

3.1.1 Grants received from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

3.1.1.1: Total Grants from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

Year	2021-2022
INR Lakhs	37.595

Dr. JOSE P THERATTIL Principal Jyothi Engineering College Cheruthuruthy - 679531



othi Engineering College NAAC Accredited College with NSP Accredited Programmes\*

Approved by AICTE & affiliated to APJ Abdul Kalam Technological University A CENTRE OF EXCELLENCE IN SCIENCE & TECHNOLOGY BY THE CATHOLIC ARCHDROCESE OF TRICHUR

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JYOTHI HILLS. VETTIKATTIRI P.O. CHERUTHURUTHY, THRISSUR, PIN-679531 PH : +91-4884-259000, 274423 FAX : 04884-274777 NBA accredited B.Tech Programmes in Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering and Mechanical Engineering valid for the academic years 2016-2022. NBA accredited B.Tech Programme in Civil Engineering valid for the academic years 2019-2022.

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Name of the Project/ Endowments, Chairs	Principal Investigator/ Co- investigator	Department of PI	Year	Funding Agency	Туре	Page No.
Rejuvenation of Handloom sector under ODOI Scheme	Dr. Biju C. V	Mechanical Engineering	2021	K-DISC, Kerala	Governm ent	3
Municipal Mapping at Shornur Municipality as part of Mapathon Keralam	Mr. Parthiban P	Civil Engineering	2021	Kerala State Information Technology Mission	Governm ent	30
Machinability evaluation and wear behaviour of hybrid Aluminium MMC reinforced with CNT and solid lubricants	Dr. Deepanraj B	Mechanical Engineering	2022	AICTE	Governm ent	34
Studies on the characteristics of Eichhorniacrassipes as a source for bio Fuel	Dr. Shaji James P	Mechanical Engineering	2022	K-DISC, Kerala	Governm ent	39
Development and testing of resonance free mechanical structures for enhanced stability in dynamic conditions.	Dr. Biju C. V	Mechanical Engineering	2022	CERD, Kerala	Governm	40
Performance enhancement of thrissur traditional furniture cluster, Chovor under ODOI scheme		Mechanical Engineering	2021	K-DISC, Kerala	Governm ent	41
Development of buoyant force based lifting Mechanism		Mechanical Engineering	2022	Adams Energy, Thrissur	Non- Governm ent	42 Roc
CSR Project on partial					Non-	0943

# Rejuvenation of handloom sector under ODOI scheme



Principal Investigator: Dr. Biju C.V.
Co-PI: Mr. Praveen Raj
Funding Agency: Kerala Development and Innovation Strategy Council, (K-DISC), Govt. of
Kerala
Total Fund Sanctioned: Rs. 4,57,000
Scheme: One District One Idea (ODOI)

Status: On going

The Kerala Development and Innovation Strategy Council, (K-DISC) is a strategic think-tank and advisory body constituted by the Government of Kerala. In order to utilize the potential of Engineering Colleges in Kerala, KDISC introduced a programme called "One District One Idea" (ODOI) for the innovation of MSME clusters in the State. Under the scheme, Jyothi Engineering College, Cheruthuruthy has been identified as the mentor institution to rejuvenate the Handloom clusters in the Kuthampally area. The main objective of the project is to develop an action plan for the enhancement of productivity of the existing handloom units registered in the Kondazhy, Kuthampally, Eravathody and Thiruvilwamala Societies. More than 1000 units are registered under these four societies. Redefining the manufacturing process, introduction of new means for market and training centers for youngsters etc., will be the underlying focus of this project.

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Dr. Schericipal Principal Jyothi Engineering College Cheruthuruthy - 679531 echan

#### Dr. P.V. UNNIKRISHNAN

MEMBER SECRETARY, KDISC & EX OFFICIO SECRETARY TO GOVERNMENT Planning and Economic Affairs (Innovation and Development) Dept.





366/2021/KDISC/1

16<sup>th</sup> November 2021

Sub: Selection as K-DISC's partner institution under One District One Idea - MSME innovation clusters programme

#### Dear Sir,

#### Greetings from Kerala Development and Innovation Strategic Council!

We are delighted to inform you that your institution has been selected as one of K-DISC's partners for developing innovation action plans of cluster development under One District One Idea - MSME innovation clusters programme against the Expression of Interest (EoI) submitted.

Further to this development, K-DISC will issue proceedings on the programme and a meeting of the heads of institutions shall be organised in the last week of November 2021 for further discussions, and clarifications, if required.

The detailed steps to be followed by the institutions are provided below.

- 1. Signing the MoU within 10 days after issuing the order.
- 2. Entrusting principal coordinator/ faculty member for the training program.
- 3. Presentation before the District Innovation Council for allocation of cluster.
- Taking up the activities and undertaking the clusters.
- Submission of report.

We hope that this will bring clarity on next steps further to your selection as a partner institution.

Yours sincerely

True Copy Attested

Dr. P. V. Unnikrishnan

Dr Sunny Joseph Kalayathankal Jyothi Engineering College, Vettikkattiri PO, Cheruthuruthy, Thrissur-679531

> Dr. SUNNY JOSEPH KALAYATHANKAL M.Tech, MCA, M.Sc, M.Phil, B.Ed Ph.D (Computer Science), Ph.D (Maths) PRINCIPAL Jyothi Engineering College Cheruthuruthy P.O.- 679 531

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Dr. P.V. UNNIKRISHNAN

MEMBER SECRETARY, KDISC & EX OFFICIO SECRETARY TO GOVERNMENT Planning and Economic Affairs (Innovation and Development) Dept.





24 Feb 2022

388/2021/KDISC (3)

Dear Madam / Sir,

Sub: Invoice from Mentor institutions (MI) - ODOI Innovation Cluster program -reg

Ref: 1) EOI to undertake preparation of innovation action plan for MSME cluster development - ODOI program dated 15-01-2021

2) Proceedings (15/2021/KDISC dated 22/11/2021) para 7

3) MOU with MI and KDISC dated 08 Dec 2021

As per EOI and MOU submitted by the Institution, KDISC is pleased to award the work on Action plan preparation on the identified MSME clusters.

In continuation with mentor development programs and review on potential clusters identified for detailed study and diagnostic report preparation by your institution, it is here by requested to submit an invoice towards the expenses.

The first instalment is 20% of the total sanctioned amount (Rs 91400) will be released on receiving the invoice from the Mentor institutions.

The details of potential clusters requiring Innovation intervention identified and reviewed by the institution for completing the study are provided below.

Name of Institution	Name of cluster	Total Amount Sanctioned (Rs)
Jyothi Engineering College	Kuthampalli Cluster	457000

The institution(s) should complete the stipulated work adhering to the estimates provided. No further payments shall be made for the work/time spent beyond the estimated amount of days/work. Institution(s) are directed to furnish a statement audited by a charted accountant after completion of the project.

Looking forward to your continued support towards the ODOI program.

Biju CV Professor Jyothi Engineering College Thrissur True Copy Attested

Yours Sincerely, Kol shoon

Dr. P. V. Unnikrishnan

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Off: 2nd Floor, India Heights, Women's College Road, Vazhuthacaud, Thycaud P.O., Thiruvananthapuram-14, Kerala, India Res: Granma, TRA 41, Thirunagar, Near College of Engineering Trivandrum, Pangappara P.O, Thiruvananthapuram-695581 Tel: Off: 491 471 2334472 Mab: 491 94477729748 Email: mambacaud, P.O., Pangappara P.O, Thiruvananthapuram-695581



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To



#### Invoice for ODOI Cluster Innovation Programme

Date : 2<sup>nd</sup> March, 2022

From

Jyothi Engineering College Mentor Institution for Kuthampalli Cluster Cheruthuruthy, Thrissur

ODOI programme, KDISC P.O. Thycaud Thiruvanathapuram-14

The expenses incurred for the project (Phase-1) of ODOI allotted to the Jyothi Engineering College, mentor institution is given below.

SI No.	Description	Rate	Quantity	Total
01	Faculty visit (4 faculty, 5 visit)			
1.1	# Travel (6 km @ 20 Rs)	1460	20	29,200
1.2	# faculty allowance	100	20	2,000
2	Expert Visit			
2.1	# Expert allowance	5000	4	20,000
2.2	# Expert travel	1500	4	6,000
3	Student Visit			
3.1	# Student travel	* 300	32	9,600
3.2	# Student stipend	800	32	25,600
4	Report preparation (stationery)			900
		(Total)		93,300
-	(Ninety-three thou	sand and three hundred	( only)	

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Name and Signature of Head of the Institution

Dr. SUNNY JOSEPH KALAYATHANKAL M.Tech, MCA, M.Sc, M.Phil, B.Ed Ph.D (Computer Science), Ph.D (Maths) PRINCIPAL Jyothl Engineering College Cheruthuruthy P.O.- 679 531

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0203/2022

Name and Signature of Principal Investigator

Dr. Biju.c.V. Prof. ME. Dept sothi Eng. Callog.

DT. SUNNY JOSEPH KALAYATH "NBA accredited 8.Tech Programmes in Computer Science & Engineering, Electronics & Communication Engineering, Electronics Mechanical Engineering valid for the academic years 2016-2022. NBA accredited 8.Tech Programme in Civil Engineering valid for the academic PRINCIPAL



### PROCEEDINGS OF THE MEMBER SECRETARY KERALA-DEVELOPMENT AND INNOVATION STRATEGIC COUNCIL

(Present : Dr. P.V. Unnikrishnan)

Sub:- Selection of Academic Institutions to Support the ODOI Programme - Sanction Accorded - Orders Issued

### KERALA-DEVELOPMENT AND INNOVATION STRATEGIC COUNCIL

No: 15/2021/KDISC

Thiruvananthapuram, Dated: 11.11.2021

Read:- 1. GO (MS) No. 01/2020/PLG & EA (Innovation) dated 27/02/2020

2. GO (MS) No. 02/2020/PLG & EA (Innovation) dated 30/06/2020

3. GO (MS) No. 03/2020/PLG & EA (Innovation) dated 05/10/2020

4. GO (MS) No. 04/2020/PLG & EA (Innovation) dated 04/11/2020

5. GO (Rt) No: 5/2021/PLG & EA (Innovation) dated 16.09.2021

#### ORDER

Submission Government of Kerala have formed the Kerala Development and Strategic Council (K-DISC) to give a thrust to innovation in the State. The mandate of K-DISC is to identify and nurture a critical mass of innovations in the State and provide appropriate institutional linkages to the selected innovations. K-DISC aims at bringing out path-breaking strategic plans that reflect new directions in technology, product and process innovations, social shaping of technology and creating a healthy and conducive ecosystem for fostering innovations in the State.

As per the Government Orders read as 1 to 3 above, K-DISC constituted its district arms, the District Innovation Councils (DInCs) with District Panchayat Presidents as Chairpersons and District Collectors as Conveners and reconstituted them with a view to enable implementation of district level activities. As per the Government Order read as 4 above, sanction was accorded for the One District One Idea (ODOI) – MSME Innovation Clusters' programme of K-DISC. The guiding principle towards the innovation cluster approach is that Micro, Small and Medium Scale Enterprises (MSME) can play a key role in local economic growth and equitable development. A detailed description of the ODOI programme and the role of District Innovation Councils is appended as Annexure 1.

The ODOI programme will make use of the Triple Helix Model, aiming to strengthen the Academic-Industry-Government interface for implementation. This will be constituted with identified institutions and business schools, clusters finalised by the DInCs, and KDISEP Digital University (DU). A note on the proposed model is provided as Annexure 2.

The initial step of the ODOI- MSME Innovation cluster's programme is to shortlist the clusters in each district. One hundred and fifteen (115) innovation clusters have been intentified so have bee

be projected as the identity of the district, and companies that use modern technology. The list of clusters identified district-wise is furnished as Annexure 3.

As part of mobilising the academic partners, K-DISC had invited EOIs from leading academic institutions for their association with the ODOI program. A total of one hundred and one EOIs were received. An expert committee was constituted for overseeing the process. Based on the evaluation of the criteria published in EOI, sixty-three (63) institutions were shortlisted out of the one hundred one (101) EOIs received. After careful examination of the EOI submissions, institutions were indexed based on the criteria as per EOI. Among the selected institutions, 11 belong to the Class A within the district category and 10, outside district. Similarly, 52 belong to class B within district category. The list of selected institutions is given as Annexure 4.

The expert committee had scrutinised the applications and recommended rates of contracts and reimbursements after considering the scope of work and deliverables for the said work. Students, faculty, and external experts shall be engaged to carry out the necessary work. The scope of work and deliverables have been attached as Annexure 5.

The maximum rates admissible for students' stipend and TA, and expenses for faculty and experts have been decided as follows.

SI.	Head	For work within	For work outside
No.	neau	districts (in Rupees)	districts (in Rupees)
1	Students Stipend and TA	285000.00	330000.00
2	Faculty expenses	57000.00	87000.00
3	Expenses for External Experts	115000.00	130000.00
Tota	1	457000.00	547000.00

The estimated duration of work and the breakup of the expenses allotted have been provided as Annexure 6.

The payment terms for the institutions shall be as follows.

- 1. 20% release on completion of training and allocation of clusters by DInC.
- 2. 50% release on submission of the draft report.
- 3. 30% release on submission of final report and audited statement.

The institutions should complete the stipulated work adhering to the estimates provided. No further payments shall be made for the work/ time spent beyond the estimated amount of days/ work. Institutions are directed to furnish a statement audited by a chartered accountant after completion of the project.

The shortlisted institutions, in agreement with the terms of engagement and deliverables, are directed to sign the MoU (as given in the EOI) with K-DISC in 10 days after issuing the order. Subsequently, cluster allocation by DInCs will be based on evaluation of baseline data or plucattested addition proposition, capability assessment, and presentation by the probable local clusters. It is mandatory for the selected institutions to attend the training provided by K-DISC/ DU for qualifying for cluster allotment. To- and-fro TA eligible for Class 1 officers shall be reimbursed for attending THANKAL the training.

As per the Government Order read as 5 above, K-DISC has obtained sanction for its activities for the current year. Accordingly, the sanctioned outlay of the ODOI programme is Rs. 3.97 Cr. The expenditure for the ODOI programme will be met from this amount under the Head of Account 3451-00-092-92-34-03 Other Items (P).

The detailed steps to be followed by the institutions are provided below.

- 1. Signing the MoU within 10 days after issuing the order.
- 2. Entrusting principal coordinator/ faculty member for the training program.
- 3. Presentation before the District Innovation Council for allocation of cluster.
- 4. Undertaking the cluster study as per the guidelines
- 5. Submission of study report, submission of challenge applications etc
- 6. Undertaking further follow up as required.

**Member Secretary** 

Copy to:

The Executive Vice Chairperson, K-DISC The Member Secretary, K-DISC The Executive Director (MS), K-DISC Heads of the selected Institutions Persons concerned SF/OC

Forwarded By Order

Section Officer

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### One District One Idea (ODOI) Program

MSMEs represent substantive contributions to employment generation, poverty reduction and wider distribution of wealth in most developing economies. However, the potential role of MSMEs is often not realised because of problems related to their size. Individual MSMEs experience difficulties in achieving economy of scale in the purchase of inputs and small size is also a constraint on internalisation of functions. They are unable to introduce innovative improvements to products and processes to preserve their narrow profit margins. This is also due to the result of MSME isolation rather than size. Therefore, closer co-operation among MSMEs and the collaboration with academic institutions, industries promotion organisations and start-ups in their immediate environment holds the key to overcoming them. Evidence also shows that co-operative relations and joint action are more likely when enterprises operate in proximity and share business interests such as markets for products, infrastructure needs or challenging external competition. Within such groups or clusters, enterprises joint initiatives are stronger because of the critical mass of interested parties, more cost effective due to shared fixed costs and easier to co-ordinate with proximity fostering mutual knowledge and trust.

ODOI is an innovation challenge programme for manufacturing clusters, medium and micro-enterprise clusters. Innovation and technology have been identified as the primary differentiator that can take the enterprises as well as the clusters to non-linear non-incremental growth.

The ODOI programme aims at

- Organisation and development of clusters.
- Development of networks of MSMEs
- Development of strategic linkages between MSMEs and academic institutions interested in working with MSMEs on cluster development, promoting innovation and strategy
- Coming up with out of the box approaches to enhance production, productivity, reduce cost of production or achieve business expansion through proactive consultations with suppliers, competitors, employees, customers, research and training institutions etc
- The steps involved would be building trust, constructive dialogue among cluster actors exchange of information, identification of common and strategic objectives, agreement on a joint development strategy and systematic and coherent implementation

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The programme aligns with the philosophy of digital transformation and promotes the Strengthening of Academic-Industry-Government Interface to develop problem statements and implement solutions. It is an innovation challenge for manufacturing clusters and micro-enterprise clusters. As a part of the programme, it is envisaged that K-DISC will be providing seed money for the innovation component and technology support for fostering innovation. Since the innovation framework cannot be isolated functionally from the overall programme of MSME development, K-DISC will facilitate synergies with the existing Government of Kerala and Government of India and support schemes of banks and other financial institutions. The innovation cluster development is totally demand driven programme and would not be limited by caps as applicable in conventional government schemes. It would indeed seek to mobilise resources based on bold need based disruptive plan.

The ODOI Challenge will be open to zero down on the clusters to be assisted in each district. Clusters comprising MSME clusters, Handicraft Clusters, Handloom/ Power-loom Clusters, other Traditional Industries and Service Clusters which are aggregations of household enterprises, Farmer Producers Organisations (FPOs) in the district, clusters that can be projected as the identity of the district, and companies that use modern technology, etc. will be identified by the District Core Group of ODOI to take part in the challenge. Promising clusters in each Legislative Assembly Constituency (LAC) will be asked to participate in the challenge if an academic /research centre/business school of excellence and MSME cluster /SPV show interest and aptitude and propose an action plan for an innovative programme to be undertaken within 2 years

The next phase is to help promising clusters develop innovation action plans. The transformational challenges such as resources, risk, and readiness need to be understood for creating the innovation plan. The Business Model Canvas helps identify areas for innovation in the current situation. The overall process is captured in the 3 steps:

- a. Identification of Cluster for Innovation (by Core Group)
- b. Formulating the Innovation Plan (by Core Group + Academic Institutions)
- c. Implementing the Innovation Plan (by Core Group + Academic Institutions + Clusters)

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### Role of District Innovation Council (DInC) in ODOI

The challenge is new and requires a co-ordinated effort at the district level prior to the challenge submission. The effort will be initiated by the District Innovation Council, under the leadership of the President of the District Panchayat and the District Collector.

A core group under DInC has been specifically constituted to consider the expert matters of ODOI. The Core group will undertake the following consultations and activities prior to the challenge submissions.

- I. Cluster mapping and Rapid Appraisal of field Situation.
- II. District Level Consultations involving Direct target group, Agencies possibly involved in Cluster Development Programmes in the District for Synergy, Agencies involved in Research and Academic Support and Linkage Groups

The outcome of the above consultations will be consolidated by the core committee. Based on the cluster mapping and stakeholder consultations undertaken by the core group, DInC will recommend the MSME industry groups which will be included in the various categories based on the perceived overall impact of the clusters and relevance for integrated development of the district as indicated in the impact matrix.

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#### Annexure 2

#### Triple Helix Model in ODOI

The programme aligns with the philosophy of digital transformation and promotes the Strengthening of Academic-Industry-Government Interface to develop problem statements and implement solutions. The model plans to link the academic institutions with clusters and come up with mechanisms for scaling, new market outreach, diversification and technology, product development etc. The program will establish linkages with international bodies and national institutions like IIT-Delhi, IIT-Madras for accelerating the MSME problem solving in innovation clusters.

The programme is an innovation challenge for manufacturing clusters and microenterprise clusters, and as a part of the programme, it is envisaged that K-DISC will be providing seed money for the innovation component and technology support for fostering innovation. Since the innovation framework cannot be isolated functionally from the overall programme of MSME development, K-DISC will facilitate synergies with the existing Government of Kerala and Government of India and support schemes of banks and other financial institutions. The innovation cluster development is totally demand driven programme and would not be limited by caps as applicable in conventional government schemes. It would indeed seek to mobilise resources based on bold need based disruptive plan.

Digital University of Kerala will be the institutional hub to guide functioning of the Community of Practices Framework for each cluster. The Digital University has extended guidance for the initial activities of cluster identification to the District Core Groups. They are also providing inputs for training of the district level functionaries and training of the academic institutions for cluster development. The process of knowledge co-creation would be driven by a model of digital innovation promotion and is centred around the innovation cycle. The community of practices approach developed to drive the innovation cycle is around the principle of academia - industry interaction. The innovation life cycle covers four areas, in loop, and are the centre of innovation, centre of competence, centre of problem solving and the centre of de-risking and scaling. Capacity building thus forms the corner stone of the knowledge society.

The Innovation Plan will be guided by the Blue Ocean Strategy of tapping into unexplored markets and customers. Activities aim at creating new value propositions and not merely incremental improvements. It will create uncontested market space, create, and capture new demand, and align the whole system of a firm's activities in

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pursuit of differentiation. Such a process will raise value for the cluster and reduce costs. Through ODOI, K-DISC will put in mechanisms to share the risks involved in implementing the Innovation Plan. The challenge response submission and follow up activities are sought to be implemented through a centralised ICT platform to be built by K-DISC.

The program will also have a road show where the institutions and experts will present their solutions to the MSME and partner institutions. Feasibility of solutions and actions required to solve the problems will be carefully studied, and then the selected institutions and experts will work with the MSMEs towards implementing the solution.

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#### Annexure 3

SI No	District	Manufacturing	Handicraft	Handloom	Others	FPO	Tota
1	Alappuzha	2			2	1	5
2	Idukki	5				3	8
3	Kollam		1	1	2	2	6
4	Pathanamthitta	3	1		2	1	7
5	Thiruvananthapuram	2	4	5		2	13
6	Palakkad		4	1	2	2	9
7	Thrissur		4	1	2	1	8
8	Ernakulam	3	2	1	1	1	8
9	Kottayam	6	1		2	2	11
10	Kozhikode	4	1		1	3	9
11	Malappuram	4			1	2	7
12	Kannur	2	1	1		2	6
13	Kasaragod				2	2	4
14	Wayanad		2		1	11	14
	TOTAL	31	21	10	18	35	115

### List of Innovation Clusters

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Annexure 4

SI. No.	Unique ID	Institution	District	Highest degree	Type of Institution	
1	1	Asian School of Business	Trivandrum	PG	Business Studies	
2	2	Rajadhani Institute of Engineering and Technology	Trivandrum	PG	Engineering College	
3	4	Kumbalath Sankupillai Memorial Dewasom Board College, Shasthamcotta	Kollam	PG	Arts and science	
4	5	Sree Narayana Polytechnic College, Kottiyam	Kollam	Diploma	Diploma	
5	6	College of Engineering, Perumon	Kollam	PG	Engineering College	
6	7	College of Engineering, Pathanapuram	Kollam	Degree	Engineering College	
7	8	Govt Polytechnic College Punalur	Kollam	Diploma	Diploma	
8	9	Sree Narayana College Kollam Commerce	Kollam	PG	Arts and science	
9	10	Sree Narayana College Kollam Economics	Kollam	PG	Arts and science	
10	11	TKM College of Engineering	Kollam	PG	Engineering College	
11	14	Carmel College of Engineering and Technology	Alappuzha	Degree	Engineering College	
12	17	MACFAST Tiruvalla	Pathanamthitt a	PG	Business Studies	
13	18	Amal Jyothi Engineering College	Kottayam	PG	Engineering College	
14	20	Berchmans Institute of Management Studies	Kottayam	PG	Business Studies	
15	21	School of Management and Business Studies	Kottayam	PG	Business Studies	
16	23	Kuriakose Elias College Mannanam	Kottayam	PG	Engineering College	
17	27	DC School of Management & Technology, Pullikkanam	Idukki	PG	Business Studies	
18	30	Marian College Kuttikkanam	Idukki	PG	Business Studies	

### List of Institutions Shortlisted

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SI. No.	Unique ID	Institution	District	Highest degree	Type of Institution
19	31	SCMS College of Polytechnic	Ernakulam	Diploma	Diploma
20	32	Morning Star Home Science College, Angamaly	Ernakulam	PG	Arts and science
21	34	Government Engineering College Thrissur	Thrissur	PG	Engineering College
22	37	Ahalia School of Engneering and Technology, Palakkad	Palakkad	Degree	Engineering College
23	39	Government College Chittur, Palakkad	Palakkad	PG	Arts and science
24	40	Government Engineering College, Sreekrishnapuram	Palakkad	PG	Engineering College
25	41	Government Polytechnic College Palakkad	Palakkad	Diploma	Diploma
26	42	Govt Victoria College Palakkad	Palakkad	PG	Arts and science
27	43	Jawahar College of Engineering and Technology	Palakkad	PG	Engineering College
28	44	LEAD College of Management	Palakkad	PG	Business Studies
29	45	Mercy College Palakkad	Palakkad	PG	Arts and science
30	49	Malabar Polytechnic College Kottakkal	Malappuram	Diploma	Diploma
31	50	Seethi Sahib Memmorial Polytechnic College	Malappuram	PG	Diploma
32	51	Farook College Kozhikode	Kozhikode	PG	Arts and science
33	59	National Institute of Technology	Kozhikode	PG	Engineering College
34	62	Govt Polytechnic College Meppadi	Wayanad	Diploma	Diploma
35	63	Govt Polytechnic College Meenangadi	Wayanad	Diploma	Diploma
36	64	College of Engineering Thalassery	Kannur	PG	Engineering College
37	65	Vimal Jyothi Institute of Management and Research	Kannur	PG	Business Studies
38	69	Lal Bahadur Shastri College of Engineering	Kasargod	PG	Engineering College

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SI. No.	Unique ID	Institution	District	Highest degree	Type of Institution
39	70	Adi Shankara Institute of Engineering & Technology	Ernakulam	PG	Engineering College
40	71	KMEA Engineering College	Ernakulam	Degree	Engineering College
41	72	Muthoot Institute of Technology & Science	Ernakulam	PG	Engineering College
42	73	Toc H Institute of Science and Technology	Ernakulam	PG	Engineering College
43	74	UKF College of Engineering and Technology	Kollam	PG	Engineering College
44	76	Rajiv Gandhi Institute of Technology Kottayam	Kottayam	PG	Engineering College
45	77	SNIT Adoor	Pathanamthitt a	Degree	Engineering College
46	78	St Thomas College Ranni	Pathanamthitt a	PG	Arts and science
47	79	Saintgits College of Engineering	Kottayam	PG	Engineering College
48	80	College of Engineering Kidangoor	Kottayam	Degree	Engineering College
49	82	Vidya Academy of Science & Technology	Thrissur	PG	Engineering College
50	83	Sahrdaya College of Engineering & Technology	Thrissur	PG	Engineering College
51	86	Mahaguru Institute of Technology	Alappuzha	PG	Engineering College
52	87	LBS Institute of Technology for Women	Trivandrum	PG	Engineering College
53	88	Institute of Management in Kerala	Trivandrum	PG	Business Studies
54	89	College of Engineering Trivandrum	Trivandrum	PG	Engineering College
55	90	Government Engineering College Barton Hill	Trivandrum	PG	Engineering College
56	91	Marian Engineering College	Trivandrum	PG	Engineering College
57	93	St Thomas College Palai	Kottayam	PG	Arts and science
58	95	Government Polytechnic College	Thrissur	PG	Diploma
59	97	M Dasan Institute of	Kozhikode	PG	Engineering College

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SI. No.	Unique ID	Institution Technology	District	Highest degree	Type of Institution
60	98	Ernad Knowledge City	Malappuram	Degree	Engineering College
61	99	Jyothi Engineering College	Thrissur	PG	Engineering College
62	100	Rajagiri College of Social Sciences	Thrissur	PG	Arts and science
63	101	Sreepathy Institute of Management and Technology	Palakkad	Degree	Business Studies

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S I. No.	Unique ID	Institution	District
1	6	College of Engineering, Perumon	Kollam
2	11	TKM College of Engineering	Kollam
3	23	Kuriakose Elias College Mannanam	Kottayam
4	40	Government Engineering College, Sreekrishnapuram	Palakkad
5	43	Jawahar College of Engineering and Technology	Palakkad
6	69	Lal Bahadur Shastri College of Engineering	Kasargod
7	78	St Thomas College Ranni	Pathanamthitta
8	79	Saintgits College of Engineering	Kottayam
9	87	LBS Institute of Technology for Women	Trivandrum
10	89	College of Engineering Trivandrum	Trivandrum
11	95	Government Polytechnic College	Thrissur

### **Class A Institutions - Within their District**

# **Class A Institutions - Inter District**

SI. No	Unique ID	Institution	District
1	6	College of Engineering, Perumon	Kollam
2	11	TKM College of Engineering	Kollam
3	23	Kuriakose Elias College Mannanam	Kottayam
4	40	Government Engineering College, Sreekrishnapuram	Palakkad
5	69	Lal Bahadur Shastri College of Engineering	Kasargod
6	78	St Thomas College Ranni	Pathanamthitta
7	79	Saintgits College of Engineering	Kottayam
8	87	LBS Institute of Technology for Women	Trivandrum
9	89	College of Engineering Trivandrum	Trivandrum

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Thrissur

#### **Class B Institutions - Within their District**

SI. No.	Unique ID	Institution	District	Type of institution	
1	1	Sahrdaya College of Engineering & Technology	Thrissur	Engineering College	
2	4	KMEA Engineering College	Ernakulam	Engineering College	
3	6	Sree Narayana College Kollam Economics	Kollam	Arts and science	
4	7	Muthoot Institute of Technology & Science	Ernakulam	Engineering College	
5	8	SCMS College of Polytechnic	Ernakulam	Diploma	
6	9	Mahaguru Institute of Technology	Alappuzha	Engineering College	
7	10 Adi Shankara Institute of Engineering & Technology		Ernakulam	Engineering College	
8	11	UKF College of Engineering and Technology	Kollam	Engineering College	
9	17	LEAD College of Management	Palakkad	Business Studies	
10	18	Kumbalath Sankupillai Memorial Dewasom Board College, Shasthamcotta	Kollam	Arts and science	
11	19	Marian College Kuttikkanam	Idukki	Business Studies	
12	20	College of Engineering Thalassery	Kannur	Engineering College	
13	21	Sree Narayana College Kollam Commerce	Kollam	Arts and science	
14	23	Ernad Knowledge City	Malappuram	Engineering College	
15	27	Government College Chittur, Palakkad	Palakkad	Arts and science	
16	30	Govt Victoria College Palakkad	Palakkad	Arts and science	
17	32	Sree Narayana Polytechnic College, Kottiyam	Kollam	Diploma	
18	34	SNIT Adoor	Pathanamthitta	Engineering College	
19	37	Seethi Sahib Memmorial Polytechnic College	Malappuram	Diploma	

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SI. No.	Unique ID	Institution	District	Type of institution
20	40	Sreepathy Institute of Management and Technology	Palakkad	Business Studies
21	41 Malabar Polytechnic College Kottakkal		Malappuram	Diploma
22	43	MACFAST Tiruvalla	Pathanamthitta	Arts and science
23	44	M Dasan Institute of Technology	Kozhikode	Engineering College
24	45	Farook College Kozhikode	Kozhikode	Arts and science
25	49	College of Engineering Kidangoor	Kottayam	Engineering College
26	50	Amal Jyothi Engineering College	Kottayam	Engineering College
27	51	St Thomas College Palai	Kottayam	Arts and science
28	59	Berchmans Institute of Management Studies	Kottayam	Business Studies
29	62	Govt Polytechnic College Meppadi	Wayanad	Diploma
30	63	Govt Polytechnic College Meenangadi	Wayanad	Diploma
31	64	Institute of Management in Kerala	Trivandrum	Business Studies
32	65	Rajadhani Institute of Engineering and Technology	Trivandrum	Engineering College
33	69	Morning Star Home Science College, Angamaly	Ernakulam	Arts and science
34	74	DC School of Management & Technology, Pullikkanam	Idukki	Business Studies
35	76	College of Engineering, Pathanapuram	Kollam	Engineering College
36	77	Government Polytechnic College Palakkad	Palakkad	Diploma
37	78	Carmel College of Engineering and Technology	Alappuzha	Engineering College
38	79	Mercy College Palakkad	Palakkad	Arts and science
9	80	Govt Polytechnic College Punalur	Kollam	Diploma
0		Rajagiri College of Social Sciences	Thrissur	Arts and science
1	83	Government Engineering College Thrissur	Thrissur	Engineering College
2	87	Jyothi Engineering College	Thrissur	Engineering College
3		Asian School of Business	Trivandrum	Business Studies

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Sl. No.	Unique ID	Institution	District	Type of institution
44	90	Government Engineering College Barton Hill	Trivandrum	Engineering College
45	91	Marian Engineering College	Trivandrum	Engineering College
46	93	Vimal Jyothi Institute of Management and Research	Kannur	Business Studies
47	95	Toc H Institute of Science and Technology	Ernakulam	Engineering College
48	97	School of Management and Business Studies	Kottayam	Business Studies
49	98	Rajiv Gandhi Institute of Technology Kottayam	Kottayam	Engineering College
50	99	Vidya Academy of Science & Technology	Thrissur	Engineering College
51	100	Ahalia School of Engneering and Technology, Palakkad	Palakkad	Engineering College
52	101	National Institute of Technology	Kozhikode	Engineering College

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#### Scope of work and deliverables

The scope of work for the services from the institutions will be as follows:

- 1. To continue the process of initial identification of the cluster and the initial consultations done by the core groups.
- 2. To re-assess the records of initial consultations done by the core groups to record the ODOI data sheet covering HR, structural and relational capital and addressing any gaps in understanding.
- 3. To crystalise and improve upon the consultations undertaken by the District Core Group, with the purpose of inspiring the clusters for innovation and pursuing the consultations on sustaining innovations.
- 4. To undertake a diagnostic study of the cluster and identify areas of innovation of the cluster based on the inputs obtained from the Digital University.
- 5. To identify through consultation and propose a sustainable structure for action plan implementation.
- 6. To develop the innovation action plan on the broad contours outlined in the ODOI concept note appropriately keeping in, mind the indicators for innovation.
- To help the cluster team submit the necessary documentation for the innovation challenge through ICT platform being developed by ICT Academy covering the documentation indicated in 6 above along with relevant cluster particulars.
- 8. To help, guide and lead the cluster teams' presentations at the ODOI Innovation challenge and proactively interact with the evaluation team.
- 9. Prepare a costing for the institutional support necessary for executing the implementation of Innovation Action Plan and submit the same to K-DISC.
- 10. To proactively interact with the District Core Group and District Innovation Council and Digital University for successful completion of the action plan preparation and its timely submission.

The deliverables of the engagement are listed below.

- 1. Cluster diagnostic study and proposal for innovation areas of cluster.
- 2. Innovation action plan for cluster.

3. Submission of the action plan and other requisite information for the challenge.

4. Presentations of the action plan as a part of the challenge.

5. Costing for institutional support for executing the implementation of the innovation action plan.

6. Feedback and recommendation for improving the ODOI challenge and the process.

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#### Duration of work and breakup of expenses

Item	Number of days	Broad applicable norms				
Faculty Days	120	Two months of work covering field work supervision, supervision of desk work and finalisation of report required. Two faculty members to be allocated.				
Expert Days	20	2 experts. Total days 20				
Student Days	300	Two months; 5 students				
Faculty Travel Days	30	Total travel days for two faculty members				
Expert Travel days	10	Total travel days for experts				
Student Travel Days	150	50% student time for field work				

The estimated duration of work shall be as follows.

The breakup of the expenses and payment terms that shall be utilised as per the maximum admissible amount is provided below.

	Amount (in Rupee		
Item	Within district	Outside district	
Faculty Allowance Rate	100.00	100.00	
Faculty Travel Rate	1500.00	3000.00	
Expert allowance rate	5000.00	5000.00	
Expert Travel Rate	1500.00	3000.00	
Student Stipend	800.00	800.00	

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		Amount (in Rupees)				
ltem		Within district	Outside district			
Student Travel Rate		300.00	500.00			

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#### Report of the visit carried out to Kuthammpully Handloom Cluster

Principal Investigator of the project Dr. Biju CV and the Academic Director Fr. Dr. Jose Kannampuzha of Jyothi Engineering College, Cheruthuruthy, mentor institution of the Kuthampully Handloom Cluster allotted under ODOI scheme of KDISC, visited all the four registered societies on 20<sup>th</sup> Jan 2022.

All the four societies, namely

- 1. Kondazhy Handloom Weavers Industrial Workshop Co-Operative Society Ltd. (Estd: 1980)
- 2. Eravathody Handloom Weavers Co-Operative Society Ltd. (Estd: 1941)
- 3. Thiruvilwamala Handloom Weavers co-operative society Ltd (Estd : 1956) &
- 4. Kuthampully Kaithari Naithu Vyavasaya Sahakarana Sangam (Estd: 1972)

mainly produce Kerala Saree (65%), Normal Saree (15%) and Dhothi (10%). In addition to these conventional products, as per the policy of the State Government, all the units also produce school uniforms at the request of the Government Departments. Among the four societies, only the first one is registered as factory type whereas the remaining three societies are registered in the cottage category.

All the handloom units were profitable till 2010 and large number people were attracted to this industry. Later the challenges mainly from power looms adversely affected the sector. Presently average daily income of an employee in this sector is around Rs 300. Therefore only 5% of the installed capacities of the units are utilised in the cluster.

The possible areas of improvement for the rejuvenation of the handloom sector can be listed as follows

- 1. Presently the reach of the products are very limited. Hence online marketing strategy can be introduced.
- 2. The customers feel difficulty to identify handloom and powerloom products. This often limits the comparison to the price; therefore the market of handloom products is adversely affected. Hence, government can introduce standard trade mark to identify the handloom products in the market.
- 3. Either exclusive or in association with the apex body in the handloom sector HanTex, official outlets for the handloom products may be started in cities. Presently, Hantex is selling the products collecting from the Handloom products from the Societies. But the societies are not getting their money immediately after the sales of the products from Hantex. This is detrimental to the cash flow and the societies are taking OD for higher interest rate for the working capital. Instead of the intermediate role of Hantex, direct marketing can be entertained to a large extent.

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- 4. In order to reduce the physical effort in the production of handloom products, without affecting the process and quality of the products, semi automation can be introduced.
- 5. The number of threads per square inch (ranges from 20-120) is the measure of thickness of the cloth. Presently the customers cannot understand such features of the product. Hence a well designed specification slip can be attached to the products.
- 6. Presently the purchase of the raw materials is made separately by the societies. Often this leads to higher rate and also large fluctuation of price in different assignments. In order to address this issue, a Common Facility Center (CFC) may be introduced to both raw materials and finished products.
- 7. As the income from the handloom sector is not attractive, educated youngsters are not interested in this domain. Hence a training centre with, computer based design, Jaquard modeling, Card punching etc. can be introduced. The application of modern technology will definitely improve the productivity and range of customized products.
- 8. More number of exhibitions can be planned in schools, colleges etc. This will provide better understanding of the handloom products in the public.
- 9. Now the government rebate is limited for the festival season sales in the exhibition centers. This can be extended to throughout the year. Action should be initiated to expedite the sanction of the rebate amount to the societies at the earliest.
- 10. To provide the awareness of the handloom weaving process, with the support of the mentor institution, a portable hand loom weaving unit can be developed and the process can be demonstrated in the exhibition centers.

The action plan to accomplish the above mentioned objectives shall be communicated immediately.

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Jyothi Engineering College NAAC Accredited College with NBR Accredited Programmes"

Approved by AICTE & affiliated to APJ Abdul Kalam Technological University

A CENTRE OF EXCELLENCE IN SCIENCE & TECHNOLOGY BY THE CATHOLIC ARCHDIOCESE OF TRICHUR

D'OTHI HULS VETRATTRIE D' CHERCHERULINY THRISSER PAN 570231 PH -91 4884 259000 274423 FAX 04884 274777

3rd Flo Rd, Va Kerali	Development and Innovation Strategie for, India Heights Building, Women's C azhuthacaud, Thiruvananthapuram, a 695014 : Jyothi Engineering College P.O. Vettikkatiiri Dt. Thrissur -679531 mber : 32AAATT6583F1ZF	Council College	Invoice No : 45 Date : 05-03-2022 Due Date : 05-06-2022	
Sl. No.	Particulars		Amount	
01	Expenses related to Cluster innovation preparation	n plan	4,57,000	
02	CGST@ 9%		41.130	
03	SGST@ 9%		41,130	
04	Total amount		5,39,260	
05	Amount in words		Five Lakh thirty-nine thousand and two sixty only	
06	20% of sanctioned amount	91,400		
07	20% of sanctioned amount (inclu GST)	uding	1,07,852	
Terms	and Conditions : 1) Online transfer 2) Cheque / DD			
	AAATT6583F	Name : I	Or. Sunny Joseph Kalayathankal (Principal)	

TNBA accredited & tech Programmes in Computer Science & Engineering, Electronics & Communication Engineering, Bectrical & Electronics Engineering and Mechanical Engineering valid for the academic years 2016 2022 NBA accredited & tech Programme in Civil Engineering valid for the academic years 2019 2022

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Kerala State Information Technology Mission Department of Electronics & Information Technology Government of Kerala

ICT Campus, Vellayambalam Jn., Thiruvananthapuram 695 033, Kerala, India Tel: +91 -471-2726881, 2314307, Telefax: +91-471-2314284 Email: admin.ksitm@kerala.gov.in

Dated: 31/03/2021

File No: KSDI/5/2019-KSITM/ 465

To,

Mr Arun Alex, Coordinator Industry Attachment Cell, APJ Abdul Kalam Technological University, CET Campus, Thiruvananthapuram Kerala - 695016

Subject: Collaborating with Mapathon Keralam project of KSITM Ref: Email sent to Project Manager, KSDI on 23/03/2021

Dear Sir,

We are very happy to collaborate with Industry Attachment Cell, APJ Abdul Kalam Technological University, Thiruvananthapuram. Currently, Kerala State IT Mission planning to map some of the urban local bodies in Kerala (Municipalities and Corporations). We feel that Civil Engineering departments of various engineering colleges may take it up as an initiative. If you think you can coordinate arrange it that is highly appreciated. The institution/department may take up the challenge of mapping important public institutions, roads and ward boundary of an urban local body selected. KSITM will be provided technical support required and some financial support. With capability for the same gained, institutions can provide mapping as service to local bodies. We need to plan this in urgent basis and your speedy response is requested.

Yours Sincerely,

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Head Technology, KSITM

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File No.KSDI/5/2019-KSITM

Kerala State Information Technology Mission Department of Electronics & Information Technology Government of Kerala

"Saankethika", Vrindavan Gardens Pattom, Thiruvananthapuram - 695 004 Tel: +91 471 2525444, 2525430 Email: admin.ksitm@kerala.gov.in

File No: KSDI/5/2019-KSITM /930

Dated 06-10-2021

#### WHOMSOEVER IT MAY CONCERN

Subject: Mapathon Keralam - Municipality Mapping reg:-. Ref: Circular Issued by Government of Kerala regarding Mapathon Keralam (IT-B1/69/ 2019-ITD)

Madam/Sir

I would like to invite your attention to the reference Circular Issued by Government of Kerala regarding Mapathon Keralam to the Kerala State IT Mission tasked with coordinating the activities related to Mapathon Keralam.

This is to inform you that the following institution has been entrusted with the task of doing Municipal Mapping at Shornur Municipality as part of Mapathon Keralam. It is requested that necessary steps be taken to support and expedite the activities related to Mapathon Keralam and issue a completion certificate after verifying the mapping of their local bodies in OpenStreetMap. Details of the Institution and contact person are mentioned below.

Institution Name: Jyothi Engineering College, Thrissur Contact Person: Parthiban P (mobile: 9500205767)

Yours Faithfully

Director, KSITM SNEHIL KUMAR SINGH IAS DIRECTOR Kerala State IT Mission DAMMESTOR: CIrcular Issued by Government of Kerala regarding Mapathon Keralane (Fopy Atlested B1/69/2019-ITD)

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Dr. Prajoon P <prajoonp@jecc.ac.in>

#### Fwd: Urban Localbody (Municipality Mapping) 1 message

Vincy Verghese <vincyverghese@jecc.ac.in> To: "Dr. Prajoon P" <prajoonp@jecc.ac.in>

Fri, Mar 25, 2022 at 10:05 AM

------ Forwarded message ------From: Parthiban P <parthibanp@jecc.ac.in> Date: Fri, Jul 23, 2021 at 11:19 PM Subject: Fwd: Urban Localbody (Municipality Mapping) To: HOD CE <hodce@jecc.ac.in>, Vincy Verghese <vincyverghese@jecc.ac.in>

------ Forwarded message ------From: Coordinator Industry Attachment Cell <iaccoordinator@ktu.edu.in> Date: Fri, Jul 23, 2021 at 2:26 PM Subject: Fwd: Urban Localbody (Municipality Mapping) To:

Dear Madam/ Sir,

This is with reference to KSITM Mapathon project, please find the remuneration for colleges listed (as communicated by KSITM).

Please provide your approval here in https://forms.gle/mq2sTSr7a3uoaqud6 if your college would like to proceed with the project. Please ensure this is completed max by 3pm on July 26th.

Please note all fund disbursements are to be taken care of KSITM . Any concerns at any stage regarding fund disbursements/ tasks etc. will need to be taken up by individual colleges directly with KSITM

We will be sharing the approvals received from colleges with KSITM so that project can be initiated.

#### ( Details as communicated by KSITM)

Thank you

Kind Regards Arun Alex



Arun Alex, Coordinator Industry Attachment Cell, APJ Abdul Kalam Technological University, Thiruvananthapuram. https://ktu.edu.in/

Mob : + 91 9567 487981

in http://in.linkedin.com/in/arunalex/

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------ Forwarded message ------From: Anu Murali <anumurali.ksitm@kerala.gov.in> Date: Mon, Jul 12, 2021 at 4:33 PM Subject: Urban Localbody (Municipality Mapping) To: iaccoordinator <iaccoordinator@ktu.edu.in> Cc: Arun KSDI <arun@icfoss.in>

Dear Sir,

Please find the attached file for the rate fixed each college regarding urban mapping through Mapathon Keralam. Kindly confirm the same to proceed with the agreements.

Your reply in this regard is highly anticipated.

#### Anu Murali

Spatial Data Officer Kerala State Spatial Data Infrastructure (KSDI) Kerala State IT Mission (KSITM) Tel: 0091 471 2332114

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Regards,

Parthiban P Assistant Professor in Civil Engineering, Jyothi Engineering College, Vettikattiri P.O., Panjal Road Cheruthuruthy, Thrissur 679531. Ph.No: +91-9500205767

Regards,

Vincy Verghese Assistant Professor in Civil Engineering, Jyothi Engineering College, Vettikattiri P.O., Panjal Road Cheruthuruthy, Thrissur 679531.

Ph.No: 8848838718

MK Urban Mapping Apporved Rates for Colleges.xlsx

Dr. SUNNY JOSEPH KALAYATHANKAL M.Tech, MCA, M.Sc, M.Phil, B.Ed Ph.D (Computer Science), Ph.D (Maths) PRINCIPAL Jyothl Engineering College Cheruthuruthy P.O.- 679 531 Machinability evaluation and wear behaviour of hybrid Aluminium MMC reinforced with CNT and solid lubricants



Principal Investigator: Dr. Deepanraj B Co-PI: Mr. Nice Menachery Funding Agency: All India Council for Technical Education (AICTE) Total Fund Sanctioned: Rs. 20,92,500/-Scheme: Research Promotion Scheme (RPS) Status: On going

This research work is focused on preparation of a hybrid Nano metal matrix composite containing Aluminium as the matrix material and carbon Nano tubes and solid lubricant as reinforcement by powder metallurgy route. The mechanical behaviour of this hybrid Nano-composite is evaluated by means of tensile test, compression test, micro-hardness, corrosion test and wear test. The distribution of reinforced materials in the matrix is by SEM image. Machinability evaluation of the cast MMC is studied to determine the performance of the MMC during turning with an uncoated and coated cutting tool inserts.

AQIS ID: 1-9317742623

Date:\_\_\_

ALLINDIA COUNCIL FOR TECHNICAL EDUCATION Nelson Mandela Marg, Vasant Kunj, New Delhi 110070

**RPS**-Sanction Letter

File No. 8-62/FDC/RPS/POUCY-1/2021-22

#### The Drawing and Disbursing Officer

All India Council for Technical Education Nelson Mandela Marg, Vasant Kunj, New Delhi-110070,

Sub:

Release of a sum of Rs. 1830937/- being the 1<sup>st</sup> installment of the total grant of Rs. 2092500/ for conduct of Project under Research Promotion Scheme (RPS) during the financial year 2021-22.

With reference to the proposal submitted by the institute, this is to convey the sanction of the Council for payment of Rs. 1830937/- (Rupees Eighteen Lakh Thirty Thousand Nine Hundred Thirty Seven Only) as 1<sup>st</sup> installment out of a total approved grant in aid of Rs.2092500/- for conduct of a Project under the Research Promotion Scheme (RPS), as per details given below.

I.	Name and address of the Beneficiary Institution (University / College / Institution)		Registrar / Director / Principal, JYOTHI ENGINEERING COLLEGE, JYOTHI HILLS, PANJAL ROAD, VETTIKKATTIRI(PO), CHERUTHURUTHY -679531, KERALA
ŧI.	Principal Investigator's Name & Dept./Course	:	Dr. BALAKRISHNAN DEEPANRAJ (MECHANICAL ENGINEERING)
Ш.	Co-Principal Investigator's Name & Dept.	:	NICE MENACHERY (MECHANICAL ENGINEERING)
IV.	Grant-in-aid Sanctioned		Rs. 2092500/- (Rs. 1569375/- for non-recurring and Rs.523125/- for recurring expenditure)
V.	Amount to be Released during the year 2021-22 (as 1 <sup>st</sup> installment)		Rs. 1830937/- (Rs. 1569375/ Full amount of non-recurring & Rs. 261562/ recurring i.e. 50 % of total sanctioned recurring grant)
VI.	Project Duration	:	3 Years
VII.	Title of the Project	4	Machinability evaluation and wear behavior of hybrid Aluminum MMC reinforced with CNT and solid lubricants

#### I. Release of funds:

- The amount of the grant shall be drawn by the Drawing and Disbursing Officer (DDO), All India Council for Technical Education, New Delhi on the Grants-in-aid bill and shall be disbursed to and credited to the account of JYOTHI ENGINEERING COLLEGE, JYOTHI HILLS, PANJAL ROAD, VETTIKKATTIRI(PO), CHERUTHURUTHY -679531, KERALA through PFMS.
- 2. The sanctioned grant-in-aid is debitable to the Major Head "601.12.a (RPS Plan)" Gen. and is valid for payment during the financial year 2021 22.
- The sanction issues in exercise of the powers delegated to the Council. It is also certified that grant in aid is being released in conformity with the rules and principles of the Scheme.
- The grant-in-aid is being released in conformity with the Terms & Conditions as well as norms of the scheme as already
  communicated and also being communicated in this letter.
- II. Maintenance of account by the Institute/PI:
- 1 Funds covered by this grant shall be kept separately and would not be mixed up with other funds so as to know the amount of interest accrued on the grant.
- The grant is intended to cover items of expenditure/equipment approved by AICTE.
- 3 Acknowledgement of receipt of grant and letter of acceptance of terms and conditions is to be submitted to AICTL within 15 days from the receipt of the grant to the following address:

Director (Faculty Development Cell), AICTE, Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

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Dr. JOSE P THERATTIL

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- 4. The accounts of the grantee will be opened for test check by the Council or Comptroller & Auditor General of India or by any
- 5. The Principal and Pi of the institute are requested to verify the correctness of the undermentioned bank account/RTGS/PFMS details submitted by them alongwith the Proposal, in which the grant is being released. In case of any omission, the same should be reported to AICTE immediately along with refund of entire grant. Account Number IFSC Code

C		and the second second	1.00	Account	Account	Account Number	
Institute	Bank	Bank Branch	Bank Branch Add.	Holder	Туре		
Pan No.	Name	4		Name	Saving	15250100001019	FDBL0001699
AAAT16 835	S FEDERAL BANK	Extension	Jyothi Engineering College, Panjal Road, Vettikattiri (PO), Cheruthuruthy	Jyothi Engineering College	Account		

- 6. The grantee institution shall observe all financial norms and guidelines as prescribed by the AICTE/Government of India from time to time. Grantee institution must follow GFR guidelines in procuring the sanctioned items and maintain an audited record of assets acquired wholly or substantially out of the grant-in-aid and a register for assets shall be maintained by the Institute in the prescribed form i.e. GFR 19.
- / Interest accrued on the sanctioned grant-in-aid will be reported and refunded to AICTE and not adjusted against the subsequent installment.

#### III. General Instructions:

- 1 It should be ensured that no RPS project in favour of the same P.I. has been sanctioned during the last 03 years before utilizing this amount and the matter be brought to the notice of this Council immediately in case a faculty is sanctioned multiple RPS Projects.
- 2. The duration of Project is 03 years and the date of release of the grant by AICTE shall be taken as the date of commencement of the project. The Registrar/Director/Principal shall intimate about the receipt of the grant to AICTE. Any Expenditure, incurred prior to issuance of this Sanction Order, would not allowed to be adjusted in the grant and if the University/Institution do not take-up the project work within 6 months of the receipt of the grant, approval shall ipso facto lapse and the Institute has to necessarily refund the entire grant to AICTE along with interest within a month. In case the grant is not refunded within said duration 18% interest will be levied on it. The grant has to be refunded to AICTE, through RTGS as per details given below:

and the second	55113199952
Account Number	Member Secretary, AICTE, New Delhi
Name of the Account Holder	State Bank of India
Bank Name	Shashtri Bhawan, New Deihi
Branch Name	SBIN0050203
IFSC Code	

- 3. The Institute may constitute a Project Monitoring Committee (PMC). The composition of the PMC shall be as under:
  - Principal/Director of the institution (Chairperson) 4.1
  - Two HODs from institute (Members) **H**.
  - In case of private institute one subject expert from government institute, not below the rank of Associate Professor Ш. (Member)
  - Coordinator of the project (Member Secretary) iv.
- 4. The grant shall be utilized strictly for the purpose as specified in the sanction letter. Re appropriation of funds from one Head to another is strictly not permitted viz. Recurring and non-recurring Heads. Further, the equipment(s)/item(s) purchased should be as per the specifications and individual item-wise costs sanctioned by AICTE, and not taking the total grant sanctioned as one entity. Item-wise purchase cost shall be matched with the sanctioned cost, and the cost of item purchased below the sanction cost shall be restricted as actual cost. If the item purchase cost is higher than its sanctioned cost, the cost shall be restricted to the sanctioned cost and the additional amount shall be met by the Institute from its own resources
- 5. Similarly, the recurring grant can be used for the items (non-recurring) sanctioned by the AICTE. No money be used for going abroad to attend Conference / seminars. However, for presenting a Paper in a Seminar / Conference within the country, the travel expenses may be met from the recurring grant.

Dr. JOSE P Jyothi Engineering College

Contd. 3/

6. No request for additional grant over and above the sanctioned grant shall be considered by the AICTE. The additional amount, if any, expended beyond the sanctioned grant shall be met by the Institute from its own resources.

- 3 -

- The institute/University shall not charge any overheads on this Project and will provide all the administrative support and timely release of grant to PI for completion of the Project.
- 8. The grantee shall utilize grants only on approved items as per list of equipment attached. However, if the grantee wishes to recast the Project, approval of Council must be obtained for the revised item of expenditure and they will maintain proper accounts of the expenditure as per the norms/procedures of AICTE/Government of India. The revised proposal should be within the total grant sanctioned and duly supported with reasons and recommendations of the Project Monitoring Committee (PMC).
- 9. The assets acquired wholly or substantially out of All India Council for Technical Education's grant shall not be disposed or encumbered or utilized for the purpose other than those for which the Grant was given without proper sanction of the All India Council for Technical Education.
- 10. Each project sanctioned by AICTE is assigned a specific Reference Number, which is given on pre-page. All correspondence address to AICTE regarding the project must quote this number alongwith year of sanction of the project, otherwise correspondence may not be entertained.
- 11. The grantee shall follow the terms and conditions of Research Promotion Scheme (RPS) as laid down by the Council from time to time.
- IV. Submission of documents by the institute/PI to AICTE:
- A. Documents to be submitted within one month of completion of each financial year:
  - i. Annual Progress Report, indicating therein the number of patents, publications or any other achievement.
  - ii. Utilization Certificate, Audited Utilization Certificate, Receipt & Payments, Statement of Expenditure.
- iii. Audited record of assets acquired wholly or substantially out of the grant-in-aid and a register for assets in the prescribed form i.e. GFR-19.
- Separate Bills/vouchers related to Non-recurring and recurring expenditures duly signed & stamped by the PI & Head of the institution.
- v. Stock entry register duly verified by the Store-in-charge and PI & counter signed by Head of institution.
- B. Documents to be submitted within two month of completion of the Project:
  - i. The consolidated Utilization Certificate (UC) and Receipt & Payment Account for the Project duration, duly audited.
  - ii. Consolidated audited statement of expenditure, to the effect that the grant has been utilized for the purpose for which it has been sanctioned. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council.
  - iii. Project Completion Report duly signed & stamped by the PI & Head of the institution and Project Evaluation Committee (PEC) Members.
  - v. Principal Investigator/institute to submit the Feed Back Form in AICTE format.
  - The prescribed formats for submission of necessary mandatory documents and Terms & Conditions may please be downloaded from www.aicte-india.org/schemes/research-innovations-development-schemes.

Note: Any deviation from the above said time schedule will cause serious action against the institute.

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#### AQIS ID: 1-9317742623

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Amount recommended No. of Units Approved Items (As per proposal) 5. No. (in Rs.) Non-recurring A. 1 Milling Tool Dynamometer i) Pin on Disc Wear Testing Machine 1 嗣 Rs. 1569375/-1 Pressure Sintering Machine 前) 1 iv) Surface Roughness Tester Rs. 261562/-Recurring i.e. 50% of total approved recurring grant) for 8. **Contingencies & Consumables only** Grand Total (A) + (B) Rs. 1830937/-

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Dr. JOSE P THERATTIL Principal Syothi Engineering College Utori Engineering College

Copy forwarded for information and necessary action to:

V. Approved List of Items under Non-recurring grant:

1. REGISTRAR / DIRECTOR / PRINCIPAL,

JYOTHI ENGINEERING COLLEGE, JYOTHI HILLS, PANJAL ROAD, VETTIKKATTIRI (PO), CHERUTHURUTHY -679531, KERALA

2. NAME OF PRINCIPAL INVESTIGATOR,

Dr. BALAKRISHNAN DEEPANRAJ, (MECHANICAL ENGINEERING) **JYOTHI ENGINEERING COLLEGE,** JYOTHI HILLS, PANJAL ROAD, VETTIKKATTIRI (PO). CHERUTHURUTHY -679531, KERALA

3. OFFICE OF DIRECTOR GENERAL OF AUDIT **GENERAL REVENUES, AGCR BUILDING** I.P. ESTATE, NEW DELHI-110002.

4. GUARD FILE

(Col. B. Venkat) Director (FDC)

Forate

### Studies on the characteristics of "Eichhorniacrassipes" as a source for bio fuel



Principal Investigator: Dr. Shaji James P.

Funding Agency: Kerala Development and Innovation Strategy Council, (K-DISC), Govt. of Kerala

Total Fund Sanctioned: Rs. 3,40,000/-

Status: On going

Water hyacinth (*Eichhorniacrassipes*) is a monocotyledonous fresh water weed which is an aquatic macrophyte that has gained attention because of its fast growth, leading to serious problems in navigation, irrigation and power generation. It is a non-crop plant available in plenty and their growth characteristics make them an ideal candidate for biomass production. Since biomass is produced from atmospheric carbon dioxide, it helps in sequestrating carbon and reduce greenhouse gas concentration in atmosphere. Water hyacinth can be used as a feedstock for generating biofuels. As there is a scope for energy production from water hyacinth, it is highly relevant to study the characteristics of water hyacinth biomass for production of biofuel.

#### **Present Status**

First phase of the study concluded.

Salient result: There is not much scope for production of biodiesel from water hyacinth biomass.

Ongoing studies: - Possibility of other routes for energy production, especially Anaerobic digestion.

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Jyothi Engineering College Cheruthuruthy -

# Development and testing of resonance free mechanical structures for enhanced stability in dynamic conditions

Principal Investigator: Dr. Biju C.V Co-P1: Jobin C J. Edwin Anto. Amal Paulson, Mariya Shobby Funding Agency: CERD KTU Total Fund Sanctioned: Rs. 45,000/-Status: On going

In order to avoid resonance issues a tunable frequency mechanical structure is effectively designed in the proposed project. Based on the feedback, the smart system based on the piezo electric material, change the effective stiffness and there by natural frequency of the mechanical structure. The first phase of the project was completed and the preliminary trials gives positive result. In the second phase an attempt is made to reduce the response time and there by the resonance is avoided in the onset of unwanted vibration of the structure.

Formation Dr. JOSE P THERAT Othi Engineering concest Charuchuruthy - 6795

Performance enhancement of Thrissur traditional furniture cluster, Chovoor under ODOI scheme



Principal Investigator: Dr. Biju C.V.
Co-PI: Mr. Jinesh K J, Mr. Anto Zacharias
Funding Agency: Kerala Development and Innovation Strategy Council, (K-DISC), Govt. of
Kerala
Total Fund Sanctioned: Rs. 4,57,000
Scheme: One District One Idea (ODOI)

Status: On going

The Kerala Development and Innovation Strategy Council, (K-DISC) is a strategic think-tank and advisory body constituted by the Government of Kerala. In order to utilize the potential of Engineering Colleges in Kerala, KDISC introduced a programme called "One District One Idea" (ODOI) for the innovation of MSME clusters in the State. Under the scheme, Jyothi Engineering College, Cheruthuruthy has been identified as the mentor institution to rejuvenate the Thrissur Traditional Furniture clusters in the Chovoor Village in Thrissur District. The main objective of the project is to develop an action plan for the enhancement of productivity of the existing furniture units in the cluster and effective utilization of the Common Facility Center (CFC). More than 700 units providing direct employment of more than 3,000 people play vital role in the financial stability of the village.

The objectives of the project comprise

- 1. To enhance the quality of the product by effective chemical treatment and seasoning.
- 2. To find out the feasibility of knock-down furniture to attract new customer segment.
- To stream line the production line by effective analysis of the capacity available resources in the cluster with the market demand.
- 4. To carryout research activities to analyze the characteristics of finger joints.

# Development of buoyant force based lifting Mechanism

24.1

Principal Investigator: Dr. Biju C.V Co-PI: Mr. Christy V. Vazhappilly Funding Agency: Adams Energy, Thrissur Total Fund Sanctioned: Rs. 20000/-Type: Industrial consultancy Status: On going, MoU signed and preliminary phase completed

The advantages of the buoyant force in the constraint volume are investigated in the project. The theoretical background of Archimedes principle as well as flow against drag is extensively analysed.

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Dr. JOSE P THERATTIL Principal Jyothi Engineering College Cheruthuruthy - 679531

# CSR project on partial automation of traditional handloom systems

Principal Investigator: Dr. Biju C.V Co-PI: Mr. Melvinraj C.R Funding Agency: Kalyan Silks, Thrissur Total Fund Sanctioned: Rs. 3,00,000/-Type: Corporate Social Responsibility (CSR) project Status: On going

For the rejuvenation of handloom sector, M/s Kalyan Silk, Thrissur provided an amount of 3,00,000/- as part of their CSR fund. As a part of the fund a traditional hand loom has been set in the campus. The state Minister K Radhakrishnan who is also representing our Constituency, inaugurated the handloom training centre on 21<sup>st</sup> Sept. 2022. Out of the 42 candidates applied for the handloom training, a group of 6 candidates were selected and their training is being scheduled from 19<sup>th</sup> -29<sup>th</sup> Sept. 2022. The partial automation of the traditional loom is designed and MoU for the professional support is planned with EMC automation, Thrissur.

THERATTI Jyothi Engineering college Cheruthuruthy - 67953

#### File Ref.No.KTU/RESEARCH5/467/2022

#### APJ Abdul Kalam Technological University Thiruvananthapuram

#### Abstract

APJAKTU - Financial Assistance to Student Projects 2022 - Administrative Sanction accorded -Orders issued,

#### U.O.No. 964/2022/KTU

RESEARCH SECTION Thiruvananthapuram, Dated 27.04.2022

Read.-1. Minutes of the 1st meeting of Engineering Research Council dated 27.01.2010.

2. Minutes of 2nd meeting of Executive Committee dated 21.10.2010.

3. Meeting of the 2nd Research Council dated 29.02.2017.

4. Proposals of Student Projects for Financial Assistance.

5. Screening Committee meeting held on March/April 2022 for evaluation of project proposals.

#### ORDER

Vide paper read 1st above, the Engineering Research Council had approved the scheme for Financial Assistance to Student Projects for the Government Engineering Colleges. Vide paper read 2nd above, it was decided to extend the financial assistance to the student projects to the students of the Government aided and Government Controlled Engineering Colleges.

It was decided to extend the financial assistance to Student Projects for all engineering colleges affiliated to the University with NBA accreditation as per paper read 3rd above. It was also decided that the financial assistance will be provided as reimbursement of expenditure occurred for the sanctioned project.

The Screening Committee meetings held in March/April 2022 evaluated the project proposals forwarded from Engineering Colleges affiliated to the University and recommended financial assistance to selected proposals as per the List appended.

Administrative sanction is therefore accorded for financial assistance to student project as detailed in the list attached below. The project shall be completed within a period of 1 year and the project shall be completed with the students who presented the project before the Screening Committee.

The expenditure should be incurred as per the terms and conditions as per Annexure II attached. The amount will be reimbursed to the Principal of the concerned Colleges only after the successful completion of the project and on the production of certified bills & vouchers along with the audited utilization certificate, statement of expenditure and project completion report.

The expenditure shall be met from the Head of Account "S 3022-Innovative Student Project". Orders are issued accordingly.

Sd/-

Dr. Shalij P.R \* DEAN (Research)

> Principal Jyothi Engineering College

Cheruthuruthy - 679531

Copy to:-

1. Principals of Engineering Colleges. 2. Principal Investigators.



49	Ats vargtiese Assistant Professor	Abhistick Presed Albir Alex Uzbusethu Ananthu Ramosh Ausen F.Sam	Ergonomic mostification and bio- mechanical analysis of the robber tapping krife (michie golledege krife ) for improving body posture of rubber	Amai Iyothi College of Engineering, Kanjirappaliy	10,000	25,000	2500	\$000	 - 43,502	DE MECH
50	Abubeker K.M. Assistant Professor Colmestigator K.G. Satheesh Kumar Professor and NoD	Abey scativ Arunima Tressa George © Gopika	Laostel Hardware and Open Source Software Deployment for Real Time Monitoring of Hyperglycemia and Hypoglycemia Using Non-Invasive Biosensors and Machine Learning approaches	Amal Jyothi College of Engineering Kanjirapally	5000	15,000		2000	22.008	DI KCE
51	Dr. S. N. Kumar Assistant Pratessor	Alen J James Andrew Dixen Naamab Susati Saji Rixa Thumas	Portable Embedded System for Stress measurement: An aid for Human Health Care	Amal Jyothi College of Engineering Kanjirappally, Kotsavam	1000	6000	1000	2000	 10,000	D EFE
\$2	Dr. Nimi Ann Vincens Assektant: Professor Colrivestigator Anaswara S Assistant: Professor	Neethu S Jomol Mariam Joseph Thomas P Joseph Roja S Emmanuel	A preliminary experimental study of mitigating coastal sand dune erosion by microbially induced carbonate precipitation (micp) using laboratory microcosm	Amal Jyothi College of Engineering Kanjirapally	5000	15,000	4000	3000	28,000	CAML
9	Si Visimu N Assotani Professor	Digin Tense Jubin Bijo Thomas Sreelakshmi NV Sruthy Javasankar	Biodegradable Chitosan-Based Film for Food Packaging	Amal Jyothi College of Engineering Kanjirappally	5000	15,000	2000	5006	27,009	CHEMICA L/BIOTEC H
54	Dr. Vistimu M Assistant Protestor	Thomas J Kaliupurakei Jithin Jacob	Microbial Oil from Wastewater	Amal Jyothi College of Engineering Kanjirappally	7000	15,000	2000	2000	26,000	CHEMICA U/BIOTEC H
a l	D Birt F Patron	John CJ Edwo Anto Amai Pausan	Development and testing of resonance free mechanical structures for ephanced stability in dynamic constitions.	Jyotha Engineering College Thrisad	10,000	20,000	5000	10,000	45,000	KARC H
56	Anor J.S. Assistant Professor	Miladh Muhammed S Vishnu P Kumar Joshin Samuel	ROS based autonomous hospital assistant robot	Mar Baselios Collège of E ngineering and Technology, Trivandrum,	3500	20,000		2500	26,000	BCE
\$7	Dr M Jayashree Professor	Assein Nandu A. C. Harikoshna Sharma Gokul G.S. Tushar	Gesture controlled stair climbing wheelchair	Mar Baselios College of E ngineering and Technology, Trivandrum,	4503	20,000		2000	26,000	ECE
58	Dr Javakumar J Professor	Sumar Jošen I. Mr. Rohith M. Wr. Visakh Neelakaritan	Development of IOT based energy autonomous parking sensor device	Mar Baselios College of E ngineering andTechnology, Trivandrum.	3000	10,000		2000	15,000	8CF
59	Sherin Mattew Asastan: Professor	Administr S Madhu Anasha S Karthé Santhosh Isra Karta Sir	Blind spot detectors at A. Pillars for Road Safety	Mar Baselios College of Engineering and Technology	2000	4250	1000	1003	8,250	CMIL

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