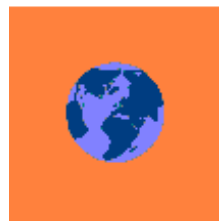




ADEME



AMELIE Project :

**RELIABILITY AND INDUSTRIALISATION OF PROCESSES AND
EQUIPMENT IN ELECTRONIC ASSEMBLY.
COMPLIANCE WITH WEEE & RoHS EUROPEAN DIRECTIVES**

LIFE05 ENV/F/000053

CONTACTS

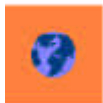
**Alexandre VAL (SOLETRON – Technical leader) / Olivier FOUASSIER (ADERA - Financial leader)
Vincent RIBES (ADEISO - Dissemination leader)**

GIFAS présentation – 15 Février 2006



EUROPEAN DIRECTIVES

- **EUROPEAN DIRECTIVES**
 - WEEE (WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENTS)
 - ROHS (REDUCTION OF HAZARDOUS SUBSTANCES)
- **WHITE ELECTRONIC GOODS, COMPUTERS, TELECOMMUNICATIONS, ELECTRONIC CONSUMER, AUTOMOTIVE,**
- **EXCEPTION UP TO 2010**
 - NETWORKS – INFRASTRUCTURE
 - **AERONAUTIC – MILITARY - AVIONIC - SPATIAL**
- **INTERNATIONAL**
 - JAPAN : PRECURSOR
 - USA : NO LEGISLATION EXCEPTED FOR FEW STATES [CALIFORNIA....] - EXPECTED 2007
 - CHINA : DIRECTIVES CLOSED TO EUROPEAN DIRECTIVES - EXPECTED 01/07/06



AMELIE



PARTNERS

COMPONENT MANUFACTURERS :

ALENCON PLASTIC (Plastic for connectors)
PHILIPS FRANCE (IC Packaging)
SGCI / CIRE (Printed Circuit Board)
TEMEX (Passive components)

END USERS :

GAIA CONVERTER (Aeronautic, Military, Niche markets)
THALES AIRBORNES SYSTEMES (Aeronautic, Military)



LABORATORIES :

CNRT BN (Plastic materials)
ISPA (Plastic materials)
IXL (Expertise and FEM)

ELECTRONIC MANUFACTURING SERVICES :

SOLECTRON FRANCE (Assembly)

ADEME



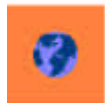
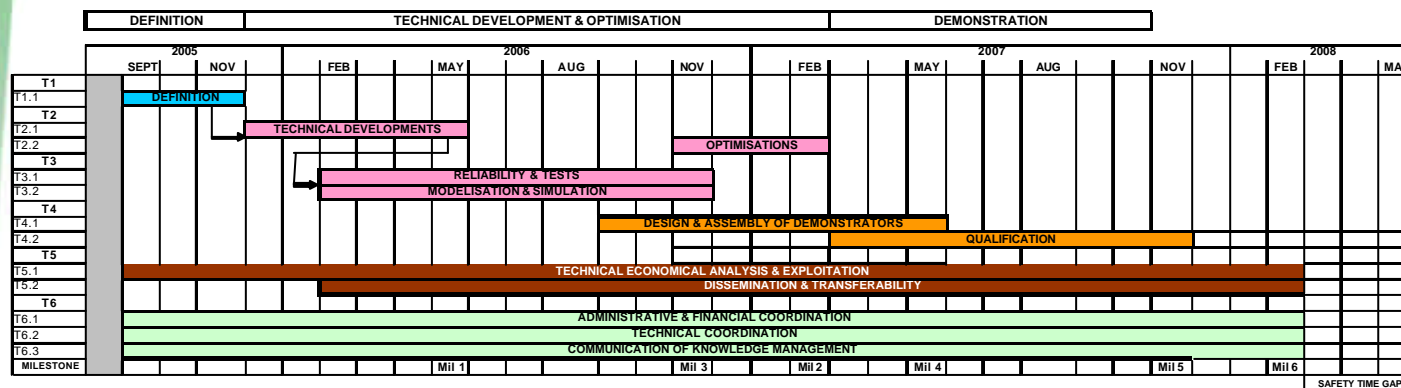
GIFAS présentation – 15 Février 2006





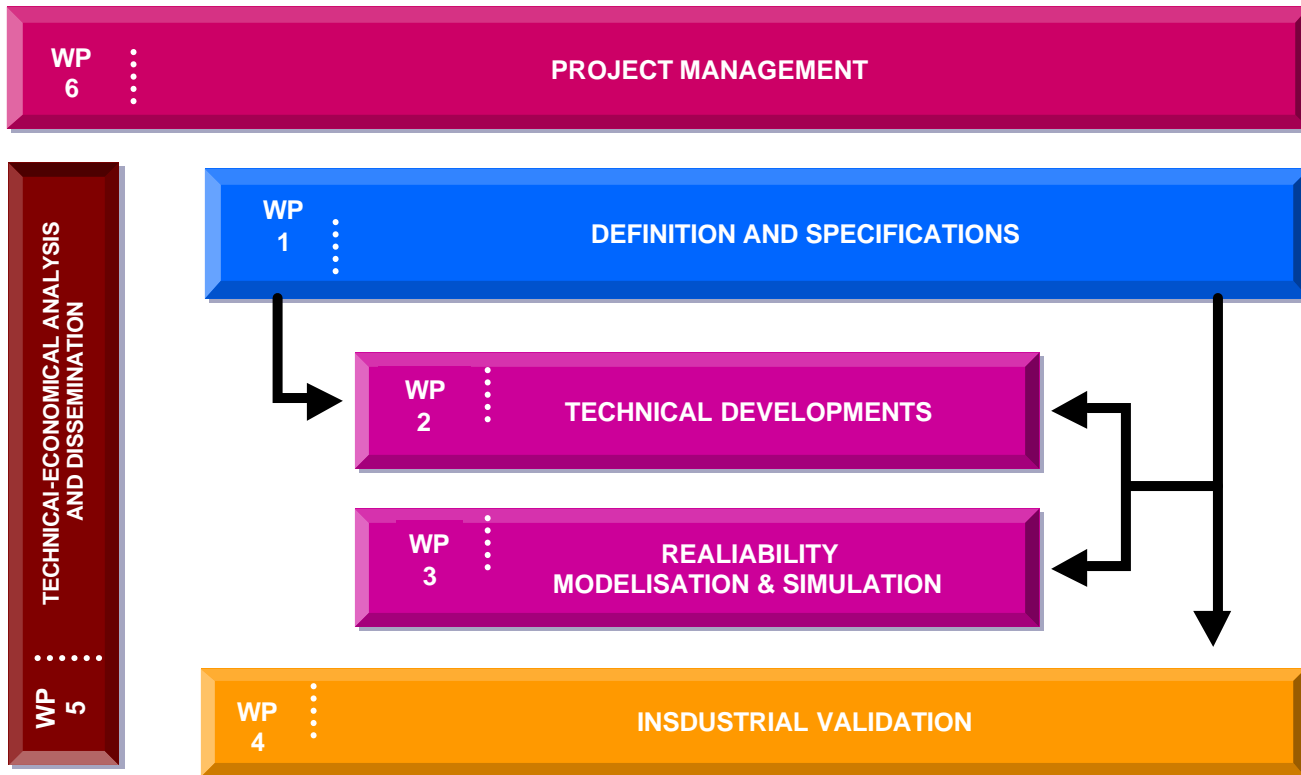
SCHEDULE

KICK-OFF :	OCT 05
DEFINE & IDENTIFY PHASES :	OCT 05 - FEB 06
DESIGN PHASE :	FEB 06 – DEC 06
OPTIMIZE PHASE :	NOV 06 – MARCH 07
DEMONSTRATOR PHASE :	DEC 06 – DEC 07
End of PROJECT :	FEB 08





WORKPACKAGE DESCRIPTION





MAIN ACTIVITIES

- **TO DEFINE, DEVELOP & VALIDATE SOME TECHNIQUES & TECHNOLOGIES COMPATIBLES**
 - PRINTED BOARD – PASSIVE COMPONENTS – INTEGRATED CIRCUIT COMPONENTS
 - SMD, PTH, REWORK PROCESSES FOR HIGH RELIABLE ASSEMBLIES (CLASS 3)
 - BACKWARD ASSEMBLY RELIABILITY & MANAGEMENT
 - REPAIR PROCESS
- **INDUSTRIAL VALIDATION WITH FUNCTIONAL BOARDS**
 - NEW DESIGN WITH LF CONSIDERATIONS
 - RETROFIT on LEAD PRODUCTS / BACKWARD
- **TO ANALYSE THE RELIABILITY**
 - HIGH ACCELERATED TESTS + MODELISATION / SIMULATION
- **HUMIDITY MANAGEMENT (MSL)**
- **DUALE WAREHOUSING MANAGEMENT**
- **TO DEVELOP & REINFORCE SKILLS**
 - INTERNAL for EACH PARTNER
 - DISSEMINATION in EUROPE
 - TRAINING for SMEs
- **TO ANALYSE THE CONSEQUENCES for ENVIRONNEMENT & HEALTH**
- **TO ANALYSE THE TECHNICAL & ECONOMICAL CONSEQUENCES**





TEST VEHICLES DEVELOPMENTS

TEST VEHICLE Polyimide version (VTP)

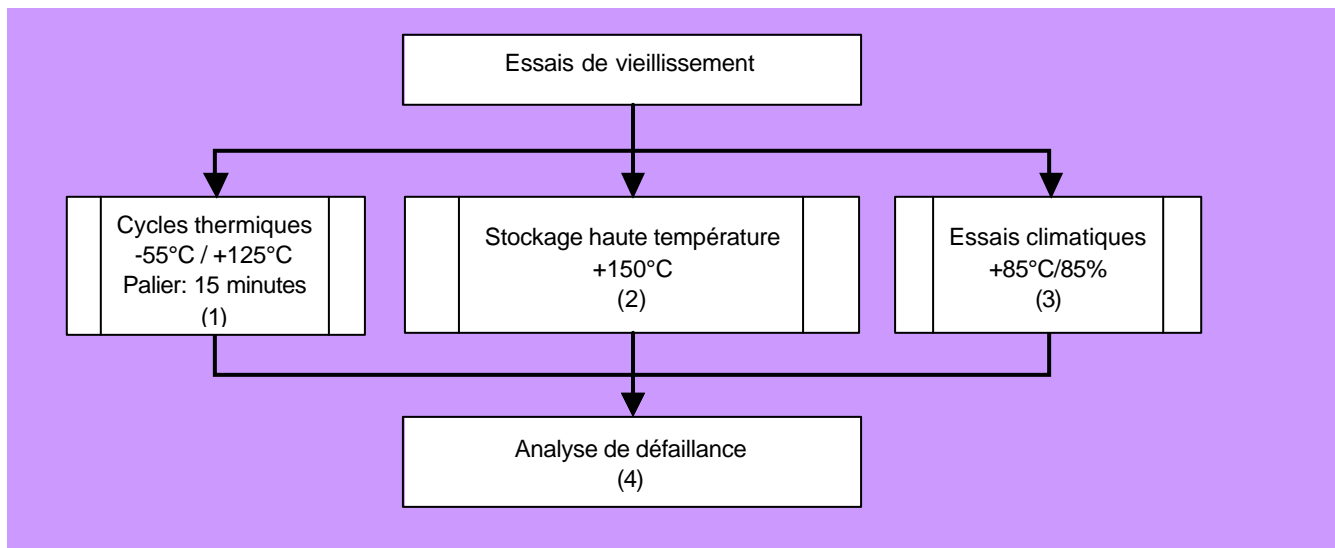
Name	Finish	Solder paste alloy	Components	Solder wave alloy	Rework
VTP_SnPb_SnPb_WSnPb	SnPb reflowed	SnPb	None RoHS	SnPb	NO
VTP_Backward_WSnPb	SnPb reflowed	SnPb	RoHS	SnPb	NO
VTP_405_ENIG_W305	Ni/Au	SAC405	RoHS	SAC305	NO
VTP_405_Sn_W305	Sn chemical	SAC405	RoHS	SAC305	NO
VTP_405_ENIG_W305_R	Ni/Au	SAC405	RoHS	SAC305	YES
VTP_405_Sn_W305_R	Sn chemical	SAC405	RoHS	SAC305	YES
VTP_305_ENIG_W305	Ni/Au	SAC305	RoHS	SAC305	NO

TEST VEHICLE FR4 version (VTF)

Name	Finish	Solder paste alloy	Components	Solder wave alloy	Rework
VTF_SnPb_ENIG_WSnPb	SnPb reflowed	SnPb	None RoHS	SnPb	NO
VTF_405_ENIG_W305	Ni/Au	SAC405	RoHS	SAC305	NO
VTF_405_Sn_W305	Sn chemical	SAC405	RoHS	SAC305	NO
VTF_305_ENIG_W305	Ni/Au	SAC305	RoHS	SAC305	NO



TEST VEHICLES DEVELOPMENTS



QUANTITY of BOARD per BATCH : 11

ELECTRICAL TESTS in CONTINUOUS

THERMAL CYCLING : 1500 min.

HIGH TEMPERATURE STORAGE : 1000 hours max.

HUMIDITY TEST : 1000 hours max.



LIFE Environment 2005 Programme

- **GEAMCOS project :**

PROJECT ON CLEAN TECHNOLOGIES WITH THE SUBSTITUTION OF LEAD BY OTHER ALLOYS IN ORDER TO PRODUCE GREEN ELECTRONICS IN AERONAUTIC AND MILITARY COMMUNICATION SYSTEMS.

PARTNERS : AIRBUS, EADS DCS, ACTIA, TECH CI, EADS CCR

CONTACT : Isabelle LOMBAERT-VALOT, EADS CCR

- **HARMONISATION BETWEEN AMELIE & GEAMCOS IN PROGRESS**

- **Acknowledgements :**

- **We would like to thank the European Community for having accepted to co-fund this LIFE project**
- **We would like to thank the ADEME for having accepted to co-fund this project**

