

SUMMARY RECORDS

53rd Meeting of

GARTEUR Group of Responsables for

Structures and Materials

The meeting was held at ONERA, Paris– France on 20/21 October 2005

Contents	Page
Attendance list.....	3
Agenda.....	4
Summary Records	
1. Opening remarks and Adoption of agenda.....	7
2. Summary records 52 nd GoR S&M meeting.....	7
3. Action items.....	7
4. Progress reports and status on current AG's.....	9
5. Progress reports on current EG's.....	10
6. Possible new activities, preparation pre-proposal (A4-format).....	10
7. Technology watch and new ideas.....	12
8. Presentations	12
9. New Chairmanship.....	13
10. Report from Council Meeting, 19 October in Toulouse.....	13
11. ERA-NET: Air NT and GARTEUR	13
12. Website update.....	13
13. Any other Business	13
14. Date and place of next meeting	13
15. Closure of the meeting, Tour Palaiseau	13
Action item list.....	14

APPENDIX A AG27 Fractographic Aspects of Fatigue Failure in Complex Composites

APPENDIX B AG28 Impact Damage and Repair for Composite Structures

APPENDIX C AG29 Interchangeability composite material

APPENDIX D EG29 Birdstrike2

APPENDIX E Book of Abstracts of 16th ICAST

APPENDIX F AMERICO project

ATTENDANCE LIST
FRANCE

T. Khan	ONERA, Châtillon	
R. Ohayon	CNAM, Paris	(1 day: on 21 October)

GERMANY

K. Rohwer	DLR, Braunschweig	
-----------	-------------------	--

ITALY

A. Minuto	Alenia, Pomigliano d'Arco	IpoC
-----------	---------------------------	------

THE NETHERLANDS

L. Hootsmans	Fokker, Papendrecht	IPoC
J.F.M. Wiggeraad	NLR, Marknesse- Noordoostpolder	
Th.M.C. van der Helm	NLR, Marknesse- Noordoostpolder	secretary

SPAIN

J. Maroto Sanchez	INTA, Madrid	
A. Barrio Cardaba	EADS CASA,	IPoC

SWEDEN

H. Ansell	Saab AB, Linköping	IPoC
-----------	--------------------	------

UNITED KINGDOM

P. Curtis	DstL, Salisbury	
-----------	-----------------	--

Excused

UNITED KINGDOM	P. Gates	BAE Systems Airbus, Filton	IPoC
UNITED KINGDOM	J. Dee	Airbus UK	IPoC
SWEDEN	S. Nilsson	FOI, Stockholm	
SWEDEN	A. Blom	FOI, Stockholm	
GERMANY	H. Schröder	EADS AIRBUS, Bremen	IPoC
ITALY	A. Riccio	CIRA, Capua	

**GoR - Structures and Materials,
53rd Meeting held at ONERA, Paris – France, on 20/21 October 2005
20 October 14.00 p.m.**

AGENDA

- 1. Opening remarks and adoption of Agenda**
- 2. Summary Records 52nd GoR S&M meeting**
- 3. Action Items**

Action Item	Action	Responsibility
52.1	Remove M. Mahé from the IPoC list	Thea van der Helm
52.2	Try to contact Dassault for a new IPoC	Tasadduq Khan
52.3	To check the correctness of the various information pages on the GARTEUR website	All
52.4	All GoR members should inform each other on a regular basis about developments on nanotubes	All
52.5	Will give a presentation on nanotubes at the next GoR meeting	Jonathan Dee
52.6	Maybe an A4 proposal should be made on "Morphing wing" program	Roger Ohayon
52.7	Prepare a short presentation on shape control actuators for the next GoR meeting	Sören Nilsson
52.8	Put SM-AG 25 report on the GARTEUR website	Rien van Houten
52.9	ONERA is not participating in the AG29. T. Khan will find out and report in the next GoR	Tassaduq Khan
52.10	The finalising of the SM-EG28 proposal does not require action now see also 52.14 / 52.15	Jaap Wiggeraad
52.11	Approach the person in charge of the AG28 for letters of adherence and acceptance	Klaus Rohwer
52.12	Ask F. Roudloff how to finalise AG28 work and the final report	Klaus Rohwer
52.13	Ask Airbus UK contact person name for Jonathan Dee	Paul Curtis
52.14	Send around NLR proposal EG28 on Materials Properties during curing	Jaap Wiggeraad
52.15	In Fall 2005 meeting decide who wants to participate in EG28: Material properties during curing	All
52.16	Michelle Willows to give a presentation on AG30 S&M	Michelle Willows
52.17	Approach the different countries and see if they want to join this activity to form an EG. Then indicate the person to participate in the next meeting	Aniello Riccio
52.18	Chairman for Exploratory Group called EG31 : "Damage growth in composites".	Aniello Riccio
52.19	Ask Peter Lloyd to attend the EG meeting on smart actuators	Paul Curtis
52.20	Check interest to join the EG on smart actuators	Ansell, Wiggeraad, Dee, Minuto
52.21	Will be the transfer co-ordinator and should exchange information between the Helicopters and Structures and Materials Group of Responsables. Then later a workshop should be organised and a joint meeting	Roger Ohayon
52.22	Inform chairman Helicopters group next Fall meeting of the council and ask Mr.	Jaap Wiggeraad

	F. Toulmay of AG15 (EG23) to give a presentation during this meeting	
52.23	Decide whether it is, both civil and military, of enough interest to form a Garteur Exploratory Group on 'Methods for mass estimation'	All
52.24	There should be more involvement of the Universities from other countries	All
52.25	Ask B. Oskam and the EU for proposal on ERA-NET: Air TN and send this to all the GoR S&M members	Harold Ottens
52.26	Put Appendices on the GoR website straight away and mail the members accordingly.	Thea
	Will mail the particulars of Henk Jan ten Hoeve to Hans Ansell	
	Will update the meeting-schedule with dates and places (see website).	

4. Progress reports and status on current AG's

AG 27	<i>Fractographic Aspects of Fatigue Failure in Complex Composites</i>	P. Curtis
AG 28	<i>Impact Damage and Repair of Composite Structures</i>	K. Rohwer
AG 29	<i>Interchangeability composite material</i>	P. Curtis
AG 30	<i>High velocity impact</i>	R. Ohayon

5. Progress reports on current EG's

EG 28	<i>Material Properties during curing</i>	J.F.M. Wiggeraad
EG 30	<i>Damocles3</i>	A. Riccio
EG 31	<i>Damage growth in composites</i>	A. Riccio

6. Possible new activities, preparation pre-proposal (A4-format)

1.	<i>Smart actuators</i>	<i>T. Khan</i>
2.	<i>Structural integrity high speed machined parts</i>	<i>H. Ansell</i>
3.	<i>Health monitoring</i>	<i>T. Khan</i>
4.	<i>Mass estimation</i>	<i>P. Curtis</i>
5.	<i>Thru-thickness</i>	<i>P. Curtis</i>
6.	<i>High temperature composites</i>	<i>P. Curtis</i>
7.	<i>Nanotubes</i>	<i>J. Dee</i>
8.	<i>Morphing Wing</i>	<i>R. Ohayon</i>

7. Technology watch and new ideas

8. Presentations

- Jonathan Dee: nanotubes (AI 52.5)
- Sören Nilsson: shape control actuators (AI 52.7)
- Michelle Willows : AG30 High Velocity Impact (AI 52.16)

9. New chairmanship

2006-2007 Chairmanship Spain; Vice chairmanship Italy.

10. Report from Council Meeting, 19 October in Toulouse**11. ERA-NET: Air TN and GARTEUR****12. Website update****13. Any other business****14. Date and place of next meeting:**

54th Meeting : 20/21 April 2006 in Torrejon, Spain

55th Meeting: 12/13 October 2006 in Filton, UK

15. Closure of the meeting on 21 october at 11.45 hours

The Tour to Palaiseau was cancelled.

Summary Records

1. Opening remarks – Adoption of agenda

The new chairman, Jaap Wiggeraad opened the meeting and introduced himself as he was replacing Harold Ottens who retired last July. The chairman welcomed a new member to the meeting, Mr. Angel Barrio Cardaba of EADS-CASA who is acting as Industrial Point of Contact (IPoC) for Spain.

Angel Barrio Cardaba introduced himself and at the next meeting, which will be held in Spain, he will give a presentation on EADS. **(Action Item 53.1 ⇒ Angel Cardaba)** (Angel is responsible for Structures & Design, testing, CAD and structural dynamics).

Jaap states that the GoR consists of 7 nations. In this meeting Spain is complete and The Netherlands is complete, Sweden, Italy, the UK and France and Germany are not complete. Sören Nilsson (FOI), Peter Gates (BAeSystems) and Hans-Wolfgang Schröder (EADS Airbus) could not attend the meeting. Jaap met Anders Blom (FOI) at the Council meeting; he will not be attending the GoR meetings anymore as he now is a GARTEUR council member. He will be removed from the co-ordinates list. **(Action Item 53.2 ⇒ Thea)**.

Aniello Riccio (CIRA) had planned to come to the meeting but did not make it after all.

As Peter Gates has not been able to attend the meetings Paul Curtis will ask Andrew Clarke from QinetiQ to attend as an IPoC for the UK **(Action Item 53.3 ⇒ Paul Curtis)**. The GoR is not restricted to 1 IPoC.

Klaus Rohwer (DLR) arrived later.

As there are no changes the agenda was adopted.

2. Summary Records 52nd GoR meeting

In the Action Item list was an error, Action Item 52.12 was for Klaus Rohwer and not for Roger Ohayon. Thea already made the correction in the minutes on the website. The Summary Records of the 52nd GoR meeting were then approved.

3. Action Items 52.1 up to 52.26

AI 52.1

IPoC M. Mahe was removed from the list. Action Item Closed.

AI 52.2:

T. Khan has not been able to find a new IPoC for France yet and he states that Philip Vautey is not a suitable contact. Action Item closed. He will approach EADS-CCR for a new Point of Contact. **(Action Item 53.4 ⇒ Tasadduq Khan)**.

AI 52.3

The website has been checked and will be further discussed under agenda item 12. Action Item closed.

AI 52.4:

Nano technology will be further discussed under agenda item 6.7. Action Item closed.

AI 52.5:

Jonathan Dee was not present. Action Item closed. Jonathan Dee is asked to give his presentation on nanotubes at the next GoR meeting (Spain). **(Action Item 53.18 ⇒ All)**.

AI 52.6:

Roger Ohayon did not make an A-4 proposal on Morphing Wing yet, because the subject was presented a week before during a conference. Further discussion under agenda item 6.8. Action Item closed.

AI 52.7

Sören Nilsson is not present. The presentation on shape control actuators will be postponed until the next GoR meeting (Spain). Action Item closed.

See also agenda item 8. **(Action item 53.23⇒ Sören Nilsson).**

AI 52.8

The SM-AG25 final technical report (GARTEUR ref. TP-149) "Postbuckling and collapse analysis" has been placed on the GARTEUR website. Action Item closed. Thea to check GARTEUR reference number **(Action item 53.5⇒Thea).**

AI 52.9

Tasadduq Khan asked Daniel Osmont from ONERA to give a presentation on SM-AG29 in English on Friday, the second day of the meeting. Action Item closed.

AI 52.10

See Action Item 52.14

AI 52.11

Klaus Rohwer informed the meeting that the letters of adherence and acceptance for SM-AG28 were sent to the Spanish member of the Council, INTA by Florence Roudloff. Jaap will contact José regarding writing a letter to the Council explaining this. Action Item closed. **(Action Item 53.6 ⇒zJosé Maroto Sanchez/Jaap Wiggeraad)**

AI 52.12

Waiting for the vice-chairman Brian Falzon to accept the future chairmanship of SMAG-28. Klaus Rohwer will keep monitoring. Action Item is closed. **(Action item 53.7⇒Klaus Rohwer).**

AI 52.13

SM-AG29 Paul Curtis gave the name of the Airbus Spain (not UK) contact person for AG29, Raphael Avila Dominguez, to Jonathan Dee. Action Item closed.

AI 52.14

Jaap Wiggeraad sent around the NLR proposal for SM-EG28 on "Material properties during curing". Action Item closed.

AI 52.15

The proposal for SM-EG28 "Material properties during curing" will be discussed under agenda item 5. Action Item closed.

AI 52.16

Roger Ohayon informed the meeting that Michelle Willows will give a presentation on SM-AG30 during the next GARTEUR GoR meeting. Action Item closed.

AI 52.17

Aniello Riccio is the chairman for SM-EG30 Damocles3, the first meeting will be 6/7 December 2005.

Jaap Wiggeraad is the monitoring responsible. Action Item is closed.

AI 52.18

Aniello Riccio is also chairman for SM-EG31, the first meeting will be mid-November. AI is closed.

AI 52.19

Paul Curtis stated that *if* an EG is formed on smart actuators, he will then invite Peter Lloyd of QinetiQ. AI is closed.

AI 52.20

The interest in forming a possible EG on smart actuators was checked by Hans Ansell, Jaap Wiggeraad and Arturo Minuto. AI is closed.

AI 52.21

Roger Ohayon will co-ordinate the Action Groups SM-AG30 and Helicopter AG15. The next AG-meeting of both AG's should be planned at the same time and place. A common workshop is foreseen. AI is closed.

AI 52.22

The new GoR S&M chairman José Maroto Sanchez (INTA) and GoR HC chairman Mr. Mario Farioli (CIRA) will propose to link the Spring meetings of SM-AG30 and HC-AG15. AI is closed. **(Action Item 53.11⇒José Maroto Sanchez).**

AI 52.23

A possible EG on "Methods for mass estimation" will be discussed under agenda item 6.4. Action Item closed.

AI 52.24

More involvement of the universities will be discussed during the meeting. Action Item closed.

AI 52.25

The proposal on ERA-NET: Air TN may not be distributed under the GoR members. In case the members want a copy they should contact the National contactpoint. For further information the presentation on the website should suffice. Action Item closed.

AI 52.26

The appendices of the 52nd meeting are available on the GARTEUR web-site. The particulars of Henk Jan ten Hoeve were mailed to Hans Ansell and the meeting-schedule has been updated. Action Item is closed.

4. Progress reports and status on current AG's

SM-AG 27 *Fractographic Aspects of Fatigue Failure in Complex Laminates and Structures:*

Paul Curtis, the Monitoring Responsible, presented the current status of the work in Action Group 27. The relevant viewgraphs are presented in **Appendix A**. (Slides from Matthew Hiley). The countries involved are UK, France, Sweden, The Netherlands, Germany and Spain.

There was no meeting so there is not much to report. The work was behind schedule and there were a lot of delays in the program. A final report should be ready by the end of 2005. Thea will give Paul and Matthew Hiley (QinetiQ) a GARTEUR reference number (through Marc van Beek, NLR). **(Action Item 53.5 ⇒Thea).**

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

The Monitoring Responsible, Klaus Rohwer informed the meeting of the progress and status on SM-AG28. The viewgraphs are presented in **Appendix B** (Steve Ward).

Florence Roudolff sent the letters of adherence and acceptance to INTA in Spain (council chairman) at the time. Jaap will e-mail the information to José Maroto Sanchez who will have to write a letter to the council explaining this **(Action Item 53.6⇒Jaap Wiggeraad/José Maroto Sanchez).**

Paul asked why ONERA pulled out and Tasadduq Khan explains that the person in charge left ONERA and there was no follow-up. Khan says that he is now waiting for Brian Falzon to agree to take over the chairmanship. Klaus will keep monitoring; another meeting will be end of March 2006 and the project should be ended December 2006. Then the final report should be written. The status will be reported at the next meeting. **(Action Item 53.7 ⇒Klaus Rohwer).** AG28 will probably propose a successor AG, focussed more on bonded repairs.

SM-AG29 *Development of a probabilistic methodology for rapid interchange of composite materials in the design of composite structures*

Paul Curtis presented the status on SM-AG29. See **Appendix C** for the viewgraphs (Dr. Fahmi Ngah, secretary).

During the last meeting Jonathan Dee said that Airbus is interested. Paul gave the name of the Airbus Spain contactperson (not UK): Raphael Avila Dominguez to Jonathan Dee. He will address him to determine Airbus interest in SM-AG29. **(Action Item 53.8⇒Paul Curtis).**

Paul mentions that new members are welcome. The AG29 has just started and the next meeting is at NLR in December 2005. (NLR participant :Frank Grooteman)

(Luc Hootsmans will contact Ten Cate and get back to Paul.
Jaap mentions GLARE as a potential application.)

SM-AG30 *High velocity impact*

Roger Ohayon has asked Michelle Willows (QinetiQ) to give a presentation on SM-AG30. This presentation is now scheduled for the next GARTEUR GoR S&M meeting in autumn 2006.

(Action Item 53.9/53.10⇒Roger Ohayon/Michelle Willows).

The new GoR S&M chairman José Maroto Sanchez (INTA) and GoR HC chairman Mr. Mario Farioli (CIRA) will link the Spring meetings of SM-AG30 and HC-AG15.

(Action Item 53.11⇒José Maroto Sanchez).

5. Progress reports on current EG's

SM-EG28 *Material Properties during curing*

Jaap Wiggenraad presents the proposal and gives a brief summary, see **Appendix D**. SME Polyworx wants to contribute with computer programme RTMworx.

Interest from NLR, QinetiQ, INTA, ONERA, Sicomp, UTwente.

Paul Curtis states that you need commitment from the partners and need distribution of the funds over the years. NLR (Walter 't Hart will organise a meeting with the interested parties. After this meeting the proposal has to be updated and presented to the GoR S&M.

(Luc Hootsmans asks to invite Stork Fokker and asked whether Stork SP has been contacted. Jaap will send an e-mail inviting the participants. P. Curtis mentions the name of Graham Stringer.)

(Action Item 53.12⇒Jaap Wiggenraad).

SM-EG30 *Damocles3*

For this EG30 we need to find partners and inform the chairman Aniello Riccio. Jaap Wiggenraad is the monitoring responsible. Check the date of 7 December 2005 with Aniello. Aniello should organise the meeting and get the people together. After the meeting the proposal should be updated and sent to the GoR S&M members.

(Action Item 53.13⇒Aniello Riccio)

SM-EG31 *Damage growth in composites*

The next EG31 meeting is scheduled for mid November. As Aniello Riccio is not present we will discuss this activity during the next GoR meeting.

We will ask the GoR members that interested parties should contact Aniello, who is the chairman. Aniello will write up a proposal after the November meeting and send it to the GoR S&M.

(Action Item 53.14⇒Aniello Riccio)

6. Possible new activities, preparation pre-proposal (A4-format)

1. **Smart actuators for aerodynamic surfaces or devices (SM-EG32)**

Daniel Osmont of ONERA wrote the initial proposal on smart actuators.

Arturo Minuto states that Alenia is interested: point of contact is Massimo Riccio from Alenia, tel. +39(0)81 887 22 53, e-mail mriccio@aeronautica.alenia.it.

Paul Curtis mentions that Peter Lloyd of DSTL might be interested.

Klaus Rohwer will ask at DLR again.

Inta, Spain is not interested. Stork Fokker is not interested.

Hans Ansell says that Saab is interested, point of contact is Christina Wahlström of Saab Bofors Dynamics, tel. +46 (0)13 18 65 49, e-mail christina.wahlstrom@ynamics.saab.se.

Paul Curtis wonders if the Imperial College might be interested.

Luc Hootsmans mentions that M.v. Tooren of the Technical University is interested.

From FOI we are still waiting for the presentation of Sören Nilsson. **(Action Item 53.23⇒Sören Nilsson)**.

As there are enough interested parties the meeting decides to form an EG on this topic, namely EG32: "Smart actuators for aerodynamic surfaces or devices".

Tasadduq Khan asked Daniel Osmont to be the leader of this EG32 and he agreed. Daniel Osmont will be the chairman and Roger Ohayon is the monitoring responsible. Daniel Osmont should organise a meeting at ONERA and invite the participants, appoint a chairman and after the meeting update the proposal. **(Action Item 53.15⇒Jaap Wiggenraad)**

2. Structural integrity high speed machined parts

For this topic there was not enough interest.

3. Health monitoring

There was not enough interest for this topic.

4. Methods for Mass estimation

Paul Curtis of DSTL UK initiated this subject (UAV's). NLR is interested in this subject. Luc Hootsmans confirms that Stork Fokker is interested. Hans Ansell mentions that Saab Aerosystems is interested, contactpoint is Mr. Bertil Håden, tel.

+46 (0)13 18 15 26, e-mail bertil.haden@saab.se.

Spain is not interested, nor is Italy. Is there industrial interest in France? Dassault? Airbus?

ONERA (NACRE program, Mr. Paluche)

Ask Hans Schröder.

The meeting decides that an EG can be formed, EG33: "Mass estimation for composite airframes".

The members should propose names to Paul Curtis. **(Action Item 53.16⇒All)**.

Paul Curtis will then organise a meeting and get the people together. After the meeting he will

update the proposal and send it to the GoR members. **(Action Item 53.17⇒Paul Curtis)**.

5. Thru-thickness material properties

This topic has been incorporated in Damocles.

6. High temperature composites

This is a military interest. The item is closed.

7. Nanotubes

All GoR members will give a 10 minutes presentation, by nation, on the topic nano technology during the next meeting in Spain. **(Action Item 53.18⇒all)**.

The chairman closed the meeting at 17.45 on 20 October.

The meeting was continued on Friday 21 October, 09.15 hrs.

Presentation ONERA (AG29)

4. Progress reports and status on current AG's, continued

Further to SM-AG29 Tasadduq Khan introduced Dr. Nicolas Carrère (ONERA). He gave a presentation on a project called AMERICO. This is an open project, not confidential. The project focusses on multi scale modelling and deals with uncertainty.

On this subject an interesting technical discussion between Angel Barrio and Arturo Minuto followed.

SumRec53 GoR.doc

Paul states that it is good to get some interaction within the AG29. A workshop would be a good idea, and a presentation (DSTL) during the 55th meeting in the UK would promote this interaction. Nicolas Carrère will send his presentation, after permission of the project leader, to the GoR S&M members through the secretary by e-mail. **(Appendix F)**.

The Americo forum will inform the GoR through Khan on the progress of this project.

(Action Item 53.19⇒Tasadduq Khan).

The chairman thanks Nicolas for his presentation.

6. Possible new activities, preparation pre-proposal (A4-format) *continued*

8. Morphing Wing

AI 52.6 Roger will write an A4 proposal and will send it to the secretary. This proposal will be presented at the 55th meeting in autumn 2006. **(Action Item 53.20⇒R. Ohayon)**. Furthermore Roger refers to the ICAST conference (**see appendix E**) which was held on 10 and 11 October 2005 in Paris. See also: www.icast2005.org.

Regarding 1. Smart actuators SM-EG32

Daniel Osmont (ONERA) arrived and is being introduced to the GoR members. Jaap Wiggenraad explains what is expected of him as a chairman of EG32. Jaap will send him an e-mail with names of the interested parties. **(Action Item 53.15⇒Jaap Wiggenraad)** Roger Ohayon has been appointed monitoring responsible.

Tasadduq Khan remembered that Aniello gave a presentation on morphing wing during the last GoR meeting in Capua? Thea cannot remember. Thea will ask Aniello for that presentation. **(Action Item 53.21⇒Thea)**

7. Technology watch and new ideas

Jaap referred to the time-schedule as presented in the annexes to the GARTEUR annual report 2004 (page A4-3). On this list remains no. 13 UAV certification but this is no longer a topic to be discussed. On line 14 it reads Load monitoring; this is no longer an interesting topic either.

Paul Curtis mentions nanotechnology. The meeting already decided that all nations will give a 10 minutes presentation during the next meeting **(Action Item 53.18⇒all)**.

Possible Follow up of AG-28: bonded repairs

Bonded repairs; Klaus Rohwer initiated this in his presentation on AG28. He will follow this up. Klaus suggests to first finish AG28 then start a new AG.

New topics?

Automated composites fabrication ; form an EG?

Paul Curtis: UK had some work in this area, but not at the moment. He will ask QinetiQ if they are interested.

Jaap will check if there is interest **(Action Item 53.22⇒Jaap Wiggenraad/Paul Curtis)**

8. Presentations

Jonathan Dee is not present to give a presentation on Nanotubes. This is now scheduled for the next GoR S&M meeting in Spain. **(Action Item 53.18⇒All)**

Sören Nilsson is also absent. The presentation on "Shape control actuators" will now be planned for the next meeting as well. **(Action Item 53.23 ⇒Sören Nilsson)**

Michelle Willows (QinetiQ) will give a presentation on SM-AG30 during the next GoR meeting. **(Action Item 53.9&53.10⇒Roger Ohayon & Michelle Willows)**

9. New chairmanship

In 2006 the chairmanship will rotate and José Maroto Sanchez of INTA Spain will then chair the GARTEUR GoR S&M for the next 2-year period. Jaap Wiggenraad will give José some guidelines. It is Italy's turn to provide the vice chairman. Although Aniello Riccio (CIRA) is not present he is appointed as vice-chairman.

10. Report from Council Meeting, 19 October Toulouse

Jaap reported that the Council is meeting twice a year. During the meeting on 19 October the four GoR's gave a presentation on their activities. Jaap will send his presentation to the new GoR S&M chairman José Maroto Sanchez. **(Action Item 53. 24⇒Thea)**. Mr. Farioli (CIRA) gave an interesting presentation on Helicopters.

11. ERA-NET: Air TN and GARTEUR

During the last meeting Harold Ottens gave a presentation on the ERA-Net. The proposal may not be distributed among the GoR S&M members. If one wants a copy he should approach the national contactpoint.

12. Website update

Jaap Wiggenraad will check with the council what to do with the website now the chairmanship has changed. **(Action Item 53. 25⇒Jaap Wiggenraad)**

13. Any other business

Jaap informed the meeting that a certificate will be issued by the council for retiring GoR members. A certificate will be sent to Harold Ottens. Jaap will inform the council to issue a certificate for Florence Roudloff. (Action Item 53. Roger asks about Anders Blom who has left the GoR, but is now a member to the council. Jaap will ask about this. **(Action Item 53.26⇒Jaap Wiggenraad)**.)

Klaus Rohwer will be the next GoR member to receive a certificate. Klaus will retire next year, he will still be present at the next meeting in April 2006 though.

Hans Wolfgang Schröder will also retire next year. We have to ask him whether he is coming to the next meeting or is sending someone else. **(Action Item 53.27⇒Thea)**. (In the meantime Hans Wolfgang Schröder sent an e-mail stating that he will be present at the next meeting.)

This was Jaap's first and last time as chairman.

14. Date and place of the next meeting

The 54th meeting will be on 20/21 April 2006 in Torrejon, Spain.

The 55th meeting will be 12/13 October 2006 in Filton, UK.

According to the schedule, which can also be found on the GARTEUR website, the 56th meeting will be in Spring 2007 in Germany and the 57th meeting will then be autumn 2007 in the Netherlands.

15. Closure of the meeting at approximately 11.45 hours.

The chairman closed the meeting at approx. 11.45 hrs.

The planned tour to Palaiseau was cancelled due to lack of participants. Most of the members had already booked their flight back after lunch.

Action Item List

At this 53rd meeting of the GoR S&M on 20/21 October 2005 at ONERA, Paris the following action items were recorded:

Action Item	Responsibility	Action
53.1	Angel Barrio Cardaba	Give general presentation on EADS - CASA
53.2	Thea	Remove A. Blom from the co-ordinates list
53.3	Paul Curtis	Ask Andrew Clarke to be an IpoC for the UK
53.4	Tasadduq Khan	Ask for an IpoC at EADS-CCR, France
53.5	Thea van der Helm	Check GARTEUR report ref. Numbers (Marc van Beek) AG25 and AG27. Give GARTEUR ref. nr to Mr. Hiley for final report SM-AG27 (through M. van Beek)
53.6	José Maroto Sanchez/ Jaap Wiggeraad	Send letter to the Council saying that the letters of adherence and acceptance for SM-AG28 have been sent to the Spanish member INTA by Florence Roudolff. Jaap Wiggeraad will contact José Maroto about this.
53.7	Klaus Rohwer	Will report status on management SM-AG28
53.8	Paul Curtis	Will address Raphael Avila Dominquez at Airbus Spain for interest in SM-AG29
53.9	Roger Ohayon	Monitor that Michelle Willows will present SM-AG30 in the 54 th Meeting 2006, in Spain,
53.10	Michelle Willows	Will present SM-AG30 in the 54 th Meeting 2006, in Spain,
53.11	José Maroto Sanchez & Mario Farioli	GoR chairmen of S&M and HC to link Spring meetings SM-AG30 & HC-AG15
53.12	Jaap Wiggeraad	SM-EG28 a. organise meeting together with GoR S&M, b. get people together, c. update proposal and send to the GoR
53.13	Aniello Riccio	SM-EG30 a. organise meeting (7 December), b. get people together, c. update proposal and send to the GoR
53.14	Aniello Riccio	SM-EG31 a. organise meeting date, b. get people together, c. update proposal and send to the GoR
53.15	Jaap Wiggeraad	SM-EG32 a. organise meeting date, b. get people together, c. update proposal and send to the GoR
53.16	GoR S&M	SM-EG33 propose names to Paul
53.17	Paul Curtis	SM-EG33 Mass Estimation: a. organise meeting date, b. get people together, c. update proposal and send to the GoR
53.18	All	All GoR members will give a 10 minutes presentation, by nation, on the topic nanotechnology during the next meeting in Spain.
53.19	Tasadduq Khan	Inform the GoR concerning progress of AMERICO project
53.20	Roger Ohayon	Will send an A4 proposal on Morphing Wing to the secretary, and present it during the 55 th meeting in autumn 2006.
53.21	Thea	Ask Aniello Riccio about Morphing Wing presentation
53.22	Paul / Jaap	Will check if there is interest in Automated composites fabrication
53.23	Sören Nilsson	Sören will give a presentation on shape control actuators
53.24	Thea/Jaap W.	Will send the 'report to the council' to José Maroto Sanchez.

- | | | |
|-------|----------------|---|
| 53.25 | Jaap Wiggeraad | Will check with the council what to do with the website now the chair has changed. |
| 53.26 | Jaap Wiggeraad | Will ask GARTEUR secretary about Certificate for Florence Roudolff |
| 53.27 | Thea | Ask Hans Schröder about his retirement, whether he will be attending the next meeting |