PRESS RELEASE

Fuel cell heating unit: added value for suppliers is in sight

# BAXI INNOTECH focus for market entry more on the "Made in Germany" brand; cooperation with SMA

**Hanover, 22 April 2009.**
"To introduce fuel cell heating units for private homes to the market, we must concentrate on involving all participating market partners at an early stage and setting up an intelligent value-added chain together based on win-win situations," announced Guido Gummert, Managing Director of Baxi Innotech, at the 'Hannover Messe' trade fair. A business model that focuses on cooperating on development and market launch at an early stage is proving to be a successful one. According to the head of the company, this holds for key components, such as the fuel cell stack and reformer, as well as for the majority of system components. An excellent example here is the company's cooperation with SMA, the Kassel-based supplier of inverters.

With the presentation of the GAMMA 1.0 version, the graduate engineer from Hamburg introduced trade fair visitors to the sophisticated concept behind the fuel cell heating unit, which is based on the principle of combined heat and power (CHP). Designed for the market with its small dimensions and excellent reliability and performance, this unit generates heat and power at the same time and is now entering its final development phase. It will be able to benefit from the "Made in Germany" brand, and pilot production has already begun in Hamburg.

## Promising market potential and long-term added value based on innovation

SMA's intelligent inverter technology is backed up by 25 years of experience. This manufacturer – renowned as a pioneer in converting DC into AC in the solar power sector – is now focussing attention on innovation in inverter technology for combined heat and power for single-family homes. SMA's inverter is based on Baxi Innotech's product specifications and is used in the GAMMA 1.0, which is undergoing field tests as part of the Callux project in preparation for its market launch in Germany.

With a projected possible annual demand of up to 250,000 units to meet the technical requirements for microCHP in Germany alone, Baxi Innotech sees enormous potential for the use of its fuel cell heating units. This gives further impetus in the long-term to the overall target of establishing a national and international value-added chain. "*We see ourselves as developers and system manufacturers with a clear advantage in terms of production expertise*. Close cooperation with development partners and German component manufacturers with the *necessary* know-how means we can develop detailed technical knowledge and establish an integrated delivery

chain. Strategic cooperation arrangements – such as that with the fuel cell stack maker Ballard Power Systems Inc. – help us to fulfil the technical requirements of the products. Our ongoing local partnerships also play an important role here, and all our market partners ultimately benefit," Guido Gummert added.

Reliable, high-quality development and manufacturing are paying dividends: the keen interest from abroad in the small, environmentally friendly powerpack for the basement has already been reflected in orders for the GAMMA 1.0 from various European countries.

**Low-temperature PEM – an established technology that has proven itself in practice**

CE certification of this new series will begin in May, and delivery of the first GAMMA 1.0 units for the Callux project will start in October. The results of field tests with the BETA 1.5 generation have already demonstrated that the low-temperature PEM (polymer electrolyte membrane) fuel cell is the ideal fuel cell type for use in heating systems. Baxi Innotech's technology is characterised by an operating temperature level adapted to suit private homes, short stop/start times, and modulation behaviour that is optimised based on customer usage. With its performance class based on 1.0 $kW_{el}$ and 1.7 $kW_{th}$, the GAMMA version continues to optimise the production ratio of power to heat. With its higher efficiency and better operating times, this range will be better able to fulfil the expectations placed on a proven technology of the future. It also has the welcome side-effect of producing significantly less $CO_2$ compared to conventional gas-condensing technology.

The GAMMA 1.0 is already more than capable of providing for basic load in one regard. Home owners can provide for two-thirds of their hot water and heating needs and even generate around three-quarters of their own electricity requirements from the CHP. The unit reveals its full performance potential with an integrated condensing boiler, the connection of a separate heat storage tank and the addition of an energy manager – a sophisticated control system to provide ideal heating comfort.

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PP description: „BI_Gumm_GAMMA 1.0(2)"

PP, caption: Guido Gummert in front of an open GAMMA unit
**Small but extremely effective – just like the fuel cell heating unit itself:** Guido Gummert, Managing Director of Baxi Innotech, granting a closer look at the new GAMMA 1.0 unit. The integrated inverter from SMA is an example of successful component development by the company and its partner suppliers.

**press-contact:** IMA-Institut Hamburg c/o Claudia Palozzo
Hagedornstrasse 18, D-20149 Hamburg
Tel.+49(0)40 30 96 96 -0, Fax+49(0)40 30 96 96 -66
c.palozzo@ima-gination.de
www.ima-gination.de