

### The key components

- A Lithium Metal anode
- A Sulfur-based cathode
- An inherently safe electrolyte protecting the lithium metal

## Advanced technology.

OXIS Lithium Sulfur cells are the next generation of battery technology, surpassing Lithium-ion which is reaching the limit of its potential.

## Lightweight

Battery systems using metallic Lithium are known to offer the highest specific energy.

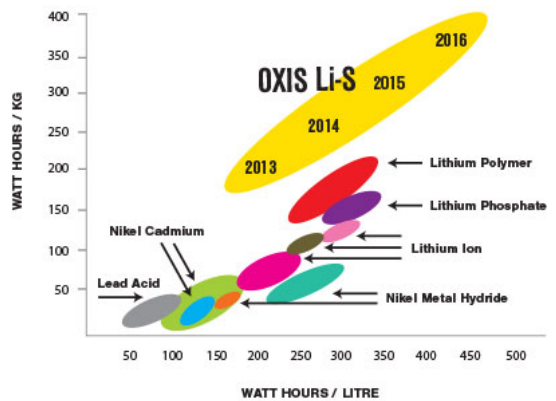
Sulfur represents a natural cathode partner for metallic Li and, in contrast with conventional lithium-ion cells, the chemicals processes include dissolution from the anode surface during discharge and reverse lithium plating to the anode while charging. As a consequence, Lithium-Sulfur allows for a theoretical specific energy in excess of 2700Wh/kg, which is nearly 5 times higher than that of Li-ion.

OXIS's next generation lithium technology platform offers the highest energy density among lithium chemistry:

- 300 Wh/kg achieved at cell level in 2014
- 400 Wh/kg forecast in 2016

### The key strengths

- Lightweight
- Inherently safe
- Full discharge
- Cycle life
- Maintenance free





### Safety.

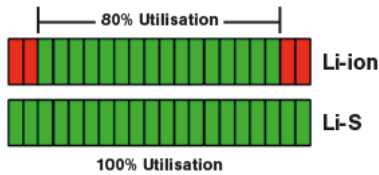
Oxis patented chemistry provides inherent safety allowing it to meet international standards concerning shock, crush, thermal stability and short circuit (UN38.3, IEC62133).

Thanks to its two key mechanisms, a ceramic lithium sulfide passivation layer and a non-flammable electrolyte, our cells can withstand extreme abuse situations such as bullet and nail penetrations with no adverse reaction.

[Find out more about our safety tests](#)

### Cycle life.

Oxis Li-S cells produced in 2012 have achieved an excellent cycle life: cells can be cycled over 1000 times (80% Beginning-of-Life). We expect our current cells to reach around 2000 cycles before the capacity reduces to 80% BoL.



### Full discharge

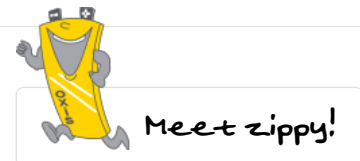
Oxis cells have a 100% available Depth-of-Discharge and cannot be damaged by over-discharge. This compares with Li-ion batteries which are only used across 80% (or less) of their available discharge range, and are damaged by over-discharge. Oxis cells do not have this problem, so all the energy can be used.

### Maintenance free

Oxis cells have an indefinite shelf-life, with no charging required when left for extended period. Li-ion batteries require recharge every 3-6 months to prevent failure and often causes significant warranty issues.

### Eco friendly

The Oxis Li-S chemistry is considered to have less environmental impact when compared to other technologies such as Li-ion. The Li-S cell utilises sulfur in place of heavy metals such as nickel and cobalt, which have a significant environmental impact whereas the sulfur used in Oxis manufacture is a recycled material, a by-product of the oil industry.



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