



Bordeaux le 16 Mars 2007

**ABSTRACT / CALL for PAPERS**  
**INTERCONEX – TOULOUSE - 25-26 Septembre 2007**

**PROJET AMELIE**

**Fiabilité et industrialisation des procédés et processus de fabrication des cartes électroniques pour l'aéronautique civile & militaire  
Conformité avec les directives RoHS**

The AMELIE project is dedicated to the RELIABILITY AND INDUSTRIALISATION OF PROCESSES AND EQUIPMENT IN ELECTRONIC ASSEMBLY. COMPLIANCE WITH “WEEE” & “ROHS” EUROPEAN DIRECTIVES. It has been co-founded by EC LIFE Env. And ADEME and started on October 2005. The main objectives of the AMELIE project are to contribute to the design, the development and the validation of lead-free industrial assembly. Although lot of work has been performed over the last years and the date of July 1<sup>st</sup> 2006 passed, questions are still pending on lead-free solder joints mainly for high reliability applications. Moreover the mixed assemblies as Backward and Forward are intermediate phases whom results aren't still optimised. This project is oriented on electronic airborne systems through THALES and GAIA Converter end-users . Then it will contribute to maintain and to improve the high reliability of LF electronic products dedicated to the aeronautic and military markets. It proposes to present the main technical activities after two years. It covers the results from thermal cycles through two test vehicles and analysis with probability of defect. Obviously, the modelling & simulation is linked to this analysis. The properties of SAC alloys are characterised in order to match with the simulation and experimental results.

The transferability plan is an important activity which has to led to exchange and to promote the knowledge's towards SME and European networks ; This activity will be presented and developed and then the opportunity to support some needs.

A short overview on environmental analysis from different partners and the synthesis of the technico&economical analysis will be done.

**KeyWords :** RoHS, Lead Free, SAC, Reliability, FEM, alloy properties, thermal cycle, storage, assembly, passives, printed circuit board, transferability

**Contact :**

SOLECTRON France  
Dr. Alexandre VAL  
Responsable projet AMELIE  
[alexandreval@fr.slr.com](mailto:alexandreval@fr.slr.com)  
Tél : 05 57 12 84 42  
Fax : 05 57 12 74 90

CONSORTIUM : 12 partenaires  
ADERA, ADEISO, ALENCON PLASTIC, CIRE, CNRT BN MATERIAUX, GAIA CONVERTER,  
ISPA, IMS-ENSEIRB, SOLECTRON, TEMEX CERAMICS, THALES SA, NXP (PHILIPS)

WEBSITE : [www.life-amelie.info](http://www.life-amelie.info)

**REMERCIEMENTS :**



Supporté par l'Union Européenne  
LIFE Environment Project  
05 ENV/F/000053

**A D E M E**



Co-financé par l'ADEME