R94 AMENDEMENT BENEFITS
APPROACH

French Experts
May 2009
1. Possible benefits (passive safety approach)

2. Parameters that influenced accidents data

3. Methodology to improve the current situation
BENEFITS

R94 AMENDEMENT
BENEFITS ESTIMATION

ACCIDENT ANALYSIS -
France
Forecast: 5 years

ESTIMATION FOR
EUROPE

FATALITIES AND
SEVERLY INJURED
GAINS

TARGET FIXED BY
POLITICS

PASSIVE SAFETY
IMPROVEMENT
PARAMETERS THAT INFLUENCED FRONT FORCE DEFORMATION

DIFFERENT MASS / SIZE

R94 TEST SEVERITY

SAME PERFORMANCE REQUIRED
(intrusion and dummies)

GLOBAL FORCE LEVEL vs MASS

⇒ IMPOSSIBLE TO REACH FORCE MATCHING

300 kN force difference!
POSSIBLE IMPROVEMENTS

DIFFERENT MASS / SIZE

R94 TEST SEVERITY

SAME PERFORMANCE REQUIRED

POSSIBILITY TO IMPROVE FORCE MATCHING
METHODOLOGY

CURRENT VEHICLE DESIGN

Current ACCIDENT ANALYSIS
Self + partner

SEVERELY INJURED
FATAL INJURIES

R94 REGULATION

TEST SPEED
OBSTACLE LIMITS

COMPARTMENT FORCE
FRONT END STRUCTURE

R94 AMENDEMENT

NEW VEHICLE DESIGN

ACCIDENT ANALYSIS
(forecast)

CURRENT ACCIDENT ANALYSIS
Self + partner

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R94 AMENDEMENT

NEW VEHICLE DESIGN

ACCIDENT ANALYSIS
(forecast)
DIFFERENT FORCE LEVELS LEAD TO DIFFERENT SEVERITY RATES
HARMONISATION OF FORCE LEVELS LEADS TO LOWER SEVERITY RATES

FUTURE SITUATION WITH R94 AMENDMENT INTRODUCTION

NEW VEHICLE DESIGN

ACCIDENT ANALYSIS (forecast)

R94 AMENDMENT
Accident analysis focused on self and partner is required

Vehicles are designed with inhomogeneous front end force to meet current R94.

Inhomogeneous front end force are responsible for different severity rates among fleet mass

Changing front end force vs mass slope will reduce and harmonize severity rates