WELCOME

Thank You for Joining Us In Beijing

Thank You to our Hosts – Volkswagen!
Global consortium to develop smartphone-based connected-car solutions

- Membership open to any interested company
- Solutions are not owned or governed by a single corporation
- Our solutions are OS agnostic - No platform limitations
- Assure device and application interoperability
- Future proof – not reliant on a single vendor

Bringing car, handset and head-unit industries together

- Established in February, 2011. Over 100 members companies
- Automotive, Smartphone, Tier 1 and Eco-system enablers

MirrorLink® is The open industry standard for Smartphone-Car integration

- Governed by CCC’s membership
Some of Our Members
MirrorLink User Experience
Leveraging Vehicle’s accessible Display and Controls

No obstruction from dash or window mounted device

Car optimized Audio Input & Output

Car optimized Display & Input Control

No holding
No touching
No looking
No glancing

© Car Connectivity Consortium LLC, 2014
How Does CCC and MirrorLink® Help Solve the Connected Car Delima

Openness –
- CCC Develops MirrorLink with the help and full participation of its members
- We adjust under the direction of our members – not a single company
- Working as an industry standard means no surprises – specifications are published and clear

Compatibility –
- While certification adds complexity it helps reduce issues for users in field
- We work with any phone operating system – not only one
- We are truly GLOBAL – with members in all major markets around the world

Longevity –
- Since we are a published standard we don’t depend upon one company for support. If a member company changes strategic vision MirrorLink continues as before
• MirrorLink 1.1 – 2014 and beyond
  • Currently 10’s of Millions of ML enabled handsets on the market
  • Multiple applications certified for single OEM (white-listed)
  • Seven applications now pending full CCC Certification
• Certification status (ML 1.1) : 308 products

<table>
<thead>
<tr>
<th>Unique</th>
<th>Variants</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handsets</td>
<td>13</td>
<td>155</td>
</tr>
<tr>
<td>Head-units</td>
<td>42</td>
<td>98</td>
</tr>
</tbody>
</table>

<sup>a</sup> not all products publicly listed on CCC website.
Some MirrorLink END Products

- Citroën C1
- Honda Civic
- Opel Adam
- HTC One M8
- Fujitsu Arrows NX
- Sony Xperia Z3 + Z3 Compact
- Samsung Galaxy S5 + Note 4
- Peugeot 108
- Skoda Fabia
- Toyota Avensis
- Volkswagen Passat
Some MirrorLink Apps in development
The Car Connectivity Consortium is a global collaboration forum to develop smartphone-based connected-car solutions

- Membership is open to any company wishing to increase safety and innovation on today's roads
- Solutions developed collaboratively and are not owned or governed by a single corporation
- Everyone can implement solutions which are operating system agnostic

MirrorLink® is not just a connectivity solution

- It is THE open industry standard for Smartphone-Car integration
- It is providing common application development guidelines for in-car apps
- Providing infrastructure for making application certification operate effectively
- It is providing transparency via certification process for connectivity and apps
MirrorLink® Technology Overview

The MirrorLink® Architecture Step-by-Step
Agenda

• MirrorLink User Experience
• MirrorLink Architecture
• MirrorLink Step-by-Step
• Installation of MirrorLink Apps
• Data Exchange in MirrorLink
• MirrorLink Roadmap
MirrorLink® Experience
Make it Simple for Consumer to use MirrorLink

1. Get in your car
2. Plug in your phone
3. Enjoy your phone in car
MirrorLink® Experience

Leverage Vehicle’s accessible Display & Controls

No obstruction from dash or window mounted device

No holding
No touching
No looking
No glancing

Car optimized Audio Input & Output
Car optimized Display & Input Control
MirrorLink® Experience
Make it Easy to develop for MirrorLink

MirrorLink API

Connectivity
MirrorLink® Step-by-Step
Step 1: Make the Physical Connection

Connectivity

- DHCP
- UDP
- TCP
- ARP
- IPv4
- Ethernet
- USB CDC/NCM
- Wi-Fi P2P
MirrorLink® Step-by-Step
Step 2: Discover the other Device

1. Device Discovery
   - Based on UPnP (SSDP)
   - Smartphone advertises
   - Head-Unit searches

2. Device Identification
   - Head-Unit reads Phone’s Description
   - Head-Unit provides Phone its Device Profile
   - Contains device and manufacturer details
MirrorLink® Step-by-Step
Step 3: Discover & Display Phone Applications

1. Phone contains a set of (certified) MirrorLink apps
2. Head-Unit requests the set of available (certified) MirrorLink apps
3. Phone provides app list
   Name, Description, URL, Icons, provider, App category
4. Head-Unit presents apps to user
1. User selects an app from Head-Unit UI
2. Head-Unit requests launch of selected app from the Phone
3. Phone launches selected app and brings it to foreground
4. Phone returns URL to app’s User Interface
Remote UI

- Remote FB protocol
- FB encoding
  - Raw (VNC)
  - Run Length (VNC)
  - H.264 (WFD)
- Transparent to apps

Extensions for skinning support

- Display Size & Resolution
- Drive/Park Mode
- Day/Night Mode
Single-Touch Event
Single event @ coordinate

Multi-Touch Events
# of parallel touch events

Key Events
Single event @ symbol value
- Character (ASCII, Unicode)
- Rotary Knob (Push/Rotate/Shift)
- Device/Multimedia

Skinning support
Exchange of supported events
Step 4: Remote the User Interface (Audio)

Legacy Bluetooth
- BT HFP
- BT A2DP

RTP Audio Streaming
- RTP payload type
  - 48 kHz
  - 16 bit
  - Stereo
- RTP header extension
  - Audio context
- Forward and backward channel

Specific examples:
- "Turn Right in 500 m"
- "Call Mika"
MirrorLink® Step-by-Step
Step 4: Remote the User Interface (Audio Mixing)

- Audio sources are mixed based on Phone priorities
- Phone provides audio sources

- Vehicle mixes Phone audio with Local audio sources
- Based on Vehicle priorities
MirrorLink® App Installation
Retrieval & Validation of App Certificates

1. User installs App from any App Store
2. Phone downloads matching App Cert from CCC DB
3. Phone validates Certificate
4. Phone regularly checks App Cert Status with CCC DB (Revocation)
Common Data Bus
- Data service level
- Service advertisement
- Start/Stop service
- Data Payload, Response

Service Binary Protocol
- Data objects level
- Object values
- Object type (Int, Dbl, struct, [ ], …)
- Object access (Get, Set, Subscribe)
MirrorLink® Roadmap

MirrorLink 1.0 (2011)
• Enable Core MirrorLink Use Case

MirrorLink 1.1 (2014)
• Enable Application Certification
• Enable exchange of data between Car & Smartphone

MirrorLink 1.2 (2015)
• Enhance wireless and wired user experience

CCC is further improving the MirrorLink experience
• Fully transparent to apps.
• No version specific adaptation required.
Thank you. Questions?
MirrorLink Application Development

How to Make MirrorLink Applications for Android
Application Certification Objectives

- **Device Certification** – Ensure Devices are Interoperable
- **App Base Certification “Park Mode”** – Ensure Apps Can Be Used on MirrorLink Devices
  - Application supports multiple UI schemes
  - Application doesn’t require use of OS keys that may not be available
- **App Drive Certification** – Ensure Apps Do Not Excessively Distract Driver
  - Does not show forbidden content
  - Does not demand user’s attention
  - Easy for the user to read and interact with
  - Does not consume too much of the driver’s attention (driver workload)
- **Certified Applications & Devices**
  - Can Use MirrorLink Logo & Certification Mark in their Application and in their Applications Promotional Material
  - Head units must allow the use of certified applications

Create Ecosystem of Trusted Apps & Devices
Certification Process Overview
Key Elements

- **CCC Authorized Application Test Lab (ATL)**
  - Approved by the CCC to perform testing
  - Demonstrated capability to perform needed testing
  - Periodically audited by CCC lab manager
  - List maintained by CCC
  - Application developer arranges testing directly with the ATL

- **Certification Body**
  - Process administrator and referee
  - Approves/rejects apps/devices for certification based on requirements & testing results
  - Assesses requests to change certification status
  - Administers ECO process
    - Examines changes to application/devices and certification requirements
    - May call for additional testing or re-testing on a case-by-case basis

- **Protocol Implementation Conformance Statement (PICS)**
  - Statement of what the application does
  - Used to determine what tests to run and how to run them
New Application/Device Certification

- Developer Decides to Get App/Dev Certified
  - Vendor Fills Out PICS & Submit Certification Request
    - Certification Body Reviews Application
      - Ready to Test?
        - Yes
        - No
  - No
- Test Lab Performs Tests
  - Testing Complete?
    - Yes
      - Test Lab Issues Report
        - CB Reviews Report
          - Approve Certification?
            - Yes
              - App/Device Certified [Publicly Listed]
            - No
  - No
  - Developer Makes Changes to App
    - Yes
    - No
Common Questions

• **How Long Does Certification Process Take?**
  - New device/app: Less than a month
  - ECOs: <2 weeks (a few days if no testing needed)
  - Total testing time is <1 week
    - More complex apps take more time to test
    - Devices that support lots of optional features will take more time to test

• **How Much Does Certification Cost?**
  - Device certification is free to members
  - App certification is free
  - Do have to pay the test lab

• **Does an App or Device Have to Be Re-Certified Every Time There is an Update?**
  - No…we have an ECO process to hand this…
Applications & Devices Change All the Time
  • Certification status needs to be changed
  • Apps default to “uncertified”
  • Don’t want to retest the app or device every time there is an update

Instead, We Use an ECO Process
  • Inform CCC of the change to the app or device
  • CB determines if re-testing is needed
    - Can require subset of tests to evaluate changes
    - Check for compliance with updates to the specification

ECO Process Reduces Testing Burden, & Allows For Rapid Updates to Devices & Apps
Certification Requirements
Quick Survey of Device and App Requirements
Device Certification Requirements
Quick Overview

• Pass Conformance Tests Using Conformance Test System (CTS)
  • Provided to members free-of-charge
  • Waivers granted for test cases with known bugs
  • Test cases cover each chapter of the specification
    - Connectivity layer
    - VNC extensions
    - Audio and video services
    - UPnP services
    - Common Data Bus data exchange mechanisms and data services
    - Device Attestation Protocol (DAP) and security

• Pass Interoperability Tests With Interoperability Devices
  • Already-certified devices
  • Examine common use-cases

• Pass DAP Audit (Optional for Client Makers)
  • Audit to ensure that server device maker’s Public Key Infrastructure (PKI) is secured to prevent leakage of private keys used to authenticate devices
  • Audit of device design to ensure integrity of keys
Display Compatibility
- Support Reference Client Display
  - 800 x 480 pixels (square)
  - 13.33 cm x 8.00 cm
  - 90 cm from driver
- Adapt to Client Display [Optional]
- Support Landscape Mode
- Control Positioning
  - Not entirely within outer 5% of the display

Control Compatibility
- Support Rotary Knobs
  - May not have a rotary keyboard available, so either implement your own, or don’t require
- Support Single-Touch Events
  - Cannot require multi-touch
- Voice Commands
  - May use, but may not be available
  - Must notify user if not available
- Cannot Require OS Keys
  - May not be present on Client
- Provide Application Metadata

Ensure that the App Will Work on All ML Clients
Application Drive Certification
Minimizing Driver Distraction

- **Guiding Principals**
  - Nothing that demands the driver’s attention
  - Quickly comprehensible and accessible

- **Restricted Content**
  - No video, incidental animations or flashing
  - No automatic scrolling text

- **Visual Accessibility**
  - Color contrast – brightness & color differences
  - Text legibility
    - Minimum height
    - Font requirements

- **Control Accessibility**
  - No two-handed operations
  - Should not use the keyboard
  - Control sizing and spacing

---

**Region-Based Certification**

- **Region Specific**
  - North America (AAM)
  - European Union (EU)
  - APAC (JAMA)

- **Global Certification**
  - Superset of NA, EU and APAC guidelines

- **Can Get Certified for One or Multiple Regions**
  - E.g. Drive in EU & APAC, but not NA
Application Certification Status is Communicated to Server Device by a Central Server
- What regions the app certified for use in park/drive mode
- Whitelisting by member companies for use in their vehicles
- Application Certificate Management System (ACMS)

Server Devices Responsible for ACMS Interface
- Server (phone) periodically checks the ACMS for updates to certificates
- If no data connection, server allows use of app for up to 30 days before considering the app as uncertified
- App uses a self-signed certificate included in app to indicate that the server should check for a certificate with the ACMS

Allows Apps to Be Granted Certification Without Requiring an Update to Application
- Drive/park mode regions can be added/removed transparent to app and user
Developer Support Tools
Aids to Developing ML Applications and Devices
Conformance Test System

- Protocol Tester Developed for the CCC
  - Ubuntu Linux application
  - Test over USB, LAN or WiFi
  - Tablet-based version coming soon
- Test Operation of Client and Server Devices
  - Extensive logging
  - Trace capture
  - Testing aided by use of Common API Test Application
- Provided Free-of-Charge to CCC Members
ML Client Simulator

- Built by Head of Technical Working Group
- Full Featured Simulator of MirrorLink 1.1 Client on an Ubuntu PC
  - DAP, Simulated Data Source, Receive Audio
  - Variable session capabilities
    - Screen size
    - Offered services and controls
  - Certification pending
- Used in Certification Testing of Clients
  - Allows for internal testing of driver distraction at the developer workstation
- Provided by Microsoft (No Cost!)
  - Must agree to license terms with Microsoft
    - jorg.brakensiek@microsoft.com
• CCC Maintains a Developer Portal for Use by Developers
  • Open to all
  • No registration fees
  • http://www.mirrorlink.com/developer-registration to register
  • https://causeway.carconnectivity.org/site/login to log in
  • Whitepapers and Requirements Documents
  • Base and drive requirements
  • Test procedures
  • Certificate XML guide

• Whitepapers, etc.

• Developer Support Tools
  • PICS
  • Common API Simulator, MirrorLink Client Simulator, Common API Test App
  • Certificate Generator
Common API Simulator APK
- Can be installed on any Android device (API level > 14)
- Provides the MirrorLink Common API to other applications on device

Common API Simulator Controller
- Runs on separate PC (Ubuntu & Windows)
- Controls behavior of MirrorLink API
- Configure simulator MirrorLink session capabilities
- Configure responses API calls
- Trigger events
  - Change Client screen sizes
  - Button pushes
  - Simulate data service objects
Common API Test Application

- Used for Certification of Server Implementations of Common API
  - User interfaces for each element of Common API
  - Testing support tools
- Great Way for Developers to Learn About Common API
  - What information is exposed
  - What commands are available
- Source Code Provided to Developers
Making an App a MirrorLink App
Short Tutorial
Tools Needed

- Eclipse Android Developer Toolkit
- A Certified MirrorLink 1.1 Android Server Device
  - HTC One M8
- A MirrorLink Developer Account
  - Go to the portal https://acms.carconnectivity.org/ . This Application Certification Management System enables you to access to your developer ID, ID of your servers devices, CCC certification of your applications.
- A MirrorLink Client Device
  - The Microsoft MirrorLink Client Simulator
  - Free of charge
  - Contact Jorg Brakensiek [jorg.brakensiek@microsoft.com](mailto:jorg.brakensiek@microsoft.com)
- Self-Signed Certificate Generator
  - Developers Workgroup > Android Tools > Android Cert Generator
  - Linux and windows versions available
Step 1 – Create Developer ID Certificate

- Get IMEI(s) of Server Device(s)
  - Settings -> About -> Phone Identity
- Log On to the ACMS Portal
  - Link on Developer Portal
    - https://acms.carconnectivity.org
  - Same credentials as for Developer Portal
- Request a Developer ID
  - Go To “view profile” (upper right)
  - Request a Developer ID
    - Agree to developer agreement
  - Record Developer ID
- Add IMEI(s) to Developer ID Certificate
  - Select “view profile”
  - Select “View your developer certificate”
  - Select “Request change”
  - Paste IMEI(s), comma-separated
  - Select “Add Update Request”
  - Automatically approves if <100 IMEIs
- Note: To test an application as a developer it is not necessary to register your current test Application on the ACMS website.
Modifying Your Application

Here are the steps to follow for reaching the full MirrorLink Certification

1. Turn a Standard Application into a MirrorLink aware Application
2. Turn a MirrorLink Aware Application into a MirrorLink Test Application
3. Turn a MirrorLink Test Application into a Certified MirrorLink Application

Scope of This Tutorial
1. Making Your App MirrorLink Aware
Modifying the Android Manifest

- Add Intents to AndroidManifest.xml to Support Key ML behavior
  - com.mirrorlink.android.app.LAUNCH – Allow launching from the head unit
  - com.mirrorlink.android.app.TERMINATE – Allow termination from the head unit

```xml
<intent-filter>
  <action android:name="android.intent.action.MAIN" />
  <category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
<intent-filter>
  <action android:name="com.mirrorlink.android.app.TERMINATE" />
  <category android:name="android.intent.category.DEFAULT" />
</intent-filter>
<intent-filter>
  <action android:name="com.mirrorlink.android.app.LAUNCH" />
  <category android:name="android.intent.category.DEFAULT" />
</intent-filter>
```

- Add use of Common API to Permissions
  - com.mirrorlink.android.service.ACCESS_PERMISSION

```xml
<uses-sdk
    android:minSdkVersion="19"
    android:targetSdkVersion="19" />

<uses-permission android:name="com.mirrorlink.android.service.ACCESS_PERMISSION" />
```
2. Making Your App a MirrorLink Test App

A. Building a self-signed certificate

- Create the Application Certificate XML
  - Can use the Certificate XML Generator in the PICS
  - See the CCC-WP-007 MirrorLink Application Certificates Whitepaper for Details
  - Set the Entity Name to “Developer”
- Start Up the Certificate Generator Application
- Open your Application’s APK
2. Making Your App a MirrorLink Test App (2)

B. Building a self-signed certificate

- Enter the Version Code and Package Name (If Needed)
  - Version Code
  - Package Name
  - Generate App ID

- Paste in the Application XML
- Generate the Application ID and Update XML
  - Hash of the manifest contents
  - Have to regenerate every time you change the contents of the app.
2. Making Your App a MirrorLink Test App (3)
C. Building a self-signed certificate

- Make the Certificate a Developer Certificate
  - Enter Your DeveloperID
  - Set Issuer to CN=<YourName>
  - Make sure at least one entity name is set to “DEVELOPER”
- Save Certificate to DER as “self-signed.ccc.crt” file
2. Making Your App a MirrorLink Test App (4)

D. Adding the self-signed certificate to your project

- Add the Self-Signed Certificate file to the Assets of your Application
- Rebuild Project to Finish Process
Thanks!

To Register as a Developer:

• http://www.mirrorlink.com/developer-registration

• https://causeway.carconnectivity.org/site/login

Feel Free to Email Me if You Have Questions

• ed.pichon@carconnectivity.org
Thanks to the CCC and VW for offering RealVNC the opportunity to present
VNC® Automotive is delivering the next generation connected vehicle

- Supports both smartphone integration and embedded connectivity
- Enables connections with one or several phones simultaneously allowing all passengers in the vehicle to connect with preferred apps and data
- Enables independent rear-seat entertainment, including HD video streaming
- Direct to the cloud infrastructure enables carrier-grade, real-time, bi-directional interactive connectivity needed for enhanced safety, security and concierge services

I just upgraded my town hall on Clash of Clans!
RFB® protocol

Proven, future-proof technology with world class heritage

- VNC invented in Olivetti/AT&T labs Research project 1994
- RealVNC founded by inventors in 2002
- RFB3.3
- RFB3.7
- RFB3.8 RFC 6143
- RFB4.1

- 1998
- 2003
- 2007
- 2010
- 2013

- Public published standard
- Commercially licensed product
- VNC MirrorLink
- VNC Enhanced
Ecosystem

Car OEMs & Tier1's

Mobile OEMs

APPs
MirrorLink™ Ecosystem
MirrorLink Ecosystem – Tier1’s

- Coagent
- Continental
- ALPS
- DENSO
- Fujitsu
- HARMAN
- Delphi
- Clarion
- Mitsubishi Electric
- PATEO
- AISIN AW CO., LTD.
- Bosch
- Panasonic
- Alpine
- JVC KENWOOD
- MAGNETI MARELLI
- 德赛西威
- Desay SV Automotive
- Kotei Technology
- LG Electronics
- Pioneer
- Visteon
VNC Automotive has an extensive and established ecosystem of customers and partners.
Cross Platform Support

**UI**
- Qt
- HTML 5
- OpenGL
- WIND RIVER
- Mentor Graphics

**OS**
- Android
- QNX
- BlackBerry
- Apple
- Windows Embedded
- Tizen
- Symbian

**Silicon**
- ARM
- Qualcomm
- NVIDIA
- MediaTek
- Renesas
- Freescale
- Intel
- Texas Instruments
- STMicroelectronics
- CSR
It is just the beginning!

• 2 Million cars already MirrorLink enabled
• More than 1 Million have been manufactured with RealVNC technology by the end of 2014
• 10 Million MirrorLink enabled cars forecast in 2015
• 30 Million cars MirrorLink enabled by the end of 2016

• More than 50 Million handsets enabled to date with RealVNC MirrorLink servers
It was great to see that Samsung are deploying MirrorLink in all their very popular devices
– The new Galaxy S6 and S6 Edge
– Galaxy S5, S4 and S4 Mini
– Note 4
– Alpha 3, 5 and 7

This is more than 100M devices!
• HTC also announced that the M9 is MirrorLink certified
• And many more...
MirrorLink™ RealVNC Server 3.1

- Turn-key MirrorLink™ Server SDK solution for Android
- The server is MirrorLink™ 1.0.2 Certified on Galaxy Nexus running Android 4.0.4 since 2012
- The server is MirrorLink™ 1.1 Certified on Galaxy Nexus, announced in CCC Summit at Krakow (November 2013)
- It has been selected by the CCC as the official IOP device for MirrorLink™ 1.1 and 1.0 testing
- Android 4.x, 5.x, 32 and 64bit support on all Google Nexus Devices (Qualcomm and NVidia chipsets)
- New devices
MirrorLink™ 1.2 Test Server

- MirrorLink 1.2 mandatory features ready
- Advanced prototype for IOP testing
  - WFD (see demo)
  - HSML
- Will be available for testing at the next Plugfest in Munich in April
RealVNC CCC Activities

• RealVNC Led Android Common API WG
  – Jorg Brakensiek [Nokia & CCC TWG lead] – "I like to take the opportunity to thank everybody within the Technical WG, the Android Task Group and specifically Sorin Basca & Laurent Cremmer [RealVNC] for their incredible effort in making this specification happen."

• Delivery of IOP Servers
  – Both ML 1.0 and ML 1.1 available
  – Most advanced ACMS and Common API
  – Enables our OEM handset vendors to progress confidently and quickly to obtaining certification and production release
  – Whilst also allowing our head unit and automotive OEMs to progress development and testing before commercial handsets are available

• Win <-> Win situation
  – RealVNC is a key stake holder leading the standard
  – Developing both Servers for phones and Clients for HU’s in parallel
  – As we know both ends we can ensure guaranteed interoperability
  – Progresses quickly and smoothly in parallel
  – Setting the de-facto implementation, providing the most fully-featured and highest performing solution
Enabling Apps development

• RealVNC provides a full MirrorLink 1.1 Viewer
• Linux environment
• Free development license for app developers
• Perfect debugging tool to test and validate ACMS and Common API in APP
• Upgradable with InDash USB stick
RealVNC is MirrorLink™ Certified

- RealVNC attends all the IOP plugfests, last one in December 2014 in Dallas, USA and the next one in Munich in April 2015
- MirrorLink 1.1.1 Viewer and Server mandatory features complete and available for release NOW
- RealVNC drives the CCC Android Task Group defining the MirrorLink CommonAPI
VNC Automotive for global connectivity

RealVNC Automotive Head Unit

RealVNC Servers Apps

RealVNC Mobile HelpDesk Cloud Connectivity

1.1 and 1.2
RFB3.8+UPnP+RTP
WFD/Wi-Fi
USB CDC NCM

RFB4.1+extensions
WFD/Wi-Fi
H.264
USB AAP
USB NCM CDC
USB RIM MUX
USB iAP2

Certified handsets
谢谢
Merci
Thank you
Grazie
Danke
धन्यवाद
감사합니다
ありがとうございます
MirrorLink
The Connected Car Solution for China
Antti Aumo Marketing Director, Car Connectivity Consortium
Big business

Customer intimacy

In China – and worldwide
MirrorLink cars: CHANG’AN MOTORS

Chang’an Cinturx

Chang’an Raeton
MirrorLink cars:
GENERAL MOTORS

- Chevrolet Volt
- Opel Adam
- Opel Corsa
- Chevrolet Sail
MirrorLink cars: HONDA

Honda Crider

Honda Jade

Honda CR-V

Honda Accord
MirrorLink cars:
PSA PEUGEOT CITROËN

- DS 5
- Peugeot 108
- Citroën Berlingo
- Peugeot 208
MirrorLink cars: SEAT & SKODA

- Seat Cupra
- Seat X-Perience
- Skoda Fabia
- Skoda Superb
MirrorLink cars: VOLKSWAGEN

- VW Polo
- VW Passat
- VW Beetle
- VW Sharan
MirrorLink phones: HTC
MirrorLink phones: SAMSUNG
MirrorLink phones:
SONY

Xperia Z3
Z3 Compact
MirrorLink apps: AIRMOTION

News and entertainment in 30 languages
MirrorLink apps: AUDIOTEKA

now playing MyShelf

We Need to Talk About Kevin Bridges
00:00:00  Kevin Bridges

Sputnik Sweetheart
00:00:00  Haruki Murakami

now playing MyShelf

Audiobook experience to enjoy great stories
MirrorLink apps: BRINGGO

Premium turn-by-turn navigation
MirrorLink apps: COYOTE

Community-based driving assistant service
MirrorLink apps: GLYMPSE

Social location sharing

- Tap to Choose from Shortcuts
- Tap to Send
- Kelly Houser, Marion Blak...
MirrorLink apps: MIROAMER

Internet radio and music entertainment
MirrorLink apps: PARKOPEDIA

Allows drivers to find parking in over 6,000 cities
MirrorLink apps:
SYGIC

World’s most downloaded offline navigation app
You are in control of the technology and the business – today and tomorrow

Designed for maximum interoperability between smartphones and cars

Extends your brand experience into the connected car

Deepen your customer relationships – not reduced to a secondary role

Global solution offers worldwide access
Open ecosystem representing the broadest possible market

Innovation platform giving the freedom to differentiate

Publish once to reach the dashboards of multiple automakers

Fastest global route for automotive apps

In the future, use car data to provide completely new services
Innovative driver-aware applications
Irresistibly intuitive consumer experience
Makes connected driving more enjoyable
Freedom of choice
Peace of mind
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