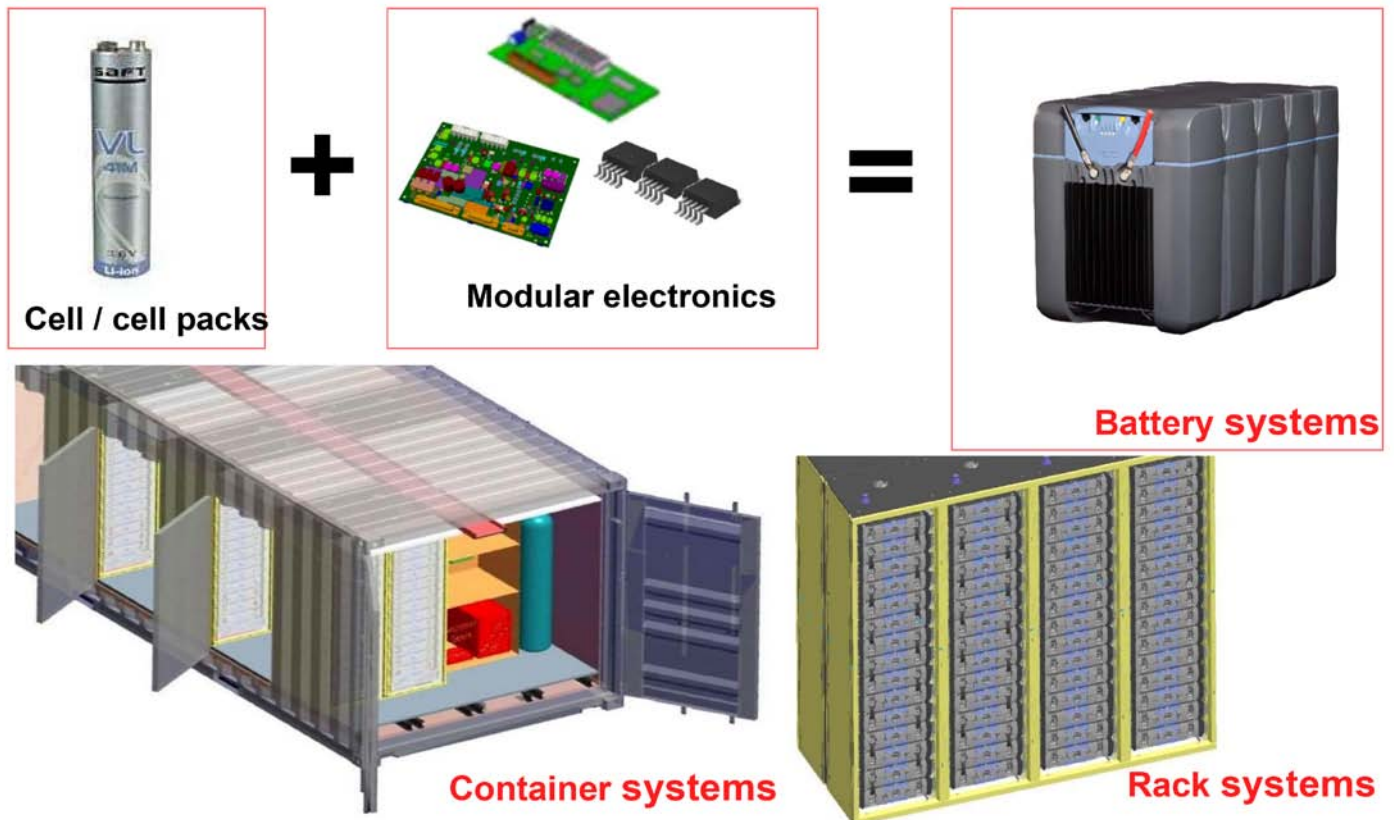


Alkaline Batteries unveils world cutting-edge lithium ion battery 'Evolion®'



This diagram graphically illustrates the components of the Evolion® system, as well as showing how the batteries may be parallel connected into 48 V racks (bottom right), while the racks in turn may be put into a self-contained battery system in a container (bottom left) to establish a power bank capable of providing power running into megawatts.

Alkaline Batteries, exclusive local distributors for Saft, the leading international battery manufacturer, has introduced a well-proven lithium-ion battery system into the local market.

The new product, dubbed Evolion®, comprises a 14-cells Li-ion 48 V 77 Ah battery module combined with an electronic management system. The product may be racked in multi-battery power banks for use in a variety of industries that include telecommunications and renewable energy programmes.

"It is acknowledged as one of the most advanced Li-ion battery systems in the world. It represents a technological breakthrough for Saft. It is a fully proven system and has been in use in a variety of applications throughout the world for more than two years," said **Tony Gordon**, Technical Manager for Static Power, of which Alkaline Batteries is part.

The introduction of the Evolion® is the first launch of a Li-ion system into the local market by Alkaline Batteries, which is well-established as a supplier of both vented and valve-regulated batteries and also nickel-based batteries

from Saft.

Evolion® has numerous significant advantages over conventional valve-regulated and vented lead acid batteries, among the most important being:

- It is approximately half the size of a conventional valve-regulated lead acid battery and four times lighter.
- The electronic management system is internally integrated into the product, unlike a conventional battery which has to be managed remotely.
- A lifespan of 20 years – double that of a valve-regulated lead acid battery. In high temperatures the differential between the two increases in Evolion®'s favour – for example at +35° C its design lifespan is 12 years, as against 4 years for a lead acid battery.
- Substantially enhanced cycle rates. For example, at 80% depth of discharge Evolion® can achieve 4300 cycles, compared with the 500 to 1500 cycles in a lead acid battery.
- Evolion®'s charge/discharge efficiency of 95% is much better than those of the other technologies.
- It has a far superior tolerance to extreme temperatures, from as low as -40° C up to +75° C.
- Short recharge time. It can be re-

charged to 100% capacity in only 2,2 hours.

- Unlike the other technologies, state of charge can be easily determined with Evolion®, where every 1 V less than 56.0V indicates 10% less capacity.
- It can be stored for up to 12 months without recharge.
- Easy to install and requires no maintenance.
- It can also be remotely interrogated via a RS485/Modbus communication protocol.

"A very important life-extending feature is that the electronics system ensures that the the Evolion® battery's cell voltages are kept in step at all times," Tony pointed out.

"In all types of batteries without exception, the cells of a battery go out of balance as it ages, so shortening their lifespan. The Evolion® management system extends their life by keeping them in balance.

"A further convenient and cost-saving advantage of Evolion® is that two modules fit side-by-side in a shelf of standard 19 inch rack, as used most commonly in telecommunications," he concluded.