QUESTIONNAIRE

'Condition-Based Maintenance for GT plants' project proposal

– OEMs, R&D institutes, suppliers and service providers –

Below is a list of questions, related to a project idea to ETN by NTUA and Cranfield University under the title: *Condition-Based Maintenance (CBM) for GT plants*.
This questionnaire is addressed to you following the presentation of the project idea at the Annual ETN Workshop on 9-10 October 2013 in London, UK, (a summary of which can be found here, section 9.5). The main goal of the questionnaire is to map current practices and available tools in gas turbine plants condition monitoring. An additional aim is to identify related issues of interest.
Your contribution, by filling this questionnaire, is highly appreciated.

ETN partner name: _____

1. What kind of Condition Monitoring related tools do you provide?

   - ☐ Stand-alone, commercially available product(s). Name: _____
   - ☐ Stand-alone s/w developed for customers, not commercially available.
   - ☐ Tools developed to be integrated into other existing platforms.
   - ☐ None.

2. Which of the following features do the condition monitoring related tools, available from your side, have?

   - ☐ Real-time data acquisition and storage
   - ☐ Automated data verification
   - ☐ Sensor Validation; automated sensor fault diagnosis
   - ☐ Trend analysis from vibration measurements
   - ☐ Trend analysis from other measurements (e.g. Thermodynamic measurements)
   - ☐ Vibration analysis (e.g. FFT analysis)

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☐ Exhaust Gas Temperature (EGT) analysis (e.g. EGT spread, EGT profile)

☐ Engine Model

☐ Fault diagnosis during steady state operation; identification of the root cause / physical underlying fault

☐ Fault diagnosis during start-up and/or transient operation; identification of the root cause / physical underlying fault

☐ Creep Life analysis

☐ Engine Remaining Useful Life estimation; assessment of the remaining safe operating time before engine components failure

☐ Other:

3. On which of the following topics you could contribute and be interested to get involved into, under a prospective CBM related ETN project?

☐ Data verification

☐ Sensor Validation; development of a tool allowing automated sensor fault diagnosis

☐ Engine Model including adaptation capability to allow simulation of specific gas turbines

☐ Fault diagnosis during steady state operation; identification of the root cause / physical underlying fault

☐ Fault diagnosis during start-up and/or transient operation; identification of the root cause / physical underlying fault

☐ Creep Life analysis

☐ Engine Remaining Useful Life estimation; assessment of the remaining safe operating time before engine components failure

☐ Other:

4. Are there any issues or concerns regarding your participation in a CBM related project?
   (e.g. confidentiality issues, doubt about CBM usefulness)

5. Additional comments: