



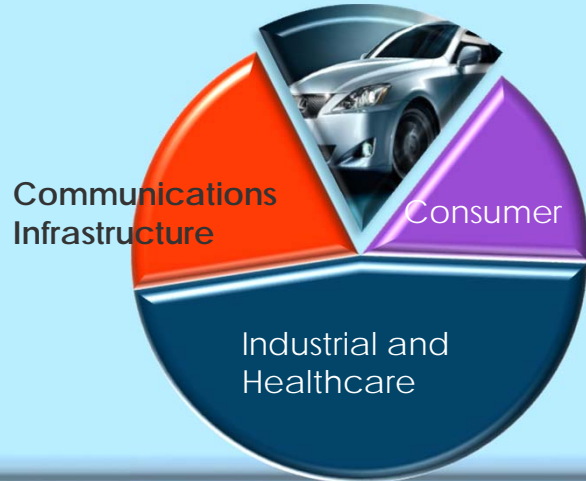
ADI Automotive

"Making Tomorrow's Cars Better"



ADI Automotive Summary

Growing Presence in ADI portfolio



Industry leader in key strategies



Delivering Innovative solutions



Benchmark for Intelligent Battery Sensing



Best Shock and Vibration Rejection Gyroscope



Advanced Sound + Active Noise Cancellation in Single DSP

Committed to Continuous Improvement



ADI uniquely aligned to Industry Trends through Innovative Technology



Safer



Greener



Smarter

Safer : ADI's investments mean...

Over 3,000 lives saved in 2014

ADI estimates

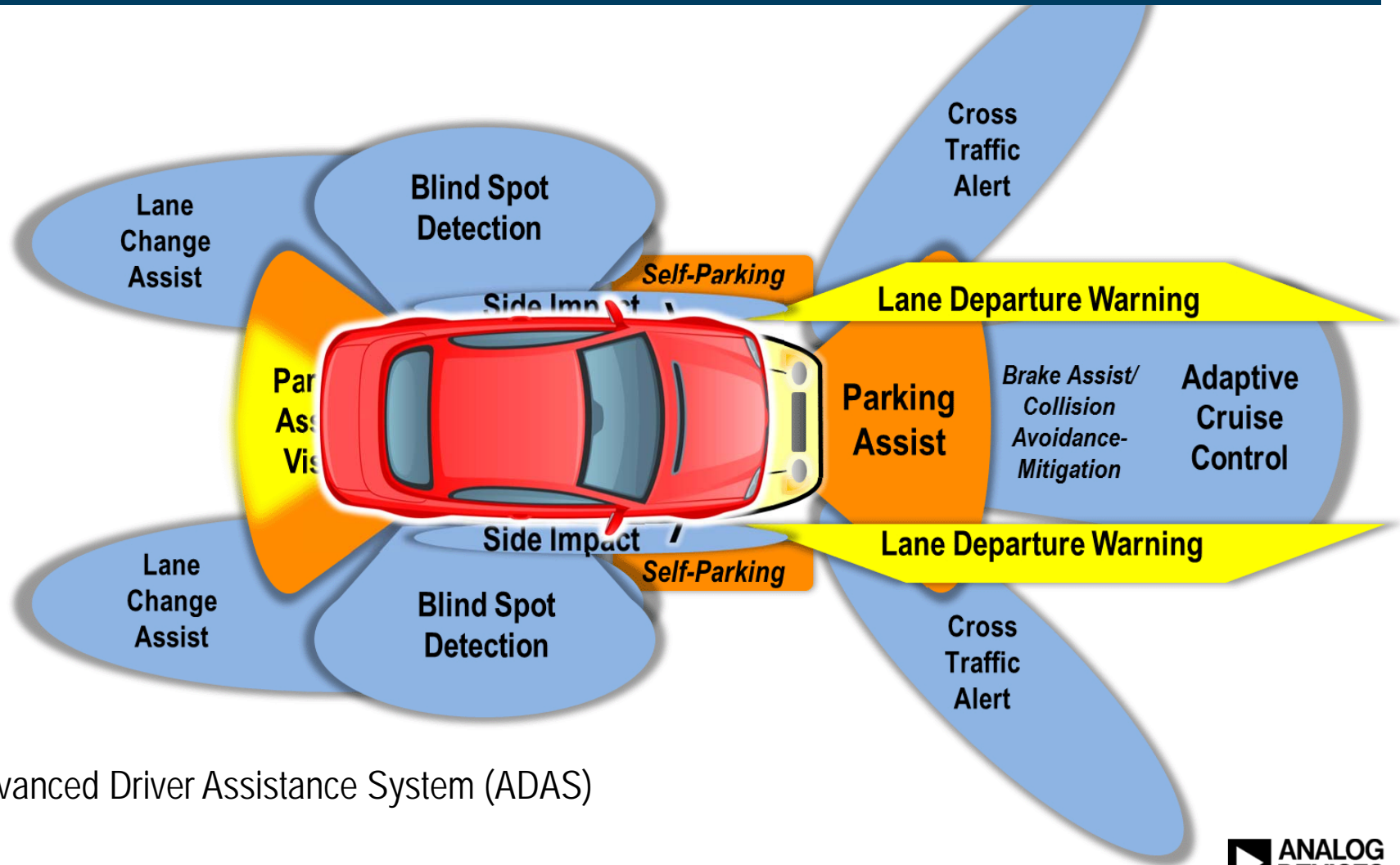


Advanced Driver Assistance Systems

- ▶ **15+ Years of ADAS Expertise**
- ▶ **High Volume OEM Deployments**
 - 24GHz, 77GHz & Vision today
- ▶ **Rolling out new 24GHz solution**
 - Best in Class 24GHz Radar
 - Full Signal Chain offering
 - Reference Designs
 - 3rd Party Network: China & International



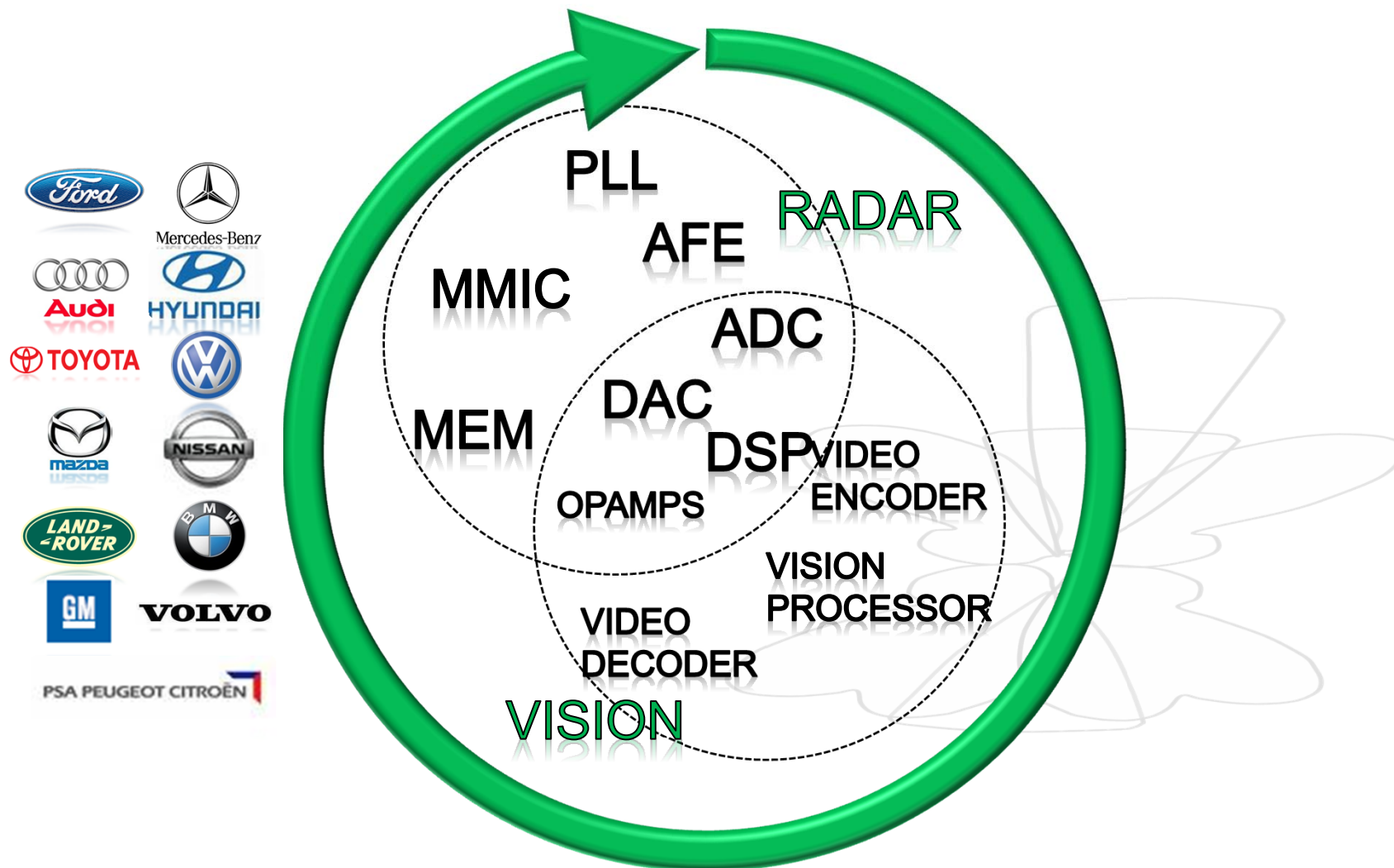
Safer: **Predict** Accidents Using Radar-based ADAS



Advanced Driver Assistance System (ADAS)

Analog Devices in ADAS today

Deployed Technology



Greener : ADI's investments mean...

600,000,000 gallons of oil saved in 2014

ADI estimates

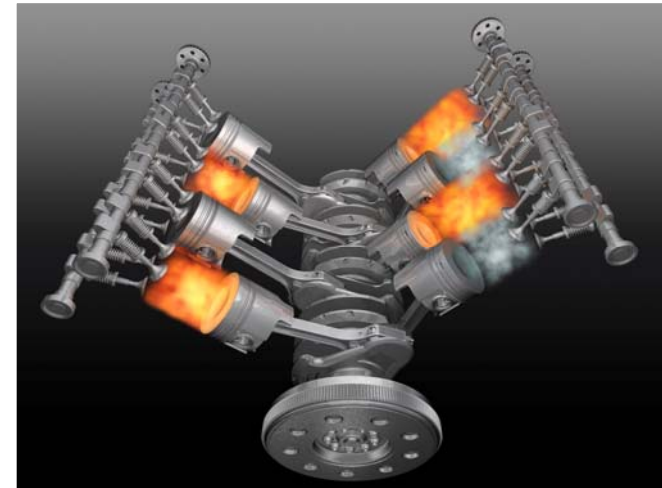


Energy Management

- ◆ Pb-acid Battery (IBS)
- ◆ Li-ion Battery (HEV)

Precise Measurement and Control

- ◆ Current
- ◆ Position
- ◆ Pressure
- ◆ Torque



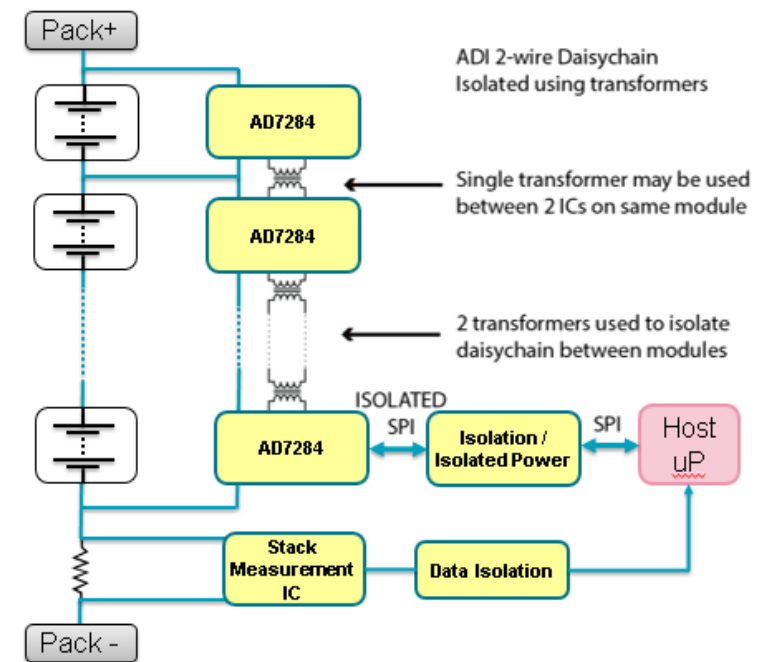
Magnetic Position Sensor ADA4571

- ◆ Released the industry's highest precision Magnetic Position Sensor **ADA4571**.
- ◆ Automotive application examples:
 - Electric Power Steering
 - 48V Starter / Generators
 - Transmission Actuators
- ◆ BLDC Motor Control with ADA4571, System Advantages:
 - Improved Efficiency / Responsiveness / Smoothness
 - Improved Start/Stall performance
 - Reduced Power / Heat
 - Reduced audible noise
 - Improved functional safety concept
 - Longer Motor Life and Reduced cost



Robust/Precise Analog Solutions for xEV, 48V and enhanced Powertrain systems

- ▶ **Robust analog ICs delivering reliable and accurate data and signaling for efficient energy management.**
- ▶ **Intelligent Start-Stop (ISS): ~10% emissions reduction, #1 in market across >20 OEMs; We see ISS growing in China, and support China customers to develop ISS products.**
- ▶ **Precision ICs address Li-ion BMS reliability & performance**
 - New cell monitor enables modular battery systems for low voltage (12V/48V) to high voltage (>400V) Li-ion systems, to support both Stop-Start and xEV growing in China.
 - ADI adopted an ISO26262 philosophy from IC inception and throughout the design flow. When China OEMs started to emphasize on functional safety.
 - ADCs, Current sense amplifiers, and voltage references address precision signal conditioning; enabling longer range and lifetime.
 - iCoupler® isolation replace optocouplers, reduce size & power consumption without limiting performance.



Smarter : ADI's investments mean...

5,000,000 “concert halls” on the road in 2014

ADI estimates



A²B v.s. Traditional Approach



*Automotive
Audio Bus*

A²B Technology:

Single Twisted Wire Pair
Un-Shielded

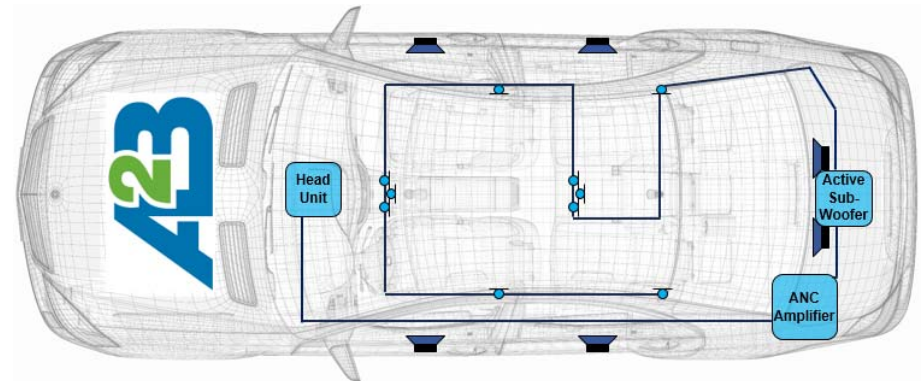
- ✓ > 32-Channels of Audio
 - ✓ I²C
 - ✓ GPIO / IRQ
 - ✓ Power
- 0.01 kg/m

Traditional Technology:

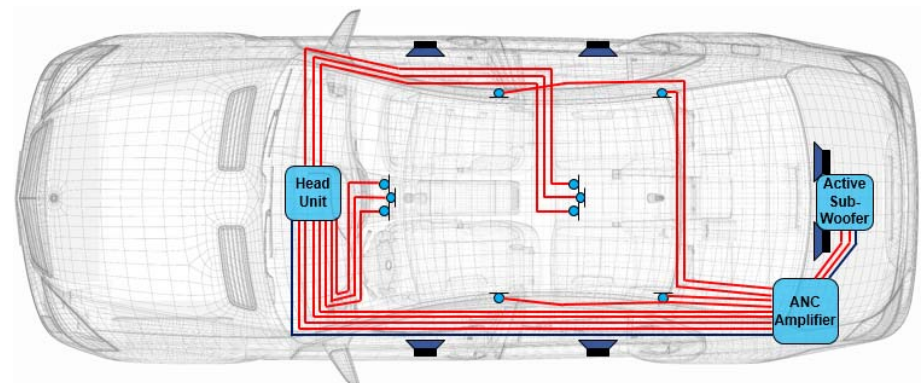
Cable Bundle
Shielded

- ✓ 32-Channels of Audio

0.6 kg/m

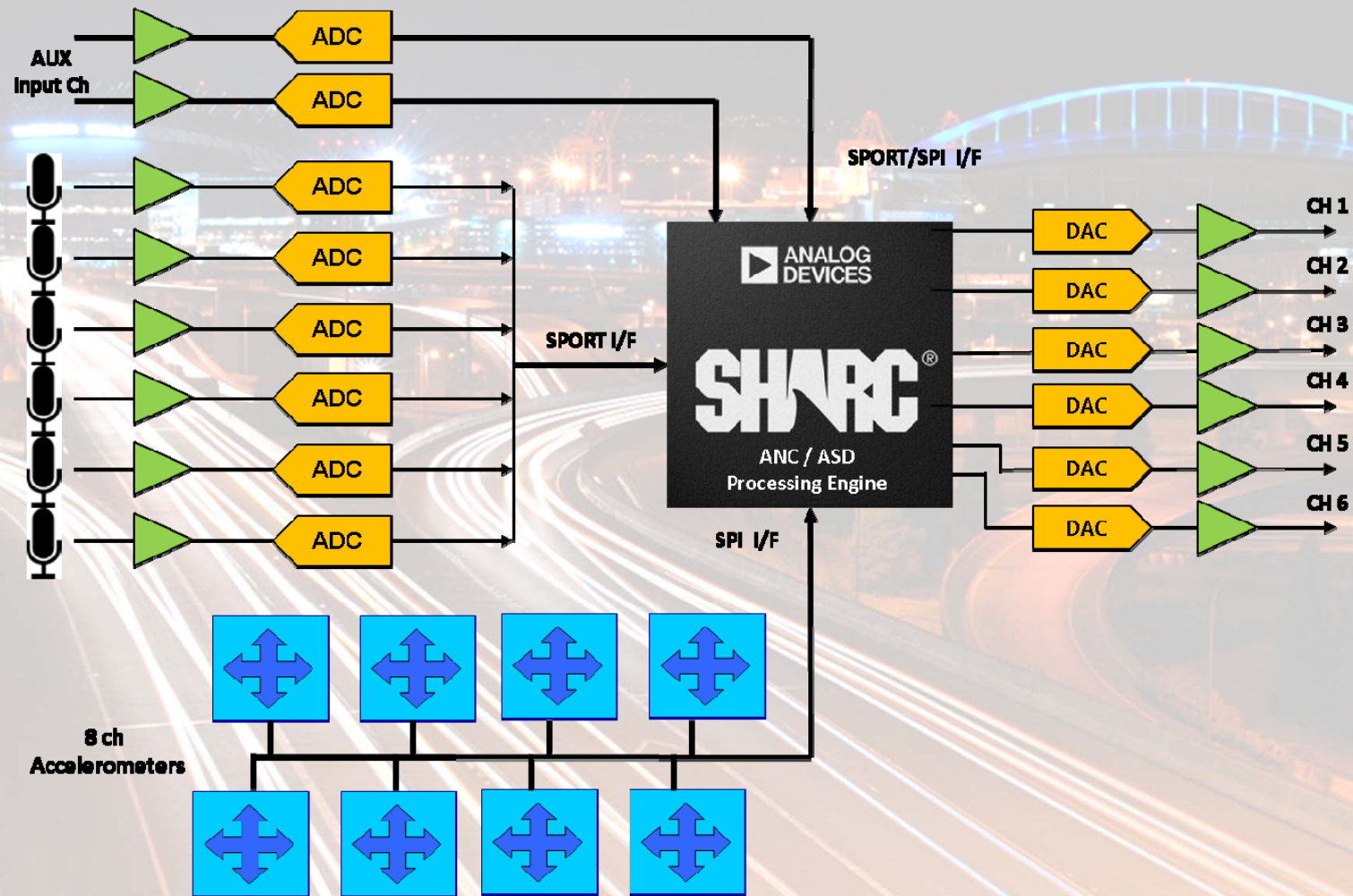


*Automotive
Audio Bus*



Traditional Implementation

Active Noise Cancellation (ANC) & Acoustic Signal Processing

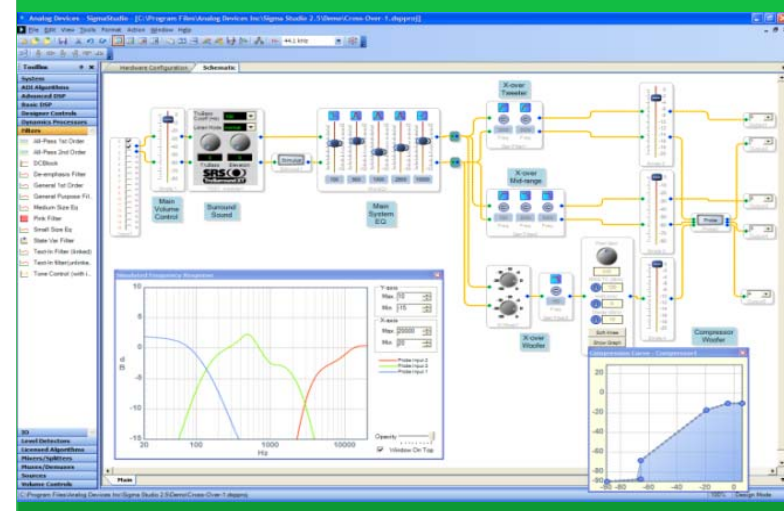


Entry-Level Audio Post-Processing - SigmaDSP

- ◆ Audio Post-Processing & signal routing in automotive head-units & amplifiers.
Sigma300 DSP:
 - High processing power
 - 32-bit DSP core
 - 48 Channel Digital I/O @192kHz
 - 16 Stereo ASRC
 - Stereo S/PDIF I/O
 - Flexible signal routing engine
- ◆ Enable high quality audio and popular sound effectives at low overall system cost.
- ◆ Sigma Studio GUI Tool simplifies the system development.



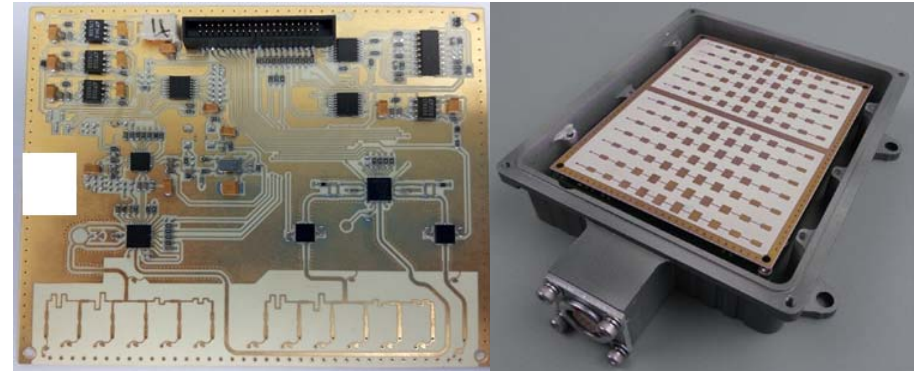
SigmaStudio GUI Tool



Accelerate Solution Deployment in China

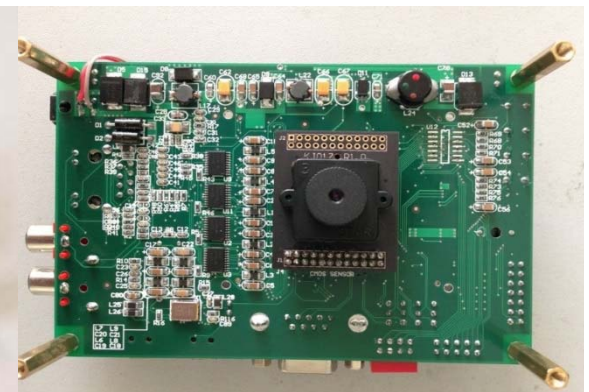
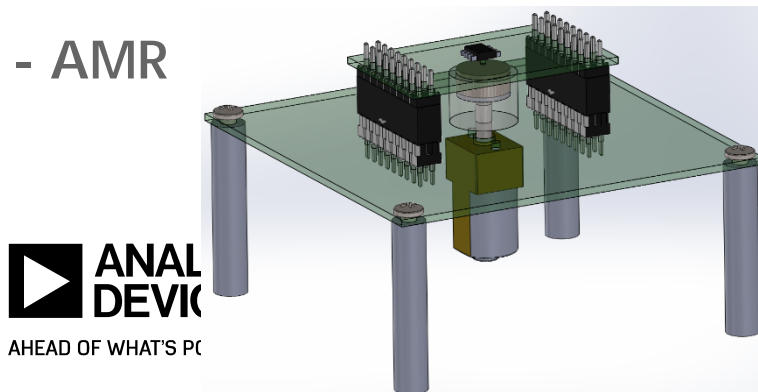
3rd party collaborations

- 24GHz Radar ADAS
- Active Noise Cancellation



Localized Reference Design

- Front-View Vision ADAS
- Pressure Sensing
- AMR



China Automotive Customer Support Structure

