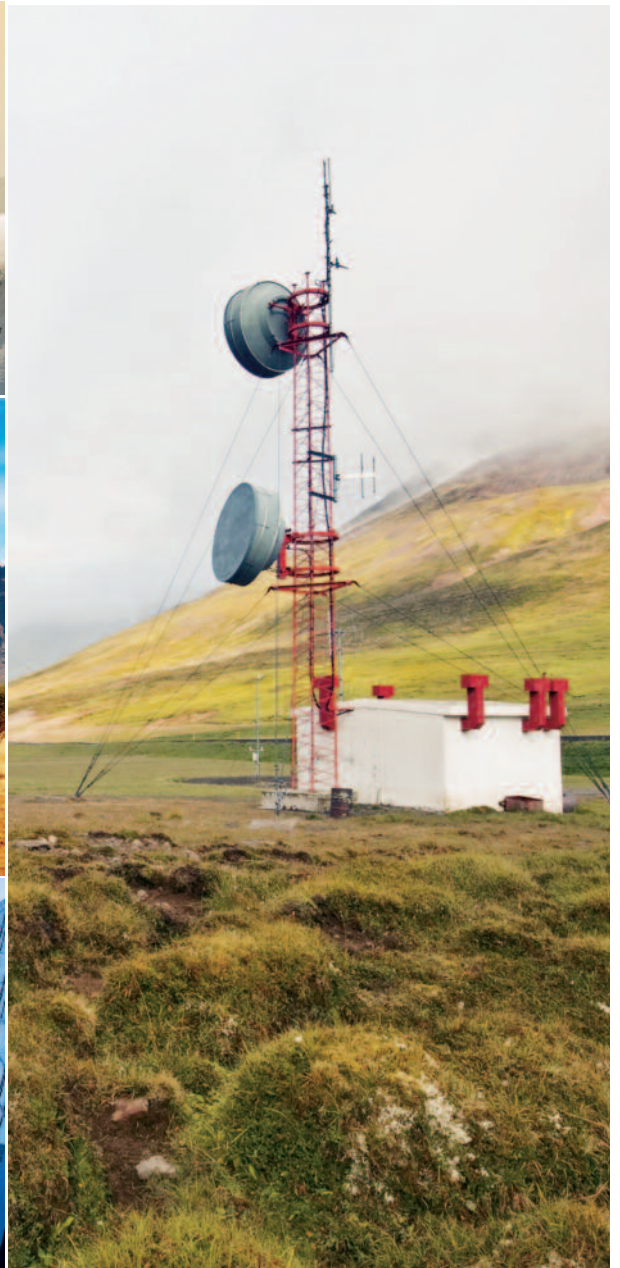


# Soft telecom batteries

A direct connection to innovation

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**NORWATT**



**SAFT**

# Saft batteries offer the innovation needed for today's telecom applications



## Meeting a wide range of telecom needs with high performance solutions

For telecom equipment suppliers and network operators, high performance and exceptional reliability are more important today than ever before. At Saft, we share these same values. Our battery solutions meet the demands and expectations of a wide variety of telecom sectors and applications. No matter whether the need is for wireless or wireline installations, indoor or outside, on-grid or standalone, Saft has the efficient, advanced and specialised response. Saft's batteries operate as well in very hot or in extremely cold climates, in an urban setting or in remote hard-to-access locations.

### Unequalled experience and expertise

When it comes to designing, developing and manufacturing reliable batteries, no one matches Saft. We are the world leader in high technology batteries for industrial, transportation, space and defence applications. By overseeing the entire end-to-end value chain of our batteries, we ensure the highest quality, robustness and safety of our offer.

### Minimum Total Cost of Ownership

The Total Cost of Ownership (TCO) represents the true value of owning a battery, not the one-time purchasing cost. The long service life and low or no maintenance needs of Saft batteries, offers to operators and OEMs renowned performance, reliability and efficiency, at the lowest possible TCO.

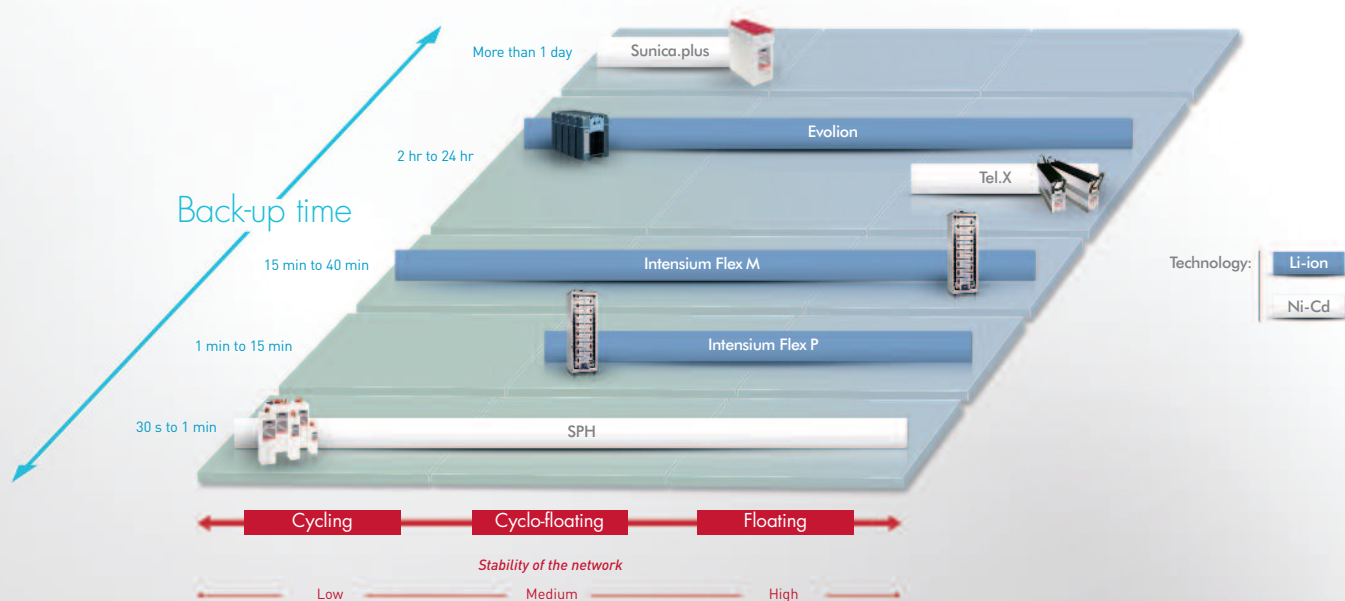
### More than just batteries: end-to-end services and support

Saft's telecom battery experts are skilled and experienced at meeting the individual needs of our customers around the world. We provide battery selection and sizing advice, training, comprehensive after-sales installation support, with a special focus on installation and maintenance guidelines to ensure maximum performance and reliability.





Our large offer means you can find a Saft telecom battery that is right for your needs



# Soft Li-ion batteries for telecoms: cutting edge technology for high perform



## Li-ion from Saft: more than 15 years of experience at your service

With our extensive experience using lithium-ion technology in a very wide range of industrial applications, Saft can offer Li-ion solutions that meet the demanding needs of today's telecom applications.

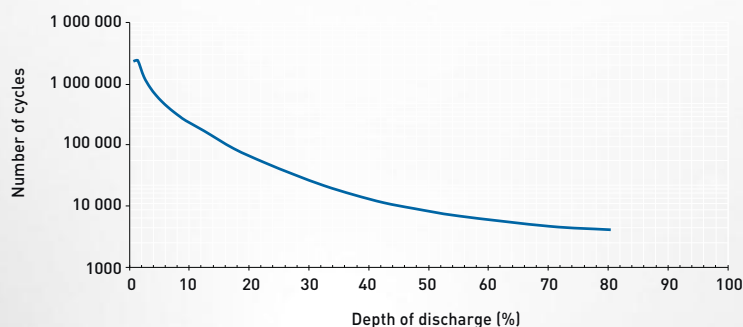
## High energy, high power, excellent cycling

Whether your installation needs significant energy storage capabilities or high power potential, there is a compact, lightweight and maintenance-free Saft battery with a very long life perfectly suited to your requirements.

## Smart and easy

Saft's technological expertise with Li-ion means that you benefit from an extremely intelligent, efficient and environmentally-friendly battery that is easy to install and can be fully integrated with your equipment.

Typical lithium-ion cycling life after charge at 56 V



## Intensium<sup>®</sup> Flex Li-ion systems for high-density power in tight spaces



Designed to meet the most demanding requirements, Intensium Flex offers unprecedented design flexibility and is available in high power (Intensium Flex P) and in medium power (Intensium Flex M). Dedicated to UPS applications, Intensium Flex systems are delivered in a 19-inch rack mount format, integrating Saft's Battery Management Module, safety and communication functions.



## Evolion<sup>®</sup> : a compact and universal choice

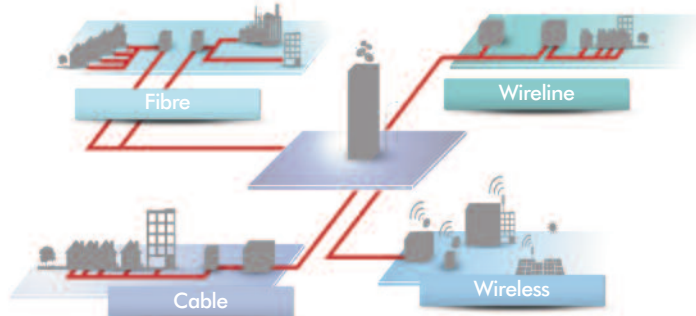
Saft Evolion Li-ion batteries are perfectly suited for many different telecom applications and environments. No matter whether your equipment is inside or outside, on-grid or off-grid, in a hot place or a cold one, co-located or in a remote location ; Evolion is your solution.

Evolion's compact size and high volumic energy allow it to deliver the maximum possible performance in a limited space: it only uses half the space required by a conventional VRLA battery. Its low weight resolves challenges faced by central offices with limited floor loading constraints, making it feasible to co-locate the battery system with the active telecom equipment, even on raised floors.

Furthermore, Evolion offers a unique combination of float charging capability and high cycling performance, with the same life expectancy of the telecom equipment it support.



A solution for every part of the telecom value chain, anywhere in the world





# Soft Ni-Cd batteries for telecoms: a robust and reliable range with a long



## Tel.X: maintenance-free batteries for demanding on-grid applications

Our Tel.X range of batteries provide an exceptionally long service life for both wireline and wireless backup power applications, especially in high temperatures (over + 40°C) encountered at outdoor plants in hot regions of the world. Tel.X is also ideally suited for cabinets, fibre optics installations, BTS/BSCs and other equipment deployed in telecom networks.

Tel.X offers the beneficial combination of high energy density (95 Wh/l) in a compact size that is 30% lighter than a conventional lead-acid battery. Maintenance-free and easy to install, Tel.X is compatible with all existing and new telecom equipment and is available in a wide range of capacities.

No matter what capacity you need, Saft can also deliver your Tel.X battery in a standard rack at either 48 V or 24 V, with the option to get a rack system suitable for use in level-4 seismic zones.



## Sunica.plus: ready and reliable, even in challenging conditions

With its excellent chargeability, Sunica.plus is the natural choice for telecom installations in remote outdoor locations that rely on photovoltaic solar panels. It provides highly efficient operations even when charging conditions are irregular and unpredictable. Sunica.plus uses Ni-Cd low maintenance pocket plate technology to achieve over 8000 cycles at 15% depth of discharge in temperatures ranging from - 20°C (- 4°F) to + 50°C (+ 122°F) and operates properly at any state of charge.



## SPH: instant power to start

If you have a diesel engine that must start, you need a battery that is reliable and operates properly at any temperature. SPH batteries recover their voltage instantaneously, making them the ideal choice for starting applications. SPH batteries have low installation and operating costs and do not need watering for up to 10 years. They are known for their high power density, fast recharge, narrow voltage window and extremely long life.



# service life



## Ni-Cd from Saft: tough batteries with a long life

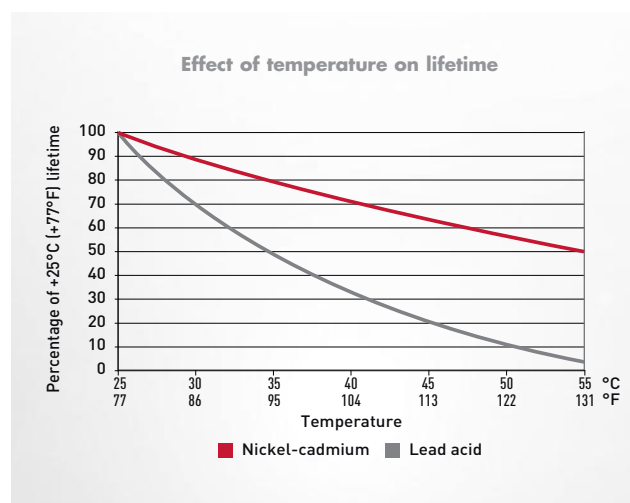
When you need a battery that can tolerate harsh or unpredictable weather conditions, Saft's nickel-based batteries for telecoms are the answer.

### Physically robust

The durable steel-nickel plated structure of our nickel-based batteries is impervious to corrosion, resists both physical and electrical abuse, and can operate properly at high temperatures.

### Have confidence that your battery will work

Our Ni-Cd batteries are known for their extended life and minimal maintenance requirements. Furthermore, choosing a Saft nickel-based technology eradicates the risk of a 'sudden-death' failure.



## Saft telecom batteries conform to all major quality, safety and environmental standards

**Quality:** ISO 9001 / ISO 14001 / Saft World Class Continuous Program

**Transport:** UN 3480

**Environment:** fully recyclable

**RoHS:** Although batteries and accumulators are not within the scope of the EU's Restriction of Hazardous Substances (RoHS) Directive, Saft has taken voluntary measures to make sure that the substances forbidden by RoHS are not present in our batteries, with the exception of the electro-chemical core.

**Reach:** The Saft Group has adopted internal procedures to ensure conformity with the European Union's Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).



# Saft is committed to the highest standards of environmental stewardship

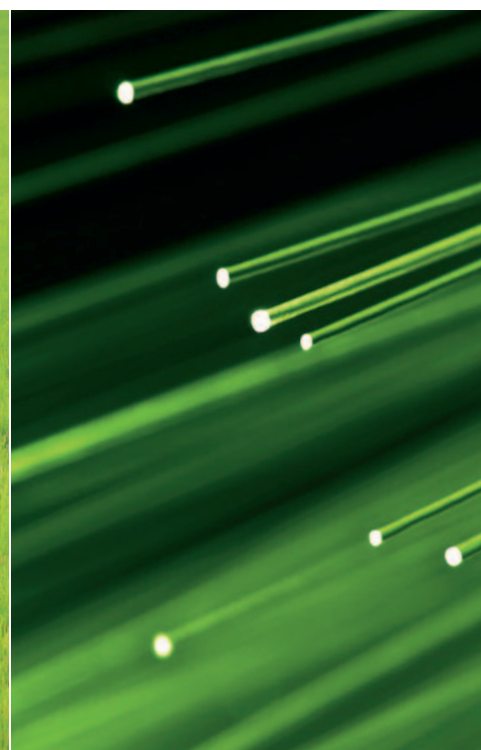
As part of this environmental commitment, Saft prioritises the use of recycled raw materials over virgin raw materials in all manufacturing processes. We also strive, year on year, to reduce air and water emissions from our plants, as well as minimizing water usage, reducing consumption of fossil energy consumption and associated CO<sub>2</sub> emissions, and ensuring that all our customers have access to recycling solutions for their spent batteries.

To facilitate the end-of-life collection and recycling of industrial batteries, including our nickel-based and lithium-ion technologies, Saft has developed well established partnerships with collection companies in most EU countries, in North America and in many other countries worldwide. This collection network receives spent batteries from our customers and dispatches them to fully approved recycling facilities, in compliance with the laws governing trans-boundary waste shipments.

This collection network is currently undergoing minor adaptations to meet the requirements of the EU batteries directive.

A list of our battery collection points is available on our web site. In other countries, Saft will assist anyone using our batteries in finding environmentally sound recycling solutions.

Please contact your sales representative for further information.



## NORWATT



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