

**Results-Framework Document (RFD) for Centre for Materials for
Electronics Technology (C-MET) (2011-2012)**

**CENTRE FOR MATERIALS FOR ELECTRONICS TECHNOLOGY (C-MET)
Panchawati, of Pashan Road, Pune- 411 008**

Results Frame-work Document

Section 1: Society's Vision, Mission, objectives and functions

VISION

C-MET will become a premier R&D organization known all over the world for its knowledge base, innovations and expertise in Electronic Materials.

MISSION

To develop knowledge base in electronics materials and their processing technology for Indian industries and to become a source of critical electronic materials, know-how and technical services for the industry and other sectors of economy.

OBJECTIVES

- To establish the technology up to pilot scale for a range of electronic materials and transfer the same to industry for commercialization.
- To undertake applied research activities in the area of its operation.
- To establish relevant characterization facilities.

FUNCTIONS

- Development of products / process in electronic materials.
- Initiatives for technology transfer.
- Interaction with Department of Information Technology, Department of Atomic Energy, Department of Space and Defence Research Development Organization.
- Interaction with the industries.
- Interaction with Academic and R & D Institutions.
- Collaboration with International agencies.
- Publicity to research work (in terms of peer-reviewed papers, invited talks, conference presentations etc) and filing of patents.

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Section 2: *Inter se* priorities among key objectives, success indicators and targets

Table 1: Results-Framework Document (RFD) [1st April 2011 to 31st March 2012]

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6					
Objective	Weight	Actions	Success Indicator	Unit	Weight	Target/Criteria value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Objective 1 To establish the technology up to pilot scale for a range of electronic materials and transfer the same to industry for commercialization	9	Transfer of Technology for the processes/ products developed	Demonstration of a product/ process methodology.	Number	0.09	2	1	0	0	0
Objective 2 To undertake applied research activities in the area of Electronic materials	70	Implementation of program in <ul style="list-style-type: none"> • Integrated Electronics Packaging • Nanomaterials and Devices • Ultra high Purity Materials • Materials for Renewable Energy • Piezo sensors and Actuators 	Configuration/ securing of new R&D proposals in the area of electronic materials.	Number	0.10	6	5	4	3	2
			Generation of Extra Budgetary and Internal Resources (EBIR).	Rs. in Crores	0.10	13.18	12	11	9	8
			Implementation of Projects with specified targets.	Number	0.40	35	32	28	25	21
			Publications <ul style="list-style-type: none"> • in peer-reviewed journals • Patents • Paper/poster presentation in National/international conference 	Number	0.10	70	63	56	49	42

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Column 1	Column 2	Column 3	Column 4		Column 5	Column 6				
Objective	Weight	Actions	Success Indicator	Unit	Weight	Target/Criteria value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Objective 3 To establish relevant characterization facilities.	10	Analysis of samples	Report submission for internal and external samples	Number	0.10	600	540	480	420	360

Table 2: Mandatory Success Indicators

Column 1	Column 2	Column 3	Column 4		Column 5	Column 6				
Objective	Weight	Actions	Success indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Efficient Functioning of the RFD System	11	Timely submission of draft approval	On-time submission	Date	0.06	Mar.14 2011	Mar.15 2011	Mar.16 2011	Mar.17 2011	Mar.18 2011
		Timely submission of results	On-time submission	Date	0.05	May 2 2012	May 3 2012	May 4 2012	May 5 2012	May 6 2012

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Section 3: Trend values of the Success indicators

Table 3: Trend values for Success Indicators

Column 1	Column 2	Column 3	Column 4		Column 5	Column 6	Column 7	Column 8	Column 9
Objective	Weight	Actions	Success Indicator	Unit	Actual value for FY 09/10	Actual value for FY 10/11	Target value for FY 11/12	Projected value for FY 12/13	Projected value for FY 13/14
Objective 1 To establish the technology up to pilot scale for a range of electronic materials and transfer the same to industry for commercialization	9	Transfer of Technology for the processes/ products developed	Demonstration of a product/ process methodology.	Number	Nil	Nil	2	3	2
Objective 2 To undertake applied research activities in the area of Electronic materials	70	Implementation of program in <ul style="list-style-type: none"> • Integrated Electronics Packaging • Nanomaterials and Devices • Ultra high Purity Materials • Materials for Renewable Energy • Piezo sensors and Actuators 	Configuration/ securing of new R&D proposals in the area of electronic materials.	Number	10	9	6	9	8
			Generation of Extra Budgetary and Internal Resources (EBIR).	Rs. in Crores	26.26	18.65	13.18	15.20	16.80
			Implementation of Projects with specified targets.	Number	37	40	35	34	35

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Column 1	Column 2	Column 3	Column 4		Column 5	Column 6	Column 7	Column 8	Column 9
Objective	Weight	Actions	Success Indicator	Unit	Actual value for FY 09/10	Actual value for FY 10/11	Target value for FY 11/12	Projected value for FY 12/13	Projected value for FY 13/14
			Publications <ul style="list-style-type: none"> • in peer-reviewed journals • Patents • Paper/poster presentation in National/international conference 	Number	60	65	70	75	75
Objective 3 To establish relevant characterization facilities.	10	Analysis of samples	Report submission for internal and external samples	Number	600	650	600	600	650

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Table 4: Performance Evaluation (2010-11)

Objective	Column 2	Column 3		Column 4	Column 5					Column 6		
	Action	Criteria/ Success Indicators	Unit	Weight	Target/ Criteria Values					Achievement	Raw Score	Weighted Score
					Excellent	Very Good	Good	Fair	Poor			
					100%	90%	80%	70%	60%			
To establish the technology up to pilot scale for a range of electronic materials and transfer the same to industry for commercialization	Transfer of Technology for the processes/ products developed	Demonstration of a product/ process methodology.	Number	0.09	3	2	1	0	0	0	0%	0.00
To undertake applied research activities in the area of Electronic materials	Implementation of program in <ul style="list-style-type: none"> • Integrated Electronics Packaging • Nanomaterials and Devices • Ultra high Purity Materials • Materials for Renewable Energy Piezo sensors and Actuators	1 Configuration/ securing of new R&D proposals in the area of electronic materials.	Number	0.10	6	5	4	3	2	9	100%	10.00
		2 Generation of Extra Budgetary and Internal Resources (EBIR).	Rs. in Crores	0.10	11.1	10	9	8	7	18.65	100%	10.00
		3 Implementation of Projects with specified targets.	Number	0.40	40	38	36	34	32	51	100%	40.00

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	Column 2	Column 3	Column 4	Column 5					Column 6			
				Target/ Criteria Values								
		4 Publications • in peer-reviewed journals • Patents • Paper/poster presentation in National/international conference	Number	0.10	60	55	45	40	35	65	100%	10.00
To establish relevant characterization facilities.	Analysis of samples	Report submission for internal and external samples	Number	0.10	650	600	550	450	400	650	100%	10.00
Efficient Functioning of the RFD System	Timely submission of draft approval	On-time submission	Date	0.06	Mar. 4 2010	Mar. 5 2010	Mar. 6 2010	Mar. 8 2010	Mar. 9 2010	Mar. 4 2010	100%	6.00
	Timely submission of results	On-time submission	Date	0.05	Mar 14 2011	Mar 15 2011	Mar 16 2011	Mar 17 2011	Mar 18 2011	Mar 14 2011	100%	5.00
Composite Score =											91.00%	

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Section 4: Description and definition of success indicators and proposed measurement methodology.

Success indicators	Description and definition	Measurement methodology
To establish the technology up to pilot scale for a range of electronic materials and transfer the same to industry for commercialization		
Demonstration of a product/process methodology.	Technology transfer is a multi-step activity which encompasses transformation of R&D into enabling technologies, wide publicity for available technologies, identification of appropriate user industry, signing of MoU, receiving ToT fee, royalty, demonstration of a product/process etc.	Success has to be measured in terms of numbers i.e. number of technologies transferred to industries
To undertake applied research activities in the area of Electronic materials		
Configuration/ securing of new R&D proposals in the area of electronic materials.	It includes formulation of projects through innovativeness in generating new ideas/ concepts/techniques/ applications via intra or inter laboratory research integration.	Number of proposals prepared for development of new technologies and strengthening of the knowledge base in specialized arena of Electronic materials.
Generation of Extra Budgetary and Internal Resources (EBIR).	It involves the close interaction(follow-up and theme presentation)with funding agencies.	EBIR generated (Rs. in Crores) for the projects sanctioned from Funding agencies as well as technical and allied services offered .
Implementation of Projects with specified targets.	The project implementation includes the achievements of the set targets/deliverables in stipulated time period and successful completion of the activity.	Number of milestones/output achieved during the execution of projects.
Publications <ul style="list-style-type: none"> • in peer-reviewed journals • Patents • Paper/poster presentation in National/international conference 	This includes the publication of basic research conducted in the electronic materials area in peer-reviewed journals and presentation in conferences and filing of patents for protection of IPR for the process/product development.	Number of papers published in peer-reviewed journals / presented in conferences and patents filed for protection of IPR.
To establish relevant characterization facilities.		
Report submission for internal and external samples	Sample analysis involves calibration of the equipment, optimization of analytical methodologies, compilation of RoHS norms, finalization of reports etc.	Number of analysis reports for the raw materials, intermediates or final products during the course of development work and for the services offered to external agencies.

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Section 5: Specific performance requirements from other departments that are critical for delivering agreed results.

Departments	Relevant success Indicator	What do you need ?	Why do you need it ?	How much you need ?	What happens if you do not get it ?
Department of Information Technology(DIT)	Implementation of Projects with specified targets	Core Grant	For Revenue expenditure, creation of infrastructure and development of Core competence	100%	It will affect the achievements , augmentation of infrastructure and realization of targets
Funding Agencies such as, DIT, DST, DRDO, ISRO, VSSC, BRNS, BARC, MNRE etc	Generation of Extra Budgetary Resources	Administrative & financial approvals for new initiative	For new process/ product development and services.	100%	No initiation of new activities resulting in poor performance.
External Agencies	Analysis of samples	Interaction with industries and other academic/ R & D institutes.	For generation of internal resources	100%	Poor performance and affecting IR generation.