

PROJECTS Work plan

the 4th Program – Partnerships in the priority fields			Formular A3
Direction	7- processes, materials and innovative products	Project tip:	PC
Projects acronim	AMST_MP	inregistration on-line number	1784

PROJECT: DRIVE SYSTEM FOR HIGH ENERGY PERMANENT MAGNETS SYNCHRONOUS MOTORS FOR URBAN ELECTRICAL TRACTION

Year	Stages / Activities / Partners	Duration Stage (Months)	Rezults	Total (mii lei)	Necessary financial resources **) (mii lei) which:						Funding from other sources (cofinan-tare)
					From budget: 2000 mii lei						
					Labor	Materials and services	equipment	travel	third parties (max 5%)	Indirect expenses	
2007	First stage – Industrial level research Study and analysis regarding the drive system use of trolley buses of high energy permanent magnets motor	3	Efficient use of resources; study/report	235	141.1	12.2				46.7	35
2007	Activity I.1 Management of the project; Partners communication and coordination		workshop/report	2.5	1.1	0.2				0.7	0.5
	P-CO -ICPE-ME			2.5	1.1	0.2				0.7	0.5
	P1 - ICPE-SAERP			0							0
	P2 - UPB			0							0
	P3 - CER			0							0

2007	Activity I.2 Preliminary study and technical analysis regarding drive system for permanent magnets synchronous motors use for urban electrical traction. Current situation at national level and at European and world level		preliminar study/ activity report	202.5	120	9				39	34.5
	P-CO -ICPE-ME			122.5	70	2				26	24.5
	P1 - ICPE-SAERP			50	30	4				6	10
	P2 - UPB			30	20	3				7	0
	P3 - CER			0							0
2007	Activity I. 3 European standardization analysis in the field (energetic performances, verification methods)		Tehchnical rerport	30	20	3				7	0
	P-CO -ICPE-ME			0							0
	P1 - ICPE-SAERP			0							0
	P2 - UPB			0							0
	P3 - CER			30	20	3				7	0
2008	Second stage - Industrial level research Experimental model projection of the traction drive system and permanent magnets synchronous motor	10	EM project system and the synchronous motor drive With permanent magnets.	603.75	289.9	66.2	20			123.9	103.75
	Activity II. 1 Partners communication and coordination		workshop report	2.5	1.1	0.2				0.7	0.5
	P-CO -ICPE-ME			2.5	1.1	0.2				0.7	0.5
	P1 - ICPE-SAERP			0							0
	P2 - UPB			0							0
	P3 - CER			0							0

	Activity II. 2 Complex experiments of reference model; permanent magnets on synchronous motor and drive. The choice of the projection theme for the experimental model		The test results, research report, theme design	142.5	67.5	16				31.5	27.5
	P-CO -ICPE-ME			137.5	65	15				30	27.5
	P1 - ICPE-SAERP			0							0
	P2 - UPB			5	2.5	1				1.5	0
	P3 - CER			0							0
	Activity II. 3 Implementation of 3D numerical analysis methods (FEM) in poly "claw" and permanent magnets structures for the experimental model project of synchronous motor for traction		Technical Report. Methodology and calculation results.	75	45	5				25	0
	P-CO -ICPE-ME			0							0
	P1 - ICPE-SAERP			0							0
	P2 - UPB			75	45	5				25	0
	P3 - CER			0							0
	Activity II. 4 Drive system projection. Experimental model projection of the permanent magnets synchronous motors for traction		EM Project of synchronous motor and drives system	372.5	170	44	20			64	74.5
	P-CO -ICPE-ME			222.5	90	20	20			48	44.5
	P1 - ICPE-SAERP			150	80	24				16	30
	P2 - UPB			0							0
	P3 - CER			0							0

	Activity II. 5 Young graduates attraction and forming		Round table/ round table report	11.25	6.3	1			2.7	1.25
	P-CO -ICPE-ME			6.25	3.3	0.5			1.2	1.25
	P1 - ICPE-SAERP			0						0
	P2 - UPB			0						0
	P3 - CER			5	3	0.5			1.5	0
2009	Third stage - Industrial level research Realization of the drive system and high energy permanent magnets synchronous motor experimental model	8	Made ME, PV manufacturing, research report	875	341	164.2	25		169.8	175
	Activity III. 1 Partners communication and coordination		workshop report	2.5	1	0.2			0.8	0.5
	P-CO -ICPE-ME			2.5	1	0.2			0.8	0.5
	P1 - ICPE-SAERP			0						0
	P2 - UPB			0						0
	P3 - CER			0						0
	Activity III. 2 Realization of the drive system and permanent magnets synchronous motor experimental model		ME achieved , PV execution ME	872.5	340	164	25		169	174.5
	P-CO -ICPE-ME			610	260	50	25		153	122
	P1 - ICPE-SAERP			262.5	80	114			16	52.5
	P2 - UPB			0						0
	P3 - CER			0						0
2009	Forth stage - Industrial level research The testing of the model formed of drive system and permanent magnets synchronous motor	6	Test report and research report	472.5	231	43.2	10		115.8	72.5

	Activity IV. 1 Partners communication and coordination		workshop report	2.5	1	0.2				0.8	0.5
	P-CO -ICPE-ME			2.5	1	0.2				0.8	0.5
	P1 - ICPE-SAERP			0							0
	P2 - UPB			0							0
	P3 - CER			0							0
	Activity IV. 2 Elaboration of the drive permanent magnets synchronous motor testing methodology		Testing Methodology	103.75	52	8				33	10.75
	P-CO -ICPE-ME			53.75	26	2				15	10.75
	P1 - ICPE-SAERP			0							0
	P2 - UPB			10	6	1				3	0
	P3 - CER			40	20	5				15	0
	Activity IV. 3 Experimental model testing of permanent magnets synchronous motor for traction and drive system		Test Report	366.25	178	35	10			82	61.25
	P-CO -ICPE-ME			206.25	93	10	10			52	41.25
	P1 - ICPE-SAERP			100	50	20				10	20
	P2 - UPB			60	35	5				20	0
	P3 - CER			0							0
2010	Fifth stage - Industrial level research Final conclusions showing the model functionality. Dissemination of the obtained results towards all the interested factors	6	Technical Project developed of the results, Activity Report	173.75	88.9	14.7				43.9	26.25
	Activity V. 1 Partners communication and coordination		workshop report	2.5	1	0.2				0.8	0.5

	P-CO -ICPE-ME			2.5	1	0.2			0.8	0.5
	P1 - ICPE-SAERP			0						0
	P2 - UPB			0						0
	P3 - CER			0						0
	Activity V. 2 Final conclusions specifying the model utility		Activity Report	88.75	45	8.5			22.5	12.75
	P-CO -ICPE-ME			43.75	21	3			11	8.75
	P1 - ICPE-SAERP			20	10	4			2	4
	P2 - UPB			15	8	1			6	0
	P3 - CER			10	6	0.5			3.5	0
	Activity V.3 Dissemination of the results and knowledge on a large scale by publishing and communication		Report dissemination, organizing round table, symposium	70	37	5			17	11
	P-CO -ICPE-ME			37.5	19	1			10	7.5
	P1 - ICPE-SAERP			17.5	10	2			2	3.5
	P2 - UPB			7.5	4	1			2.5	0
	P3 - CER			7.5	4	1			2.5	0
	Activity V. 4 Management of intellectual property rights		Operating Results	12.5	5.9	1			3.6	2
	P-CO -ICPE-ME			10	4.9	0.5			2.6	2
	P1 - ICPE-SAERP			0						0
	P2 - UPB			0						0
	P3 - CER			2.5	1	0.5			1	0
2007-2010	Sixth stage BASE ACTIVITIES – they will be specified at the contract signing / 15% of the total value of the contract	33	Conference participation / development works	63.125				52.5		10.625
	P-CO -ICPE-ME			37.5				30		7.5
	P1 - ICPE-SAERP			15.625				12.5		3.125
	P2 - UPB			5				5		0
	P3 - CER			5				5		0
Total project				2423.125	1091.9	300.5	55	52.5	500.1	423.125

PROJECT GENERAL FINANCIAL INFORMATION

the 4th Program – Partnerships in the priority fields			Formular A3
Direction	7- processes, materials and innovative products	Project tip:	PC
Projects acronim	AMST_MP	inregistration on-line number	1784

Project Parteners

		lei										
Organization	Abreviation	Organization tip	2007		2008		2009		2010		Total	
			B	C	B	C	B	C	B	C	B	C
P-CO Institutul de cercetari pentru Masini Electrice	ICPE-ME	SACD-IMM	100.000	25.000	305.000	76.250	710.000	177.500	85.000	21.250	1.200.000	300.000
P1 ICPE-SAERP Societatea de Actionari Echipamente si Redresoare de Putere	ICPE-SAERP	SACD-IMM	40.000	10.000	126.500	31.625	296.000	74.000	30.000	7.500	492.500	123.125
P2 Universitatea Politehnica Bucuresti, Centrul de Cercetari Echipamente de Conversie Energie	UPB	UNI	30.000	0	85.000	0	70.000	0	22.500	0	207.5	0
P3 Comitetul Electrotehnic Roman	CER	ONG	30.000	0	5.000	0	45.000	0	20.000	0	100.000	0
Total proiect			200.000	35.000	521.500	107.875	1.121.000	251.500	157.500	28.750	2.000.000	423.125

B - buget

C - co-finance

