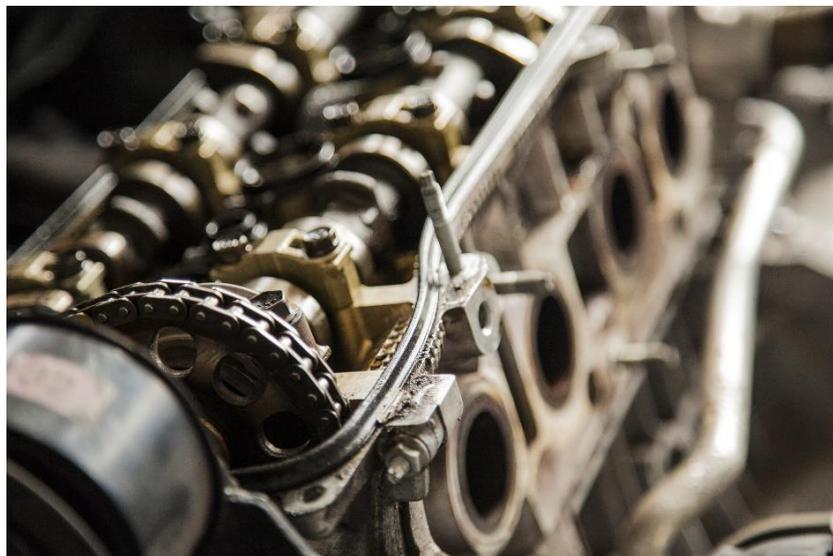


Spherical Motor

Over the years, the original goal of using innovative mechanical kinematics to create a more powerful, simpler and more cost-effective propulsion engine for mobility has been made difficult by the stricter tightening of emissions standards (Euro 2 was in force at the beginning of the project and Euro 3 later on) and the growing hype surrounding the electric drive. Especially in recent years, the company has been put to the test and had to redraft its objectives.

From the oscillating piston engine, whose patents were the basis of the company founding, to the spherical motor in its first version (with then still apple carved combustion chambers and the resulting sealing problem) on to the circular, curved piston pairs which are symmetrically moving towards each other, up to the present state of development as an integrated system with the generator on the, around the inner motor rotating, cam member always proper answers to the new challenges have been found.

The road was rocky and the development speed was slowed down by financial bottlenecks several times. Nonetheless, the project is now at a point where the existing level of development can be put into practice to prove its superiority over the current state of the art.



1. The current situation:

The increasing global motorized private transport leads to steadily increasing environmental pollution from exhaust gases. CO2 emissions accelerate climate change. The efficiency of conventional petrol and diesel engines has been largely exhausted by decades of optimization, but switching to purely battery-powered vehicles is not realistic in the foreseeable future for the following reasons:

- Batteries are still too heavy and too expensive for longer journeys
- Recharging on the way still takes too long
- The infrastructure for charging millions of vehicles is missing
- The production capacities for batteries have to be built up first.

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The gas or petrol-powered hybrid spherical motor takes over the task of a "compact power plant" charging the battery while driving. The vehicle is powered by one or more electric motors powered by a moderately sized battery. Clutch, gearbox and cardan shaft are completely eliminated. The spherical motor hybrid thus enables purely electric driving in short-distance and driving without restrictions in long-distance operation. The necessary battery capacities can be reduced significantly compared to the pure electric drive and analogous to weight and cost. The reluctance of vehicle buyers due to the mobility restrictions in purely battery-electric drives can be overcome with the help of the spherical motor hybrid and in this manner the electric drive is made suitable for the masses.



2. The market and the business model:

According to the World Automobile Association (OICA), more than 90 million automobiles were produced worldwide in 2014, and the trend is upward. In addition, there is a similarly large number of motorcycles, scooters and other vehicles as well as ships and aircraft. Potential licensees are both the big car manufacturers and their suppliers at TIER-1 level. Likewise, the manufacturers of engines for motorcycles, trucks, ships, small aircraft and other means of transportation, but also the manufacturers of cogeneration units and generators for stationary applications.

The principle of the spherical motor hybrid can be used in reverse form as a ball compressor also for the production of compressed air. The relevant global market volume for compressors is around € 5 billion a year. Due to the size of this market and against the background that e.g. in Germany about 7% of the industrial electricity consumption is used for the production of compressed air, also the manufacturers of compressors are potential licensees. The business content of the company is the development and subsequent award of manufacturing, distribution and use licenses for the spherical motor or the ball compressor in its various designs in all relevant geographic and technical application areas.

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The business model is to conclude non-exclusive license agreements with the licensees, which include both a license down payment and sales-related licenses during the term of the patents (so probably to 2035).

Assuming that, over the years, the (hybrid) engine will be able to gain a market share of (only!) 3.5% in the field of internal combustion engines, and licensees will receive sales-related licenses amounting to 3% of the engines' factory price which has to be paid, the expected license income will amount to about 2.5 billion euros until 2035.

In the compressors area, with a market share of 10% and sales-related royalties of 3% over the same period, additional licensing revenues of more than € 100 million could be generated. The main unique feature of the ball motor with purely mechanical output is the direct conversion of the combustion energy into a rotational movement. It consists of significantly fewer parts than a conventional reciprocating engine and therefore can be built much smaller and lighter.

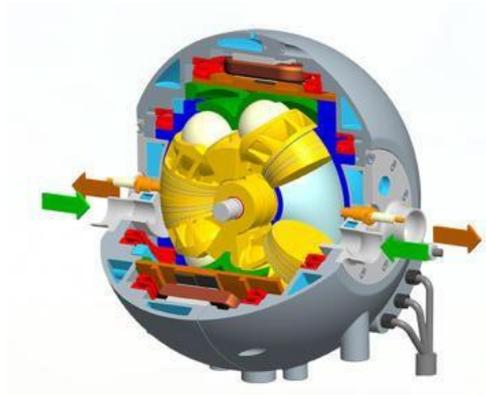


The essential unique feature of the spherical motor hybrid beyond the integration of a generator in a positive-locking unit within a common housing. The underlying patent is, according to current knowledge, in addition to the original patent of the hybrid motor of Toyota, the world's only patent for a hybrid engine, which has integrated the generator directly in the motor housing. The advantages of the HKM lie above all in the following points:

- Significantly smaller dimensions and significantly lower weight than conventional reciprocating engines
- Lower manufacturing costs due to a significantly smaller number of components
- Direct conversion of the combustion energy into a rotational movement
- Higher mechanically available efficiency due to lower friction losses and symmetrically moved masses
- Lower fuel consumption.

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In the version as a spherical motor hybrid, the following advantages are added:



- Combustion engine and generator form a very compact functional unit in a common housing
- Due to the direct transmission of the electrical energy produced by the spherical motor hybrid on the axis of a vehicle, all previously necessary components of a mechanical drive train can be omitted.
- As a result, the overall efficiency of engine power and power transmission to the wheels is significantly improved
- The vehicle weight is reduced considerably
- The production expenditure and the production costs are significantly reduced
- The consumption of so-called "gray energy", which already occurs during production, is significantly lower.

3. Which competitors are there? How is the competition set up?

Competition in the sense of competing companies that offer a comparable product does not exist according to current knowledge. The technologies with which the spherical motor and the spherical motor hybrid compete are

- conventional petrol and diesel engines
- hybrid drives from conventional gasoline or diesel engines with mechanical drive system combined with a separate electric drive
- range extender systems consisting of an electric drive with a combination of a conventional reciprocating engine and a separate generator as an electricity supplier
- pure battery-electric electric drives
- fuel cell engines

The ball compressor competes against conventional reciprocating compressors and screw compressors in the pressure range up to 10 bar.

4. Profitability and amortization:

An earlier prototype of the ball motor with purely mechanical downforce has already been successfully tested on the engine test bench of the Eidgenössische Materialprüfungsanstalt (EMPA).

A prototype of the predecessor version of the most recent design version of the spherical engine hybrid has also already been successfully tested on its own test bench in towing tests as well as in combustion mode.

A prototype of the ball compressor has also already provided its functional proof and also proven its stability over the last 3 years.

5. Which financing is needed?

More than 15 million euros have been invested in the project over the past 15 years. Of which more than 2 million euros for the worldwide registration and maintenance of patents. The funds were raised through the issuance of company shares and through shareholder loans.

For the further development of the project and the repayment of part of the loans, a further 10 million euros will be needed in the next 3-4 years. For this purpose, a capital increase is envisaged which will allow the generation of proceeds of the same magnitude through the sale of additional shares.

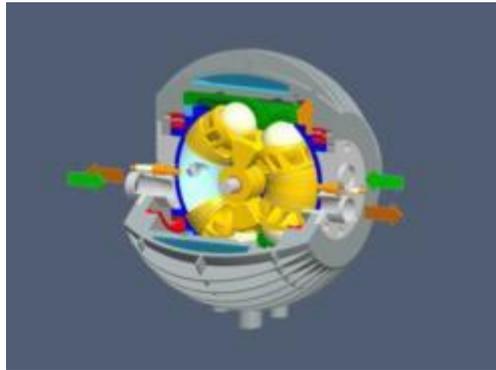
The funds should be used as follows:

Production of several prototypes of the spherical motor hybrid:	1.500.000,-€
Production of several prototypes of the ball compressor:	750.000,-€
Integration of 2-3 prototypes in vehicles:	1.000.000,-€
Costs for testing and validation externally:	750.000,-€
Design and calculation software:	300.000,- €
Marketing and sales:	1.000.000,- €
Legal and tax advice:	300.000,- €
Use of external service providers:	750.000,- €
Management and administration:	750.000,- €
Patent maintenance:	300.000,- €
Occupancy costs:	300.000,- €
Capital costs:	500.000,- €
Loan repayment:	1.750.000,- €
Total:	9.950.000,- €

(Personnel costs for engineering are already included in the individual items)

At the latest in 3-4 years, the company should contribute itself through license income and make a profit.

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6. What vision does the company have?

In 10 years, the spherical motor hybrid has established itself as a state-of-the-art on the market and is doing its part to significantly reduce the environmental impact of individual automobile traffic, especially in the inner-city area.

A large part of the newly installed compressed air systems will be equipped with ball compressors, thus reducing industrial power consumption in Germany alone on the scale of a power plant.

The company's shareholders enjoy regularly flowing license income and the resulting dividends.

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