic signals for the needs of mixed scenarios.

The outcomes will be assessed via simulation and in real stretches of advanced Highways. Key aspects considered throughout the project will be to ensure that the proposed adaptations will not jeopardize safety, quality of service, efficiency and will be appreciated by the users.

To achieve its objectives INFRAMIX selects a bottom-up approach, instead of working in generic solutions with questionable impact. It builds on three specific high value (in terms of importance for traffic efficiency and safety) traffic scenarios, namely "dynamic lane assignment", "roadworks zones" and "bottlenecks".

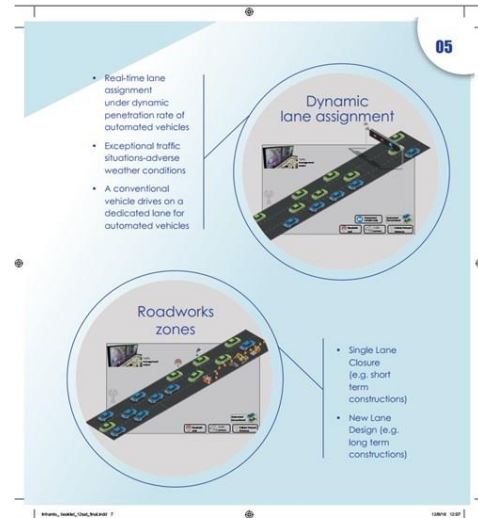
03

Which are the INFRAMIX objectives?

- Design new and update existing physical & digital road infrastructure elements;
- Develop a co-simulation environment combining the modelling of the vehicle behaviour with the traffic simulation, to examine mixed traffic scenarios under various penetration rates of automated vehicles
- Design and implement novel traffic estimation, monitoring and control strategies;
- Develop hybrid testing system: coupling infrastructure elements and vehicles on real roads with virtual traffic environment including representative mixed traffic situations
- Design novel signaling and visualization elements;
- Evaluate traffic safety and user's appreciation;
- Create a Road Infrastructure Classification Scheme

Short-term vision

Long-term vision



The Austrian Test Site includes 20km of A2 motorway between Lafnitzhöhe and City of Graz. The test site is equipped with gantries, mobile VAS roadworks warning equipment, ITS-G5 RSUs, video cameras (traffic management, single vehicle detection), single-vehicle counters, environmental sensors and radar detection. It enables testing of newly developed traffic information, ITS-G5 short-range communication, cellular communication and real-time

communication with the traffic control center. The infrastructure is based on a fibre-optic network that provides IP-based network connectivity to gantries.

The additional intention of the Austrian test site is to provide for each test run the complete precise trajectories of the tested vehicle as well as all vehicles in the surrounding traffic for the testing party to analyse. The data can be played back via a 3-D simulation tool.

A detailed diagram illustrating the infrastructure of the Austrian Test Site. At the top left, a blue box labeled 'INFRA' represents the central infrastructure hub. Below it, a series of numbered icons (1 through 11) are arranged along a stylized highway. These icons represent different functional areas: 1. Traffic Surveillance Camera, 2. Incident Management, 3. Traffic Information, 4. Road Works Information, 5. Weather Information, 6. Connected Vehicle Interface, 7. Video Detection System, 8. Cooperative ITS, 9. Video Content Distribution, 10. Data Center, and 11. Cloud. The highway itself is depicted with multiple lanes, featuring several cars and a large truck. At the bottom of the diagram, there are three more icons: a green circle for 'Traffic Control Systems', a yellow circle for 'Data', and a red circle for 'Mobile Network'. The entire scene is set against a light blue background with a subtle grid pattern.

Key expected results

Road infrastructure for mixed traffic	<ul style="list-style-type: none"> New traffic signs for mixed traffic Novel traffic monitoring recommendations [wireless messages evaluation]
Infrastructure Classification Scheme	<ul style="list-style-type: none"> Indication of the infrastructure connectivity, automation capabilities, capability to host vehicles of different levels of automation and connectivity A guide of how to incrementally upgrade levels of infrastructure to avoid stranded investments
Simulation platform	<ul style="list-style-type: none"> Investigation of several cases with safety critical impact Testing of innovative traffic control algorithms With increased traffic densities in exceptional conditions With different rates of conventional and automated vehicles
Hybrid testing system	<ul style="list-style-type: none"> Testing of new developments of connected and automated driving Simulation of critical traffic situation in a safe artificial environment

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INFRAMIX general presentation (indicative slides)

Road Infrastructure ready for mixed vehicle traffic flows

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723016.

INFRAMIX project facts

Duration: 1 June 2017-31 May 2020
EC Funding: 5M €
Coordinator: Austriatech
Consortium: Austriatech, ICCS, Asfinag, Fraunhofer, Siemens, Virtual Vehicle, Abertis, Enide, Technical University of Crete, TomTom, BMW

Website: <https://www.inframix.eu/>
Social media: @inframix, inframix project

3

Real tests

2 modern highways for real tests

Girona (Spain)

Gratz (Austria)

Traffic Scenarios	Spain	Austria	Hybrid testing	Co-simulation environment
Dynamic Lane Assignment	X			X
Roadworks		X	X	X
Bottlenecks	X	X	X	X

Keep track on INFRAMIX

- Website: <https://www.inframix.eu/>
- Twitter: @inframix
- Linkedin: inframix project
- Sign up to our newsletter: <https://lists.inframix.eu/wws/subscribe/news>
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