

Revolutionary Technologies in Power Generating for Induction Heating

OPPORTUNITY:

Licensing, product acquisition, proof of concept leading to scale-up to manufacturing, joint development, supplier agreement

TIMELINE:

Phase 1: Proof of concept / Principle definition and testing – 12 months

Phase 2: Scale up to commercialization – 24 months

FINANCIALS:

P to US\$ 250.000 for development. All terms to be negotiated depending on technology status.

Description:

A Multi-national engineering company invites proposals for technologies, new materials, novel power heat transfer protocols or new electronic designs to revolutionise the induction heating sector.

Background:

The standard induction heating technologies utilize well-known power transfer electronics and solid state switches to produce specific frequencies. The most common design is an induction coil of 120-300mm which heats a flat sheet of ferromagnetic metal via induction. The Company is seeking a revolutionary design, material or methodology to enable the power transfer for induction heating. Research projects are openly accepted to address the problem if based on novel ideas.

ANTICIPATED PROJECT PHASES OR PROJECT PLAN

Phase 1 - Proposal review of technology and other project experience / applications of devices

Phase 2 - Proof of concept testing Identification of costs required to develop proposed technology for specific application

CRITERIA FOR MOVING FROM PHASE 1 TO PHASE 2

Successful demonstration of technology and proof of previous experience.

Key Success Criteria:

The successful technology / device may have some of the following

- Technical specifications:
 - o Supply induction coil with a frequency of 20kHz-100kHz
 - o Transmit 1kW to 10kW
 - o Max height of coil = 25mm
 - o Power density of 10W/cm² for at least 10 minutes
 - o Energy efficiency > 85%
 - o Audible noise < 30dB at 1m distance
- Environmentally friendly materials
- New design of inductor coils i.e. multiple coils instead of one
- Simple electronic design
- New materials enabling ferromagnetic heating (i.e. nanoparticle / filaments etc.)
- Susceptor materials (i.e. SiC)
- New energy transfer systems (i.e. Litz wires)

Possible approaches might include, but are not limited to:

Possible Approaches:

- Multi-coil design
- Novel ferromagnetic materials
- Electronic designs
- Power transfer management
- E-mobility

- Transport sector
- High power battery charging
- Military radar / CnC or aerospace technology
- Particle accelerator

Approaches not of interest:

The following approaches are not of interest:

- Low power battery induction charging (i.e. mobile phone/tablets)
- Designs which add significant complexity to electronic design

Items to be submitted:

Proposals should contain the following:

- Executive summary
- Overview of proposed solution
- Status of IP and Freedom to operate
- Brief overview of company
- Experience of proposed technology in other markets

Deadline:

February 17, 2016