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Low cost high efficient micro gas turbine applications

MTT develops low cost high efficient micro gas turbines and commercial applications thereof. Their potential for converting small-scale thermal energy into mechanical or electrical power is enormous. Interest in MTT's solutions is rapidly growing due to the increasing environmental awareness of the society. MTT has attracted various risk sharing industrial partners and research institutes for development and commercialisation of its products.

Micro CHP – Combined Heat & Power: the EnerTwin

The first application of MTT's turbine technology is in a micro CHP system. A micro CHP system is a boiler that also produces electricity as a valuable "by-product" while heating the house. Major advantage is that electricity does not have to be bought from the energy provider, thus lowering the overall energy bill of a household. At the same time, substantial CO₂ emission reductions can be achieved.



Early 2013 the EnerTwin received its CE-certification. Since then the product has been extensively tested. EnerTwin has been on the market since 2018. Main advantages compared to competing systems are its very low maintenance costs (only 20% of competing systems) and reliability. This results in a reduction of Total Cost of Ownership of 50% compared to condensing boilers in certain markets.

MTT's micro turbines are also the basis for two other applications: range extender for electrical vehicles and CAP unit.

CAP – Combined Auxiliary power unit and Parking heater



Drivers of long distance trucks often idle their main engine during stops to generate the required electrical power. This results in unwanted noise levels, pollution and high fuel consumption (~ 2.800 liters of diesel per year).

MTT is working on a low cost and reliable CAP unit.

A CAP unit will enable the truck driver to generate 3kW of stable electricity during his rest period while reducing fuel consumption, thus saving up to approx. 1.800 liters of diesel per year (equivalent of 6 tonnes CO₂).

RE – Range Extender

Electric cars are considered to have great potential in the environmentally sustainable future, but seriously suffer from a limited range. The use of a Range Extender (RE) will solve that problem. MTT has developed a concept for a Range Extender based on its in-house developed micro gas turbine.