

Advanced Sensors Project

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1. Introduction

The Project Group (PG) was initiated in 2011, when Oxsensis, Hykeham Consultancy and ENEA discussed the fact that operators were not always aware of the possibilities offered by today's advanced sensors. The main objective of this project group is to provide an educational service to bridge the gap between gas turbine users', OEMs' and service providers' issues and available sensor technology solutions.

2. Project Rationale

Participation in this group would be beneficial to users as it would provide them with a forum to present and discuss problems experienced in operation of their equipment or with their existing sensing systems. It will allow the exchange of instrumentation best practices with the other project group members and receive education by today's leading European companies developing and producing sensors.

Sensor company members in the project group are also familiar with operational issues that they have dealt with and will also put forward examples of these as case studies along with the corresponding sensor solution. Implementation of such technology and best practice will also be outlined where appropriate. This will be underpinned by highlighting the potential savings or value to the user, OEM or service provider that implementing this solution will bring.

This will be achieved via the forum of presentations at the AGM, the International Gas Turbine Conference or via short information pieces included in the "Technology Watch" section of the ETN Newsletter. Where the solution to a particular operational problem does not lie within the group, there will also be the possibility of the group suggesting outside speakers to come in and present on other sensor technology.

3. State –of-the-Art

Various sensor techniques exist for the many different measurements required around a gas turbine core. This Project Group aims to allow a forum for the most pressing operational issues to be discussed and solutions to these problems introduced.

4. Ideal Consortium

The main requirement for this Project Group is for users, service providers or OEMs to bring forward pressing operational issue that require improvements in the instrumentation and sensor systems being used. This will then define the support required from Project Group members. In terms of scope for an EU Framework Programme R&D project, there exists the STRAGATE project for researching sensors for hot gas path measurements, but scope may exist for instrumentation within specific research areas such as combustion, aerodynamic design in compressors, turbine section or exhaust.