



**PROJECT CODE UNNATI (IN  
PARTNERSHIP WITH SAP LABS)**

**Submitting innovative idea and Entrepreneurship  
development**

Report On

# **SOLAR HYBRID ELECTRIC VEHICLE**

By

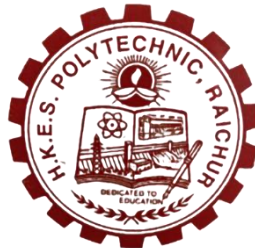
**Arun Yadav & Veerendra G**

Under The Guidance Of

**Sri. SHIVARAJ. H. A.**

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HKES Polytechnic Y-Camp Raichur 584135



**HKES Polytechnic Y-Camp Raichur-584135**

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# INTRODUCTION

- In the current scenario, global warming is a threat to the society. One of the major reasons is the release of carbon-di-oxide from an automobile.
- The transportation sector is almost entirely dependent on single fuel petroleum.
- The domestic production of petroleum is steadily declining while our consumption continuously is increasing.

By considering above circumstances,

- Hybrid technology as electrical energy. The electrical power will be generated by using a generator and solar plate. This generated energy stored in battery and then fed to the DC motor

## LIST OF COMPONENT & SPECIFICATION USED IN MODEL

Sl no	Component	Quality	Specification
1.	DC Motor	02	12V,0.3A,200rpm
2.	DC Generator	02	12V,0.3A,200rpm
3.	Battery	06	4V,1.5AH
4.	Solar panel	01	12V,0.5A,6W
5.	Charging and comparator circuit	01	5V
6.	Gears built in Generator	02	25/15Teeth
7.	Wheels	04	7cm (Diameter)
8.	Clamps	10	-
9.	Shaft	01	4mm
10.	Backlit seat	01	1.5x1Feet
11.	Connecting wires	10 Feet	-
12.	Screws, nuts and bolts	50 Gram	-
13.	Microcontroller	1	5 V 10 mA
14.	2X16 LCD	1	5 V 20mA



## UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER

UDYAM-KR-23-0021389

NAME OF ENTERPRISE

ARUN YADAV

TYPE OF ENTERPRISE \*

SNo.	Classification Year	Enterprise Type	Classification Date
1	2023-24	Micro	22/11/2023

MAJOR ACTIVITY

**MANUFACTURING**

SOCIAL CATEGORY OF ENTREPRENEUR

OBC

NAME OF UNIT(S)

S.No.	Name of Unit(s)
1	Solar hybrid electric vehicle

OFFICIAL ADDRESS OF ENTERPRISE

Flat/Door/Block No.	12-7-129/2	Name of Premises/ Building	Yadav Nivas
Village/Town	Raichur	Block	Raichur
Road/Street/Lane	Goshala Road	City	Raichur
State	KARNATAKA	District	RAICHUR, Pin 584101
Mobile	8123516773	Email:	veerandrayadav1723@gmail.com

DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE

10/11/2023

DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS

10/11/2023

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	27 - Manufacture of electrical equipment	2790 - Manufacture of other electrical equipment	27900 - Manufacture of other electrical equipment	Manufacturing

DATE OF UDYAM REGISTRATION

22/11/2023

**\* In case of graduation (upward/reverse) of status of an enterprise, the benefit of the Government Schemes will be availed as per the provisions of Notification No. S.O. 2119(E) dated 26.06.2020 issued by the M/o MSME.**

Disclaimer: This is computer generated statement, no signature required. Printed from <https://udyamregistration.gov.in> & Date of printing:- 27/11/2023

For any assistance, you may contact:

1. District Industries Centre: RAICHUR ( KARNATAKA )
2. MSME-DFO: HUBLI ( KARNATAKA )

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 <p>भारत सरकार Government of India सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय Ministry of Micro, Small and Medium Enterprises</p>	 <p>सूक्ष्म, लघु एवं मध्यम उद्यम MICRO, SMALL &amp; MEDIUM ENTERPRISES</p>
<b>Udyam Registration Number : UDYAM-KR-23-0021389</b>	

Type of Enterprise	MICRO	Major Activity	Manufacturing
Type of Organisation	Others	Name of Enterprise	Arun Yadav
Owner Name	SMT KUSUM	PAN	CTXPK7836G
Do you have GSTIN	No	Mobile No.	8123516773
Email Id	veerandrayadav1723@gmail.com	Social Category	OBC
Gender	Male	Specially Abled(DIVYANG)	No
Date of Incorporation	10/11/2023	Date of Commencement of Production/Business	10/11/2023

## Bank Details

Bank Name	IFS Code	Bank Account Number
uco bank	UCBA0002916	29160110020203

## Employment Details

Male	Female	Other	Total
10	3	0	13

## Investment in Plant and Machinery OR Equipment (in Rs.)

S.No.	Financial Year	Enterprise Type	Written Down Value (WDV)	Exclusion of cost of Pollution Control, Research & Development and Industrial Safety Devices	Net Investment in Plant and Machinery OR Equipment[(A)-(B)]	Total Turnover (A)	Export Turnover (B)	Net Turnover [(A)-(B)]	Is ITR Filled?	ITR Type
1	2021-22	Micro	100000.00	100000.00	0.00	100000.00	0.00	100000.00	No	NA

## Unit(s) Details

SN	Unit Name	Flat	Building	Village/Town	Block	Road	City	Pin	State	District
1	Solar hybrid	12-7-129/2	Yadav Nivas	Raichur	Raichur	Goshala Road	Raichur	584101	KARNATAKA	RAICHUR

electric vehicle									
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**Official address of Enterprise**

<b>Flat/Door/Block No.</b>	12-7-129/2	<b>Name of Premises/ Building</b>	Yadav Nivas
<b>Village/Town</b>	Raichur	<b>Block</b>	Raichur
<b>Road/Street/Lane</b>	Goshala Road	<b>City</b>	Raichur
<b>State</b>	KARNATAKA	<b>District</b>	RAICHUR , Pin : 584101
<b>Mobile</b>	8123516773	<b>Email:</b>	veerandrayadav1723@gmail.com
<b>Latitude</b>	16.148273942189228	<b>Longitude:</b>	76.90335142516994

**National Industry Classification Code(S)**

SNo.	Nic 2 Digit	Nic 4 Digit	Nic 5 Digit	Activity
1	27 - Manufacture of electrical equipment	2790 - Manufacture of other electrical equipment	27900 - Manufacture of other electrical equipment	Manufacturing

Are you interested to get registered on Government e-Market (GeM) Portal	Yes
Are you interested to get registered on TReDS Portals(one or more)	Yes
Are you interested to get registered on National Career Service(NCS) Portal	Yes
Are you interested to get registered on NSIC B2B Portal	Yes
Are you interested in availing Free .IN Domain and a business email ID	Yes
District Industries Centre	RAICHUR ( KARNATAKA )
MSME-DFO	HUBLI ( KARNATAKA )
Date of Udyam Registration	22/11/2023
Date of Printing	28/11/2023

**IEC Details**

IEC Number	
IEC Status	Inactive
IEC Registration Date	
IEC Modification Date	

## USAGE OF FIRST TRANCHE

Sl no	Component	Quality	Amount
1.	Traction lead acid battery pack	6	15000
2.	DC-DC Microcontrollers	1	3000
3.	Electric motor	1	5000
4.	Power inverter	1	3500
5.	Charger Port	1	3000
6.	Vehicle Chassis	1	9000
7.	Steering	1	3000
8.	Wheel	4	7200
9.	Shaft	4	2200
10.	Body	01	5000
		TOTAL	55900/-



## USAGE OF SECOND TRANCHE

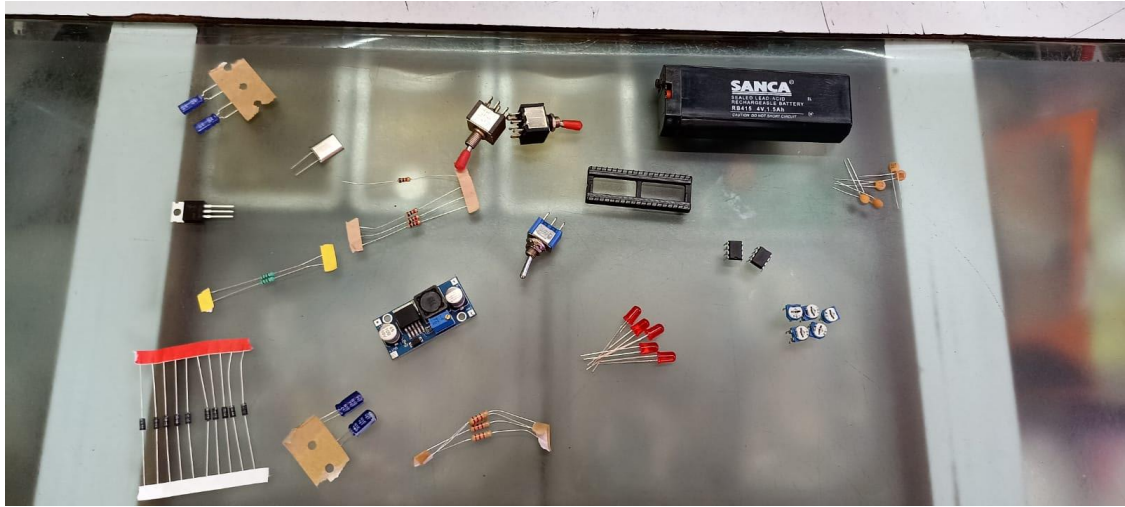
Sl no	Component	Quality	Amount
1	Solar panel	2	5600
2	Thermal system cooling	1	8000
3	Exterior lighting	1	9000
4	Breaking system	1	5000
5	Sensors	8	1500
6	Seats	4	1600
7	Window Sheild	4	2000
8	Wiring	18	2800
9	Switches	13	1400
10	LED Lights	10	450
11	Generator	1	5600
12	Clamps & Nuts bolts	35	1600
13	Indicators and speedometer	4	3000
14	Miscellaneous	--	4500
		<b>TOTAL</b>	<b>55050</b>

# BUSINESS IDEA

The presented results as well as the design for a solar powered vehicle makes the usage of these vehicles feasible and practicable in developing countries. The solar powered electric vehicle using a PMDC motor is a good choice for the Indian market. The solar powered electric vehicle stands with higher safety, high performance as well as remains cost efficient. Use of charge controller and speed controller in the vehicle improves the efficacy of power system. The presented eco-friendly solar powered electric vehicle can be a good choice for future generations.

## Pictures of Prototype:





Components we purchased



Fixing the wheels pic 1

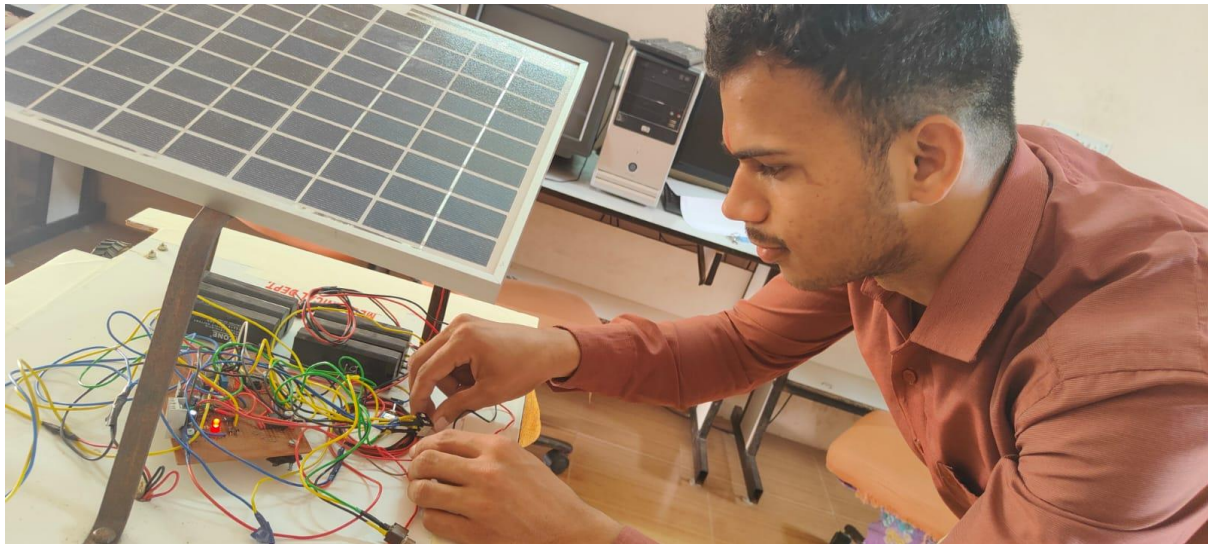


Fixing the wheels pic 2



Connecting the wires pic 1

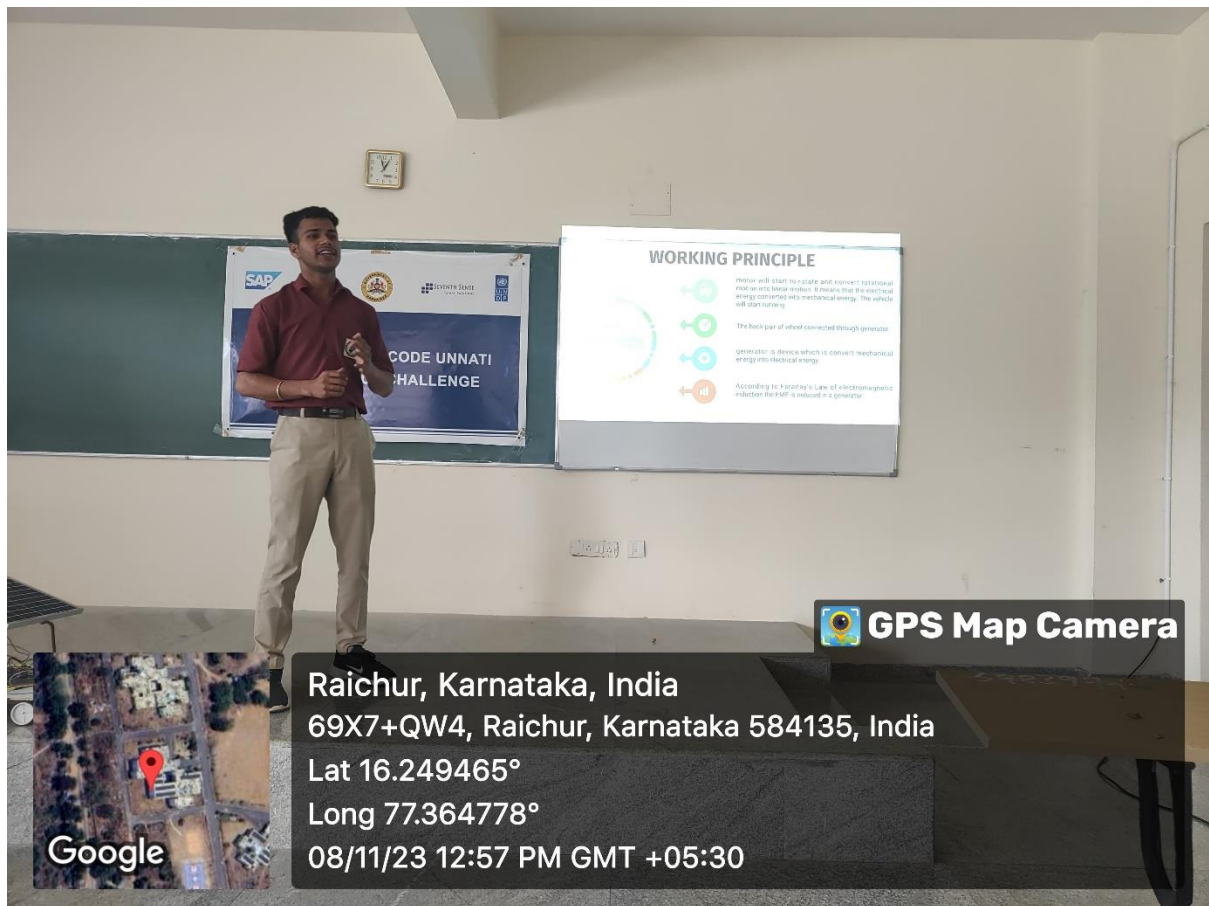




Connecting the wires pic 2



Final Prototype model



Giving presentation Infront of jury members in innovative challenge



# Winner Certificate

This certificate is presented to

*Arun Yadav*

Winner of the "Youth Innovation Challenge" felicitated with Rupees 1 lakh seed funding to develop his/her ideas into a social enterprise under Project Code Unnati, Karnataka

**Mr. VINOD PRABHU B**  
Managing Director  
Seventh Sense Talent Solutions