

# How MEMS is Fueling the Post-recession Economy



- Expectation is that electronics will adapt to how individuals and society live for greater efficiency
  - Mobile families, mobile workforce
  - Safety in cars
  - Improved healthcare delivery
  - Efficiency in industry
- MEMS sensors provide
  - Context awareness for intelligent decisions/natural experience
    - Electronic stability control within vehicles
    - Navigation and position for mobile electronics
    - User interfaces that adapt to the individual
- Integration of MEMS tied directly to
  - Function
  - Size
  - Cost



*Motion Enabled*

# Paths for Continued Growth



- System innovation
  - Integrating variety of sensors
    - Accelerometers
    - Gyroscopes
    - Magnetometers
    - Pressure sensors
    - Touch, light, Haptics...
  - System partitioning
    - Microcontroller
      - Flexibility
    - Memory
    - Power management
  - Manufacturability
    - Size
    - Tolerance for standard manufacturing methods
- Application innovation
  - Insure access to MEMS output
    - Operating system and software involvement
  - Process sensor data into commands and functions to ease application use
    - Embedded algorithms
  - Application development tools
    - Extending MEMS functions to broader markets
    - Time to market from expanding number of developers

# Application Development Tools



- Hardware has incorporated sensors that are underutilized
- Sensors have become critical in products/markets where application developers have
  - Access to the sensor information
  - Sensor information can be processed for a specific application
- Example: Gesture Trainer™
  - Application developers tool that can define gestures from sensor outputs
    - Gestures can be defined for each application
    - Gestures can be trained to specific attributes of an individual
  - Tool is intended for integration into SDK
    - Linux, C#, C++.....
  - Application is small enough for embedded environments