

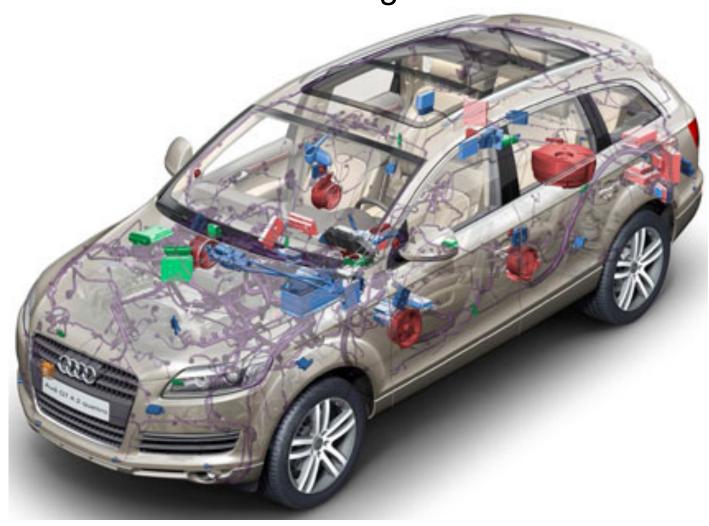
Security and Privacy Challenges in Smart Networks

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Network Services to Support Privacy-Preserving Learning?



~100 ECUs and ~100 Sensors on Internal Buses, GBs/hr



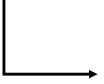
Waymo Automatous Vehicle

http://autoweek.com/article/autonomous-cars/honda-googles-waymo-chat-self-driving-collaboration http://fortune.com/2017/03/27/waymo-self-driving-minivans-snow/

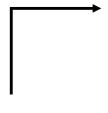


Uber Self-Driving System

https://www.bloomberg.com/news/features/2016-08-18/uber-s-first-self-driving-fleet-arrives-in-pittsburgh-this-month-is06r7on



~2 million miles





Tesla AutoPilot



Nvidia Self-Driving System

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Home security



Medical Devices



Managing security for 1000 devices/ person?



Smart vehicle



Payment







Tracking Every Touch



User ID	Logging
001	Windows design
002	Front door design
001	Roof design
002	Roof coloring
001	Back yard design
002	Back door design

Associating user ID to collaboration activities



Challenges

- Services to support privacy-preserving, large-scale learning
- Low-complexity primitives to secure the increasingly softwaredefined network infrastructure?
- Managing security for 100-1000 of devices per person

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