FOT-NET DATA

www.fot-net.eu

NEWSletter Issue 3 — March 2015

Editorial

The coming months are exciting times for European projects. Soon, the first ITS projects under the Horizon 2020 programme will start, and many organisations are currently preparing proposals for the new calls for projects. For the projects that are going to collect data, it is important that they prepare from the very beginning the way they are going to make their data available. FOT-Net Data provides recommendations on how this can be realised.

The project has now published a draft on data protection recommendations and one on data and metadata descriptions as the first part of the FOT-Net's Data Sharing Framework, on their **website *(http://fot-net.eu/fotnet-data-protection-recommendations-draft-now-available-for-comments/)***. This framework is developed in collaboration with stakeholders involved in Field Operational Tests and Naturalistic Driving Studies. FOT-Net Data also collaborates internationally, such as with the US Department of Transport. Stakeholders dealing with big data-sets from other domains are also consulted. I strongly advise you to have a look at these drafts and to provide the project with your comments. You can provide feedback till the end of May.

The project is also working hard on the Data Catalogue integrated with the **wiki *(wiki.fot-net.eu)***. There will soon be information available about data-sets from FOTs and NDSs. Re-using data from other projects will save time and resources and may lead to new insights.

The important FESTA methodology is disseminated and discussed with stakeholders during the course of the project. In November 2014, the first open webinars were organised focusing on the preparation and execution of a FOT or NDS and the legal and ethical issues. They are now available at the FOT-Net website for re-use.

If we look forward, in the coming years we will see the start of large-scale field tests and pilots of automated vehicles. The experiences gained in previous FOT and NDS projects and the methodology gathered by FESTA and FOT-Net will provide a good start. Although new types of systems will be tested, many testing principles remain the same. How does the vehicle interact with the driver and the traffic environment including other road users? To support this new wave of FOTs, valuable knowledge about human behaviour in traffic is to be found in the data that has been gathered over the years.

Myriam Coulon-Cantuer,
FOT-Net Data Project Officer,
EC DG CONNECT Smart Cities
and Sustainability

Highlights

- **FOT-Net's Data Sharing Framework presents data protection recommendations and the data and metadata description documents for your review by 31 March 2015!**
- **FOT-Net Data compiles first European data catalogue for driving studies and field trials. The datasets included will be available for further research work and described in reasonable details for potential re-users.**
- **FOTs are for all types of transport: trucks, bicycles, reindeer.**
- **Learn about the FESTA methodology in the FOT-Net Data Webinars.**

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 610453.

FOTs in the spotlight: Australian FOTs - Stuart Ballingall

"Cooperative Intelligent Transport in Australia: the NSW CITI Project"

CITI Roadside Unit

Stuart Ballingall is Project Director Cooperative ITS at Austroads

The Co-operative Intelligent Transport Initiative (CITI) is piloting C-ITS technology in Wollongong, approximately 85 km south of Sydney, Australia. The project is being managed by Transport for New South Wales, with contributions from NICTA Research Centre of Excellence (National Information Communications Technology Australia) and the Australian Federal Government.

The current phase of the project is equipping around 60 heavy vehicles, three intersections and other roadside locations with 5.9 GHz DSRC units procured from Cohda Wireless Pty Ltd.

With a focus on road safety, the pilot will trial applications such as 'potential collision' and 'over speed limit' warnings and traffic Signal Phase and Timing (SPaT) based alerts.

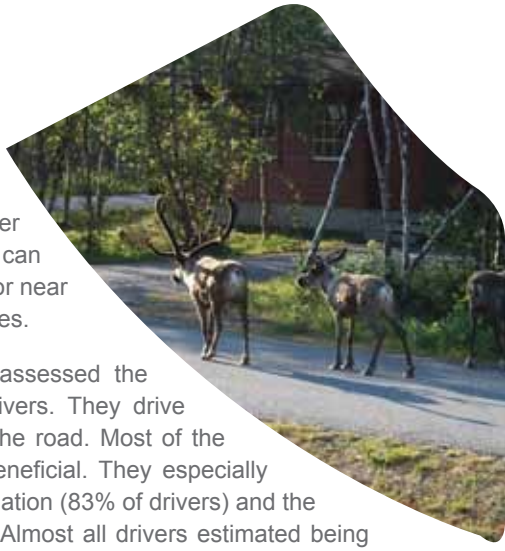
Five heavy vehicle operators are taking part in this pilot, which will involve up to 80 vehicles and over 200 drivers. Some of these vehicles will be operating 24 hours per day, seven days per week within the trial area.

The project is currently in its deployment phase. Two light vehicles and two heavy vehicles have already been equipped with the on-board Dedicated Short-Range Communications units. Three intersections have also been equipped to broadcast SPaT information, and three portable roadside units have been installed to provide heavy vehicle speed zone information and data collection.

The trial is scheduled to take place over the next two years.

Finnish FOT

Reindeer FOT in Finland



In Northern Finland it is important that drivers are warned about reindeer on the road so that they still have a chance to react. ITS provides new tools to prevent reindeer accidents. A FOT is taking place with truck drivers who can send and receive warnings about reindeer observed on or near the road via a simple mobile phone placed in their vehicles.

VTT Technical Research Centre of Finland Ltd has assessed the impacts of the system by interviewing the 25 test drivers. They drive in the test area regularly and often meet reindeer on the road. Most of the drivers (92%) considered the warning system to be beneficial. They especially valued the possibility of anticipating an extraordinary situation (83% of drivers) and the improvement in traffic safety that the system provides. Almost all drivers estimated being more alert after receiving a warning and one third assessed that the system makes them more alert also in general. Drivers decreased their driving speed, increased the distance from the vehicle in front and stopped multitasking.

The project is funded by the Finnish Traffic Safety Agency Trafi, the Finnish Transport Agency, North Ostrobothnia and Lapland Centres for Economic Development, Transport and the Environment, and the Reindeer Herders' Association. The warning system was developed by Paikkatieto Online Ltd. Local transport companies and reindeer herders actively take part in the FOT. The project ends in autumn 2015 when all the results will be available.

For more information: **elina.aittoniemi@vtt.fi** or **anna.schirokoff@trafi.fi**

A video of the reindeer warning system here

https://www.youtube.com/watch?v=D2pWFsMbmDQ

FOT-NET DATA Updates

Data Sharing Framework process

During 2014, implementation examples, data sharing experiences and general comments and ideas have been gathered by FOT-Net Data to understand the different stakeholders' view on data sharing. The next step has been to consolidate this knowledge into further development of the data sharing documentation delivered by the former project FOT-Net2. The first two documents, Data protection recommendations and the Data and metadata descriptions are now available as drafts. They are both important parts of the FOT-Net's Data Sharing Framework.

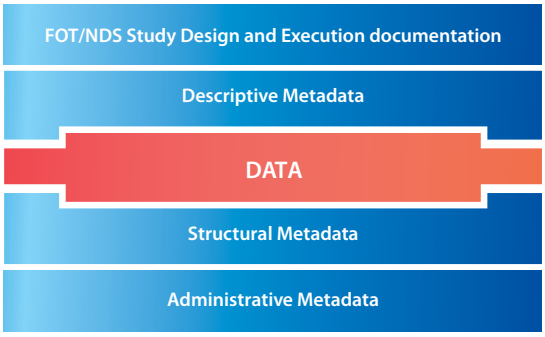
The purpose of the Data protection recommendations is to guide new projects and data centres on how to choose an appropriate level of protection depending on the type of data that has been collected. Data protection is the key to creating the trust needed between the data provider and the researcher and to make the data owners provide access to their data. The protection level needed depends on the harm the revealed data could do.

The document covers topics such as data classification based on protection need, data sharing access methods and recommended data protection requirements including implementation guidelines for data centres and analysis sites. An overview of current protection levels of accident databases is also incorporated.

The data and metadata description document suggests definitions and categorisation of data and metadata. The data categorisation targets the different data types that could be used for analysis. The four metadata categories, descriptive data, structural data, administrative data and study design documentations are explained and the content is described. The descriptive data are especially in focus, where the document recommends attributes to be used to describe the data for the researcher to facilitate accurate use of the data.

The two documents are available on the FOT-Net **website** (***www.fot-net.eu***). We would like to invite you to send your comments and reflections on the different topics. Your contributions will ensure that your context is taken into consideration and that the document will be useful for you in your future FOT/NDS data analysis. We would like to have your views on the documents before 31 May 2015, to be included in the next update.

A draft of the remaining topics in the Data Sharing Framework will be available in April for comments. It will contain recommendations for procedures and templates, education, support and research services, business models and application procedures. The Data Sharing Framework will be discussed at the FOT-Net workshop in Bordeaux, 5 October 2015, in conjunction with the ITS World Congress.



FOT-Net Data Catalogue

Datasets collected in Field Operational Tests (FOTs) of vehicle information technology form a valuable resource for further research. An important method for promoting these datasets is cataloguing them. FOT-Net Data is compiling the first European data catalogue for driving studies and field trials, in tight co-operation with similar international efforts and the FOT community. The datasets included in the catalogue will be available for further research work and described in reasonable detail for potential re-users.

The work is based on the current FOT-Net Wiki, which already contains a FOT Catalogue section describing projects across the world. The list of FOTs will be complemented with a FOT Data Catalogue.

FOT-Net will come up with a format and definitions for the data catalogue by considering current best practices for FOT dataset documentation and existing catalogue standards. Feedback and further input will be gathered from the FOT-Net community, especially from dataset owners.

The main purpose of the Data Catalogue is to support potential data re-users in identifying suitable datasets for their purposes and to facilitate data sharing. The catalogue has three main principles:

1. Extension of the current FOT Catalogue (wiki)
The FOT Data Catalogue works as an extension of the current wiki on FOTs/NDSs. The wiki functionalities will be enhanced also for the existing catalogues.

2. Ease-of-use
Ease-of-use is a key principle for the catalogue. For someone willing to share data, this includes easiness of information provision and update: clear instructions, forms with which all information can be submitted to the catalogue, and easy update functionalities.

For someone willing to re-use data, ease-of-use includes essential information on datasets and their re-use conditions as well as easiness of searching among datasets in the catalogues: enough information (and datasets), easiness of making intelligent searches and of downloading information.

3. Data remains with their owners
Another main principle for the catalogue is that the actual datasets remain with their owners. Data providers will make the final agreements with interested organisations and can offer support for new analysts regarding the details of the study. The catalogue will include information on data and contacts but not the data itself. It is, however, possible to add anonymised sample data for allowing re-users to see a practical example.

The development work of the FOT Data Catalogue is currently on-going and is in internal piloting phase. It is foreseen that the catalogue will be publicly launched around summer 2015. Then the whole FOT-Net community will be invited to add datasets and provide feedback on the catalogue.

wiki.fot-net.eu

Data Sharing In Practice

Re-using data in practice: FOT data meets bridge design guidelines

João Martins, PhD Candidate, Empa, the Swiss Federal Laboritories for Materials Science and Technology.

João Martins is in search of data on trucks braking on bridges. He reports his experiences.

I attended the first FOT-Net Data workshop with the following research question: “For a certain bridge under given traffic conditions, what is the magnitude of the force that should be included in the bridge’s structural safety verifications to account for braking events?” This is the core question of my PhD project, which aims to update the current Swiss bridge design guidelines with respect to the braking force.

On-road studies are, in this context, an invaluable source of data to model driver behaviour. They also help estimate a rate of occurrence of hard braking events suitable to compute the expected number of significant braking events on a bridge during a certain period of time. Fortunately, Niels Agerholm, from the Traffic Research Group of Aalborg University, had a dataset he was willing to share. With GPS and speed information measured with a frequency of 1 Hz, I identified hard braking events, geographically located them and estimated two different rates of occurrence of hard braking events per travelled distance, one for bridges on regional roads and another for bridges on motorways.

For me, as a PhD student with no experience in on-road studies and developing a project in the field of stochastic structural dynamics, re-using data from a FOT was an effective way to get sound empirical results in the computation of key parameters for my probabilistic model of the braking force within the limited time and resources I have for my project.

Open data in cities

Mats Jonsson, NetPort Science Park in Karlshamn, Sweden

Data from different sources is being used more and more to provide services for city planning, travelling, city logistics, energy optimisation and other needs in cities. Open Data with reference to the PSI (Public Sector Information) directive where public data should be made more or less freely available, is a catalyst for this change. To understand and pave the path to unleashing the real potential it is important to widen the concept of openness to include available data “at a price” also from commercial sources.

This does not need to be negative as open data always comes at a cost. If this cost could be balanced with a price for the access we could expect better availability, higher quality and more frequent updates of the data. New data sources will most likely also be made available.

With an attitude to allow and make use of data from several sources or even generate new data as a part of an application, NetPort Science Park is involved in projects to tackle the challenge to make the city a Smarter City. The key is not massive amount of data or big data, but more of intelligent combinations and analysis of the data into useful information presented in a way easy to understand and absorb.

More information on the **PSI directive here**.

http://ec.europa.eu/digital-agenda/en/european-legislation-reuse-public-sector-information

News From Other Projects

FOTsis

The FOTsis project, in cooperation with the European Commission, has decided to extend the life-span of the project for an additional 6 months until the end of March 2015. This to finalise the Field Operational Tests, the data gathering and the impact analysis of the services as well as to roll out its definitive business models, which will serve as a blueprint for their commercial exploitation after the end of the project.

www.fotsis.com

The project will conclude its activities with two events: first, the final FOTsis Club workshop in Brussels (March), that will be dedicated to presenting the main outcomes of the business models. Second, a final event in Madrid (April), where the project will showcase selected tests sites and demonstrate the technologies and equipment behind some of the services.

During the last months of 2014, the project finished gathering data from all test sites, including both objective data (from ITS stations, from the services themselves, etc.) and subjective data (questionnaires to drivers, road operators, etc.). Moreover, the project continued the impact analysis of the FOTsis services, evaluating their impact on safety, mobility and sustainability. Finally, FOTsis has finished the preliminary business models and is now developing the final business cases for the 7 FOTsis services.

UDRIVE

UDRIVE will soon start their activities, collecting naturalistic data from cars, trucks and powered two-wheelers in seven countries. As a large variety of data will be gathered, including video data, a Data Protection Concept (DPC) has been developed and has now been implemented within common tools and the processes by the different partners. The sites collecting data are focusing on how to protect personal data such as name, personal number and vehicle IDs connected to the participants. The partners processing the data and making it available for analyses are dealing with data storage security, data transfer protection and establishing secure remote access. Finally, the partners analysing data are implementing a secure framework, where the data can be analysed without being leaked to unauthorised personnel.

UDRIVE
European Naturalistic Driving Study

www.udrive.eu

Researchers from other institutes will be invited to use the data after the project finishes. An application procedure is under development and will be available on the UDRIVE website. It will include information on how to apply for data and the conditions for re-using the data including data privacy considerations.

The UDRIVE concept and the FOT-Net's DSF were developed in parallel and influenced each other. Experiences from UDRIVE will later be incorporated into the Data Sharing Framework.

Past events

FESTA Webinars, 12, 19 and 26 November 2014

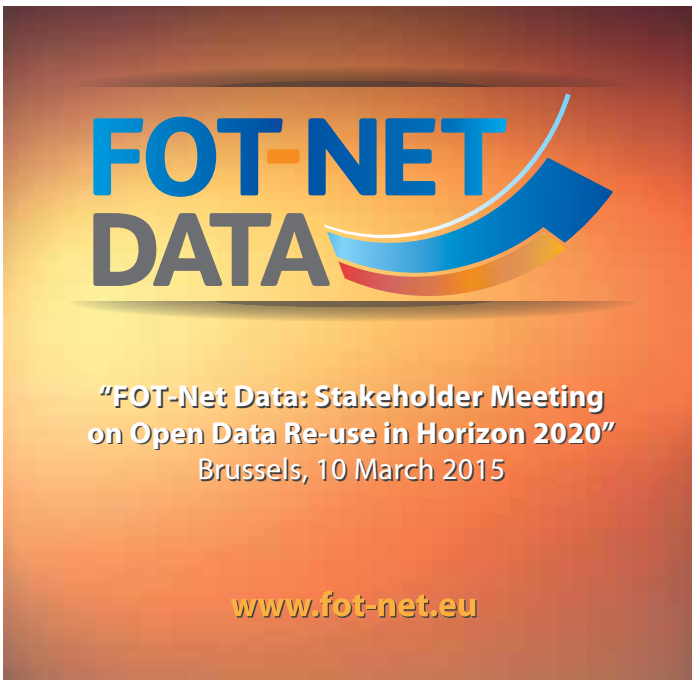
The FOT-Net Data project has organised three webinars on the FOT methodology to transfer the existing knowledge to participants who are relatively new to FOTs and NDS or who want to become more familiar with the methodology. The webinars covered three topics, namely "Context, functions, research questions", "Performance indicators, study design", and "Ethical and legal issues". The presentations from these webinars are made available in a format that allows independent e-learning for newcomers.



Speakers at the 2014 FESTA Webinars

Photographs from left: Oliver Carsten, Institute for Transport Studies of the University of Leeds; Yvonne Barnard, Institute of Transport Studies of the University of Leeds and seconded to ERTICO - ITS Europe; and Helena Gellerman, SAFER.

http://fot-net.eu/library/



FOT-Net Data Workshop on Data Re-use

Barcelona, 16 — 17 December 2014

"Computer for Science and Society, the MareNostrum supercomputer, installed in a former chapel, is managed by the Barcelona Supercomputing Center – Centro Nacional de Supercomputación."

**Photograph courtesy of BSC, Spain*

The first FOT-Net Data workshop on data re-use was held on 16-17 December 2014 in Barcelona (Spain), in collaboration with EUDAT and Barcelona Supercomputing Centre of UPC (Polytechnic University of Catalonia). The workshop focused on different projects and their methods for re-using data. In interactive break-out groups, the participants had the opportunity to look into data samples from several projects and evaluate how easy or difficult the collected datasets could be understood.

The workshop investigated the potential of re-using data-sets from European projects such as DRIVE C2X, Compass4D, SISCOGA, TRAFISAFE and smartCEM, and the Safety Pilot Model Deployment data-sets from the US. The EUDAT (**www.eudat.eu**) project presented its work to create a pan-European e-infrastructure supporting multiple research communities. Practical examples from re-using data were presented, looking at the analysis of re-used data and the preparation of data-sets such as assigning meta-data.

All presentations and a full report are available **here**.

http://fot-net.eu/Documents/1391/

International Cycling Safety Conference

Gothenburg, 18 — 19 November 2014

The 3rd International Cycling Safety Conference (ICSC 2014) took place in Gothenburg on18-19 November 2014, and was hosted by SAFER, Chalmers University of Technology, and the City of Gothenburg. Topics included accident causation, cyclist behaviour, infrastructure safety, helmet development, and ageing, as well as new trends in cycling such as electrical bicycles and ITS. Innovative methodologies for data analysis were presented and demonstrated on novel datasets including naturalistic cycling data. In this way the ICSC 2014 gathered many stakeholders including national and municipal authorities, manufacturers and suppliers, policy makers, and researchers. The program of ICSC 2014, presentations and peer-reviewed papers are available: www.icsc2014.eu

The next (4th) International Cycling Safety Conference (ICSC 2015) will be hosted by Hannover Medical University in Hannover, Germany, on 15 — 16 September 2015.

FOT-Net Data Project

FOT-Net Data, Field Operational Test Networking and Data Sharing Support, is a 3-year support action project to

- Support the efficient sharing and re-use of available Field Operational Tests (FOTs) datasets
- Develop and promote a framework for data sharing and data re-use
- Build a detailed catalogue of available data and tools and
- Operate an international networking platform for FOT activities.

FOT-Net Support:

- Networking Platform
- Data Sharing Framework
- Catalogue of Data and tools
- FESTA Methodology

Associated Partners

2 New Associated Partners have joined the FOT-Net Data project:

Upcoming Events

Save the Dates!

- FOT-Net Data Stakeholder meeting, Brussels, 10 March 2015
- FOT-Net Data Webinars 2015:
  - Databases, data analysis and hypotheses testing: Adrian Zlocki, 20 May 2015, 13:00-14:00
  - Impact assessment and socio-economic cost benefit analysis: Pirkko Rämä, 27 May 2015, 13:00-14:00
- Workshop on Anonymization of large data-sets, June 2015
- 24th International Technical Conference on the Enhanced Safety of Vehicles (ESV), Gothenburg, Sweden, 8 — 11 June 2015
- 22nd ITS World Congress "Towards Intelligent Mobility – Better use of space" Bordeaux, France, 5 — 9 October 2015
- FOT-Net Data International Workshop, Bordeaux, 5 October 2015

Interested to join the FOT-Net Community? Become an Associated Partner!

Relevant experts and stakeholders can join the FOT-Net Data project as Associated Partners and actively contribute to the networking, discussions and FOT wiki. Associated Partners benefit from visibility during the workshops and events and share their valuable knowledge with the audience.

Reasons for you to join

You will learn:

- How to design and execute future FOTs
- How to re-use existing FOT data to answer new questions
- How to prepare your data collection, storage and documents so that they can be re-used later

News Service

If you wish to subscribe to this newsletter, please register via the FOT-Net **homepage**. (***www.fot-net.eu***).

News about your FOT

Please send your information on FOT-projects to **info@fot-net.eu**

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