GM CHINA ADVANCED TECHNICAL CENTER
AND
CHINA SCIENCE LAB

Shawn Gayden, GM Global Research and Development
TOP 10 MARKETS BY
NEW VEHICLE SALES IN 2011

**2011 Sales (M)**

- Emerging Markets: 39.5
- Mature Markets: 36.5
- World Total: 76.0

**China Growth (%)**

- vs. 2010: 2%
- vs. 2005: 325%
- vs. 2000: 854%
General Motors-China relationship spans 8 decades
11 joint ventures and two wholly owned foreign enterprises
35,000 employees
Brands: Baojun, Buick, Cadillac, Chevrolet, Opel, Wuling, and Jiefang
2011 sales: 2.5M units
2011 market share: 13.6%
Sales leader for seven consecutive years
GM’S R&D HISTORY IN CHINA

- **1995**: R&D Presence in China
- **2001**: Buick Sail
- **2007**: #1 in Market
- **2008**: 1M Sales
- **2008**: CSL in Operation; Building under Construction
- **2010**: 2M Sales

Collaboration with Universities until GM Started the Science Lab
CHINA SCIENCE LABORATORY FOCUS AREAS

- Battery Cell Research
- Lightweight Material Research
- Engine & Transmission System Research
- Global Energy Systems Research
- Manufacturing Process Research
- Connected Urban Driving Experience
CHINA SCIENCE LAB
TECHNICAL CENTER CONSTRUCTION
Advanced Materials Lab

- **Battery Cell and Pack Testing Lab**
  - Test battery cells from suppliers for system integration

- **Battery Cell Prototyping Lab**
  - Validate and integrate world’s best materials into vehicle relevant cells

- **Microfoundry and Formability Lab**
  - Discover light-weighting material solutions for energy efficiency

- **Metallographic and Electrochemical Lab**
  - World-class analytical capabilities
Objective – To accelerate the development of batteries with improved energy density and reduced cost for the next generation vehicles

- Validate and integrate advanced materials into vehicle-relevant cells

- Cutting edge research and innovation in cell design and prototyping through close collaborations with materials and cell suppliers
THANK YOU!