



# Sunnytek Solar Sweden LTO long life battery solutions

Sunnytek Solar use LTO battery systems in the most demanding applications. Here we give some ideas about capability of this technology and why use it. It is more costly but save more money so it get cheaper after a while. One unique feature is it can charged and discharges much faster than any thing else.

Rapid charge makes it perfect for busses as it can be charged for coming trips in less 3 minutes. Then it can be used for one hour. The 10000-20000 Cycles also makes life time much longer.



Electric cargo handling systems have similar demands and here the LTO battery is perfect in many applications. Trucks and AGV etc needs the characteristics to be competitive.

Energy storage is also a good application where Sunnytek is working. Reliability is a key here and so is life time. Lithium Iron Phosphate LI-Fe-PO4 that is common is OK for 10 + years bit we are here 2-3 times better in life time.



Grid stabiliser and equaliser needs large energy storage and with MWH capacity and MW output we have the solution in LTO battery systems.

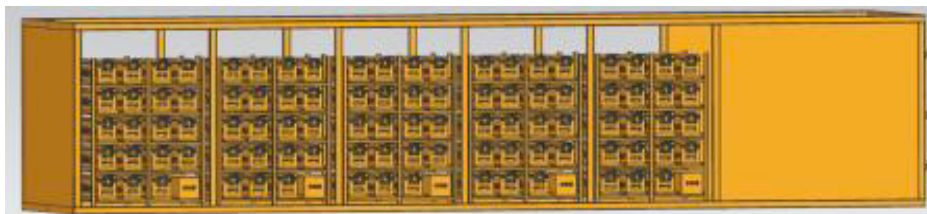
Solar power energy storage is possible with 2 MW and

250KW in a container. Here ambient temperature is very high but LTO handle 50-60C if needed.



Left we have a rack of 60AH LTO cells in a back up system.

LTO can be delivered in any configuration you want from small systems in solar street lamps to containers side by side.





70 AH cell with 24 volt output used in many systems as power modules. Module have BMS and electronics included.



Left the smaller 30AH cell with 2.3 volt output. It is used in suitable numbers when needed.



Cylinder cells are available in several sizes. Chemistry gives 2.4 volt so it is lower than other Lithium cells but none can compete in life time and stability.

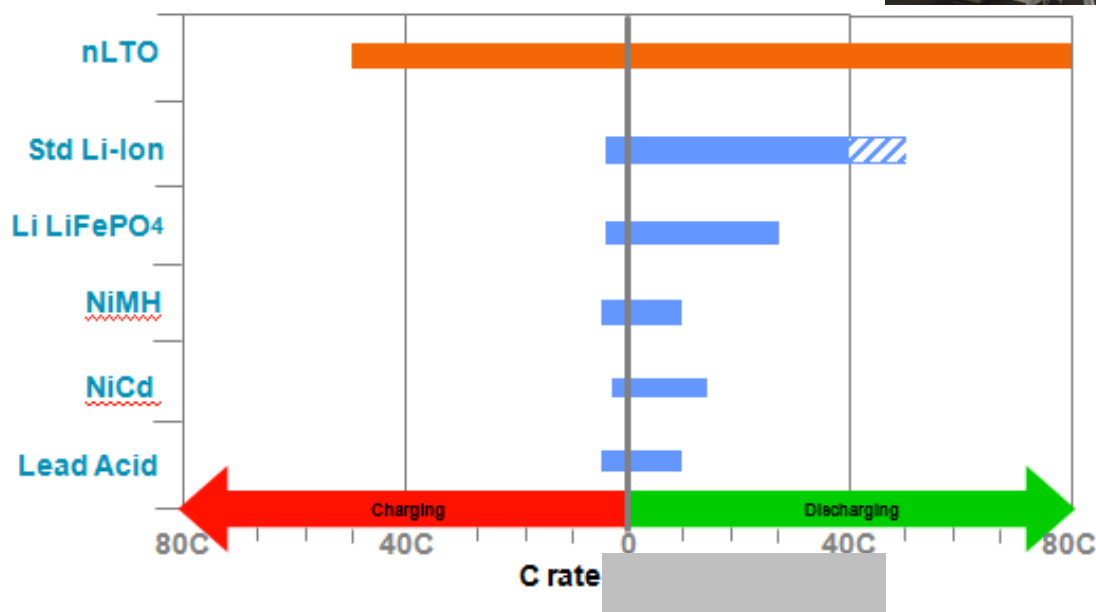
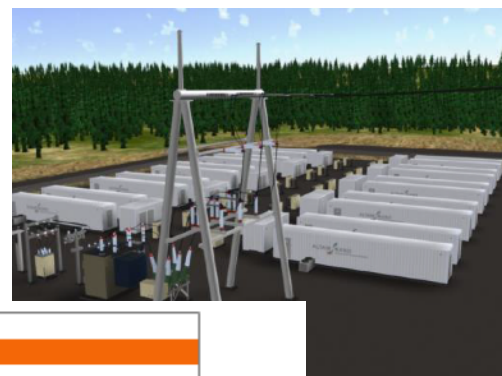


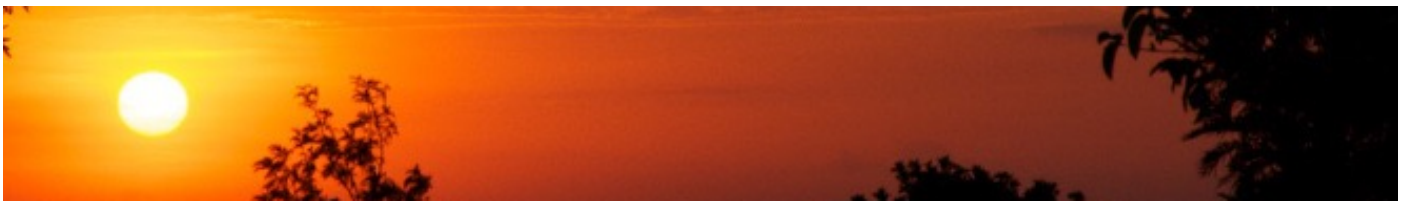
All systems can be done in racks with integrated electronics.

Ess systems are portable and can store 1 MWh in energy. Output power is peak 2 MW so it have some special applications where it have no equal.



Table below shows and compare with other solutions. Here it is clear this is unique and fits well in special applications where nothing else can be used. Cost is higher but alternatives are always more costly so LTO is here a good choice



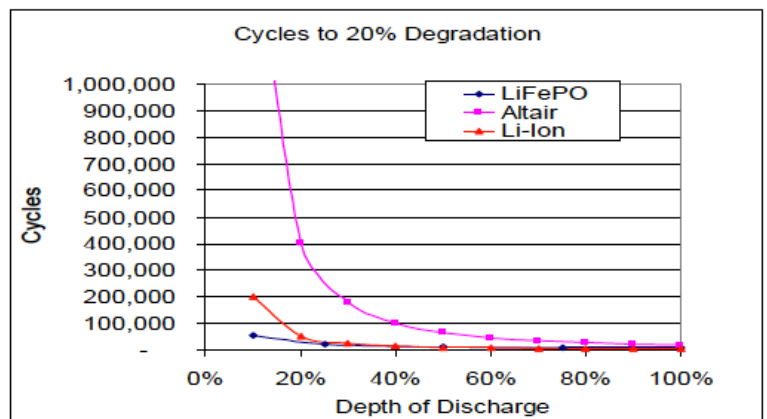
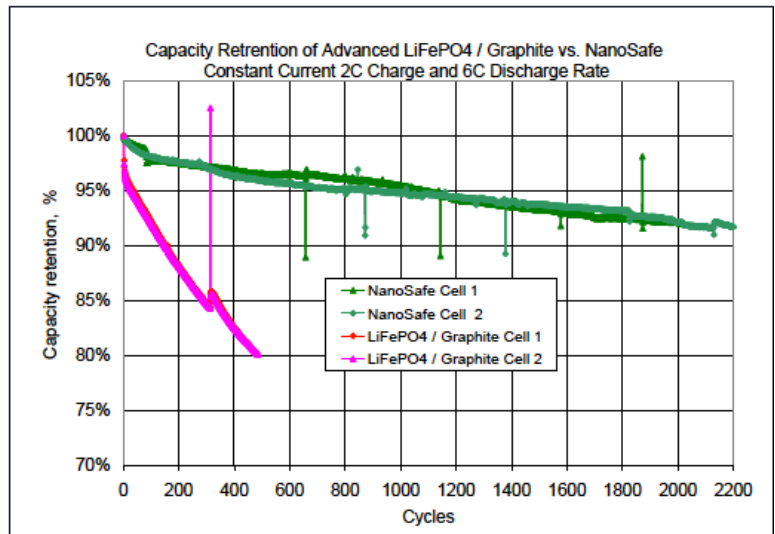


LTO titanate batteries are designed for a life of 25,000 full depth-of-discharge cycles – up to six times greater than competitive lithium-ion technologies.

✓ At partial depth-of-discharge, customers can expect up to 1,000,000 cycles before life is reduced to 80 percent of useful capacity.

✓ Not just long life, but batteries capable of reliably performing in the toughest applications.

We say they are good for 25 years or more but it can be much more. Normally we offer 10 years warranty of LTQ based applications and solutions.



LTO battery survives with no thermal event at 240 C . No fire and no smoke and no danger. They can also be drilled and knocked by a hammer and no bad surprises happens.

