

Souped up Battery prepares to slay the gas guzzlers

batteries can be an alternative to gas (petrol-driven vehicles) ^(=basic idea)

BUT: until now: electric cars have ① a smaller range
② need to be maintained more often

IN ADDITION: engines are becoming more efficient (eg by competitions)

HOWEVER, in the long term, lithium ion batteries will be used instead of petrol

BASICALLY, there are three types of batteries

they will be the future

Lithium Ion Batteries

- short lifespan
- can explode
- still have to be improved

- + are more powerful than the others
- range can be improved
- are expensive

lead acid Batteries

- heavy & bulky
- small range

NiMH

- used by Prius & Honda
- + are safe
- + costs are known

anode wears out quickly (gain & loss of lithium ions) ^{+impurities}

BUT: **A123**: has developed a way to make the cathode last longer
(lithium iron phosphate → bridge like nano structure → no wear & tear)
→ innovation is used by Hyundai for the Prius + Google wants to use it, too

AND: University of Colorado is improving the anode (Cobalt oxide ↑ capacity ↑ power)

AND: Stanford University: uses silicon wires for anode (but they need cathode)

Conclusion → Every innovation is important - in the end it is all about diversity