

**Environmental Materials Information Technology (EMIT) Consortium**  
**Minutes of Steering Committee Teleconference**

October 14<sup>th</sup> and 15<sup>th</sup>, 2008

**ATTENDANCE**

**Members**

Eurocopter	Jean-Marc Berthier (Chair), Laurene Arnould, Maurice Narayanin, Gerard Mesnard, Jean-Charles Anifrani
Granta Design Limited	David Cebon, Will Marsden, Cyril Journoux, Andrew Miller, Patrick Coulter
NASA Marshall Space Flight Center	Ben Henrie
National Physical Laboratory (NPL)	Graham Sims
Rolls Royce	Andy Page, Mike Clarke

**Observers**

Honeywell Aerospace	Mike Gorelik (MDMC Member)
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**Apologies**

Emerson Electric	Bob Rivett
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**SUMMARY OF ACTIONS**

<b>Minute No</b>	<b>Action</b>	<b>Responsible</b>
7.2	An initial list of use cases was generated. This will be circulated to members for addition of more items. Once a final list is compiled, members will be asked to vote on the list to assign priorities.	Granta/All
8.8	Granta to circulate AMIS Software Requirements Document (SRD) to members for comment.	Granta/All
9.6	It was agreed to circulate the following information to members for comment: <ul style="list-style-type: none"> <li>• A lists of legislation contained in the database.</li> <li>• A lists of attributes contained in the substance and legislation records</li> </ul>	Granta/All
9.7	It would be useful to provide functionality so that users can easily generate their own substance lists to add to the substance declaration template.	Granta
9.8	The members will be asked to provide examples of MSDS's so that the possibility of using them to provide material-substance links can be examined.	Granta/All
9.9	An important question is the direct connection between 'black box components' and substances. Granta will examine the best way to do this.	Granta
9.10	The members will be asked to provide data for various case studies so that the structure of the database can be validated.	Granta/All
9.11	Granta to generate DRD for Restricted Substances database	Granta
9.12	Granta will propose a draft template based on the SAE 9535 substance declaration template. Members will be asked for their comments.	Granta/All

# MINUTES

## 1 Introductions

- 1.1 Jean-Marc Berthier welcomed the participants to Eurocopter and wished the Consortium success in the EMIT project.
- 1.2 The Agenda was reviewed. There were no changes.
- 1.3 M Eric Lescourant presented the Eurocopter group: group statistics, markets and products – both civil and military. Turnover for 2007 was 6.6 b€.

## 2 Minutes of Teleconference 25<sup>th</sup> July 2008

- 2.1 The minutes of the Teleconference of 25<sup>th</sup> July 2008 were reviewed and approved. All Actions from the minutes have been completed.

## 3 Aims and Objectives, Software Development Process

- 3.1 David Cebon presented some background to the EMIT Consortium including its objectives, the technology development focus and the software development process.
- 3.2 Key aims of this first Steering Committee Meeting are to generate use cases and strategic requirements input for:
  - Databases,
  - Software connections between material information and CAD/PLM systems,
  - Software tools for handling restricted substances information and other aspects of product stewardship.

## 4 Member Presentations

- 4.1 Ben Henrie described the NASA MAPTIS system for disseminating materials information across NASA and the NASA contractor community. The MAPTIS system was originated following the Apollo 1 accident: to bring together all the materials information used by NASA and its contractors. It is now web based and contains approx 30 different databases, some of which are from public sources and some contain NASA in-house information. (see <http://maptis.nasa.gov/index.asp>). The system also manages lab test data including information associated with return to flight after the two Shuttle accidents. Data is distributed for flight worthiness purposes and the MAPTIS team has signature authority for Materials used in the Shuttle program. There are 35,000 Materials with approx 300,000 records, concerned with: electrical properties; flammability; fluid compatibility; fungi; mechanical properties; odor; outgassing; toxicity, etc. Granta MI is used within MAPTIS for managing in-house test data (it contains 25000 test records and 800 – 1000 tests are added per month) and for publishing a number of standard reference databases. The database has 3,300+ users with specified levels of access.

NASA is concerned about the impacts of REACH. The current initiative is concerned with adding restricted substances information to the database, particularly to prevent problems concerned with future material obsolescence.

- 4.2 Andy Page presented Rolls Royce's REACH IT functionality requirements. The REACH legislation has two parts:
  - Registration of substances and preparations. (Pre-registration → Registration → Evaluation → Authorization, Restriction),

- Declaration of substances of very high concern (Supplier → 0.1% SVHC in articles, → RR → 0.1% of SVHCs in Articles). In principle, such declarations are needed as soon as the SHVC list goes live at the end of 2008.

The priority list of substances of concern to aerospace contains about 100 substances, some of which are on the REACH SHVC candidate list and some of which are declarable substances on the ASD/SAE 9535 list. For RR the main issues of concern are associated with business risk rather than legislative compliance.

IT functionality needs to handle parts (articles) in 4 categories:

- Externally manufactured parts, designed by suppliers  
(Requires links between Part Numbers ↔ Substances)
- Externally manufactured parts, designed by RR  
(Requires links between Part Numbers ↔ Materials ↔ Substances)
- Internally manufactured parts  
(Requires links between Part Numbers ↔ Materials ↔ Substances)
- Consumables in assembly (risk is managed by Safety Data Sheet data)

4.3 Mike Gorelik presented a perspective of REACH compliance efforts at Honeywell. Honeywell has a large number of sites, worldwide, that manufacture mechanical and electric components.

In the near term it will be necessary to:

- Identify restricted substances for in-house and supplier components, and those used in processing,
- Quantify the content of restricted substances, including % by weight,
- Material substitution: access to lists of available alternatives with properties for design.

4.4 Jean-Marc Berthier presented Eurocopter's environmental issues of concern. Eurocopter is heavily involved in Eco-Design in the Clean Sky Project. Of major importance in Eco-Design are:

- External Noise reduction,
- Energy use and emissions: this is a strategic issue but not subject to regulation at present,
- Restricted Substances: REACH and obsolescence management are critical,
- Process Effluents.

He also presented Eurocopter's approach to REACH compliance. A key issue is capturing and managing information from suppliers. There are a number of in-house tools that will need to be integrated with tools from the EMIT consortium. Eurocopter needs the first eco-design tool – for restricted substances management - to be in use inside the design office within 18 months (i.e. implementation of tools needed much earlier than through the 7 year timetable for the Clean Sky project)

Two difficulties noted were:

- Stakeholders not in same regulatory system
- Legal requirements at different levels

4.5 Maurice Narayanin presented Eurocopter's overall information strategy for Environmental compliance. It includes SAP, Granta MI, Windchill and the in-house package 'HELGRECO. Key applications are:

- Preparation qualification (Granta),
- Substance compliance,
- Site and people compliance (SAP, HIM),
- Process Compliance (SAP),
- H/C Fleet compliance (SAP),

Maurice - also presented Eurocopter's proposed virtual and physical product compliance system. It will use Windchill and SAP for delivered products; and Granta with HELGRECO for virtual product development. Key issues are: identification of hazardous substances; identification of amounts of restricted substances in purchased components and H/C; validation that products meet regulatory compliance and streamlining and automating the report process.

A key issue is how to ensure traceability of the substances in articles through the product life cycle.

4.6 Graham Sims gave a brief presentation about NPL, the UK's national standards laboratory. Graham is Divisional knowledge leader as well as a Fellow in Composites. NPL is a focus for requests for databases for Materials UK, SMEs and international bodies. For example, a recent meeting attend by BSI and material industry represents, considered the standardisation needed to support sustainable use of materials. NPL chairs the international VAMAS (Versailles Project on Advanced Materials and Standards) materials pre-normalisation group and leads WG4 on the promotion of databases within WMRIF (World Materials Research Institute Forum).

4.7 Patrick Coulter provided an introduction to Emerson Electric on their behalf, as Bob Rivett unable to attend at last moment. Emersion has annual revenue of \$22b and has increased their dividend for 50 years in a row. 50% of production is in North America and 50% in Europe and Asia. There are 70 different divisions that manufacture a broad range of industrial products, including air conditioners, electric motors, controls, oil and gas, tools, power supplies, etc. Their principal concerns in the environment area are in REACH, and energy efficiency. Bob Rivet is Emerson's VP Technology and will represent the corporation on the EMIT consortium.

## **5 Factory Tour**

5.1 The Members were treated to a fascinating tour of Eurocopter's Ecureuil helicopter production line.

## **6 Key Elements of Software Architecture**

6.1 David Cebon presented the key elements of the Granta MI software architecture for eco design, including the MI database management system, the restricted substances database and the connections between CAD and PLM databases.

6.2 David Cebon demonstrated the new capabilities for accessing the Restricted Substances database from within UG-NX (CAD) and Teamcenter (PLM) systems. The proof-of-concept software enables users to assign materials to components in the CAD or PLM system, and then to generate restricted substances reports on all or part of the article/system.

## 7 Use Cases

- 7.1 There was a wide-ranging discussion of use cases for eco-design software tools. The focus was on restricted substances information. It was agreed that other eco-design issues could be prioritized in later meetings.
- 7.2 An initial list of use cases was generated. This will be circulated to members for addition of more items. Once a final list is compiled, members will be asked to vote on the list to assign priorities.  
(ACTION: Granta/All)

## 8 NASA AMIS Project

- 8.1 Ben Henrie described the AMIS project (Aerospace Materials Information System) on Restricted Substances at NASA. The objective is to add restricted substances to the Materials Selection List in MAPTIS. The software concept builds on the summary ratings used for toxicity information in MAPTIS.
- 8.2 The restricted substances database needs all substances from the EPA 'List of Lists' as well as NASA Directives, etc, and needs background tools to generate the links between items and enable updates of in-house information as well as regular updating of reference information.
- 8.3 NASA's RRAC group monitors legislation for restricted substances <http://www.rracpc.org/default.aspx> . Another useful web site is the Joint Group on Pollution Prevention <http://www.jgpp.com/>
- 8.4 The system will need to generate substance summary ratings dynamically, according to the restricted substance lists associated with the user's project group. Currently proposed ratings are:
  - Banned
  - To be Phased Out
  - Restricted
  - Caution
  - Unregulated

It is hoped to unify this terminology between the EMIT and AMIS projects.

- 8.5 The AMIS restricted substances reporting tool will provide a summary of materials and substance ratings for a project, based on a Bill of Materials (BoM) from an external data file. This tool is needed to enable the materials authority to sign-off the Bill of Materials.
- 8.6 Jean-Marc Berthier commented that the EMIT restricted substances reporting tool needs to provide an overview of regulations world-wide.
- 8.7 Andy Page noted the need to limit materials selection decisions to preferred materials, based on substance restrictions.
- 8.8 Granta will the circulate AMIS Software Requirements Document (SRD) to members for comment.  
(ACTION: Granta/All)

## 9 Progress on Restricted Substances Database

- 9.1 Andrew Miller described recent work on the Granta Restricted Substances database. He summarized the regulations that have been incorporated into the database so far, these include UK and European Regulations, as well as the EPA List of Lists and the ASD/SAE TR 9535 list. CAS numbers are used to link substances to materials in the database. Andrew demonstrated the current version of the database.
- 9.2 The frequency of database updates was discussed. For REACH there is likely to be an annual update for the candidate list. The 'register of intentions' may be updated at any time. It was generally thought that quarterly database updates would be needed.
- 9.3 It would be useful to provide information about generic uses of substances in the database and/or in update bulletins.
- 9.4 It may be useful to add tradenames and/or alternative names to substance records where possible.
- 9.5 It seems unlikely that all 36,000 pre-registered substances for REACH would be needed in the database. The SAE/ASD list of 3,400 substances would be a good initial focus.
- 9.6 It was agreed to circulate the following information to members for comment: (ACTION: Granta/All)
- A lists of legislation contained in the database. Members will be asked to add their requirements to this list. The input will be compiled into a single list which will be sent back to the members for a prioritization vote.
  - A lists of attributes contained in the substance and legislation records (sample records).
- 9.7 Andrew presented the SAE A9535 substance declaration template. It would be useful to provide functionality so that users can easily generate their own substance lists to add to the declaration template. (ACTION: Granta)
- 9.8 Andrew demonstrated how MI: Toolbox can be used to import the substances declaration form template. Andy Page noted that in some cases, substance information associated with materials might be gathered from Material Safety Data Sheets. EMIT members will be asked to provide examples of MSDS's so that the possibility of using them to provide material-substance links can be examined. (ACTION: Granta/All)
- 9.9 Andy Page stressed that an important question is the direct connection between 'black box components' and substances. Granta will examine the best way to do this. (ACTION: Granta)
- 9.10 The members will be asked to provide data for various case studies so that the structure of the database can be validated. (ACTION: Granta/All)
- 9.11 Granta will generate a Database Requirements Document (DRD) for future development and maintenance of the Restricted Substances database (ACTION: Granta)
- 9.12 It was agreed that developing a standardized data input system for material and article supplier declaration of substances on a user-specified list is the highest priority. Granta will propose a draft template based on the SAE 9535 substance declaration template. Members will be asked for their comments. The aim is to implement a substance declaration process as soon as possible. (ACTION: Granta/All)

## **10 Review of Meeting**

- 10.1 The printed handouts could be improved.
- 10.2 It was thought that a two-day meeting format would be better.
- 10.3 It was agreed that the Agenda should be developed collectively prior to the meeting. We should endeavor to allocate as much time to discussion of the critical issues as possible.
- 10.4 It was confirmed that consortium member's presentations would be available on the secure area of the EMIT web site.

## **11 Date of Next Meeting**

- 11.1 The next meeting will be hosted by Rolls Royce in Derby on Tuesday 21<sup>st</sup> and Wednesday 22<sup>nd</sup> April, 2009. The start time will be 9 or 10am.
- 11.2 There will be a Webex on Monday 8<sup>th</sup> December at 1800 Paris time, 17:00 UK, 11:00 CST, 10:00 MT. The main topics of discussion will be the database and 'use cases' prioritisation lists.

DC, GS  
24<sup>th</sup> October, 2008