



## **Oxsensis Launches 1000°C (1800°F) Wave-Phire™ Dynamic Pressure Sensor**

**Oxford, UK, July 2008. Oxsensis Ltd has launched, Wave-Phire™, the world's first commercially available 1000°C (1800°F) dynamic pressure sensor and the first of a range of sensor products designed for use at extreme temperatures which are immune to EMI effects.**

Oxsensis is developing the Wave-Phire™ series of sensors, which are dynamic pressure sensors capable of operating up to 1000°C (1800°F). The system has been used in several full scale gas turbine trials as well as in combustion rigs up to 1000°C and has shown measurement capability, repeatability and equally importantly good survivability. Further development of the range will extend the measurement capability to allow dynamic and static pressure, and temperature from a single sensor head, at far hotter locations than has previously been possible with conventional sensors.

David Gahan, the CEO of Oxsensis declared, "Oxsensis is proud to introduce the world's first commercially available sensor for temperatures up to 1000°C (1800°F), the first product in our range of sensors designed to allow unprecedented direct access to the hottest parts of the engine".

As a result of stricter market and regulatory targets on low emissions levels, gas turbine manufacturers are being driven to further improve their lean-burn or dry-low NOx combustion systems. In particular, this drive has pushed the fuel-to-air ratios in these combustion systems to ever lower levels, consequently bringing the flame very close to its stability limit. Under these operating conditions, the system is more vulnerable to large pressure pulsations and may experience problems such as acoustic resonances, flaming-out or flashback, which can seriously damage components both in the combustion system itself and also further downstream. As the drive to higher efficiencies continues, designers wish to increase firing temperatures further which will push stability issues even closer to the edge.

Andrew Elder of Oxsensis backer Close Ventures said,

"It is exciting to see the first of the Wave-Phire™ products emerging with such a temperature advantage over currently available sensors. This promises to be of significant help in increasing energy efficiencies in several important world industries."

The technology is based on micro-machined sapphire, which gives the sensing element the ability to withstand and successfully operate under high temperatures and pressures in combination with the harsh chemical and mechanical environment of the combustion system. With the temperature capability of the sensor head eventually being extended up to the Firing Temperature (Turbine Entry Temperature), this will open up applications for the sensor further downstream in the turbine.

Ends

Higher resolution images are available electronically

## **Contacts**

Oxsensis Ltd.

Alex Winterburn

Tel: +44 (0)1235 77 8329

Email: [contact@oxsensis.com](mailto:contact@oxsensis.com)

Website: [www.oxsensis.com](http://www.oxsensis.com)

## **Further Information**

Oxsensis' sensor technology is based on the micromachining of super resistant materials such as single-crystal sapphire (melting point >2000°C) together with innovative fibre optic interrogation techniques which give high sensitivity and immunity from electro-magnetic interference (EMI) effects common in turbo-machinery such as gas turbines.

As part of their close ties working in the gas turbine industry, Oxsensis is one of 17 European organisations working together on HEATTOP, a gas turbine programme. Other collaborators in the three year programme include Siemens AG, Rolls-Royce plc. and Oxford and Cambridge Universities. The €8.8M (\$11M) programme, backed by the Commission of the European Communities under the FP6 programme, aims to advance technologies available for gas turbine life optimisation, performance and condition monitoring through accurate high temperature engine measurements. As a result, European gas turbine manufacturers will be able to reduce emissions and increase engine efficiency; reduce product development time and cost of ownership; and improve the competitiveness of their products in global markets.

## **Oxsensis Ltd.**

Oxsensis is a spin-out from STFC Rutherford Appleton Laboratory in Oxfordshire formed in 2003. The company is backed by Venture Capital from Close Ventures, Foursome Investments, Seven Spires Investments Ltd., Rainbow Seed Fund and Strathdon plc., together with prominent individual investors.

## **Close Ventures**

Close Ventures is one of largest and most successful providers of venture capital in the UK. Formed in 1996 as part of Close Brothers Group plc, Close Ventures currently manages a portfolio of seven VCTs, with funds under management of £255 million. In 2005 and 2006 it was named VCT Provider of the Year at the Professional Adviser Awards and VCT Fund Manager of the Year at the Growth Company Awards. Close Ventures has now made 17 investments in 2007 with a total value of £42 million. 12 of these were new investments making up £38 million of the total amount invested.

The core investment strategy of the funds is to offer investors lower investment risk, whilst providing higher dividend yield and sustained capital growth. Close Venture's funding capability ranges from £0.75 million to £10 million. Larger investments tend to be strongly asset-backed while at the smaller end of the funding scale Close Ventures looks at second or third round technology

propositions. Finally, in the middle ground (investments of between £1 and £5 million) Close is focused on mainstream growth capital and smaller MBOs. Close Ventures is authorised and regulated by the Financial Services Authority.

**Contact: Andrew Elder, [aelder@closeventures.co.uk](mailto:aelder@closeventures.co.uk)**