Minutes of the 1st Meeting of Project Approval Board, constituted under the Scheme National Initiative for setting up of Design Innovation Centres, Open Design School & National Design Innovation Network, held on 11th March, 2014.

The first meeting of the Project Approval Board (PAB-DIC)) was held on 11th February, 2014 at 3 p.m. under the Chairmanship of Shri Ashok Thakur, Secretary (HE), MHRD to consider the proposals for establishment of Design Innovation Centres under the Scheme of National Initiative for setting up of Design Innovation Centres(DICs), Open Design School (ODS) & National Design Innovation Network (NDIN). A list of participants is annexed.

2. At the outset, the Chairman welcomed all the members to the 1st meeting of PAB-DIC and asked JS (P) to proceed further in the matter. JS (P) informed that in order to promote a culture of innovation and creative problem solving, to promote knowledge sharing and to enhance interdisciplinary design-focussed education, research & entrepreneurial activities, M/o HRD aims to establish 20 Design Innovation Centres, one Open Design School and National Design Innovation Network during XII Five Year Plan (2013-14 to 2016-17). Expenditure Finance Committee in its meeting held on 5th February, 2014 under the Chairmanship of Secretary (HE) approved the proposal of Ministry of HRD to launch the National Initiative for setting up of Design Innovation Centres, Open Design School & National Design Innovation Network at an estimated cost of Rs.240 crores and which was subsequently approved by the competent authority on 28th February, 2014. In the EFC Memo, it was mentioned that five institutes of national repute – IIT Delhi, IIT, Bombay, IIT, Guwahati, IISc Bangalore and University of Delhi have been identified for setting up of DICs in the 1st phase and the remaining institutions are to be indentified based on the geographical spread to cover length & breadth of the country. A tentative list of 22 identified institutes including 5 mentioned above was also given in the EFC Memo and all institutes were asked to submit their proposal for establishment of DICs. However, as mandated in EFC memo, only 5 proposals are being considered in the meeting. Thereafter, JS (P) asked the institutions to make a presentation before the Board. The details of the presentation are as under:-

(A) Indian Institute of Technology, Delhi

Prof. Madhusudan Rao, IIT Delhi informed that the proposed DIC at IIT Delhi aims at promoting inclusive and social innovation. Inclusive and social innovation focuses attention on the ideas and solutions to social problems as well as the processes through which they are generated so that effective, efficient and more sustainable than the existing solutions can be found. IIT Delhi will work closely with

three other institutional partners under the hub and spoke model. These institutes are (i) Indian Institute of Technology Mandi, (ii) Indraprastha Institute of Information Technology (IIIT) Delhi and (iii) Indira Gandhi Delhi Technical University for Women, New Delhi. As a part of this project design and innovation labs would be created at these three places to facilitate development of design and innovation ecosystem. As each of these institutes bring their own strengths, joint student projects and design and innovation activities too are planned as a part of this project. The project would be for a period of three years and accordingly, the following budget is proposed:-

Sl No.	**Budget Head**	**Budget Rs (Lakhs)**	**Details**
1.	Student Fellowships, Internships and awards	40	Expenses towards student internships, fellowships to students who stay for additional semester or year after graduation to take innovation to people, postdoctoral fellowship.
2.	Equipment for the laboratories	120	Equipment for prototyping and product realization, user interaction equipment, audio-visual equipment for labs and for recording and analysing user trial data, Computer hardware, software & accessories, acquiring products for product repository; Furnishing and renovation of laboratories
3.	Consumables & Prototyping Expenses	190	Expenses towards curriculum design, consumables for building prototypes, test rigs, mechanical and electronic prototyping charges, acquiring design gadgets, materials, electronic components and chemicals; sensors & transducers. Use of manufacturing services not available with the institute.
4.	Staff salary and honorarium for visiting faculty	110	Honorarium for visiting/guest faculty, design consultants, consultants fee for domain experts. (Faculty and associated faculty salaries are not included in this).
5.	Travel & Field Trial related expenses	50	Travel for interaction with partnering institutions, travel to national events/seminars/workshops/ conferences, travel for market surveys, user trials.
6.	Workshops, Training & Outreach	60	Joint workshops with partnering institutions, Focus area workshops, Innovation promotion events, student/faculty participation in national events pertaining to design and innovation including registration fee; Manpower training charges.
7.	Intellectual Property,	80	Expenses towards design registration, patent filing in India and PCT, Expenses towards

	Consultation Fee and Contingency Expenses		conducting field trials with users, Organizational costs for user interactive sessions/workshops/clinics/competitions, Awards to students, Purchase of books & journals. All other miscellaneous expenditure not included above.
8.	Creation of innovation Labs at 3 partner institutes under hub & spoke model	350	Creation of Innovation Labs and eco-system at IIT Mandi (Rs 130 Lakhs) , Indira Gandhi Technical University for Women, Delhi (90 Lakhs) and Indraprastha Institute of information Technology New Delhi (Rs 130 lakhs)
9.	Total Budget	1000	

Based on the above, he also indicated a year wise requirements - First Year - Rs 275 Lakhs (Rs 110 Lakhs Recurring & Rs 165 Lakhs Non Recurring), Second Year - Rs 405 Lakhs (Rs 170 Lakhs Recurring & Rs 235 Lakhs Non Recurring) and Third Year - Rs 320 Lakhs (Rs 170 Lakhs Recurring & Rs 150 Lakhs Non Recurring).

He further mentioned that following deliverables are expected out of this project:

- Together with partnering institutions DICs will run at least six multi-disciplinary design and innovation courses (40 intake each).
- Starting from second year, DICs will create a system where annually at least five products/processes/ innovations are deployed in the field for multi-user, multi-location user trials.
- DICs will create laboratories & infrastructure which is necessary for development of ecosystem for design and innovation.
- DICs together will setup a repository for design & innovation products/processes.
- DICs will provide mentorship and resources for students who would like to engage in design and innovation activities beyond graduation (at least five fellowships).
- DICs will create a system and formal mechanisms to interact with outside institutions/industry/NGOs. This includes bringing domain experts, freelancers and consultants to campus as guest faculty.
- DICs together will have annual training workshop and design degree show in one of the centers to showcase innovations of all DICs to the outside world.
- Each DIC will have at least 10 summer internships in design and innovation for students from other institutions.

- DICs will work together to create NDIN (National Design Innovation Network) for design collaborations.

(B) Indian Institute of Science, Bangalore

Dr J.E. Diwakar, Chief Research Scientist, IISc Bangalore informed that Centre for Product Design and Manufacturing (CPDM), IISc proposes to establish a Centre for Training the Trainers for Translation from Invention to Innovation (3Ti2). In 3T*i*2, CPDM, IISc would (i) produce faculty and practitioners in Design, (ii) Create and develop content for teaching and learning design on-site & on-line and (iii) create eco-system for incubating indigenous products into marketplace through licensing and start-ups. IIMB, St. Johns, TCS (APDAP) will partner with 3Ti2 centre in the proposed project. The centre will work with 3-6 spoke institutions. These institutions are – (i) NIT Calicut, (ii) NIT Surathkal, (iii) NIT Tiruchy, (iv) KLE College of Engineering and Technology, Belgaum, (v) Jahawhar Lal Nehru College of Engineering and Technology, Shivamogga, (vi) BIET, Davengere, and (vii) PSG Tech, Coimbatore. The project duration would be for a period of three years and the details of the anticipated expenditure are as under:-

S. No.	Item	Rs.in lakhs
Recurring (for 3 years)		
1.	Incubator (2 products per year)	100.0
2.	Development of e-learning content	50.0
3.	Funds to spoke institutions (3-6)	300.0
4.	Manpower	90.0
5.	Consumables, Contingencies and Travel	160.0
Non-Recurring		
6.	Upgrading civil infrastructure, equipment	300.0
	TOTAL (for three years)	1000.0

He further briefed the members that the proposed project is expected to deliver the following:-

i. PhD (6 per year) and Masters (25 per year) in Design

ii. 1 Summer school and 2 Design Workshops for design faculty from other institutions each year (20 faculty and 10 students each in Summer school and Workshops; up to 5 industry participants in the Workshops)

iii. Facility and framework for full time students as well as teachers from other institutions to participate in new product development projects.

iv. Products ready for translation to the market through licensing or start-ups (2 per year)

iv. Content for teaching/learning Design on-line (7 courses from the M.Des curriculum will be made available on-line by the end of three years)

v. Total direct outreach of the Centre would be – 60 students and 40 faculty annually.

(C) Department of Design (DoD), IIT Guwahati

Shri Deb Kumar Chakrabarti, Professor and Head, Dpt. of Design,IIT Guwahati briefed the members that DoD, IIT Guwahati proposes to set up a DIC which would aims at to provide heterogeneous technical expertise and infrastructural support for the development of new products & services in general as well as specific to the North-eastern region of India. The hub & spoke model encompasses the DIC located at Department of Design, IIT Guwahati as the hub in partnership with IIM Shilong and spokes are Assam Agriculture University, Assam Engineering College and IIM Guwahati. The project duration would be for a period of three years. The following budget has been proposed:-

Head	**Details**	**Amount (in Lakhs)**			
		Y1	**Y2**	**Y3**	**Total**
Infrastructure & Contingency	Tinkering Lab, Master Craftsmen Lab, Grass-root Innovation Lab, etc.	100	75	75	250
Manpower	5 PhD students each year, 50 M. Des. Students each year, Labs, Specialists, Craftsmen, Others	70	70	60	200
Training/ Workshop/ Seminar/ Conference	Organizing and participating	50	50	50	150
Project Thematic Areas (Including support to spokes, Consumables, Consultancy Fees, IPR, etc.)	Thematic areas identified – Agriculture, Horticulture, Sericulture, Health Care, Civic Amenities, Flood/ Relief Management, Transportation, Art, Culture & Craft, Green Development, Manufacturing Sector, Tourism & Heritage, etc.	50	175	175	400
Total					**1000**

Deliverables of the project are as under:-

- Centralized labs and studio facilities would be created to aid research and product development
- 9 Course areas open to all students of IIT Guwahati and its partnering institutes for developing a design spine in engineering education
  - Systems Thinking
  - Design for Sustainability
  - Collaborative Product Development
  - New Product Commercialization
  - Design Management
  - Creative Thinking
  - Product-Service System Design
  - Ergonomics and Human Factors
  - Design for Interaction
  - Internship for students from North-east and others (International as well) to enhance experience and better exchange of knowledge and ideas
- Multi-disciplinary PhD program (approx. intake 5 each year)
- Two streams for M.Des. Program in Industrial Design and Communication Design will be planned with an intake of around 50.

Shri Chakraborty also mentioned about adherence of the following timeslines:-

Year 1

- Preparing & planning to set up the Centre
- Chalking out partnerships
- Through initial meetings and seminars
- Selection of project thematic areas for intervention and initiation of work
- Inviting project proposals
- Team building for each project theme
- Floating courses
- Inducting 5 PhD candidates
- Setting up of infrastructure, labs and studios

Year 2

- Work continues on the selected thematic areas
- Selection of new thematic areas for intervention and initiation of work
- Inducting 5 new PhD candidates
- Conducting training programs/ workshop/ seminars/ conference
- Initiating internship program open to all Bachelor and Master students
- Identification and documentation of grass-root innovations and training the innovators for entrepreneurship
- Documentation (including ICT medium) of the courses & developments of the Centre for release through NKN

Year 3

- Continuation of work on thematic projects
- Initiation of new thematic projects as per need identified and capacity
- Continuation of induction of PhD students, internship, seminars, conferences and training programs
- Review of the progress made

(D) Cluster Innovation Centre, University of Delhi

Shri M.M. Chaturvedi, Prof. & Director, Cluster Innovation Center, University of Delhi informed that the proposed DIC at University of Delhi would be located at the Cluster Innovation Centre (CIC). The Centre would be focussing on the following areas of design innovations, processes and setting up of associated labs:-

Areas: Electronics, Communication, Media, Advertising, Urban Infrastructure, Transport, Education, Social intervention etc.

Processes: Product Feasibility Analysis, Concept Generation, Computer Aided Design, Prototype Development, Graphics/Image Development, Integrating function & design, Modeling & Simulation

Laboratories: Media & Graphics Lab, Rapid Prototype Lab, Digital Fabrication Lab, Software Lab, Modeling & simulation Lab, Testing Lab

CIC would be a hub along with three partner satellite centres – (i) Jamia Millia Islamia, New Delhi, (ii) School of Planning & Architecture, New Delhi and (iii) Islamic University of Science & Technology, Srinagar. Areas of collaboration with these satellite centres would be in the following areas:-

1. Jamia Millia Islamia, New Delhi - Communication, Media, Advertising
2. School of Planning & Architecture - Urban Infrastructure, Transport, Rural Development
3. Islamic University of Science & Technology, Srinagar - Product designing, Industrial

The project duration would be for a period of 3 years with the following anticipated expenditure:-

S. No	Budget Head	Budget (Crores)	details
1.	Innovation Programmes, Students Fellowships, internships	0.70	Fellowship to graduating students to incubate their design ideas and external students with design idea.

2.	Fabrication Lab Equipments for the Innovation Studios, Computer hardware & Software, Repository, Tooling cost for user trials	2.00	Fabrication machines & tools, Test rigs, design tools,
3.	Concept Development, Mock-up models, prototyping Expenses, Consumables	1.20	
4.	Staff salary, honorarium for visiting faculty, IPR Consultancy	1.10	Hiring or honorarium charges for Technical staff, Design consultants, domain experts
5.	Furnishing & renovation	0.50	
6.	Travel & Field Trial related expenses	0.50	
7.	Workshops, Training & Outreach	0.50	
8.	Contingency	0.50	
9.	Creation of Innovation Nodes at partner institutes under hub & spoke model	3.00	To be divided among the three nodes based on their capital expenditure for the planned activities
	TOTAL	**10.00**	

Based on the above, he also indicated a year wise requirements - First Year - Rs 575 Lakhs (Rs 0.95 Lakhs Recurring & Rs 480 Lakhs Non Recurring), Second Year - Rs 205 Lakhs (Rs 170 Lakhs Recurring & Rs 0.35 Lakhs Non Recurring) and Third Year - Rs 220 Lakhs (Rs 185 Lakhs Recurring & Rs 0.35 Lakhs Non Recurring).

Deliverables of the project at the end would be:-

a. Courses: Programmes – 06, UG Students – 240+, PG Students – 100+
b. Linkages: Industry – 25, Institutions – 06, R&D Labs – 04
c. Labs: Fabrication, Computer aided design, Software, Testing
d. Industry facility: Conceptulization, CAD, Product Prototyping, IPR Consultancy
e. Interdisciplinary research: 25 – 50 projects, 20 – 30 fellowships, 10 – 15 visiting faculties/Consultants
f. IPR for design solutions: IPR Cell, Repository, workshops, Training
g. Frugal Technology: Infrastructure, Education, Environment, Social engineering
h. Students initiated innovations: Internships, Fellowships, Curriculum linked

i. Foreign Collaboration
j. Design based courses: Technology, Design, Processes
k. New models of industry academia linkage

Shri Chaturvedi mentioned the following timelines would be adhered during the project period:-

1st Year	2nd Year	3rd Year
• Furnishing & Renovation • Establishing Labs • Hiring of technical staff • Launch of fellowships, internships • Repository, IPR Cell • Workshop, Training Programs	• Completion of Fabrication Labs • Innovation programs • Product & Processes – Prototyping, Testing, Field Trials • Visiting faculty & design consultants • Foreign collaborations	• Design Patents • Taking the Product to the Market • Fellowships • Internships

(E) Indian Institute of Technology, Mumbai

Shri B.K. Chakravarthi, Professor & Head, IITB, Mumbai briefed about the proposal He informed that the proposed DIC would be a part of activity of IIT Bombay under the umbrella of Industrial Design Centre (IDC). The existing Shenoy Innovation Studio will take up the 'Design Innovation Programme' through academics, research and workshops as per the need of the country. DIC would focus on work towards improvement of Agricultural products, crafts development to enhance livelihoods and rural development by humanizing technology. IDC will act as hub with (i) College of Engineering Pune, (ii) Gondwana University Gadchiroli Maharashtra, (iii) UDCT Mumbai and (iv) Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth as spokes. The primary objective of the program will be to create design innovators for India who can achieve a combination of creative and decision making abilities resulting in developing innovative products, processes and services. The project period would be for a period of three year with the following details of expenditure:-

S.No.	Budget Head	Budget (Rs.in lakhs)	Details
1.	Innovation Programmes, Student Fellowships and Internships	80	Developing an innovation academic programme, Expenses towards student internships, fellowships to students who stay for additional semester or year after graduation to take innovation to people and postdoctoral fellowship.
2.	Fablab Equipment for the Innovation Studio	100	Equipment for prototyping and product realization, user interaction equipment, audio-visual equipment for labs and for recording and analysing user trial data, Computer hardware, software &

			accessories, acquiring products for product repository;
3.	Concept Development, Mockup models and Prototyping Expenses.	150	Expenses towards consumables for building prototypes, test rigs, mechanical and electronic prototyping charges, acquiring design gadgets, materials, electronic components and chemicals; sensors & transducers. Use of manufacturing services not available with the institute
4.	Staff salary and honorarium for visiting faculty	110	Honorarium for visiting/guest faculty, design consultants, consultants fee for domain experts.(Faculty and associated faculty salaries are not included in this)
5.	Tooling cost for user trials	70	Preparing of tools for pilot production for testing the innovative product in the field.
6.	Travel & Field Trial related expenses	50	Travel for interaction with partnering institutions, travel to national events/seminars/workshops/conferences, travel for market surveys, user trials.
7.	Workshops, Training & Outreach	60	Joint workshops with partnering institutions, Focus area workshops, Innovation promotion events, student/faculty participation in national events pertaining to design and innovation including registration fee; Manpower training charges, etc.
8.	Creation of innovation Nodes at partner institutes under hub & spoke model	380	Creation of Innovation Nodes at different user locations (4 locations).
Total Budget		**1000 (Rupees Ten Crores only)**	

Based on the above, yearwise funding requirements have been indicated as Rs 4.00 crore for 1st year (non-recurring - 3 crores & Recurring 1 crore), Rs.4.00 crore for 2nd year (non-recurring - 3 crores & recurring 1 crore) and Rs.2.00 crore for the 3rd year (non-recurring 1 crore & recurring 1 crore).

He mentioned that deliverables of the project would be as under:-

(i) 4 courses will be developed with 200 students enrolled from July 2014
(ii) 2 studio project courses will start from July 2015 with 40 students
(iii) One mock up studio facility for 20 students to work simultaneously by December, 2014
(iv) One prototype facility for 10 teams of 4 students each to build prototypes by December, 2014

3. PAB-DIC noted the details furnished in all the proposals. **Secretary (HE) & Chairman PAB, Shri Ashok Thakur, Secretary (HE)** said that existing IPR chair in institutions should work in harmony with DICs. Similarly, Centres for Excellence, which are also initiative of Department of Higher education, should have synergistic relationship with DICs. He also mentioned that as funding is proposed for XII five year plan, institutions should ensure that they become self sustainable after 3 years. It was also noted that some of the institutes have not furnished details regarding (i) details of recurring & non-recurring expenditure, year wise, (ii) Head of the proposed DIC, (iii) timelines of the deliverables. It was also observed that the proposal of Cluster Innovation Centre, Delhi University needs to be more focussed. PAB approved the proposal of DU with condition that refined proposal of DU is approved by a Committee consisting of (i) Shri B.K. Gairola, Member Secretary, NIC, (ii) Shri S. S. Mantha, Chairman, AICTE and Shri Amit Khare, JS (P), MHRD.

3(i) Prof.S.S. Mantha, Chairman, AICTE stated that the focus of DICs should be on innovation and that too, not only on value addition to already available products but to create the new market. He stressed that the innovation should invariably be linked with the market requirements.

3(ii) Dr. B.K. Gairola, Member-Secretary, NInC, expressed his concerned about the continuity of the projects beyond the completion of the project period. He desired that the courses proposed to be designed in the new scheme should be taken over by the concerned institutes after the completion of the project.

3(iii) Shri Pawan Agarwal, Advisor, Planning Commission opined that based on the outcome of scheme, a decision may be taken to continue the project for a further period. He also mentioned that these 5 DICs which are proposed to be set up in this financial year have experience in design and innovation; therefore they should work as mentor for other DICs which will be set up in second phase.

3(iv) Prof. Pradyumna Vyas, Director, National Institute of Design was of the view that all the institutions in the field of design education are required to be brought under one umbrella. He highlighted the importance of institutional linkage and documentation of innovative ideas. He also emphasised that breakthrough innovations should be the focus of DIC. He was also of the opinion that proposed DICs should also opt for NITs for spreading design culture.

3(v) Prof. Satyaki Roy, Head, Design Programme, IIT Kanpur was appreciative of the project proposals and mentioned that this would give a push to innovation and students themselves would further take over the projects themselves.

3(vi) Shri Arindam Das, Director, NIFT mentioned that innovation should have strong industry linkages to make it sustainable. He also opined that necessary synergy with other design institutions like NIFT will avoid duplicity and strengthen the initiative.

3(vii) Prof. Chetan Vaidya, Director, School of Planning & Architecture, New Delhi mentioned that there is general shortage of faculty in Design & Innovation Education. The proposal of IISc Bangalore regarding Training the trainers is very important, however, developing faculty will require lot of efforts and careful planning.

3(viii) Shri Gopal Prasad, Deputy Secretary, DIPP emphasised that DICs should be networked with other design institutions like NID to create comprehensive eco system of design. A Body may be formed for this purpose. **Shri Pratap Singh, Director (Finance)** said that IISc Bangalore and IIT Guwahati should submit budget requirement under recurring and non recurring heads.

4. **Chairman, PAB-DIC** desired that the institutions like IIT, Mumbai which already have wide experience in design education, should take the responsibility of mentoring the other institutions. He was of the view that due diligence should be given to all the proposals and also desired that a review committee need to be formed to scrutinize the proposals received from the remaining institutes. He also felt the need of some senior professors from humanities to be linked with the scheme. It was also desired that the meeting of PAB may be held on regular basis to review the progress made.

5. After detailed deliberations, PAB-DIC took the following decisions :-

(i) To approve the project proposals of IIT Delhi, IIT, Bombay, IIT, Guwahati, and IISc Bangalore as per details given in their project report.

(ii) To approve, in principle, the project proposal of Cluster Innovation Centre, University of Delhi subject to a review by a Committee as mentioned in para '3' above and approval by Secretary (HE) in the capacity of Chairman, PAB-DIC.

(iii) To form a Review Committee to scrutinize the proposals being received for establishment of DICs and making a recommendation for consideration of PAB-DIC.

(iv) Proportionate release of funds, subject to availability, for establishment of approved projects.

Annexure-I

List of Participants who attended the meeting of Project Approval Board (PAB)-DIC) held on 11th March, 2014 at 3 p.m. at Shastri Bhavan

Sl. No.	Name & Designation
1.	Shri Ashok Thakur--- Secretary Higher Education –Chairperson
2.	Prof.S.S. Mantha, Chairman, AICTE
3.	Shri B.K. Gairola, Member Secretary- National Innovation Council, Yojana Bhavan,
4.	Shri Pawan Agarwal, Advisor, Planning Commission
5.	Shri R.K. Tondar, Director (BB&RT), DoT
6.	Prof. Chetan Vaidya, Director, SPA, New Delhi
7.	Prof Pradyumna Vyas, Director, National Institute of Design, Ahmedabad
8.	Shri Arindam Das, Director, NIFT Delhi
9.	Prof. Satyaki Roy, Head, Design Prog., IIT Kanpur
10.	Shri Gopal Prasad, Dy. Secretary, DIPP
11.	Shri Amit Khare, Member Secretary (PAB) & JS(P)
12.	Shri B.K. Chakravarthy, Professor & Head, IITB, Mumbai
13.	Shri P.V. Madhusudhan Rao, Professor, Mech Engg. Department, IIT Delhi
14.	Shri J.E. Diwakar, Chief Research Scientist, IISc Bangalore
15.	Shri Deb Kumar Chakrabarti, Professor and Head, Deptt. of Design, IIT Guwahati
16.	Shri M.M. Chaturvedi, Prof. & Director, Cluster Innovation Center, University of Delhi
17.	Shri Pratap Singh, Dir (Finance), IFC,D/o HE MHRD
18.	Shri Keerthi Laal, Office of Adviser to PM on PIII
19.	Smt. Shakila Shamsu, OSD, XII Plan D/o HE, MHRD
20.	Shri Sanjeev Sharma, Director (P), D/o HE, MHRD
21.	Smt Rajni Taneja, US (PN.I), D/o HE, MHRD