USER NEEDS INTERVIEW

Introduction



The objective of this interview is to collect the views of road managers and operators on:

- intelligent systems currently used to operate their road network
- solutions needed for the future

Identity



Name of interviewee	Marc Zimmermann (marc.zimmermann@asfinag.at)
Name of organisation	ASFINAG (Autobahnen- und Schnellstraßen- Finanzierung Aktiengesellschaft)

Type of organisation *(tick as appropriate)*	Public road authority	**Toll road operator** (public / private / semi-public)	
	Police	Other (please state :**Austrian expressway / motorway operator)**	
Geographical Responsibility *(tick as appropriate)*	**National**	Local	
	Regional	Other (please state : _____)	
Responsibility for *(tick all that apply)*	**Motorways**	**Expressway**s	Major roads (national or trunk roads)
	Secondary roads	Local roads and streets	**Other** (e.g. Tunnel, Bridge), please state: **tunnels on expressways / motorways** _____)

Position of interviewee *(job title)*	Corporate Communications Manager
Roles of interviewee	Corporate Communications
Responsible for *(number of persons approx.)*	7

Open Questions

1 What are the main problems you currently face in managing your network (traffic and infrastructure)?
Give proposals and classify them by priority. For each problem: What measures are you taking, have taken in the past, are planning to take in the future?

Priority	Problem description	Measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
1a	financing of road construction and maintenance	introduction of truck toll system for trucks >3,5t	x				since 2004
		test of PPP model (ongoing pilot project in Lower Austria)		x			
1b	improvement of traffic control	Implementation of Central Traffic Control Centre (project VMIS), including Traffic Guidance Systems (Verkehrsbeeinflussungsanlage, VBA light, medium, heavy)		x			Final Implementation scheduled for 2015
		installation of traffic and weather sensors on entire expressway / motorway network (project VMIS)		x			
		filling gaps in expressway / motorway network (e.g. regional ring around Vienna)		x			Implementation until 2015
		Introduction of digital tachograph for trucks > 3,5t and buses to comply with driving and rest time rules / essential measure for road safety and enforcement of social rules in the road transport sector					Starting with August 2005

* Be as precise as possible, e.g.: *"Measure started in 2002 and ongoing", "Measure definitely planed to start in 2006", "Aim to implement around 2008 but not definite"*, etc

Open Questions (continued)

1

Priority	Problem description	Measures	Finished	Ongoing	Planned *(definite)*	Planned *(not yet definite)*	Time scale*
1c	improvement of traffic safety	crash barrier replacement		x			
		road safety audit (in construction phase), road safety inspection (during operation)		x			
		improved service and rest areas for drivers		x			
		improvement of tunnel safety		x			
1d	improvement of traffic safety (continued)	installation of section control systems		x			2 systems operational since 2004 and 2005
		automatic warning system against critical weather situations, especially fog, and traffic situations		x			pilot on A1 west motorway since 2003

* Be as precise as possible, e.g.: *"Measure started in 2002 and ongoing", "Measure definitely planed to start in 2006", "Aim to implement around 2008 but not definite"*, etc

Open Questions (continued)

2 How will planned measures be financed? (Direct financing from own funds / BOT (Build Operate and Transfer / PPP (Public Private Partnership), etc.

PPP model being tested in pilot project in Lower Austria: tender and concession for road management to private operator

3 What is the approximate split of spending between road building, road maintenance and installation of new equipment on existing roads? / How has this split evolved?

[million EUR]	2001	2002	2003	2004
road construction	545	663	897	1026
road maintenance	123	132	141	151

4 If you could choose one ITS or traffic management solution to improve safety, what would it be?

Traffic Management – traffic control units

5 If you could choose one thing to improve predictability of journeys (reliability of journey time information), what would it be?

Display panels with advice, how long it takes to go from one place to another

Routing forecasting in the internet in cooperation with information about lots

Open Questions (continued)

6 What degree of traffic control could you accept? (concerning speed enforcement, use of electronic toll tags to gather data, etc)

section control systems on selected routes (2 units already operational)

traffic guidance systems in high traffic density areas (expressway / motorway network around cities)

7 What causes the most damage to your road network today?

Consistently increasing truck-traffic

Damage caused by the weather

8 What system(s) or process(es) do you currently use to reduce this damage?

Tolls for trucks and buses over 3,5 tons in relation to the costs caused by which trucks and buses

General reconstructions, general modernisations of the road networks

9 What do you understand by “Intelligent Roads”?

The Austrian system of traffic telematics is the most modern in Europe, because all data in Austria converges in one place and is controlled centrally from there. As a result, all the advantages of traffic telematics can be optimally used.

The intelligent road contributes to the prevention and faster resolution of traffic congestion through early warning, diversion recommendations and speed adjustments. As a result, the transportation routes are optimally used and costs saved, which would otherwise have been allocated to the expansion of existing or new transportation routes.

The intelligent road is already a reality on the A12 and A13 (Brenner and Inntal motorway). The implementation of traffic telematics throughout Austria will be completed within a few years. The result: greater safety, service and travel comfort for all road users.

Targeted Questions

→ For each Item (which corresponds to a technical task in INTRO), please state what measures you are taking at the moment / have taken in the past / are planning to take in the future (tick appropriate box)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Stopping distance and skid resistance	**1** Detection of the traffic data - example Tyrol: there are sensors in and along the roads	X				
	2 Compilation of the road-situation with "RoadSTar" (**Road S**urface **T**ester of **a**rsenal **r**esearch)	X				
	3					

The INTRO project aims to develop models to link stopping distance to dynamic micro-slip data and to static skid-resistance measurements. This is to better understand these relationships for two pilot phases (information to drivers and to road authorities). This information could for example be used in winter to recommend variable speeds according to the measured conditions.	**Comments (if any):**

Targeted Questions (continued)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
B. Real time information for maintenance data	**1** Central traffic control centre (project VMIS)	X				
	2 Sensors in and along the roads in the whole of Austria			X		
	3					

The INTRO project aims to conduct a pilot demonstration of information on slippery roads to road maintenance authorities. This is to enable them to differentiate between ice/snow that needs clearing and bad surface conditions that need repaving. Data will be processed and displayed using a GIS (Geographical Information System) interface. The test will take place using probe cars near Vienna, Austria.	**Comments (if any):**

Targeted Questions (continued)

10 **Surface safety monitoring** *(INTRO WP2)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
C. Real time information to drivers regarding road surfaces	**1** automatic warning system against critical weather situations, especially fog, and traffic situations		x			pilot on A1 west motorway since 2003
	2		x			
	3					

The INTRO project aims to provide road surface-related information (mainly stopping distance) to drivers via an appropriate in-vehicle HMI (Human-Machine Interface). This will be based on data from floating cars with an on-board micro-slip measurement system (which provide this data to a central server), and also from static road surface data (for floating cars without micro-slip data).	**Comments (if any):**

Targeted Questions (continued)

11 **Pavement conditions and infrastructure production** *(INTRO WP3)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Intelligent pavements (pavement management, lifecycle and deterioration sensors)	**1** not planned					
	2					
	3					

The INTRO project aims to improve the management of the maintenance of the network (pavements and bridges) through smart methods of predicting the deterioration process and actual condition. The aim is to measure pavements in unobtrusive ways and make the information accessible at low cost. This includes a demonstration of sensor methods including in-situ sensors (such as loops, cameras and weigh-in-motion).	**Comments (if any):**

Targeted Questions (continued)

11 **Pavement conditions and infrastructure production** *(INTRO WP3)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
B. Remote pavement sensing from vehicles	**1** not planned					
	2					
	3					

The INTRO project aims to demonstrate the use of data provided by sensors fitted to standard vehicles ("probe vehicles") for improving the monitoring of pavement condition, and hence maintenance. This will concentrate on monitoring comfort and safety of the ride, as well as road defects such as rutting.	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
A. Data sensing for road, weather and traffic including Probe Vehicle / FCD (Floating Car Data) Technology	1 implementation of central traffic control centre (project VMIS)		x			
	2 installation of traffic and weather sensors on entire expressway / motorway network (project VMIS)		x			
	3					

The INTRO project aims to establish key traffic indicators, and to develop methods to calculate or estimate them using existing data sources for sensor-based measurement of traffic parameters. This includes analysis of data quality from using conventional single data sources and how this influences derived data (traffic flow, density, speeds, travel time, etc)	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
B. Data fusion of data from different sources for providing a comprehensive picture of network conditions	1 implementation of central traffic control centre (project VMIS)		x			
	2 installation of traffic and weather sensors on entire expressway / motorway network (project VMIS)		x			
	3					

The INTRO project aims to design and develop a data fusion module accepting and combining information and data from traffic detectors and other sources, for assessing the traffic conditions on the road network and detecting critical traffic situations. This task involves fusion of travel time data and traffic data, link travel time correction, etc.	**Comments (if any):**

Targeted Questions (continued)

12 **Traffic and safety monitoring** *(INTRO WP4)*

Problem description	**Your measures**	**Finished**	**Ongoing**	**Planned** *(definite)*	**Planned** *(not yet definite)*	**Time scale***
C. Safety indicators for monitoring traffic condition ***(inter-vehicle distance, speed variance, etc)***	**1** Webcams		X			
	2 Development of intelligent software for detection of traffic conditions		X			
	3					

The INTRO project aims to develop methods allowing relevant safety indicators to be estimated using traffic parameters. This will help traffic managers and drivers have a real-time overview of the safety level on different parts of the road network. This will be done by analysing accidents (only accidents linked to traffic conditions or road surface) on 6 sections of road network across Europe and using this data to build and validate models of safety indicators.	**Comments (if any):**

Targeted Questions (continued)

13 **General**

A. Which out of the above are in your opinion the most important/most useful approaches?

Expansion of the project VMIS in the whole of Austria

B. What risks do you see?

Costs Conduct of the road user

14 **This is the end of the interview. Do you have any other comments?**

Intelligence is also needed in vehicles, vehicle-side equipment and standardised interfaces are still required.