



Memorandum of Understanding

Between

NITTTR, Chandigarh

and

Typhoon HIL, Switzerland

MEMORANDUM OF UNDERSTANDING

National Institute of Technical Teachers Training and Research, Chandigarh (hereinafter referred to as NITTTR, Chandigarh) is one of four NITTTRs and was established in the year 1967 by Ministry of Human Resource Development, Government of India to meet the requirements of developing technical education mainly in the northern region. It is an ISO 9001-2008 certified institute with several objectives viz. training teachers of Engineering Colleges and polytechnics through different types of courses, fostering and promoting research in improving classroom and laboratory instruction, preparing and supplying instructional materials including e-sources, associating with other academic bodies of technical education to achieve quality improvement in academic programmes, collaborating with institutions and organisations in India and abroad having similar objectives and functions, and interacting with industries in formulating training programmes of mutual interest.

The institute has been recognized as a 'Research Centre' by Panjab University, Chandigarh as well as by Punjab Technical University, Jalandhar (Punjab) for pursuing research work leading to the degree of Doctor of Philosophy i.e. Ph.D.

Typhoon HIL Switzerland is a company of enthusiasts devoted to making high-performance and easy-to-use test solutions for institutes, business and enthusiasts actively working on micro-grids, renewable energy and distributed generation, hybrid and electric vehicles, marine and offshore power systems, etc. The company built its expertise during the numerous projects with engineering and construction companies charged with commissioning complex and dynamic control system, providing true testing solution built from ground up using the industry's leading high performance HIL Hardware backed with application specific software and expert customer support staff. At the same time company works with world's leading research institutions who turn to Typhoon HIL when they become dissatisfied with the limitation of offline simulation tools and real-time alternatives offered as bundles of products from multiple vendors.

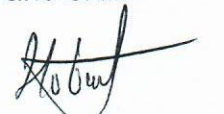
Quarbz is the Indian business partner of M/S Typhoon HIL. Quarbz started in 1982 as a manufacturer of test and measurement instruments, primarily to support educational and research institutions. Today it is celebrating 35 years of successful collaboration with India's leading educational institutes of all levels. Typhoon HIL solutions are one of the most recent additions to the portfolio of products that Quarbz introduced to the Indian academic community over the past decades.

NITTTR Chandigarh and Typhoon HIL recognize their strength in research, training, development of products and quality technical education of mutual interest in engaging themselves in academic cooperation. Therefore, NITTTR Chandigarh and Typhoon HIL agree to establish academic cooperation in the areas of mutual interest in accordance with the terms and conditions set forth in this memorandum of understanding (MOU).

Objectives of the MOU

The objective of this cooperation is to foster integration of academia with industry for a stronger collaboration and to facilitate advancement of knowledge and skill.


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The two parties agree to engage in the following modes of collaboration:

- Engage Ph.D and M.Tech students selected by NITTTR to solve the industry assigned or linked problems.
- Conduct joint training programs for technical teachers.
- Preparation of joint project proposals for getting funding from external agencies.
- Joint publication and patenting.
- Establish laboratory infrastructure, hardware and software for carrying out R&D activities as agreed mutually from time to time.

Responsibilities of NITTTR, Chandigarh (India)

- (i) The institute will provide infrastructure such as lab space, computers for installing the software and technical support in all HIL courses.
- (ii) New short term courses of one week duration on hardware in loop for power system and power electronics applications will be conducted for faculty and research scholars.
- (iii) Allocate thesis/ research projects.
- (iv) Submission of projects to DST/MHRD/AICTE etc. seeking funds for upgradation of facilities in the proposed HIL CoE.
- (v) Inviting other industries / R&D organizations over the years to become partners.
- (vi) Plan and conduct conference jointly where academia and industry can interact to share their knowledge and experience.

Responsibilities of Typhoon HIL, Switzerland and Quarbz Infotech Pvt. Ltd, Kanpur

- (i) Facilitate setting up of Industry supported HIL laboratory.
- (ii) As part of its collaboration with the Institute, Typhoon HIL, Switzerland shall sponsor one Research Scholar every year in the area Electrical Engineering using Typhoon HIL System by offering Rs.28,000.00 per month per candidate. Each candidate will get Rs.28,000.00 per months for three years i.e. One Scholar in first year, two in second year and three in third year. This way, there will be three sponsored research scholars at a given time in third year. Once first candidate has completed three years, his/her stipend will stop and fourth candidate will join. So, all the time there will be three Typhoon HIL sponsored Research Scholars at NITTTR, Chandigarh. The scholarship shall be released by Typhoon HIL, Switzerland to Institute, and Institute shall in turn release the same to the Research Scholar. If Typhoon HIL, Switzerland grants scholarship, the research scholar will not be eligible for any other Institute scholarships. Typhoon HIL, Switzerland agrees that the Research Scholar, though in receipt of the scholarship from Typhoon HIL, Switzerland, would be bound by the rules and regulations of the Institute.
- (iii) Technical support for the development of MOOC courses such as Hardware in loop for smart grid, renewable energy and distributed generation, electric vehicles, electrification of vessels and offshore installations, advance power electronics


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applications etc. for teachers of technical institutions to help them improve their competence.

- (iv) Plan and conduct conference jointly where academia and industry can interact to share their knowledge and experience.

Tenure of the MOU: (Existence of NITTTR HIL Centre of Excellence)

The said MOU shall be valid for a period of 4 calendar years from the date of signing MoU and can be further extended for an equal or a different period on mutual consent.


Force Majeure

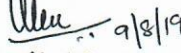
In case of any difference of opinion that may arise during the execution of this MOU in its true spirit, both parties shall make genuine efforts to resolve the same by mutual talks. In case the same persists, either of the party can terminate the MOU by giving a notice of 30 days. No party will be held responsible for any loss and damage and will not have any financial liability of any form.

Operational Mechanism

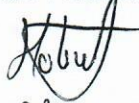
- All communication shall be addressed to the head of the respective institutions who may authorize any senior officials to do so on their behalf.
- Head of the respective institutions shall be authorized to make decision on behalf of their institutions unless otherwise the execution powers are delegated to any senior official(s).
- Specific projects shall be identified in which the scope and the deliverable shall be specified.
- IPR shall be decided based on the mutual discussion.

Based on the above mentioning agreements the parties put their signatures on this MOU on this 9th day of August, Two thousand Nineteen.



NITTTR, Chandigarh
Name: Prof. Shyam Sundar Pattnaik
Title: Director,

In presence of :  9/8/19
Name : Dr. Lini Mathew
Title : Professor.


Typhoon HIL, Switzerland
Name :Mr. Ljubomir Novic
Title : Business Developer


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In presence of :
Name: Mr.Ognjen Gagrica
Title: Applications Engineer


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