

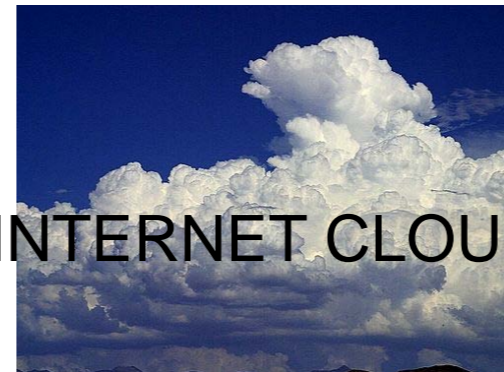


The Future of the connected car

Ian MacKinnon – SVP Business Development

Automotive Data Drives e-Commerce

TEXT



INFORMATION=\$\$

90M Connected Vehicles by 2016

XT

- ✱ **Analysts predict 90M+ vehicles will have Internet Connection to Head Unit via Smartphone by 2016**
- ✱ **Juniper: by 2016, Almost all new vehicles will ship with an internet connected infotainment system installed**
- ✱ **1.2B vehicles today → 2B+ by 2030 → 4B by 2050**
- ✱ **Mary Meeker: Vehicle top 3 Internet White Space**
- ✱ **144M Americans spend an average of 52 minutes/day in their vehicles-76% are alone.....a virtually untapped, captive audience**

US Consumers spend big time on cars

XT

- ✱ **Average Miles: 1500/month**
- ✱ **Average age of US consumer fleet=11 years vs 8.4 years in 1995 (AAIA)**
- ✱ **Size of US consumer fleet in 2011=240.5M (Polk Data)**
- ✱ **Total annual maintenance/repair expenditure=150B***
- ✱ **Estimated average annual expense per vehicle=\$5,500**
 - insurance** **\$ 800**
 - gas **\$3,400 (1500 miles/month, 18 mpg, \$3.50/gal)**
 - maintenance/service **\$1,300 (\$145B/112M households)**

AAIA: AUTOMOTIVE AFTERMARKET INDUSTRY ASSOCIATION

*NAICS 8111, Y2007

**NAICS 8111, Y2000

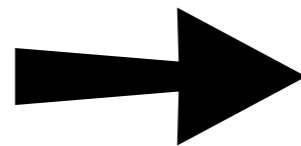
Getting Your Car Fixed is a Pain

TEXT

CHECK ENGINE LIGHT COMES ON



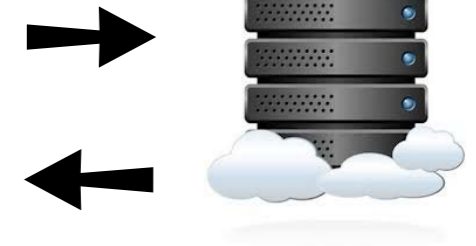
DRIVE TO SERVICE STATION



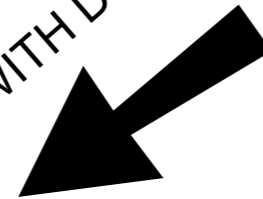
GET SCANNED AT SERVICE SHOP



CAR DIAGNOSTICS



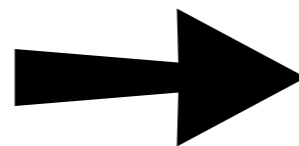
GO HOME WITH DIAGNOSIS



GET QUOTES, BOOK APPOINTMENT. COSTS TIME AND MONEY



DRIVE TO YOUR APPOINTMENT



FINAL SERVICE JOB COMPLETED



A better process!

LX31

Car Diagnostics

```

interface CAN {
  ReadData(000000)
  WriteData(000000)
  ReadData(000000)
  WriteData(000000)
}

long ndReadStatusOfDTC()
  TD1 *diagRef
  unsigned char
  TD3 *DTCID
  TD4 DTCs[]
  long *len
  LVBoolean *success
  
```



Diagnostic Codes
 Detailed problem description

Diagnostics

Cost \$ & Appointment

Select Best Price/Quality/Time



Electronic Coupons



Job Complete

Fuel Finder

TEXT

fuel finder Find deals on gas, food, and convenience items in your DriveZone [HOME](#)

23 MPG 2.1 GAL 48 miles 41 mins remaining

FIND GAS You are low on gas. Click here to find nearby gas (and more) at the best prices.

ECO-SCORE Click here to see your Eco-Score and Trip Log.







SETTINGS

service options on route [← BACK](#) [HOME](#)

3.0 miles

OUR PRICES:
reg unl \$4.05
prem unl \$4.25

YOUR DISCOUNT:
10¢ / gal

service station	dist. (mi.)	\$/gal	stores	loyalty/rewards	deals
	3.2	\$3.59			\$1 off on all Starbucks drinks with fill up
	3.9	\$3.49			\$2 off on drinks with fill up

scroll down for more.

Issues with OBD device

XT

* Getting the data

- Data plan (\$5/month?) plus cost of device plus installation
- Use of smart phone – Feds not happy
- Installation reliability

* Available data limited

- Limited diagnostics and data e.g. odometer, miles per gallon, mtce reminders
- Fuel level not always available

* Display of data on smartphone!!

Benefits of infotainment system

XT

- ✱ **Getting the data**
 - Use of smart phone just for transmission
 - Vehicles will be connected at low cost
 - No installation issues

- ✱ **Available data**
 - All is available if OEM chooses

- ✱ **Display on screen - driver friendly!**



The Future of the connected car the Infotainment system

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