MOU

SUBMISSION OF CHIP-TO-STARTUP (C2S) PROPOSAL UNDER CATEGORY II

Title of Proposal

ASIC Development of PLL Synthesizer for Multichannel FR1 Bands of 5G Technology

Submitted By

Dr. Ujwala A. Kshirsagar, Principal Investigator,
Dr. Priti Shahane, Co-Principal Investigator
From Nodal Institute
Symbiosis Institute of Technology,
Symbiosis International (Deemed University),
Lavale Campus, Tal. Mulshi, Pune, Maharashtra, 412115.

&

Dr. Santosh Balkrishna Patil, Principal Investigator,
Dr. Ram S. Dhekekar, Co-Principal Investigator
From Participating Institute
Shri Sant Gajanan Maharaj College of Engineering,
Khamgaon Road, Shegaon -444203, Dist-Buldana (M. S.), India

15 September 2023

Received from SB Patil
on 04/7/2024.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (hereinafter referred to as the "MOU"), is entered into on Friday, 15th of **September, 2023**, by and between:

Symbiosis International (Deemed University), an Institution deemed to be a University established under Section 3 of the University Grants Commission Act, 1956 and having its main campus at: Symbiosis Knowledge Village, Gram: Lavale, Taluka: Mulshi, District: Pune 411042 (India) (hereinafter referred to as "SIU"), for and on behalf of one of its constituent **Symbiosis Institute of Technology, Pune** having its campus at: Near Lupin Research Park, Gram: Lavale, Tal: Mulshi, Pune-412115 (**Hereafter referred to as "Nodal Institute/SIT"**) (which expression shall unless it be repugnant to subject or context hereof would mean and include its authorities and officers etc.)

.... **Party of the First Part**

AND

Shri Sant Gajanan Maharaj Temple Trust, registered Public trust under Bombay Public Trust Act 1950, having its registered address Khamgaon Road, Shegaon -444203, Dist-Buldana (M. S.), India on behalf of its constituent **Shri Sant Gajanan Maharaj College of Engineering**, an institution established under a charitable organization- Shri Gajanan Shikshan Sansthahaving its Main Campus at: Khamgaon Road, Shegon, Dist-Buldana, (M.S) India- 444203 (Hereafter referred as Participating Institute/SSGMCE) (which expression shall unless it be repugnant to subject or context hereof would mean and include its authorities and officers etc.)

.... **Party of the Second Part**

Both "SIU/SIT/Nodal Institute" and "**Participating Institute/SSGMCE**" shall each be referred to in this MOU as a "Party" and collectively as "Parties".

It is clearly understood and acknowledged that this MoU has been executed by SIU, on behalf of SIT, one of its Constituents. Therefore, all the rights and obligations as provided in this MoU shall be exercised / performed by SIT, on behalf of SIU.

Whereas,

A. Symbiosis International (Deemed University) or SIU is a multi-disciplinary university offering its students and faculty a vibrant learning ecosystem designed around its multi-cultural and innovative ethos. It imparts education needed for leadership in a rapidly changing world. Its faculties transform individuals, preparing and empowering them to make a positive impact on the world;

B. Symbiosis Institute of Technology (SIT), is dedicated to offering high-quality technical education aligned with the needs of the competitive industry and rapid technological advancements. SIT prioritizes a balanced curriculum covering fundamentals and the latest developments. The Institute promotes effective teaching and learning, supports extracurricular activities, collaborates with industry, hosts guest lectures, and provides a Global Immersion Programme with foreign universities.

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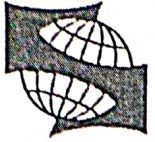
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C. SSGMCE is an institute that offers 5 Undergraduate engineering courses and 5 Postgraduate (4 Engineering and 1 Management) courses.

D. In line with the objective and vision of NPE-2019, an umbrella programme "Chips to Startup (C2S)" has been initiated by MeitY. The programme would be implemented at about 100 academic institutions/R&D organizations across the Country.

E. Now therefore the parties hereto have discussed and decided to enter into a Memorandum of Understanding (MOU) to jointly submit proposal to Ministry of Electronics & Information Technology (hereinafter referred to as "MeitY") and to achieve the deliverable.

NOW THEREFORE THIS MOU WITNESSETH AS FOLLOWS:

1. **Background:** The Nodal Institute and Participating Institute desire to enter into an MoU in which they will work together to achieve deliverables and outcomes related to the Chip to Startup (C2S) proposal of MeitY. The details of the project are mentioned herein below:

   Project Title: ASIC Development of PLL Synthesizer for Multichannel FR1 Bands of 5G Technology
   Project Cost: 192 Lacs
   Project Duration: 5 Year

An MoU signed among the participating Institute/collaborators including Academia/R&D organization with defined responsibilities as mentioned herein below:

Broad responsibilities of the Nodal Institute during the execution of the project:

1. The Nodal Institute will be responsible for the overall project implementation and deliverables of the project.

2. The MoU shall indicate the roles and responsibilities, technical deliverables and outcomes of the nodal institute / Organization, each of collaborating institutes / Organization, and specifications from the End-User if any, separately and clearly. Nodal Institution is responsible for fund distribution to participating institute / Organization as per the instructions from MeitY.

3. Nodal Institute will be mentoring the Participating Institutions (PIs) associated with them under the program. Nodal Institute will also help the PIs (particularly the new PIs) in establishing/adopting the complete EDA Tool Chain (though ChipIN Centre will be primarily responsible for this activity) for achieving the committed project deliverables.

4. Nodal Institute will review and monitor the progress of Clusters of PIs/start-ups / end users / MSMEs (as applicable) associated with them.

5. The Nodal Institute should interact/coordinate with the other collaborators of the project viz. PIs/start-ups / end users / MSMEs etc. as applicable.
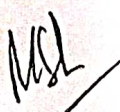
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6. Nodal Institute will not be allowed to back out from the project once the project is approved and funds released to it.

7. Institutions applying under this category Projects may individually submit Research Project proposals in Emerging areas. Such a proposal would only be supported for design infrastructure support.

8. After the receipt of packaged Chips from the ChipIN Centre/ External package unit, Nodal Institute has to submit a datasheet to ChipIN Centre in the prescribed format. This will enable ChipIN Centre to maintain the repository of IPs for their possible use/reuse by designers across the country.

9. The Nodal Institute should work closely with the faculty of the PIs in establishing close informal/formal linkages with industries in the vicinity.

10. The Nodal Institute will monitor the progress of implementation of each activity of the project at the Participating Institutions attached to them and will submit a quarterly report (Technical and financial) to the PCI/MeitY.

11. Other responsibility under the scope of the project assigned by National Steering Committee (NSC) for fulfilling the aims & objectives of the program.

12. The institutions may submit another proposal in this category after completion of the previous project.
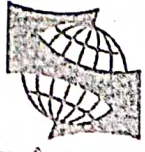
Broad responsibilities of the other Participating Institutions during the execution of the project:

1. Other Participating Institutions etc. will be closely associated with the Nodal Institute under the program to accomplish the objective of a collaborative project.

2. Participating Institutions (PI) etc. would submit the progress report w.r.t. milestones in collaborative project on a monthly basis to Nodal Institute.

3. PI etc. would take any other responsibility under the scope of the project assigned by NSC for fulfilling the aims & objectives of the program.

4. After the receipt of packaged Chips from the ChipIN Centre/ External package unit, each participating institution etc. to submit datasheets to its Nodal Institute and ChipIN Centre in the prescribed format.

MOU also relates to the R&D Projects Deliverables and Outcomes mentioned below:

- The level of technical expertise available at the Institutions will be raised by way of developing Proof of Concept (PoC)/Working Prototype/Systems and facilitating Start-ups/MSMEs for the development of Indigenous IP Core/Systems/SoC(s) in collaboration with Academia/R&D Organizations.

- The students at these institutions will be trained in all aspects of VLSI/Embedded System design by providing exposure to the complete Design Cycle including Specification Finalization, Frontend, Backend, GDSII Tape out, Fabrication, and Testing.
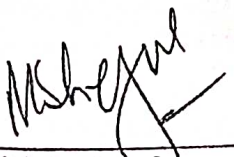
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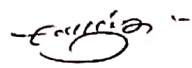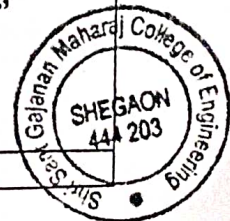
- Additionally, due to the involvement of Industry/Start up in the problem identification and Project implementation, students would also be exposed to the work culture of the Industry/Start-ups which will help them in the future for taking such types of project activities.

- Under the program, an annual Conference/Workshop/Symposium, etc. focusing on emerging areas/trends in Microelectronics / VLSI /Embedded System Design/Hardware Security will be organized. Leading National / International Experts/guest faculty from Academia/R&D organizations/Industry would be invited to deliver lectures in these workshops /symposiums/webinars. Students/Researchers would also be supported to attend and present the paper in International Conferences for the work carried out under the projects.

- The faculty/students/researchers of the Institutions participating in the C2S program will be encouraged to publish the papers in journals/ present papers in conferences and to file patents based on their original research work carried out by them as part of the program.

Fabrication support for design developed by SMDP Institutions/Startups/MSMEs will be provided by Semi-Conductor Laboratory (SCL) and Overseas Foundry under the India Chip Programme. Workshop/ Symposium/ Conferences/Webinars Conference/Workshop/Symposium/Webinars etc. will be organized focusing on emerging areas/trends in Microelectronics / VLSI /Embedded System Design/Hardware Security.

In witness whereof, the duly authorized representatives of the Parties have signed this MoU at Pune on this 15th day of September 2023.

For and on behalf of Nodal Institute:		For and on behalf of Participating Institute:
Dr. M. S. Shejul Registrar Symbiosis International (Deemed University)	Dr. Ketan Kotecha Director, Symbiosis Institute of Technology, and Dean, Symbiosis International (Deemed University)	Dr. S. B. Somani Principal Shri Sant Gajanan Maharaj College of Engineering, Shegon
Date: 15.09.2023	Date:	Date: 15.09.2023