

Press release

Spar business group switches to energy-efficient battery charging systems

Sustainability in practice

(Wels, Austria, February 2013) Fronius “Selectiva” battery chargers with “Active Inverter Technology” allow large numbers of forklift truck batteries to be charged gently at Spar Austria, thus significantly enhancing the sustainable business activities of the group.

Most people, especially in Austria, will know the “Spar” brand with the green fir tree in its logo. The company sees itself first and foremost as a food retailer and operates supermarkets across Austria, from Vorarlberg to Burgenland. The headquarters of this family-run company are based in Salzburg. The individual stores in the various Austrian states are supplied from warehouses run by six subsidiaries. Around 2000 employees from 38 different nations work in these warehouses.

Every day, around 11,000 pallets arrive in the subsidiaries, where approximately 750,000 trading units are picked every day; this equates to around 260 million units a year. Every year, 6.7 million roll boxes full of goods are taken from the wholesaler to Spar, Spar Gourmet, Eurospar, Interspar and Maximarkt supermarkets. Deliveries are made throughout Austria, primarily using Spar's own trucks and trailers, of which there are around 160 in total. Hauliers are also employed to cover peaks in demand and deliveries from the central warehouse in Wels.

One of the subsidiaries is located in Wörgl am Inn, to the south of Kufstein. This regional headquarters serves the Tyrol and Salzburg, with their 284 Spar, Eurospar and Interspar supermarkets. Around 3500 different items, which are held in block storage in approximately seven-metre-high shelving in a high-bay warehouse, are stored in an area covering 21,000 m². The average lead time from when the goods arrive in the warehouse to when they are delivered is 14 days.

The labour costs for order picking, which involves the deliveries for the individual stores being assembled on roll boxes, are understandably high: of the 180 employees in the warehouse, around two-thirds are order pickers. In order to process customer orders and their individual items smoothly and accurately, the order pickers have a lightweight mobile terminal (an MDE terminal) that tells them how much of the total amount of the product available needs to be picked. By connecting the MDE terminal online to the materials management system, which generates the picking list, the current status of the picking operation can be tracked at all times. Order picking is carried out according to the “first in – first out” principle and takes best before dates into account. An interesting point to note in this respect is that it is the vehicle fleet that controls the functions in the warehouse via the materials management system.

161 helpers during order picking

The speed at which the stores receive the items they have ordered depends primarily on the order picking time, so a large number of electrically powered forklift trucks operate in the warehouse. In Wörgl, for example, 68 picking trucks, 41 pedestrian-controlled low-lift pallet trucks, 14 rider-seated low-lift pallet trucks, 15 reach trucks and 23 pedestrian-controlled high-lift pallet trucks are in use. All the vehicles come from either Jungheinrich or Still. A vehicle is permanently assigned to every driver, which means that he is responsible for maintaining the vehicle and also for charging the battery correctly and on time. The vehicle fleet at Spar is comparatively young, as the vehicles are replaced after no more than six or seven years.

Sustainability is a major consideration for Spar. Alexander Grill, Central Warehouse Logistics Manager, illustrates some of the countless examples of this: "In 2011, we started to use a full hybrid truck and we only use trucks that have the latest drive technology. The vehicles are only 3.71 metres high in order to reduce air resistance and have smaller tanks so they weigh less. The movement of air is also being considerably reduced by filling the empty spaces in the roll boxes with special offers that have not been ordered and by using folding containers for the return trip. What's more, in Wörgl we have a rail link that we can also use."

"When purchasing forklift trucks, we at Spar nowadays take the only correct approach, which is to regard the forklift truck, the traction battery and the battery charger as individual components", explains Alexander Grill. "This makes the purchasing process somewhat more complicated, but has the advantage of bringing more expertise together at the table so we can find the best solution for the current requirements." The best solution means that the so-called energy package, consisting of the traction battery and a battery charging system, contributes most of the on-going operating costs of a forklift truck due to the increasing cost of energy and the high battery costs. These costs can therefore be reduced by using the correct battery charging system.

Efficiency levels of up to 94%

Spar's commitment to increase sustainability and treat natural resources with respect means that it monitors its investments and acquisitions very accurately. This is why Spar now only purchases battery charging systems produced by Austrian specialist Fronius. The reasons speak for themselves. With the "Selectiva" product range as used by Spar, Fronius offers chargers for intralogistics applications that, with efficiency levels of up to 94%, are the absolute state-of-the-art. Thanks to the HF inverter technology for traction batteries, which Fronius has dubbed "Active Inverter Technology", the incomparably high efficiency level means that considerable savings in energy costs can be achieved compared with conventional 50 Hz transformer devices. Battery costs are reduced too, as the constant charging current and charging voltage provide ideal battery charging conditions that help extend battery life significantly — an important factor, as batteries are expensive.

"We have seen for ourselves that what Fronius says is absolutely true", explains Christian Hemetsberger, head of the Warehousing department in Wörgl. "We noticed that even when an older charger is not charging, it consumes a tremendous amount of power. We therefore decided to carry out some comparative measurements between a 50 Hz charger using conventional HF inverter technology and a Fronius battery charging system with "Active Inverter Technology". We concluded that the Fronius device was the only one that consumed very little power when on stand-by." As the department head went on to explain, there were major differences in the battery heating test, where the Fronius technology once again came out on top due to its much lower charging factor. "When a battery manufacturer discovered that we use Fronius battery charging systems, he voluntarily offered to extend our warranty by 12 months", explained both Spar logistics specialists.

Spar in Wörgl has only been working with Fronius for about three years. The switchover to Fronius battery charging systems takes place when the forklift trucks are replaced each year. However, 53 battery charging systems are already in use in Wörgl, mainly Selectiva Plus 2050 (24 V/50 A), 2032 (24 V/32 A) and 4080 (48 V/80 A). "Initially, not all the capabilities of the Fronius devices were completely clear to us", admits Christian Hemetsberger. For example, individual battery cells can also be charged and even heavily sulphated batteries can be brought back to life again thanks to the selectable deep discharge characteristic. The head of department asks: "What other charger is able to do that?"

"We are not only impressed by the economic and ecological advantages of the Fronius Active Inverter Technology, the professionalism of the battery charging specialists also take some beating", explains Alexander Grill, adding: "Fronius provides effective support for our sustainable business activities."

SPAR – the company

The SPAR Austria Group is a central European business group that operates in Austria and the neighbouring countries of Slovenia, Hungary, the Czech Republic, Croatia and in the north of Italy. The total turnover of the company in 2011 was 12.15 billion euros. Its business areas include food retailing, specialist sports and shopping centres, and it has over 74,000 employees. In Austria, SPAR has around 1500 sites and its 38,000 employees make it the largest private-sector employer.

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Photo 1

Alexander Grill (right) and Christian Hemetsberger in the Spar subsidiary in Wörgl
(Photo: Fronius)

Image file: Fronius_Spar-Wörgl_01.jpg



Photo 2

The warehouse in Wörgl also contains high-bay storage
(Photo: Fronius)

Image file: Fronius_Spar-Wörgl_02.jpg



Photo 3

161 forklift trucks operate in the Spar warehouse in Wörgl
(Photo: Fronius)

Image file: Fronius_Spar-Wörgl_03.jpg



Photo 4

Of the 180 warehouse employees, around two-thirds are order pickers (photo: Fronius)

Image file: Fronius_Spar-Wörgl_04.jpg

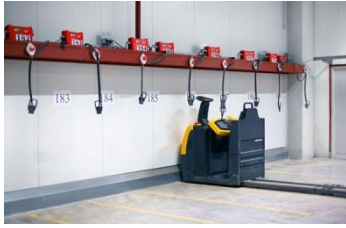


Photo 5

53 Fronius battery charging systems are currently in use at Spar in Wörgl (photo: Fronius)

Image file: Fronius_Spar-Wörgl_05.jpg



Photo 6

Spar will gradually replace the older (blue) chargers with 50 Hz transformer technology with the Fronius (red) battery charging system (photo: Fronius)

Image file: Fronius_Spar-Wörgl_06.jpg

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Website:

SPAR Austria: www.spar.at

Fronius battery charging systems: www.fronius.com/intralogistik

Fronius International GmbH

Fronius International is an Austrian company with headquarters in Pettenbach and other sites in Wels, Thalheim, Steinhaus and Sattledt. With over 3257 employees worldwide, the company is active in the fields of battery charging systems, welding technology and solar electronics. Around 94% of its products are exported through 19 international Fronius subsidiaries and sales partners/representatives in over 60 countries. With its outstanding products and services and 878 active patents, Fronius is a global technology leader.

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