

Motorway traffic related VACS – Cruise systems

System	Description	Sources of info
Adaptive Cruise Control (ACC)	Automatically adjusts the speed to ensure the vehicle does not get too close to the one in front; activated by setting the desired maximum speed and time gap to the vehicle in front; operates at relatively high speeds	Zwaneveld and van Arem, 1997; Fancher et al, 1998; Swaroop and Rajagopal, 1998; Bose and Ioannou, 1999, 2001, 2003; VanderWerf et al, 2001, 2002; Li and Shrivastava, 2002; Davis, 2004, 2006, 2007; Zhang and Ioannou, 2004; Bishop, 2005; Ioannou and Zhang, 2005; General Motors Corporation, 2005; University of Michigan and General Motors Corporation, 2005a, 2005b; Rajamani et al, 2005; Visser, 2005; Jiang and Wu, 2006; Rajamani, 2006; Yi and Horowitz, 2006; Alkim et al, 2007; Ioannou et al, 2007; Kesting et al, 2007a, 2007b, 2008, 2010; Viti et al, 2008; Yuan et al, 2009; Pueboobpaphan and van Arem, 2010; Xiao and Gao, 2010; Kessler et al, 2012; Tapani, 2012; Benmimoun et al, 2012, 2013; http://www.eurofot-ip.eu/en/intelligent_vehicle_systems/acc/ [accessed 11.03.2013]
Cooperative Adaptive Cruise Control (CACC)	Adaptive Cruise Control extended so that vehicles are wirelessly connected and can therefore respond in a smoother way to disruptions in traffic flow	VanderWerf et al, 2002, 2001, 2007; Maihöfer et al, 2004; Bishop, 2005; Visser, 2005; Popescu-Zeletin et al, 2010; Shladover et al, 2010, 2011; Arnaout and Bowling, 2011, 2013
Full Speed Range Adaptive Cruise Control (FSRA)	Evolution of the Adaptive Cruise Control, which operates in all speed ranges	Minderhoud, 1999; Ehmanns and Spannheimer, 2004; Bishop, 2005; Alkim et al, 2007; Viti et al, 2008; Hoeger et al, 2011; Shladover, 2012a; iMobility Forum, 2013
Low Speed ACC (LSACC)	Evolution of the Adaptive Cruise Control, which operates in slow, congested traffic to follow the vehicle immediately ahead	Minderhoud, 1999; Benz et al, 2003; SINTEF et al, 2004; Bishop, 2005; van Driel, 2007; van Driel and van Arem, 2008, 2010