

## Motorcycle ABS: Effect and Benefit Studies



### Bosch, 2007

- ABS field of effect (GER): 60%  
of all powered two-wheeler accidents involving injuries and fatalities
- Reduction of accidents with injuries and fatalities (14,000 p.a., incl. < 250cc, base GER 2004) -26%
- Reduction in collision speed -31%

### BASt (Federal Highway Research Institute), 2008

- ABS effectiveness<sup>3)</sup> (incl. < 250cc) in accidents with downfall only:
- Accidents -2.4%
- Fatalities -12.1%
- Serious injuries -11.7%

### European Commission by TRL, 2009

- Cost/benefit ratio for accident avoidance<sup>6)</sup> 1€ : 4.2 to 5.6€
- Avoided/mitigated fatalities between 2011-2021<sup>5)</sup> Up to 5,999

### Continental / DEKRA, 2009

- Reduction of accidents involving severe and fatal injuries (> 125cc):
- ABS only front wheel braked -23%
- ABS front wheel braked, rear wheel braked delayed -33%
- ABS both wheels braked simultaneously -53%

### Vägverket <sup>3,4)</sup> (Swedish Road Administration), 2009

- ABS effectiveness (> 125cc):
- Fatal crashes -30%
- All accidents with personal injuries -38%
- On severe and fatal accidents -48%
- On severe and fatal accidents at intersections at least -42%

### Allianz (AZT), 2005

- ABS field of effect (GER): 50%  
of severe accidents involving all PTW<sup>2)</sup> (> 250cc)
- Reduction of severe accidents with injuries and fatalities between -8% to -17%
- ABS effectiveness for fatalities -10%



### NHTSA (National Highway Traffic Safety Administration), 2006

- Stopping distance reduction
- Average (dry+wet surface) -5%
- Loaded bike (dry) -7%
- Rear foot pedal (dry) -17%
- Both brakes (wet) -11%
- Loaded, both brakes (wet) -16%

### HLDI (Highway Loss Data Institute), 2009

- Reduction of claim frequency for motorcycles equipped with ABS -22%

### IIHS (Insurance Institute for Highway Safety), 2010

- ABS effectiveness<sup>1)</sup> (>250 cc): -37%  
of fatal crash involvement of ABS equipped motorcycles compared to non equipped ABS motorcycles

Studies are based on different approaches and databases

1) Statistical data given by HLDI, effectiveness supported by IIHS study based on minor sample size and per 10,000 registered vehicles

4) Study in cooperation with Vectura

5) Mandatory ABS on newly registered motorcycles >50cc, Long term 2011-2021, underlying 18% ABS effectiveness

6) Mandatory ABS on newly registered motorcycles >50cc, Long term 2011-2021, compared to "do nothing" scenario

