Reduction of CO2 emissions annually by at least 1 billion tons

Today there are more than 1.4 billion motor vehicles worldwide, of which around one billion are passenger cars.
This number is expected to rise to two billion by 2035.

This is associated with major challenges not only for Europe, but for almost all industrialized and emerging countries..

The traffic-related emissions of CO2, air pollutants and noise are causing headaches and the dependence on oil imports continues to grow.

Effective climate and environmental protection targets can only be achieved if road transport also makes a significant contribution. After all, this is where the majority of transport-related CO2, air pollutant and noise pollution originates..

However, because many continue to rely on the car, it is not enough to focus solely on traffic avoidance, short distances and the bicycle.
Road traffic itself must become more environmentally friendly, with less negative impact on the climate and health, and for a better quality of life in the city of tomorrow. Measures to increase the efficiency of internal combustion engines were overslept and are now also out of date technologically.

Electric vehicles are emission-free and quieter than conventional vehicles and are more climate and environmentally friendly overall. Even with today's German electricity mix, all-electric vehicles (BEVs) have a better carbon footprint than gasoline and diesel vehicles. With the use of up to 100 % renewable energy sources, virtually climate-neutral operation is possible. With our innovations, we are currently at up to 60 %.

The declared goal is clearly defined:

- Securing Europe as a production and innovation location
- Secure jobs and purchasing power
- Ecologization and economization of freight transports
- Relaxation of the energy sector and the associated inflation

By integrating an experienced rail logistics provider in long-distance transport with e-logistics in short-distance transport, balance the strained personnel resources and ensure sustainable supply in the long term.
We are creating more than 25,000 jobs in the short and medium term, and our training centers are providing truck drivers, logistics specialists and locomotive drivers with the best possible training for the new age.

We have evolved solutions whose objectives far exceed the requirements of the Electromobility Act.

Our patents in the field of e-transport logistics, energy efficiency and storage are trend-setting.
With our Chinese partners and suppliers we have a contractual basis based on European law with jurisdiction in Vienna until November 28, 2038.

We have defined the following strategy for the next 48 months:

- Expansion of development work in the field of low-floor buses 8.5/10/12/15/18 and 20m based on ZTE China
- Production set-up: FDG e-forklifts, e-yard loaders, e-telescopic loaders, e-municipal vehicles (winter service and sweepers), e-tractors narrow gauge for winegrowers and organic farmers, final production of the E-WAB and E-MiniWAB.
- Production set-up: FDG LowEntry buses 12m, 3.5 and 5.0 tons E-mini van chassis including E-MiniWAB, ELDRI, Changan C 385 and others
- Development and production of vehicle (components) for E-trucks (18.26 tons and SZM), E-WAB, E-MiniWAB, development of a new E-small transport chassis and professional upgrades.
- CAD / PDM / PLM Integration
  Software development for range optimization as well as digital and tokenized billing modules in the transport sector in Austria
- Establishment of the EVM financing and insurance company with a well-known European insurer
- Establishment of PV sandwich panel production for E-EAB and E-MiniWAB
- Development or optimization of energy storage
  (Polymer, graphene and glass batteries)
- Expansion of cooperations and sales channels in the field of charging systems
- Development up to patent maturity of inductive charging systems in the inner-city area for passenger cars
- Establishment of the logistics chain to the battery refurbisher in the cycle
- Construction of photovoltaic production (from 2 x 500 MW per year) and 2C as well as 3C production (500 MW per year)

Following is a brief description of our 2 key developments
E-WAB and E-MiniWAB

EVM „E-WAB“

FOR ELECTRIC TRANSPORT AND FREIGHT TRAFFIC

WAB I WELAB I BDF

On 09.12 Dec. 2020, the official communication of the European Commission on the summit for a stricter climate target for the EU was published. (see attachment: EU-D, " Strategy for sustainable and smart mobility - putting European transport on the road to the future").
The first main goal is to reduce greenhouse gas emissions by at least 55% by 2030.

However, all well-known truck manufacturers are still not in a position to say goodbye to diesel in the short term.

Battery-powered trucks have so far not had enough energy to transport large loads over long distances.
Hydrogen technology is not yet fully developed, and the economic efficiency and CO2 emissions of hydrogen production are questionable due to the current technical possibilities.

An industry alliance of Daimler, Scania, MAN and four other truck manufacturers declare in a statement that from 2040 only vehicles that run on electricity, hydrogen or biofuel will be manufactured.

With its own innovations and patents, **EVM** has developed the solution for an immediate change to electric transport and freight transport.

The 8 C782 prototypes are already in production. A test operation at a parcel distributor and food company is planned for Q2/2022. We start with a total energy package of 820 kWh per road train.

EVM- Innovation

EVM-AG has evolved a new development, the **2C quantum field booster (cold charging system)**, which achieves up to **300%** higher efficiency than any conventional photovoltaic system.
This means only **1/3** of the usual area required for harvesting comparable electrical energy. (**EVM** has the Int. patent on this new invention).
Thus, this can also be used for **electric truck transport** by mounting photovoltaic modules on trailers and semi-trailers of electric trucks.
With a truck train (truck trailer 40 tons and semitrailer SWAP LINER 44 tons) a range of at least 600 km is realistic.
(Advantages of the **2C-Quantum-Field-Booster** and the **glass fiber photovoltaic modules** used by us see document "Climate Protection Investment")

In Europe, urban freight transport (distances of 60-600 km), parcel transport (Post, DHL, GLS, DPD, UPS, HERMES, AMAZON, etc.) as well as delivery transport (REWE, SPAR, ,.. etc.) and general cargo logistics (DB-Schenker, Dachser, etc.) is predominantly carried out with **swap body trailers** (called **WAB** for short, (see photos).

Symbol illustration truck trailer
Krone WAB

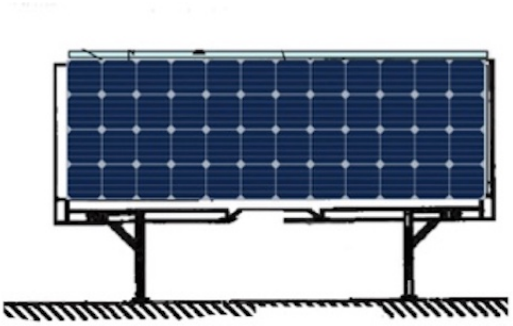
Symbol illustration semitrailer
Krone SWAP-LINER Krone WAB

In Germany, BeNeLux, Denmark, Switzerland, Austria, Slovenia and France, the stock is estimated at around 1.6 million units. 80% of these are in daily use on the route, the rest are at forwarding agents and distribution centers.
About 1400 forwarding agencies with about 4000 workplaces dispose of these **WABs**.

As prototypes from Framo, Volvo, MAN, etc. are now being tried for truck electromobility, however, this cannot be implemented in reality. With only 12 or 18 tons of logistics and a very low range of 60 - max. 80 km in real terms, they are not suitable for efficient use.

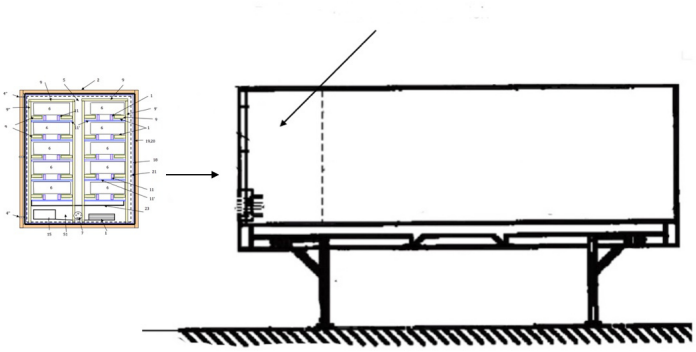
EVM has found the solution for this issue. We have developed a system over the last 8 years by using the **WAB** as the main energy storage. We use the (long) idle times between dispatching, (goods) loading and transport to charge the batteries.

On the one hand by the onboard charging system in the charging bays and additionally by **fiber optic photovoltaics** on the sides and roof of the WAB (see picture) with our **2C (Cold Charging System)**. For this we use the experience and key figures of our partner companies from approx. 7,500,000 km per year, line haul transport - 100% WAB.



Photovoiltaik modules on top and sides

Battery compartment in the front area



We have internationally patented the system (E-WAB) with 19 individual claims as well as the interface for the connection to each truck. Furthermore, an autonomous system for bridging was developed and also registered.

The additional costs compared to conventional WABs are amortized within 18-21 months through the savings in diesel and toll costs.

The advantages are clearly defined:

- *Always full batteries when changing the WAB / charge*
- *No diesel costs*
- *No freeway and expressway and federal road tolls*
- *25% savings on the purchase of the motor vehicle or semitrailer tractor*
- *87% Savings on service costs*
- *Self-sufficient energy supply in conjunction with PV and 2C*
- *CO2 Neutral*
- *Low Noise*
- *Improved earnings situation in the transport industry*

To successfully implement the topic of electro mobility in the commercial sector requires:

- *Custom charging infrastructure*
- *Digitization of vehicles*
- ***Software for logistics with integrated Energy consumption determination***

EVM AG develops software that uses machine learning algorithms to determine the state of a machine and the driver in real time, predict faults, and dynamically regulate vehicle/battery/ driver performance parameters based on sensor data. The solution consists of both hardware and software components.

Our specially evolved software is based on common forwarding software. It has the purpose to determine the respective consumption for the transport under consideration of the data of the respective driver.

All data is processed in conjunction with the topography and congestion situation in compliance with the Basic Data Protection Regulation.
By taking this information into account, the increased energy consumption due to these influences can be energy consumption of up to 30% can be planned for, thereby ensuring smooth operations.

The software is based on common scheduling programs:

- *Transport and logistics*
- *Bus companies and tourism*

The software can also be used in the 40- and 45-foot container logistics sector as well as by line bus companies, which means a considerable expansion of the number of users.

Our E-WAB is expected to achieve a market penetration of 50% by 2026. The WAB standard C-782 will be converted to standard C-745 as a basis. Our cooperation partner **KRONE-Fahrzeugwerk** is statically converting the WAB and EVM is installing the battery and charging technology in its own production facility.

The WABs are subsequently converted to E-WABs in a repair cycle of 5-7 years, thus ensuring the sustainability of existing material resources.

Another cooperation is planned with **SAF-Holland**. **Authorized specialist companies** can convert existing three-axle trucks with an electric axle (as leading or trailing axle) in exchange and retrofit the e-mobility technology. This means that the E6d trucks currently still on the road can already use our WAB system and drive electrically in congested shunting traffic, in urban areas and at speeds of up to 60 km/h (see illustration).

Truck for WAB system with 3 axles

On highways, this hybrid version could then be driven with diesel again. (We have secured this process with 15 claims under international patent law).

EVM „Mini-WAB“

FOR ELECTRIC SMALL TRANSPORT

In Europe, an average of 1.75 million new vans weighing up to 3.5 tons are registered each year. Of these, around 1.1 million are used for parcel delivery services.

EVM has developed the solution for an immediate switch to electric small transport and delivery with its own innovations and patents.

We have a new type of development of swap trailers, as we already know from freight transport 26-44 tons.

Four prototypes each of the M425 and M465 are already in production. A test operation at a parcel distributor is planned in Q3/2022 - Q4/2022 We start with a total energy package of 145 kWh per van (25 kWh on the chassis).

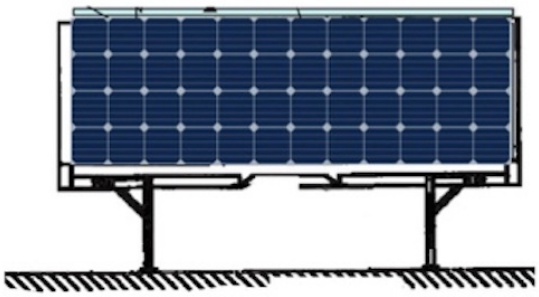
EVM- Innovation

EVM-AG has evolved a new development, the **2C quantum field booster (cold charging system)**, which achieves up to **300%** higher efficiency than any conventional photovoltaic system.
This means only **1/3** of the usual area required for harvesting comparable electrical energy. (**EVM** has the Int. patent on this new invention).
Thus, this can also be used for **electric small transport** by mounting photovoltaic modules on the roof and optionally on the side walls of the MiniWAB.
With a van (chassis including MiniWAB), a range of at least 450 km or 8 operating hours is realistic without changing the WAB (charge).

In Europe, parcel delivery traffic takes place over distances of 80-375 km (Post, DHL, GLS, DPD, UPS, HERMES, AMAZON, etc.) as well as daily delivery traffic (REWE, SPAR,. etc.).

EVM has found the solution for this issue. We have developed a system over the last 8 years by using the **WAB** as the main energy storage. We use the idle time between dispatching, (goods) loading and transport to charge the batteries.

On the one hand by the onboard charging system in the charging bays and additionally by **fiber optic photovoltaics** on the roof of the WAB (see picture) with our **2C (Cold Charging System)**.
This "Mini WAB" was built in aluminum lightweight construction. On the roof with PV collectors, alternatively also on the side walls. The batteries are installed in this case in double sandwich floor, so that the center of gravity could be optimized.



Photovoiltaik modules on top and optionally on the sides

Loading area 4.25 (4.65) x 2.10 x 2.10

External dimensions 4.33 (4.73) x2.18 (w) x 2.26 (h)

Set down height 870 mm

Payload 1250 kg (1750 kg)

We have secured the system (E-WAB) with 19 individual claims under international patent law, as well as the interface for the connection to each small e-truck.

The advantages are clearly defined:

- ***Always full batteries when changing the WAB / charge***
- ***No diesel costs***
- ***25% savings on the purchase of the van/chassis***
- ***92% savings on service costs***
- ***Self-sufficient energy supply in conjunction with PV and 2C***
- ***CO2 Neutral***
- ***Low noise***
- ***Improved earnings situation in the small transport business***
- ***No standing times during loading***

In order to successfully implement the topic of electromobility in the commercial sector, it is required:

- Custom charging infrastructure
- Digitization of vehicles up to the point of load recording
- Software for logistics with integrated energy consumption calculation

As with the large E-WAB, EVM AG uses supporting software that uses machine learning algorithms to determine the state of a machine and the driver in real time, predict faults, and dynamically regulate vehicle/battery/driver performance parameters based on sensor data. The solution consists of both hardware and software components.

This specially developed software is based on common forwarding software. It has the purpose to determine the respective consumption for the transport under consideration of the data of the respective driver.

All data is processed in conjunction with the topography and congestion situation in compliance with the Basic Data Protection Regulation.

By taking this information into account, the increased energy consumption of up to energy consumption of up to 25% can be planned for, thus ensuring a smooth process.

Our MiniWAB is expected to have a market penetration of more than 50% by 2028. Our cooperation partner **KRONE - Fahrzeugwerk** statically builds the WAB frames and EVM installs the battery and charging technology in its own production facility.

Another cooperation is planned with **SAF-Holland** and **FDG Hongkong**. Authorized specialist companies can convert existing vans (chassis) with an electric axle (100kW or 135kW) in exchange and retrofit the e-mobility technology.
A fundamental redevelopment of the e-van chassis is already underway.

Chassis for Mini-WAB System

Symbol display

We rely on a European product to ensure sustainability, jobs and the resulting purchasing power. Requirements in the area of transport logistics are unique worldwide due to geographic, topographic and local conditions. We have the solutions with our developments.

Investing in our projects means making a decision for the future, for global climate protection and in progress.

Our management:

M.R. Klammer, Mag. M. Kreyler, Dr. Kinne, Dr. Hessenberger, Dr. Fischer, Mag. Hugelmann, J.A. Schirpenbach, DI. Huber, Mandl MA BSc, Slawomir Sedek LLM, Dr. Andresen LLM, DI. Liechtenfeld, J. Landlinger, H. Murauer, K-H. Platzer

Headquarter: Liechtenstein

Branches: Wien, Barcelona, Frankfurt, Hamburg, Zwolle, Metz, Sibiu, Udine, Warschau, Hongkong, Seoul, Montevideo.

Approx. 95 employees

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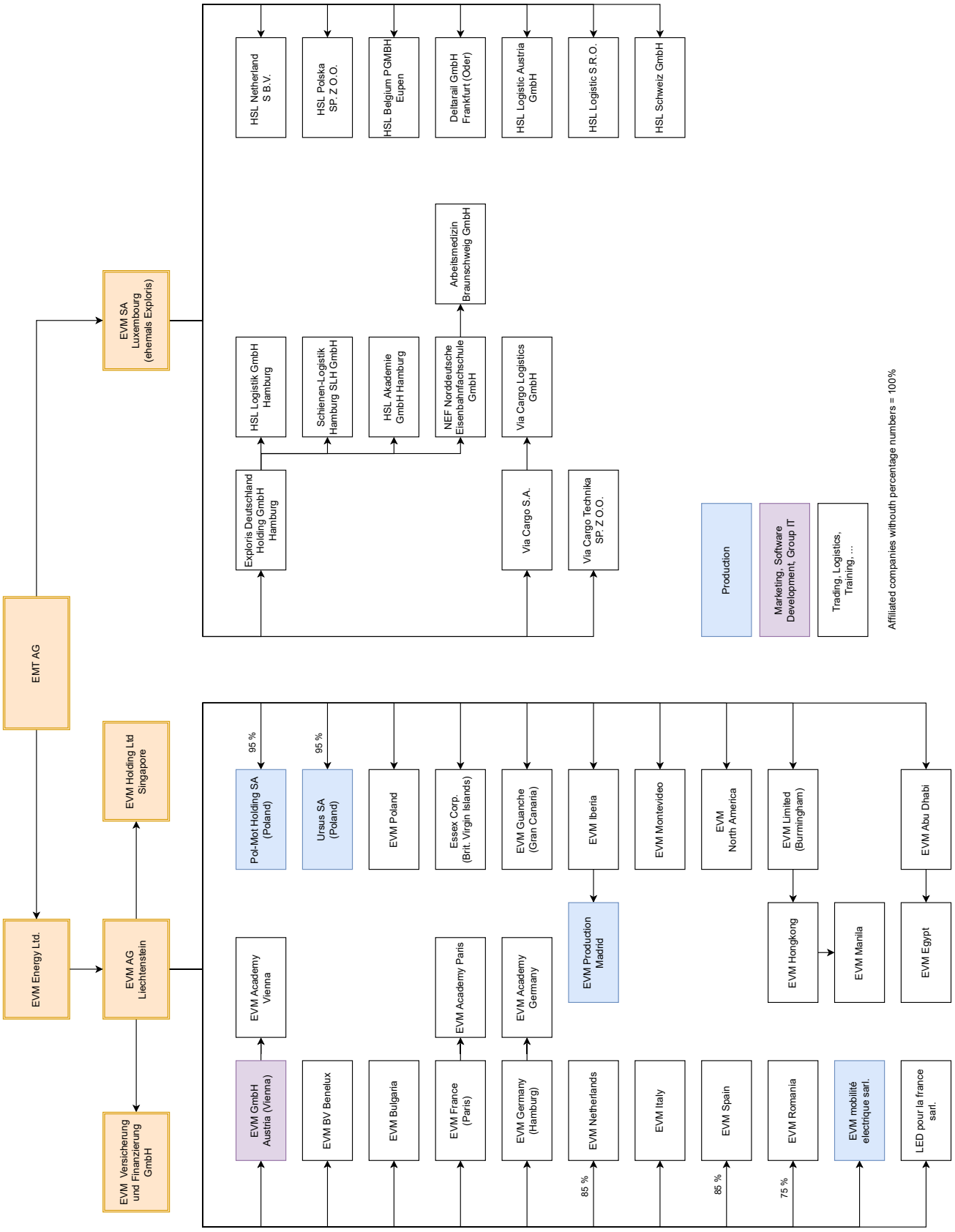
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EVM AG Liechtenstein
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EVM Versicherung und Finanzierung GmbH
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HSL Netherland S.B.V.
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