SWOT analysis of Adaptive Cruise Control (ACC)

Strengths	**Weaknesses**
- Autonomy in that all necessary technology and intelligence is available on board - Increases safety and comfort - Smoothens traffic flow - Decreases fuel consumption - Decreases environmental pollution - Capacity increase under short gaps - Enables forming of vehicle platoons	- Autonomy implies that network-wide beneficial settings cannot be directly communicated and/or imposed - Capacity decrease under conservative gaps - On-ramp flow merging problems under short gaps and high penetration rates - Limited speed-range operation - Control laws that do not ensure traffic flow stability under all circumstances
Opportunities	**Threats**
- Advice/recommendations on network-wide beneficial system settings via traditional VMS or navigation devices or build-in (autonomous) extensions - Enabling network-wide beneficial system settings via V2I communication - LSACC/FSRA extend speed-range operation, thus applicability to all traffic conditions - CACC enables even shorter gaps - V2V and/or V2I communication may assist and smooth on-ramp merging flows - Control-theoretical research may provide more efficient control laws - Technology maturity may reduce system cost	- User acceptance in terms of both purchase intention and frequent activation after purchase - Cost - Motorway traffic management delayed adaptation