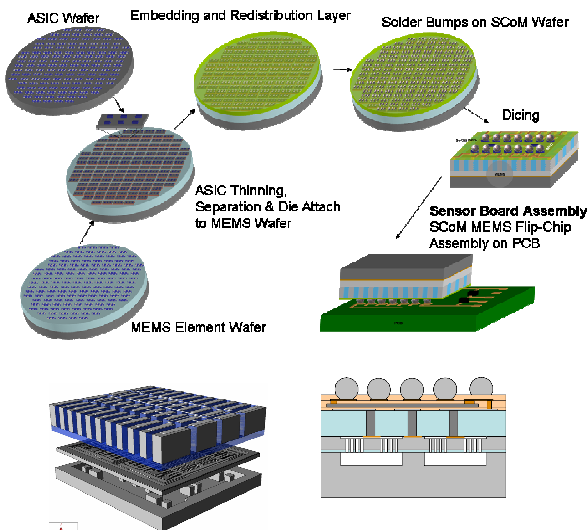
RESTLES

Reliable System Level Integration of Stacked Chips on MEMS

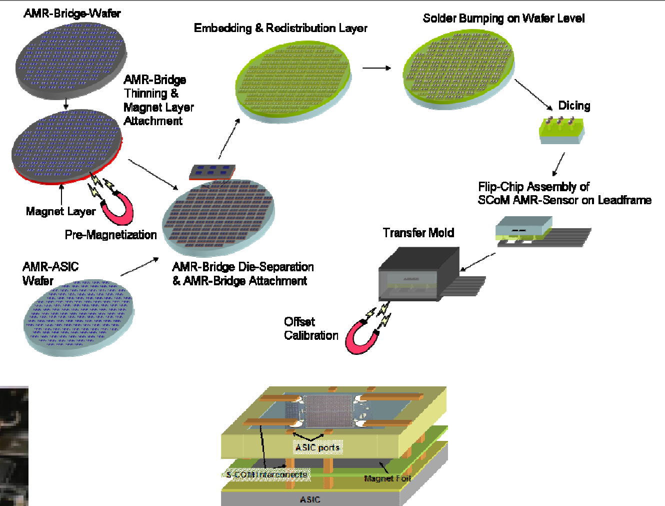
2 Approaches of SCoM* Technology

*Stacked Chip on MEMS

ASIC on Transducer → Inertial Sensor ←



Transducer on ASIC → AMR-Sensor ←



Goals

- Chip scale package integration of different microsystem technologies by thin die stacking, polymer embedding, redistribution wiring and UBM
    - Anisotropic Magneto-Resistive bridge on signal conditioning ASIC
    - Signal conditioning ASIC on MEMS inertial sensor element
- Flip-chip assembly of the
    - SCoM-AMR die on leadframe for direct overmold
    - SCoM-Inertial sensor on PCB for bare die assembly

Challenges

- Die thinning < 40µm, separation and handling
- Thin chip polymer embedding and redistribution wiring
- Flip chip assembly on PCB and leadframe of stress sensitive sensors
- Technology for automotive sensors (performance and environmental requirements)