

DEEPENING OF SCIENTIFIC RESEARCH ON 5G USE CASES FOR SOLVING CHALLENGES OF SOCIETY

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NER Tech Hackathon 2.0

A ground-breaking initiative aimed at fostering innovation and technological advancements in the North-Eastern Region (NER) through 5G-based solutions. The event seeks to bring together students, startups, and innovators to tackle pressing societal challenges using cutting-edge technology.

Event Details:

- Date: 12th May 2025
- Venue: Courtyard Bengaluru Hebbal No 2/55 Outer Ring Road, Nagavara, Bengaluru, Karnataka, India, 560045

Themes:

The hackathon focuses on the following verticals, where 5G and emerging technologies can create impactful solutions:

- Healthcare: AI & 5G-driven health solutions to enhance remote health monitoring and accessibility.
- Animal Husbandry: Livestock management solutions for disease control and sustainable farming.
- Agriculture: Smart farming applications using IoT and AI for productivity improvement.
- IoT for Oil & Gas: Enhancing safety and environmental monitoring using smart technologies.

Chief Guest:

Shri Satinder Kumar Bhalla, Hon'ble Secretary, Northeastern Council, Government of India, was invited as the chief guest. He inaugurated the event with ceremonial lamp lighting and shared insights on 5G innovation in the Northeast region.

Judge Panel:

Below industry experts were the part of judging panel:

- Mr. Saji Radhakrishnan
- Dr. Sajan Kapil
- Dr. Amrita Anand
- Mr. Raj Narula
- Mr. Pradeep Garani
- Mr. Deepak Agarwal
- Mr. Sreenivasa Rao Pudipatla

Prizes:

- First Prize: INR 10,00,000
- 3 Consolation Prizes: INR 2,00,000 each

SUMMARY OF THE EVENT

- Total Registrations: 772
- Colleges Reached Out: 2500+
- Startups Reached Out: 2100+
- Incubation Centres Reached Out: 200+

Winners

The below teams were declared winners of the hackathon:

| Winner Type | Team Name | Participants | Theme |
|-----------------------------------|-----------|--|------------------|
| Winner (INR 10,00,000) | AkumenAI | Thiyam Akuvan | Healthcare |
| Consolation Prizes (INR 2,00,000) | Zeuron.ai | Siddharth Shivakumar Nair, Palash Sunil Sarate, Dr Veena Shankar Kunnath | Healthcare |
| Consolation Prizes (INR 2,00,000) | DESIGO® | Mahavir Bishnoi, Meghna | Animal Husbandry |
| Consolation Prizes (INR 2,00,000) | OncoALERT | Jayanti Kumari | Healthcare |

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Lab Activities at 5G Lab Arunachal Pradesh

Training on Evolution from 1G to 5G conducted for 15 first-year students from the College of Agriculture, Pasighat



5G RAN Training conducted for 8 first-year students from the same college.



5G Core Training provided to 6 first-year students.



NABARD Officer Visit: A NABARD officer visited our lab to discuss the upcoming Agriculture 4.0 Technologies training. We presented the training schedule and gave an overview of our lab, ongoing projects, and equipment.

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Lab Activities at 5G Lab Arunachal Pradesh



Additional 5G Core Training conducted for 9 first-year students and 2 faculty members.

Second Batch Training on Evolution from 1G to 5G held for another group of students from the College of Agriculture, Pasighat.



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Lab Activities at 5G Lab Assam

Lab demonstration and discussion with a team from ICAR for implementation of 5G technology in different agri sensors



Visit to central Ground Water Board regarding some discussion on water testing as per Sh Ashish Anand Instruction



Visited and discussion for workshops/internship/IP/Products to different institute.

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Lab Activities at 5G Lab Assam

Workshop on 5G and its use cases
for a batch of students and
professors from IIIT.



Lab demonstration and discussion
with British Deputy
High commission officials



Visit for workshop and
courses invitation



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Lab Activities at 5G Lab Assam

**Workshop with collaboration with
DoT team on 5G lab premises**



**One day workshop and 5G lab
demonstration to a batch of students
from Assam Don Bosco University**



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Lab Activities at 5G Lab Manipur

Visited DM College of Commerce (Incubation Center) to post a flyer and distribute them to the students and faculty.



Visited Indian Institute of Information Technology (IIIT) and engaged with Project Coordinator Loitongbam Ringko regarding Hackathon 2.0.



Visited MTI Incubation Center, where Hackathon 2.0 flyers were posted. Also engaged with their staff and provided them with flyers for distribution.



Visited the JNIMS administration office and met Dean's Assistant Shreebas Laipubam. Following our discussion about Hackathon 2.0, he will share the details with medical students and hospital staff and display the flyer on the notice board.



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Lab Activities at 5G Lab Manipur

Visited JSS Wangjing Thoubal Training Center today and delivered a 5G course on introduction to 5G and its use cases, resulting in a positive response from JSS Trainer Upendra Ahongshambam. We discussed future collaboration for student upskilling, and will be coordinating with him to deliver 5G courses in the coming days.



2nd Batch of JSS Wangjing, Thoubal Training Center.



Hackathon 2.0 winner, "Akumen AI," visited the 5G Lab with their team of 7 members.



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Lab Activities at 5G Lab Manipur

5G Lab hosted a large group from A.G. Memorial Academy, Charangpat, Thoubal District Manipur. The group comprised 14 school teachers and 120 students. A demonstration of the 5G technology was conducted, and it was well-received.



Hackathon 1.0 runner-up, "Nibiaa Devices," visited the 5G Lab with their team, consisting of 2 members.

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Lab Activities at 5G Lab Mizoram

**Conducted certificate course on
Evolution from 1G to 5G at RMSA school.**



Visitor from near by village NGO



**Visitor from Chhuanthar Tlangnuam
farmer and final year student**



**Conducted IoT PROJET with
final year students**



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Lab Activities at 5G Lab Mizoram

Installed Hardware equipments



Executing project with the
Final year student



Conducted course on 5G



Visited different School near
by the Village



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Lab Activities at 5G Lab Mizoram

Lab visitor From RMSA school and govt. Higher and distributed their certificates



Having workshop with the student on 5G usecase and office automation software for 2 days

Workshop with the student on 5G use cases and office automation software for 2 days



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Lab Activities at 5G Lab Nagaland

Barpathar Tea Estate: Surveyed a 100+ year old factory with Sir Karan and Sir Ravi (ICAR). Discussed 5G products and tech implementation to support workers and enhance production.



GHS Khusiabill: Conducted a 5G introduction workshop for 28 Class 10 students. Encouraged them to visit the 5G lab.



HMC School: Held a 5G workshop for 23 students, staff, and the principal. Received positive interest in visiting the lab.



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Lab Activities at 5G Lab Nagaland

College Event: Principal and professors distributed 5G course certificates to students.



Mission HSS Dimapur: Met the principal, who invited a 5G workshop for 200+ students on 27th May (Tuesday).



Riverine School Dimapur: Principal postponed workshop discussion until after mid-term exams in June.



St. Mary HSS: Introduced lab courses to the headmistress; update expected after mid-term exams for Classes 10 and 12.



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Lab Activities at 5G Lab Nagaland

A startup named Naga Digital, specializing in web development and Android-based applications, visited our lab to test their products on emerging IPs. Following a discussion with Ravi Sir, they plan to frequently use our 5G lab for trials and testing, with support from Amantya Technologies.



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Lab Activities at 5G Lab Shillong

Three final-year B.Tech students visited the 5G lab. A demonstration was provided, and they were guided on developing their project focusing on IP solutions and product development.



One M.Tech student from NEHU visited the lab and was given a detailed demonstration of the 5G lab and its various use cases.



Visited Mawlai Presbyterian College to explore collaboration and outreach opportunities.



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Lab Activities at 5G Lab Shillong



Launched the first batch of the 5G Technology Course titled "Evolution from 1G to 5G and Introduction to 5G." A total of 12 students from the ECE Department, NEHU, enrolled.

Conducted the second session of the first batch of the 5G course with 12 final-year ECE students from NEHU. Topics covered: 1) Spectrum Bands, 2) 5G RAN.



Completed the third session of the first batch with 14 ECE students from NEHU. Topics covered: 1) Use Cases of 5G Technology, 2) 5G Lab Demonstration.

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Lab Activities at 5G Lab Shillong

Provided a lab demonstration to two Ph.D. students from NEHU, showcasing the 5G setup and capabilities.



Distributed course completion certificates to the students of the first batch from NEHU.



Started the second batch of the 5G Technology Course. Topics: 1) Spectrum Bands, 2) 5G RAN. A total of 12 students from the ECE Department, NEHU, participated.



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Lab Activities at 5G Lab Shillong

Conducted the second session for the second batch with 11 ECE students from NEHU. Topics:
1) Spectrum Bands, 2) 5G RAN.



Held the third session for the second batch with 10 ECE students from NEHU. Topics:
1) Use Cases of 5G in Various Sectors,
2) 5G Lab Demonstration.

Visited Kendriya Vidyalaya NEHU and met with Principal Mr. K. Alung Khumba to discuss organizing a 5G workshop. He showed interest and will confirm after further discussion with faculty.



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Lab Activities at 5G Lab Shillong



Visited Shillong Higher Secondary School and met the Principal and Science Teacher, Mr. Piklu (Ph: 8416017341). They expressed interest in hosting a 5G workshop in the second week of June and plan to visit the lab.

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Lab Activities at 5G Lab Sikkim

The second session for the first batch was completed, covering topics on 5G RAN and various RAN deployment scenarios.



The course for the first batch concluded with the third session, which focused on 5G use cases and included a live lab demonstration.



6th semester students visited the lab today. They showed great enthusiasm in learning about the lab setup and IoT applications. I gave them a demonstration and welcomed them to engage in lab-related project work in the future.



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Lab Activities at 5G Lab Sikkim

A team from the History and Geography Department of Sikkim University, along with the Principal and administrative members of Dentam Vocational College, visited the lab. We discussed practical use cases of 5G and ways to expand lab exposure to a larger number of students.



The Nodal Officer and Assistant Professor from the Tourism Department of Dentam Vocational Institute visited the lab and expressed interest in working on future projects. Two additional faculty members from the Tourism Department were also present during the demonstration.



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Lab Activities at 5G Lab Sikkim

The second batch of the course began, and session one was completed, focusing on the evolution of mobile networks from 1G to 5G.



The second session for the second batch covered 5G RAN and various deployment scenarios.

The third session for the second batch focused on 5G use cases and included a hands-on lab demonstration. One faculty member accompanied the students during the session.



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Lab Activities at 5G Lab Sikkim

Certificates were distributed to the students of the first batch upon course completion. Assured them of continued support for any future project work using the lab.



A few students visited the lab today. Discussed IP-based solutions with them and provided a brief demonstration.



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Lab Activities at 5G Lab Tripura

Lab demonstration and discussion with a team from ICAR for implementation of 5G technology in different agri sensors

