GUJARAT COUNCIL ON SCIENCE AND TECHNOLOGY

Department of Science & Technology, Government of Gujarat
Block: B, 7th Floor, M.S. Building, Nr.Pathikashram, Sector-11,
Gandhinagar, Gujarat - 382011.
Phone : (079) 23259362-65 Fax : (079) 23259363
E-mail : info-gujcost@gujarat.gov.in
URL : www.gujcost.gujarat.gov.in

Dr. Narottam Sahoo
Advisor & Member Secretary

No. GUJCOST/DL/2017/ 794

29th July 2017

To,
Prof. H. N. Pandya,
Head,
Department of Electronics,
Saurastra University,
University Road,
Rajkot – 360005, Gujarat.

Sub: Establishment of the Design Lab at Department of Electronics, Saurastra University

Dear Sir,

Greetings from the Gujarat Council on Science and Technology (GUJCOST)!

With reference to your application, GUJCOST is pleased to select your institution for the establishment of the Design Lab. It would be a great initiative for the creative activities of the students of your institution as well as the nearby institutions.

As per the guideline, it is necessary to sign a Memorandum of the Understanding (MoU) with the GUJCOST. A format of the MoU is enclosed herewith for your kind reference. We request you to prepare MoU on a Rs. 100.00 Stamp paper and submit the same to GUJCOST office latest by 5th August 2017.

We once again, congratulate you and look forward to creating an ideal platform for students to innovate.

Thank you and with best regards.

Yours sincerely,

(Narottam Sahoo)

Encl. As above.

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રાજકોટ — 360 001

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MoU) is made on _____ August 2017 at
Gandhinagar (Gujarat).

BETWEEN

GUJARAT COUNCIL ON SCIENCE AND TECHNOLOGY (hereinafter referred as
GUJCOST), Department of Science and Technology, Government of Gujarat having its office
at Block No: B, 7th Floor, Sector 11, Gandhinagar-382011

Prof. H. N PANDYA
Head

AND

1. **THE INSTITTUION:** Department of Electronics, Saurashtra University, Rajkot
   Name and Designation of Head of the Institution
   Dr. Dhiren D. Pandya
   Registrar Saurashtra University
   (Authority of the institution who will sign the MoU)
2. **PROJECT COORDINATOR**
   Name and Designation of Project Coordinator of the Design Lab
   Prof. H. N. Pandya
   Head, Department of Electronics, Saurashtra University
   Name and Designation of Assistant Coordinator of the Design Lab
   Prof. Mahesh N. Jivani
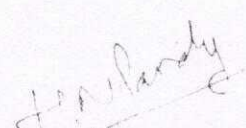   (Hereinafter referred to as Coordinator)

WHEREAS the GUJCOST is inter alia involved in popularization of Science and Technology and Promotion of Research and Development of Science and Technology in the State of Gujarat.
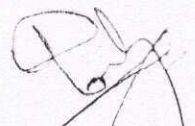
GUJCOST establish the Design Lab at the **Department of Electronics, Saurashtra University** for providing the platform to the students with creative and innovation ideas. In the Design Lab, they can transform their idea into a tangible form. Students and academic researcher with innovative ideas, can get benefited with such Design Labs, where they can easily transform their creative ideas into deliverable form, at least on a lab scale or pilot project basis. Design labs in Engineering and Technology disciplines work as a generator of intellectual properties like patents and industrial design.

NOW THIS MEMORANDOM OF UNDERSTANDING

Witnesses as Under:

1. Objective of the Design Lab:
   The objective of this scheme is to create a culture of innovation throughout the State by fostering creativity and innovative imagination of students and researcher. This will also to provide opportunity and a platform to the person with the innovative mindset to work with tools and equipment to transform his/her idea into product.
2. Funding to the Design Lab:
   The institution will be provided a comprehensive package of equipment/instrument tools and accessories costing of Rs.25,00,000.00 (Rupees Twenty Five Lakh Only) The GUJCOST will procure and provide this comprehensive package of equipments /instruments to the Design Lab.
3. Programs and Activities:

   i. Programs to train and explain to the students about different concepts-ranging from ideation, design, prototyping, networking to physical computing. Workshops on problem solving, designing and fabrication of products etc.

Prof. H. N. PANDYA

Registrar

ii. Interactions with relevant stakeholders including industry, academia and students from other colleges and universities.

iii. Design Lab has to develop at least ten (10) innovative and tangible project/process in a year.

4. **Terms and Conditions:**

1) Proposed Design Lab is planned to be setup in a dedicated space of institution for saving the acquisition and infrastructure cost. Equipment/Instrument, tools, accessories, etc. provided for the Design Lab shall be and confined into the dedicated space of the Design Lab, only.

2) The institute shall display a banner stating the "DESIGN LAB" at the entrance and an appropriate entry sight of the institution, which is easily visible to the stakeholders.

3) The equipment/ Instrument, tools and accessories should not be utilized for the routing practical, training or similar curricular activities of the Institutions.

4) Each of the Design Lab should be accessible to all stakeholders during working hours of the institution.

5) Institute shall bear the maintenance and operational cost of the equipment/instrument, tools accessories, etc. that may fall outside the scope of warranty.

6) Total setup time for making the Design Lab operational will be up to 3 months from the MoU. If the institution is unable to start the program within six month of the receipt of the package of equipment/instrument, the approval shall ipso facto lapse.

7) The assets acquired out of the grant-in-aid shall be the property of the institute. However, no assets acquired out of the grant-in-aid shall be disposed without the permission of the GUJCOST.

8) The timing of Design Labs should be such that it allows aspirants to come at any time during the working hours of the institution to use the facilities. During working hours, specific time-periods may be defined and included in the curriculum of students to introduce the concept of the Design Labs.

9) GUJCOST shall review the progress of the Design Lab time to time. Coordinator/ Head of the institution will be invited to present the progress of the project before the experts of the monitoring committees to ascertain the progress of the project and guide the coordinator in implanting the program. GUJCOST may also constitute a Monitoring committee to visit the institution to review the progress of the Design Lab.

10) Operation of the Design Lab would be monitored on a periodic basis by an Advisory Body comprising of following suggested members:
    a) Principal of the Institution/College-Chairman
    b) Project coordinator of the Design Lab-Convener
    c) Representative from local industry/ local community/young innovators/reputed academia/alumni-Three Members

Prof. H. N. PANDYA
Head
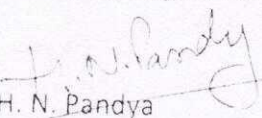
Registrar

11) The advisory body will meet at least thrice in a year and send its report to GUJCOST.

12) Coordinator would ensure adequate safety measures in the Design Lab and the coordinator must submit Annual Progress Report in duly format indicating tangible projects carried out in the year.

13) If the coordinator leaves the institution, retires or goes on long leave, or absentia of coordinator for any other reason, the institute shall appoint another competent coordinator to the Design Lab, under intimation to the GUJCOST immediately.

14) The Design Lab Coordinator has to take prior permission of the GUJCOST before filing any Patent Application. GUJCOST shall be included as a joint application in the Patent Application OR the institution shall pay 35% of money generated out of any patented item or commercialization of research output of GUJCOST office until the grant amount is recovered.

15) It shall be the duty of the coordinator/head of the institution to acknowledge every publication made out of the research activity and send copy of the same to GUJCOST.
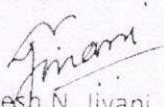
1. Signed on _____ August 2017 by

Registrar
Saurashtra University
RAJKOT

Dr. Dhiren D. Pandya
(Name and Signature of the Head of Institution)
(On behalf of the name of Institution)
Department of Electronics, Saurashtra University, Rajkot

2. Signed on _____ August 2017 by

Prof. H. N. PANDYA
Head
Department of Electronics
Saurashtra University
RAJKOT - 360 005.

Prof. H. N. Pandya
(Name and Signature of Project Coordinator)
(On behalf of Project Coordinator)

3. Signed on _____ August 2017 by

Prof. Mahesh N. Jivani
(Name and Signature of Assistant Coordinator)
(On behalf of Assistant Coordinator)

4. Signed on _____ August 2017 by

_____

On behalf of GUJCOST, Gandhinagar

Department of Electronics

Phone No. : 91 (0281) 2579006 / 2579007
Ext. No. : 91 (0281) 2578501-12, 411 / 412
Tel/Fax : 91 (0281) 2579006
Web : www.saurashtrauniversity.edu

Accredited Grade "A"
by NAAC

SAURASHTRA UNIVERSITY

University Road. Rajkot - 360 005.
(Gujarat) INDIA
Gram : UNIVERSITY
Fax : 91 (0281) 2576802

Ref. No. ELE/UNI/533/17   Date : 1 /8/ 2017

To,
The Registrar,
Saurashtra University,
Rajkot.

Subject:- Signature on MoU with GUJCOST

Dear Sir,

I feel pleasure informing you that GUJCOST has Sanctioned a grant of Rs. 25 lacs for the establishment of "Design Lab" in the Department of Electronics. The copy of the offer letter is attached.

As required by GUJCOST institution in which "DESIGN LAB" is being established is supported to enter to MoU. The draft is give by GUJCOST. Accordingly by I have prepared an MoU on stamp paper of Rs. 100. As the Head of the institution your signature is necessary in MoU.

I forward this for your signature.

Thanking You...

Your Faithfully

Prof. H. N. PANDYA
Head
Department of Electronics
Saurashtra University
RAJKOT · 360 005.

(O/C)

Ref. No. ELE/13/17   Date : 03/08/2017

To,
Dr. Narottam Sahoo,
Advisor & Member Secretory,
Gujarat Council of Science and Technology,
Block: B, 7th Floor, M.S. Building,
Nr. Pathikashram, Sector – 11,
Gandhinagar – 382011.

Sub: Submission of MoU.
Your Ref. No. GUJCOST/DL/2017/794 Dt.: 29/07/2017

Dear Sir.

I thank you very much for selecting Electronics Department. Saurashtra University. Rajkot for establishing "Design Lab" through your above referenced letter.

As desired in your letter. I am submitting an MoU as per the format indicated in the same letter signed by the University authority.

I once again thank GUJCOST and request to process the things further.

Thanking You...

Your Faithfully

Prof. H. M. PANDYA
Head
Department of Electronics
Saurashtra University

Design Lab Items List

Item No.	Name	Link	Quantity per Lab
1	CCTV Wired System - 2B2D-HD2WMK	http://mgsl.in/miot1	2
2	CCTV Wireless System camera	http://mgsl.in/miot2	2
3	Compact Thermal Imaging System	http://mgsl.in/miot3	1
4	Thermal Camera for Product Inspection - TG165	http://mgsl.in/miot4	1
5	Wall Adapter Power Supply - 5VDC 2A (Barrel Jack)	http://mgsl.in/miot5	1
6	Adaptor 12V 2A	http://mgsl.in/miot6	1
7	DC power supply - PWS2185	http://mgsl.in/miot7	2
8	Digital Multi-meter - 3.5 Digit Portable Digital Multimeter	http://mgsl.in/miot8	2
9	Tektronix TBS1064, 60 MHz, 4 Channel, Digital Oscilloscope,1 GS/s Sampling	http://mgsl.in/miot9	1
10	Intelligent Power Module for DC-DC Convertor	http://mgsl.in/miot10	2
11	Intelligent Power Module for Motor Control	http://mgsl.in/miot11	1
12	STEVAL-IHM028V2 - Evaluation Board, 3 Phase Motor, VIPER26, Power Management	http://mgsl.in/miot12	2
13	EECF5R5H104 - Supercapacitor, EDLC, 0.1 F, 5.5 V, Radial Leaded, F Series, +80%, -20%	http://mgsl.in/miot13	10
14	EECF5R5U105 - Supercapacitor, EDLC, 1 F, 5.5 V, Radial Leaded, NF Series, +80%, -20%	http://mgsl.in/miot14	10
15	EECS0HD334H - Supercapacitor, EDLC, 0.33 F, 5.5 V, Radial Leaded, SD Series, ± 30%	http://mgsl.in/miot15	10
16	EECHZ0E335 - Supercapacitor, EDLC, 3.3 F, 2.5 V, Radial Leaded, HZ Series, +40%, -20%	http://mgsl.in/miot16	10
17	EECS0HD224H - Supercapacitor, EDLC, 0.22 F, 5.5 V, Radial Leaded, SD Series, +80%, -20%	http://mgsl.in/miot17	10
18	Trainer Kit with Schneider PLC TM221CE24T w/ programming cable	http://mgsl.in/miot18	2
19	TP-Link TL-WR841N 300Mbps Wireless-N Router	http://mgsl.in/miot19	2
20	Signal Processing Board - TMDSDSK6713 - DSP Starter Kit	http://mgsl.in/miot20	3
21	BIPOLAR STEPPER MOTOR 2.8A, 24-42VDC	http://mgsl.in/miot21	2
22	DC Motor 24V - 100W	http://mgsl.in/miot22	2
23	PMAC Motor 1HP	http://mgsl.in/miot23	2
24	BLDC Motor - 58 F- 1Hp	http://mgsl.in/miot24	2
25	EAW0J-B24-AE0128L ENCODER, ROTARY, 128POS, 8 BIT	http://mgsl.in/miot25	2
26	61C22-01-04-02 - Incremental Rotary Encoder, Optical, With Pushbutton, 16.6rpm, 22 Detents, 5 VDC, Quadrature	http://mgsl.in/miot26	2

Design Labs Items List

#	Item	Link	Qty
27	NI 9381, 0-5V, 8-Ch AI, 8-Ch AO, 4-Ch LVTTL DIO, C Series Module	http://mgsl.in/miot27	1
28	NI 9923 Front-mount terminal block for 37-pin D-Sub Modules	http://mgsl.in/miot28	2
29	NI 9211 4-Ch Â±80 mV, 14 S/s, 24-Bit TC and Diff AI	http://mgsl.in/miot29	1
30	cRIO-9932 Backshell with 10-Pos Connector Block	http://mgsl.in/miot30	1
31	NI 9403 with DSUB 32 Ch, TTL Digital Input/Output Module	http://mgsl.in/miot31	1
32	CRIO-9030 CompactRIO Controller, 1.33 GHzDual-Core, 4-Slot, Kintex-7 70T FPGA, -20 Â°C to55 Â°C	http://mgsl.in/miot32	1
33	E1 Ethernet Cable, Twisted-pair, 1M	http://mgsl.in/miot33	1
4	NI PS-10 Desktop Power Supply 24 VDC, 5A, 100-120/200-240 VAC	http://mgsl.in/miot34	1
35	NI 9981, 4-pos Gold Power Supply Plugs (Qty 5)	http://mgsl.in/miot35	2
36	NI Standard Service Program for Hardware	http://mgsl.in/miot36	1
37	Analog Discovery 2	http://mgsl.in/miot37	3
38	Arduino Starter Kit	http://mgsl.in/miot38	2
39	Bluetooth Transceiver Module with TTL Outputs-HC05	http://mgsl.in/miot39	20
40	Camera Assembly Kit	http://mgsl.in/miot40	2
41	UART GPS Module, u-blox NEO-6M onboard	http://mgsl.in/miot41	10
42	Intel® Edison and Arduino Breakout Kit	http://mgsl.in/miot42	5
43	Intel Galileo Gen 2 Development Board	http://mgsl.in/miot43	2
44	Intel Genuino 101	http://mgsl.in/miot44	3
45	LittleBits SMART HOME KIT	http://mgsl.in/miot45	2
46	ChromeBox MiniPC	http://mgsl.in/miot46	5
47	RQ-HUNO Robotic Humanoid Kit	http://mgsl.in/miot47	3
48	Raspberry PI – 3(Kit)	http://mgsl.in/miot48	2
49	SANYO AM-1417 Solar Cell	http://mgsl.in/miot49	10
50	KXOB22-01X8F Solar Cell	http://mgsl.in/miot50	10
51	Black + Decker CD121K50 12-Volt Cordless Drill/Driver	http://mgsl.in/miot51	1
52	Makita MLT100	http://mgsl.in/miot52	1
53	Single Lead Heart Rate Monitor - AD8232 - Kit	http://mgsl.in/miot53	5
54	Grove-Finger-clip Heart Rate Sensor with Shell	http://mgsl.in/miot54	5
5	NTC Thermistor - 10K - MA300TA103C	http://mgsl.in/miot55	5
56	ADS1292R ECG/RESPIRATION BREAKOUT KIT	http://mgsl.in/miot56	5
57	MQ-3 Alcohol Ethanol Gas Sensor Module	http://mgsl.in/miot57	5

Design Labs Items List

58	MyoWare Muscle Sensor		
59	Three Axis Accelerometer and Gyrosscope - MPU 6050 breakout board	http://mgsl.in/miot58	5
60	Adafruit BMP280 I2C or SPI Barometric Pressure & Altitude Sensor	http://mgsl.in/miot59	5
61	SparkFun Humidity and Temperature Sensor Breakout - SHT15	http://mgsl.in/miot60	5
62	MPL3115A2 - I2C Barometric Pressure/Altitude/Temperature Sensor	http://mgsl.in/miot61	5
63	SparkFun Luminosity Sensor Breakout - TSL2561	http://mgsl.in/miot62	5
64	ams IAQ-CORE C - VOC	http://mgsl.in/miot63	5
5	Grove - Multichannel Gas Sensor	http://mgsl.in/miot64	5
66	PM2.5 Sensor Module - Laser Sensing	http://mgsl.in/miot65	5
67	Digital Infrared Temperature Sensor MLX90615 GY-90615 Module	http://mgsl.in/miot66	5
68	Sharp GP2Y0A21YK0F Analog Distance Sensor 10-80cm	http://mgsl.in/miot67	5
69	Optomax Digital Liquid Level Sensor - LLC200D3SH-LLPK1	http://mgsl.in/miot68	5
70	Liquid Flow Meter - Plastic 1/2" NPS Threaded	http://mgsl.in/miot69	5
71	Load Cell - 120kg - RSL601AC	http://mgsl.in/miot70	5
72	Weighing Sensor Module - HX711	http://mgsl.in/miot71	5
73	Triple Axis Magnetometer Breakout - MAG3110	http://mgsl.in/miot72	5
74	LM393 Tilt Sensor Module	http://mgsl.in/miot73	5
75	pH Kit	http://mgsl.in/miot74	5
76	HS110 Hygrometer Humidity Sensitivity sensor	http://mgsl.in/miot75	5
77	Vibration Sensor Module - SW-420	http://mgsl.in/miot76	5
		http://mgsl.in/miot77	5

<u>TO WHOMSOEVER IT MAY CONCERN</u>

This is to certify that M/s. MG Automation Technologies have completed the installation and training for the products supplied for the Design Lab 2017 project by Gujarat Council on Science and Technology (GUJCOST), at our institution Dept. of Electronics, Saurastra University, Rajkot On the 26th day of February 2018.

For Institute

Prof. H. N. PANDYA
Head
Department of Electronics
Saurashtra University
RAJKOT - 360 005.

Seal & Signature of Project Coordinator

Date: 26/2/18

Place: Rajkot