Minutes of MGT Turbomachinery Meeting

04 December 2015, Teleconference

Attendees:

Enrico Bianchi	Ansaldo
Mario Lehmann	Brandenburg University of Technology
Jafar Alzaili	City University London
Andreas Huber	DLR
Ignacio Lescano	ETN
Ugo Simeoni	ETN
Franco Magagnato	KIT
Michel Delanaye	Mitis
Marco de Later	MTT
Wilfried Visser	TUDelft
Pietro Zunino	University of Genova
Mario Ferrari	University of Genova
Ward de Paepe	Vrije Universiteit Brussel
Marina Montero Carrero	Vrije Universiteit Brussel

1. Welcome and Introduction

I. Lescano opened the meeting and welcomed the participants. He introduced the efficiency document created by W. Visser based on the input of the working group members and presented the main topics for discussion.

2. Renaming the Working Group

I. Lescano proposed to change the name of the working group from Efficiency to Turbomachinery. He explained that when defined as Efficiency, some of the topics of the working group overlap Materials or Cycle working groups. By changing the name and scope to Turbomachinery, no topics related to cycle or materials would be considered within this working group. W. Visser supported the change of name and the working group agreed on it.

3. Turbomachinery Vision Document

W. Visser presented the different challenges for increased efficiency described in the document. V. Wisser explained that electric efficiency refers to electric power output over fuel energy input, and not to power electronics. I. Lescano pointed out that no research institute has indicated expertise on electric efficiency. Marco and Pietro offered to contact potential research institutes that could provide expertise in this area.

P. Zunino proposed to include a task on micro gas turbine system architecture. W. Visser asked in which working group could this task fit or if a new working group should be created to address overall configuration. He suggested merging this topic with the cycle working group and renaming it System. I. Lescano agreed to discuss this in the upcoming Cycle teleconference and to share with every working group the current vision document drafts.

4. Objectives of the Working Group

W. Visser highlighted that the finalised documents should provide starting points for the research institutes to provide proposals and easily identify possible contributions to start projects. I. Lescano added that the complete vision document would be used on one hand to define, disseminate and push the commission to include the MGT

technology in future work programmes. On the other hand, the document would provide a robust support to assess the quality of any proposal and ensure that it is clearly targeting common objectives.

5. Global MGT Matrix

I. Lescano introduced the Global MGT Matrix that associates each task to a working group and a main target. W. Visser pointed out that the OPEX and CAPEX target are broad. I. Lescano agreed and mentioned that further iterations should result in more clear and specific targets. However, he also added that the only stakeholders that can provide reliable information on specific targets within the community are the OEM. In this sense, he asked E. Bianchi and M. de Later if they could provide this information. They both agreed to launch a request for information on manufacturing and operational costs and discuss if that information could be shared with the community.

W. Visser proposed that the emission reduction target could address not only harmful gases but also noise. MGT is highly competitive in terms of noise emissions, which could potentially be reduced even further. I. Lescano agreed on this point.

U. Simeoni asked for feedback regarding building efficiency and whether MGT can help in achieving the targets that the commission aims for. W. Visser agreed that MGT has an attractive potential to increase building efficiency and reduce primary energy consumption. U. Simeoni also asked about emission regulations for systems below 1 MW. Attendants were aware only of national regulations and none at European level. U. Simeoni highlighted that MGT would have to comply to building emissions directives and asked the attendants to share their references.

6. Conclusions and next steps

It was agreed that the documents (Turbomachinery Document & Matrix and MGT Global Matrix) will be reviewed by the Turbomachinery Working Group before 16 December 2015 to:

- Provide comments on the task descriptions and identify the interests of each organisation in the Turbomachinery Matrix
- Provide comments on the main challenges addressed in the MGT Global Matrix
- Identify potentially missing challenges or tasks

This would allow having a second iteration before the end of the year that would be reviewed by the partners in January 2016. A follow-up teleconference could be set early next year to finalize the document.

Annex I: Action list

Action Owner	Description	Deadline date
ETN	To share all the documents with the working groups	10th December 2015
ETN	To discuss a possible renaming of Cycle WG	14th December 2015
ETN	To discuss emissions tasks with Fuel Flexibility (Combustion) WG	11th December 2015
All	To provide comments on the task descriptions and identify organisation interests. To provide comments on the main challenges addressed To identify potentially missing challenges or tasks	16th December 2015
Leader & Co-Leader	To generate a second draft of the Recuperator Document	21st December 2015
P. Zunino and M. de Later	To contact potential partners for electric efficiency tasks	21st December 2015
M. de Later	To share emission regulation documents for smalls scale systems and buildings	16th December 2015