

SUMMARY RECORDS

47th Meeting of GARTEUR Group of Responsables for Structures and Materials

The meeting was held at INTA, Madrid on 18 October 2002

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ATTENDANCE LIST

FRANCE

T. Khan	ONERA, Châtillon	Chairman
R. Ohayon	CNAM, Paris	

GERMANY

K. Rohwer	DLR, Braunschweig	
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ITALY

A. Minuto	Alenia, Pomigliano d'Arco	IPoC
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SPAIN

G. Samitier	INTA, Madrid	Chairman of the GARTEUR Executive Summary
J. M. Pintado	INTA, Madrid	Vice-Chairman

SWEDEN

H. Ansell	Saab AB, Linköping	IPoC
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THE NETHERLANDS

H. Ottens	NLR, Noordoostpolder	
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UNITED KINGDOM

P. Curtis	DstL, Farnborough	
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Secretary

F. Roudloff	ONERA, Châtillon	
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Excused

GERMANY	J. Bühlmeier	Dornier Luftfahrt, Wessling	IpoC
	H. Schnell	EADS AIRBUS, Bremen	IPoC
FRANCE	M. Mahé	AIRBUS France, Toulouse	IpoC
SWEDEN	A. Blom	FOI, Stockholm	
ITALY	G. Di Vita	CIRA, Capua	
UNITED KINGDOM	R. Collins	BAE Systems Airbus, Filton	IpoC

GoR - Structures and Materials, 47th Meeting, to be held at INTA, Madrid on 18 October 2002

9:00 a.m

Opening remarks and adoption of Agenda

Summary Records 46th GoR meeting

Action Items

46.1	Check with R. Collins, the actual IpoC for the United Kingdom, if he wants to continue	P. Curtis
46.2	Present Fairchild/Dornier's new optimisation concept and their Multidisciplinary Wing Optimisation Group	J. Bühlmeier
46.3	Provide partners the electronic file of AG 20 Final Report	F. Roudolff
46.4	Create a Website for the SM GoR	F. Roudolff
46.5	Ask XC to set up an AG on "Impact Damage and Repair of Composite Structures"	T. Khan
46.6	Ask XC to set up an EG on "High Velocity Impacts on Fuel Tanks With Fluid Structure Interactions"	T. Khan
46.7	Ask XC to set up an EG on "Friction Stir Welding"	T. Khan
46.8	Come prepared with some new ideas	All
46.9	Confirm the 47 th meeting place	J. M. Pintado

Final reporting on closed AG's and evaluation

Discussion on the procedure	All
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Progress reports and status on current AG's

AG 24 <i>Bird Strikes</i>	P. Curtis
AG 25 <i>Postbuckling and Collapse Analysis</i> – Presentation (10')	K. Rohwer
AG 27 <i>Fractogr. Aspects of Fatigue Failure in Complex Composites</i> Presentation (10')	P. Curtis
AG 28 <i>Impact Damage and Repair of Composite Structures</i> Presentation (10')	K. Rohwer

Progress reports on current EG's

EG 26 <i>High Velocity Impacts on Fuel Tanks with Fluid Structure Interactions</i> Presentation (10')	R. Ohayon
EG 27 <i>Friction Stir Welding</i> Presentation (10')	T. Khan

Status reports on options for new activities/further new Ideas

Smart items	all
Material Properties during Curing	all
Nano-Materials	all
Interchangeability	all
Moisture distribution	all
Structural & material requirements for UAV's	all
Other ideas	all
Website	all
Any other business	T. Khan
Date and place of the next meeting	T. Khan
Closure of meeting at 15:30 (To be confirmed according to transportation needs)	

A **lunch** in the INTA canteen is foreseen at **13.00** (a break of 45 minutes should be foreseen)

Summary Records

1. Opening remarks – Adoption of agenda

The Chairman opened the meeting and welcomed the attendees, especially *Mr Garcia Samitier*, who is the Chairman of the Executive Committee of the GARTEUR.

The Chairman also proposed to Mr. Samitier to start the meeting by providing the latest information on the conclusions of the last Council/XC Meetings. Mr. Samitier summarized the conclusions as follows :

- There is a common understanding among the Council Members that GoR is the backbone of GARTEUR
- GARTEUR brings together civil and military interests
- GARTEUR offers potential for networking between institutes, Universities...
- Interaction between GoR and Council is important
- GARTEUR should stress longer term research
- Acknowledgement of the fact that there are too many Council/XC meetings.

He also mentioned that it was decided during the last Council meeting in Berlin (1-2 October 2002) to set up a special group to discuss the strategy and funding issues as well as the means to improve the working environment with the GoR's. This group will be formed of 3 Council members and 7 GoR members and the conclusions will be presented at the next Council meeting.

After this presentation, the Chairman of the GoR came back to the agenda which was adopted without any amendments or changes.

2. Summary Records 46th GoR meeting

The Summary Records of the 46th GoR meeting were approved.

3. Action Items 46.1 to 46.9

AI 46.1:

Despite the efforts of P. Curtis to contact R. Collins, the current IpoC for the United Kingdom, there was no response from him. Participants proposed to ask BAe Systems Airbus to suggest someone else.

AI is still open (**Action Item 47.1** ~~P. Curtis~~)

AI 46.2:

J. Bühlmeier was not able to join this meeting. K. Rohwer mentioned that he is interested in staying in the Group but that the situation of Dornier is not clear yet. It was decided to wait for the situation to be resolved and the presentation on the new optimisation concept is postponed until the next meeting.

AI is still open (**Action Item 47.2** ~~J. Bühlmeier~~)

AI 46.3:

The electronic file of AG 20 Final Report is on the SM-GoR Website.

AI is closed.

AI 46.4:

The SM-GoR Website was created at the following address:

<http://www.onera.fr/garteur/gor-sm/>

The user "gor-sm" and the password "r0ud0lff" (with some zero (0) instead of o) must be entered.

AI is closed.

AI 46.5:

The Action Group on "Impact Damage and Repair of Composite Structures" was set up and received the number AG 28.

AI is closed.

AI 46.6:

The Exploratory Group EG 26 on "Transient Response due to High Velocity Impacts on/in Fluid Filled Structures" was set up.

AI is closed

AI 46.7:

An Exploratory Group was set up on "Friction Stir Welding" and received the number EG 27.

AI is closed.

AI 46.8

This will be discussed in 7. However, the importance of coming to the meetings with some new ideas was recalled.

AI is still open (**Action Item 47.3** **▷ All**)

AI 46.9

It was decided to hold the meeting at INTA.

AI is closed.

4. Final reporting on closed AG's and evaluation

All Action Groups closed this year were evaluated during the meeting held at Onera, Châtillon on 23 April and the Final Reports were received.

The procedure to close an Action Group were discussed. K. Rohwer mentioned that there was no rules in the "Basic Documents". It was decided that the following documents should be provided by the chairman of each Action Group at the end of the project:

- Final Report
- Executive Summary
- Collection of slides summarising the main achievements.

The chairman of each AG will be asked in advance to provide the above documents.

It was also decided to ask the chairman of Action Group 22, Jaap Wiggenraad from NLR, to send a set of slides on the relevant achievements of his group (**Action Item 47. 4** **▷ H. Ottens**). These slides will have to be sent to T. Khan and F. Roudloff.

5. Progress reports on current AG's

SM-AG 24 Bird Strikes:

The Monitoring Responsible, P. Curtis, mentioned that the Action Group had no meeting since the last GoR meeting. As the next GoR meeting will be held in Farnborough, it was decided to ask the Chairperson of AG 24, Michelle Willows from QinetiQ, to attend the meeting and report to the Group of Responsables (**Action Item 47. 5** **▷ P. Curtis**).

SM-AG 25 Postbuckling and Collapse Analysis:

The Monitoring Responsible, K. Rohwer, mentioned that the group had its final meeting at Liège in Belgium on 10, 11 October and that the Final Report is almost ready. It has not been decided yet whether this report will be open or restricted but the Executive Summary will be open. The main achievements were presented as well as future plans. It was more especially decided to propose a Specific Targeted Project to the first call of the European Union 6th framework.

Viewgraphs are presented in **Appendix A**.

SM-AG 27 *Fractographic Aspects of Fatigue Failure in Complex Composites:*

The Monitoring Responsible, P.Curtis, explained that there were not many new results to report and that he would try to get more details before the next GoR meeting. The group will have its next meeting in December.

Viewgraphs are presented in **Appendix B**.

SM-AG 28 *Impact Damage and Repair of Composite Structures*

The Monitoring Responsible, K. Rohwer, presented the work that the group intends to perform during the next four years. The kick-off meeting of the group was held at Imperial College, London, on 16, 17 September.

Viewgraphs are presented in **Appendix C**.

6. Progress reports on current EG's

SM-EG 26 *Transient Response due to High Velocity Impacts on/in Fluid Filled Structures*

The Monitoring Responsible of this new EG, R. Ohayon from CNAM, presented a 4-viewgraphs report on the main discussions of the first meeting held at CNAM in Paris on September 30th and October 1st. The group will be led by Onera and next meeting will be held at Imperial College, London, probably in January. It was mentioned that there is already a EUCLID project led by EADS Germany on this topic and that the work performed within the Group should be different from the EUCLID programme. It was suggested to postpone the meeting in January to a later date to clarify the situation.

Viewgraphs are given in **Appendix D**.

SM-EG 27 *Friction Stir Welding*

The Monitoring Responsible of this Exploratory Group, T. Khan, presented a few viewgraphs on the activities. The first meeting was held at ONERA on September 18. The work programme will be discussed during a meeting that will be held at DLR in November. The Group will try to write the proposal before the next GoR meeting and ONERA will co-ordinate the project.

Viewgraphs are given in **Appendix E**.

7. Status reports on options for new activities/further new Ideas

- **Smart Materials and Structures**

The secretary of the group, F. Roudloff, made a presentation on the different topics in which Onera is interested. Viewgraphs are given in **Appendix F**. H. Ottens noticed that some of the indicated subjects are in competition with the EUCLID project VIBRANT. Interested partners should contact one of the two points of contacts given in the last slide.

- **Material Properties during Curing**

H. Ottens mentioned that NLR is interested in this topic. Some investigation will be made before the next meeting.

- **Thermal conductivity, heat transfer**

Michel Mahé could not attend the meeting since his flight was cancelled at the last minute. However, he is interested in this topic and he will make a presentation during the next meeting (**Action Item 47. 6 P M. Mahé**). The viewgraphs he was planning to present are given in **Appendix G**.

- **Interchangeability**

T. Khan recalled that Onera is not interested in a GARTEUR Group on this topic since there is already an existing French consortium co-ordinated by Onera. K. Rohwer mentioned that Airbus Germany is mainly interested and DSTL and SAAB will check again if there is some interest in this topic.

A general discussion followed. P. Curtis proposed to each participant to check the priorities and the needs of each company. Action 47.3 is modified.

8. Website

The secretary of the group, F. Roudolff, made a presentation of the Website prepared by DSTL. Viewgraphs are included in **Appendix H**. It was decided to update the existing Website with the DSTL Website (**Action Item 47. 7 P F. Roudolff**). The participants will have a look on the updated Website and will discuss it during the next meeting (**Action Item 47. 8 P All**).

9. Date and place of the next meeting

The GoR decided that the next meeting will be held at DSTL in Farnborough, United Kingdom, 24-25 April 2003. The 49th meeting will be organised by DLR in Germany, 16-17 October 2003. K. Rohwer has to confirm the meeting place (**Action Item 47. 9 P K. Rohwer**).

Action Item List

At this 47th meeting of the GoR SM on 18 October 2002 at INTA, Madrid, the following action items were recorded:

Action Item	Responsibility	Reason
47.1	P. Curtis	To ask BAe Systems Airbus to suggest a new IpoC.
47.2	J. Bühlmeier	To make a presentation on Fairchild/Dornier's optimisation concept
47.3	All	To come prepared with some new ideas and check the priorities of each company
47.4	H. H. Ottens	To ask the chairman of Action Group 22 to send a set of slides on the relevant achievements of his group
47.5	P. Curtis	To ask the Chairperson of AG 24, to report to the Group of Responsables during next meeting
47.6	M. Mahé	To prepare a presentation on "Thermal Conductivity, heat transfer"
47.7	F. Roudolff	To update the existing Website.
47.8	All	To check the updated Website.
47.9	K. Rohwer.	To confirm the next meeting place.

Closure at 16:00 h