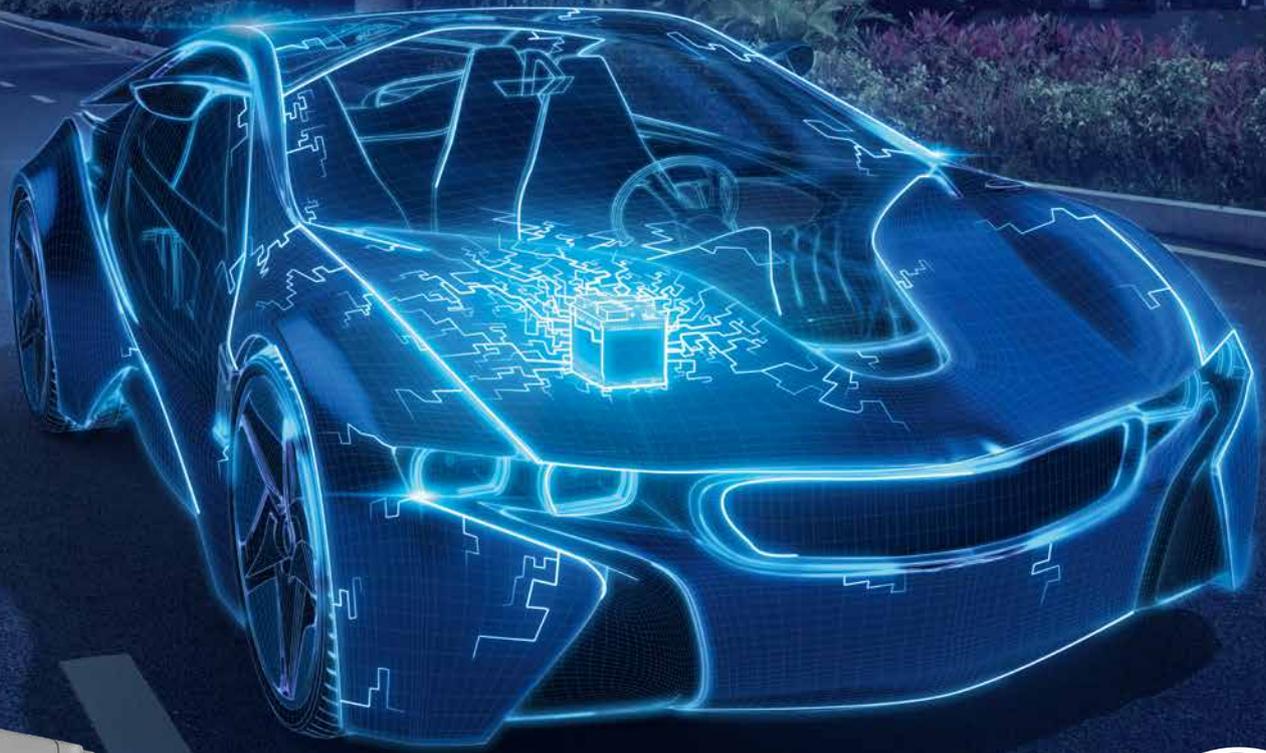


# VARTA® THE ORIGINAL.

Our products and services.



**UPDATED PRODUCT RANGE:  
READY FOR ELECTRIC VEHICLES.**

The extensive range of VARTA products and service solutions gives your business the power to succeed.

[varta-partner-portal.com](http://varta-partner-portal.com)

It all starts with  **VARTA®**

# VARTA® MOVES YOU FORWARD.

Your best battery choice.



Engineered in Germany, VARTA Automotive batteries are designed to deliver the optimal level of power and longevity for every kind of car. Whether you need batteries for standard vehicles, highly equipped cars with Start-Stop systems or any kind of electric vehicle – VARTA always offers the right technology for every energy demand. By choosing VARTA automotive batteries, you can be assured of reliable precision technology that delivers best in class manufacturing quality.

As the world's leading battery manufacturer, Clarios is the number one supplier for all renowned Original Equipment Manufacturers with its VARTA brand. VARTA products are fulfilling all OE requirements. They are purpose-built for the highest performance, thanks to the patented PowerFrame® grid technology and more than 100 process and product parameters measured during the production process. That is why well-known manufacturers such as Mercedes, Volkswagen and BMW are fitting their cars with VARTA batteries.

So, make VARTA your first choice and learn more about changes in the battery market and our products and services on the following pages in this brochure.

	VARTA® Silver Dynamic AGM	VARTA® Blue Dynamic EFB	VARTA® Silver Dynamic	VARTA® Blue Dynamic	VARTA® Black Dynamic
TEMPERATURE ROBUSTNESS	████████	████████	██████	██████	██████
COLD CRANKING AMPERE	████████	████████	██████	██████	██████
CYCLE LIFE (COMPARED TO CONVENTIONAL BATTERIES)	<b>3x</b>	<b>2x</b>			
POWER SUPPLY CONSUMER	████████	██████	██████	██████	██████
START-STOP READINESS					
xEV READINESS					

# ELECTROMOBILITY ON THE MOVE.

Electrification continues to become more and more important.

The EU has defined tough CO<sub>2</sub> emission reduction targets, which affects all vehicles manufacturers and impacts the way drivetrains are designed. The upcoming prohibition of combustion engines by 2035 further pushes electrification. Today, e-mobility comes in different forms of technology, like hybrid, full battery or fuel cells. As a result, the traditional 12-volt lead-acid battery is taking on a new and challenging responsibility as a critical source of power across the evolving range of electric vehicles.

## THE CHALLENGES OF A CHANGING MARKET.

- 14% of battery electric vehicles are older than five years\* which leads to more BEVs entering workshops
- The 12V battery is still the main reason for car breakdowns, also in electric vehicles\*\*
- Over the air updates of the infotainment system can discharge the battery when the car is not in use
- The 12V battery is a significant part of electric vehicles. In case of a defect the car will not open or start
- An xEVs 12V battery needs robustness at partial state of charge, high charge acceptance and high cycling stability – the energy demand is equivalent to those of high-end start stop systems

\* IHS carpark data  
\*\* ADAC breakdown statistics

# POWERING FUTURE TECHNOLOGY.

The role of 12V batteries in electric vehicles.



Electric vehicles require two interdependent batteries: a high-voltage battery that powers the drivetrain, and an advanced 12-volt battery that handles key offloads. It plays a critical role in supporting the car's electrical network, powering everything from heated seats and infotainment systems to safety features like brake boosters and pedestrian detection systems.



## ELECTRIC VEHICLE TERMINOLOGY.



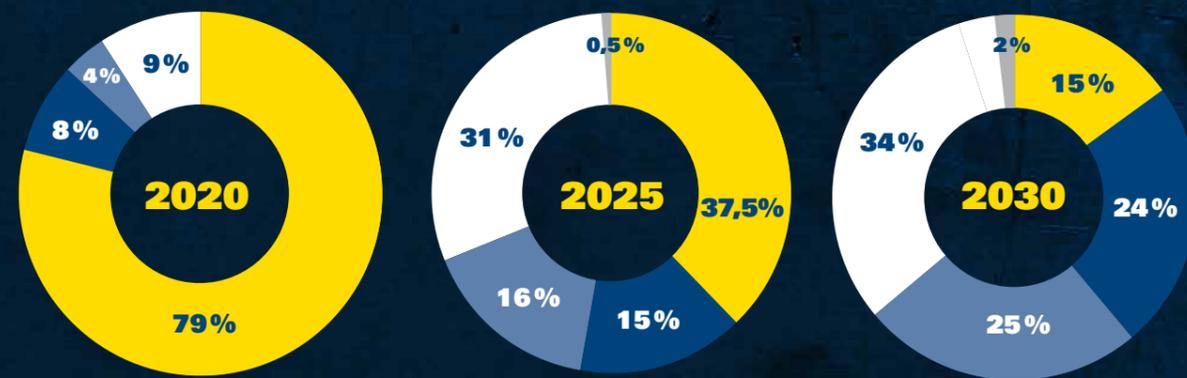
# THE ELECTRIFICATION OF MOBILITY.

xEVs entering the European carpark.

The shift in the automobile industry towards hybrid and battery electric vehicles aims to minimize emissions. At the same time it will play an important role in the coming years when it comes to vehicle registrations in the European carpark. It is expected that by 2030, more than 50% of all new registrations will be some form of electric vehicle with classic combustion engines eventually taking a back seat.

Given their prevalence though, Start-Stop technology and cars with internal combustion engines will continue to dominate the aftermarket in the foreseeable future. Also, there is little need to be concerned about mobility's increasing complexity. Even battery electric vehicles lacking combustion engines are still dependent on a 12V battery to power the car's electric system and thus need servicing at independent workshops.

## NEWLY PRODUCED VEHICLES UNTIL 2030.



● Combustion Engine, Start-Stop, Micro-Hybrid

● Plug-in-Hybrid Electric Vehicles

● Fuel-Cell Electric Vehicles

● Mild-Hybrid Electric Vehicles

● Battery Electric Vehicles

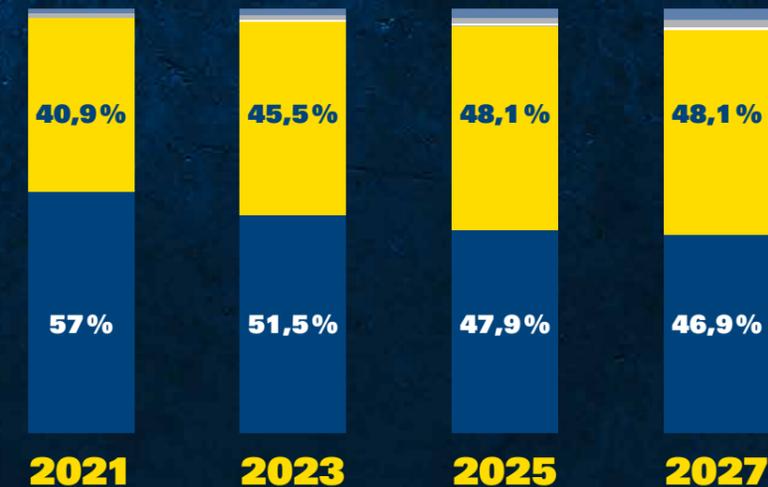
# THE AFTERMARKET'S DRIVING FORCE.

Servicing 12V batteries remains relevant.

The introduction of the Start-Stop system has driven a major change in battery technology. The traditional SLI battery was simply not suitable anymore for this type of application. Instead, it requires a battery that can deliver the starting power of a traditional automotive battery combined with the highest possible cycle capacity. As a result, the enhanced flooded battery (EFB) and subsequently absorbent glass mat technology (AGM) was developed.

As of today, a good 46% of all cars entering a workshop are using Start-Stop and 95% of newly manufactured cars have the technology built in. By 2027, cars with Start-Stop will be the predominating technology, followed closely by internal combustion engines. When it comes to servicing batteries, both vehicle types will remain the core business of independent workshops for many years to come.

## EUROPEAN CARPARK PROJECTIONS.



● Start-Stop

● Internal Combustion Engine

● Mild-Hybrid Electric Vehicles

● Full-Hybrid Electric Vehicles

● Battery Electric Vehicles

# VARTA® SILVER DYNAMIC AGM.



**MADE FOR EVs.  
MADE FOR START-STOP.  
MADE FOR ALL.**

The Start-Stop benchmark – ready for electric vehicles.

The Start-Stop benchmark – ready for electric vehicles.

The VARTA Silver Dynamic AGM (Absorbent Glass Mat) stands for unparalleled performance. It is the perfect choice for the highest energy demands – whether for powering well equipped vehicles with Start-Stop technology or supporting the 12 Volt electrical system of battery electric or hybrid electric vehicles.

VARTA AGM batteries have proven their reliability for years, making them the perfect companion for electric vehicles and cars with high-level Start-Stop systems. Their sturdy construction and behaviour as well as their inherent safety make them a trusty and robust power source for reliable starting, crucial safety systems, comfort features, and fuel-saving functions.

6 out of 10 new cars incl. xEVs in Europe are equipped with a Clarios battery, underlining VARTA's leadership as a trusted OE supplier. They are made in Germany to the highest manufacturing standards in the world's largest AGM plant.

- The benchmark for high-level Start-Stop systems
- Ready for electric and hybrid electric vehicles (xEV)
- 3x the cycle life compared to conventional batteries



**xEV-ready**  
VARTA batteries ensure safety and reliability for current and future key vehicle demands, independent from the drivetrain.

**90 % recycled\***  
Less energy used for production as the lead-acid battery is mainly made from recycled materials.

**Patented PowerFrame® Grid**  
For reliable starting power, fast recharging, and higher corrosion resistance.

**Best Start-Stop performance**  
An AGM kicks in earlier, works harder and lasts longer ensuring the highest fuel savings in Start-Stop systems.

**OE**  
Fulfills OE requirements  
"Like-for-like" replacement or upgrade of the battery sold in the Original Equipment channel.

**Made in Germany**  
Manufactured to the highest quality standards in the world's largest AGM production plant.

\*90 % of a newly produced VARTA AGM battery consists of recycled lead.

# VARTA® BLUE DYNAMIC EFB.

For superior power needs.

Entry level Start-Stop systems are usually equipped with an EFB (enhanced flooded battery). The Blue Dynamic EFB is an exact "like-for-like" replacement choice. The VARTA Blue Dynamic EFB fits vehicles with higher-than-normal energy demands. So, if you're looking for a battery with extended cycle life compared to a conventional battery, the VARTA Blue Dynamic EFB is the right choice.

- Ready for entry level Start-Stop systems
- 2x the cycle life compared to conventional batteries



## VARTA Blue Dynamic EFB



Patented PowerFrame® grid for reliable starting power, fast recharge and corrosion resistance.



Engineered to the highest German standards.



"Like-for-like" replacement of the battery sold in the Original Equipment channel.



Ready for entry-level Start-Stop systems.

# VARTA® AUXILIARY BATTERIES.

For additional power.

Modern cars consume a significant amount of electricity. Therefore, these cars with a combustion engine often come with two batteries: a regular 12-volt starter battery and an auxiliary battery. When it comes to replacing a weak or defective auxiliary battery, it is vital to rely on a high performing substitution. VARTA Auxiliary Batteries ensure that comfort features, safety devices, and fuel-saving functions work seamlessly. Depending on the car manufacturer, auxiliary batteries service different functions:

- Increase the length of the Start-Stop moment
- Support comfort functions during engine start



## VARTA Auxiliary SLI Battery



For backup applications



Made in Germany

## VARTA Auxiliary AGM Batteries



For backup applications



Replace AGM with AGM only

# VARTA® DYNAMIC SLI RANGE.

The perfect choice for conventional cars.

Flooded lead-acid batteries are still the most commonly found battery type in the automotive industry. They are often referred to as SLI, named after what used to be the battery's main purpose in a car: Starting, Lighting, Ignition. Whether you're looking for the best in standard batteries, a safe, long-lasting battery for a family vehicle, or you just want the most premium power possible, one of the VARTA SLI batteries for passenger cars will meet your needs.

## THE RIGHT ONE FOR NON-ELECTRIC AND NON-START-STOP.

Your car has high power needs but is not equipped with Start-Stop technology? Then the VARTA® Silver Dynamic is the one for you. Its supreme starting power will meet even the toughest energy demands without compromise. For more moderate energy demands we recommend the VARTA® Blue Dynamic.

As with all SLI range batteries it also offers extra starting power and consistently high performance. You drive a car built before the year 2000 and are looking for a trustworthy battery that offers good value for money? The VARTA® Black Dynamic has you covered with proven technology and long-term performance for older vehicles.



Patented PowerFrame® grid for reliable starting power, fast recharge and corrosion resistance.



Engineered in Germany

- SLI starter batteries for vehicles without start-stop

- Blue Dynamic for vehicles manufactured after 2000

- Black Dynamic for vehicles manufactured pre 2000

- Silver Dynamic for vehicles manufactured after 2010

To ensure the right one is selected, use the VARTA Partner Portal to find the correct battery [varta-partner-portal.com](http://varta-partner-portal.com)

# GO LIKE-FOR-LIKE OR UPGRADE.

The importance of an exact fit.

Replacing an AGM with an EFB or conventional battery would be like using the wrong spare part. The battery life is shortened, the performance of Start-Stop and comfort functions of the vehicle are not guaranteed, and the warranty is at risk. Therefore, replace AGM only with AGM! With an EFB battery you have two options: Either replace it with another EFB or install an AGM.

## The benefits of upgrading to an AGM.

- Increased fuel efficiency
- Higher energy throughput
- Higher electrical performance
- More reliable starting in extreme conditions



"Like-for-like" replacement



"Like-for-like" replacement or upgrade

## Cycle life.

AGM and EFB batteries are obligatory for Start-Stop vehicles. But an upgrade can also be beneficial for vehicles with conventional batteries. For example, if you have many electronic consumers or if you want to benefit from a significantly longer service life.



# VARTA® SERVICES.

Become a true Battery Expert.

## THE POWER TO MAKE YOU A BATTERY PROFESSIONAL.

VARTA can help you run a more successful battery business. Become our partner today and profit from our knowledge all around the battery. From instalment time and battery fitting instructions to maintenance tips and cost-optimisation of your battery.

It is expected that more than 50% of new registrations in 2030 will be electric vehicles. Eventually they will find their way into IAM workshops which need to be ready to service those vehicles just as they do current ones.

To support workshops in today's challenges and the ones that lie ahead, we have created a range of tools and services to support workshops and fleet operators in their daily work – increasing efficiency and keeping time and costs to a minimum. The VARTA Partner Portal is our one-stop platform uniting all car and commercial vehicle services. It is home to the VARTA Battery Test-Check Program, the VARTA Fleet Program and the VARTA Training Academy – just a few of the Partner Portal's many offerings.



VARTA®  
PARTNER  
PORTAL



VARTA®  
BATTERY  
TEST-CHECK  
PROGRAM



VARTA®  
TRAINING  
ACADEMY



**REGISTER NOW!**

[www.varta-partner-portal.com](http://www.varta-partner-portal.com)



# VARTA® PARTNER PORTAL.

The power is in your know-how.

You can now find all VARTA services under one roof. The VARTA Partner Portal supports workshops and end customers with all questions regarding batteries. Regular updates leading to a coverage of 99% of the carpark of conventional vehicles as well as for the xEV carpark. Furthermore, it supplies you with in-depth battery knowledge and offers online trainings to verify your knowledge.

## 1 BATTERY FINDER

If you need to find the right battery for a specific vehicle, its exact location or detailed installation instructions, the completely redesigned and optimised Battery Finder is for you!

## 2 BATTERY WORLD

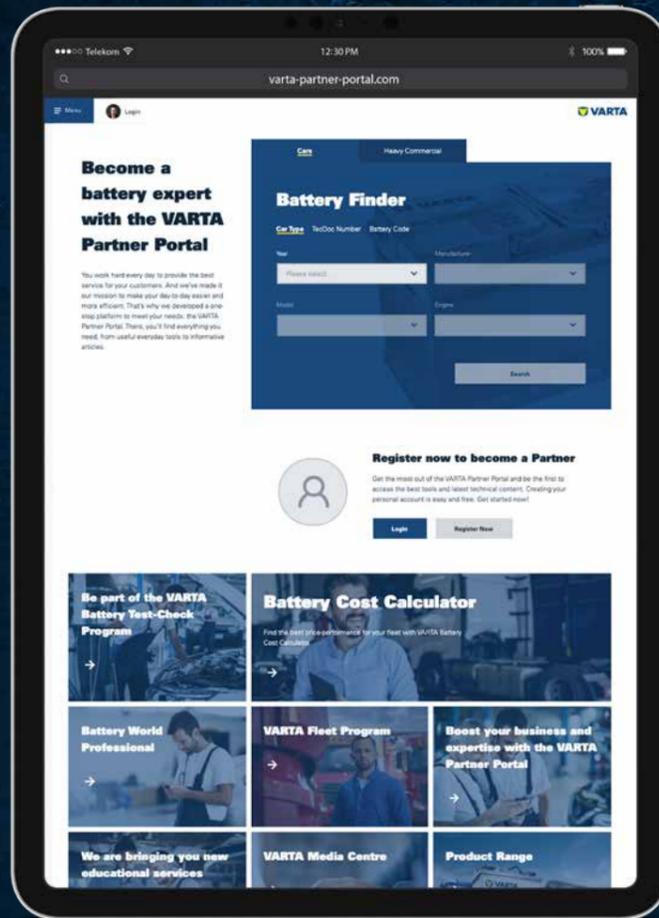
The Battery World Professional library has been updated with even more valuable articles. Enjoy all kinds of battery content – from the essentials to expert know-how.

## 3 PRODUCT PAGES

On the Product Range page, you can find an overview of all passenger car and heavy commercial batteries.

## 4 BATTERY TEST-CHECK PROGRAM

Test every battery. Join the VARTA Battery Test-Check Program and get the power to become a battery expert!



### HOW TO JOIN:

The registration for our VARTA Partner Portal is free of charge and very easy: Fill out the registration form here [www.varta-partner-portal.com](http://www.varta-partner-portal.com) and receive your confirmation by e-mail. Done!

# VARTA® E-LEARNINGS.

Become a true Battery Expert.

You are always looking for new ways to train your staff to continuously provide a quality service to customers. Digital training has come a long way and has now reached its prime in the form of E-Learning. Due to its convenience and flexibility of being available from anywhere and at any time, web-based trainings promote an active and independent way of learning.

VARTA's digital learning offerings have always been the perfect complement to our traditional trainings. With the new E-Learnings we now complete our digital knowledge portfolio, following the YouTube-channel's educational playlists, technical articles in the Battery World Professional, the Battery Finder in the VARTA Partner Portal and other social media outlets.



VARTA E-Learnings are designed to provide the best user experience – both online and offline. The different trainings offerings are aimed at everyone who deals with batteries in their daily business. We want to share our profound knowledge in a user-centric approach so mechanics and sales advisors, wholesalers and retailers are able to deal with new technologies and today's complex vehicles.

## LEARNING ON A WHOLE NEW LEVEL.

VARTA E-Learnings are currently available at the VARTA Partner Portal. Registered users get access to a complete offering of digital trainings on basic battery knowledge, advanced passenger cars, heavy commercial vehicles and all the latest VARTA services.



Basics



Automotive



ProMotive

# MORE SUSTAINABILITY THE VARTA® WAY.

Taking responsibility in everything we do.

VARTA is a part of Clarios – the world’s leading battery manufacturer. Our dedication to sustainability is evident by our innovations in advanced battery technology as well as our recycling efforts. VARTA® brand products can help customers save energy, reduce pollution and fuel consumption, and even better the working conditions of their employees.

Profiting from over 20 years of experience.

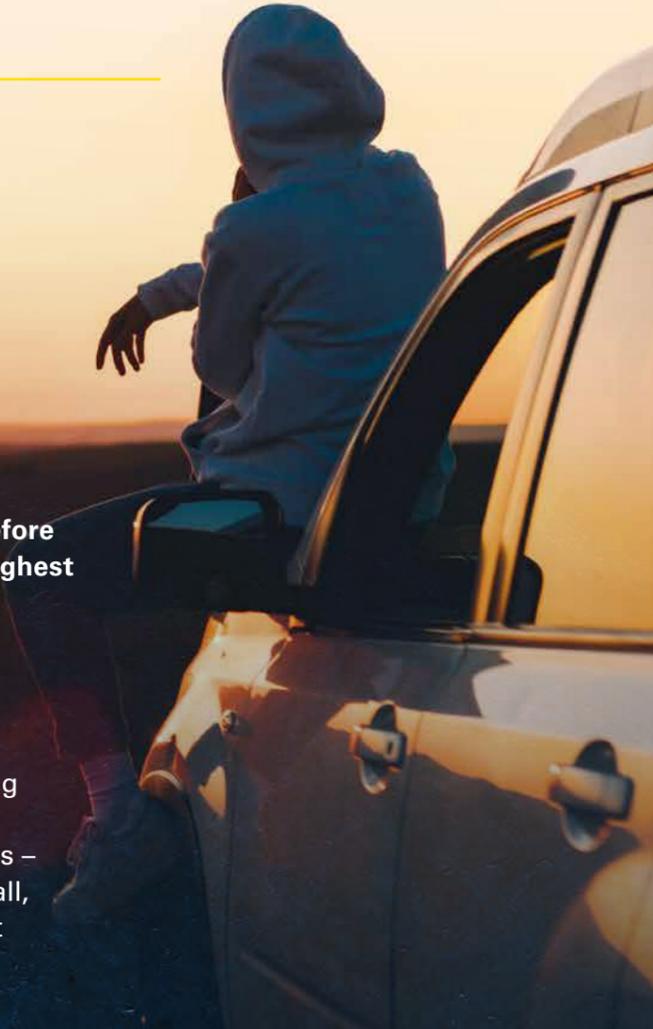
We have developed a collection system that enables a closed recycling loop. As a result, more than 98% of lead batteries from vehicles in Europe are collected and recycled. The entire production is designed to be as environmentally friendly as possible. Our sustainability managers frequently run trainings for all employees and encourage them to contribute their ideas for improvement. The result: 25% less energy and 35% less water used in the making our batteries.

The Original. Made in Germany.

Our European production plant in Hannover is based in central Germany, requiring less transport and therefore less emissions and less fuel. Clarios guarantees the highest production standards, fair working conditions and a maximum level of occupational health and safety in all our production and battery recycling sites.

Leading the way in lead-acid battery recycling.

Innovative and technologically advanced manufacturing processes allow for each component inside a VARTA® Automotive battery to be made from recycled materials – whether it's the case, the grid or the electrolyte. After all, lead batteries are the most recycled consumer product in the world.

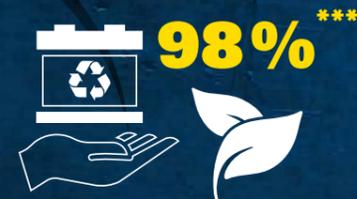


## A PERFECT CIRCULAR ECONOMY.

90% of a newly produced VARTA AGM battery consists of recycled lead.



98% of lead batteries in vehicles are collected and recycled at end-of-life.



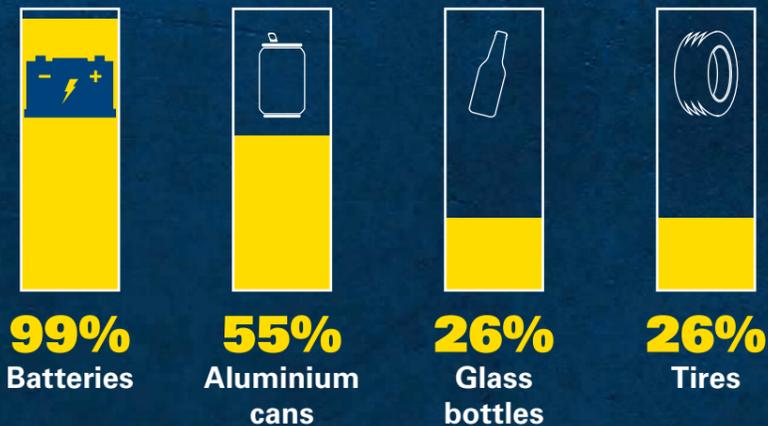
75% of lead in European lead batteries is now produced from recycled sources.



8% less CO<sub>2</sub> emission by supporting fuel-saving functions (AGM).



## PERCENTAGE OF CONTAINED MATERIAL TO BE REUSED:



\* The Rechargeable Battery Market and Main Trends 2014 – 2025, Avicenne Energy, 2015

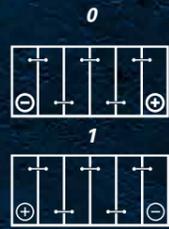
\*\* Main first uses of lead & zinc in Europe, International Lead and Zinc Study Group (ILZSG), 2017

\*\*\* Lead industry life cycle studies: environmental impact and life cycle assessment of lead battery and architectural sheet production, The International Journal of Life Cycle Assessment, 2016



Technical specifications

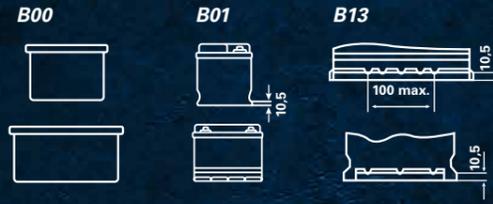
Layout



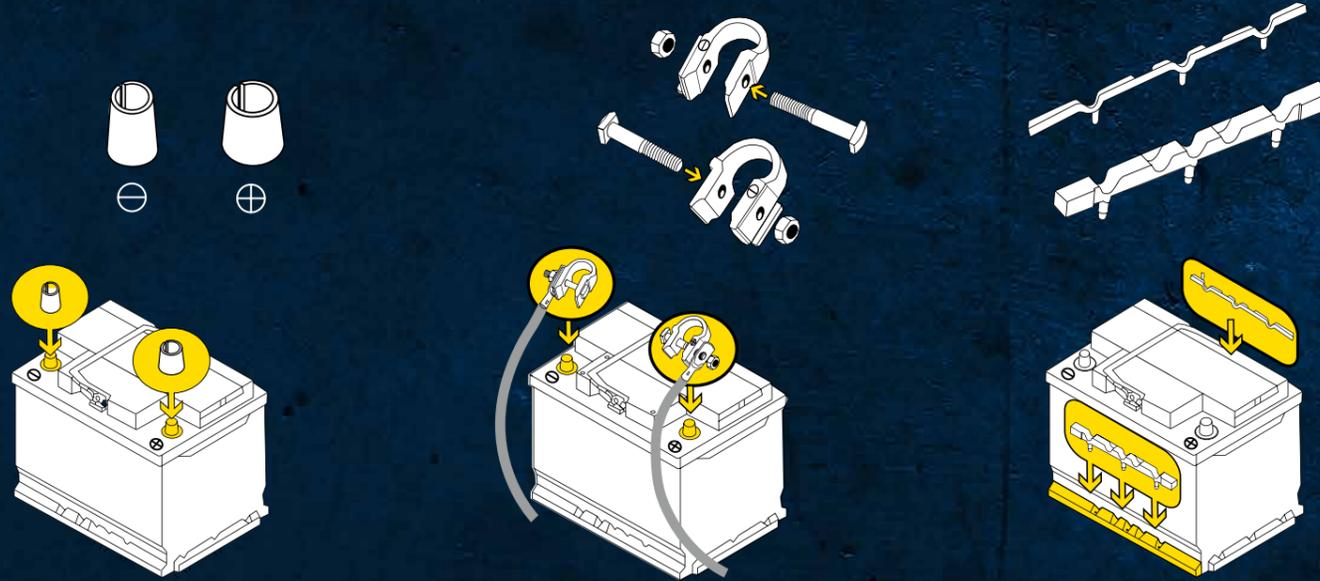
Terminal type



Base hold-down



Adapter



JIS  
SAP 537 270

Ford  
SAP 537 272

VW  
SAP 537 267

Quickfinder

ETN	Ah (20h)	CCA (EN) [A]	Case Size	Short Code
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VARTA® Silver Dynamic AGM

550 901 054	50	540	H4/L1	A9
560 901 068	60	680	H5/L2	A8
570 901 076	70	760	H6/L3	A7
580 901 080	80	800	H7/L4	A6
595 901 085	95	850	H8/L5	A5
605 901 095	105	950	H9/L6	A4

VARTA® Blue Dynamic EFB

550 500 055	50	550	H4/L1	N50
560 500 064	60	640	H5/L2	N60
565 500 065	65	650	T6/LB3	D54
570 500 076	70	760	H6/L3	N70
575 500 073	75	730	T7/LB4	E46
580 500 080	80	800	H7/L4	N80
595 500 085	95	850	H8/L5	N95

VARTA® Silver Dynamic Auxiliary

509 106 013	9	130	YTX9	AUX9
513 106 020	13	200	YTX14	AUX14
535 106 052	35	520	POB4	AUX1

VARTA® Silver Dynamic

552 401 052	52	520	T4/LB1	C6
554 400 053	54	530	H4/L1	C30
561 400 060	61	600	T5/LB2	D21
563 400 061	63	610	H5/L2	D15
563 401 061	63	610	H5R/L2R	D39
574 402 075	74	750	T6/LB3	E38
577 400 078	77	780	H6/L3	E44
585 200 080	85	800	T7/LB4	F18
585 400 080	85	800	H7/L4	F19
600 402 083	100	830	H8/L5	H3
610 402 092	110	920	H9/L6	I1

ETN	Ah (20h)	CCA (EN) [A]	Case Size	Short Code
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VARTA® Blue Dynamic

544 401 042	44	420	H3/L0	B36
544 402 044	44	440	T4/LB1	B18
552 400 047	52	470	H4/L1	C22
560 409 054	60	540	T5/LB2	D59
560 408 054	60	540	H5/L2	D24
560 127 054	60	540	H5R/L2R	D43
572 409 068	72	680	T6/LB3	E43
574 012 068	74	680	H6/L3	E11
574 013 068	74	680	H6R/L3R	E12
580 406 074	80	740	T7/LB4	F17
580 400 074	80	740	H7/L4	F16
595 402 080	95	800	H8/L5	G3

540 125 033	40	330	B19H	A13
540 126 033	40	330	B19	A14
540 127 033	40	330	B19R	A15
560 410 054	60	540	D23	D47
560 411 054	60	540	D23R	D48
545 155 033	45	330	B24	B31
545 156 033	45	330	B24R	B32
545 157 033	45	330	B24S	B33
545 158 033	45	330	B24RS	B34
570 412 063	70	630	D26	E23
570 413 063	70	630	D26R	E24
595 404 083	95	830	D31	G7
595 405 083	95	830	D31R	G8

VARTA® Black Dynamic

540 406 034	40	340	H3/L0	A16
541 400 036	41	360	T4/LB1	A17
545 412 040	45	400	H4/L1	B19
545 413 040	45	400	H4R/L1R	B20
553 401 050	53	500	T5/LB2	C11
556 400 048	56	480	H5/L2	C14
556 401 048	56	480	H5R/L2R	C15
570 144 064	70	640	T6/LB3	E9
570 409 064	70	640	H6/L3	E13
588 403 074	88	740	T8/L5	F5
590 122 072	90	720	H8/L5	F6

545 077 030	45	300	E2	B23
545 079 030	45	300	E2R	B24

Clarios is the global leader in advanced, low-voltage battery technologies for mobility. We power progress through ever-smarter solutions for virtually every kind of vehicle. With 16,000 employees in over 140 countries, we bring deep expertise to our Aftermarket and OEM partners, and reliability, safety and comfort to everyday lives. We answer to the planet with a rigorous ESG focus – advancing best-in-class sustainability practices and advocating for them across our industry. We recover, recycle and reuse up to 99% of our battery materials. Clarios is a Brookfield portfolio company.

Learn more about Clarios at [www.clarios.com](http://www.clarios.com)



We are constantly improving and working on the efficiency of our supply chain processes to ensure a high quality service for you. To satisfy the continuously growing demand of batteries we opened our new, state of the art distribution center in Plazy, Czech Republic. With its location close to Prague, the distribution center has an excellent connection to several motorways. This is the biggest and most modern distribution center in the EMEA region so far,

and will replace the 15 warehouses Clarios operated in and around the city of Zakupy in the past. On 23,000m<sup>2</sup> up to 1.5 million batteries will be stored and prepared for delivery centrally from now on. Our new distribution center had to be designed according to the highest standards in regards to environmental, security and fire protection policies, as well as quality customer service. As the first warehouse in Czech Republic it has been registered with the LEED v4 certification for sustainability.

[www.varta-partner-portal.com](http://www.varta-partner-portal.com)

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 CLARIOS