Li-S batteries

Next Generation Battery Technology

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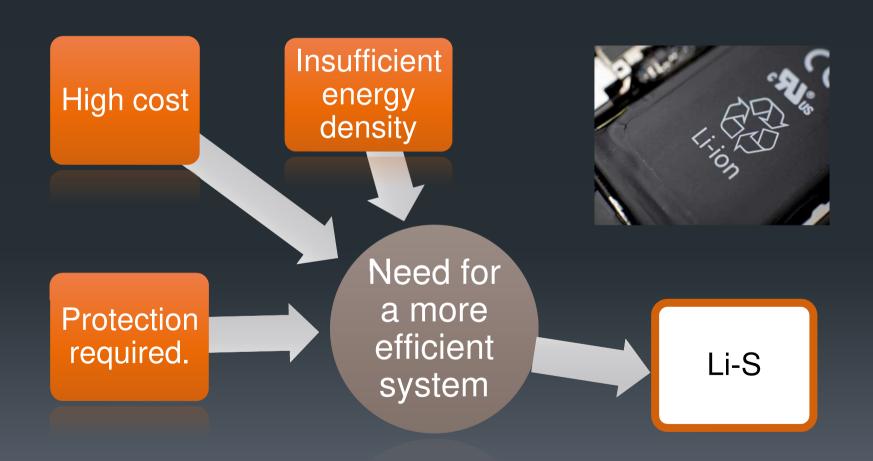
The importance of energy in society.

- Massive use of electronic devices
- Exploitation of non-renewable energy sources
- Vehicle industry

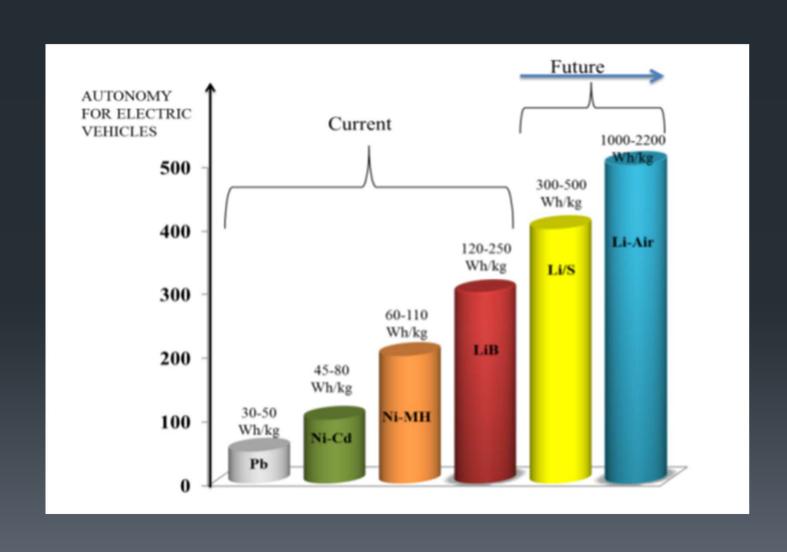




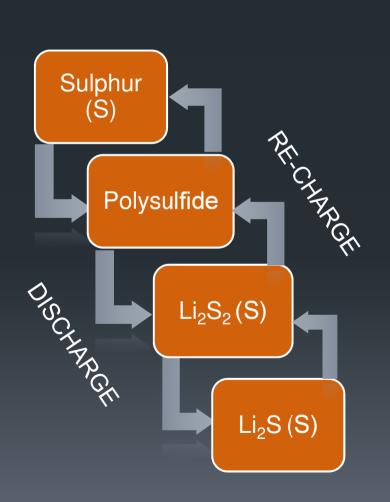
Current energy-storage systems: Ion-Lithium batteries

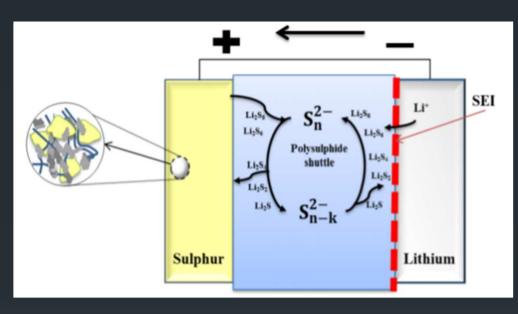


EV: Different battery systems



Operating principle





$$S_8(s) + 16Li \leftrightarrow 8Li_2S(s)$$

Reduction:
$$S_8(s) + 16e^- \rightarrow 8S^{2-}$$

Oxidation:
$$Li \rightarrow Li^+ + e^-$$

Marketing

Sion Power

HAPS (Zephyr)
Airbus Defense and Space



Oxis

First anufacturing plant Brazil
(2 million per year)
Full public Ellectric Transportation



Applications

Aeronautics

HALE UAV

VTOL for commercial issues



Aerospatial

no degradation under extreme conditions
Lighter and cheaper



Applications

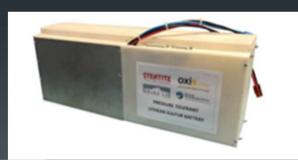
OXIS Energy Li-S Bullet Test

Defense

Still works even with bullet impacts
It does not catch fire
No degradation under heavy conditions
Light weight

Marine Aplications

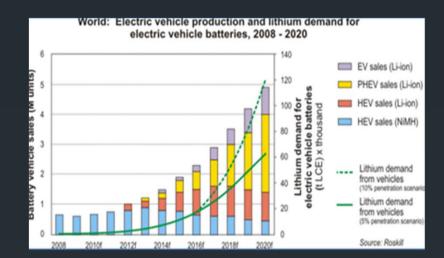
No degradation under preassure (6.600 m) 24V 5Kg 7.85L





Environment

- No heavy metals such as Cobalt
- Safe does not catch on fire



- Can be recycled easily than conventional
- Oxis produces them with reused Sulphur from other industries
- No degradation, can be used for more time than conventional

Thanks for listening

