



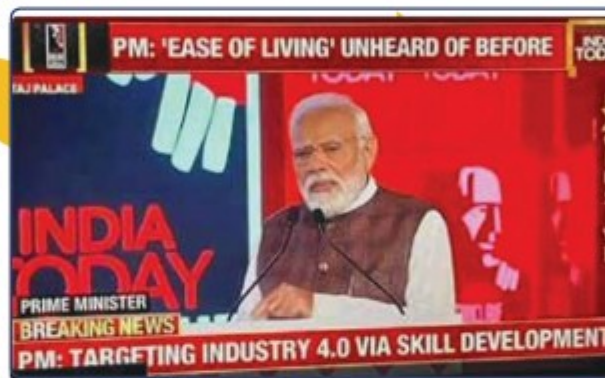
MINISTRY OF DEVELOPMENT OF
NORTH EASTERN REGION



Prime Minister's
Development Initiative
for North East Region
(PM-DevINE)

Digital Design aro 3D Printing Center of Excellence Electronic Manufacturing Cluster (EMC) te dusra Government Agencies khan logote mili kena Tech City, Guwahati te aniwo

Ami khan laga Hon'ble Prime Minister laga vision laga hisab te jaile 21st century te India toh forefront te thakiwo Industry 4.0 innovation te, Ministry of Development of North Eastern Region, Government of India (MDoNER) North Eastern Council (NEC) aro AMTRON logote mili kena deployment start kuri dishe Digital Public Infrastructure 3D Printing Ecosystem karone. Itu sob NER laga states khan ke cover kuriwo aro 100% Centrally Funded Project thakiwo PM-DevINE Budget laga under te.



North East's tryst 3D Printing logot shuru hoise 3rd August, 2022 te ekta live demo para juntu North Eastern Council Secretariat, Shillong te huishe prosthetics karone digital designing Meghalaya State laga duita amputees karone. Taikhan ke subsequently 3D Printed Sockets / prosthetic leg dishe aro aji itu beneficiaries khan toh active aro enabling life live kuri ase aro itu ekta apt Model ase "Ease of Living" disabled people karone promote kuriwole.

Itu kui thaka project toh NER laga youth ke assist kuriwo thik skillsets acquire kuriwole aro optimal advantage luwole Industry 4.0 opportunities para. Itu toh productivity aro service delivery barai diwo Healthcare, Disability Treatment, Oil aro Gas Industry laga areas te, MSME Ecosystem / start-ups / tribal enterprises, Border Area Development ke promote kuriwo 3D products aro services ke export kuriwole neighbouring countries etc. khan te. Itu NER ke enable kuriwo nijor laga share contribute kuriwole aro Vision Viksit Bharat @ 2047 te India ke ekta Global Economic Superpower banawole.



Industry 4.0 toh revolutionize kari ase jeneka companies khan manufacture, improve aro distribute kure taikhan laga products ke. Manufacturers khan bishi nutun technologies khan integrate kari ase Internet of Things (IoT), 3D Printing, cloud computing aro analytics, aro Artificial Intelligence (AI) aro Machine learning (ML) khan sob milaikena taikhan laga production facilities te aro taikhan laga pura operations te. Itu Industry 4.0 ke toh low latency aro dusra 5G enabled telecommunications laga advantages para support kure. 3D Printing ke Industry 4.0 logot combine kurile toh ekta apt technology hui jai (dusra emerging tech khan laga majote) "Make In India" ke promote kuriwole numerous applications para. Itu toh ami khan ke 21 st century laga global economy logote compete kuriwole allow kuriwo, juntu karone ekta strong workforce lage juntu modern manufacturing techniques te trained ase. 3D printing toh manufacturing industry laga future ase aro conventional manufacturing ke bishi jaldi replace kuriwole laga be potential rakhe aro utu peechete bishi major verticals khan be:

1 Tooling is one of the huge market segments for the 3D Printing Industry.

Focus areas toh MSME Tooling / Agri Tooling / Rural aro chutu Enterprises thakiwo industrial applications karone.

2 Healthcare / Medical Education te

Ekta significant growth opportunity ase 3D Printing karone Medical segment te, itu Medical Education he hubi (Anatomy, Forensics) hi hubi, Pre-Surgery Planning(GI/Cardiac/Nephrology, Neurology, Orthopedics etc.), Brachytherapy juntu Oral Cancer Treatment laga upor te based ase, TMJ Disorder Treatment he hubi, Digital Dentistry he hubi (Aligners, Crowns, Implants Etc.), Trauma Surgery aro dusra related treatments hubi, Reconstructive Surgeries kunuba naamkuwole jaile toh. Itu nishina he customized medical implants aro medical devices laga be ekta bright future ase.

3 Disability khan laga treatment /Rehabilitative service te

4 Fashion aro industrial design laga Prototyping

Fashion Goods aro accessories, footwear designs, jewelry design, furniture design, personalized gifting etc khan be.

5 Technical Education

Future ready manpower laga skill sets ke upgrade kuriwo juntu manu khan industrial designing kuriwo Industry 4.0 te Industrial Training Institutes / Polytechnics, Engineering Colleges etc khan para.

6 Reverse Engineering kuriwo

Daam laga spare parts, customized high end / high performance machine parts khan ke, utu spares khan ke be replace kuriwo jote OEM toh aro nubonai etc khan laga reverse engineering kuriwo.

PROJECT laga OBJECTIVES

- Technical Education te Qualitative improvements aniwo promotion, awareness, MOOC Courses khan para. North Eastern Region laga youth laga majote use case labs aniwo Digital Designing aro 3D Printing AMTRON supported Industry para – Academia Partnerships laga use cases karone.
- Skill youth khan karone structured platform provide kuriwo aro re-skill kuriwo utu manu khan ke juntu already kaam kuri ase aro nutun skills acquire kuriwo lage taikhan laga existing industry vertical ke serve kuriwo karone itya laga current demands aro future Industry 4.0 landscape te.
- Make in India aro innovation ke promote kuriwo imports kumti kuriwo karone/ 3D products karone export market ke strengthen kuriwo especially Healthcare / Disability Treatment / Oil aro Gas Industry te.
- NER ke North East te Multi Trillion Dollar Indian Economy India @ 2047 Viksit Bharat Sanakalp laga under te - Promote Industry 4.0. Ecosystem te Growth Engine banawole karone India Vision @ 2047 te contribute kuriwo .

SDG 2030 Parameters te expect kuri thaka impact North East karone

1 SDG 3 - Good Health aro Well Being

Itu planned applications toh Ease of Living / Ease of Doing Business ke promote kuriwo:

- a. Healthcare - Pocket Expenses ke kumti kuriwo, treatment laga Overall karcha ke kumti kuriwo, Continuous Medical Education laga quality improve kuriwo.
- b. Divyang - Business kuriwole aram aro taikhan ke ekta olop bhal economic participation para ekta normal life lead kuriwole assist kuriwo.

2 SDG 4 – Quality Education karone

High Quality Education Imparted kuriwole lagiwo North East laga Youth / Professionals / Entrepreneurs khan ke.

3 SDG 5 – Gender Equality karone

Women khan ke training impart kurishe 3D Printing Tech te entrepreneurship activities / address skill gaps karone Industry 4.0 te.

4 SDG 9 – Industry, Innovation aro Infrastructure karone

R & D ke promote kuriwo for nutun products aro services aro diversification karone traditional agro / mining based industries para NER te. Aro be support kuri thakia laga MSME, Private Enterprises itu region te bishi kumti ase India laga dusra parts laga comparison te.

5 SDG 9 – Inequalities kumti kuriwole karone

Itu project toh gap kumti kuri diwo education, healthcare, entrepreneurship activities khan laga inequal access ke NER laga manu khan ke Digital Design aro used cases juntu 3D Printing laga upor te based ase utu te.

6 SDG 12 – Responsible Consumption aro Production te

Production process te wate generation ke kumti kuridiwo Substrative Manufacturing laga comparison te.

Workshop – NER Iga Educational Institutions te

1

ASSAM



17. Digboi Collage, Tinsukia

Tinsukia



- 18. NIT Silchar, Assam
- 19. Assam University, Silchar
- 20. Department of ETC Engg. Silchar Polytechnic, Assam

Cachar

1. Sarthebari Jatiya Bidyalaya, Barpeta
2. Sarukhetri High School, Sarthebari, Barpeta
3. Sarthebari Girl's High School, Sarthebari, Barpeta
4. Smart Computer Education, Sathebari, Barpeta
5. Banchit Choudhury Sankardev Shishu Niketan Sarthebari, Barpeta
6. Sarukhetry Jatiya Vidyalaya, Barkapala, Barpeta
7. Babujee College, Sarukhetri, Barpeta
8. Sarthebari H.S. School, Sarthebari, Barpeta
9. Jnyandeep Anchalik Senior Secondary School, Barghopa, Barpeta
10. B.R. Milan High School, Rauli, Vill. Bhakuatepa, Barpeta

Nalbari

Barpeta

সৰ্থেবাবী
ছোবালী হাইস্কুল
শ্ৰী ডি প্ৰিটিঙৰ
কৰ্মশালা

প্ৰতিদিন সন্ধা, সৰ্থেবাবী, ১৭ মৰ্ত
১ এম.টী.ম.ৰ উদ্যোগত আন
সৰ্থেবাবী ছোবালী হাইস্কুলৰ
সন্মুখত ১৬ মৰ্তত সৰ্থেবাবী
ছোবালী হাইস্কুলৰ শ্ৰী ডি প্ৰিটিঙৰ
এখন কৰ্মশালা অনুষ্ঠিত হ'ল।
কৰ্মশালাত সৰ্থেবাবী ছোবালী
হাইস্কুলৰে পৰি অফলাইনে ১০ খন
শুপৰ ২৪০ খনাবী ছাত্ৰ-ছাত্ৰীয়ে
ভাগগ্ৰহণ কৰে। প্ৰযুক্তিবিদ্যাৰ
পুৰ্বদিক্ত বিজ্ঞান আলাপিত্তে ছাত্ৰ-
ছাত্ৰীসকলক ইয়াৰ এক সন্মানে
পেৰাৰ সন্মতে প্ৰযুক্তিবিদ্যাৰ প্ৰতি
ছাত্ৰ-ছাত্ৰীক আকৰ্ষিত কৰা
কৰ্মশালাখনৰ মূল উদ্দেশ্য।
কৰ্মশালাৰ ছাত্ৰ-ছাত্ৰীক শ্ৰী ডি
প্ৰিটিঙৰ প্ৰশিক্ষণ নিচে এম.টী.ম.
সন্মতে হ'লগৈ।

Kamrup Metro

11. Balabhavan Vidyapith High School, Sariahtali, Nalbari
12. Swami Paramanda Girl's High School, Sariahtali, Nalbari
13. ITI, Nalbari
14. Prabhati Bishnujyoti Self Help Group, Milanpur, Nalbari

15. ITI Women College,
Kamrup Metro, Guwahati
16. Girijanand Chowdhury University,
Kamrup Metro, Guwahati





MIZORAM



Serchhip District

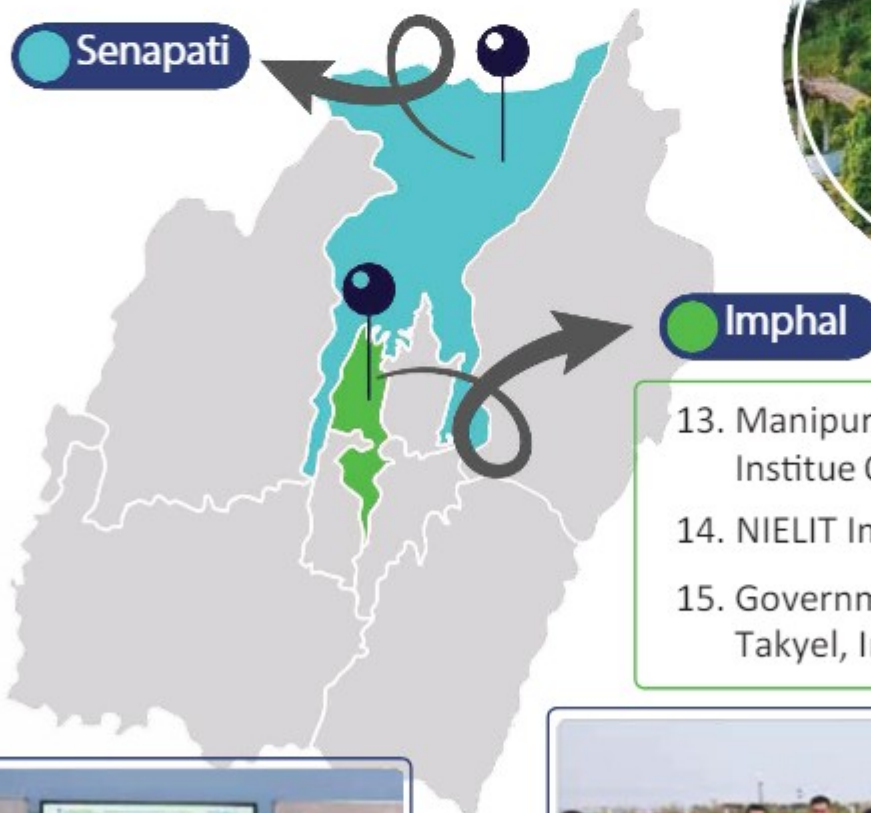
1. District Institute Of Education & Training, Serchhip
2. Government Serchhip College, Serchhip
3. Government Serchhip Higher Secondary School, Serchhip
4. Eklavya Model Residential School, Serchhip



3

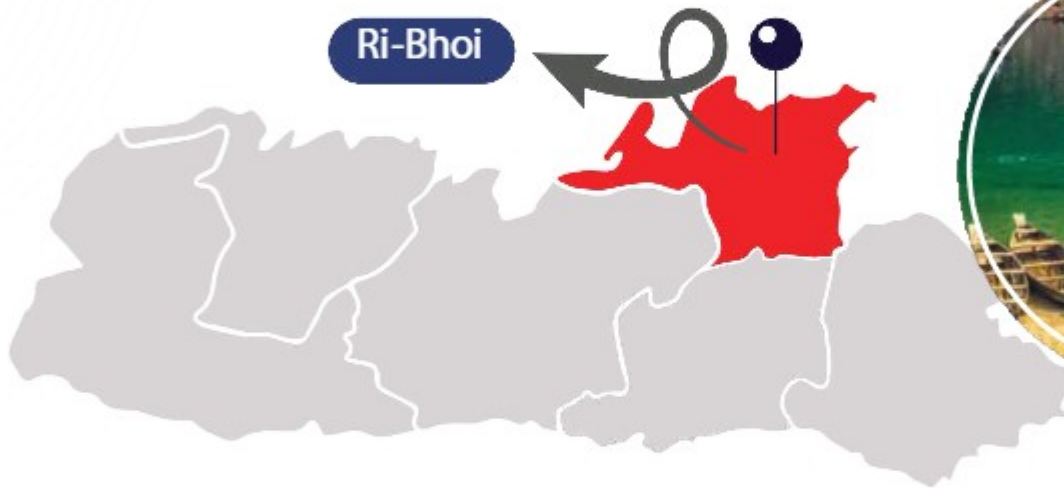
MANIPUR

1. ISÜPHI Education Center, Chisari, Chowainamei, Senapati
2. Sardar Patel High School, Senapati
3. St. Xavier's School, Makhan, Senapati
4. ST Joseph's H.R School, Tadubi, Senapati
5. Mount Gibeon Higher Secondary School, Tadubi, Senapati
6. Nazareth Residential School, Mao Gate, Senapati
7. Okai Academy, Mao Gate, Senapati
8. St Joseph High School, Lower Shajouba, Tadubi, Senapati
9. Asufii Christian School, Punanamei, Mao Gate, Senapati
10. Don Bosco Hr. Sec. School, Mao Gate, Senapati
11. Sophia English School, Punanamei, Mao, Senapati
12. Asufii Christian Institute, Punanamei, Mao, Senapati



13. Manipur University and Manipur Institute Of Technology, Takyelpat
14. NIELIT Imphal, Akampat
15. Government Polytechnic, Takyel, Imphal





1. Alpha English Higher Secondary School, Pahamsyiem, Nongpoh, Ri-Bhoi
2. Savio Secondary School, Nongpoh, Ri-Bhoi
3. Nomiwell Memorial Secondary School, Nongpoh, Ri-Bhoi
4. Saiden RMSA Secondary School, Saiden, Ri-Bhoi
5. Ri-Bhoi Presbyterian Synod English Secondary School, Pahamlapong, Nongpo, Ri-Bhoi
6. Umsning Presbyterian Higher Secondary School, Umsning, Ri-Bhoi
7. Nongthymmai Presbyterian Sec. School, Umsning, Ri-Bhoi
8. Gorkha Pathsala Secondary School, Umsning, Ri-Bhoi
9. Balawan College, Umsning, Ri-Bhoi
10. Sati Raja Memorial Sec. School, Umsning, Ri-Bhoi
11. Eden Academy Sec. School, Umsning, Ri-Bhoi
12. St. Michael Higher Sec. School, Umsning, Ri-Bhoi
13. Umsning Town Durvar Sec. School, Umsning, Ri-Bhoi

5

ARUNACHAL PRADESH

1. College Of Agriculture, Pasighat, East Siang
2. Arunachal Pradesh University, Pasighat, East Siang
3. Govt. HR. Sec. School, Borguli, East Siang
4. IGJ Govt. HR. Sec. School, East Siang
5. Pasighat Sigma Institute Pvt. Ltd., East Siang
6. Govt. HR. Sec. School MEBO, East Siang
7. D.E.M Govt. HR. Sec. School, Pasighat, East Siang
8. Government Polytechnic Pasighat, East Siang
9. Govt. HR. Sec. School, Ruksin, East Siang
10. College Of Horticulture / College Of Forestry, Pasighat, East Siang



11. Govt. HR. Sec. School Marvang, Upper Siang
12. Govt. H.S. School, Yingkiong, Upper Siang



13. Govt. HR. Sec. School, BolengSiang

Upper Siang

14. Govt. HR. Sec. School, Sille

West Siang

Siang

Papum Pare

East Siang



15. North Eastern Regional Institute Of Science And Technology (NERIST), Arunachal Pradesh



6

NAGALAND



Dimapur

EASTERN MIRROR
JOURNALISM FOR JUSTICE

Immanuel College hosts 3D printing workshop for Education

IMMAMUEL - A one-day 3D printing workshop for education was organized for the Eastern Developmental Corporation (EDC) at Immanuel College, Dimapur, on March 21.

The workshop was attended by students of Holy Cross HR. Sec. School, Govt. High School, Government Boys and Training Centre, Pranabnanda Women's College, Immanuel College and Christian Higher Sec. School.

The study revealed that 3D printing is a technology which has a lot of applications and it is a very useful technology which can be used in many fields like medicine, engineering, architecture, etc.

In a class to introduce students, a professional 3D printer was used to print small scale models. 3D printing is a process of manufacturing that allows the production of geometrically complex objects, shapes and patterns, etc.

It offers more time to create than traditional manufacturing methods and allows the production of objects that were difficult or impossible to produce traditionally with conventional manufacturing. Its use is not limited to creating three-dimensional models but can also be used to create functional parts for a wide range of applications. The technology has many uses in various industries and fields.

When a computer-aided design (CAD) file is used, the printer will create a 3D model of the object. The printer will then use a laser beam to cut the material into thin layers and then fuse them together to form the final object.

3D printing has many advantages over traditional manufacturing methods. It is a fast and efficient process that allows for the production of complex objects that were previously difficult to produce. It also allows for the production of small quantities of parts, which is ideal for prototyping and small-scale production.

The workshop was a success and the students were able to learn a lot about 3D printing. The organizers are planning to organize more such workshops in the future.

1. Pranabnanda Women's College, Dimapur
2. Nagaland Tool Room & Trg. Center, Dimapur
3. Holy Cross HR. Sec. School, Dimapur
4. Government High School Lengrijan, Dimapur
5. Immanuel Collage, Lengrijan, Dimapur
6. Christian Higher Sec. School

3D printing workshop for education held in Dimapur

The workshop was a success and the students were able to learn a lot about 3D printing. The organizers are planning to organize more such workshops in the future.



7

SIKKIM

1. Govt. Sec. School Melli Aching , Gyalshing, West Sikkim
2. Government Yuksam SR. Sec. School, Gyalshing, West Sikkim
3. Dentam SE. Sec. School
4. Khechupari Govt. SR. Sec. School
5. Vocational College Dentam
6. Govt. Junior High School Chingthang
7. P.R. Lama Govt. SR. Sec. Sec. School Yangsum, West Sikkim
8. Govt. SR. Sec. School Darap, Gyalshing
9. Govt. Sec. School Central Martam, Gyalshing
10. Govt. Junior High School, Onchung, Gyalshing
11. Govt. Sec. School Rinbik Gyakshing
12. Govt. SR. Sec. School Pelling, Gyalshing
13. District Institute Of Education And Training (DIET)
14. Govt. Sec. School Middel-Gyalshing
15. Govt. Girl's SR. Sec. School, Kyongsha, Gyalshing
16. Govt. SR. Sec. School Legship, Gyalshing
17. Industrial Training Institute, Gyalshing

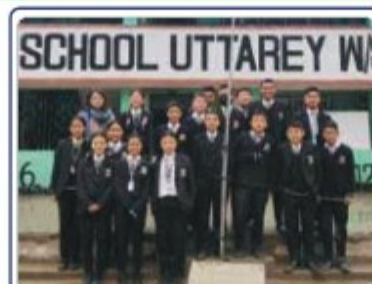


West Sikkim



Pakyong

18. Sikkim Manipal Institute Of Technology, Sikkim Manipal University
19. Government SR. Sec. School, Uttarey, West Sikkim
20. Govt. Senior Secondary School Sakyong, Gyalshing



TRIPURA

1. Bir Bikram Memorial College, Agartala
2. Maharaja Bir Bikram College, Agartala
3. Women's Collage, Agartala
4. Bhavan's Tripura College Of Science & Technology, Anandnagar
5. Tripura University, Suryamaninagar
6. Techno College Of Engineering, Agartala
7. Bharat Pharmaceutical Technology, Amtali, Agartala
8. National Institue Of Electronics & Information Technology (NIELIT), Agartala
9. Ramthakur College, Agartala
10. TTAADC Poytechnic Institue, Khumulwng



Agartala



Workshop - NER LAGA Healthcare Institutions te

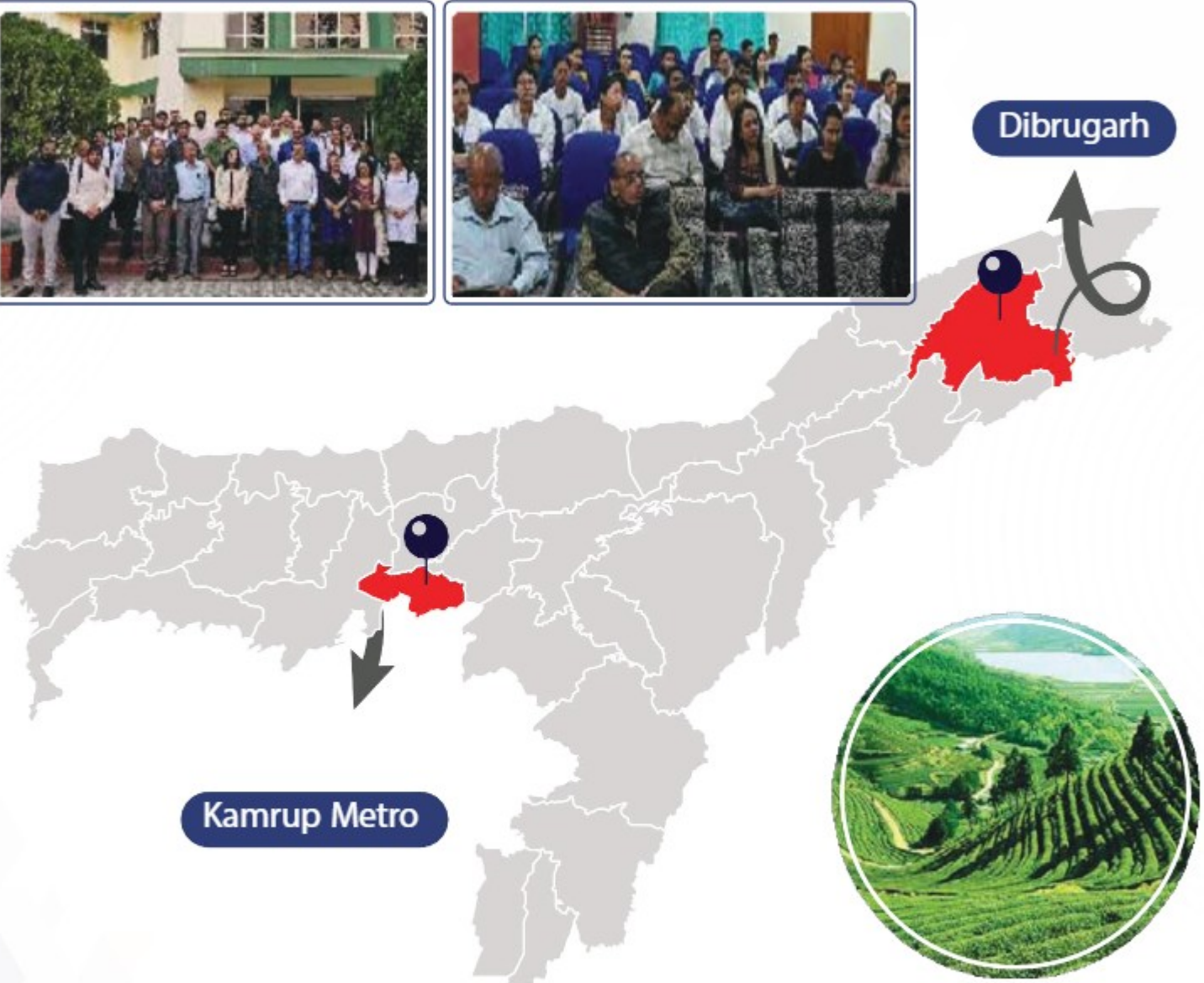


ASSAM

Assam Medical College, Dibrugarh Institute of Paramedical Sciences logote
AMC laga under te, Dibrugarh aro BSC Nursing College, Dibrugarh te



Dibrugarh



Kamrup Metro



Regional College of Nursing, Indrapur, Guwahati



MIZORAM



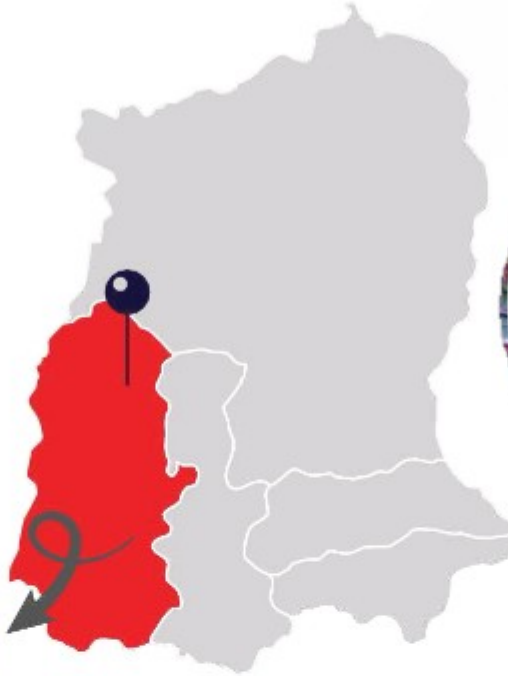
Serchhip District

District Hospital, Serchhip





SIKKIM



West Sikkim District

District Hospital, Gyalshing te





NAGALAND



Naga Hospital Authority, Kohima te



5

ARUNACHAL PRADESH



Papumpare District

Abotani Dental Clinic te Arunachal Pradesh State Dental Council khan laga members khan logote, Itanagar te



TRIPURA

Agartala



Tripura State Red Cross Society, Agartala te



MANIPUR

Workshop on use of digital designing tools held

RIMS observes Oral Health Day, holds health camp

The Department of Physical Medicine and Rehabilitation (PMR), Regional Institute of Medical Sciences (RIMS) organised a workshop on 'Use of Digital Designing Tools and 3D Printing to provide custom designed prosthetics and orthotics devices to patients in need' at RIMS Seminar Hall today.

The workshop was conducted under the project awarded to AMTRON, a PSU of Assam Government, by the Ministry of DoNER, Government of India.

It was attended by a diverse mix of medical professionals such as junior residents, senior residents, assistant professors, and professors from both PMR and sports medicine specialties.

RIMS Director, Prof. G. Sunil Kumar Sharma and Dr. L. Nilachandra Singh, Head of

Workshop organised at RIMS
IMPHAL, Mar 28

Department of PMR also grand the workshop.

The workshop commenced with a detailed demonstration of below knee amputation scanning, followed by the conversion of raw images into precise 3D models using advanced software.

Participants actively engaged in post-processing design work, refining 3D models to determine optimal pressure distribution for prostheses, thereby enhancing comfort and functionality.

This modern approach represents a significant advancement over traditional techniques since the digital designing is much faster and the products are more comfortable for beneficiaries.

Additionally, all attendees were provided with hands-on experience, allowing them to directly manipulate and interact with the 3D models.



Imphal West District



Regional Institute Of Medical Sciences, Imphal te



West Garo Hills District



District Hospital, Baghmara te



3D Printing Centre of Excellence,
Tech City,
Assam Electronics Development Corporation Limited (AMTRON),
Bongora, Lokpriya Gopinath Bordoloi International (LGBI) Airport laga
usor te, District Kamrup - 781122, Assam, India
Email: 3dpcoener@gmail.com