

Boss at a Glance



Team	Tartan Racing @ Carnegie Mellon
Vehicle Name	Named for Charles F. 'Boss' Kettering, legendary inventor, automotive innovator, and co-founder of DELCO
Vehicle Number	#19
Vehicle base	2007 Chevy Tahoe
Driveline	5.3LV8, 4L60 automatic transmission, 4wd, E-85 Fuel-capable
Drive-by-wire	GM engine control, electromechanical actuation
Maximum Autonomous Speed	30 mph
Long Range Radar	5 Continental ARS300
Short Range Lidar	8 SICK LMS-291
Mid Range Lidar	Velodyne HDL-64
Long Range Lidar	2 steered Continental ISF 172 2 IBEO ALASCA XT
Pose Estimation	Applanix mPOS-LV with dual antenna GPS and IMU
Computing	10 Intel Core2Duo blades @ 2.16 GHz in a compact PCI chassis
Software Architecture	Decentralized, multi-process system coordinated via gigabit Ethernet communications layer
Planning	Motion planning evaluates over 1000 candidate trajectories per-second
Perception	Multi-sensor fusion generates moving and static obstacle models
Behavioral	Context-centric reasoning makes tactical decisions

