Automotive Infotainment & Telematics
NVIDIA - Munich 2014

STRATEGYANALYTICS

RICHARD ROBINSON

- Director – Global Automotive Practice
  - Previous: Alpine as HMI lead on Navigation and Infotainment Design
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JAGUAR

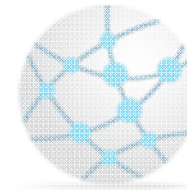# SA SERVICES OVERVIEW

STRATEGY ANALYTICS
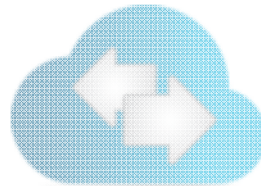
Global Market Research and Consulting

Devices

Automotive
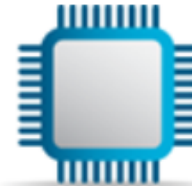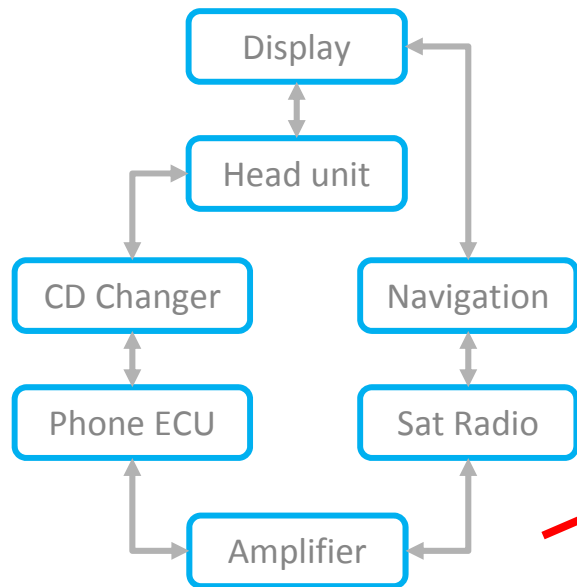
Networks

Media & Services
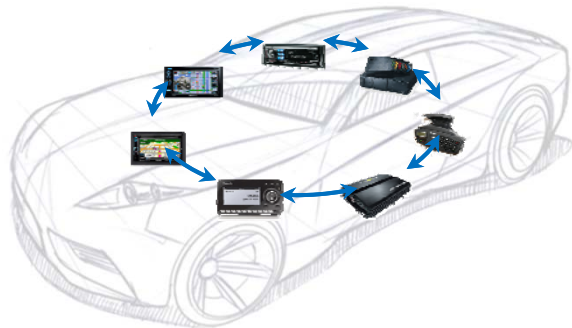
Enterprise

Components

UX Innovation
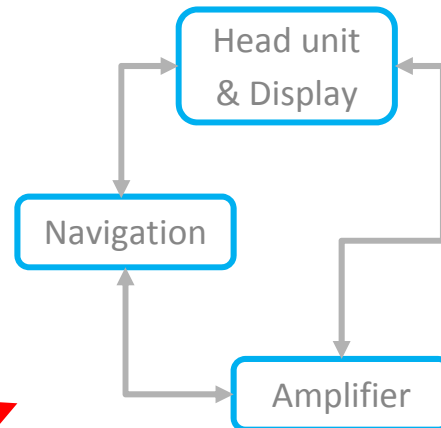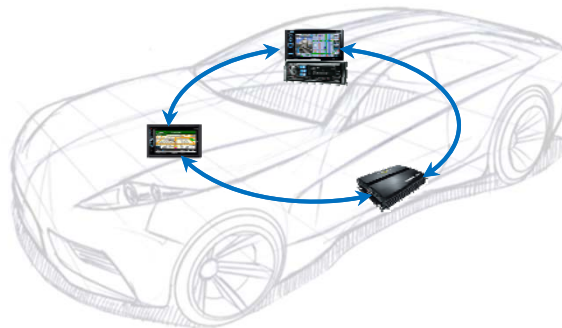
INFOTAINMENT & TELEMATICS DESIGN TRENDS

$$$$
2nd Generation 1998 → 2006

Distributed Architecture
e.g. MOST

$$$
3rd Generation 2005 → 2010

Headunit Integration

$$
4th Generation 2010 →
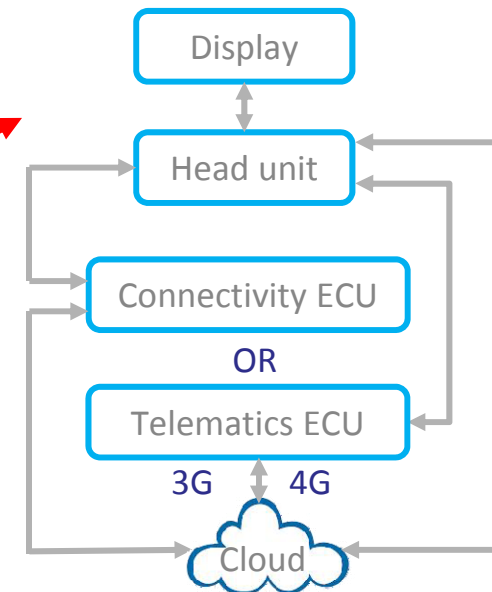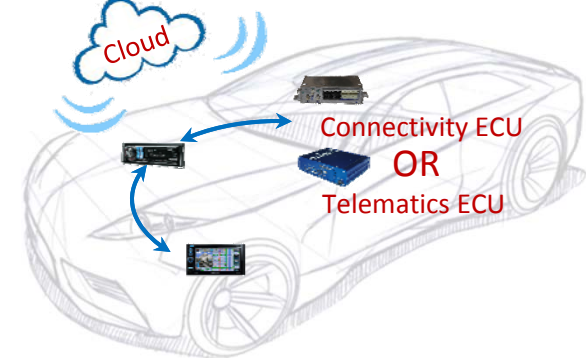
Native and Phone based
apps – Hybrid solution

EMBEDDED MODEMS
REGIONAL SHIPMENT VIEW
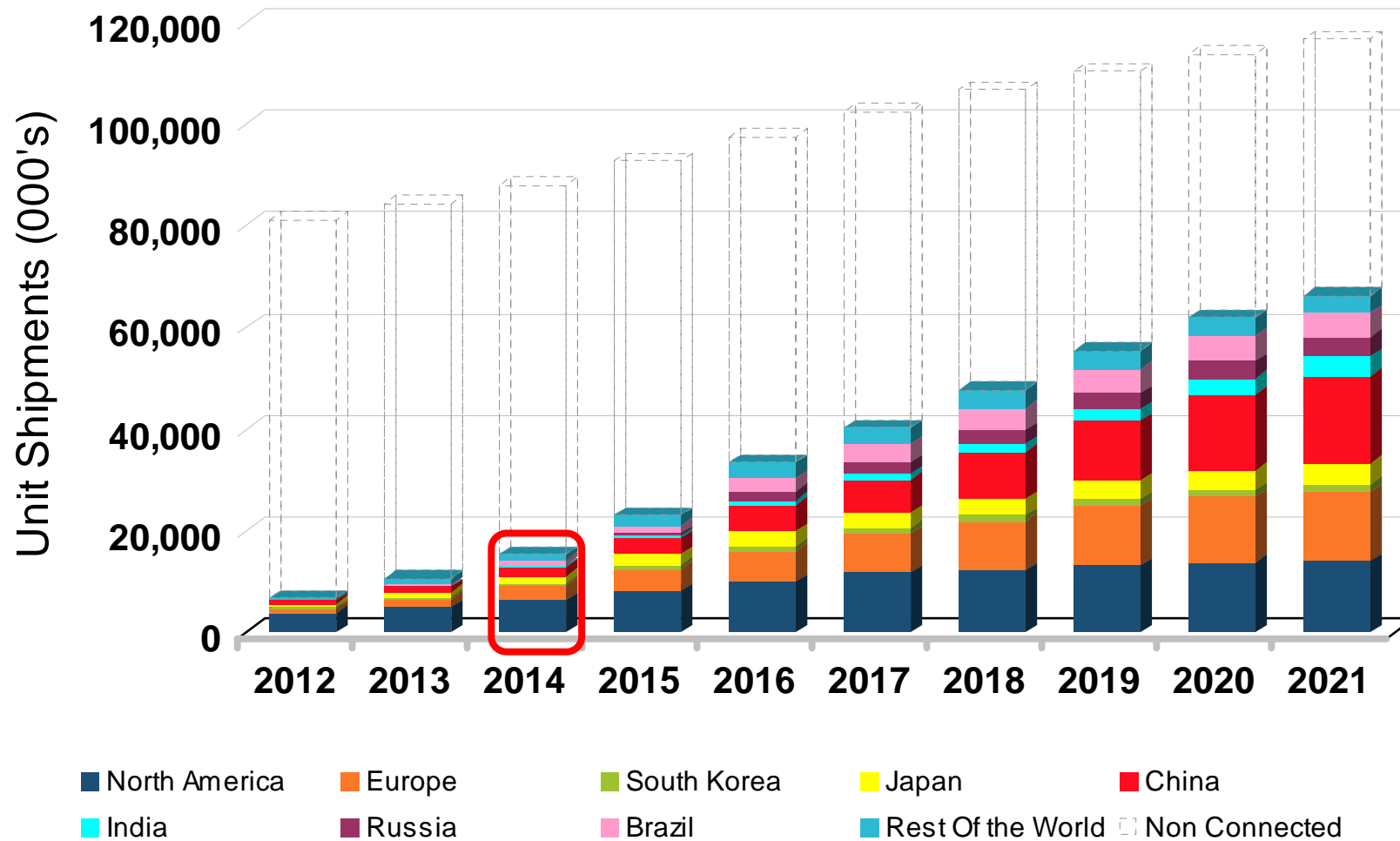
OEM TELEMATICS
CELLULAR MODEM CHOICE – GLOBAL SHIPMENTS
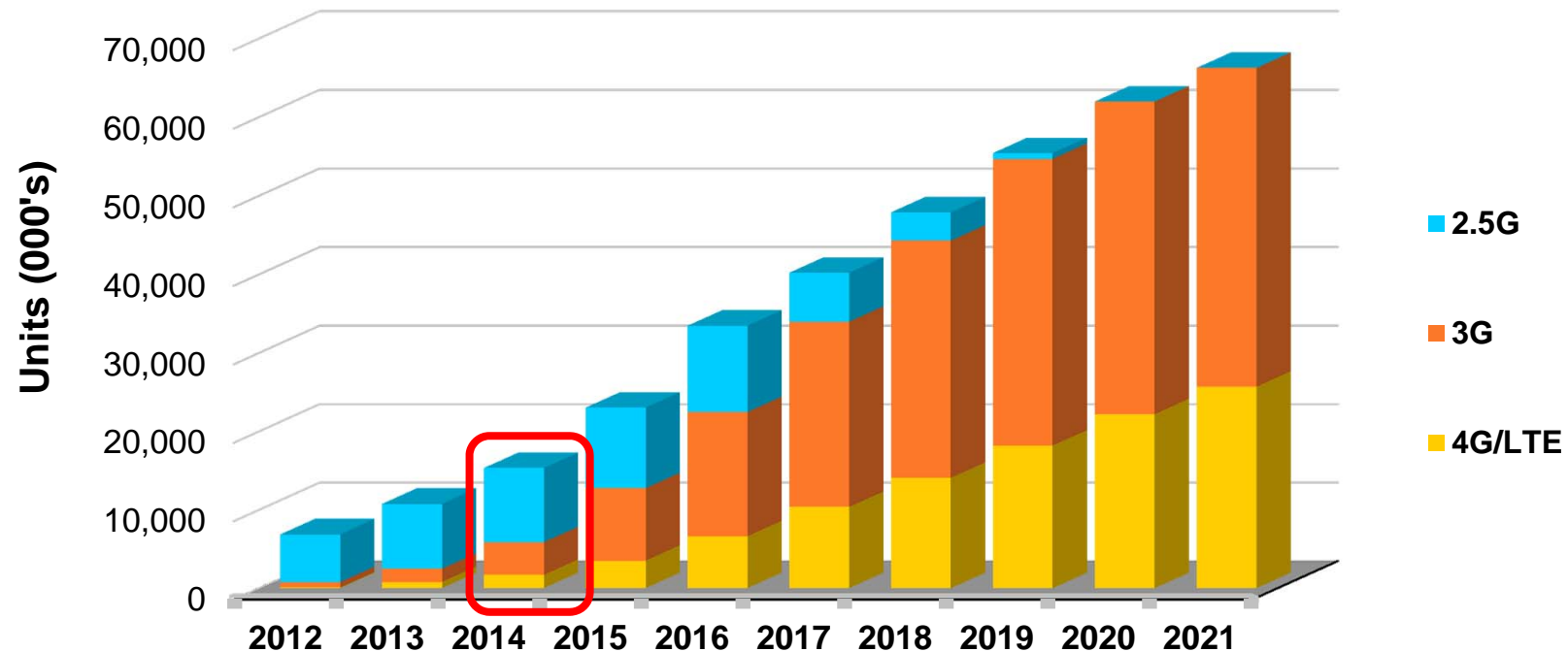
- Telematics ECU Modem Shipments 2014 vs. 2021 (15.3 Mil. units → 66 Mil. units)
  - **2.5G Wireless Network:** 9.4 Mil units in 2014 to Zero (by 2020)
  - **3G Wireless Network:** 4.1Mil units in 2014 to 40.5 Mil units in 2021
  - **4G Wireless Network:** 1.6Mil units in 2014 to 25.7 Mil units in 2021

OEM?   Driver?

OR

Winner!   Winner

AFTER THE CAR IS CONNECTED....
WHO IS THE MAIN 'WINNER'??

STRATEGY ANALYTICS

Device Maker?   Device Owner?

OR
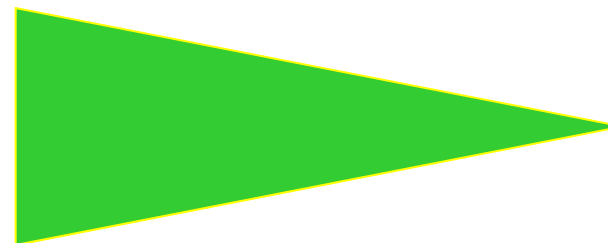
Winner!   Winner

TELEMATICS: THE BMW EFFECT?
DON'T PUT UP BARRIERS TO ADOPTION!

STRATEGY ANALYTICS

OEM	Connectivity Solution	Network Speed	TSP	Carrier	Free trial	
BMW - BMW Assist	Embedded GSM	2.5G	WirelessCar, Agero	AT&T	10 Years	
Chrysler Uconnect	Embedded CDMA	2.5G	WirelessCar, Airbiquity	Sprint	6 Months	?
Ford - EV Focus	Embedded GSM	2.5G	Airbiquity, Acuity	AT&T	4 years	
GM - OnStar	Embedded CDMA	2.5G	Proprietary, Convergys, Airbiquity	Verizon	1 Year	?
GM - OnStar For My Vehicle	Embedded GSM	4G/LTE	Proprietary, Convergys	AT&T	5 Years	
Hyundai - Blue Link	Embedded CDMA	2.5G	Agero, Aeris, TCS	Sprint	1Years	
Infiniti Connection	Embedded GSM	2.5G	Agero, Airbiquity	AT&T	1 year trial	?
Mercedes Benz - mBrace2	Embedded CDMA	3G	Hughes Telematics	Verizon	6 Months	??
Toyota/Lexus - Enform with Safety Connect	Embedded CDMA	2.5G	Agero	Verizon	1 Year	?

SO…
WHAT HAPPENS IF NOTHING CHANGES?

HARDWARE IN MARKET (CUMULATIVE)
OEM EMBEDDED TELEMATICS – GLOBAL
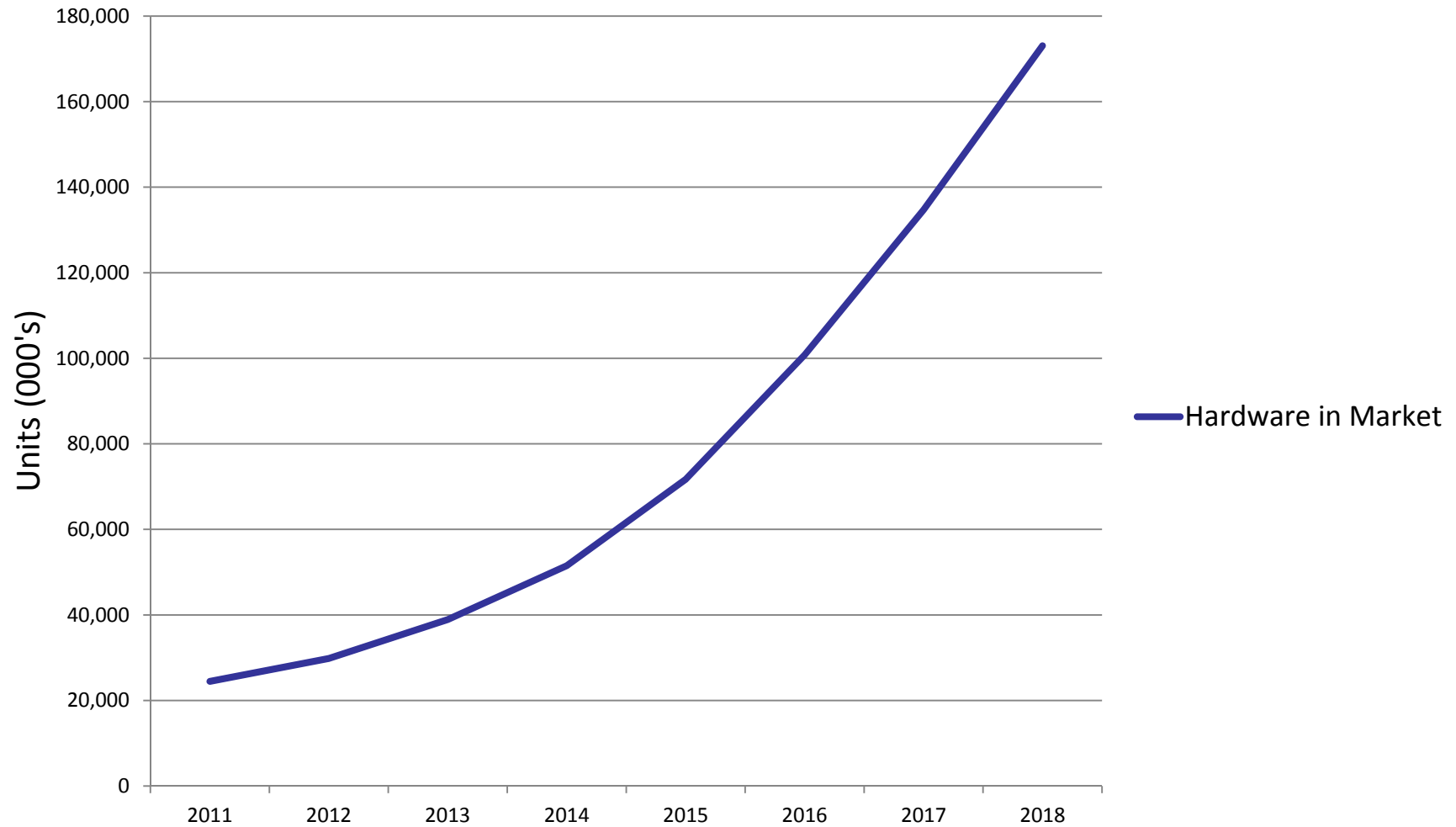
ACTIVE SUBSCRIPTIONS (CUMULATIVE)
OEM EMBEDDED TELEMATICS – GLOBAL
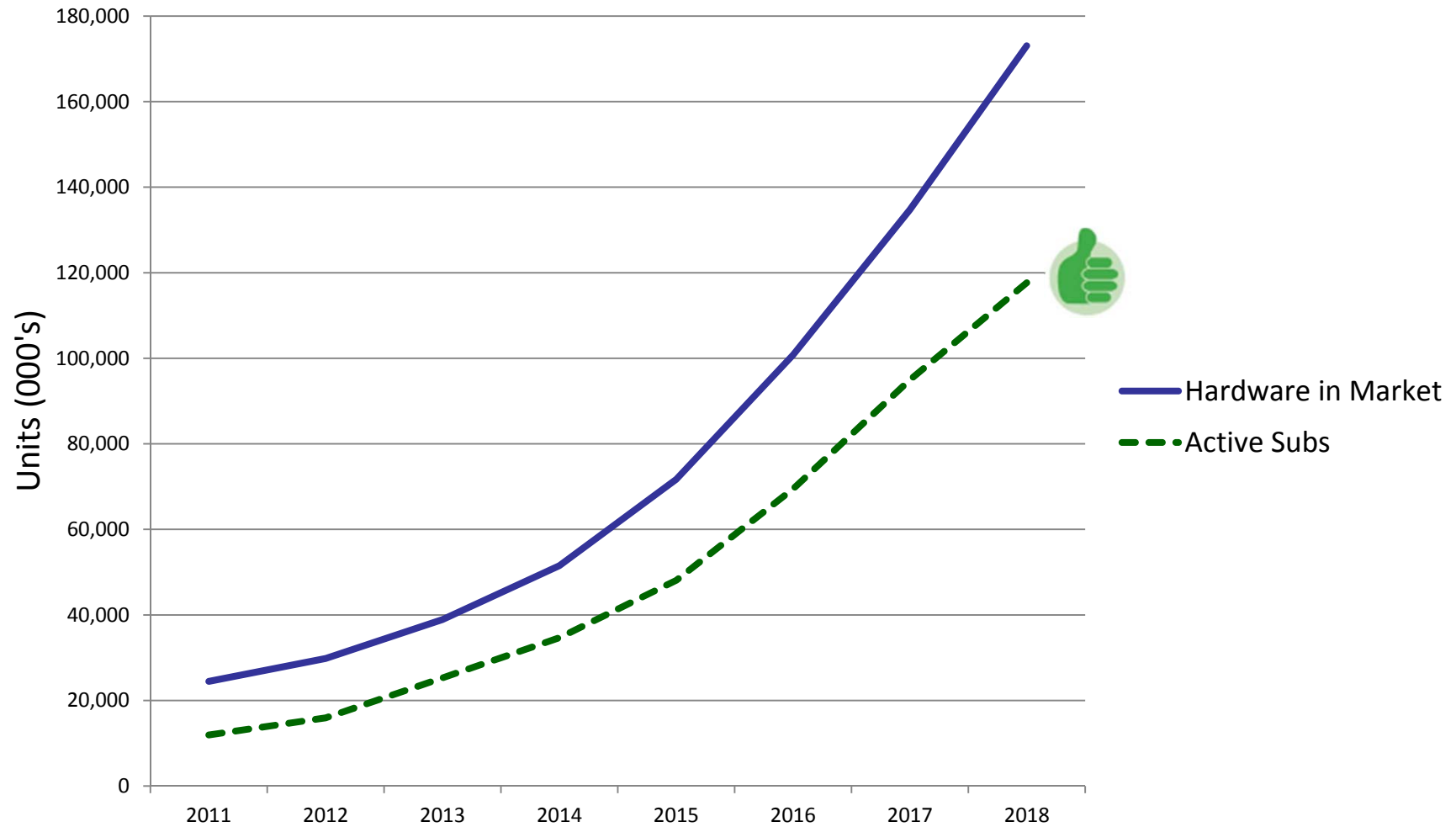
IN-ACTIVE SUBSCRIPTIONS (CUMULATIVE)
OEM EMBEDDED TELEMATICS – GLOBAL
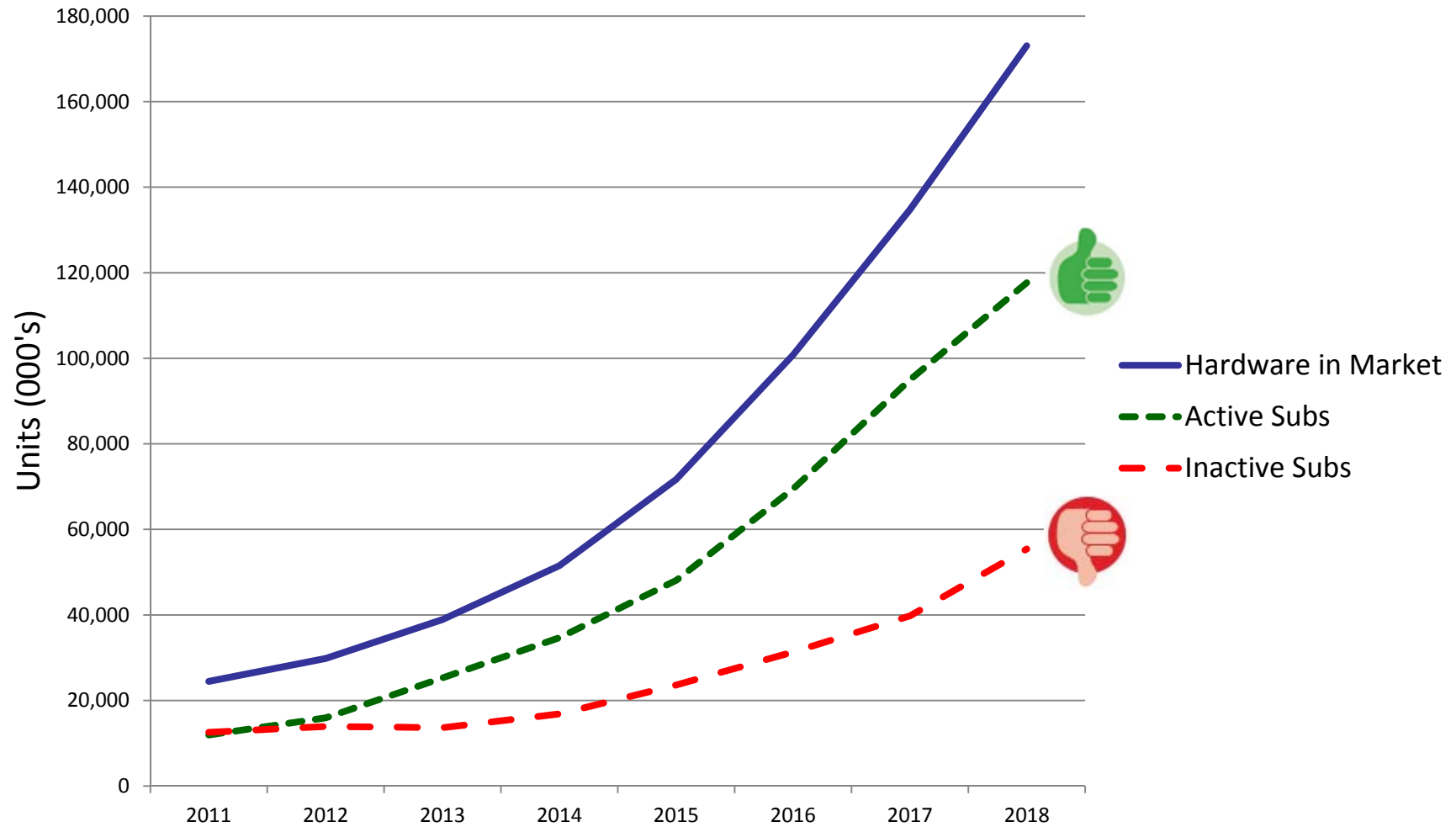
INACTIVE SUBS = DEAD $$$
OEM EMBEDDED TELEMATICS (UNITS/REVENUES)

Over **$4 Billion** wasted in 2017 alone
Over $12 Billion wasted 2011 → 2017

Units (000's)

Revenues (USD Million)

2011   2013   2015   2017

■ Revenues   ◆ Units
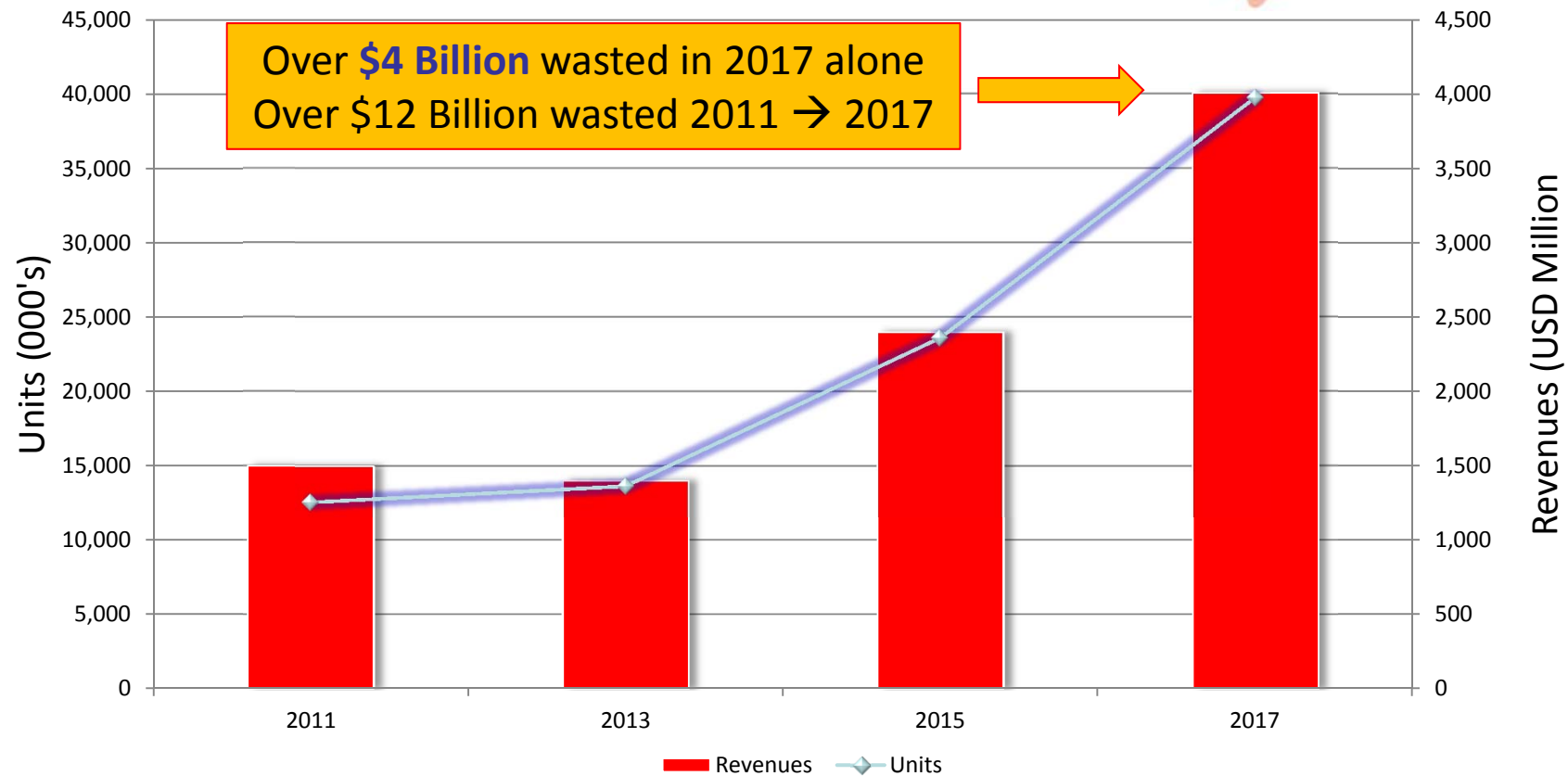
CONVERGENCE OF INFO/TELEMATICS & SAFETY

1. **Connectivity**: Embedded and brought in

2. **Infotainment**: The big screen, in-vehicle experience

3. **Smartphone Connections:** Personal content, apps, authentication

We NEED solutions to address:

➢ Privacy

➢ Security

➢ Liability

➢ Recalls

Security

Privacy

Personalization

CONTEXTUAL AWARENESS

We have increasing reliance on:

- LIDAR, RADAR and LTE

- Cameras

- Contextual awareness with the objective of collision avoidance

- Integration/convergence of safety and infotainment systems

…Most of these systems have COMPLEX software…!

NEW VEHICLE OWNERSHIP PARADIGM
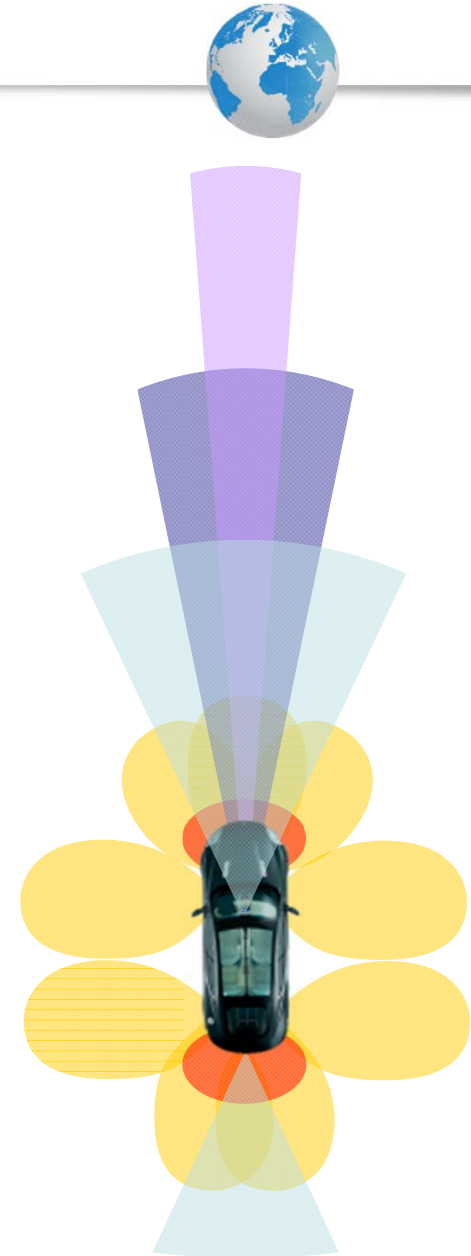
- Connected Car = Always fresh = Reduce Risk
  - Content ✓
  - Apps ✓
  - Maps ✓
  - Feature/function add-ons, updates ✓
  - **Collision avoidance & airbag algorithms: High Priority**
  - **Safety Systems: High Priority**

Regulation And Safety » Recalls

Automakers see recalls rise as complexity of new models grows

💬 3 Comments | 🖨 Print | Reprints | ✍ Respond | ✉ | f | in | 🐦 | **f Recommend** | 0

Society of Automotive Analysts

Related Topics

- Government
- Litigation and Regulations
- NHTSA
- Regulation
- Vehicle Safety
- General Motors

March 5, 2014 - 9:26 am ET

DETROIT (Bloomberg) -- A surge in new car models, increasingly complex technology and heightened regulatory scrutiny has led to more automobile recalls, particularly over safety concerns, a new study found.

More than 10 million vehicles were recalled last year **(in the US)** because of safety-related issues, the most since 2009, according to the study of automaker and National Highway Traffic Safety Administration recall data by the financial advisory firm Stout Risius Ross Inc.

Mechanical Recalls **shift to** Software Related Recalls

MAP: FOR NAVIGATION USAGE….

MAP: AS BROWSER

Facebook
Twitter
Linked-In

POI's
Events
Dealer Contact - CRM
Traffic

Social

Cloud

Loc. Serv.

ADAS

Navigation

Red Light Camera
Accident hotspots
Curve warning
Weather
Traffic

Google Earth
Street View
Fuel
Parking
Traffic

BEHIND EVERYTHING….$/£/Y/EURO
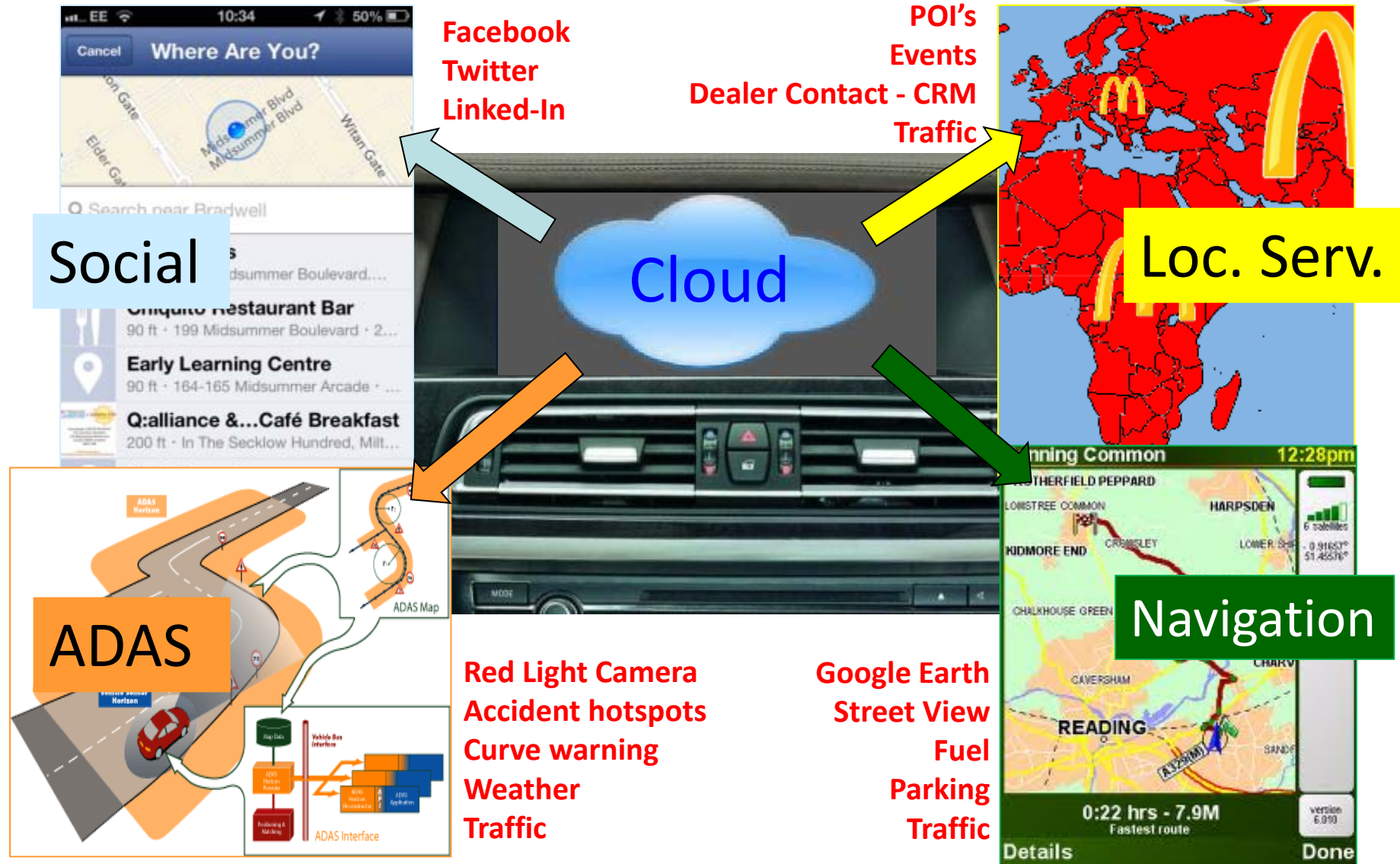
- Global:
  - $60B/$300B in annual **<u>unperformed</u>** service
  - $40B/$300B in collision aftercare
  - $340B/$1T in schedule/unscheduled maintenance performed

  # Big, Important, Profitable Business!

- **Safety, Security, CRM:** Are becoming the priority
- **Safety and Infotainment are Converging:** But safety is the more important purchasing priority for the customer
- **Managing, maintaining customer content:** e.g. apps etc. in/from the cloud (or phone)
- **Browser-based in-vehicle systems**
- **Contextual awareness**
- **Software updates**

Thanks for your attention!

Q&A

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rrobinson@strategyanalytics.com