


Office of Dean (AA&IR)
IIT Kharagpur

Dt: 31.07.2008

Enclosed please find a copy of the MOU between National Semiconductor Corporation and IIT Kharagpur, duly signed by the Competent Authority of IIT Kharagpur & National Semiconductor Corporation.

Registrar may kindly take necessary action in this regard.

Encl: As stated


(Amit Patra)
Dean (AA&IR)

REGISTRAR

Memorandum of Understanding

between

National Semiconductor Corporation

and

Indian Institute of Technology Kharagpur

for naming the

“National Semiconductor Chip Design Laboratory at IIT Kharagpur”

National Semiconductor Corporation (NSC) and the Indian Institute of Technology Kharagpur (IITKGP) have a continuing collaboration in VLSI Design and CAD for nearly a decade. (See Annexures 1 and 1a). The collaboration has been successful and enriching. NSC has provided unique support to IITKGP through cost-free state-of-the-art chip fabrication facilities. (See Annexures 2 and 2a). NSC has also supported IITKGP with research projects, student internships and technology guidance. IITKGP has produced some successful results in these projects, some of which have been very useful to NSC. Graduates from IITKGP have also joined NSC.

NSC has been a principal supporter and founder partner, along with the IIT Foundation and five other industries in the development of the Advanced VLSI Laboratory (AVLSI Lab) at IITKGP. Over the years this AVLSI Lab has been an example of how industry can support and bring true relevance to education and research in an academic institution. NSC's cost-free fabrication support has been a key feature to the success of the AVLSI Lab. Over the years the AVLSI Lab has grown into a large umbrella of research activities with the support of various world-class partners including NSC. Important activities among them include Chip Design, CAD, Verification and Test covering digital, analog and mixed signal designs through RF to multicore-processor architectures. Other areas ranging from electronic materials to target application domains like medical instrumentation and wireless communications are coming into the ambit of the overall AVLSI Lab umbrella. As another part of this activity an AVLSI Consortium with several major companies as partners has been formed to support student research in these areas. NSC is an early member and key supporter of the AVLSI Consortium.

Starting with a "Chip design facility" in 2000 the AVLSI Lab has grown to include a large variety of activities related to chip design. These include Chip design, CAD, Verification & Test, etc. Hence, it is appropriate at this point to identify "Chip design facility" as a distinct and noticeable part of the AVLSI Lab. IITKGP recognizes the unstinted support provided by NSC in helping develop chip design at IITKGP. The cost-

free chip fabrication support has gone a long way in helping achieve teaching and research excellence in IITKGP, especially among the talented students of IITKGP. NSC recognizes it important to support chip design and research at IITKGP to help develop state-of-the-art talent and intellectual property. Through this MOU, it is therefore proposed to name the "Chip design facility" of the AVLSI Lab as "**National Semiconductor Chip Design Laboratory**".

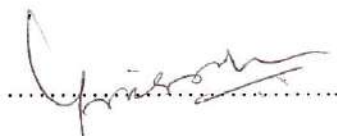
Keeping in view the above, it is therefore agreed both by NSC and IITKGP that the following sets forth their mutual understanding and statement of intent:

1. The facility being used for chip design at the AVLSI Lab at IITKGP shall be named "**National Semiconductor Chip Design Laboratory**". An appropriate nameplate shall be put in place for this. Currently it shall be the room adjacent to where the research staff and servers are housed. This is where the students actually carry out the design activity prior to submission and is open to all eligible students of IITKGP.
2. NSC shall provide cost-free fabrication and packaging on space available basis as per agreed terms and conditions (See Annexures 2 and 2a). Under the terms of this Agreement IITKGP shall provide NSC non-exclusive license for chips fabricated using NSC processes and libraries.
3. IITKGP shall use the current web-based support of NSC to submit the designs adhering to the approved norms of NSC. NSC will have the right to approve or disapprove any submission as per its policies. IITKGP may submit any design for fabrication. IITKGP will explicitly notify NSC if a design is owned by other companies or organization. IITKGP shall exercise abundant checks and controls upfront while selecting the fabrication process, such that generic processes and not National's proprietary processes are used for projects such as the ones funded through consortium. The list of such generic processes will be provided to IITKGP by NSC.
 - 1.
4. IITKGP shall designate one or two faculty members who shall be the coordinators for the National Semiconductor Chip Design Laboratory at IITKGP. Notwithstanding the NSC reference in the name of Chip design facility: (a) IITKGP retains full rights and responsibility for the facility including without limitation the funding and operations thereof; and (b) the facility shall not be used in any manner that might imply any non-NSC materials, including but not limited to goods, services, designs or publications, are sponsored, endorsed, licensed by or affiliated with NSC.
5. NSC may assign its employees to be co-located at IITKGP campus for achieving the research collaboration objectives. NSC may consider engaging a staff of up to five (5) to be located at IITKGP for the purpose. IITKGP shall provide designated work area and lab facilities on IITKGP campus to NSC for up to 5 NSC designates. The incidental expenses (e.g. boarding, lodging, transportation,

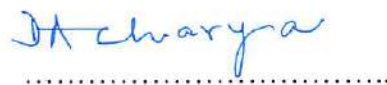
telephones etc) shall be borne by NSC or its employees. IITKGP shall strive to provide the living facilities on campus to foster collaboration and more productive use of NSC's employees visit against payment as per IIT KGP rules. NSC may hire separate space and secure internet facilities from different sources such as Science and Technology Entrepreneurs Park for exclusive use of its employees.

6. IITKGP shall use the available Test Laboratory infrastructure at IITKGP to carry out initial tests for the fabricated designs. NSC shall strive to provide cost-free access to its Test Facilities at Bangalore and elsewhere on availability basis to test the designs pursuant to a separate agreement to be executed by the parties, substantially in the form of NSC's Equipment Use Agreement attached (See Annexure 3). after incorporating necessary changes as mutually agreed.
7. NSC shall continue its membership of the AVLSI Consortium and contribute to helping in guiding research, especially in the analog and mixed signal design areas. Through the AVLSI consortium, NSC shall have a non-exclusive license of all the research results that are funded through the AVLSI Consortium as per the agreed terms. (See Annexure 4)
8. NSC and IITKGP shall continue to pursue collaborative research through projects in areas of Chip Design and CAD that are of interest to NSC.
9. NSC shall help train interns of IITKGP. IITKGP shall encourage applicable candidates from NSC to pursue masters and doctoral research from IITKGP. NSC shall consider funding Outstanding Young Faculty, Student Fellowships and Chair Professor Fellowships at IITKGP. IITKGP shall encourage eligible experts of NSC to participate in research through joint supervision and teaching through Adjunct Faculty positions.

This MOU is signed at IIT Kharagpur 721302, India on the 30th of July 2008 by NSC and IITKGP through their authorized representatives

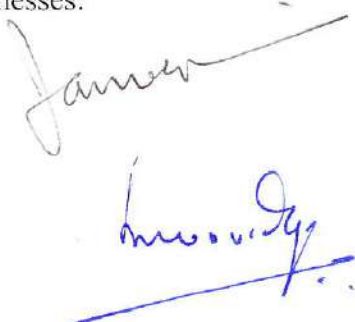


National Semiconductor Corporation



Indian Institute of Technology
Kharagpur

Witnesses:



Subject:

Date:

Sl. No.	Names of Departments / Centers / Schools	Receiving signature
✓ 1	Aerospace Engineering	29/7
2	Agricultural & Food Engineering	29/7
3	Architecture & Regional Planning	29/7
4	Biotechnology	29/7
5	Chemical Engineering	29/7
6	Chemistry	29/7
7	Civil Engineering	29/7
8	Computer Science & Engineering	29/7
9	Electrical Engineering	29/7
10	Electronics & Electrical Communication Engineering	29/7
✓ 11	Geology & Geophysics	29/7/08
12	Humanities & Social Sciences	29/7/08
✓ 13	Industrial Engineering & Management	29/7/08
14	Mathematics	29.7.08
15	Mechanical Engineering	29/7/08
16	Metallurgical & Materials Engineering	29/7
17	Mining Engineering	29/7
18	Ocean Engineering & Naval Architecture	29/7
19	Physics & Meteorology	29-7-08
Schools		
20	School of Information Technology	29/7
21	School of Medical Science & Technology	29/7
22	Rajiv Gandhi School of Intellectual Property Law	29/7
23	Vinod Gupta School of Management	29/7/08
24	G S Sanyal School of Telecommunications	29/7/08
Centers		
25	Centre for Cryogenic Engineering	29.7.08
26	Centre for Educational Technology	29/7/08
27	Materials Science Centre	29/7
28	Centre for Oceans, Rivers, Atmosphere and Land Sciences	29/7
29	Reliability Engineering Centre	29/7/08
✓ 30	Rubber Technology Centre	29/7
31	Rural Development Centre	29/7
32	Computer Informatics Centre	28.07.08


OFFICE OF DEAN (AA&IR)
IIT KHARAGPUR

Dt: 29th July, 2008

Enclosed please find a copy of MOU between National Semiconductor Corporation and IIT Kharagpur, approved by MOU Sub-Committee, for your kind perusal. A copy of the minutes of the meeting held on 28th July, 2008 is also attached herewith.

Submitted.

Encl: As stated


(Amit Patra)
Dean (AA&IR)

DIRECTOR

DA Ch
29.7.08

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between

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*To be placed
before the
Committee
18/8/87*

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.....
National Semiconductor Corporation

.....
Indian Institute of Technology
Kharagpur

Witnesses:

1.

2.


OFFICE OF THE DEPUTY DIRECTOR
I.I.T., KHARAGPUR

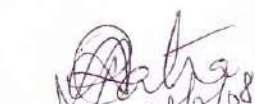
Dated: 28.07.2008

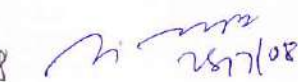
A meeting of the MOU Senate Sub-Committee was held on 28.07.2008 at 4.30 p.m. in the room of the Deputy Director to discuss the following proposals:

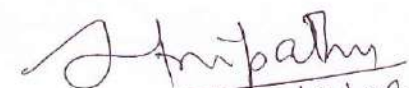
1. Partnership Agreement for establishment of Indian Institute of Corporate Affairs (IICA) under The Ministry of Corporate Affairs, Government of India.
2. MOU between National Semiconductor Corporation and IIT Kharagpur.

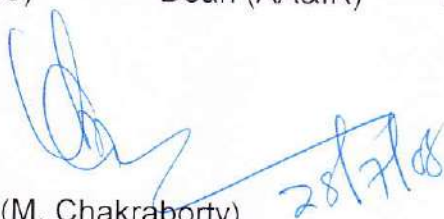
After discussion MOU committee approved the above proposals.


(P. P. Chakrabarti)
Dean (SRIC)


(A. Patra)
Dean (AA&IR)


(P. K. J. Mahapatra)
Dean (PGS & R)


(S. Tripathy)
Head, RGSOIPL


(M. Chakraborty)
Dy. Director & Chairman MOU Committee

~~Dean (AA&IR) for N.A. fls.~~


29/7


29/7/08