Bundesministerium
für Verkehr, Bau
und Stadtentwicklung

Abteilung Straßenverkehr,
Referat LA 20

Information and Communication Technologies and Road Safety

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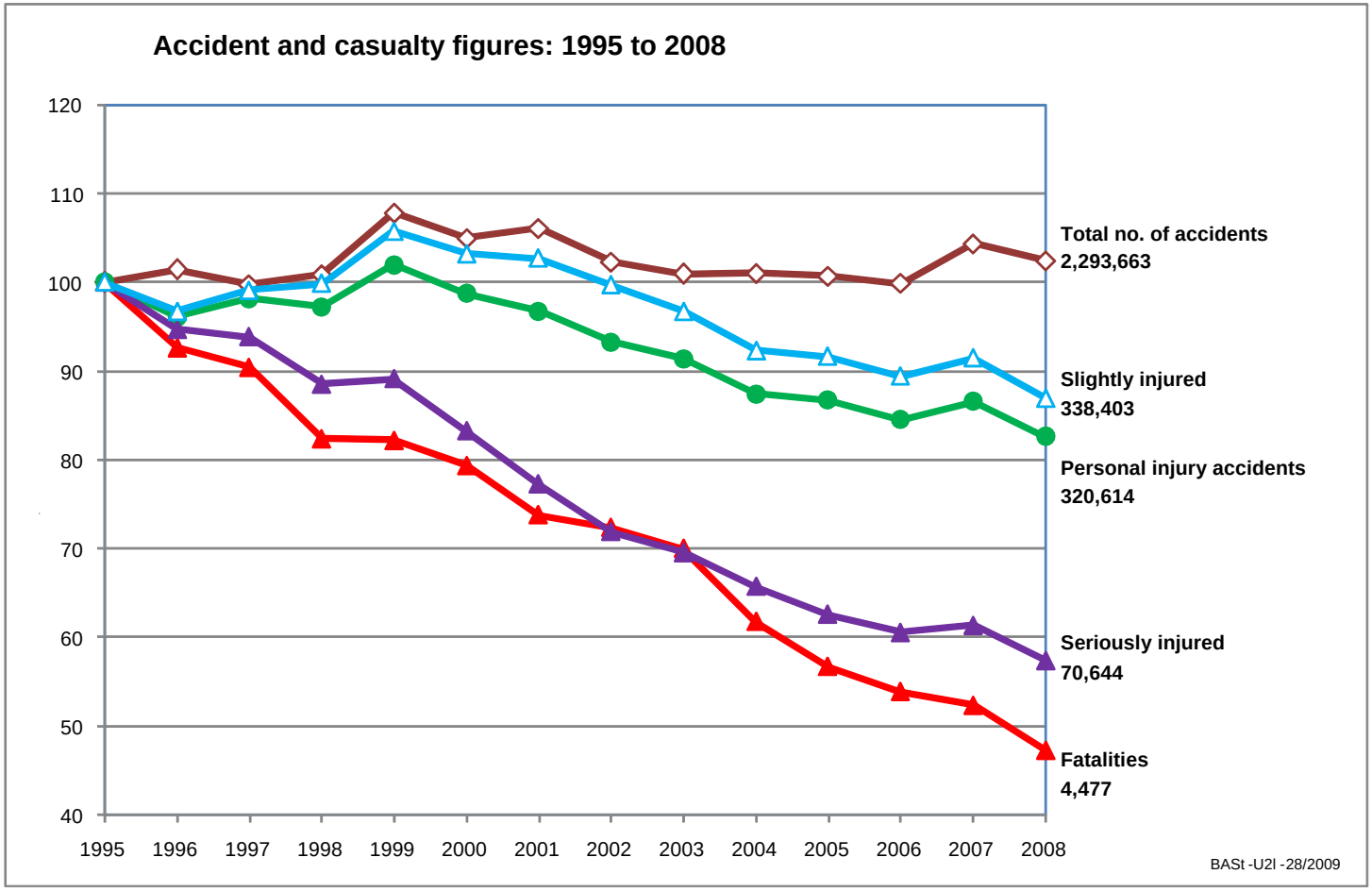
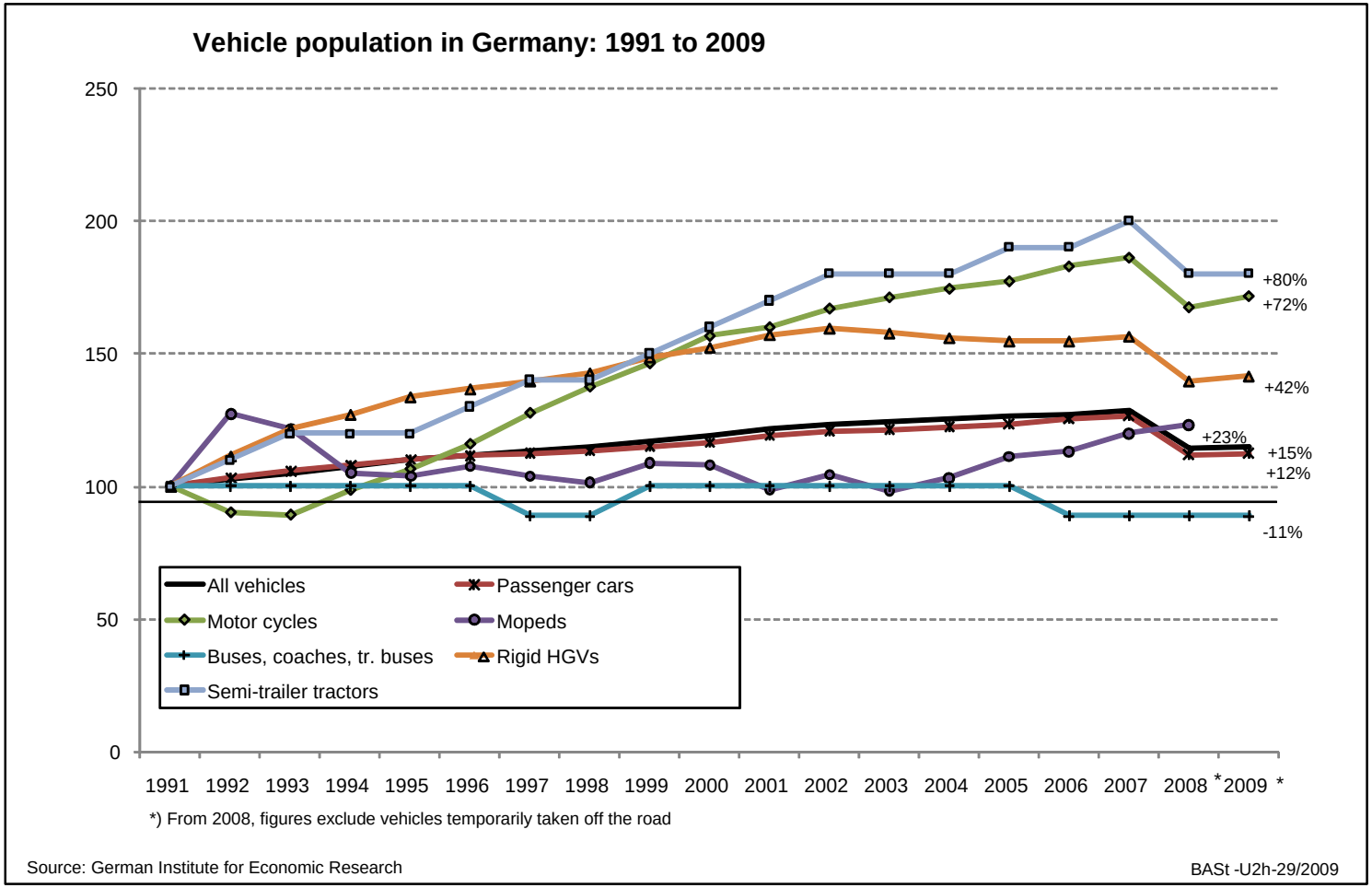
Road Safety in Germany



Traffic in Germany



Improvement of road safety

- in the past it was the result of a holistic approach including infrastructure, vehicle technology and human factor
  important influence on the number of fatalities probably: passive safety
- goal for the future: further to reduce the number of increased persons and fatalities
- great potential: modern technologies under the keywords of ADAS and ITS
- from the technical side we see three main areas:
  - autonomous in vehicle systems
  - infrastructure based solutions based on ICT
  - cooperative vehicle systems (= cooperative Intelligent Transport Systems)

Autonomous In Vehicle Systems (ADAS = IVSS)

Systems which work autonomously in a vehicle and support the driver, especially inform him about detected dangerous situations and in some cases intervene in driving

examples: ABS, ESP, cruise-control, automatic emergency brake system; lane departure warning, blind spot monitoring, obstacle and collision warning, speed alert

potential: to assist the driver in performing his driving task, to help him to manage dangerous situations
estimated potential for the reduction of the number of fatalities: more then 20 %

challenges:

for the automotive industry

design ADAS in a way that effectively supports the driver, but leaves it finally up to him to decide how to drive; to make the systems marketable

for the international community (EC, ECE):

- to create awareness for the importance of ADAS (e.g. eSafety),
- to create the right framework conditions through political support and the availability of necessary regulations, e.g. an appropriate frequency band for systems which are radar based
- to clarify that ADAS have to be designed in a way that the driver is really able to have the complete control over his vehicle

Infrastructure based solutions based on ICT

example:	variable message signs which regulate traffic (variable speed limits, overtaking ban, diversion route) depending on the concrete situation
German experience:	drivers do observe the rules voluntary, better traffic flow, less accidents on the equipped freeways
Investment:	775 Mio Euros until 2009; 1300 km have been equipped yet every year 40 Mio Euro
challenges:	Appropriate investment can improve road safety notably ECE may help with further harmonization of traffic signs where necessary

Cooperative Systems

means ITS which are based on the communication between different vehicles or the infrastructure and vehicles

basic idea: to give better and more reliable information about traffic situation to the road users

examples: RDS-TMC, RTTI

potential: to avoid congestion and especially to deliver road safety related information to the road user

challenges: States / Industry
road safety related information should be available on a large scale

International Community (EU, ECE)
road safety related information has to be free of charge for road users

Conclusions

- ADAS and ITS have a huge potential to improve road safety.
- Systems should be implemented on a large scale.
- Their deployment is a common task of different stakeholders including different players from the public and private sector mainly at national level.
- Cross boarder and compatibility aspects have to be established at European and, where appropriate, at international level.
- Right framework conditions are to some extent a challenge for international bodies like EU and ECE (political support.