Initiatives of MSKC

1. **Nursing Program in Germany**
2. **Training for Employability Skills**
3. **Training Certifications in Cyber Security**
4. **'Path' Seva**
5. **Skills on Wheels**
6. **Setting up Technical Excellence Center in Electrical Vehicle Technology at VJTI, Mumbai**
7. **Help ideate Start-ups**
8. **Support R&D Projects**
9. **Help Setup Digital / Skill University**

Note:

1. The Schemes are financed under various Government Grants and CSR initiatives.
2. The Training Cost to students of SC category is absorbed by specific grants made available to the students by the government and other agencies if any.
3. All training imparted will be NSQF compliant.

Nursing Program in Germany

Objectives of the Nursing Program:

The objective of this exercise is to identify and recruit the Backward class and other disadvantaged groups in India for the nursing training program in Germany who will "Look after and care for people in need. To support them in coping with everyday life, advise them, motivate them to do meaningful work and leisure activities and take care of nursing and medical tasks."

Eligibility For the Nursing Program:

Nursing also means looking after and caring for the chronically or mentally ill and dying. This means that without commitment and a positive attitude towards life, one will not feel comfortable in this job.

Nursing combines lively relationship work with nursing action. It requires effective training, social skills, a sense of responsibility, empathy, good observation skills and an interest in medical contexts.

Besides the above requirements, individuals need to also have to fulfil the below requirements:

1. Should have education up to the 12th standard with Biological Sciences as compulsory subjects.
2. Should have completed their 12th standard with a minimum of 60 % marks in the BPC subjects before 31st August 2022.
3. Should be 18 years of age or above (cut-off date 30th April 2023).
4. Should be physically fit.
5. Should have German language skills of A1, A2 and B1 level.

Scope of the Program:

There is ample scope for this program with a possibility of training and travel to Germany of even a thousand students under this program.

However, this year, our endeavour is to recruit a minimum number of 100 students who meet the above-mentioned criteria.

Methodology:
Recruit candidates for these courses on behalf of an institute called Medicorp located in the city of Chemnitz in Germany.

Medicorp offers a Degree Program for Nursing training in Germany which is of a duration of 3 years and places them in hospitals, geriatric homes and other places where the services are required after the successful completion of training.

Once the profiles are approved by EU Consulting/Medicorp (they might opt for a video interview to approve the profiles), the students are issued a conditional offer letter for admission to the Nursing Training program starting in August 2023.

The students are then required to join a German language course and they will have to clear A1, A2 and B1 level of the German language by the 30th April 2023.

Upon successful completion of the 'B1' level of the German language, the students will be issued a final admit letter to the nursing program offered by Medicorp.

This will enable the students to apply for a German Visa and upon grant of the Visa, the students will fly to Germany to join the Nursing program starting in August/September 2023.

Benefits to Students:
Students who are admitted to this program will be trained over three years to be proficient in the following skills:

- Collection and determination of individual care needs and planning of care,
- Organization, design and control of the care process,
- Implementation of the maintenance and documentation of the measures applied,
- Analysis, evaluation, assurance and development of the quality of care,
- Needs assessment and implementation of preventive and health-promoting measures,
- Advice, guidance and support for people requiring care in dealing with health and illness as well as in maintaining and strengthening independent living and everyday skills, including their social caregivers
- Preservation, restoration, promotion, activation and stabilization of individual abilities of the people to be cared for, especially within the

framework of rehabilitation concepts as well as care and support in the case of limitations in cognitive abilities,
- Initiation of immediate life-sustaining measures until the doctor arrives and implementation of measures in crisis and disaster situations,
- Guidance, advice and support for other professional groups and volunteers in the respective care contexts as well as participation in the practical training of health professionals.

Students will also be taught how to carry out measures prescribed by a doctor independently, in particular measures relating to medical diagnostics, therapy, or rehabilitation.

During the training, a student will be able to communicate with other professional groups on an interdisciplinary basis and to work together effectively so that the student can develop individual, multidisciplinary, and cross-professional solutions for illnesses and the need for care and implement them in a team-oriented manner.

At the end of the program, they will be given a graduate certificate similar to Bsc. In Nursing.

Financial Benefits to the Students:
Students admitted to the Nursing program will be paid a stipend of

1. Euros 950 – 1050 per month during the first year of training.
2. Euros 1050 – 1150 per month during the second year of training.
3. Euros 1150 – 1250 per month during the third year of training.

Opportunities:
After successful completion of the program, students will be placed in hospitals and/or geriatric care centres associated with Medicorp as Nurses.

Starting salaries for the nurses' range between Euros 3000 – 3500 per month.

Note: Blocked Account is not necessary for this program.

PR Benefits:
Students who work for 3 years continuously in Germany after the successful completion of this program are eligible for PR in Germany (Permanent Residency).

Another two years after getting PR, a student is eligible to apply for German citizenship.

Cost of The Program:
Students desirous of joining this program will have to be prepared to incur a cost of Rs 5.50 lakhs.

This is the total cost of the program and includes German language training in A1, A2, B1, certification levels, exam fee for the German language certification, visa charges, flight tickets to Germany and administrative and admission costs to the program.

Finance Options:

1. Students who are issued the conditional offer letter by Medicorp may be sanctioned a possible collateral free loan of up to Rs 4.5 lakhs
   (Terms and Conditions Apply)

Cost of the course is met as follows:

Student Contribution: Rs 1.00 lakhs

Finance Partner Contribution: Rs 4.5 lakhs

The student will be obliged to repay monthly installments as per agreed terms from the stipend paid to the student during the period of the training.

Role of EU Consulting:
EU Consulting in partnership with Medicorp is responsible for recruiting, screening and selecting students eligible for the Nursing program.

EU Consulting shall also help in receiving the students when they land in Germany for the first time and ensuring their safe transport to Chemnitz. EU Consulting will also help the students in opening bank accounts in Germany, understanding the local customs and also in any other coordination that is required.

Skill Training of 1000 trainees in various Sectors based on NSQF

Mahatma Phule Backward Class Development Corporation Ltd (MPBCDCL), a state PSU of the Department of Social Justice and Special Assistance, Govt of Maharashtra and Ministry of Social Justice and Empowerment under Govt of India is working for the welfare of Scheduled Caste (SC) communities.

Mahatma Phule Renewable Energy and Infrastructure Technology Limited (MAHAPREIT) is a subsidiary of MPBCDC, working especially in renewable energy and infrastructure development to generate wage and self - employment opportunities for the SC community in Maharashtra.

MAHAPREIT Start-up Knowledge Centre (MSKC) is established by MAHAPREIT to promote vocational and professional education, amongst many other activities to promote social upliftment and enhance social upliftment in the backward class community, so that the young and enthusiastic are enabled to take up professional opportunities and adapt themselves to latest technological developments.

MSKC in its pursuit of creating self-employment and meaningful employment opportunities, for SC community and other disadvantaged groups wishes to train at least 1000 needy candidates based on their aptitude, on the following.

Skill Areas in which Training is to be given

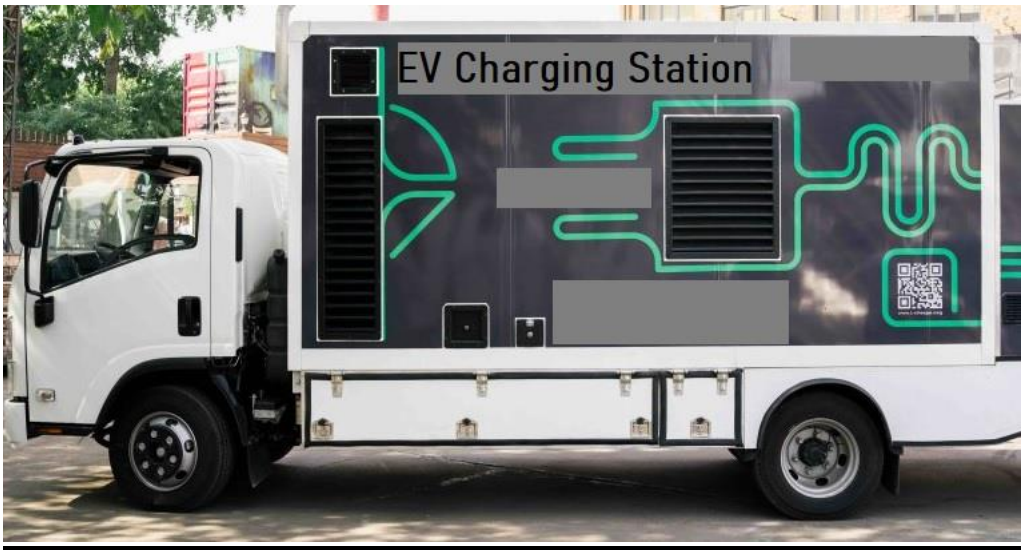
1. 2/3-wheeler repair and maintenance
2. EV repair and Maintenance
3. AC mechanic,
4. Carpentry and wood fabrication,
5. Cooking and Catering and
6. Computing Skills

7. CAD Designer AUTOCAD
8. Early Child Care
9. Patient Care
10. Beauty and Wellness
11. Steward (the job of supervising or taking care of something, such as an organization or property.)
12. Any other as may be intimated.

Training for Cyber Security Certifications:

Certified Aviation Cybersecurity First Responder
Certified Professional for Airport IoT Security
Preventing Terror Attacks using SEQURE
ISAC Certified Cybercrime Intervention Officer
ISAC Certification in Basics of Information Security
ISAC Certified Penetration Tester
ISAC Certified Bug Bounty Researcher
ISAC Certified Cybercrime Lawyer
ISAC Certified Cyber Psychologist
ISAC Certified Open Source Intelligence (OSINT) Investigator
ISAC Certified Cyber Security Governance Professional
Bharat CISO
National Cyber Security Scholar
C-Suite Cybercrisis Wargame
ISAC Certified Forensics Investigator
ISAC Certified SOC Analyst
ISAC Certified Threat Intelligence Professional
ISAC Certified Threat Hunter
ISAC Certified IoT Security Professional
ISAC Certified Reverse Engineer
ISAC Certified Malware Analyst

“PATH SEVA”



Lack of proper education and training restricts members of weaker sections of our society from the opportunities of well-paid employment and self-employment. Eventually, this prevents such individuals from making an influential contribution to economic growth. It is rightly said that “Skill development is no longer a matter of choice. It is imperative to adapt, survive and succeed.”

To maximize the demographic dividends of a young population, Skilling for employment and creation of entrepreneurship opportunities for youth is extremely important.

MSKC proposes “PATH SEVA” to creates a win-win proposition by creating new self-employment opportunities to the needy and by providing services to the public in general.

The Concept Paper

India has the demographic advantage of having the youngest human resource in comparison with the advanced economies. Skilling this huge resource is a challenge given the low levels of vocational training, high proportion of school dropouts, huge informal workforce, poor quality of training etc. The underlying principles of the National Employment Policy include enhancing human capital through skill development; creating a sufficient number of quality jobs for all citizens in the formal and informal sectors and enhancing self-employment opportunities by supporting the needy.

Sustained investments in skills development will produce formal employment and create opportunities for self-employment and entrepreneurship. MAHAPREIT/MSKC take lead in the upliftment of weaker sections of society

by developing their skill sets and by supporting them in using their skills for their livelihood and furthering a progressive life by coordinating with government and non-governmental agencies in this process.

Brief description of scheme "PATH SEVA":

One Porta Cabin with merchandise & refreshments, a washrooms facility and EV Charging station working on Solar energy will be placed at every 50 Kms distance on the National highways. Such Porta cabins will also be attached with a mobile van called 'ASHWIN' that provides emergency health response with a mobile charging station along with EV maintenance support. A mobile app will connect the emergency response vehicle to the nearest ambulance and hospital.

Three persons in the minimum can be employed per porta cabin. One attendant on the porta cabin, one driver and one mechanic attached to 'ASHWIN'. The mechanic and driver on the emergency response vehicle will be given necessary skill training to attend to golden hour requirements.

The training required for the above will be based on NSQF and the beneficiaries will be chosen on an aptitude cum social background. The financing of the project will be based on various government schemes and banks.

Benefits of the Scheme:

- Employment opportunity for minimum 8 persons per business unit out of which self-employment for 6 persons.
- Socially and economically backward will benefit from the scheme
- Service offer for commuters travelling on Highways
- Save lives by providing emergency services on accident spots
- Clean and hygiene toilet facilities on highways
- Quality and standardised food and refreshments for commuters
- EV charging and servicing facilities on highways
- Structured NSQF compliant Skills training
- Sustainable Business Model with a win-win proposition
- Entrepreneurship Training
- Scholarships to students
- Almost entire cost to scholarships of students is possible to be apportioned to Government schemes or any other scheme as available.
- New Job opportunities in the form of Drivers. Mechanic, Service and Maintenance of Electric Vehicles, Emergency Health care
- Possibilities of setting up new Skill agencies in the Private Sector
- Appropriate linking with MSME will generate new Self-Employment opportunities
- These business units can become ambassadors of government commitment for the welfare of the needy in the society
- Advertisement of schemes of the Government in the business premises of these units.

Table I:

Requirement	Nos	Facilities to be added in the structure
Metal/Fibre Porta cabin Size 12 x15	1	Solar panels and accessories for power generation and storage. Electric Vehicle Charging points and charging kits Vending Machines, Fridges for refrigeration of pack food and refreshments, Storage and display space for merchandise. Micro oven and other required for serving the food and refreshments. Wash rooms with Bio toilet facility
'Ashwin' Life saving and EV Maintenance vehicle	1	Equipment and facilities to save a person in the golden hr. GPS connectivity to nearest hospital and ambulance. System to convert kinetic energy to electricity, storage and charging points and kits for EV charging EV service and maintenance tool kit
Scope of work		'PATH SEVA' units will be placed at a 50km distance covering all Highways in Maharashtra. Can be expanded to cover the entire country.
Skill set Requirement		EV Servicing &Maintenance, Driving, communication, Business Management, Paramedical

Table II: Operational Details: Credit Based

NSQF Level	Voc. Skills Hrs (A)	Gen Ed (B)	Gen Ed Hrs	Total Hrs	Who is eligible	Certification	Job Roles (C)
iv	330	Communication Skills	120	450	10^{th}.class	NCVT / SCVT / BTE / NSDC	Level I, II
		Business Management					

<u>Infrastructure &Accessories Costing (Approx) TO SERVICE 50 km</u>

	Details	Indicative Cost in Rs
1.	Moulded Porta cabin structure Metal/Fibre: Size 12 ft x15ft	2,00,000
2	Solar panels and accessories for power generation and storage	1,00,000
3	Electric Vehicle Charging points and charging kits	20,00,000

4	Vending Machines	15000
5	Fridges for refrigeration of pack food and refreshments	1,00,000
6	Storage and display space for merchandise in the Porta Cabin	--
7	Micro oven	20000
8	Crockery	5000
9	Merchandise	25,000
10	Bio toilets	1,50,000
11	Ashwin' Life saving and EV Maintenance vehicle	5,00,000
12	Equipment and facilities required for first aid and in golden hour.	25,000
13	GPS connectivity facility to nearest hospital and ambulance.	10,000 32
14	Spare batteries for EV's	2,25,000 x 2 = 4,50,000
15	Portal Development Cost	3,00,000
	Total	**40.0 L**

Operational Details

- Skills to be imparted
- Print Media and Electronic Media to be used for popularising the Scheme
- Skill and Self-employment Mela in each District
- MOU with relevant agencies
- Exclusive Interactive Portal
- Mobile Application for all transactions including student registration
- DBT payments for trainers
- Aadhar card linked payments and training
- Biometric attendance for students
- Online/offline assessment and Hybrid teaching – Learning
- State wide dissemination of details of the Scheme

"Skills on Wheels"

In order to maximize the demographic dividends of a young population, Skilling for employment and the creation of entrepreneurship opportunities for youth is extremely important.

A proactive MSKC proposes to take skills to villages and mitigate the hardships of traveling to cities for acquiring skills and find employment.

Following is a proposal to take skills to villages. A pilot is created here which can be expanded based on the needs of the State.

Benefits of the Scheme: (Pilot)

- 1440 students trained per 3 months utilising 4 buses in Thane district.
- Skills go to villages
- All who need skills covered
- Structured NSQF compliant Skills training
- Entrepreneurship Training
- Auto generation of LMIS
- MOU with various embassies for possible supply of skilled labour
- Scholarships to students
- Almost entire cost to scholarships of students is possible to be apportioned to PMKVY, GOI.
- New Job opportunities in the form of drivers, assistants, mechanics, trainers.
- Possibilities of setting up new Skill agencies in the Private Sector
- Appropriate linking with MSME will generate new Products / Job Markets

- Buses become mobile ambassadors of the State Government
- Advertisement of schemes of the Government on the buses.

Table I:

Requirement	Nos	Structural Changes required
Road worthy Bus (MSRTC) can lend buses they may not be using	Four buses	Bus to be mounted with Interactive white board behind the driver cabin
	Thane District to be covered	Two rows of seats to be replaced with revolving chairs on a recreated ramp
		Other two rows of seats to be completely removed
		The space created to be replaced with work benches
		The entire Bus to be Wi-Fi enabled
		Bus to be Biometrics enabled
		The Bus to be Air Conditioned
		The Bus to be GPS enabled
		4 networked PC's to be provided on the work benches: PCs installed with AUTOCAD, Solid Works etc.
Case I: CNC Skills		Two Bench Models of CNC Machining Centres mounted on the Workbench:
Case II: Culinary Skills		Work Benches mounted with cooking paraphernalia
Case III: Beauticians Skills		Work Benches Mounted with Beauticians paraphernalia
Case n: Many other Skills		Work benches will be accordingly supported.

Table II

Vocational Education and Training is Sector specific	
IT / ITES	Adventure Sports
Telecommunications	Printing and Publishing
Media and Entertainment	Applied Arts
Hospitality and Tourism	Culture

Construction	Metallurgy / Mining
Banking, Finance, Retail and Insurance	Disaster Management / Fire Safety
Infrastructure	Manufacturing
Automotive	Paramedical
Agriculture	Many others – New and emerging

Table III: Operational Details: Credit Based

NSQF Level	Voc. Skills Hrs (A)	Gen Ed (B)	Gen Ed Hrs	Total Hrs	Who is eligible	Certification	Job Roles (C)
I + II	500	Communication Skills	250	1000	Any	NCVT / SCVT / BTE / NSDC	Level I
		Basic Sciences	250				
III + IV	800	Communication Skills	100	1000	Any	NCVT / SCVT / BTE / NSDC	Level II
		Basic Sciences	100				
V	700	Computing Skills	150	1000	Any	NCVT / SCVT / BTE / NSDC	Level III
		Any native language or foreign language	150				
VI	700	Basic Accounting and Book keeping	150	1000	Any	NCVT / SCVT / BTE / NSDC	Level 1V
		Entrepreneurship Skills	150				
VII	800	Personality grooming Skills	200	1000	Any	NCVT / SCVT / BTE / NSDC	Level V
Total	3500		1500	5000		Award of Community Skill Diploma	

Legend

(A): Vocational Skills are Sector Specific as defined in Table II

(B): General Education is exempted based on the entry level of the student

(C): Job levels are defined in each Sector

General

- Skills at all levels are NSQF Compliant.
- Skills remain same when imparted to "in College students" or any other. However, education component would be different depending on the student's discipline. Education content in Table III is for any student ie, those who may have never gone to School or College.
- Skills are level specific and are Job related at that level
- At higher levels, higher order skills are imparted in the same sector.
- Skills and Education are Credit based and can be accumulated over different levels.
- Credits equivalent to 5000 Hrs earns a Community Skill Diploma (CSD) to be instituted by BTE or any other agency as applicable.
- Recognition of Prior learning

<u>The Proposal</u>

Assumptions

- A pilot program will need Four buses to be operated in Thane District
- Road worthy buses (new buses not needed) taken for this purpose from MSRTC or any other agency
- Anybody from any district is eligible.
- Student aptitude test will be done for suitability to acquire Skills
- Two shifts per Bus of 8 Hrs each
- First Shift from 8 am to 2 pm, Second Shift from 2 pm to 8 pm
- 30 students per batch
- 3.5 Hrs training per day per batch
- 3 Batches per day: (12 Hrs, 2 Shifts)
- 25 days working per Month
- One level of training over 3/6 months

Students trained per 3 months or one level
30 students x 3 batches x 4 buses = 360
Students trained per 3 months = 1440

Infrastructure Costing

	Details	Cost per in laks	No	Indicative Cost in Lakhs
1	Road worthy Bus	10.0	4	40.0
2	Changes to the Bus	10.0	4	40.0
3	Two CNC Bench Models or any other Skill HW requirements	10.0	4	40.0
4	SW requirements	AUTODESK is free SW, other requirements will have to be worked out at case to case basis		
5	Incidentals like Diesel etc at 25 km travel in the district per day	6 litres x Rs 100 Rs / lit x 25 days/month x 3 months (4 Km / Lit / Bus)	4	0.45
6	Maintenance at 8% of 1+2+3 = 120			0.02
	Non-Recurring			120.00
	Recurring			0.47

Contract Staff Costing

Staff	Expenditure incurred in Laks	Nos	Total expenditure in Lakhs (Indicative)
Drivers	25000 per month, per 3 months	5	3.75
Assistant	15000 per month, per 3 months	5	2.25
Mechanic	20000 per month, per 3 months	5	3.00
Trainers	30000 per month, per 3 months	5	4.50
Total indicated cost per Year			13.5

(BB) Student Cost per Year

Scholarship Cost to students: (Takes care of Travel and dinner)
Rs 50 is paid per day to each student for 25 days / month over 3 months / batch

1440 students / 3 months at Rs 50 per student for 25 days in a month for x 3 months =
1440 x 25 x 50 x 3 = 54.0L

Summary of Cost of Skilling 1440 students per 3 months

Head	Total Cost in L
Non recurring	
Bus, Refitting and equipment	120.0
Total	**120.0**
Recurring	
Contract Staff	13.5
Student Scholarship	54.0
Maintenance + Diesel	0.47
Total	**67.97**

Reimbursement to students is under various Government Schemes or any other as may be available.

1440 x 6000 = 86.4 L

Operational Details

- Skills to be imparted in 4 Buses registered with the Skill Mission
- Print Media and Electronic Media to be used for popularising the Scheme
- University to institute Community Skill Diploma (CSD)
- Skill Mela in each District
- MOU with various placement agencies
- Exclusive Interactive Portal
- Mobile Application for all transactions including student registration
- DBT payments for trainers and student scholarships
- Aadhar card linked payments and training
- Biometric attendance for trainers and students
- Online assessment and Hybrid teaching – Learning
- State wide dissemination of details of the Scheme
- Buses Wi-Fi enabled
- Buses GPS enabled: Vehicle tracking System to be implemented.

Setting up Technical Excellence Centers at various places

Setting up of Electric Vehicle (EV) Training Excellence Centre at a Government Autonomous Institute such as the VJTI, for the purpose of imparting training and conducting research into EV technology.

The EV Electric Vehicle (EV) Training Excellence Centre is expected to provide training into various aspects / components of an Electric Vehicle and also allow the equipment to be used to conduct research into electric vehicle technology.

Electric Vehicles (EV)'s, also referred to as battery electric vehicles (BEVs), have an electric motor instead of an internal combustion engine. The vehicle uses a large traction battery pack to power the electric motor and must be plugged in to a wall outlet or charging equipment, also called electric vehicle supply equipment (EVSE). Because it runs on electricity, the vehicle emits no exhaust from a tailpipe.

The Key Components of an All-Electric Car are the
Battery (all-electric auxiliary), to provide electricity to power vehicle accessories.

Charge port: It allows the vehicle to connect to an external power supply in order to charge the traction battery pack.

DC/DC converter: This device converts higher-voltage DC power from the traction battery pack to the lower-voltage DC power needed to run vehicle accessories and recharge the auxiliary battery.

Electric traction motor: Using power from the traction battery pack, this motor drives the vehicle's wheels. Some vehicles use motor generators that perform both the drive and regeneration functions.

Onboard charger: Takes the incoming AC electricity supplied via the charge port and converts it to DC power for charging the traction battery. It also communicates with the charging equipment and monitors battery characteristics such as voltage, current, temperature, and state of charge while charging the pack.

Power electronics controller: This unit manages the flow of electrical energy delivered by the traction battery, controlling the speed of the electric traction motor and the torque it produces.

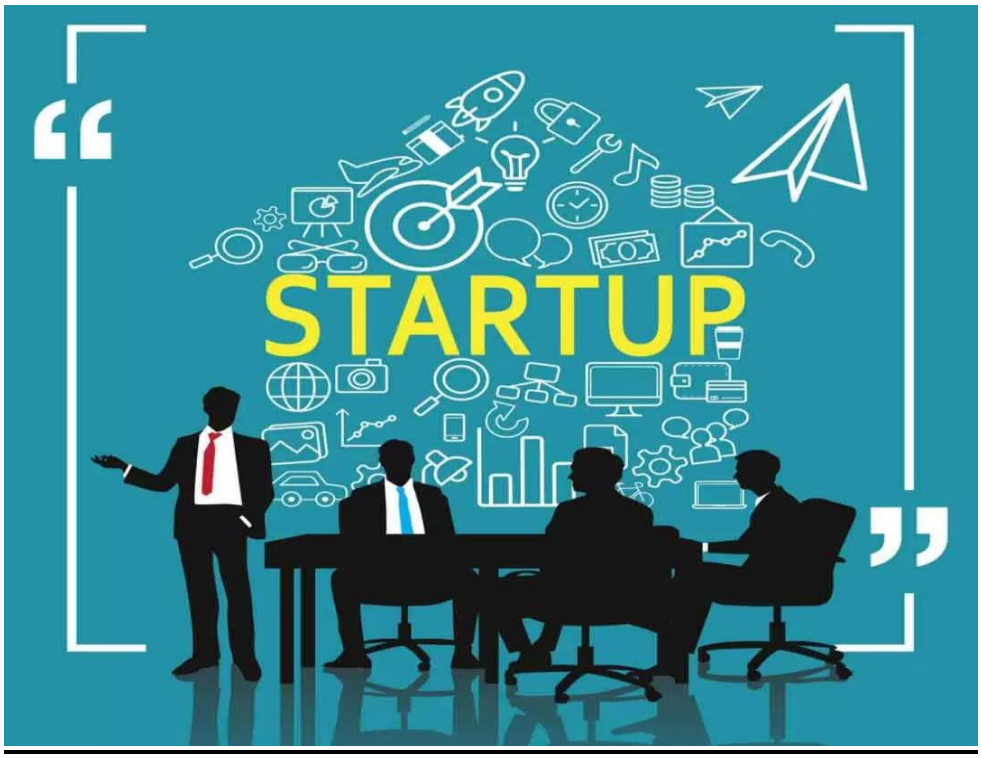
Thermal system (cooling): This system maintains a proper operating temperature range of the engine, electric motor, power electronics, and other components.

Traction battery pack: Stores electricity for use by the electric traction motor.

Transmission (electric): The transmission transfers mechanical power from the electric traction motor to drive the wheels.

The EV Technical Training Excellence Centre is expected to provide hands on training on all the above components/systems.

Help Ideate Start-Ups



MSKC helps individuals to ideate and set-up a new venture.

https://www.inacademy.eu/blog/how-to-create-a-startup/

8 Steps to Create a Startup (General Information)

1. Problem.
2. Ideation and Solution/Validation.
3. Find your Dream Team.
4. Customer Persona & Customer Validation.
5. Prototype & Validation.
6. Marketing Plan & Building a Landing Page.
7. Business and Revenue Model.
8. Funding.

Registration Process for Start-Ups in India
https://www.startupindia.gov.in/content/sih/en/startup-scheme.html

1. Register on the Startup India portal. ...
2. Post registration, apply for DPIIT (Department for Industrial Policy and Promotion) recognition. ...
3. Access the Section 80 IAC exemption application form here.
4. Fill in all details with the below mentioned documents uploaded and submit the application form.

Support R&D Projects

Innovation (R&D): Smart ECU for Electric Vehicle

Current trend driving demand for Electric Vehicles

- The Electric 2-Wheeler and 3-Wheeler market is growing worldwide and in India.
- The Indian electric scooter and motorcycle market size stood at USD 1 Billion in 2022, and it is expected to advance at a compound annual growth rate of 27.30% during 2022–2030, to reach USD 6.1 Billion by 2030.
- The Asia-Pacific electric scooters market is expected to record a CAGR of 28.9% from 2022 - 2029 to reach $625.03 billion by 2029
- In 2022, the Europe electric scooters market size is predicted to be worth US$ 24.53 Billion. In volume terms, sales are estimated to reach 8.73 million units in 2022 and will expand at a volume CAGR of 19.7%.
- Middle East and Africa eBike market was valued at USD 822.22 million in 2021 and is projected to reach US$ 1.7 billion by 2029.

Research & Development:

The research in international market is focussed on developing generic electronic control units for all kinds of e-motors (BLDC, PMSM) with varying power and to match them to different kinds of lead-acid and Li-Ion batteries. The control system design is common on top level technologies involved. The implementation of this technology, the components used, the quality of SW written and the work-split in HW and SW varies. This decides the quality, reliability and robustness of all the electrical components involved in the vehicle including the e-motor, the battery and other accessories.

Setup Digital / Skill University

Concept Paper: Maharashtra Digital University (MDU)

Need for a Digital University

The current education is structured, theoretical and expensive. Hence it does not reach all. Students drop out of conventional programs due to lack of interest in such programs. Further, many students need to support their families and themselves and hence cannot continue studies.

The digital university will enable learning through digital methodologies anywhere, anytime and anyplace and also in hybrid mode where required. It will replace physical classrooms with virtual ones. It will tie up with third party skill centres for imparting competency-based skills. Digital University will provide access to students across the country for world-class quality universal education with a personalised learning experience. A digital university has the capacity to reach masses with quality at a price that is a fraction of the price of such programs in traditional universities. Besides digital technology and digital transformation can make education completely student centric. Personalised education as mentioned in NEP 2020, is another feature that is easily addressed on a digital platform unlike in the traditional universities.

The Digital University will be open to all ages and groups since the delivery platform is digital. Skills and education both will be given equal importance in the digital university. For this purpose, the Digital university shall enter into collaboration with various skill centres both in the state and outside. Similarly, collaborations with universities both traditional and online, both in and outside the country will allow access to contemporary content and employable skills to meet the objectives of the State.

The Digital University will offer its own Certifications, Degrees and Diplomas besides allowing its digital Technology Platform to be used by the traditional and other Universities to port their own courses or even complete programs on it. Since the Digital Platform is hosted on a multi-tenant architecture and on cloud, multiple copies of the same can be created and white labelled to represent any university. What this means is that any traditional university can find its digital avatar on this platform.

Digital Transformation:

A Digital University is about digital transformation and about becoming a digital enterprise. A University that uses technology to continuously evolve all aspects of its delivery models (what it offers, how it interacts with customers and how it operates) Digital transformation besides increasing competitiveness, expands both the student and faculty recruitment pools. It allows growth in enrolment, allows for data-driven evaluation of both students, faculty and the decision making.

As technology evolves, The university would evolve too. It's not about a university choosing to transform; it's more about how to transform in reaching education to all. A Digital University is a continuous adaptation to a constantly changing environment. It means continually seeking out ways to improve the end-user experience. This is done by offering improved on-demand training, personalised learning, migrating data to cloud services, leveraging artificial intelligence, and more.

Open and Distance Learning (ODL) Vs Digital University

ODL allows registration of students, selection of courses and programs online. Besides, some pdf content of learning material is given online. A few lectures in a few chosen courses is conducted in synchronous mode. Every other activity of university administration and academics is offline.

A Digital University is a comprehensive Digital platform hosted on the cloud, where all activities of university administration and academics are conducted online. (Read Details of the Digital Technology Platform*) indicated below.

The Value Proposition

- An opportunity for millions (Certifications / Diplomas / Degrees)
- An opportunity for Working Professionals to skill, reskill and upskill
- A Digital University by virtue of being a university can award its own Certifications / Diplomas / Degrees on the Digital Technology Platform with its own curated content or by using third party content
- Multiple Instances of the Digital Technology Platform can be white labelled to resemble other Institutions / Universities hosting their own content

- The Digital Technology Platform can host third Party content eg, Content of other Universities as well
- The Digital Technology Platform is independent of National boundaries and hence can enrol students from across the country and the world
- Massive Collaboration between Institutions and Universities
- Promotes Personalised Learning, Accumulation of Credits and multi point entry and exit.
- Aggregates research with an AI engine
- Promotes Blended / Hybrid Learning with competency-based Skills (CBS)

Benefits of Digital Transformation

For students, digital transformation:

1. Enhances the learning experience
2. Supports key skills in notetaking, subject review, and collaboration
3. Improves educational outcomes
4. Helps navigate school/life balance
5. Increases accessibility

For instructors, digital transformation:

1. Leads to more collaborative classroom experiences
2. Improves work/life balance
3. Allows increased focus on student needs
4. Helps address different student learning styles

For universities and colleges, digital transformation:

1. Increases competitiveness
2. Expands both the student and faculty recruitment pools
3. Grows enrolment
4. Allows for data-driven evaluation and decision making
5. Improves Regulatory compliance

Objectives of Digital University

1. Provide complete Student Centric learning
2. Raise GER from the current GER of 27.1 to 50 in the next 5/10 years.
3. Allow complete multipoint entry/exit within all courses and programs
4. Allow complete Flexible Learning
5. Establish an Academic Credit Bank.
6. Provide Complete Choice based Credit System (CBCS)
7. Facilitate personalised learning.
8. All Courses made NSQF Compliant for employability
9. Provide a collaborating digital platform so traditional universities can also port their courses and programs on it.
10. Allow Industry collaborated Degrees, Diplomas and Certifications
11. Allow Blended (Fixed ratio of face to face and Online) Learning
12. Allow Hybrid (variable ratio of face to face and Online) Learning

13. Collaborate with Skill centres in different sectors for providing competency-based skills (CBS)
14. Promote Experiential Learning
15. Allow Skilling, Upskilling and Reskilling for Working Professionals.
16. Promote complete Online Assessments (Proctored and Otherwise)
17. Collaborate with Universities out side India to port their online content
18. Integrate AR/VR Devices and manage 5G services
19. Integrate Metaverse for immersive learning experience
20. Provide support for webinars, virtual meetings, and townhalls – from small groups to as big as one needs.
21. Create innovative Online Content by using Gaming technics.
22. Use MOOCS as aggregator
23. Provide Virtualisation Services
24. Establish AI driven Research Centre to promote Digital Transformation
25. Optimise Research by eliminating duplications
26. Optimise Research Funding
27. Any other that is needed for meeting the objectives of Digital Transformation and Digital University.

Benefits to the State of Maharashtra

1. All services needed by an Institution/University on one integrated platform.
2. Student Subscription based
3. Reaching the Unreached
4. Best Content from across the World
5. Student life cycle analysis / Faculty effectiveness analysis
6. Dashboard enabled MIS / AI based DSS
7. Modular in approach. New Applications can be plugged in
8. Mobile enabled, 5G Enabled, AR/VR Devices Enabled
9. Value addition to currently enrolled students in Colleges/Universities
10. Complete graduate study enablers students to be registered in Online mode
11. Registration of Foreign students / Collaboration with universities across the world
12. Corporate Training / Workplace Learning
13. Integration with Virtual Laboratories
14. Online Examination Platform
15. Reduced cost to Student (@Rs 10,000 or less / Student / annum) Graduation 3 years @ Rs 30,000 or less)
16. Completely free education to SC / ST Students if Government adopts the platform
17. Population is 12.6 Cr, Population in the age group of 18-23 = 2.0 Cr, GER = 33.0
18. SC (11.8%), and ST (9.4%) SC = 1.48 Cr, ST = 1.18 Cr
19. SC in age group of 18-23 = 24 L, ST in the age group of 18-23 = 19L
20. Eligible students in SC who can register on the digital platform = 16 L

21. Eligible students in ST who can register on the digital platform = 13 L
22. Government will be free of Fee Reimbursement to SC / ST Students registered on the platform