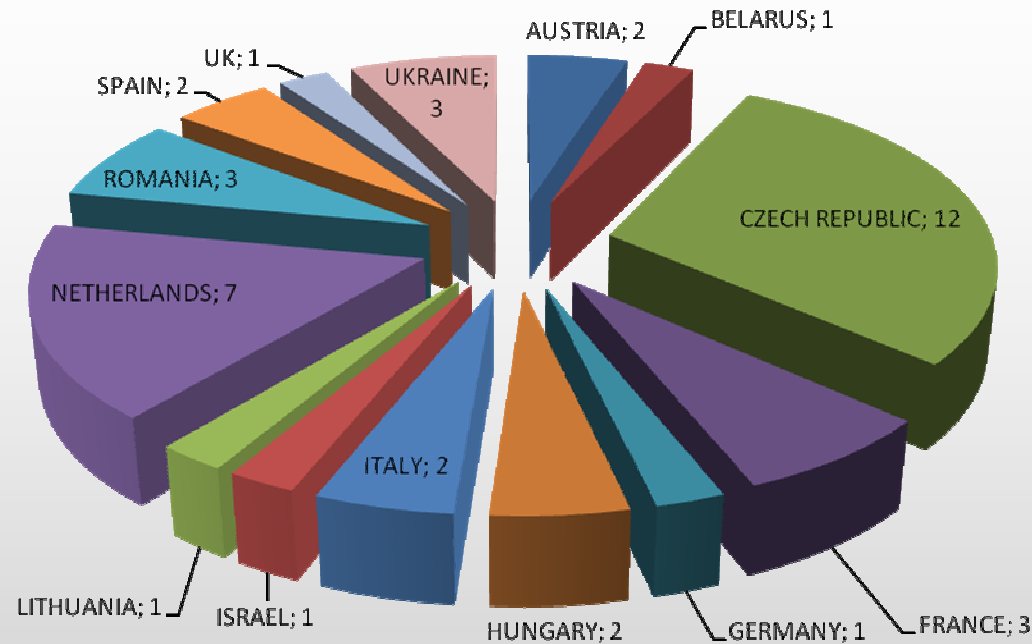


General Aviation Air Transport System Workshop No1
4 months results

Krzysztof Piwek,
Institute of Aviation, Poland

What:	Workshop General Aviation and European Transport System – Third Call FP7
When:	7th to 8th July 2009
Where:	Institute of Aviation, Warsaw, Poland
Who:	110 Attendees from 15 countries
Why:	To create synergy of European GA Stakeholders



110 participants from 15 countries were present

European Institutions: EP, EC DGRTD, EASA, ACARE, EqIMG, EASN

GA Industry: Diamond, Piaggio, Evektor, PZL, SME

Research and Academia, others

Workshop Goals:

- To discuss **research priorities** resulted from General Aviation - Air Transport System.
- To present **Proposal Ideas** for 3rd Call FP7 and try to combine their in logical manner to meet research priorities of GA ATS.
- To contribute to a general **overview of GA** and overview of research projects related to GA (SESAR, CESAR, EPATS, SOFIA, PPlane).

Workshop results:

- **32 Proposal Ideas - were presented**
- **7 Pre-proposals suggested to take part in 3rd Call FP7**

Workshop results: 7 pre-proposals

1. **Roadmap for engaging small aircraft in European ATS (Air Transport System)** – could be EPATS STUDY (Topic AAT.2010.7-12 Assessing and further developing the role of small aircraft in the air transport system)
2. **Single Pilot operation as a starting point to GA Avionics** (Topic AAT.210.3.3-3 Avionics – Advanced concepts and technologies to counteract hazards specific to the flight operation of small size aircraft operating in non-scheduled flights)
3. **Novel Concepts - it could be AEROVAN** but not as aircraft project but set of novel technologies oriented for "novel concepts" + safety + low noise + low emission (Topics AAT.2010.6.3-3 Personal air transport systems and AAT.2010.6.2-1 Novel air transport vehicles)

Workshop results: 7 pre-proposals

4. The rest of pre-proposals could start in traditional domains as **aerodynamic /structures /propulsion /production** but in those domains there will be big competition. So good strategy to increase chance of success could be to combine single idea proposals for exhausted, comprehensive projects - for example:
- a) **GA ENGINES** - to orient for low noise & low emission, biofuel, coupled (i.e. piston + electric)
 - b) **GA SMART TECHNOLOGIES** - transfer/synergy with advanced aerospace achievements
 - c) **GA HAZARDOUS STATES** - crashworthiness, spin, lightning, thermal shock
 - d) **GA COMFORT** - cabin climate, noise & vibration, pressure, bugs, toxically fire emissions

Proposal Tracking Process:

1. Workshop attendants have left the decision to combine or work out with separate proposals to the project leaders.
2. It has been noted, that it could be useful for whole European General Aviation Community to keep track of development of the proposals. It has been suggested that Institute of Aviation could list the chosen GA projects, monitor the status of their preparation and make them accessible to our Community. This kind of activity is logical and expected also by The European Commission.
3. To achieve this aim it is necessary to report all subsequent developments to the IoA (the name of project, its requested partners, stage of progress and other relevant details). Project Leaders or designated proposal managers, responsible for proposal submission, should prepare these reports and send them once a month to the Institute of Aviation.

Workshop GA ATS 1 – Proposal Tracking Process



GA ATS, Warsaw, 7-8 July 2009

Pre-proposal List - Workshop suggestions

					1	2	3	4	5	6	7	
New Title					EPATS 2 STUDY	GA AVIONICS	Low Noise Aerovan Concept	GA Engines	GA Smart Technologies	GA Hazardous States	GA Comfort	
Notes					Roadmap, operational concept, involve industry.	Single Pilot Operations and SESAR as a start point	to oriente for "next concepts" (6.2-1, 6.3-3) + low noise & low emission	to oriente for low noise & low emission, biofuel, coupled (i.e. piston + electric)	transfer energy with advanced aerospace achievements	crashworthiness, spin, lightning, thermal shock	Cabin climat, noise & vibration, pressure, bugs, toxicall fire emissions	
Leader					IoA	Ibd	WUT	Ivchenko ?	AIT	Evektor	Ibd	
Focal Point					K. PIWEK kpiw@iot.edu.pl	T.HENLEY Tony.Henley@baesystem.com	Z. GORAJ goraj@met.pw.edu.pl	Y. GURO Guroyuri@ivchenko-progress.com	E. SEMERAD emst.semerad@arcs.ac.at	P. STERBA psterba@evektor.cz	P. RUZICKA pruzicka@evektor.cz	
Item	Acronim	Pre-proposal Title	Company	Presenter /Author	Workshop suggestions	1	2	3	4	5	6	7
1	IPATS	Interactive Personal Air Transportation System	IoA	Miksa/Baron	to integrate with EPATS 2							
2	EPATS 2	European Personal Air Transportation System 2	IoA	Piwek	strong recommended to submit covering topics AAT.2010.7-12							
3	EPATS Vision	European Personal Air Transportation System - Vision	IoA	Wanrusik/Baron	to integrate with EPATS 2							
4	EPAN	European Personal Aircraft Network	BUTE	Rohacs	coordinate with EPATS 2							
5	SESF-GA	Segmented Extension Slotted Flap for General Aviation	IoA	Pokorski /Gnarowski	to integrate with AEROVAN							
6	SECOGEN-GA	II generation biofuels for General Aviation	IoA	Pagowski /Rarata/Sumacz	to improve project definition to close to call requirements							
7	FLEX	Flutter expert system for general aviation composite structures.	IoA	Szeląg /Chajec	to improve project definition (similar project was accepted in 2nd call)							
8	CPU	The Coupled Engine Power Unit	IoA	Kowalik /Dębki	to improve project definition (important noise factor), to integrate with GA_TP_TF							
9	AEROVAN	Towards safer EPATS by means of STOL solution – via AEROVAN	WUT	Goraj	strong recommended to prepare proposal (to include familiar pre-proposals) - goal: technology validator							
10	GA_TP_TF	perspective turboprop and turbofan engines for general aviation	SE Ivchenko-Progress	Dmytiryev	recommended to prepare proposal (to include familiar pre-proposals)							
11	ABCDEF	Increased engine efficiency	SE Ivchenko-Progress	Suro	to integrate with GA_TP_TF							
12	CNTAR	Regional Transportation System	NCAS	Nae	recommended to prepare proposal (to include familiar pre-proposals, and coordinate with EPATS 2)							
13	SPSSA	Spin Prevention System in Small Aircraft	IoA	Dziugiel /Piwek	to integrate with SESRA							
14	SESRA	Single Engine Spin Resistant Aircraft	EVEKTOR	Ruzicka/P	recommended to prepare proposal (to include familiar pre-proposals)							
15	LIRCS	Lighting Resistance of Composite Structure	IoA	Dziugiel /Piwek	to improve project definition (similar projects was accepted); no consortium idea							
16	ACRA	Cabin Crashworthiness Prediction	EVEKTOR	Sterba	recommended to prepare proposal (to include familiar pre-proposals)							
17	SACC	Small Airplane Cockpit Climate	EVEKTOR	Ruzicka/P	recommended to prepare proposal (to include familiar pre-proposals)							
18	PSAS	Predictive Stall Alerting System	IoA	Babasz	lack of interest. in participating other European partners							
19	Comp-Joints	Composite joints of structures	IoA	Dębki	lack of interest. in participating other European partners							
20	APASHI	Active / Passive Acoustic SHMSystem for Impact Detection	AIT	Semerad	recommended to prepare proposal (to include familiar pre-proposals) - goal: technology validator							
21	Comp-DirRepair	Designing compositeairframes for repairs	WUT	Czarnocki	lack of interest. in participating other European partners							
22	OMEGA	On Board and ground equipment for GA	BUTE/REA-Tech	Rohacs	to integrate with one GA Avionics Project							
23	PASSAAT	Personal Aircraft in the SESAR ATM System	NLR	van Schaik	to integrate with one GA Avionics Project							
24	A-SMCS	Advanced Surface Movement and Control System	JPB-CCAS / Syscom18	Henley /Chelaru	to integrate with one GA Avionics Project							
25	COMP-AIR	Composite Aircraft	BUTE/Corvus	Rohacs	to integrate with AEROVAN							
26	EGAS	European General Aviation System	BUTE/REA-Tech	Rohacs	coordinate with EPATS 2							
27	IAA-GA	Adaptive Impact Absorption and Structural Health Monitoring for General Aviation	PPPT	Holnicki	to integrate with GA Smart Technologies							
28	GAT	GA Technologies	PIAGGIO	Cozzolino	to integrate with AEROVAN							
29	AVISSAA	Acoustic Vector Sensors Increasing Situational Awareness in Aviation	Microfoam Technologies	Koers	to integrate with one GA Avionics Project							
30	PAACC	Pilot-aircraft automation cooperative control	RUT	Tomczyk	to integrate with one GA Avionics Project							
31	SimEx	Simulation experiments using modified simulator ALSM AL-200 MCC.	RUT	Tomczyk	to integrate with one GA Avionics Project							
32	FlightEx	Flight testing of on-board equipment and systems.	RUT	Tomczyk	to integrate with one GA Avionics Project							

Workshop GA ATS 1 – Proposal Tracking Process



		1	2	3	4	5	6
	New Title	EPATS 2 STUDY	GA AVIONICS	Low Noise Aerovan Concept	GA Engines	GA Smart Technologies	GA Hazardous States
	Notes	Roadmap, operational concept, involve industry.	Single Pilot Operations and SESAR as a start point	to oriente for "nowel concepts" (6.2-1, 6.3.3) + low noise & low emission	to oriente for low noise & low emission, bid/let, coupled (i.e. piston)	transfer/synergy with advanced aerospace achievements	crashw orthiness, spin, lightning, thermal shock
	Leader	IoA	tdb	WUT	Ivchenko ?	AIT	Evektor
	Focal Point	K. PIWEK khp@ilot.edu.pl	T.HENLEY Tony.Henley@baesy.sterns.com	Z. GORAJ goraj@met.pw.edu.pl	Y. GURO Guroyuri@ivchenko-progress.com	E. SEMERAD ernst.semerad@arcs.ac.at	P. STERBA psterba@evektor.cz
Presenter /Author	Workshop suggestions	1	2	3	4	5	6
Mksa/Baron	to integrate with EPATS 2						
Piwek	strong recommended to submit covering topics AAT.20.10.7-12						
Iwaniuk/Baron	to integrate with EPATS 2						
Rohacs	coordinate with EPATS 2						
Pokorski /Gnarowski	to integrate with AEROVAN						
Pagowski /RarataSurmac	to improve project definition to close to call requirements						
Szelag /Chajec	to improve project definition (similar project was accepted in 2nd call)						
Kowalik /Dębski	to improve project definition (important noise factor), to integrate with GA_TP_TF						
Goraj	strong recommended to prepare proposal (to include familiar pre-proposals) - goal: technology validator						
Dmytriyev	recommended to prepare proposal (to include familiar pre proposals)						
Guro	to integrate with GA_TP_TF						
Nae	recommended to prepare proposal (to include familiar pre proposals, and coordinate with EPATS 2)						
Dziugiel /Piwek	to integrate with SESRA						
RuzickaP	recommended to prepare proposal (to include familiar pre proposals)						
Dziugiel /Piwek	to improve project definition (similar projects was accepted); no consortium idea						
Sterba	recommended to prepare proposal (to include familiar pre proposals)						
RuzickaP	recommended to prepare proposal (to include familiar pre proposals)						
Babiasz	lack of interest in participating other European partners						
Dębski	lack of interest in participating other European partners						
Semerad	recommended to prepare proposal (to include familiar pre-proposals) - goal: technology validator						
Czarnocki	lack of interest in participating other European partners						
Rohacs	to integrate with one GA Avionics Project						
van Schaik	to integrate with one GA Avionics Project						
Henley /Chelaru	to integrate with one GA Avionics Project						
Rohacs	to integrate with AEROVAN						
Rohacs	coordinate with EPATS 2						
Holnicki	to integrate with GA Smart Technologies						

Workshop GA ATS 1 – Proposal Tracking Process



TRACKING Proposal GA - 3rdCallFP7

List of Proposal (to be confirmed by Leaders/Focal Points)

Pre-proposals defined in July GA ATS workshop			Tracking of preparations						
No	Title	Pre-scope	Acronym	Founding tool	Proposal title	Leader	Focal Point	Next event	Consortium suggested
1	Roadmap for engaging small aircraft in European ATS (Air Transport System)	Roadmap, operational concept, involve industry.	EPATS+	CSA-S	European Personal Air Transport System - Study Plus	IoA	Krzysztof PIWEK khp@ilot.edu.pl	Warsaw, 3rd Dec 2009	IoA, CIRA, INCAS, NLR, PZL M, PIAGGIO, EWEKTOR, ONERA, BUTE, DELFT, AD, M3S, BAE
2	GA Avionics	Single Pilot Operations and SESAR as a start point	SASHA	L1	Small Aircraft Avionics Solutions for Hazard Alleviation	ISDEFE	Jorge BUENO GOMEZ jbueno@isdefe.es	Madrid, 12th, 13th Nov 2009	
3	Novel Concepts - AEROVAN	set of novel technologies oriented for "novel concepts" (6.2-1, 6.3-3) + safety + low noise & low emission	AEROVAN - tbc	L1	Low Noise Aerovan Concept	WUT	Zdobysław GORAJ goraj@meil.pw.edu.pl		
4	GA ENGINES	oriented for low noise & low emission, biofuel, coupled areas	GA_ENG	L1	Advanced turboprop and turbofan engines for GA	Ivchenko	Sergiy DMYTRIYEV 03535@ivchenko-progress.com		
5	GA Smart Technologies	transfer/synergy with advanced aerospace achievements	GA Smart	L1	Smart Technologies	AIT	Ernst SEMERAD ernst.semerad@arcs.ac.at		
6	GA Hazardous States	crashworthiness, spin, lightning, thermal shock	SESRA	L1	Single Engine Spin Resistant Airplane	Evektor	Pavel RUZICKA pruzicka@evektor.cz		
			ACRA	L1	Cabin Crashworthiness Prediction	Evektor	Ladislav CHYBIK lchybik@evektor.cz		
7	GA Comfort	Cabin climat, noise & vibration, pressure, bugs, toxic fire emissions	SACC	L1	Small Airplane Cabin Climate	Evektor	Martin SVETLIK msvetlik@evektor.cz		

<http://www.instytut-lotnictwa.home.pl/GeneralAviation/index.php>

Workshop GA ATS 1 – Proposal Tracking Process



Acronym	Founding tool	Proposal title	Leader	Focal Point
EPATS+	CSA-S	European Personal Air Transport System - Study Plus	IoA	Krzysztof PIWEK khp@ilot.edu.pl
SASHA	L1	Small Aircraft Avionics Solutions for Hazard Alleviation	ISDEFE	Jorge BUENO GOMEZ jbueno@isdefe.es
AEROVAN - tbc	L1	Low Noise Aerovan Concept	WUT	Zdobysław GORAJ goraj@meil.pw.edu.pl
GA_ENG	L1	Advanced turboprop and turbofan engines for GA	Ivchenko	Sergiy DMYTRIYEV 03535@ivchenko-progress.com
GA SmarT	L1	Smart Technologies	AIT	Ernst SEMERAD ernst.semerad@arcs.ac.at
SESRA	L1	Single Engine Spin Resistant Airplane	Evektor	Pavel RUZICKA pruzicka@evektor.cz
ACRA	L1	Cabin Crashworthiness Prediction	Evektor	Ladislav CHYBIK lchybik@evektor.cz
SACC	L1	Small Airplane Cabin Climate	Evektor	Martin SVETLIK msvetlik@evektor.cz

Conclusions:

The continuation of GA sector efforts in acting together, and trials of common approach in logical taking part in European Research Area is still needs of our energy and support.

The main reason for organizing **GA ATS 2 – answer for simply questions** :

- *How GA community should cooperate with EC and Its support institutions?*
- *How to organize ourselves?*

Is it true or not ?

“the GA sector is just a wild bunch, without any volume, with no added value for Europe and without any coordination. Not a sector to be taken seriously”

Thank you for your attention!

Krzysztof PIWEK
khp@ilot.edu.pl

Institute of Aviation
Al. Krakowska 110/114
02 - 256 Warsaw, Poland
tel: +48 22 868 56 81