

# SCOPE

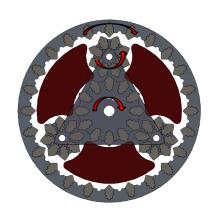
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## OUR SYSTEMS

Many countries around the world are recognising the crucial need for innovation and technological advancement in the production of our goods in order to meet international climate and environmental impact targets.

The race to phase out fossil fuels by 2050 has been a prominent focus in the automotive industry with countries such as India, France, Britain and Norway working towards removing gas and diesel engines in favour of cleaner means of transport in the next 10 years. (Report conducted by the Ellen MacArthur Foundation, in partnership with the World Economic Forum).



#### **CLEAN GREEN & SILENT**

We aim to enhance the US \$83 billion dollar electric motor market by adding value to the transmission component of the system in numerous industries and applications.

RegenX Systems offers a unique solution and has developed world-class, cutting-edge and innovative regenerative transmission systems.

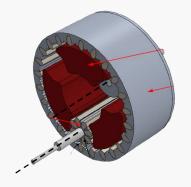
It's based on the principle already known of permanent magnets used on commercial ships or large vehicles, but too expensive until now. Unlike a conventional gear, the pinions are not in contact with each other due to no mechanical contact created by the magnetised teeth of the system. When a crown moves, it is this repulsion that causes the second movement to rotate without them actually touching each other.

**Magnetically Assisted Mechanical Gear with** power regeneration (Patent No. 2020900564) transmits power by using a levitating magnetic field that exists between the gears. When the transmission is overloaded however, they become mechanical gears for brief periods. The transmission acts as a coupling too. Elements are not in contact, no vibrations are transmitted through the MAGS gear box

Industries using DC motors and brushless motors:

- Aviation
- Defence
- Marine & Maritime Crafts Transportation
- Petro-chemical
- Irrigation
- Wind Turbine

- Process Manufacture
- Civil
- Mining
- Oil & Gas
- Conveyor Systems





## REGENERATIVE ENERGY

Using a regenerative energy system between the propeller and the motors of a boat means the coil inside the rotating the magnetic field can be used to generate power when the magnetic gears are rotated to move relative to the coil.

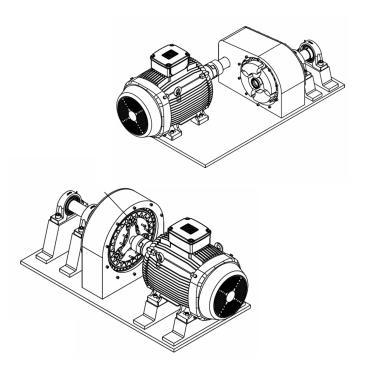
In use, the regenerative energy system is then able to generate electrical currents to recharge the power source simultaneously whilst the DC motor is operating to drive the boat. Likewise, when the boat is sailing under the power of the wind, the rotation of the propeller through the water can drive the magnetic gears of the transmission using electrical current to recharge the power source.



Using a magnetically driven gear box may enable the use of several smaller motors and gears to drive a common ring gear without creating additional friction. For example, at low power settings (e.g. when a boat sails at a slow speed), a ring gear can be driven by only one motor, thus saving power.

However, at high power settings (e.g. when a boat sails at high speed), a number of small motors can be engaged to drive the ring gear using several smaller gears without mechanical losses due to friction.

Magnetically assisted mechanical gears may improve energy efficiency within a transmission increasing the longevity by reducing wear..



#### **NO FRICTION**

- Gears do not touch

### **NO MECHANICAL LOSSES**

- Great for electric boats and electric vehicles.

#### **NO VIBRATIONS**

- The transmission acts as a coupling too. Since nothing touches, no vibrations are transmitted through the MAGS gear box

### NO NOISE

- The gears do not touch, there is no noise

#### **NO MAINTENANCE**

- The magnets will last for 150 years



# ECONOMICAL CHANGE



According to government agency research, a few hours in a petrol powered boat has a bigger environmental impact than a road trip by car from Sydney to Brisbane. Petrol powered marine engines are among the highest contributors of hydrocarbons, oxides, and nitrogen emissions in the country let alone the world.

Electric motors are quiet, clean, reliable and economical to run. Where combustion engines have hundreds of moving parts which can all break down, an electric motor has just one moving part - they are extremely reliable and almost maintenance free.

Over a quarter of greenhouse gases produced in the US are a result of transportation and contribute to overall pollution levels. Electric engines have no emissions and make less noise so their increased use will mean cleaner and quieter cities and towns and improve quality of life

What are the advantages RegenX Systems?

- Australian invention currently subject to International patent protection (No. 2020900564)
- A significant optimisation of the fast growing electrical power market through re-generation
- Reduces Vibration
- Reduces wear, adds longevity compared to conventional gearboxes
- A silent, homogenous "closed loop" system
- A regenerative energy (via coil) where the current generated my the movement of the magnet is transferred back to the power source (claim 12 in the patent)
- Scaleable with multiple drives systems (motors) and sizes
- Reduces down time (16% to 22% in wind turbines applications) compared to traditional gearboxes
- During overloads simply operates as a gearbox with conventional tooth profiles/clearance, pressure angle and dedendum..



# GREEN-TECH/ CLEANTECH



RegenX Systems is passionate about its part in delivering Green/Clean technology to ensures we play an intricate part in reducing emissions, conserves water, reduces waste and consumes less energy than conventional technology.

The regeneration of electrical energy from within the transmission, and the return of that energy to the power source of the transmission, can therefor improve the overall energy efficiency and performance of the transmission.

### WE ARE PASSIONATE ABOUT DELIVERING





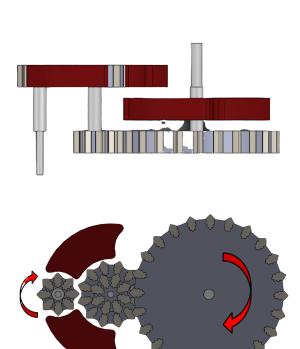
### THE SILENT REVOLUTION

This breakthrough technology facilitates the transition to electric magnetic engines, thanks to a better propulsion efficiency allowing more autonomy,

The RegenX Systems' solution allows manufactures to benefit from it without losing comfort. They can thus reduce the rotational speed and increase the diameter for better hydrodynamic efficiency.

The elimination of mechanical losses related to the transmission also increases the boat's or wind turbine's autonomy. The transmission ring can also be equipped with coils for use in hydrogenation.

It can also accommodate several motors, electric or thermal, for the same shaft line. RegenX Systems' product makes it easy to create a parallel hybrid propulsion system or an electric system with several lowpower engines to optimise the cost and use of engines according to the type of navigation, in port or at sea.



In the absence of contact, magnetic transmission eliminates friction, noise and vibration and the risk of induced resonance phenomena. This improves comfort on board the boat.

The disappearance of mechanical losses increases the efficiency of the engine and consequently the boat's performance.



### CONTACT US

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**Provisional Patent Application No.** 2020900564

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### **APPENDIX**

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REGENX SYSTEMS - APPENDIX - CLICK HERE

