



OECD/ITF Joint Transport Research Committee
13th Meeting of the IRTAD Group
Paris, 30 March - 1 April 2011

Data Collection Transfer and Analysis

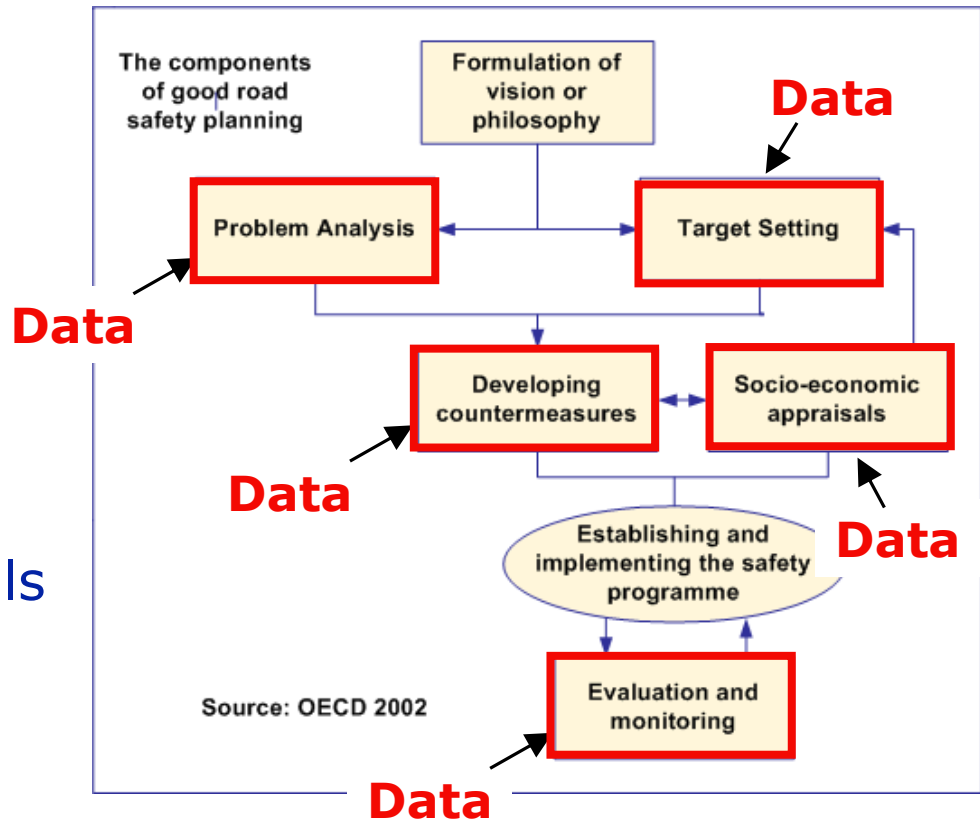
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Project co-financed by the European Commission, Directorate-General for Mobility and Transport

An effective road safety management process includes:

- Vision
- Problem analysis
- Target setting
- Countermeasures
- Socio-economic appraisals
- Implementation
- Evaluation



Road Safety Management is a science led process

- ERSO – initiated in 2001
 - “Objective is to coordinate all community activities in the fields of road accident and injury data collection and analysis”
 - Evidence base for policy development and review
 - Central to new EU Road Safety Strategy

- Structure and organisation developed within SafetyNet project 2004 - 2008

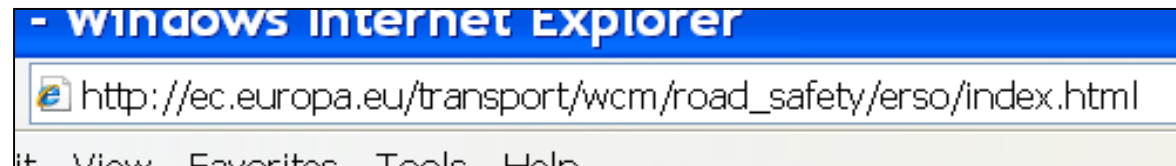
EC White Paper 2001

WHITE PAPER



The European Road Safety Observatory

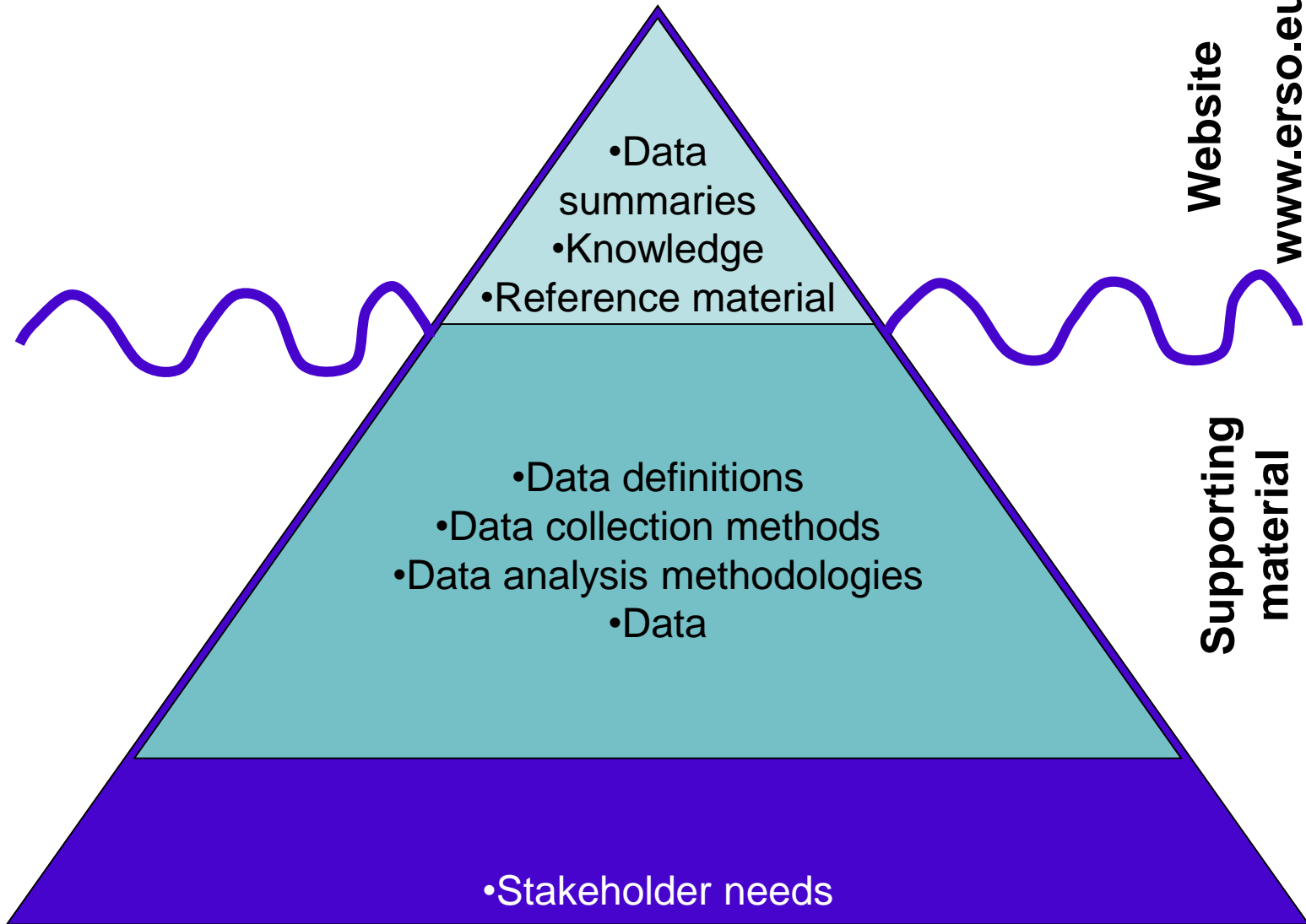
- SafetyNet developed a website for ERSO – www.erso.eu
- Included all protocols, methodologies and the knowledge base developed within the project
- 5,000 hits per month
- Now incorporated within the DG-MOVE website



Scope of the European Road Safety Observatory

- Data
 - Aggregate data
 - Data protocols
 - EU 27
- Knowledge
 - Best practise
 - Editorial group
- Links to other resources
- Macroscopic data
 - CARE
 - Exposure
 - Safety Performance Indicators
- In-depth
 - Accident Investigation procedures
 - Fatal accident data
 - Accident causation data
- Data analysis and dissemination

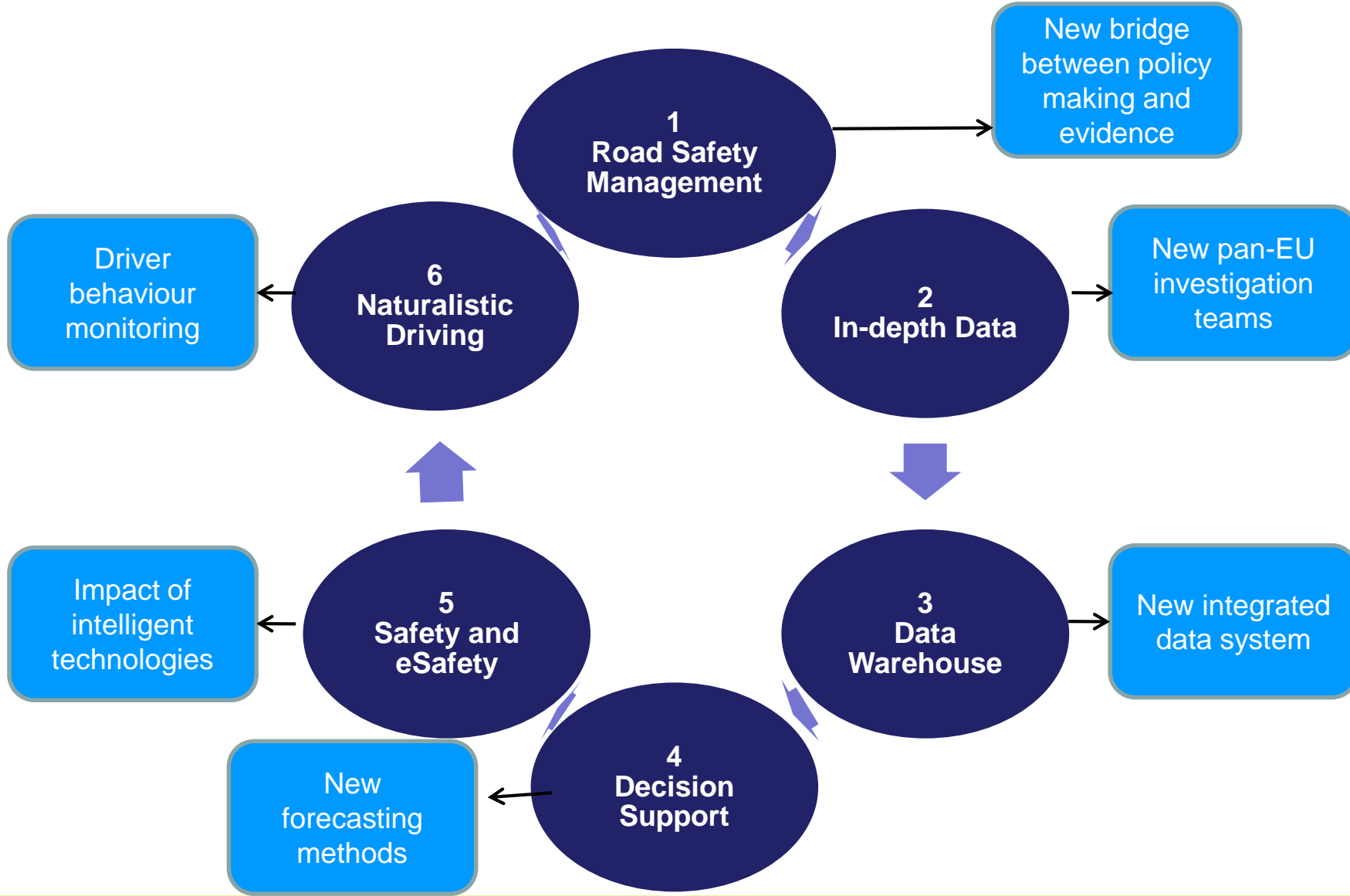
ERSO - the iceberg



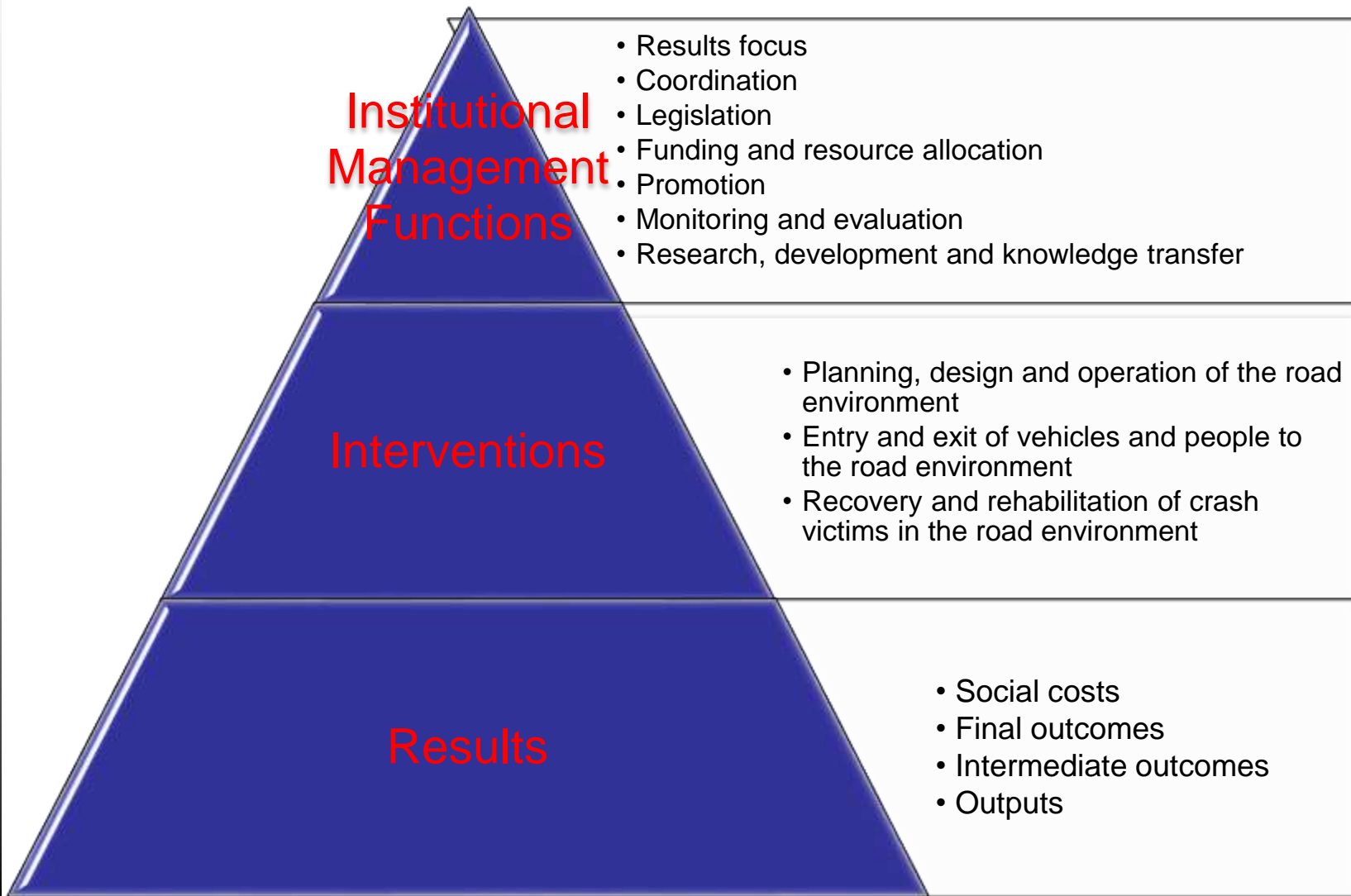
DaCoTA Challenges

- Take development of ERSO to the next stage
 - Enriching the information content
 - Amalgamating and structuring existing data
 - New in-depth data gathering infrastructure
 - Gathering and organising new types of data
 - Linking data to policy

DaCoTA Structure



WP 1 - Road Safety Management Policy



WP 1 - Road Safety Management Policy

Main outputs of the 1st year (2010)

- Report on the preliminary assessment of the experts' needs in data and tools based on the consultation of a panel of experts.
- Stakeholders' consultation process launched
 - Identification of stakeholders,
 - Development of a closed questionnaire, using the findings preliminary assessment,
 - Questionnaire posted and filled-in online by the stakeholders
- Development of a model of “*good practice*” in road safety policy-making and management with a related questionnaire to describe road safety management structures, processes and tasks and document “*good practice*”.

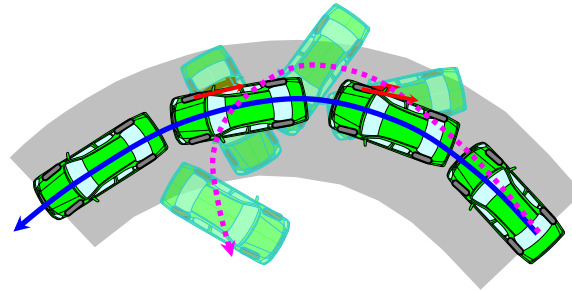
WP 2 - In-depth Accident Investigations

Scope

- Primary safety
- Secondary Safety
- Naturalistic driving and Field Operational Trials (FOTs)
- In-depth injury studies
- Infrastructure Safety

Main Activities

- Prepare the ground for a future Pan-European In-depth study
- Finalise protocols
- Identify and train teams
- Identify and resolve obstacles at national level



WP 2 - In-depth Accident Investigations

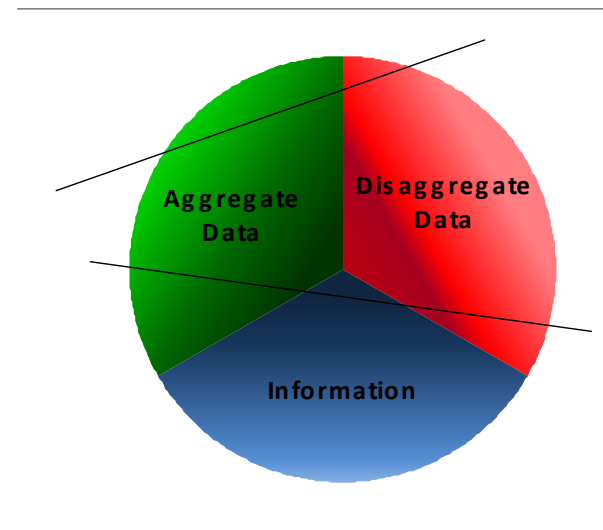
Main outputs of the 1st year (2010)

- Review of current and future policy needs for in-depth accident investigation. Identification of research priorities.
- Report on purpose of in-depth data and the shape of the new EU infrastructure.
- Review of current EU expertise, identification of new in-depth accident investigation teams in EU countries and of potential obstacles and solutions (under way).
- Review of existing data collection methodologies and protocols, in order to develop European in-depth requirements (under way).
- Development of appropriate database system and team training package (under way).

WP 3 - Data Warehouse

- Assembly of wide range of safety data and information
- Sunflower footprint
- EC and national data

- Road Accident Data
- Programmes
- Risk Exposure Data
- Measures
- Safety Performance Indicators
- Legislation
- In-depth Data
- Regulations
- Health Indicators/Data
- Behaviours/Attitudes
- Social Cost
- **Different levels of disaggregation**



All contents of the Dakota Data Warehouse are first put in the Dakota website and subsequently at the EC ERSO website.

WP 3 - Data Warehouse

Main outputs of the 1st year (2010)

- Gathering and organising of all types of national data (accident, RED, SPI, causation indicators, health indicators) and information (programmes, measures, rules, behaviour, cost), with the related meta-data and links to the sources and to the external files.
- Annual Statistical Report 2010 (soon available in ERSO).
- 17 Basic Fact Sheets 2010 (5 new ones) are prepared. Enhanced editions by using maps from the CARE database, as well as accident causation data (soon available in ERSO).

Main Figures	Pedestrians
Motorcycles & Mopeds	Bicycles
Junctions	Roads in urban areas
Children (Aged <15)	* Youngsters (age15-17)
Car occupants	* Single vehicle accidents
Young People (Aged 18-24)	* Seasonality
Heavy Goods Vehicles & Buses	* Roads outside urban areas
The Elderly (Aged 65+)	* Gender
Motorways	

Forecasting

- National road safety forecasts
 - minimal model for most countries
 - more extensive models for countries with more data
- European road safety forecasts
 - Estimate trends at European level
 - so that it finds its way to policy makers.

Tools

- Knowledge Webtexts
 - Present knowledge about road safety issues in a compact way.
- Data browser tool
 - Allow access to data collected in the data warehouse
- Country overviews
 - Overview of road-safety in every EU Member State
 - Development of a Composite Road Safety Index

WP 4 - Decision Support

Main outputs of the 1st year (2010)

- Report on the preliminary assessment of the experts' needs in data and tools based on the consultation of a panel of experts.
- A **common analysis model** for the production of the national forecasts is defined:
 - Simple model (in terms of data needed),
 - Two-level model that allows forecasting the development of vehicle kms (or other exposure indicators depending on availability) and of fatality numbers jointly,
 - Implementation of the model as a module that runs under the free software “R”,
 - Preliminary analyses for Belgium, Greece, Spain, Italy, and the UK.
- Update of 17 existing **webtexts** is under way. New webtexts are planned (Mobile phones, Data collection, Children, Driver distraction, ...) (under way).
- Definition of structure and functional specifications of the **country overviews**. Development of appropriate template based on SUNflower pyramid and development of two prototype country overviews for Greece and The Netherlands.
- Setting-up of the road safety performance **Composite Index** (under way).

Aim :

How does the technology contribute to the road safety

Objective :

To develop methodologies and approaches that will enable future evaluation of the safety impact of emerging intelligent technologies.

How:

- 1) Identify and update the user's needs in term of accident risk prevention and injury risk prevention
- 2) Identify and update how current technology can address these needs
- 3) Assess the potential benefits of the relevant safety applications (not only the safety benefits)



WP 5 - Safety and eSafety

Main outputs of the 1st year (2010)

- Consultation process with stakeholders. Elements covering e-Safety incorporated into the WP2 questionnaire.
- Identification of driver's needs and validation of existing technologies:
 - Necessary data to put forward the in-depth analysis of the capacity of safety systems to fulfill drivers' needs,
 - Establishment of the methodological basis for a common analysis of drivers needs and systems limitations based on accident data,
 - Review and update of an e-Safety technologies catalogue,
 - Preliminary analyses for Belgium, Greece, Spain, Italy, and the UK.
- Determination of a five-step general evaluation model (under way).
- Review of existing test procedures for the e-Safety systems. Focus on how the systems are evaluated:
 - For each test procedure/tool the necessary data are identified, as well as the main evaluation outputs, focusing on specificities,
 - Weaknesses of the existing test procedures are identified, as well as safety related questions are treated (test the function or system, tests representative of the real world, repeatability, etc).

WP 6 - Naturalistic Driving

- Implementation plan for a Large Scale Naturalistic Driving study in Europe, which should come after DaCoTA
- Establish a methodology for continuous monitoring of normal driver behaviour and exposure and also critical situations and near-crashes
 - which should be comparable between countries
 - within the framework of the European Road Safety Observatory (ERSO)
- The methodology will describe the necessary framework to gather, record and analyse naturalistic driving behaviour
- To inform safety policies and the development of new safety approaches



WP 6 - Naturalistic Driving

Main outputs of the 1st year (2010)

- Definition of Naturalistic Driving (ND) observations within ERSO:
 - Review of SPIs and RED's possible with ND (literature, workshop),
 - Definition of list of data/indicator needs,
 - Definition of technical equipment needed (at sensor level)
- Report on “Design of small scale practical study”, a set of necessary elements for designing and implementing the small scale study of DaCoTA project:
 - Sampling and weighting, maintenance of the sample,
 - Analysis plan, derive indicators (SPI, RED, NC) from the data by algorithm, data gathering, cleaning, reduction, storage, retrieval,
 - Database development,
 - Ethical issues, Liability (insurance), Privacy (data protection), Legal (Common Consent Form)
- 2 small scale studies (Austria and Israel) have been designed, specifying the variables to be collected, the equipment used and the sample size. In each country, about 10 people/cars will take part in the study during several months.

Beyond DaCoTA



*European Parliament
8 February 2011*

The European Parliament calls on the Commission:

- to draw up by 2012 a proposal to **improve the data available** concerning the causes of accidents and injuries;
- to apply by the end of 2013 a **set of additional, harmonised indicators** on the basis of which monitoring can be improved and meaningful comparisons of the progress made by individual Member States can be drawn up;
- to draw up within two years **definitions of the terms 'critically injured', 'seriously injured' and 'slightly injured'** with a view to making comparisons of measures and their impact in the Member States possible;
- for the development of a genuine **EU road safety monitoring centre** whose task it would be to collate data from existing databases and the knowledge gained through the implementation of EU projects such as SafetyNet or DaCoTa and make it available to everyone in a readily comprehensible, annually updated form;

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