

Silicon technology offers:

- Abundant material
- Enabling technology
- Economy of scale
- Miniaturisation
- High density features
- Integration of components

Non-electrical appliances

High number/ difficult servicing

Small size

Top-down

Bottom-up

THERMOELECTRICS

3D microstructures & Si NWs

AUTONOMOUS SENSOR NODES

e.g.
Tire pressure monitoring
Status monitoring
Predictive maintenance

MECHANICAL HARVESTING

3D microstructures & Electrostatic vs Piezoelectric

Electrostatic

Piezoelectric

Solid State thin film planar microbattery

low capacity high power

3D

high capacity high power

Conformal coatings / Solid state post-lithiation

STORAGE

Thin film materials & 3D integration

Goal
Replace primary batteries with harvesters and secondary batteries

Title: Silicon Friendly Materials and Device solutions for Microenergy Applications
Acronym: SiNERGY
Call/topic: NMP.2013.2.2 4 Materials solutions for durable energy harvesters
Duration: 36 months (starting 1-11-2014)
Funding: 3,794,913.00€ (4.824.460.00€)
Partners: 9 (4 countries) - coordinated by CNM-CSIC
Website: www.sinergy-project.eu

