MEMORANDUM OF UNDERSTANDING

BETWEEN

BSNL, Training Point, Visakhapatnam-530001
Andhra Pradesh

AND

GMR INSTITUTE AND TECHNOLOGY, RAJAM
Vizianagaram-532127
Andhra Pradesh

This **Memorandum of Understanding** (hereinafter referred to as this "MoU") is made effective on and from 01/05/2025 (the "Effective Date")

By And Between

BSNL Training Point established an Incubation Centre, Visakhapatnam Andhra Pradesh represented by **Dr. M. Satya Prasad, Deputy General Manager, BSNL, Visakhapatnam-530001** hereinafter referred to as the **FIRST PARTY**

AND

GMR Institute of Technology, GMR Nagar, Rajam Post, Vizianagaram - 532127, India, represented by **Dr. C.L.V.R.S.V. Prasad, Principal,** (hereinafter referred to as **"GMRIT"** which expression, where the context admits shall include its successors in interest and permitted assigns) as the **SECOND PARTY.**

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MEMORANDUM OF UNDERSTANDING (MoU)

Between

BHARAT SANCHAR NIGAM LIMITED

Visakhapatnam – 530031, Andhra Pradesh, India

(hereinafter referred to as BSNL)

Represented by Dr. M. Satya Prasad, DGM (EB & Tx),

BSNL, Visakhapatnam

And

GMR INSTITUTE OF TECHNOLOGY

GMR Nagar, Rajam,

Vizianagaram - 532127, Andhra Pradesh, India

(hereinafter referred to as GMRIT)

Represented by Dr. C L V R S V. Prasad, Principal

Date: 01st May 2025

WHEREAS the BSNL Training Point is one of the Leading Telecom Service Providers in India and is engaged, inter-alia, in developing the entrepreneurial ecosystem in the region in diverse areas of science & technology.

a. Incubating technology-based novel ideas
b. Promoting interaction with and resourcing technology and expertise from the Incubates.
c. Providing incubation services and promoting start-ups

WHEREAS, **GMRIT-Rajam** established in **1997**, is determined to produce efficient and impeccable technological professionals to cater to the technology needs of society and to effectively shoulder the ever-changing business responsibilities at national and international levels.

WHEREAS, the Second Party considers and identifies the First Party as an expert training point for imparting the start-ups with specialized knowledge in the research, innovations, marketing, and other niches of the startup ecosystem, shows interest in collaborating with the First Party to work together towards building robust entrepreneurial and startup ecosystem at **GMRIT-Rajam**.

WHEREAS, both parties agree to enter into a Memorandum of Understanding to work jointly towards a common goal to foster entrepreneurship among the student community through various sensitization and engagement programs, innovation and immersion programs, and other knowledge exchange programs.

NOW, THEREFORE, THE PARTIES TO THIS AGREEMENT HEREBY AGREE TO SET THE TERMS AND CONDITIONS HEREUNDER:

1. **BSNL** and **GMRIT** agree to work closely in undertaking the following activities:
   a. Developing Enterprise and Start-up ecosystem in the **GMRIT, Rajam**.
   b. Training and development program for Students and faculty on entrepreneurship in **GMRIT, Rajam** and other interested parties or institutions of similar nature
   c. Supporting, mentoring, and incubating the start-ups of the **GMRIT, Rajam** and other interested parties or institutions of similar nature.

2. The **BSNL** and **GMRIT, Rajam** agree to work closely, exploring their available resources on mutually agreed terms, to arrange and organize the activities as mentioned in Annexure I and Annexure II covering the topics related to Innovation, entrepreneurship, and venture development. **BSNL** and **GMRIT, Rajam** will spearhead the process of motivation, ideation, prototype development, necessary training through internships and events, and mentoring students and faculty towards entrepreneurship.

3. Outcomes

This MoU is expected to have the following outcomes:

- Flourishing entrepreneurial Culture
- Create a Repository of ideas
- Supporting up to IP acquisition
- Latest technologies from the **GMRIT, Rajam** through the Innovation Center
- Curation of mentors and experts in different domains
- Incubation of matured ideas/pre-incubates from **GMRIT, Rajam** at **BSNL**
- Revenue generation to the **GMRIT, Rajam** through the Innovation Center.
- Impact of the **GMRIT, Rajam** on the economic well-being of the region.

4. Space & Basic Infrastructure

BSNL will provide limited space, facilities, and basic infrastructure in support of this initiative at **the BSNL** campus; **BSNL** shall extend its facilities for the conduction of different programs such as training, and exhibition, and not for any other reasons.

GMRIT shall provide the necessary space; assign manpower and facilities to conduct the programs mentioned in the agreement. It also shall extend its laboratories, workshops, and expertise for the entrepreneurs to develop their products.

5. Financial Implications

The models of engagement agreed upon between **BSNL** and **GMRIT** are according to the Platinum partner as shown in Annexure I. The activities that are mentioned in the agreement for fostering an entrepreneurial ecosystem on the campus will be conducted by **BSNL** and **GMRIT** jointly as part of any of the models of engagement.

6. Monitoring & Evaluation

Upon signing the agreement, both parties shall chart out the timeline/milestones on a quarterly basis. The monitoring and evaluation of the activities and the progress shall be done on a regular basis by both parties.

7. Outreach and Publicity

BSNL shall display the logo of **GMRIT** on its website. The partnership shall be prominently displayed and mentioned in all the events and programs.

GMRIT shall display the logo of **BSNL** in its office at an appropriate location such as Innovation Cell/Incubation Center and also on their website with a hyperlink to BSNL's official website. **GMRIT** shall mention the logo and the

partnership with **BSNL** in its PR media such as brochures, flexi, and social media sites relevant to the innovation cell/incubation center events and programs.

8. Resolution of Disputes

Any disputes or differences shall be resolved amicably by mediation and discussion between the Parties. If not, amicably settled within sixty (60) days of the dispute or claim arising, such dispute or claim shall be decided by a sole arbitrator appointed mutually by the provisions of the Indian Arbitration & Conciliation Act, 1996 (as amended). This Agreement shall be governed by Indian laws.

9. Confidentiality

a. During and for a period of five years from the date of termination of this Agreement, each party agrees to consider as confidential all information disclosed by the other party in written or tangible form or, if orally disclosed confirmed in writing within thirty days of disclosure and identified as confidential by the disclosing party.

b. The obligations above shall not extend to any confidential information for which the receiving party can prove that this information:
   - Is in the public domain at the time of disclosure or comes within the public domain without the fault of the receiving party.
   - is already known or become known to the receiving party
   - is received from a third party having no obligations of confidentiality to the disclosing party,
   - is independently developed by the receiving party; or
   - is required to be disclosed by law or court order.

c. The parties acknowledge that the 'Confidential Information' is proprietary to the disclosing party, has been developed and obtained through great efforts by the disclosing parties, and that the disclosing party regards all of its confidential information as trade secrets. Disclosure of the information to other parties cannot be treated as granting or conferring any rights by license or otherwise, express or implied, regarding any idea made, conceived, or acquired before or after the effective date, nor as granting any right concerning the use or marketing of any product or service.

d. Neither of the Parties shall use the name or logo of the other for any purpose whether about any advertisement or other form of publicity without obtaining the prior written consent of the other Party.

e. The provisions of this Article will not apply to any information in the public domain; information in the possession of the receiving Party before the disclosure of the information; information which is independently developed

by the receiving Party; Information required to be released by law; and information which is rightfully received by receiving Party from third parties without any breach of confidentiality obligations. This section will survive the expiration or termination of this MoU for one (1) year from the date of expiration of this MoU.

10. Force Majeure

If either Party is delayed or impeded in the performance of its obligations hereunder by any cause beyond its reasonable control, it shall be entitled to such extension of time for such performance as may be fair and reasonable in all the circumstances.

11. Indemnity

Parties to the MoU hereby undertake and agree to indemnify one another, and their personnel, consultant, agents, funders, and associated parties under this Agreement and hold them harmless and keep them at all times fully indemnified from and against all actions, proceedings, claims (including any claims raised by third parties), liabilities (including statutory liability), penalties, demands and costs (including without limitation, legal costs), awards, damages, losses and/or expenses however arising directly or indirectly, including but not limited to as a result of:

i. Breach or non-performance by the Parties of any of its undertakings, warranties, covenants, declarations, or obligations under this Agreement; or
ii. Any claim or proceeding brought by the Parties or any other person against BSNL, and all its personnel, management, employees, consultants, agents, and stakeholders including startups and associated parties in respect of any products or services offered by Partner; or
iii. Any negligent act or omission default misconduct or fraud of the Parties, Its employees, agents, sub-contractors; or
iv. Any act, deed, omission, or non-performance on the part of the Partner or its Employees or Agents;
v. Contravention of any law, as may be applicable from time to time, or industry practice;

12. Nature of MOU

This MoU is not a legally binding document and serves only on the terms of mutually agreed terms between the parties. The said MoU shall in no form be legally enforceable and has no binding on either party/ partner involved in the same.

13. Amendments to the MoU

Changes and/or deviations are likely to happen both in the context and extent of the subject matters covered under this MoU. Any modifications to the agreement shall be considered only when accepted mutually in writing by both parties by signing an amendment to the agreement.

14. Terms and Termination

This MoU, unless extended by mutual written agreement of the parties, shall be valid up to 05 years after the effective date specified in the opening paragraph, provided that the second party duly contributes to the annual partnership year-on-year. This MoU may be amended terminated or renewed earlier by mutual written agreement of the parties at any time. The agreement may not be assigned or transferred without the prior written consent of the other party to this agreement. This MoU is executed in duplicate with each copy being an official version of the Agreement and having equal legal validity. This MoU constitutes the entire and only MoU between the parties, and all prior negotiations, representations, agreements, and understanding are hereby superseded. Either Party may at any time during the MoU term, by way of 2 (two) weeks' written notice, intimate to the other party, its intent of terminating this MOU.

BY IN WITNESS whereof the Parties hereto have caused this MoU to be duly executed, effective as of the day and year first above mentioned.

For GMRIT	**For BSNL**
Signed:	Signed:
Name: Dr. C.L.V.R.S.V. Prasad	Name: Dr. M. Satya Prasad
Title: Principal	Title: DGB (EB & Tx), Visakhapatnam
Date: 01/05/2025	Date: 01/05/2025
Witnessed by	Witnessed by
Signature:	Signature:
Name: DY. RAVINDRANADH K	Name: B S S. RAO

ASSO. Dean - R & D

GMR INSTITUTE OF TECHNOLOGY * RAJAM *

उप महा प्रबंधक (ई.वी & टी. एक्स)
Deputy General Manager (EB&TX)
म.प्र. दू.जि.का. / O/o GMTD
भा.सं.नि.लि. / B.S.N.L.
डाबगॅर्डस / Dabagardens
विशाखपटनम / Visakhapatnam

ANNEXURE - I

Services	Platinum Partners
1. Certificate of Partnership issued by BSNL and MoU	✓
2. Access to a wide network of experts, mentors & collaborations of BSNL	✓
3. One-to-one mentoring support to startups & students with innovative ideas	✓
4. Internship to the students in Entrepreneurship and Innovation	✓
5. Discounts in all the paid events/programs conducted by BSNL	25%
6. Sponsor of stalls (physical/ virtual) to startups whenever expos conducted by BSNL	01 Stalls
7. Discount on Certificate Courses on Innovation, Entrepreneurship, and Venture Development	25%
8. Mentoring and handholding support to the Institute's Innovation Cells	✓
9. Co-incubation Support at BSNL for the potential ideas	✓
10. Handholding in establishing the incubation center/ technology development center in the Institute	✓
11. Strategy for building a robust startup ecosystem in the Institute	✓
12. Prototyping Support for the selected Startups	✓

ANNEXURE - II

INCUBATION CENTRE – BSNL PROPOSAL

The main objective of the Incubation Centre is to help young budding engineers develop innovative ideas to take care of societal needs and to seed in the student's minds about startups.

In association with BSNL Visakhapatnam Training Point, the Incubation Centre needs to operate with advanced technological applications in the implementation and integration of new technologies like M2M communication, IoT, AI, and Black chain technology application projects in totality. Introducing prototype applications like Power sector Operation & Maintenance utilizing smart metering applications for HT & LT services, monitoring of power distribution systems through SCADA projects, Water distribution system SCADA projects, and Smart City application in which monitoring from the centralized DASH board of all the smart poles, smart signaling, smart bus stations and the terminals, SONAR, RADAR, GPS applications using in the Fisheries, smart agriculture using DRONE technologies, DIP irrigation operating remotely, Various marine applications, Defense applications like the movement of the War ships, submarines are the some of the real-time monitoring application and establishing Robotics lab of O, A and B levels along with Drone Applications with Generative AI. Some of the Access Technology models for the convergent technologies are:

Digital Transmission Systems:

Establishing fiber Digital technology systems right from its inception i.e. PDH (Plesynchronous Digital Hierarchy), SDH (Synchronous Digital Hierarchy) systems of STM-1, STM-4 & STM-16, etc, DWDM (Dense Wave Length Digital Multiplexing) systems. Optical Line Terminal (OLT), Optical Splitters, Optical Network Unit(ONU/ONT), etc to establish Fibre to the Home (FTTH) connections with Voice and high-speed data connectivity for domestic, commercial, and corporate customers with different technologies EPON, GPON and GEPON.

Optical Fiber Cable Accessories & Testing Instruments:

Different types of Optical fiber cables 2F/4F/6F/12F/24F/48F/96F and 288F, different types of optical patch cards (FC-FC, FC-LC and FC-SC cards), Optical Fiber cable Testing & measuring instruments like Optical Fiber Splicing Machine, Optical Time Domain Reflectometer (OTDR), Optical Power Meter.

Networking & its accessories:

Different types of Routers, Managed switches, unmanaged switches, different types of Modes used in Copper / Fiber technology, different types of LAN cables like CAT 5 & CAT 6 interface Ethernet cables manufacturing tools and its testing meters, Different types of modes to converting Electrical to Optical and Optical to Electrical with bandwidth capacities 10/100/1Gbps and its testing instruments.

The following are some of the guidelines to be followed for the establishment/expansion of the existing Incubation Center by adding different Communication Systems; ICT; Data Communication; latest IoT (Internet of Things) applications; M2M (Machine to Machine Communication) applications; Robotics (O; A & B Levels); Drone Technology Applications with Generative AI; AR / VR applications in Industry; Use cases of SCADA (Supervisory Control and Data Acquisition) applications in Power and Water distribution system etc. Also monitoring and upgrading the different technologies that are to be implemented in the future for the implementation of the smart solutions.

Prototype Water SCADA project:

This is a helpful student project that teaches theory and application by applying all the courses learned especially the ones that are about Instrumentation, Process Application, Digital and Analog Electronics, and computer programming. Supervisory Control and Data Acquisition (SCADA) based pumping water station is designed to collect field information, transfer it to a central computer facility, and display real-time operational data to the operator graphically or textually thereby allowing the operator to monitor or control an

entire system from a central location in real-time. Also, real-time monitoring of the water distribution up to the delivery point using individual water-consuming meters, and real-time monitoring concerning wastage using SCADA DASH Boards.

Latest smart Applications:

a) RF ID in Medical Applications:

Medical information systems are expected to be useful for both logistical and medical personnel. As such, the systems are reliant upon the sensors implemented to acquire information for both groups. Currently, such sensors may be divided by their competency in environment sensing or object identification. Typically, environment sensors are limited by their per-unit price, reducing their scalability. Similarly, current object identification systems involve barcodes which are limited by line-of-sight (LOS). Radio-frequency identification (RFID) proposes a reasonable solution to both problems, through comprehensive and cheap tag designs. Such designs allow real-time monitoring of medical equipment, patient medical adherence as well as new means of disease diagnosis in patients. Consequently, RFID may be viewed as an avenue for improving both medical equipment logistics and diagnostic options.

b) Boom Barrier:

A Boom Barrier is a Bar or Pole placed at a pivot to move and up down to control access of vehicles in particular premises. It is used for both Commercial and Residential purposes. The Operation of an Automatic Security Gate or Boom Barrier varies in Size, Shape, and Operation. If you want to Protect your Home or Business a Boom Barrier is an added Security. It ensures that you are in control of vehicle movement within your premises. There are several versions of the Boom Barrier such as Hydraulic, Electromechanical, and Manual boom barriers. One of the distinguishing features is their simplicity of assembly.

Robotics:

Robotics today is transforming with robots increasingly stepping out of their factory cages. At the robotics lab, we specialize in the mechanical design and algorithmic control of physical interaction between the robot and its environment at O, A & B levels. All the branches of the students can enroll and learn all the levels and obtain certificates for each level and the same applications can be in corporate for their internship/project works/ innovative / invention application for the multi-branch projects in coming days with hands-on experience at the college premises itself with the guidance of the Industry/service organization.

Finally, the establishment/enhancement of the Research & Incubation Center will help the **GMRIT** to organize the **Faculty Development Programmes (FDP)/ Works Shops/ Technical Symposiums/ Hackathons** in support the Industry experts to bridge the gap between academic and the industry and to develop/ demonstrate the latest innovative applications using live/prototype models and enhance the hands-on experience skills for the faculty and the students. Also, this will facilitate to introduction of upcoming technologies in an easy way with minimum expenditure in the coming days. Hence the proposal for financial assistance from MSME to augment the existing INCUBATION Center with the latest technology testing and proto-type models is the need of the future please.

BSNL will supply some of the available equipment and accessories free of cost and the remaining will be procured by **GMRIT** the technical support will be extended by **BSNL** for the procurement and installation with the support of different vendors to establish the following labs:

1. DIGITAL TRANSMISSION SYSTEMS:

- PRIMARY CHANNEL MUX
- PDH SYSTEMS

- SDH SYSTEMS
- OFC TESTING INSTRUMENTS, METERS like Splicing Machine; OTDR; Optical Power Meters; Variable Attenuators; Digital Transmission Analyzers; Ethernet Tester (10Mbps / 100 Mbps/ 1Gbps)
- OFC ACCESSORIES i.e. different types of Optical connectors; Patch Cards etc.
- Different types of Optical Convertors (10/100 Mbps; 1Gbps etc)
- Optical Fiber Cable (4F)

2. DIGITAL MOBILE COMMUNICATION:

- Different Types of 2G / 3G /4G / 5G sector antennas
- Indoor Booster Systems
- Radio Power Meter
- VSWR Meter

3. DIGITAL MICROWAVE LINKS:

Installation of one 100 / 200 Mbps DMW link with Antenna / ODU / IDU systems

4. FTTH TECHNOLOGY:

OLTE Equipment with Optical Splitters and ONUs.

5. DATA COMMUNICATION:

- Basic Routers
- Managed Switches
- Unmanaged Switches
- Different types of Copper / Optical Modems
- Bridge routers
- Punching Tools
- IO Box
- CAT 6 cable
- Crimping tool
- RJ 45 Connectors

6. Enterprise Wi-Fi Establishment:

- Enterprise Wi-Fi Access Point
- Pi(Radius/ Web Portal) Device
- Scan Disk Memory Card
- PoE Injector / PoE Switch

7. SCADA Prototype model with DASH Boards: Water Distribution Project

8. SCADA Prototype model with DASH Board: Power Distribution Project

9. Robotics Lab (O; A&B Level) with 3 years warrants with FDP.

10. Drone Technology & its Industry applications with used cases & operating techniques.

11. TESTBED EQUIPMENT FOR 2G/3G/4G/5G GSM TECHNOLOGIES:

In addition to the above, some more applications related to other branches can be added and the latest applications will be added in due course of time for the hands-on experience for the utilization of all branches of engineering students for the development and presenting innovative thoughts and ideas for to become future entrepreneurs, to initiate start-ups, etc.