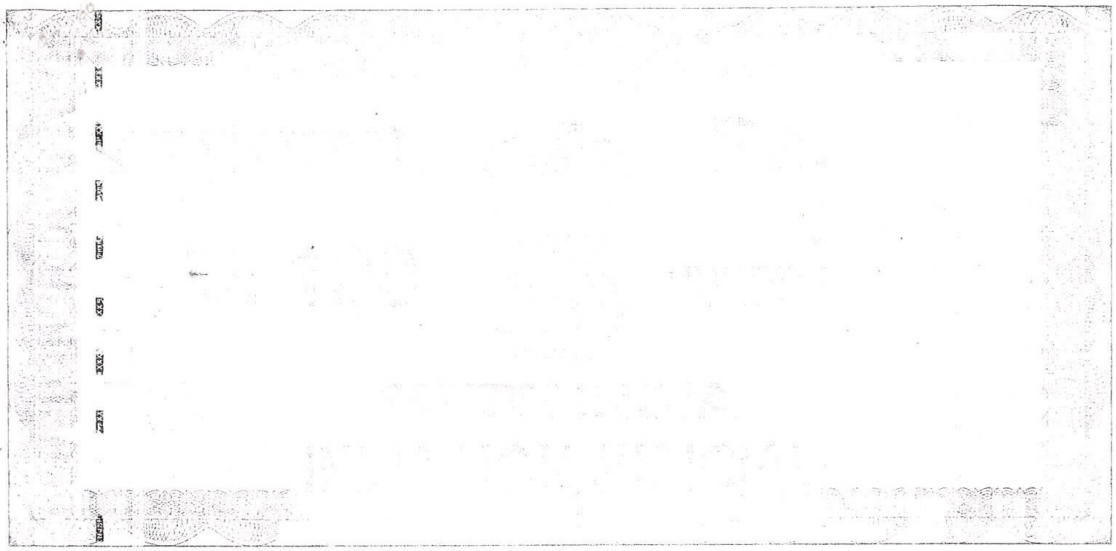

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MoU to Collaborate on ESDM Manpower Development

This Memorandum of Understanding is hereby undertaken between Jawaharlal Nehru Technological University Anantapur (University), IIT Madras (NPTEL)and Seer Akademi (Seer) , henceforth known collectively as the Parties, on the **26th day of March, 2013** at **Anantapur**. The Parties hereby propose to setup a collaborative **Center for ESDM Manpower development under the University** that has the objective of creating industry oriented programs, large capacity manpower development using modern technology, rapid induction of technological trends into curriculum, focus on Washington Accord compatibility and means to facilitate the participation of industry experts in the training of students and faculty.

Context

The Central government has called for massive capacity building in educational institutions in the ESDM sector – 28 Million workers to be trained by 2020 (National Policy on Electronics–2012). Accordingly, many states, including Andhra Pradesh have formulated their own policies to promote industry development and manpower development. Approximately, 1 Million (10 lakhs) workers are supposed to be in the white collar classification which implies that we must make efforts collectively to utilize every graduating engineer to his/her full potential. In addition, 2500 PhDs per year

in this sector are called for, however, the Nation lacks means to attract and supervise talented individuals to join PhD programs. Whereas current programs are restricted in intake capacity, we need to envisage and implement methods to regulate and train large numbers of students using modern technology. Kindly refer to the National Policy on Electronics – 2012 for further information.

Reference Model

As technology evolves, we find that both curriculum and methodology of teaching need to be changed. Specifically, in the Indian Context, expertise is this sector is to be found in the industry, which is based in Silicon Valley, Bangalore and Hyderabad. The following models are cited as functional, successful methodologies to be adopted.

1. The M.S. in VLSI/Embedded Systems programme at JNTUHyderabad , run under an MOU with Seer Akademi is a reference model for PPP programs
2. Seer Akademi's patent-pending online + local model is used as a reference to train large numbers at once with academic rigor.
3. Massive Open Online Course Initiatives such as EdX (MIT), Coursera (Stanford) and upcoming startups like Udacity.
4. EPub Technology from multiple global vendors that makes digital books, workbooks, exams available and feasible.
5. Shared Physical laboratories such as the Stanford Nano Technology Laboratory, UC Berkeley's Laboratories and San Jose State University Wafer Fabrication Facility.
6. Engineering Doctorate programs for working professionals offered in the UK and other EU nations.
7. Recent reforms at IITs with respect to B.Tech and M.Tech projects and options to substitute them with course credits.

Collaboration

1. Seer Akademi, in collaboration with industry participants shall form a Center for ESDM studies which offer programs similar to the current reference models cited but extending to other disciplines within the ESDM sector.
    a. ESDM verticals are as identified below and by the Department of Electronics and Information Technology.
        i. VLSI, Embedded Systems, Computer Science (Product Design focus), Information Technology Infrastructure, Telecommunications and Solar PV engineering are thrust areas for the initial period
    b. The ESDM center shall aspire to be facility of national and international prominence along the lines of ITRI, Taiwan and IMEC, Belgium.

2. University and Center participants shall setup processes and mechanisms to train a large volume of students in cutting edge ESDM skills
3. The parties collectively seek to establish a reference model of laboratory infrastructure and curriculum using the help of about 40 experts from industry/academia who are listed in the attachments.
    a. Within each ESDM segment/specialization, industry participants shall form a sub-committee which meets every 6 months to formulate, modify and ratify curriculum. This is needed in order to keep up with the rapidly changing trends in technology and market requirements.
    b. Refer to Operating procedures document for further details.
4. As in the reference model, experts from the industry will be invited to deliver instruction in their domain of expertise/practice. Industry participants seek to contribute/refer qualified instructors for this purpose.
5. NPTEL will fund the development of the courses for programs approved by University's Academic Section. Courses once developed and recorded will become the Intellectual Property of NPTEL according to the Creative Commons License attached.
    a. Seer shall facilitate recording of NPTEL content for approved programs using its Silicon Valley, Hyderabad and Bangalore offices as applicable.
6. The Center may initiate relationships with universities and laboratories in India and abroad to offer courses, exchange programs and laboratory facilities to its students.
7. The benefits of this center may extend to Undergraduate programs by incorporating key electives and core subjects into B.Tech programs.
8. If feasible, University and Seer Akademi seek to serve as a Talent Magnet for PhD candidates from industry by creating a model EngD program with the following objectives and as further documented later in this proposal.
    a. Promote research in ESDM inter-disciplinary fields and propagate into curriculum.
    b. Create an instructor pool for the benefit of the entire University community
    c. Create a mentoring relationship between industry leaders and full time students.
9. A Technical Advisory Board consisting of Industry experts and academic experts shall be constituted. The Vice-Chancellor of University may nominate a qualified University representative in consultation with other Advisory Board Members to this Board for Academic oversight. The term of such a representative shall be 12 months.
10. Fees and Revenue sharing
    a. The fee structure shall be set in a dynamic fashion which accomplishes the following:

i. Allow a student to finish a base set of courses towards a degree objective at a predictable fee.[BASE FEE]
ii. Allow industries, laboratories and external bodies to offer modules and electives for credit at a fee proportionate to their investment. Such electives and modules must be approved by the curriculum sub-committee.[THIRD PARTY FEE]. Unless declared at the time of admission, such external courses must only be deemed electives and suitable in-house options must be available.
iii. Students shall be allowed to attend lectures from anywhere, but laboratories will be at the appropriate centers in Hyderabad/Bangalore or third party facilities.

b. BASE FEE shall be apportioned as follows:
   i. A fixed infrastructure fee towards hardware, software and technology costs in the amount as documented in appendices per student per semester, payable directly to vendors such as Cisco, Synopsys/Cadence/Mentor, ARM, VMWARE etc. through an account created by Seer Akademi.
   ii. A fee of INR 35,000 per student per semester to be shared by the parties as follows
      1. 25% to University, out of which University may spend
         a) 5% for Faculty Development Programs
         b) 5% for research grants, conferences, publications etc.
      2. 75% to Seer Akademi

c. THIRD PARTY FEE is paid directly to provider. Students are under no obligation to take such courses/material unless declared to them prior to admission as a core course or as required material. This is only a mechanism to allow students to take advanced electives and access lab facilities not available at universities.
d. See Appendix for list of courses and third party fees.
e. MOU programs with foreign universities or lab facilities will be subject to variation because of other costs involved and also due to fluctuations in currency rates.
f. The parties shall create an escrow mechanism at a reputed bank for revenue collection and disbursal. Additionally, an external statutory audit shall certify compliance annually to set policies for revenue sharing.
g. Shared costs such as advertisements, audit and escrow functions etc. shall be shared by all parties in a pro-rata manner according to their share of the revenue.
h. NPTEL funding of courses: University and Seer seek to put lecture content in the public domain and make the courses affordable even further. Hence, they will apply to NPTEL for funding of lecture development. NPTEL will pay the University for development of ESDM courseware for these programs, which in turn shall pass on

the amounts to Seer through the Escrow account mechanism within 5 business days

i. NPTEL funding of collateral: All courses shall have collateral such as assignments and sample projects. This material is time-bound and needs to be updated on an annual basis. Any updates to courses shall also be undertaken annually. NPTEL may work with third parties independently for this purpose.

11. Capacity

a. The center shall aim to serve its mandate as follows (optimal use of technology, scheduling and timesharing of facility will be done to reduce infrastructure costs)
    i. 25-120 PG students/discipline in academic year 2013-2014
        1. Based on job market. 25-40 in VLSI/Embedded Systems. 90-120 in others.
    ii. 120 PG students/ discipline in academic year 2014-2015
    iii. 240 PG students/ discipline in academic year 2015-2016
b. The center shall conduct faculty training for University and affiliated colleges – Upto 300 faculty members shall be trained annually. Participants shall be charged a nominal fee.
c. If feasible, the center shall run Talent Magnet programs for experienced engineers to acquire PhDs with the following targets and according to the Engineering Doctorate guidelines.
    i. 50 candidates in academic year 2013-2014
    ii. 125 candidates in academic year 2014-2015
    iii. 200 candidates in academic year 2015-2016

12. Extension to other disciplines

a. The Parties seek to extend the benefits of Seer Akademi's technology to non ESDM disciplines by establishing Global classrooms and teaching services from reputed institutions in India and abroad.

13. Other infrastructure

a. University may run the program at its constituent colleges and any of its affiliated colleges and Seer offices. Students of this MOU based programs shall have the same responsibilities and privileges as any other student at the respective campuses, including but not limited to use of hostels, libraries, placement services, logistics etc.

14. Term and Termination

a. The MOU shall have a term of 7 years, given the long term perspective of academic engagements.
b. Either party may terminate the program by giving a written notice to the other : all academic obligations to enrolled students shall be completed and fresh admissions suspended in such a case.
c. Parties shall refer the matter to a neutral arbitrator in case of an irreconcilable dispute. Such Arbitrator will be in the jurisdiction of Hyderabad, Andhra Pradesh.

15. Liability

a. Other than duly accrued fees, neither party shall have any liability to the other. As mentioned earlier, all disputes, if irreconcilable, shall be referred to a neutral arbitrator in the jurisdiction of Hyderabad, Andhra Pradesh.

Signatories

JNTU Anantapur:

Prof. K. HEMACHANDRA REDDY
(Registrar)

Date:

IIT Madras (NPTEL)

K. Mangala Sunder

Prof. MANGAL SUNDER KRISHNAN
National Web Co-ordinator, NPTEL

Date: 26. March 2013

Seer Akademi
For SEER AKADEMI PVT. LTD

SRIKANTH JADCHERLA
Chief Executive Officer

SRIKANTH JADCHERLA
Chairman and CEO

Date: 26 March 2013