

DOUG VANDAGENS

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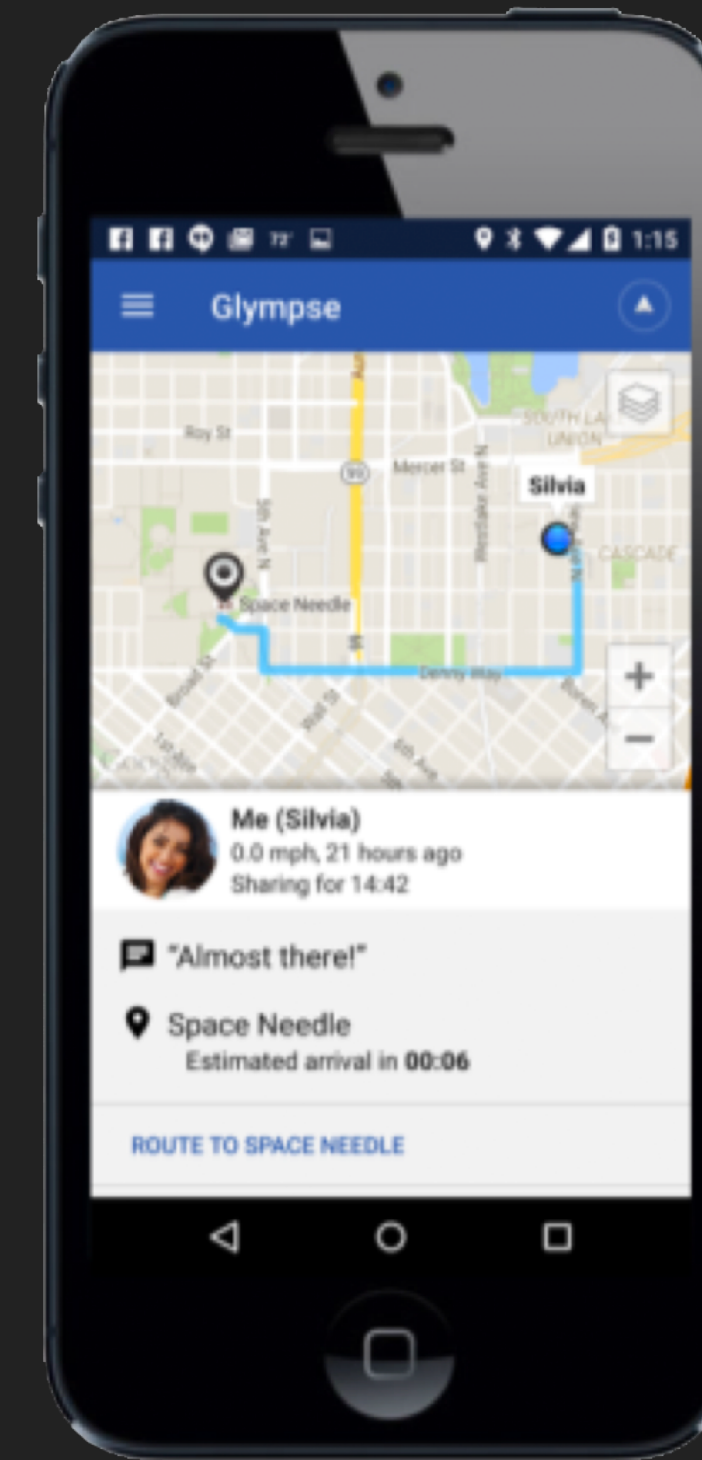
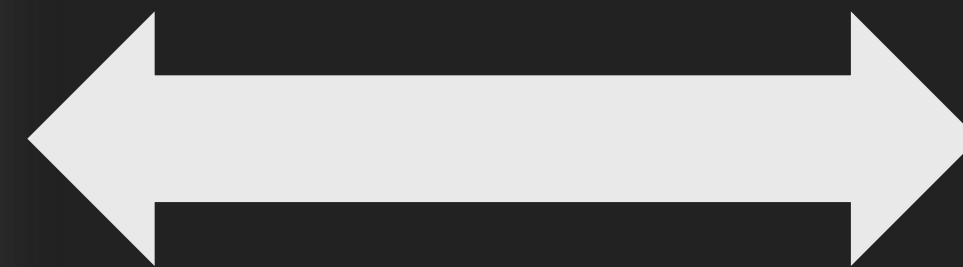
**SMARTDEVICELINK**

# SMARTDEVICELINK BASIC



Head Unit Contains SDL Core

(No Third Party App Code in Head Unit)



Not Connected



Connected to Applink

SDL Proxy in Application Communicates with Head Unit



## HOW IT WORKS



SDL allows driver's to keep their hands on the wheel and their eyes on the road by *locking* the screen of a mobile device and *transferring* controls to the vehicle interface (HMI).

Drivers perform the app commands that they already know by using dash mounted buttons, knobs, touch screens, steering wheel buttons . . . and of course, voice command

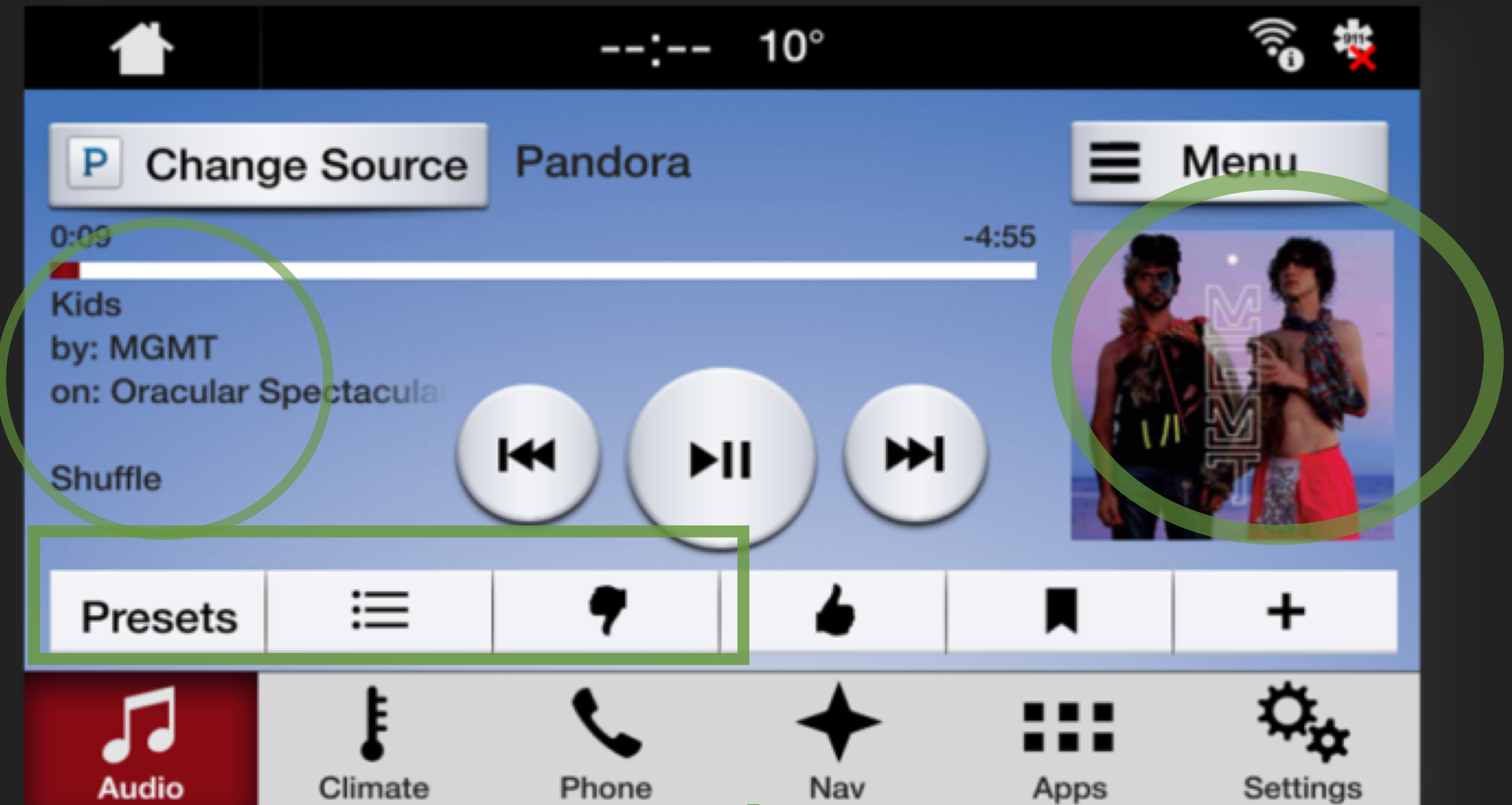


Not Connected

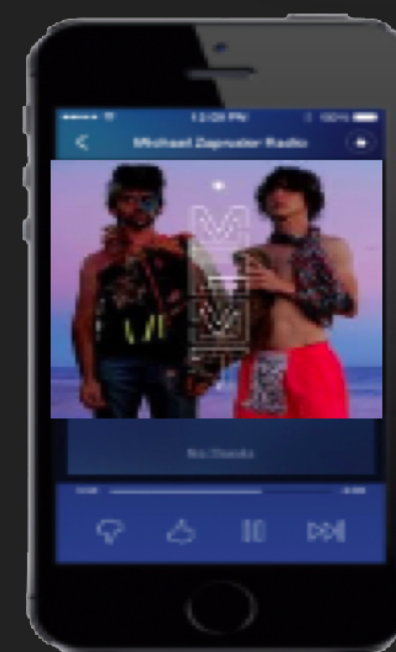
Connected to Applink



## PROJECTION AND TEMPLATE DRIVEN HMI



- No Third Party Code in Head Unit
- Apps Send Text and Images via Bluetooth
- Apps Subscribe to Buttons & Voice Command





## DIAMOND LEVEL





## PLATINUM LEVEL



## GOLD LEVEL

 Abalta  amazon  Brisson Clarion *DENSO* dentsu

 NTT docomo  Elektrobit  HAKUHODO  iAUTO.COM ISUZU

JVCKENWOOD Kawasaki *KDDI* LINE | LUXOFT  
AUTOMOTIVE  MAGELLAN®

 NIPPON SEIKI

NISSAN  
MOTOR CORPORATION

 NNG

ONKYO®

Panasonic

*Pioneer*

PSA  
GROUPE

SEVEN&I HOLDINGS  


tomtom 

 Xevo™

 YAMAHA

SILVER LEVEL






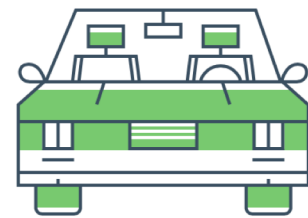
# CENTRALIZED RESOURCES

- SDL Core Implementation Guidelines
- SDL Server Documentation
- Unique AppID Generation
- iOS & Android SDKs
- Developer Support

smartdevicelink.com

 [About SDL](#) [Documentation](#) [Resources](#) [Manticore](#) [Events](#) [Search](#) [User](#)

ECOSYSTEM




I

Automakers

SDL enables automakers to maintain their user experience and driver distraction standards throughout the vehicle.

FOR AUTOMAKERS →




II

Developers

Open Source Android and iOS libraries are provided to developers with features such as video streaming, voice integration, and real time vehicle data.

FOR DEVELOPERS →




III

Drivers

SDL gives drivers control over the flow of their data between the vehicle and connected applications.

FOR DRIVERS →

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Developer Profile

Personal Info

Companies & Apps

Theme Preferences

Companies & Apps

Register New Company

To register an App and receive an App ID, you must belong to a company. Please click the company for which you want to register an App or click 'Register New Company' if the desired company is not listed below.

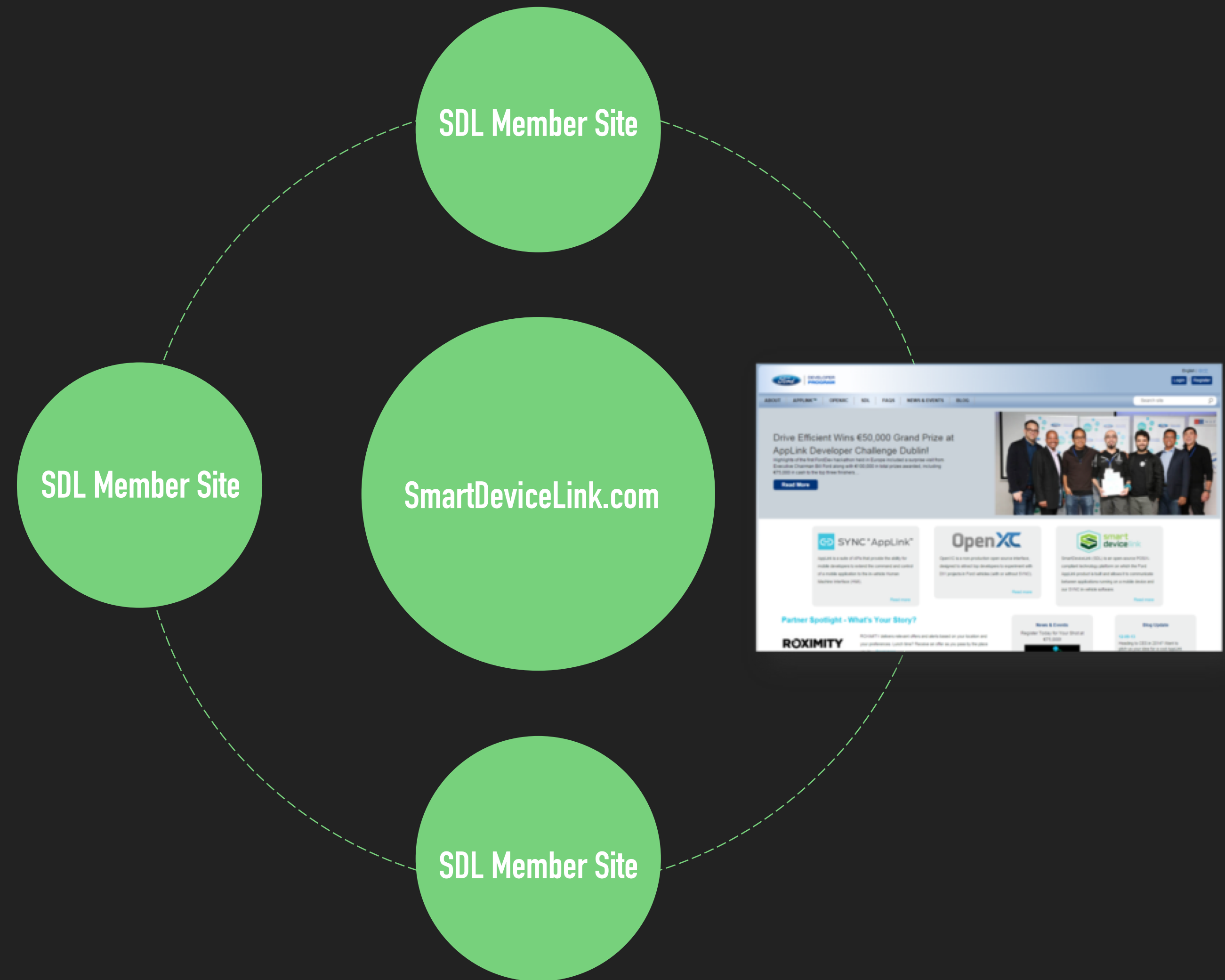
JOIN THE CONVERSATION

# CENTRALIZED RESOURCES

**SDL Site Acts as Central Hub for All Activities**

**Members Can Create Branded Sites to Provide Support for Unique Components Such as:**

- **Vehicle Data Access**
- **Policies Administration**
- **HMI**
- **App Approval Criteria**



# PRODUCT HIGHLIGHTS

- Continuous maintenance and development on [smartdevicelink.com](https://smartdevicelink.com)
- 7 Proxy Releases
- 3 Android Releases , 4 iOS Releases
- 2 Core Releases
- 3 Policy Server Releases
- iAP over Bluetooth
- Wifi connectivity projection
- Remote Control
- Extension to Embedded



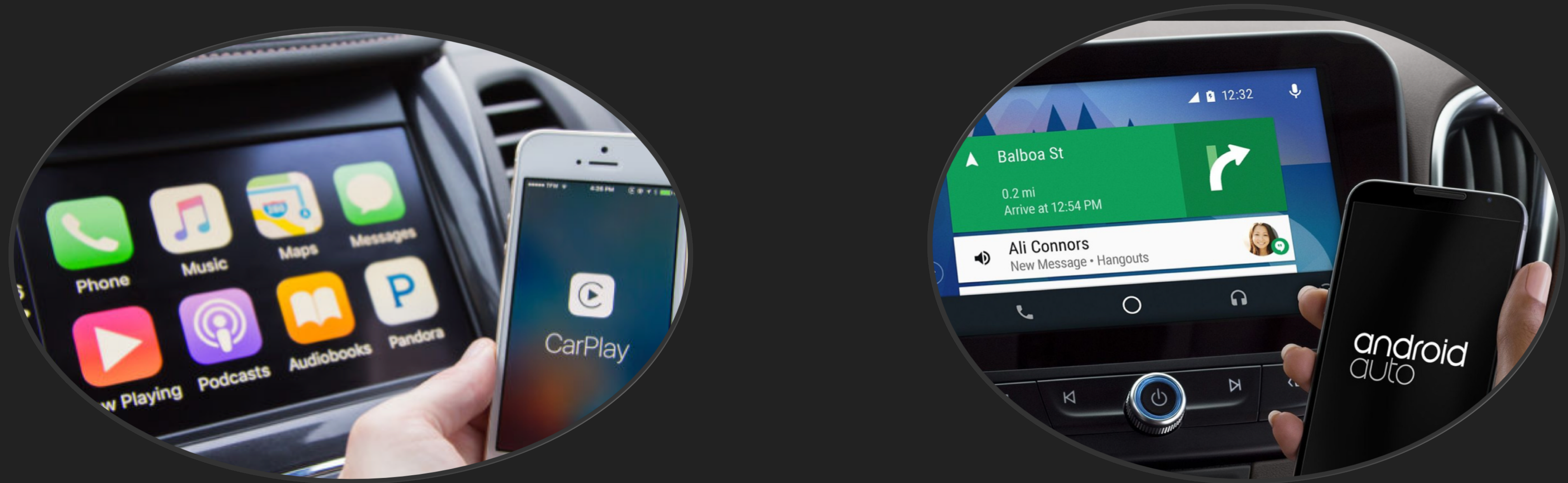
## BEAMED-IN & BUILT-IN

- **Beamed In:** Scale/cost advantages when content is broadcast one to many.
- **Built-In/Embedded Modems:** Leveraged for highly secure, OEM proprietary functions such as vehicle wake up, vehicle controls, over-the-air updates, V2X, A/V functions, etc.

## THE CASE FOR BROUGHT-IN

- Complement built-in and beamed-in products & services
- Leverages latest phone and wireless carrier technology
- Provides familiar/powerful UX, accessible outside of the vehicle
- Fast to market, low engineering effort and avoids TCU HW cost
- Killer interface for many use cases including music apps, integration to embedded navigation, video streaming, etc.

# THIRD PARTY SOLUTIONS



**Silicon Valley leaders have launched attractive/competitive offerings.  
Why establish an automotive alternative?**



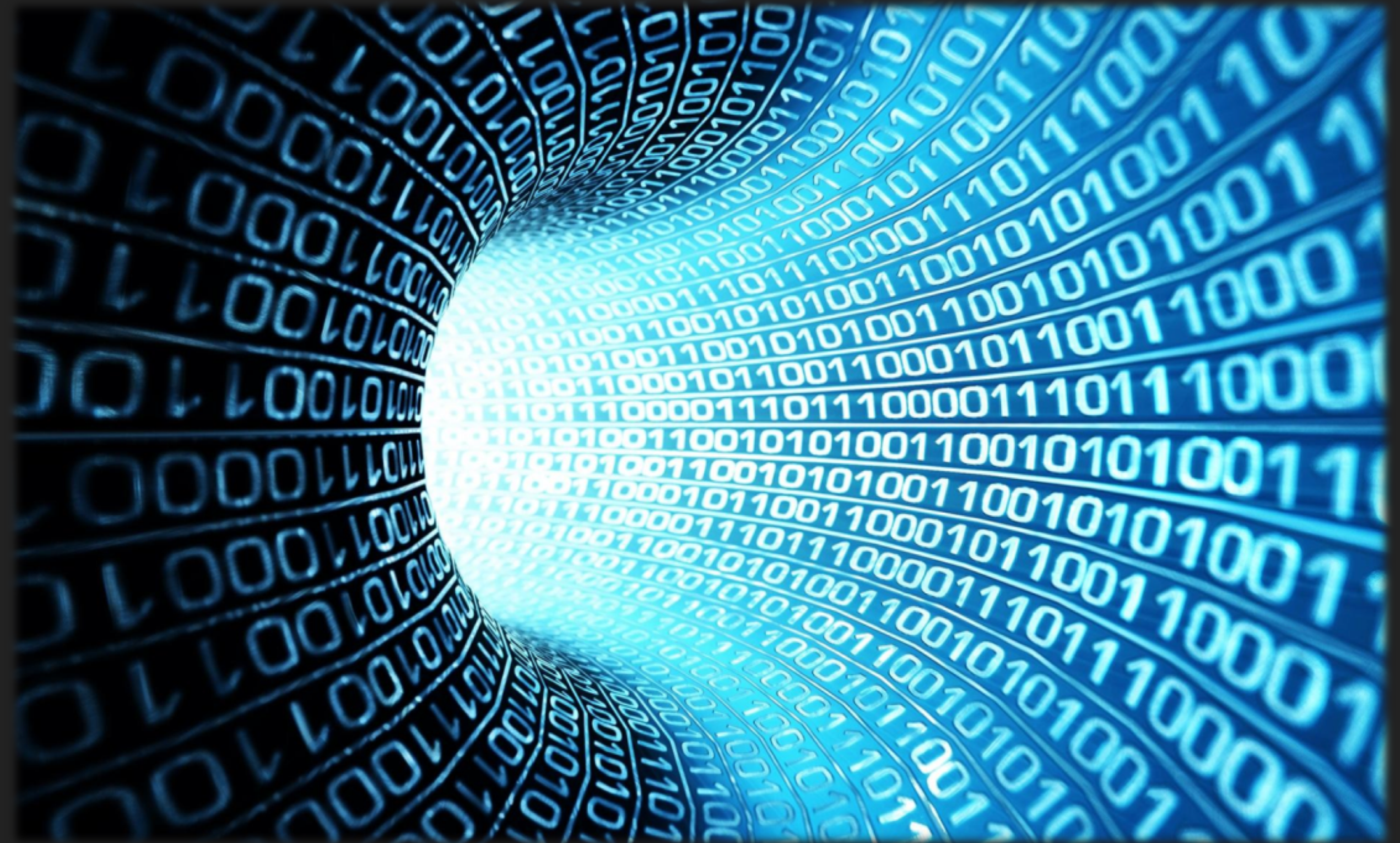
## CASE FOR AN AUTOMOTIVE STANDARD

- **Maintain OEM brand DNA, consistent with automotive experience**
- **Enables direct acquisition of vehicle/customer data for analytics**
- **Enables the automotive industry to direct access to customers and associated monetization opportunities without paying a “toll”**
- **Enables automotive industry to control which apps have access to vehicle**
- **Enables a proprietary automotive standard/platform to offer products and services for which the automotive industry is the SME**
- **Offers customer’s product/service choice in a changing environment**



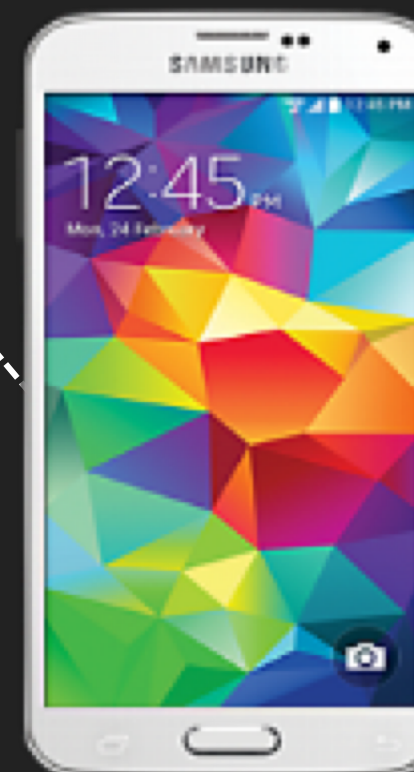
# VEHICLE DATA ADMINISTRATION

- **SDL Enables Each OEM to Build Custom Vehicle Data Practices**
- **OEMs Decide What Data to Make Available and Who is Allowed Access**





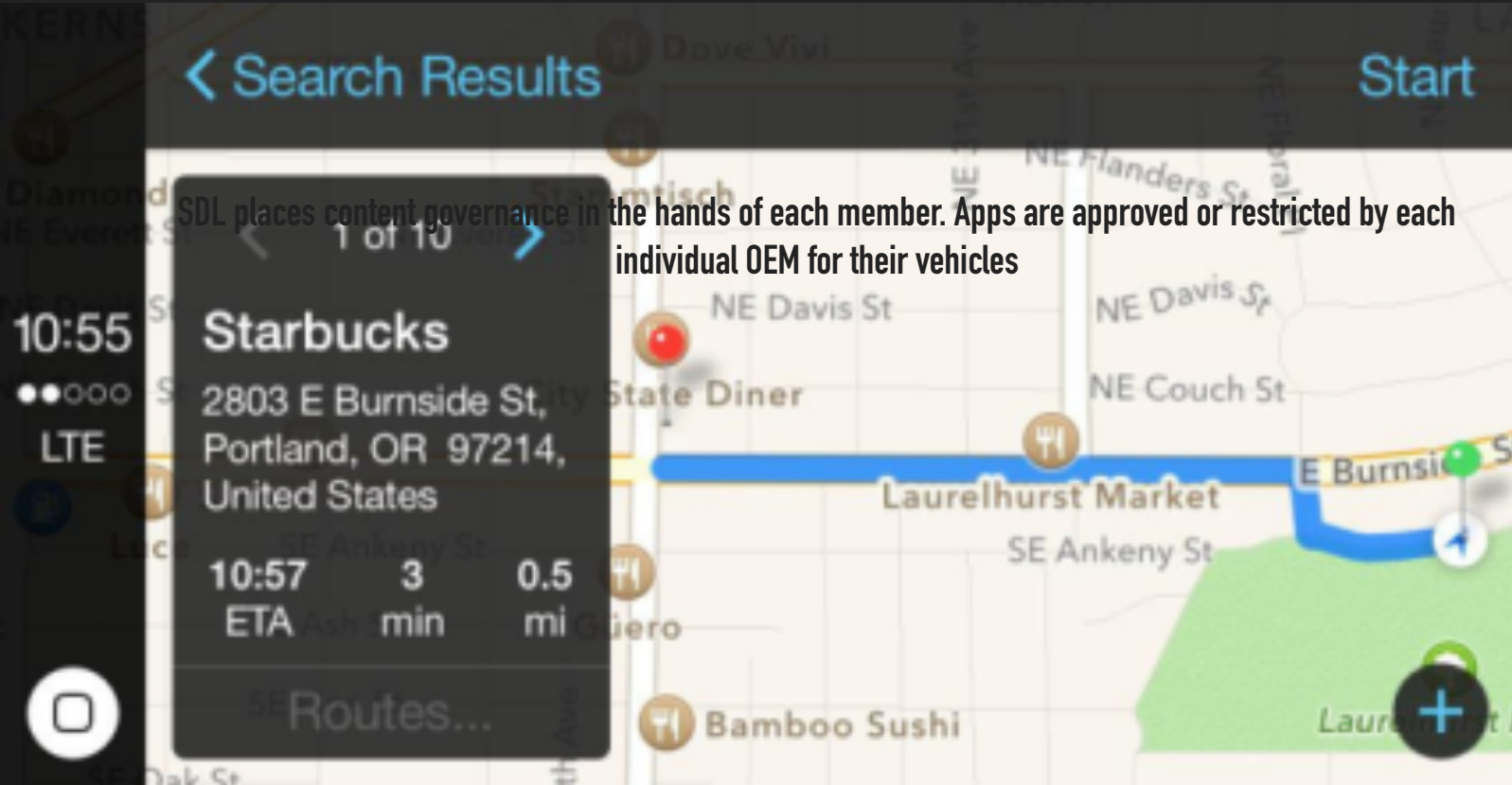
# OEMS RETAIN HMI BRANDING



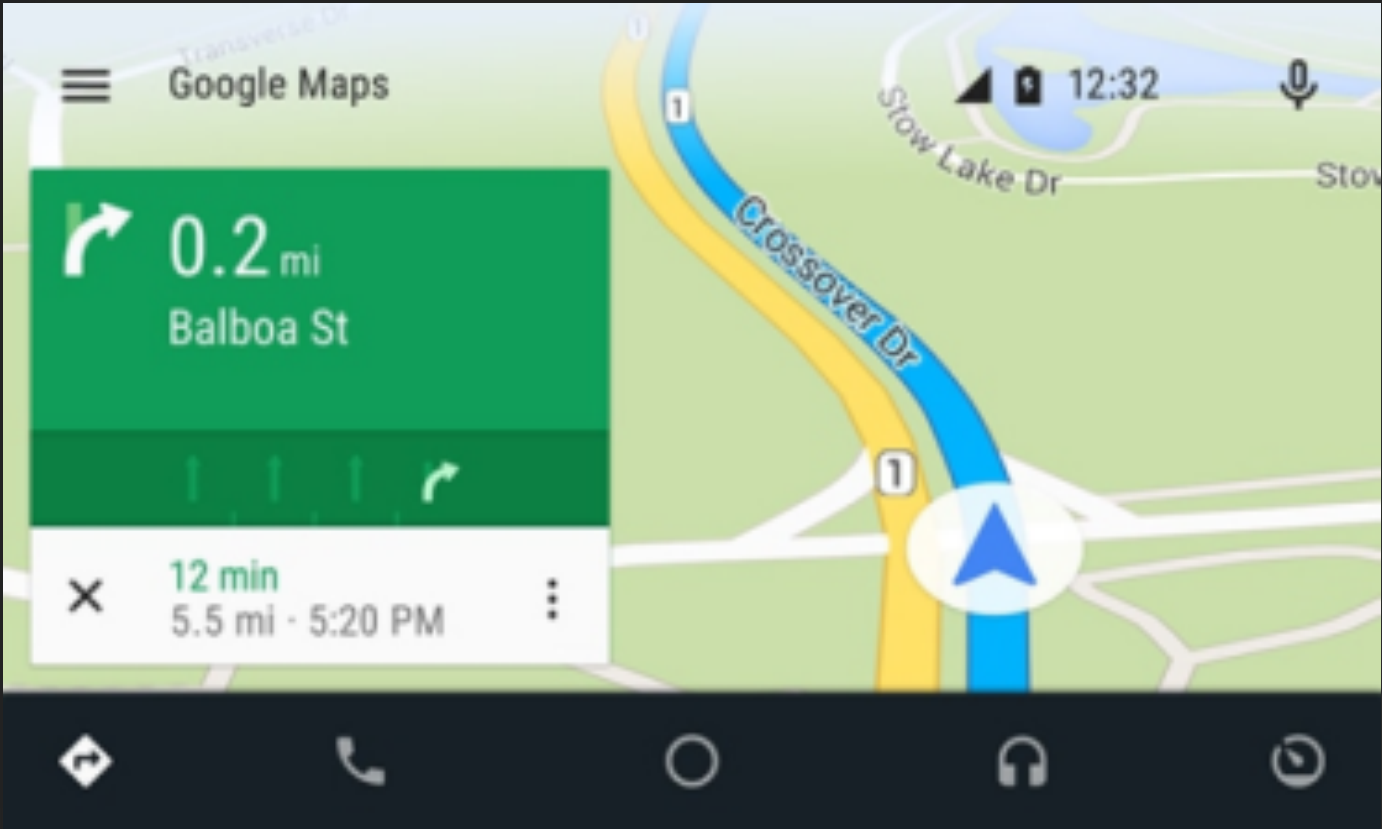


# IN- VEHICLE CONTENT CONTROL

SDL Allows Enablement of Any Mobile Nav or Voice Solutions



CarPlay Only Allows Apple Maps, Siri



Android Auto Only Allows Google Maps , Google Now and Waze



SDL places content governance in the hands of each member. Apps are approved or restricted by each individual OEM for their vehicles



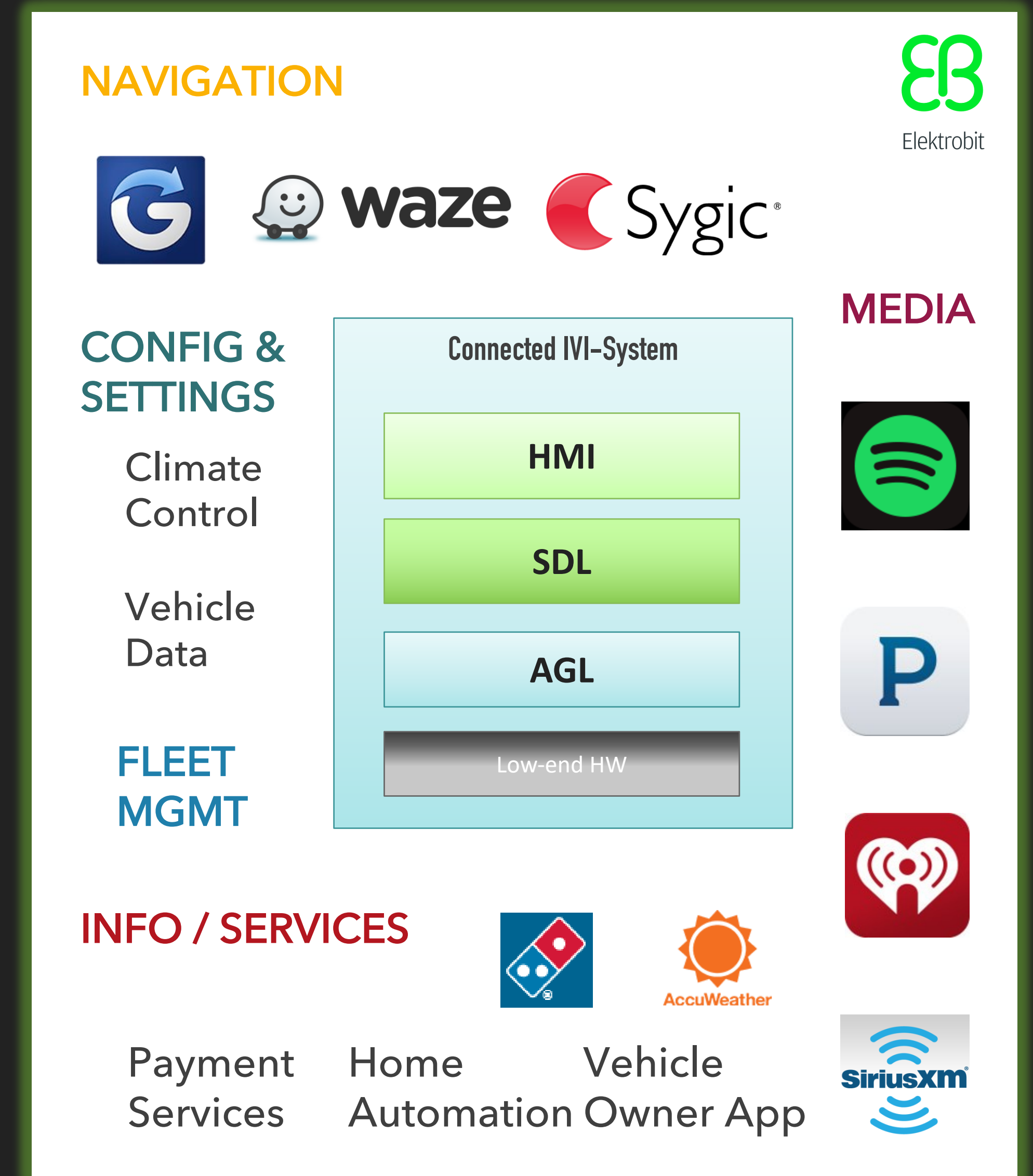
## LUXOFT

- ▶ Level 3 (Gold) membership in SDL Consortium
- ▶ Adaptation of the Open SDL to QNX 6.5 / 7.0, Windows and Android
- ▶ SDL in production on SYNC, Himawari
- ▶ In-Vehicle Translator Feature POC powered by SmartDeviceLink Technology (CES 2018)
- ▶ Plans to integrate SDL in Luxoft *AllView* and *PELUX ARP* technology demonstrators



## ELEKTROBIT

- ▶ SDL-based Connected IVI-System
  - ▶ Minimal embedded feature set
  - ▶ Features provided via apps
    - ▶ E.g. Media, Navigation, Communication, Info, Service
  - ▶ Customer-specific embedded SDL apps for "offline" features
    - ▶ E.g. Climate, Configuration
- ▶ Suitable for low-end hardware
- ▶ Platform: Automotive Grade Linux





## PIONEER CORPORATION

- ▶ On-going development of SDL feature for OEMs in the US and Emerging markets.
- ▶ Supporting SDL demonstrations at CES since 2015.
  - ▶ Sample Use case:
    - ▶ Automatic turn ON AC and Open garage door using geofencing
- ▶ Platform: Linux based operating system

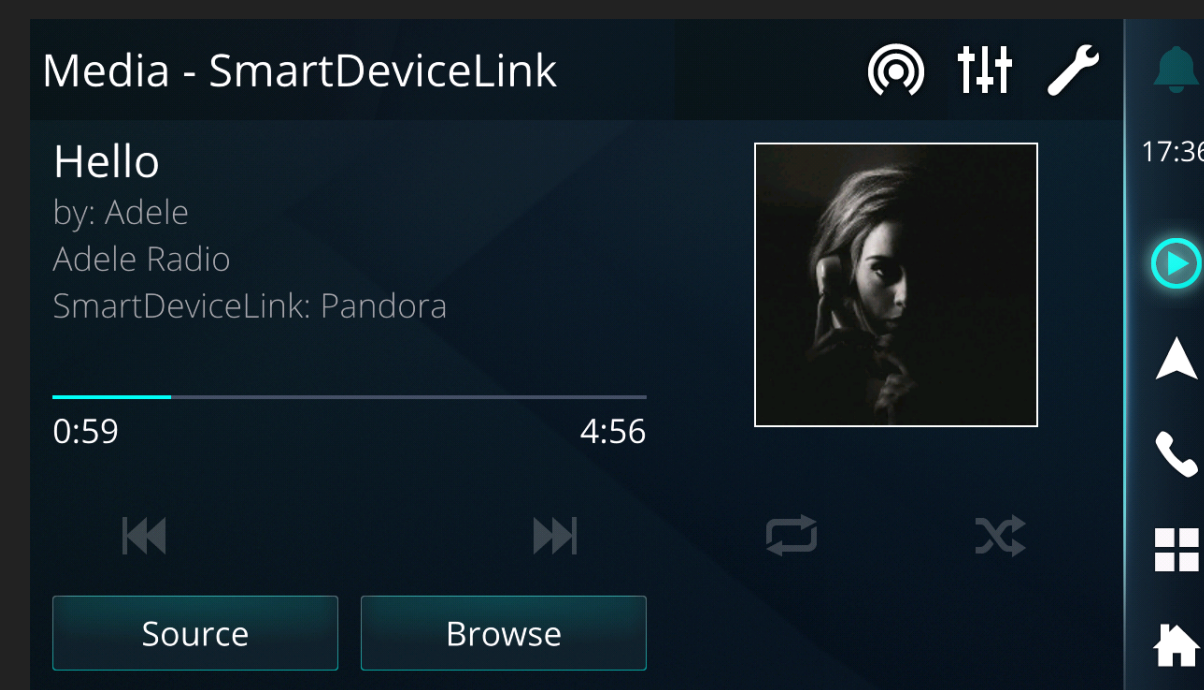
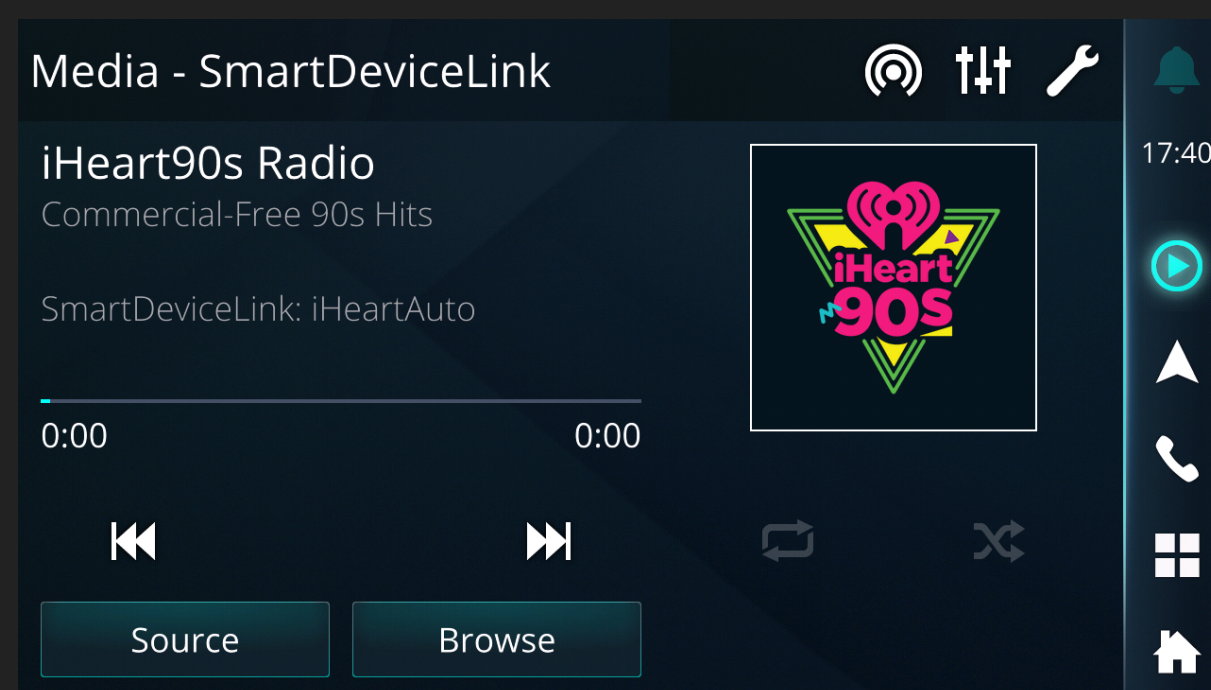




## GARMIN

- ▶ SDL Core integration based on SDL Core 4.5.1
- ▶ SDL Policy Server integration with SHAID
- ▶ SDL HMI/RPC development using native UI to support SDL apps including projection/navigation apps.
- ▶ Platform Supports: Linux

New scalable high-performance head unit with “Lenexa” HMI





# TOYOTA

- ▶ Toyota launches SDL service in North America 2018. And Toyota is planning to introduce SDL in Japan market in late 2018
- ▶ TomTom online navigation experience combining offline maps and online services such as traffic and speed cams
- ▶ Waze navigation
- ▶ Platform: AGL (Automotive Grade Linux)





## FORD MOTOR COMPANY

- ▶ Sample launched new SDL Apps 2018:
  - ▶ Ford+Alexa and Lincoln+Alexa with Amazon
  - ▶ Waze
  - ▶ Webex with Cisco
  - ▶ Tidal Music
  - ▶ HearMeOut - Social Network
  - ▶ iHeartRadio (Flagship App)



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**THANK YOU**