

Observe and Communicate



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The three safety areas

Why?

System

Areas

Methods

- System Safety
- Safety of the Human-Machine Interface (HMI)
- Traffic safety in practice

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Why should we use integrated methods?

Why?

System

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Methods

- Accident prognoses in connection with new equipment are speculative and not very reliable
- Traffic is a socio-technical system → Behaviour and interaction analysis have to be included

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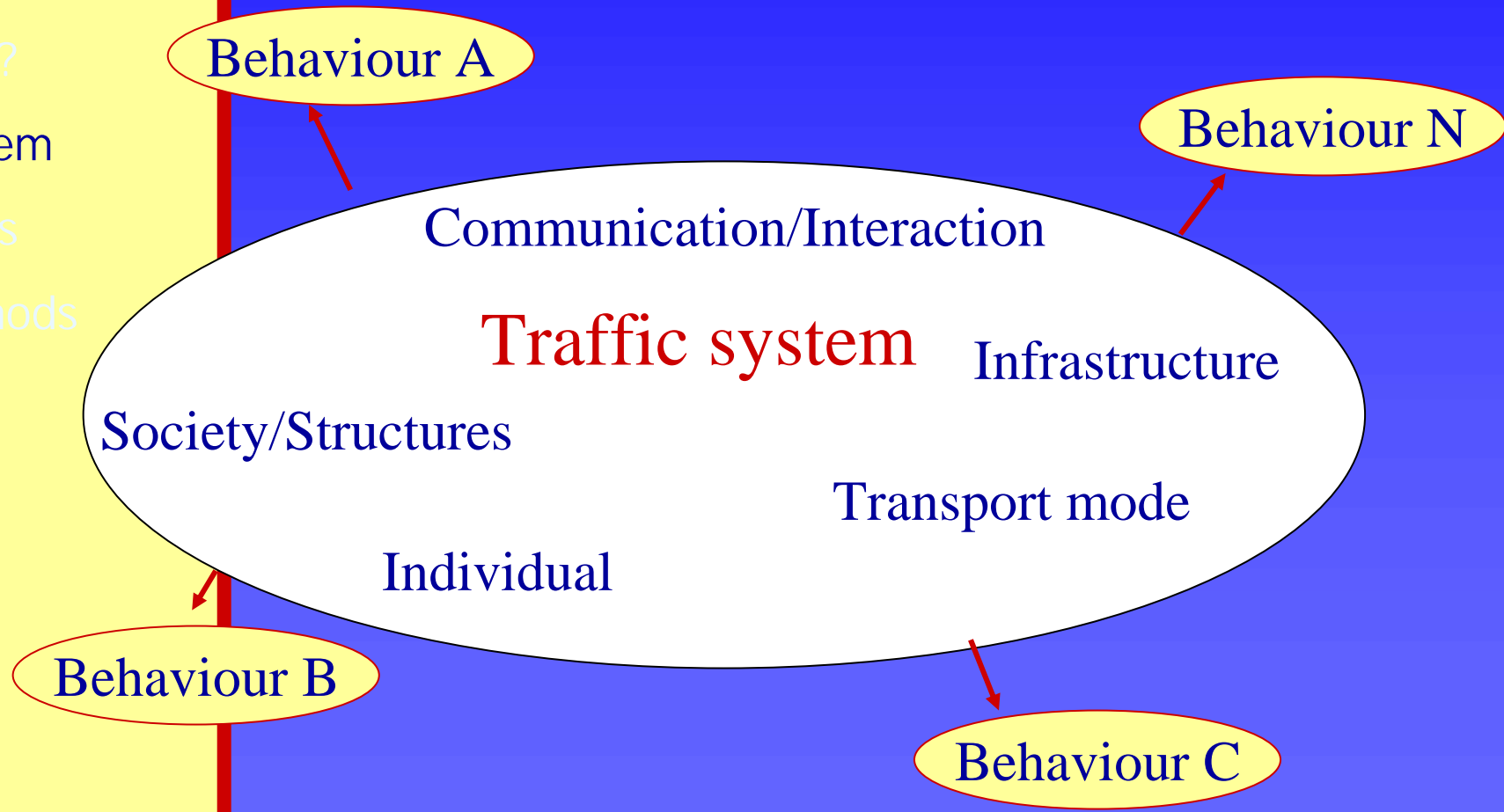
Traffic – the socio-technical system

Why?

System

Areas

Methods



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Why?

System

Areas

Methods

Literatur analysis

Traffic safety checklist

„Wiener Fahrprobe“

Focus group interview

In-depth interview

Standardised interview

Expert talk

Various Methods

- Literatur analysis - State of the art
- Traffic safety checklist
- “Wiener Fahrprobe” (Viennese driving test)
- Focus group interviews (FGI)
- In-depth interviews
- Standardised interviews - Questionnaires
- Expert talks - Workshop

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Literatur analysis - State of the art

Main aim: to get an overview of the
State of the Art

- what kind of effects have been evaluated in the past with similar equipment
- what kinds of aspects have to be regarded if you introduce this new equipment, with respect to different road users and target groups to communication and interaction

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Traffic safety checklist

Why?

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„Wiener Fahrprobe“

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Standardised interview

Expert talk

- Developed at the beginning of the nineties in the frame of activities of the PROMETHEUS PRO-SAFE group.
- Summary of literature and expert know-how with respect to behaviour adaptation and transformation into questions
- Focus on possible consequences for road safety by introducing new equipment in road traffic
- Prognostic instrument allows the formulation of assumptions concerning the effects of new equipment in road traffic.

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"Wiener Fahrprobe" - How?

Why?

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Expert talk

- In-car-observation method
- Two different observers
 - *Coding observer*
records driving actions by means of a standardised observation sheet
 - *Free observer*
observes behaviour in a non-standardised way, behaviour that can not be foreseen systematically

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"Wiener Fahrprobe" - Why?

Why?

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„Wiener Fahrprobe“

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Expert talk

Interaction and communication processes are not well predictable (when do they appear, under which conditions, in which form, etc.)



Good instrument to test the practical use of a new equipment especially with regard to effects on communication and interaction with other road users and on the general traffic behaviour.

Focus group interviews (FGI) - How?

Why?

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„Wiener Fahrprobe“

Focus group interview

In-depth interview

Standardised interview

Expert talk

- Open interviews
- Homogeneous or heterogeneous groups of people
- Participants reflect on different questions
- Interviewer usually prepares only a rough script

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Focus group interviews (FGI) - Why?

Why?

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Focus group interview

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Expert talk

- Can be used at any phase of its development
- Able to develop and prepare questions (e.g. for a in-depth interview) and hypotheses, that are later investigated in detail.
- Help to understand the needs of perspective users, thoughts about the system and what users would like a specific system to do.
- A cheap and a fast way to identify possible effects of a new equipment and to formulate assumptions that then can be analysed with appropriate methods.

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In-depth interviews

Why?

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Traffic safety checklist

„Wiener Fahrprobe“

Focus group interview

In-depth interview

Standardised interview

Expert talk

- qualitative assessment method
- partly structured
- require a format
- follow a process
- have to be recorded (handwritten or taped)

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In-depth interviews

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Expert talk

- May serve to identify and determine clearly system's requirements, motivations and resistance towards certain market products.
- Expensive, in terms of time and money, but help to make hypotheses about possible effects of any measure much more accurate.

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Standardised interviews - Questionnaires

- Different answering formats
 - Open answers
 - Single/multiple-choice
 - Rating scales
- Based on the results of qualitative research
- Should be pre-tested (are questions understandable and relevant?)

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Expert talks - Workshop

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Expert talk

- Heuristic approach to elaborate on certain topics.
- At the beginning of an evaluation process to get an unstructured subject structured
- At the end to discuss with experts the consequences of the results of an e.g. systematically assessed equipment.

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Expert talk

Standardised interviews - Questionnaires

- One of the most used quantitative instruments to assess a system.
- Suitable at any phase of development
- Possibility to test several aspects (e.g. usability, acceptance, workload, situation awareness) of the system at any desired level.

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