



BÜFFELPOST

Banner *THE POWER COMPANY*

FULL BULL POWER:
WITH Banner IN THE
FAST LANE.



FIT FOR THE FUTURE
START/STOP BATTERIES
ARE FORGING AHEAD

THE QUALITY DRIVE
Banner LOOKS TO
SHIFT UP A GEAR

FLEXIBILITY
PUNCTUAL DELIVERY
DESPITE BREXIT & CO

EDITORIAL

EDITORIAL

Dear Partner,

Sales records are only possible when everyone gives their utmost and therefore it is with pleasure and pride in the performance of our entire workforce that we can look back on a highly successful year. The strength of a buffalo emanates from the perfect synchronisation of every one of its muscles and we enjoy power created in similar fashion by every member of our team, not to mention our reliable suppliers, partners and customers. Accordingly, at the very beginning of this issue of the "Buffalo Post" we would like to again express our gratitude for their endeavours.

Naturally enough, the completion of the enlargements at our company location contributed to our pleasing figures. In fact, during the past thirty months we have invested over EUR 20 million in order to produce more batteries and thus be able to respond with even greater flexibility to branch requirements. As a consequence, our customers can be certain that even under difficult market conditions (Brexit, trade wars, etc.), they constantly have a dependable partner at their side that offers reliability of delivery.

The record sales revenues of over EUR 300 million in the financial year expired show us that with our strategy and untiring commitment to quality and service we are on the right road. Moreover, our current quality offensive adds up to more than mere lip service. The new slogan "Quality that moves" indicates the way ahead and

personifies our constant efforts to shift up a gear with regard to both power and the achievement of still greater progress in the future.

Research and development ensure that the premium product quality we offer corresponds with the state of the art. Consequently, our mature start/stop batteries and innovative technologies mean that we are ideally equipped to meet the needs of the "vehicles of tomorrow". Moreover, people remain the constant focus of our attention.

Our products all relate to mobility and equally we never stand still. This dynamism requires smart people and at the moment we are searching the market for the best possible personnel to match our new and exciting tasks. Indeed, for anyone wishing to make a positive contribution to designing the mobility of the future, there can be no doubt that we represent the right address. As a family-owned company with a clear commitment to our location, we are pleased by any further recommendation as a reliable and interesting regional employer. Because, quite simply, in the years to come, we intend to move even further ahead together with you and the best brains in the business!



Andreas Bawart
Commercial CEO



Thomas Bawart
Technical CEO



MARKET TRENDS

START/STOP BATTERIES ARE FORGING AHEAD

The developments in the automotive industry send out a clear message. Because in recent years, start/stop batteries have been used increasingly for first fitting and although to date aftermarket demand has been slow, it is set to accelerate rapidly in the near future. Happily, with its innovative product range, Banner is ideally equipped for tomorrow.

Overall, it is estimated that new car registrations are set to decline somewhat, while aftermarket battery sales will remain stable. In 2018, twenty million vehicles were manufactured in Europe and this figure is expected to fall to

18.7 million by 2021. However, what is increasing steadily is the share of fuel saving drive systems. Banner scores in this segment with its mature start/stop batteries and extensive portfolio, which has been developed to meet the specific requirements of a diversity of manufacturers and markets.

BY 2022, START/STOP SYSTEMS WILL PREDOMINATE

Battery technology has now reached a fundamental turning point. Today, a third of all new vehicles already have a start/stop battery and in recent years, this percentage has risen sharply. The start/stop battery is thus in the process of usurping the market role of the conventional lead-acid battery and by 2022, is foreseen as constituting 57% of all the batteries installed. Forecasts predict that 58% of these batteries will be of AGM and 42% EFB design. In the coming years, the volume of the European aftermarket



Franz A. Märzinger
Marketing and Sales Director

will remain constant at around 47 million batteries, with Germany, France, Italy, the UK, Spain and Poland as the main markets.

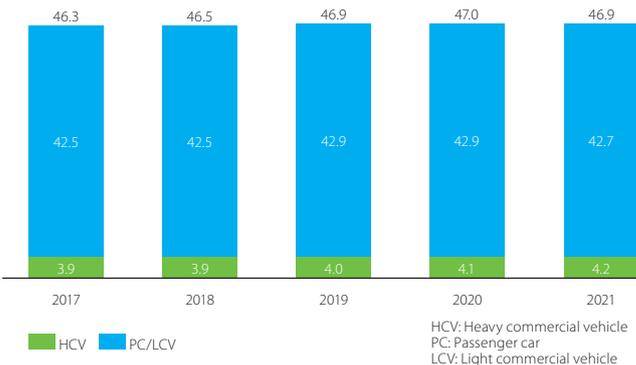
THE EFB BATTERY IS STEPPING ON THE GAS!

A look into the crystal ball also points to another trend. Powerful EFB batteries are being installed in a growing number of new cars, especially where the electrical charging balance permits (depending upon special features and comfort consumers). The special strengths of the EFB battery are especially evident in connection with mass production models.

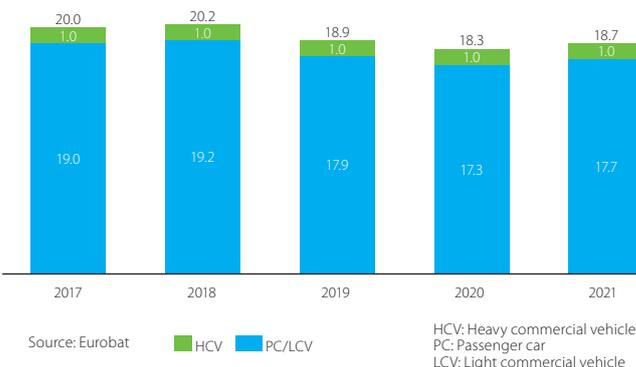
Therefore, Banner is continually optimising its EFB range in order to meet the requirements and first fitting demands.



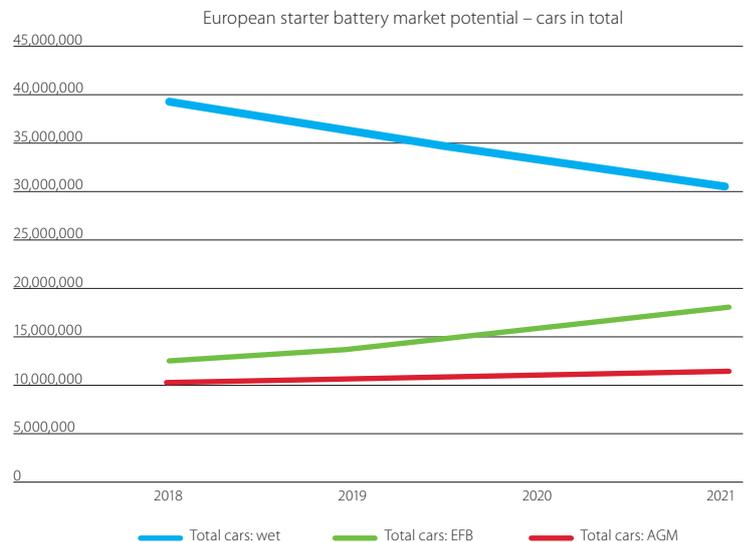
AFTERMARKET BATTERY VOLUME 2017-2021



EUROPEAN VEHICLE PRODUCTION 2017-2021



Banner MARKET ESTIMATES



SALES HIT

EFB BATTERIES: FULL POWER FOR MODERN TRUCKS

The Buffalo Bull EFB has been on the market since the summer of 2018 and thanks to its unsurpassed level of innovation is already recognised by Europe's commercial vehicle manufacturers as being the technological no.1.



Günther Lemmerer
Head of export sales and
key accounts

There is growing demand in the after-market for the retrofitting of modern commercial vehicles with an EFB battery. Banner is a pioneer in this special segment and the trend is towards premium products. In the final analysis, this is the result of the demands relating to cyclical resistance, as truck drivers are increasingly using the hotel functions in their vehicles. Therefore, the reliable quality offered by the Buffalo Bull EFB is attracting customers such as large commercial vehicle part retailers and international fleets with vehicles under way in cold countries.

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INNOVATION

THE NEW Banner PRO 100A ACCUCHARGER

This extremely powerful charger guarantees perfect recharging; even for very large batteries.

As a 12V professional device, the new Banner Pro 100A Accucharger has its own flash mode for software updates. When selecting a charging program, users have a comfortable choice between fully automatic and manual settings, while the special flash mode for software updates provides constant voltage with current of up to 100A.

A TOP CLASS POWER PACKAGE

In addition, this power package offers numerous safety features, robust design and simple handling. Consequently, the new Accucharger Pro 100 represents the ideal tool for specialist workshops and service centres.



HONOURED

THE POWER BULL P72 09 IS THE TEST WINNER



In the latest BILD.de 2019 comparative battery test, which was carried out in conjunction with Vergleich.org, the Banner Power Bull P72 09 received a top "VERY GOOD" rating. Apart from straightforward installation, the Banner car battery also proved convincing in every other regard and therefore, this reliable power pack was awarded the title of "Test Winner".

CAT AWARDS WINNER 2019

Banner IS THE "SUPPLIER OF THE YEAR"

CAT UK (Car and Accessory Trader Magazine) has published the results of its latest customer survey and Banner has emerged as the "2019 Supplier of the Year"!



Lee Quinney

Some 16,000 CAT magazine readers provided their personal ratings and in particular, Banner scored due to the first rate quality of its consulting, products, service and after-sales performance, which extends to used battery collection and recycling in a closed product cycle. In addition, a professional training programme for all sales partners and a battery accessory range trimmed exactly to the automotive sector (chargers, boosters, testing devices and interesting, inexpensive battery service articles) were seen as equally outstanding. This result represents further evidence of the fact that in the B2B area, the Banner brand is highly rated and not just in the UK.

THE QUALITY DRIVE

Banner NEVER STANDS STILL

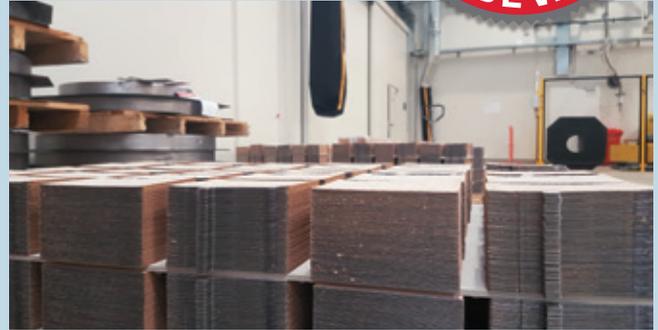
For Banner, "Quality that moves" represents far more than just a slogan.



Franz Dorninger
Technical Director

Following the completion of the enlargements at the Linz/Leonding location, as planned, production capacity was raised in every area. Highlights such as the new electrode production plant and the assembly and formation line both contribute to the attainment of the goals of the Banner quality drive.

The new line guarantees the highest production precision and hence a move upwards to the next quality level. Plate manufacture is now of a uniform standard, which offers customers enormous advantages, as continuous plate production in combination with unique thickness exactitude, means that they can rely on constant battery performance. It is therefore no coincidence that in the meantime, the American main supplier of the plant is using Banner's outstanding production results in its advertising.

**A CORPORATE PHILOSOPHY THAT LIVES & BREATHES**

The new slogan, "Quality that moves" is now being rolled out throughout the entire plant. The posters that can be found in every area of the company show clearly that our focus is on customer satisfaction. Moreover, videos have been produced for the company TV service in which Banner employees state their views on the subject of quality. This is because our objective is to constantly improve and thus set still more things in motion!

RESEARCH & DEVELOPMENT

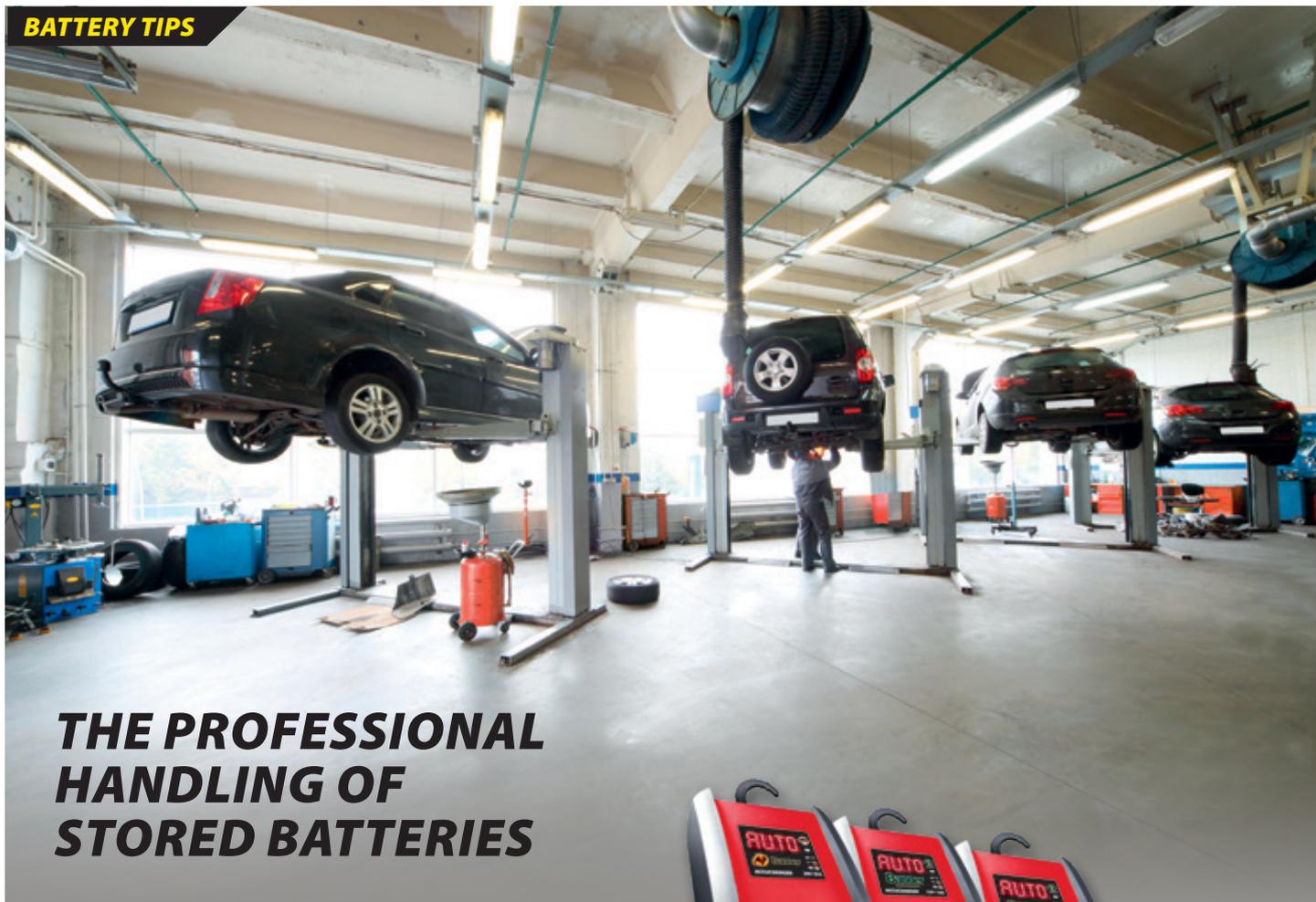
THE Banner EFB BATTERY HAS CONVINCED BMW

Following the successful launch of enhanced flooded battery (EFB) technology in VW's Blue Motion vehicles, BMW has now also followed this trend in selected cars fitted with Efficient Dynamics (e.g. the 1, 2 and Mini models). In fact, EFB batteries are particularly advantageous for any mass production models.

This battery technology is employed for micro-hybrid vehicles, which reduce their fuel consumption and hence their CO₂ emissions by means of a start/stop function and braking energy recuperation. The efficiency and production quality of Banner's EFB batteries won over BMW with the result that the group selected the 70Ah and 80Ah versions for delivery.



BATTERY TIPS



THE PROFESSIONAL HANDLING OF STORED BATTERIES

Now is the ideal time to carry out checks on your entire stock of batteries and if necessary to complete external recharging. This is how to do it correctly:

BATTERY STORAGE, CHECKS AND TRANSPORT

- Transport and store batteries **vertically**, secure against tipping and slippage.
- Employ **short circuit protection**
- **Storage conditions:**
 - > Keep in a cool (between 0° and +25° C) and dry place
 - > Ensure that the batteries are not subject to direct sunlight (no placing in displays)
 - > Check that the battery surfaces and terminals are clean
- Adhere to the first in, first out (**FIFO**) principle
- Carry out **regular open circuit voltage checks** with a digital voltmeter

As a rule, the following applies:

In order to be able to measure open circuit voltage with a voltmeter, one should wait for up to roughly five hours after the end of charging, or for at least an hour to ensure that a discharge has not occurred.



RECHARGING OF STORED BATTERIES

At the latest, immediate recharging is essential when the open circuit voltage amounts to 12.50V!

- Always adhere to the **safety instructions** (avoid ventilation and ignition sources)
- The following two points apply to **conventional wet batteries and EFB technology:**
 - Check the electrolyte level prior to charging and if necessary refill with desalinated or distilled water up to the maximum acid level mark (or 15 mm above the top edge of the plates)
 - The battery screws may not remain open during charging and ideally should be retightened
- **Running Bull AGM/BackUp:**
AGM batteries may not be opened!

Acid density measurement and refills with distilled water are neither possible, nor necessary.

- Observe the charging characteristic

- Recommended charging parameters:
 - Current: 10 % of capacity
 - Voltage of approx. +25° C (note temperature compensation):
 - o AGM: 14.40V – 14.80V voltage constant
 - o Conventional: 14.40V – max. 16V
 - Charging duration: approx. 12 – 24 hours

Running Bull AGM/BackUp:

It is essential that charging (max. 14.80V) take place employing a voltage-regulated charger (Banner Accucharger). The use of conventional chargers that are not voltage-regulated will destroy the battery due to overloading and will cause the electrolyte to escape!

As a rule, fully automatic chargers (charging voltage limit of 14.80V) carry out the charging process autonomously and are ideal for charging starter batteries. Depending upon battery capacity, we recommend the following chargers (all with charge retention function):

- Batteries up to 72 Ah - Banner 12V 3A Accucharger (Art. No. 1240000030)
- Batteries up to 130 Ah – Banner 12V 6A Recovery Accucharger (Art. No. 1240000260)
- Batteries up to 230 Ah - Banner 12V 10A Recovery Accucharger (Art. No. 1240000212)

In addition, we recommend the following for periodic battery voltage checks:

- **BBT DV1 digital voltmeter** – Banner 6/12V Battery Tester (Art. No. 121000012)



BATTERY SALES

- Batteries with an open circuit voltage of < 12.60V are not to be sold!
- The purchaser should be informed about correct handling and our tips for preventing premature battery failure.

Banner TIPS FOR PREVENTING PREMATURE BATTERY FAILURE

- Install **the most powerful battery possible** (with regard to capacity). The retrofitted battery must have dimensions, e.g. a height of 190 mm that are identical with those of the original and thus fit into the same space. Banner's advice for battery installation should be followed (see the "Book of Power" or make a battery search on the Banner website).
- **NEW: Upgrading online addition** ("Is there a more powerful battery for my car?"). The Banner website now provides recommendations relating to higher energy requirements (or increased cold start demands) for every battery offering upgrading possibilities. The battery performance levels can be compared at a glance.
- **Capacity** plays a far more important role in battery life than the level of cold start current. The deeper the level of battery discharge, the lower is its cyclical resistance and the shorter its life. Therefore, battery selection should be based primarily upon capacity and not cold starting.
- Frequent short trips, irregular driving profiles in combination with stop and go traffic, daily cold winter starts in icy temperatures, and additional power consumers such as seat, stationary and rear window heating all lower the energy level in the battery every time the vehicle is started and driven. Therefore, the battery should be treated to an **extra portion of external recharging** and at the latest, always in spring or late autumn when a tyre change may be necessary.
- If extra electricity consumers have been retrofitted into the vehicle (sound systems and stationary heating), we recommend the **alternative use of Running Bull AGM batteries.**

TIPS FOR BATTERY CHANGES IN START/STOP VEHICLES

Warning! Under no circumstances may a conventional wet battery be installed in a vehicle with a start/stop function, which was originally fitted with an AGM or EFB battery as a standard feature. If a battery change is required, an AGM or EFB must be employed (with the same box and identical capacity class).

Banner TIP

Upgrading of an EFB battery into a still more powerful and cycle-resistant Running Bull AGM battery is possible with H5/L2 (60 Ah), H6/L3 (70 Ah) and H7/L4 (80 Ah) boxes. In the case of some vehicle manufacturers, the new battery may require teaching. In such situations, the **Banner Battery Service Tool (BBST)** can assist,



as this allows the configuration of the battery in vehicles with a battery management system (BMS) and the read out and erasure of the manufacturer's fault code. Even in the case of Audi models, which as opposed to other marques always request coding following a battery change, the BBST is capable of programming the battery energy management code (BEM). This allows the registration of the battery change to be carried out correctly and without limitations on various functions.

The BBST possesses a system check, which examines the entire charging system, including the battery and dynamo, as well as an integrated product finder for the identification of a suitable replacement battery.

A Banner customer advisor should be consulted in this connection.

SUMMER TIPS

TIPS FOR CAMPERS AND CARAVANS

If your customers own camping buses, caravans or mobile homes, then they should follow our tips for beefing up their vehicles, in order to enjoy a guaranteed successful travel season without unplanned stopovers!



If camping vehicles have been out of service for a longer period (parked or mothballed for the winter), it is vital that the starter and electrical system batteries (mostly using AGM technology) be checked.

THE FOLLOWING APPLIES WITH REGARD TO THE LONG SERVICE LIFE OF STARTER AND ELECTRICAL SYSTEM BATTERIES:

- It is essential that the open circuit voltage be scrutinised with a voltmeter. If the open circuit voltage has reached roughly the 12.50 V limit, a recharge must be completed immediately. In order to be able to measure open circuit voltage with a voltmeter, one should wait for up to roughly five hours after the end of charging, or for at least an hour to ensure that a discharge has not occurred.
- At a maximum, an AGM battery may only demonstrate a 50% discharge level.
- As a rule, the deeper the level of battery discharge, the lower is its cyclical resistance and the shorter its expected life. At a discharge level of 50% (approx. 12.30 V open circuit voltage), an AGM battery manages about 400 cycles.



Banner CHARGING TIPS FOR AGM BATTERIES:

- Batteries may only be charged with direct current.
- If the battery has been disconnected or removed from the vehicle: connect the positive (+) battery terminal to the positive (+) terminal of the charger, and the negative (-) battery terminal to the negative (-) terminal of the charger.
- If the battery has not been disconnected or removed from the vehicle: connect the positive (+) battery terminal to the positive (+) terminal of the charger, and the negative (-) battery terminal to the mass (= unpainted bodywork, bare metal).
- Do not switch on the charger until the battery has been connected. First switch off the charger when charging is completed.
- It is recommended that the charging current be equal to at least one tenth of the capacity (e.g. 44 Ah: 10 = 6 A charging current).

- In the case of an automatic Banner Accucharger, as the name implies, setting takes place automatically.
- If the temperature exceeds 55°C, the charging process must be discontinued.
- Ensure good ventilation during charging.
- The battery screws on AGM batteries may not be opened. Acid density measurement and refills with distilled water are neither possible, nor necessary.
- Ensure that recharging amounts to 1.2 times the consumed capacity (e.g. consumed capacity 30 Ah, > recharge 36 Ah).
- Charging is finished when the current drops to 0 or stops falling, or the automatic charger switches itself off.

Warning! During charging explosive detonating gas (oxyhydrogen) can occur. Therefore, smoking is forbidden and sparks and open flames are to be avoided.

SHOULD YOU POSSESS A CHARGER, PLEASE NOTE THE FOLLOWING

Use the AGM setting with a maximum charging voltage of 14.80 V and a charge retention voltage of 13.50 V. Should the possibility exist, setting using an IUoU characteristic with temperature compensation is ideal.

INTERNATIONAL COOPERATION

Banner QUALITY IN BRAZIL

A successful cooperation between Banner, East Penn (USA) and the Brazilian battery manufacturer has now been in existence for the past ten years.



From l. to r.: Marcelo Henrique, Walter Bezerra, Eugenia Montes, Christian Zenger, Jeff Coleman, Lorena Paes and Harald Fiebiger

The Moura company was founded in 1957 in the Brazilian state of Pernambuco and like Banner, is a family-owned enterprise. Over 7.5 million batteries are produced at its six locations and within the framework of a technical cooperation Banner and East Penn have assisted Moura with the development of new battery technologies. In addition, this teamwork also offers advantages for our globally operative customers because in the interim, Banner is able also supply the locations of European vehicle manufacturers in the Latin American market.

In the course of this cooperation, get-togethers occur at intervals, both in Brazil and at Banner in Austria. The last sales meeting took place at Moura in February together with East Penn and the positive relations between all those involved provides an important basis for continued successful partnership.

EXPORT

PORTUGAL IS A GROWTH MARKET

Following the financial crisis, Portugal has established a reputation as a model economic pupil. And due to a new sales structure, during the past financial year Banner managed to double its sales revenues to the Portuguese market.



Gerald Raffetseder
Export Manager

During the last two years, the Banner Export Department placed an increased focus on Portugal and thanks to the help of a local marketing agent with long-term branch experience, Banner Export Manager, Gerald Raffetseder, has succeeded in creating a network of new distributors for batteries in various aftermarket segments.

At the same time, via European cooperation with Club Logistics Services in the Netherlands,



**AUTOMÓVEL
CLUB DE PORTUGAL**

Banner has been supplying starter batteries to the ACP Automóvel Club for its own brand. This organisation has roughly 250,000 members and manages a fleet of breakdown vehicles that operates in the Lisbon and Porto areas. The new sales structure already bore fruit in the past financial year,

with an increase in sales over the previous twelve months of more than 50 per cent. Further growth is being sought in the current year with the object of reaching the same sales level as that prior to the reorganisation.

SERVICE

NEW FEATURES ON THE Banner WEBSITE

Under www.bannerbatterien.com, Banner customers can now find an enlarged accessories menu item and new functions in the starter battery segment.

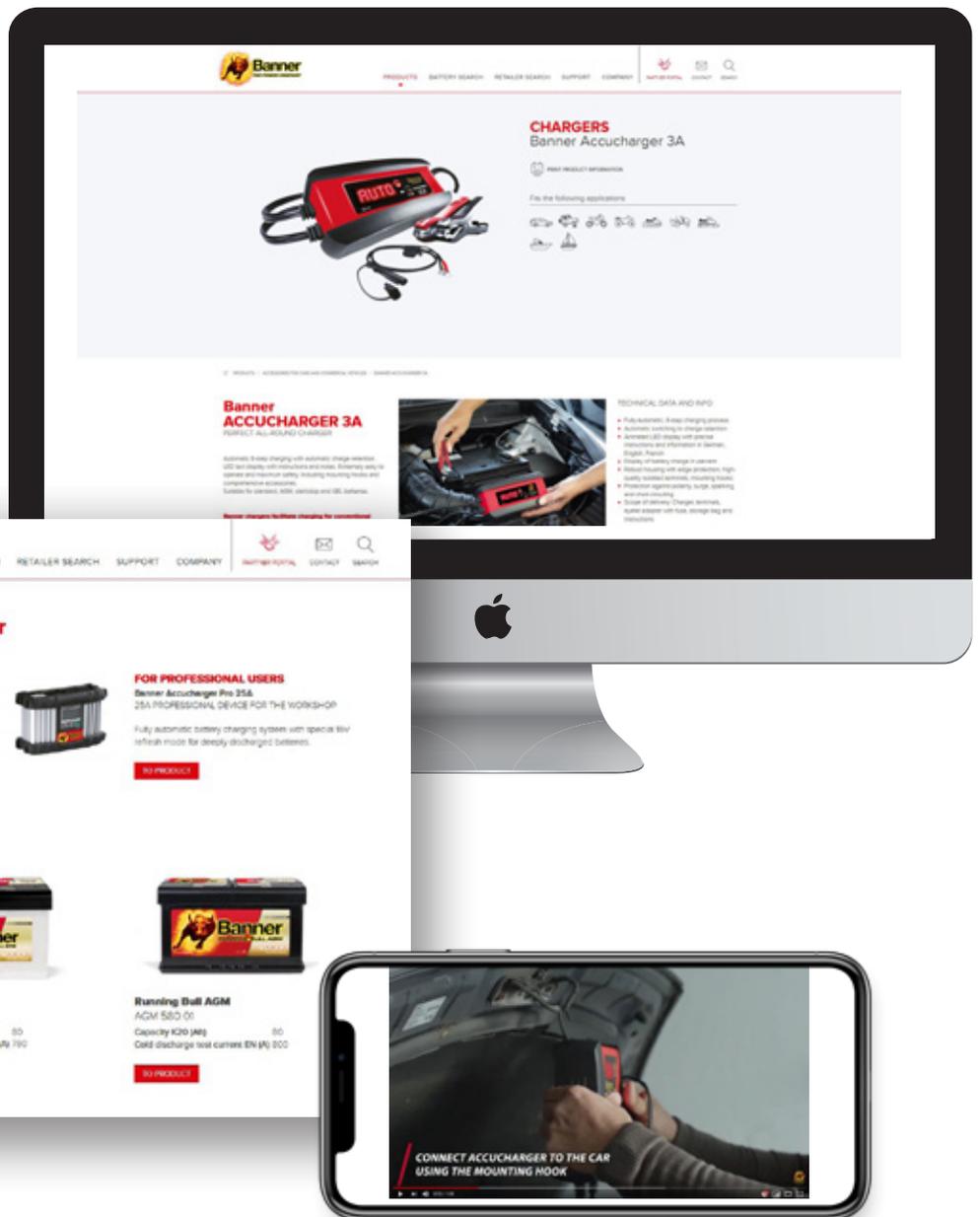


Verena Kusen
Online Marketing Manager

- **ACCESSORIES** – The menu item, “Car and commercial vehicle accessories” now contains a wealth of new information regarding battery accessories.
- **CROSS-SELLING** – Another focus of website enlargement consists of recommendations regarding suitable chargers:
 - For consumers and professional users
 - For specific battery types
- **UPGRADING** – “Is there a more powerful battery for my car?” Recommendations regarding upgrading for increased energy requirements, or higher cold start demands are now available for every battery offering upgrading possibilities.
- **HOW-TO-VIDEOS** – These can be found on the Banner Youtube channel, the website, in the Media Center and on the Facebook Fanpage, and deal with the topic of battery charging



and winter mothballing using the Banner Accucharger. Since this spring, videos have also been added regarding the provision of starting assistance and battery configuration using the Banner Battery Service Tool (BBST). Other videos are constantly being produced on topics that both interest and move our customers.



BREXIT & CO

Thomas Schmidt
Purchasing and Logistics
Director

PURCHASING AND LOGISTICS IN CHALLENGING TIMES

In spite of Brexit, the trade dispute between the USA and China, and the negative forecasts for the global economy, Banner customers can be certain that they have a reliable partner at their side.

Chinese economic growth is currently the lowest for almost three decades, although in 2018 it still stood at a proud 6.6 per cent. Moreover, owing to increasingly short-term fluctuations and larger swings, planning with regard to raw material prices and currencies has become far more difficult.

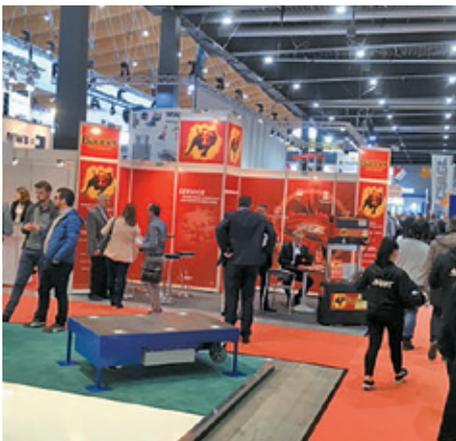
Banner has taken precautionary measures in order to overcome these challenges to the greatest possible extent and this also applies to Brexit. In close cooperation with sup-

pliers and logistics services companies, work has been continuing for quite some time on solutions that will secure deliveries to customers in the long-term. Apart from cultivating the existing supplier base, the simultaneous enlargement of own production in the plastics component area is another factor in achieving greater immunity from external influences. Together with the Banner Plastics Plant, future potential has been evaluated and realised. Banner is therefore well positioned to deal with the challenges it faces and is able to look to the future with optimism.

LOGIMAT 2019

DIGITAL – NETWORKED – INNOVATIVE

In February, the Stuttgart Airport exhibition centre provided the venue for the 17th LogiMat trade fair, which is a major international event in the field of intra-logistical solutions and process management.



With its innovative products and solutions, Banner fitted perfectly into the branch mix at the fair, which incorporated purchasing, storage, production and distribution logistics. Numerous visitors took this opportunity to discuss with our experts topics such as the regulation of in-company material flows and IT controls from production to delivery. In fact, there was great interest in our know-how, innovative strategies and products.

SUMMER GREETINGS

A FLYING START TO THE SUMMER!



At the end of this edition of the "Buffalo Post", we would like to wish all of Banner's customers, partners and friends a scintillating start to the summer. We trust that you will all be able to recharge your batteries during a well-earned break.

Banner *INSIDE*: BMW, VW, AUDI, PORSCHE, MERCEDES, SEAT, ASTON MARTIN, SUZUKI, ...



Banner

THE POWER COMPANY

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