



ECO-DESIGN ITD
DESCRIPTION OF 2012 WORK
ANNUAL IMPLEMENTATION PLAN – ANNEX 1a

1. INTRODUCTION

The global objective of the **Eco-Design ITD** is to reduce the product environmental impact while keeping competitiveness of the aeronautic industry.

The **Eco-Design ITD** is focused:

- On one hand on designing equipped airframe with a minimum of inputs (raw materials, energy, water,...), outputs and nuisances (energy /warming, liquid effluents, gaseous effluents, solid waste, ...) all along the life cycle;
- And, on the other hand, on suppressing non-renewable and/or noxious substances (i.e. suppression of conventional hydraulic fluids) during operations and maintenance, while keeping the aircraft at the appropriate level of quality and performance.

The highest level WBS is represented on the following figure:

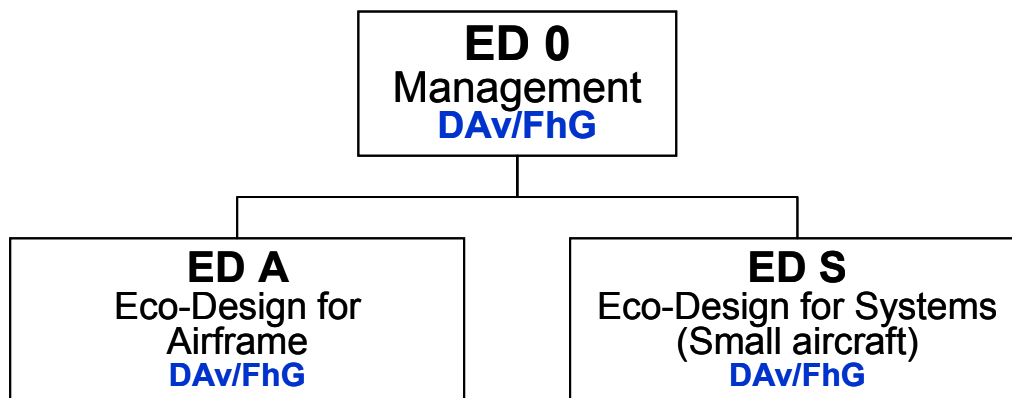


Figure 1 Eco-Design ITD Level 0 WBS

This figure structures the management caring for the execution of the work programme.

The coordinator in terms of Grant Agreement is Dassault Aviation.

Work Package ED 0 includes management activities at ITD, EDA and EDS level for 2012.



2. ECO-DESIGN FOR AIRFRAME

The Airframe Application of the Eco-Design ITD is meant to tackle the above issues by focusing on the following challenges:

- To identify and mature environmentally sound (“green”) materials and processes for a/c **production**.
- To identify and mature environmentally sound (“green”) materials and processes for a/c **maintenance and use processes**.
- To improve the field of **end-of-life** a/c operations after several decades of operation, including reuse, recyclability and disposal (“elimination”) issues.
- To provide means for an economic **design** process on order to minimize the overall environmental impact of a/c production, use/maintenance, and disposal.

These areas will be considered for significant parts of the aircraft: Structure, cabin covering and furniture, vehicle systems components / equipments, engine components, electronics.

In the following sections, To means the start date of the project: 1st of October 2008. To+N means N months after the start date. 2012 is the period between To+39 and To+51.

2.1 Statement of Work - Scope of 2012 Technical Work

This part describes the 2012 work in the frame of the Eco-Design ITD – Airframe Application.

During this period, some activities will be carried out in the following WPs:

- WP A.2 Technology Development,
- WP A.3 Application Studies.
- WP A.4 Lifecycle demonstration definition
- WP A.5 Lifecycle demonstration preparation
- WP A.6 Lifecycle demonstration



WP A.2 Technology Development

Description of work (Tasks)		
Ref. No.	Title	Description
TA 2-02	Monitoring of technology roadmap	Continuous monitoring of technology readiness level of the materials/technologies worked on

Outputs			
Ref. No.	Title	Type	Date
DA 2-02	Definition of technology readiness level	D	T0+48 T0+60

WP A.2.1 Technology Development – Materials and Surfaces:

In the frame of WP A.2.1, activities will be conducted in sub-WPs A.2.1.1 “composites and surface treatments”, A.2.1.2 “metallics and surface treatments” and A.2.1.3 “other important materials”.

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 211-03	Composites and surface treatments: Progress report 3	D	T0+48
DA 211-07	Materials data from materials development	D	T0+49
DA 212-03	Metallics and surface treatments: Progress report 3	D	T0+48
DA 212-07	Materials data from materials development	D	T0+49
DA 213-03	Other important materials: Progress report 3	D	T0+48
DA 213-07	Materials data from materials development	D	T0+49

WP A.2.2 Technology Development – Manufacturing:

In the frame of WP A.2.2, activities will be conducted in sub-WPs A.2.2.1 “new processes and associated tooling”, A.2.2.2 “manufacturing waste management” and A.2.2.3 “Modelling tools”.

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 221-03	New processes and associated tooling: Progress report 3	D	T0+48
DA 221-07	Manufacturing process data to modelling tool	D	T0+49
DA 221-09	New processes and associated tooling: Lab scale units	H	T0+48



DA 222-03	Manufacturing waste management: Progress report 3	D	T0+48
DA 222-07	Data provision for modelling tool	D	T0+49
DA 223-06	Data collection on new technologies (from WP2.1/2.2)	S	T0+38 T0+50

WP A.2.3 Technology Development – Long Life Structures:

In the frame of WP A.2.3, activities will be conducted in sub-WPs A.2.3.1 “Structural Diagnostic and Prognostic”, A.2.3.2 “Test Procedures” and A.2.3.3 “green repair solutions”.

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 231-03	Structural Diagnostic and Prognostic: Progress report 3	D	T0+48
DA 232-03	Test Procedures: Progress report 3	D	T0+48
DA 233-03	Green repair solutions: Progress report 3	D	T0+48

WP A.2.4 Technology Development – End of Life:

In the frame of WP A.2.4, activities will be conducted in sub-WPs A.2.4.1 “Dismantling and Re-use of Components”.

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 241-03	Identification and Recycling: Progress report 3	D	T0+48
DA 241-06	Report on recycling routes	D	T0+46

WP A.3.Applications studies

Description of works (Tasks)		
Ref. No.	Title	Description
TA 31-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners); participant: AIB(AIB)

WPA.3.1: Eco-Statement

In the frame of WP A.3.1, activities will be conducted in sub-WPs A.3.1.1 “Evaluation tools” and A.3.1.2 “Current Eco-Statement”.



Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 311-02	Simplified LCA model: Simplified Software Tools <ul style="list-style-type: none"> Gabi based tool Atalys based tool 	S	T0+42
DA 312-03	Life Cycle Assessment recommendations based on reference technologies and using the LCA methods and tools developed in WP A.3.1.1. Work performed on the basis of reference A/C defined in TA 312-02.	D	T0+48

WPA.3.2: Extrapolation to industrial conditions

Description of work (Tasks)		
Ref. No.	Title	Description
TA 32-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners).
TA 32-01	Elaboration of the WP detailed development plan	Following the Kick-Off meeting to be held at T0+37, to release DA 32-01 report stating WP detailed activities

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 32-01	Extrapolation to industrial condition: Work Package detailed development plan	D	T0+39
DA 32-02	Methodology and criteria analysis	D	T0+42
DA 32-03	Extrapolation to industrial condition: Progress report 1	D	T0+45
DA 32-04	Extrapolation to industrial condition: Progress report 2	D	T0+51

WPA.3.3: Eco-Design guidelines

Description of work (Tasks)		
Ref. No.	Title	Description
TA 33-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners).



Description of work (Tasks)		
Ref. No.	Title	Description
TA 33-01-01	Eco Design Format Definition	Defining the format (e. g. report, guideline) according to requirements (WP A.1.x) and users specifications, identification and development of the most appropriate eco-design guideline tool(s)
TA 33-02-01	Data Collection from WP2.x, 3.x, 6.x	Analyse the outcome of WP A.2, WP A.3, WP A.6 and extract data to be converted into eco-design guidelines, Collection and Synthesis of information on eco-design issues
TA 33-02-02	Green design basic survey	Identification of existing literature and additional information needed for interviews for green design/eco-design/design for environment/design for recycling. This includes literature surveys, congress visits, and potentially interviews with stakeholders in green design
TA 33-02-03	Green design model applications survey	Identification of example implementations of the general green design requirements in different industrial branches are to be produced using a uniform description format. These branches include -shipbuilding industry -railway industry -car industry. Consolidation of these results with the results from TA14-04 is planned.

WP A.4 Lifecycle demonstration definition

WPA.4.1: Equipped Airframe

Description of works (Tasks)		
Ref. No.	Title	Description
TA 41-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners); participants: DAV, HAI
TA 41-01	WP Synthesis	To synthesise the activities of the WP

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 41-01	Equipped Airframe demonstration definition: Synthesis Report	D	T0+48
DA 41-02 to DA 41-0x	Demonstrator XXXX Technical Requirements and Guidelines	D	T0+48

WPA.4.2: Equipment



Description of work (Tasks)		
Ref. No.	Title	Description
TA 42-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners).
TA 42-01	Analyze WP A.2 and select the most effective "green" technologies	Determination from studies of WP2 technologies with TRL > 4 with environmental benefits and define the demonstrators / components that will use these technologies. <ul style="list-style-type: none"> • First selection at To + 33 • Second selection at To + 45
TA 42-02	Definition of equipment demonstrators / components for life cycle demonstration	After selection of the most promising technologies, definition of equipment demonstrators / components for testing of these technologies. <ul style="list-style-type: none"> • First selection from TA 42-01 • Second selection from TA 42-01

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 42-02	Lifecycle demonstration definition : Progress report 2	D	T0+48

WP A.5: Lifecycle demonstration preparation

WPA.5.1: Equiped Airframe

Description of works (Tasks)		
Ref. No.	Title	Description
TA 51-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners); participants: DAV, HAI

WPA.5.2: Equipment

Description of work (Tasks)		
Ref. No.	Title	Description
TA 52-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners).
TA 52-01	Demonstrator design phase	After conceptual design of demonstrators from WP A.4.2, detailed design of the demonstrators.
TA 52-02	Definition of test	Definition of tests and test plan for the demonstrators designed of TA 52-01



Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DA 52-01	Lifecycle demonstration preparation : Progress report 1	D	T0+39

WP A.6: Lifecycle demonstration

WPA.6.2: Equipment

Description of work (Tasks)		
Ref. No.	Title	Description
TA 62-00	WP lead	To perform WP Leader activities (coordination of the tasks between all partners).
TA 62-01	Demonstrator manufacturing	



3. ECO-DESIGN FOR SYSTEMS (SMALL AIRCRAFT)

The feasibility of an all-electrical aircraft has to be investigated through the study of innovative energy management architectures, requiring joining forces to provide appropriate requirements to Systems ITD.

The general objective of this part of the Eco-Design ITD is to make a significant step towards the concept of the all-electric vehicle systems aircraft:

- *Removing of hydraulic fluid*

From the removing of hydraulic fluids we expect significant benefits in terms of **aircraft maintenance and disposal environmental impact**.

- *On board power by wire*

The use of electricity as only media offers a lot of possibility in terms of energy management (e.g.: Intelligent load shedding, power regeneration on actuators, sharing of Electrical Control Unit over actuators).

3.1 Statement of Work

Eco-Design WPs include:

- WP S.1: Common activities related to the generic architecture,
- WP S.3 and S.4: Electrical and thermal ground tests activities,
- WP S.2: Specific architecture activities related to the business jet.

For the purpose of the all electric small a/c objective, these WPs are completed with activities hosted by the GRA, GRC and SGO ITDs.

3.2 2011 tasks and associated outputs

List of tasks to be carried out in 2012 – Associated outputs:

WP S 1.1: Methods & Tools

Tasks performed in the frame of the common activities, method and tools are related to:

- WP S.1.1.1: Process
- WP S.1.1.2: Energy Management Model
- WP S.1.1.3: Electrical Network Analysis Model
- WP S.1.1.4: Thermal Model
- WP S.1.1.5: Econonomic Model
- WP S.1.1.6: Database Definition



Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DS1.1.1-4	Stakeholders Expression of Interest - final	D	30/06/2012
DS1.1.2-1	Energy Management Model Global Design	D	31/05/2012
DS1.1.2-2	APOM Global Design	D	31/05/2012
DS1.1.2-3	EMM and APOM Software Requirements Review	R	30/06/2012
DS1.1.2-4	EMM Presentation	P	30/06/2012
DS1.1.2-5	APOM Presentation	P	30/06/2012
DS1.1.3-3	Electrical Network Analysis Model Global Design	D	31/05/2012
DS1.1.3-5	Electrical Network Analysis Model Presentation	P	30/06/2012
DS1.1.4-5	Small A/C Mockup and extension model principles	D	31/03/2012
DS1.1.4-6	R/C ACC and extension model principles	D	31/03/2012
DS1.1.4-7	Trace of operability outset in view of EMM and economic model	D	30/06/2012
DS1.1.4-8	Compatibility WP1.2 candidates, S/S annexed to DS1.1.4-7	D	30/06/2012
DS1.1.5-1	Economic Model Justification Paper	D	31/03/2012
DS1.1.5-2	Economic Model Computer Implementation	S	31/05/2012
DS1.1.5-3	Economic Model Computer Implementation Validation File	D	30/06/2012
DS1.1.5-4	Economic Model Presentation	P	30/06/2012
DS1.1.5-8	Economic Model Computer Implementation Validation File for BJ	D	30/06/2012
DS1.1.6-1	Database Definition	D	30/06/2012

WP S 1.3: Generic Architecture

Tasks performed in the frame of the common activities, generic architecture are related to:

- WP S.1.3.1: Top Level Generic Architecture
- WP S.1.3.2: Electrical Generation / Conversion
- WP S.1.3.3: Electrical Distribution
- WP S.1.3.4: ECS
- WP S.1.3.5: FCS

Only the outputs of these activities to be produced on 2012 are given in this document.



Outputs			
Ref. No.	Title	Type	Date
DS1.3.2-5	Modelling specification at the EPGCS level (1st draft)	D	31/06/2012
DS1.3.2-6	Scalable models of EPGCS equipment (1st draft)	S	31/12/2012
DS1.3.2-7	Electrical load balance report (1st draft)	D	30/06/2012
DS1.3.2-8	Scalable models of equipment weight, volume, maintenance, reliability (1st draft)	S	31/12/2012
DS1.3.3-9	Scalable Functional Model of GA Electrical Power Distribution	S	31/12/2012
DS1.3.4-10	ECS electrical model for Generic Architecture	S	31/12/2012
DS1.3.5-4	Integration Specification for Regional Airplane FCS Rudder Electro-Mechanical Actuator	D	31/12/2012

WP S 1.5: Subsystems Requirements and Development Follow-up

Description of work (Tasks)		
Ref. No.	Title	Description
TS1.5.0-1	Calls for Proposal	Prepare the topic sheets for items procured via CfP. Provide answers to any question coming from the CSJU, related to the topic sheets. Participate as a topic manager to the evaluation session. Perform the technical negotiation with the partner and support the commercial negotiation.
TS1.5.0-2	Subsystem Requirements	Prepare the Subsystem Requirements or Subsystem Integration Requirements document for the target subsystem, test cells or function.
TS1.5.0-3	Development Follow-up	Follow up development phase which consist in: Obtaining and examining the development plan Participation to trade-off studies Participation to the PDR Examining PDR document and approbation of the Acceptance Test Plan and Qualification Plan. Participation to the CDR Participation to selected qualification tests Participation to the First Article Inspection which includes a complete acceptance procedure Evaluation of intermediate models Final models acceptance A library of development records will be created, gathering at least the management plan, acceptance plan and qualification plan.
TS1.5.0-4	Models acceptance	Tests of the delivered models in the simulation environment of EDS

Only the outputs of these activities to be produced on 2012 are given in this document.



Outputs			
Ref. No.	Title	Type	Date
DS1.5.0-34	Report for the status of control unit of generators GEN1 and GEN2 manufacturing + rectifiers manufacturing (Minutes for QR)	D	31/06/2012
DS1.5.0-4	Detailed Specification of generators GEN1 and GEN2 + test cell	D	31/05/2012
DS1.5.0-35	Report for the status of starter/generator S/G2 converter study (Minutes for PDR + CDR)	D	30/09/2011
DS1.5.0-36	Report for the status of starter/generator S/G2 converter manufacturing (Minutes for QR)	D	31/03/2013
DS1.5.0-5	Detailed Specification of starter/generator S/G2 + test cell	D	15/01/2012
DS1.5.0-6	Report for the status of ECS development	D	28/09/2012
DS1.5.0-7	Detailed Specification of ECS + test cell	D	30/03/2012
DS1.5.0-8	Report for the status of APU starter/generator study (Minutes for PDR + CDR)	D	31/10/2012
DS1.5.0-37	Report for the status of APU starter/generator manufacturing (Minutes for QR)	D	28/02/2013
DS1.5.0-9	Detailed Specification of APU starter/generator + test cell	D	31/08/2012
DS1.5.0-10	Report for the status of converters study (Minutes for PDR + CDR)	D	31/08/2011
DS1.5.0-38	Report for the status of converters manufacturing (Minutes for QR)	D	30/02/2013
DS1.5.0-11	Detailed Specification of converters + test cell	D	28/02/2012
DS1.5.0-12	Report for the status of starter/generator S/G3 development (Minutes for PDR + CDR)	D	31/12/2012
DS1.5.0-13	Detailed Specification of starter/generator S/G3 + test cell	D	29/06/2012
DS1.5.0-33	Report for the status of starter/generator S/G3 development (Minutes for QR)	D	30/09/2013
DS1.5.0-14	Report for the status of Heat pipe development (Minutes for PDR / CDR / QR)	D	30/09/2012
DS1.5.0-15	Detailed Specification of heat pipe + test cell	D	30/09/2012
DS1.5.0-16	Report for the status of equipment simulator family development (Minutes for PDR / CDR / QR)	D	31/05/2012
DS1.5.0-17	Detailed Specification of equipment simulator family + test cell	D	28/02/2013
DS1.5.0-18	Report for the status of fuel cell simulator development (Minutes for PDR / CDR / QR)	D	31/12/2013
DS1.5.0-19	Detailed Specification of fuel cell simulator + test cell	D	30/06/2013
DS1.5.0-20	Report for the status of low voltage batteries BAT1 and BAT2 provision	D	31/09/2012
DS1.5.0-21	Report for the status of communalized electronic for landing gear manoeuvre and orientation test cell development	D	31/09/2012
DS1.5.0-22	Detailed Specification of communalized electronic for landing gear manoeuvre + orientation test cell	D	31/06/2012
DS1.5.0-23	Report for the status of I-LPM controller development	D	30/06/2012
DS1.5.0-24	Detailed Specification of I-LPM controller test cell	D	30/09/2012
DS1.5.0-25	Report for the status of EMA for Landing gear development	D	31/05/2012
DS1.5.0-26	Detailed Specification of EMA for Landing gear test cell	D	31/08/2012



Outputs			
Ref. No.	Title	Type	Date
DS1.5.0-27	Report for the status of EMA for FCS development	D	30/09/2012
DS1.5.0-28	Detailed Specification of EMA for FCS test cell	D	30/11/2012
DS1.5.0-29	Report for the status of 28VDC battery model development (validation review)	D	30/06/2013
DS1.5.0-30	Model specification of 28VDC battery	D	30/09/2012
DS1.5.0-31	Report for the status of 270VDC equipment provision	D	31/12/2012

Links with other WP/tasks				
Inputs	Item No.	Item Title	From WP/Task No.	Due date
	DS1.3.2-1	HLTR for GA Ground electrical Power Generation	S1.3.2	31/12/2010
	DS1.3.2-2	HLTR for GA Emergency Electrical Power Generation	S1.3.2	31/03/2011
	DS1.3.2-3	HLTR for GA Batteries and Battery Chargers	S1.3.2	31/12/2010
	DS1.3.2-4	HLTR for GA Main Electrical Generation System	S1.3.2	31/01/2011
	DS1.3.3-1	HLTR for GA Primary and Secondary Electrical Power Distribution	S1.3.3	31/01/2011
	DS1.4.3-1	Electrical Tests Cases Review	S1.4.3	15/02/2011
	DS1.4.3-8	Electrical bench Requirements	S1.4.3	15/12/2010
	DS3.1.0-1	Electrical Iron Bird Preliminary design for long lead items	S3.3	05/12/2011
	DS3.1.0-4	Electrical Iron Bird Preliminary Design File	S3.3	05/12/2011

WP S 1.6: Models and Data

Tasks performed in the frame of the common activities, generic architecture are related to:

- WP S.1.6.1: Generic Architecture Electrical Network Analysis Model
- WP S.1.6.2: Generic Architecture Thermal Model

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DS1.6.1-4	GA ENAM Computer Implementation Validation File	D	31/12/2012



Outputs			
Ref. No.	Title	Type	Date
DS1.6.1-6	GA ENAM General Specifications	D	31/12/2012
DS1.6.2-2	GA TM General Specifications	D	10/09/2012
DS1.6.2-3	Thermal Test Bench Thermal Model (Modelica)	D	31/12/2012

WP S 2.3: Subsystems Architecture Candidates

Tasks performed in the frame of the Business Jet (BJ) activities, Subsystems architecture candidates are related to:

- WP S.2.3.1: BJ Electrical Generation / Distribution
- WP S.2.3.2: BJ ECS & Ice Protection
- WP S.2.3.5: BJ Secondary Power System
- WP S.2.3.6: BJ Engine

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DS2.3.2-1	System Requirements for BJ Low Power Electrical WIPS	D	30/06/2012
DS2.3.2-2	System Requirements for BJ Equipment Thermal Control System	D	30/06/2012
DS2.3.2-3	System Requirements for BJ Nacelle Ice Protection System	D	30/06/2012
DS2.3.2-4	System Requirements for BJ Pressurization System	D	30/06/2012
DS2.3.2-5	System Requirements for BJ Cabin Thermal Control System	D	30/06/2012
DS2.3.2-6	System Requirements for BJ Ancillary Ice Protection Systems	D	30/06/2012
DS2.3.2-7	Sketch of Target ECS Configurations for the BJ	D	30/06/2012
DS2.3.2-8	ECS architectures selected and relevant data	D	30/09/2012
DS2.3.2-9	ECS performance modeling: resulting data	D	31/12/2012
DS2.3.2-10	ECS electrical model	S	31/12/2012
DS2.3.3-1	System Requirements for BJ Primary FCS Actuators	D	28/02/2012
DS2.3.3-2	System Requirements for BJ Secondary FCS Actuators	D	28/02/2012
DS2.3.4-1	System Requirements for BJ Landing Gear and LG Actuators	D	28/02/2012
DS2.3.4-2	System Requirements for BJ Wheel Brakes	D	28/02/2012
DS2.3.4-3	System Requirements for BJ Fuel Distribution System	D	28/02/2012
DS2.3.4-4	System Requirements for BJ Fuel Storage System	D	28/02/2012
DS2.3.5-1	System Requirements for BJ Secondary Power System	D	28/02/2012
DS2.3.6-5	Definition of optimum starting sequence for BJ engine	D	31/05/2012

WP S 2.4: BJ Sub Systems Requirements and Development Follow-Up



Description of work (Tasks)		
Ref. No.	Title	Description
TS2.4.0-1	Calls for Proposal	Prepare the topic sheets for items procured via CfP. Provide answers to any question coming from the CSJU, related to the topic sheets. Participate as a topic manager to the evaluation session. Perform the technical negotiation with the partner and support the commercial negotiation.
TS2.4.0-2	Subsystem Requirements	Prepare the Subsystem Requirements or Subsystem Integration Requirements document for the target subsystem or function.
TS2.4.0-3	Development Follow-up	Follow development phase at the partner or in another project.

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DS2.4.0-1	Flight Control Actuators Integration Specification	D	31/12/2012
DS2.4.0-2	FCS Delivered Configuration Report	D	31/12/2012

WP S 3: Ground Electrical Test Bench

Tasks performed in the frame of the ground electrical test bench activities are related to:

- WP S.3.1: Ground electrical bench definition
- WP S.3.2: Electrical tests definition
- WP S.3.3: Electrical test bench integration

Only the outputs of these activities to be produced on 2012 are given in this document.



Outputs			
Ref. No.	Title	Type	Date
DS3.1.0-7	Electrical Iron Bird Global Design File	D	20/03/2012
DS3.1.0-8	Electrical Iron Bird Critical Design Review (CDR)	R	15/03/2012
DS3.1.0-9	Electrical iron Bird Critical Design Presentation	P	15/03/2012
DS3.2.0-2	Regional A/C configuration test plan	D	01/01/2012
DS3.2.0-3	Rotorcraft configuration test plan	D	01/01/2012
DS3.2.0-4	BJ configuration test plan	D	01/01/2012
DS3.2.0-5	Electrical test bench test plan	D	01/03/2012
DS3.2.0-6	Electrical test bench test programme	D	01/03/2012
DS3.3.0-1	Lubrication Packs commissioning	H	15/03/2012

WP S 4: Ground Thermal Test Bench

Tasks performed in the frame of the ground thermal test bench activities are related to:

- WP S.4.1: Ground thermal bench definition
- WP S.4.2: Thermal tests definition
- WP S.4.3: Thermal test bench integration

Only the outputs of these activities to be produced on 2012 are given in this document.

Outputs			
Ref. No.	Title	Type	Date
DS4.1.0-4	Description of the Thermal Bench, issue 2 (future augmented thermal bench, beyond 2014)	D	29/06/2012
DS4.1.0-5	Definition file of the thermal test bench, mock-up supporting systems part	D	30/06/2012
DS4.1.0-6	Definition file of the thermal test bench, ancillary chamber system part	D	29/06/2012
DS4.1.0-7	Definition file of thermal test bench, large mock-up part	D	31/03/2012
DS4.1.0-9	Thermal test bench product tree and equipment list	D	29/06/2012
DS4.1.0-10	Definition file of the rotorcraft component and bench integration subsystem	D	29/06/2012
DS4.1.0-11	Definition file of the regional airplane component and bench integration subsystem	D	29/06/2012
DS4.2-1	Baseline Test Matrix	D	29/06/2012
DS4.2-4	Review of Baseline Test Matrix	R	31/08/2012
DS4.3-2	Documentation of handling equipment	D	30/04/2012
DS4.3-4	Review of supporting structures manufacturing progress	R	31/08/2012
DS4.3-5	Review of MU system parts manufacturing progress	R	31/08/2012
DS4.4-4	Drawings database	S	31/12/2012



4. 2012 CALLS FOR PROPOSAL

The estimated total budget dedicated to CfPs for 2012 is 7,715 M€ for EDA topics and 0,250 M€ for EDS topics.

Table 1: 1st 2011 CfP ED Topics list, gives the ED topics list to be presented at the 1st 2012 CfP as available at the time of this current document issue.

Table 2: Tentative Topics lists for the 2nd and 3rd 2011 CfP.

Table 1: 1st 2011 CfP ED Topics list

JU Ref.	CfP Title	Est. budget [k€]
JTI-CS-ECO-01	Area-01	
JTI-CS-2012-1-ECO-01-041	Autoclave cycle optimisation	100
JTI-CS-2012-1-ECO-01-042	Technology Development for CFRP recovery/recycling	150
JTI-CS-2012-1-ECO-01-043	Process Investigations for Liquid Resin Impregnation (LRI) and Out-of-autoclave (OoA) curing of composites for high temperature applications	500
JTI-CS-2012-1-ECO-01-044	Methodology Toolbox for Accelerated Fatigue Testing of Fiber Reinforced Laminates	200
JTI-CS-2012-1-ECO-01-045	Process scale up for recovery and recycling of glass-fiber a/c insulation material in pilot scale	200
JTI-CS-2012-1-ECO-01-046	End of life aircraft material identification and material ageing characterization by Raman Spectrometry. Proof of concept of Ramanbased method for industrial use in recycling industry.	250
JTI-CS-2012-1-ECO-01-047	End of life aircraft material identification and thermal damage characterization by Fourier Transform InfraRed. Demonstration of FT IR-based method for industrial use in recycling industry.	150
JTI-CS-2012-1-ECO-01-048	End of life aircraft material identification by Laser-Induced Breakdown Spectroscopy. Proof of concept of LIBS-based method for industrial use in recycling industry.	150
JTI-CS-2012-1-ECO-01-049	Direct Manufacturing of stator vanes through electron beam melting	150
JTI-CS-2012-1-ECO-01-050	Metal recycling from a/c sources: Recycling routes screening and metallurgical approaches	280
JTI-CS-2012-1-ECO-01-051	Environmental friendly ancillary materials development	160
JTI-CS-2012-1-ECO-01-052	Development of a fully automated preforming line for the production of 3-D shaped composite dry fiber profiles by using the energy efficient chemical stitching process	300
JTI-CS-2012-1-ECO-01-053	Disintegration of fibre-reinforced composites by electrodynamic fragmentation technique	435
JTI-CS-ECO-02	Area-02	
JTI-CS-2012-1-ECO-02-013	Generic Architecture Electrical Network Analysis Model	250
Total		3275



Table 2: Tentative 2nd and 3rd 2011 CfP ED regrouped Topics list

Topic Description			
ID or N°	Title	CfP 12	CfP 13
ECO-01-xxx	TBD WP A.3.1 - Eco-Statement	290	
ECO-01-xxx	TBD WP A.3.2 - Extrapolation to industrial conditions	900	
ECO-01-xxx	TBD WP A.3.3 - Eco-Design guidelines	300	
ECO-01-xxx	TBD WP A.5.1 - Lifecycle demonstration preparation - Airframe	1200	
ECO-01-xxx	TBD WP A.5.2 - Lifecycle demonstration preparation - Equipment	200	
ECO-01-xxx	TBD WP A.6.1 - Lifecycle demonstration - Airframe	1500	
ECO-01-xxx	TBD WP A.6.2 - Lifecycle demonstration - Equipment	300	
Total:		4690	