

Data Analysis and Data Management Approach in euroFOT

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www.eurofot-ip.eu

eur
FOT

Bringing intelligent vehicles to the road

The euroFOT project

History

- **Field opErational teSt support Action (FESTA)**
 - ♂ Collect and publish how to run a FOT
 - ♂ Project end in 2008
- **Field Operational Tests in FP7 research program**
 - ♂ Advanced Driver Assistance Systems (euroFOT)
 - ♂ Nomadic Devices (TeleFOT)
- **euroFOT**
 - ♂ Project start in May 2008
 - ♂ 46 month duration till February 2012
 - ♂ 28 partners, 22 mio € budget, 14 mio € funding from EC



The euroFOT project Consortium

Vehicle Manufacturers



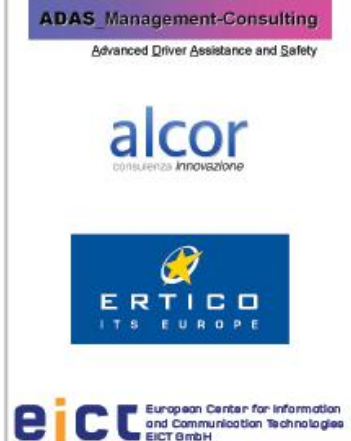
Automotive Suppliers



Universities and Research Centres



Other Organisations



The euroFOT project

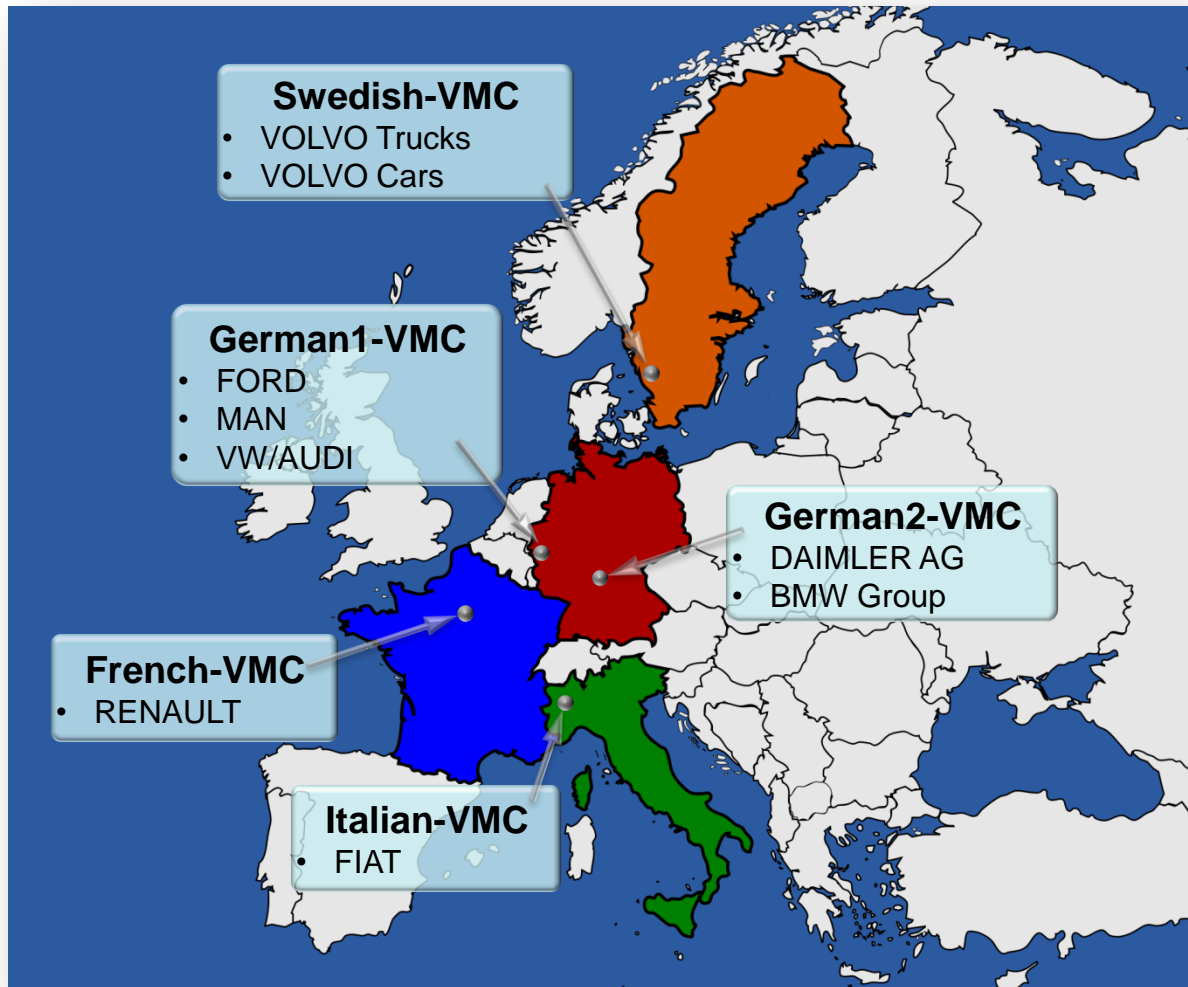
Objectives of the project

- To assess the impacts of ADAS in real traffic, by focusing on the analysis of:
 - ♂ safety
 - ♂ traffic efficiency
 - ♂ environment
 - ♂ driver behaviour
 - ♂ driver workload
 - ♂ user acceptance
 - ♂ usability
- Cost-benefit analysis, based on results from impact assessment



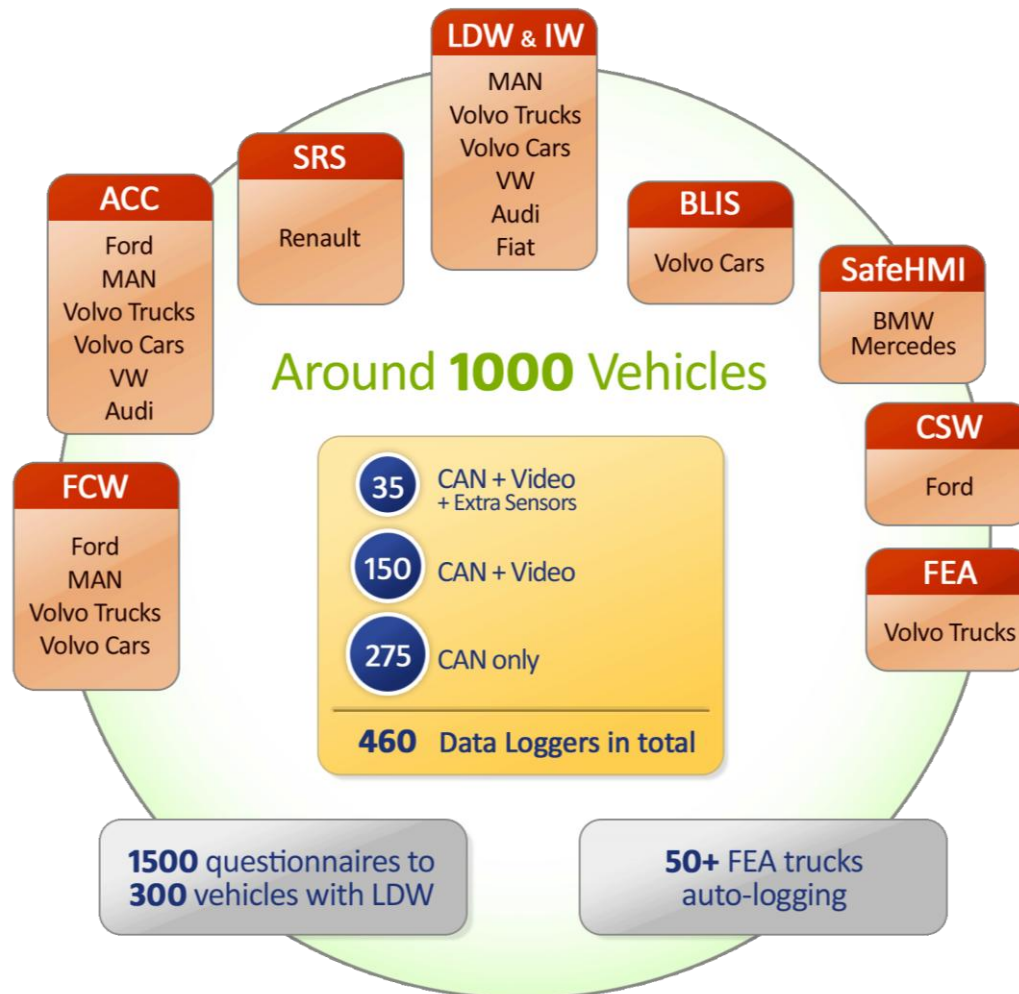
The euroFOT project

Fleet coordination



The euroFOT project

Tested functions



•Longitudinal control functions

- ♂ Forward Collision Warning (FCW)
- ♂ Adaptive Cruise Control (ACC)
- ♂ Speed Restriction System (SRS)

•Lateral control functions

- ♂ Blind Spot Information System (BLIS)
- ♂ Lane Departure Warning (LDW)
- ♂ Impairment Warning (IW)

•Advanced applications

- ♂ Curve Speed Warning (CSW)
- ♂ Fuel Efficiency Advisor (FEA)
- ♂ Safe Human Machine Interaction (SafeHMI)



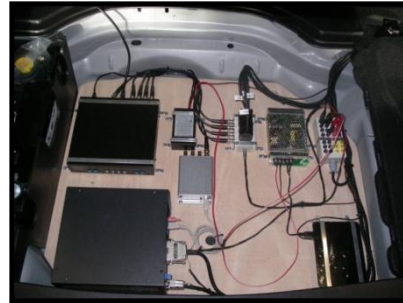
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Data acquisition systems

BMW



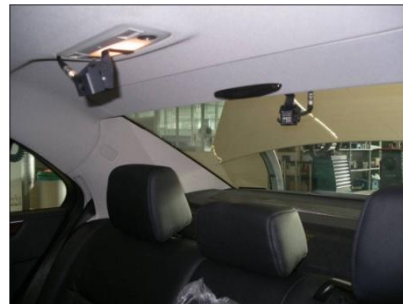
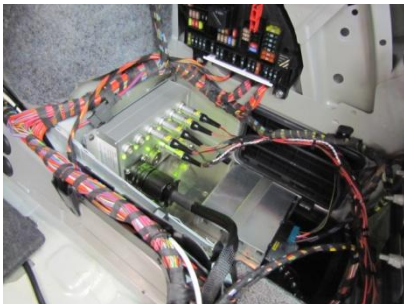
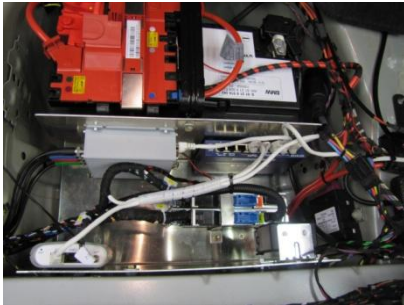
Daimler



Ford, VW,
Audi, Renault



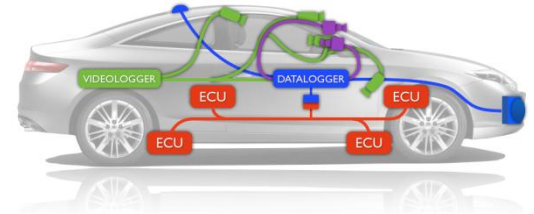
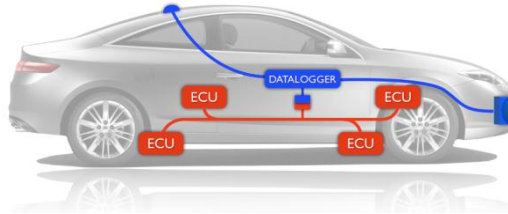
Volvo



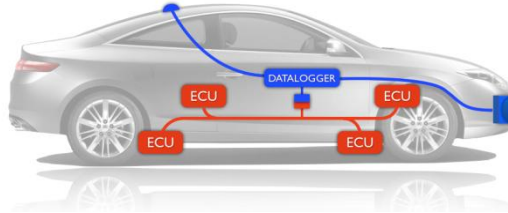
The euroFOT project

Instrumentation of vehicles

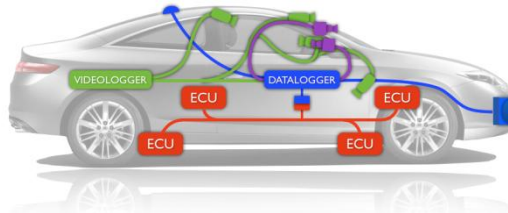
French VMC:
Renault



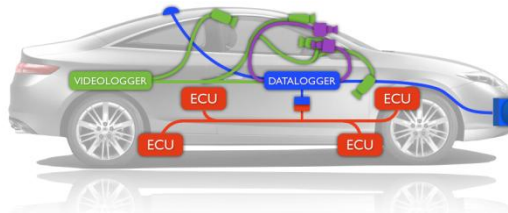
German VMC OC1:
Ford, VW, Audi, MAN



German VMC OC2:
BMW, Daimler










Swedish VMC:
VCC, VTEC



The euroFOT project

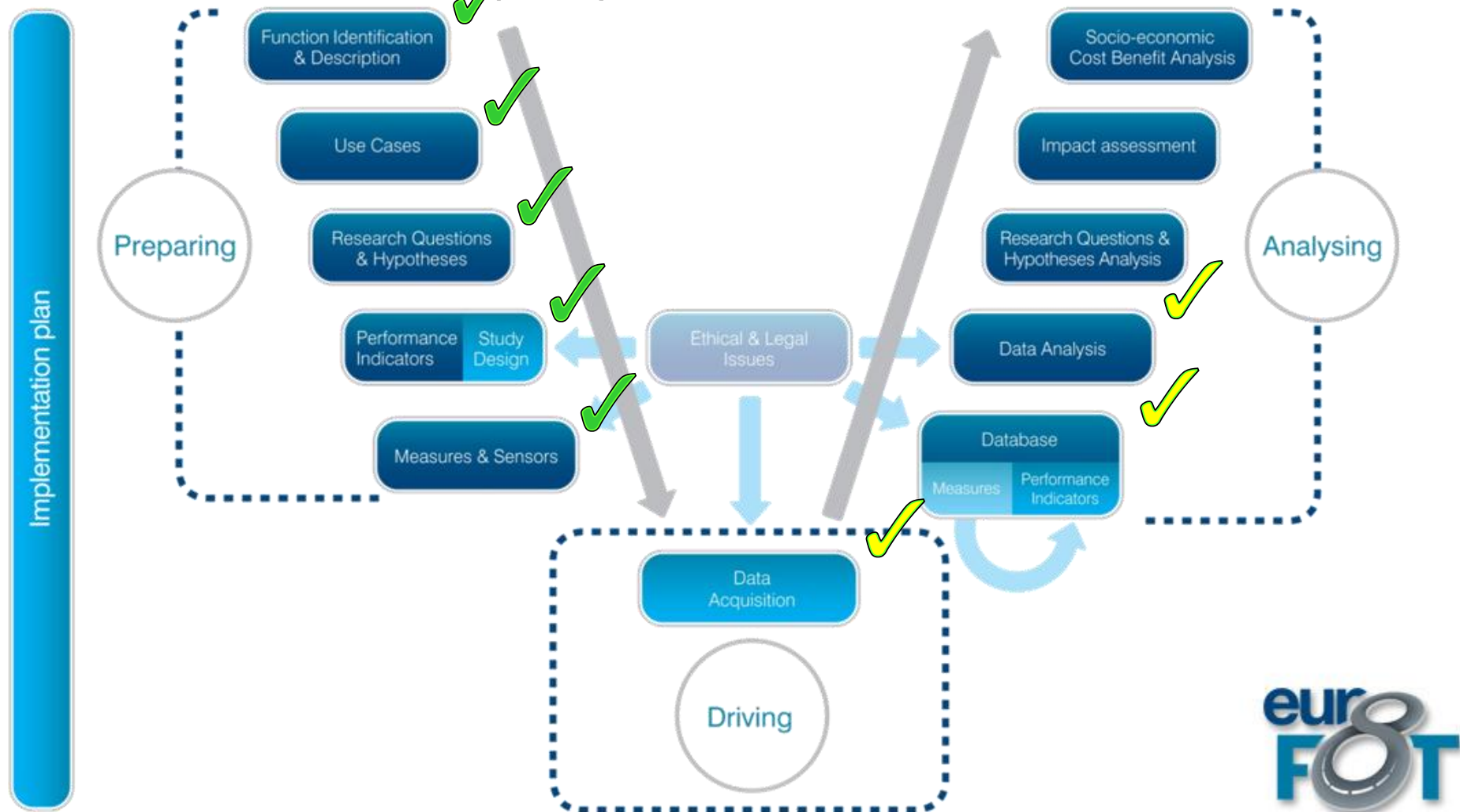
Current status (1/2)

	French VMC	German VMC Operation Centre 1 VOLKSWAGEN ARTIKELGESELLSCHAFT					German VMC Operation Centre 2 BMW Group Forschung und Technik	Italian VMC FIAT GROUP CENTRO RICERCHE FIAT	Swedish VMC	
										
Target number of vehicles	35	100	100	40	0	15	15	500	100	80
No. of vehicles participated FOT	35	98	56	28	(20)	15	15	533	100	80
No. of vehicles currently running	28	98	56	7	2	15	3	401	100	15
No. of involved drivers	15	130	80	28	(20)	45	60	533	204	86
FOT start date	October 2010	April 2010	January 2011	June 2010	January 2011	August 2010	February 2010	February 2010	February 2010	May 2010

960 vehicles participated with 1181 drivers

The euroFOT Project

Current status (2/2)



Methodology & data management

Experimental design

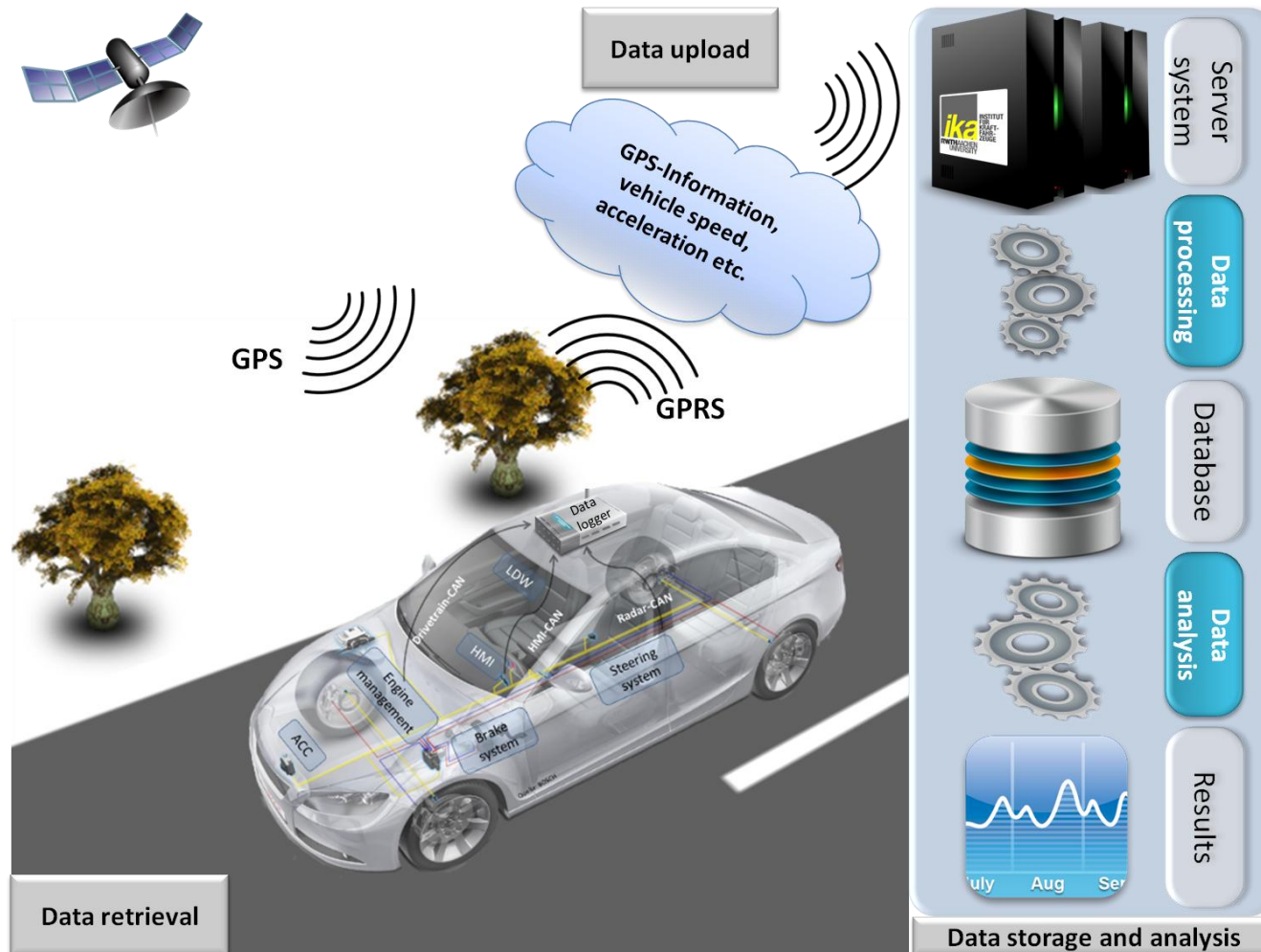
- First three months will serve as a baseline period
- Within baseline period functions will be deactivated
- Baseline period is followed by treatment period
- Within treatment period functions are activated
- Drivers are free to activate functions as they usually do
- Testing of hypotheses by comparison of baseline vs. treatment period
- Example experimental design MAN:

90 Trucks	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
45 Trucks (ACC and LDW)	1 st Baseline (A_1)			System-on period (B_1) ACC				System-on period (B_2) ACC+LDW			2 nd Baseline (A_2)	
45 Trucks (LDW and ACC)	1 st Baseline (A_1)			System-on period (B_1) LDW				System-on period (B_2) LDW+ACC			2 nd Baseline (A_2)	



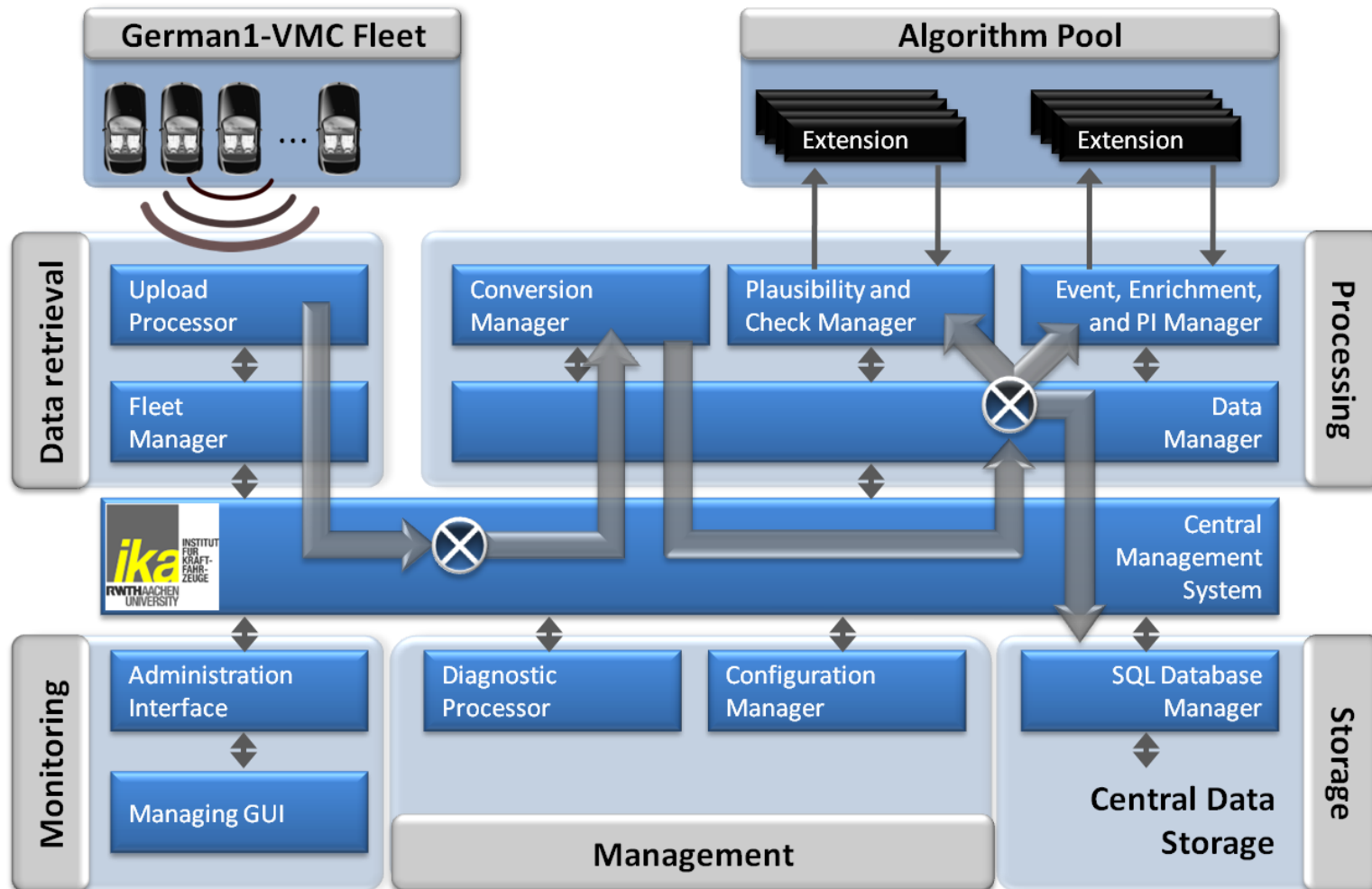
Methodology & data management

Approach for data management



Methodology & data management

Tool chain



Data analysis

Recognition of relevant scenarios

