Where is the growth in MEMS?

- Inertial sensing
  - Taking real world motion or movement as the input for intelligent decisions
- From complex to common
  - Electronic Stability Control for automotive markets
  - Screen rotation (user interface) for mobile consumer products
- Challenge is to insure value to both the OEM and end user
  - MEMS devices are produced with standard semiconductor tooling and in a process suitable for short product development cycles and seasonal production surges
  - Interface circuitry, supporting algorithms and application support determine speed of adoption.
    - Must have development tools/application support for OEMS
    - Complex physics and mechanical aspects of sensors must be accounted for
    - Integration of multiple sensors with awareness of total cost
    - Simplification of application implementation through complex pattern recognition

Markets that can use MEMS functions

- Consumer Electronics
  - Notebook computers
  - Mobile Handsets
  - Personal Navigation Devices
  - Personal Media Players
  - Mobile Internet Devices
  - Digital Still Cameras
  - Health & Fitness
  - Gaming (console to handheld)
  - Toys
- Industrial/Healthcare
  - Equipment monitoring
  - Patient monitoring
  - Employee training

- Functions from inertial sensing MEMS devices
  - Screen rotation based user interface
  - Power management from device orientation
  - Gesture recognition
  - Pedometer
  - E-compass/Dead Reckoning
  - Image stabilization
  - Security and logistics from motion awareness

Sustainable Growth

- Why will MEMS based inertial sensing provide for solid growth?
  - Automotive market
    - Electronic stability control mandated in US and Europe by 2012
      - Accelerometer + gyro required
      - Tri-axis accelerometer provides manufacturing/supply chain flexibility
    - Electronic parking break, intelligent lighting
    - Sophisticated OEM's with expanded reliance on sensors
  - Consumer Electronics
    - Customer experience becoming tied to sensor inputs
      - Applications and content reliant on motion based input devices
      - Device orientation and awareness used for application development
    - Mobile devices have growing dependence on motion awareness
    - MEMS suppliers can bring added value to OEM's as the bridge of an analog/sensor world to digital/application based electronics
  - Industrial/Healthcare
    - Application development will the catalyst for adoption and sustainability