DEPARTMENT OF MECHANICAL ENGINEERING

APPLIED ROBOT CONTROL (ARC)LAB

APSSDC- ECM - Convergence training Center

APSSDC along with European Center for Mechatronics (ECM) has taken initiative to develop the mechatronics eco system in India which will support the industrial requirements from academic level. Indo Euro synchronization team along with APS, GmbH, ITA, RWTH Aachen University and German Center for Advanced Engineering Studies are also supporting the program. In this context, one of its kind initiative of Government of Andhra Pradesh through APSSDC in collaboration with ECM Germany has established Applied Robot control (ARC) labs across the engineering colleges in Andhra Pradesh. Sree Vidyanikethan has also become a part of this program and established ARC lab in the department of Mechanical Engineering under the guidance of Dr. K. C. Varaprasad, Professor and Head, Department of Mechanical Engineering.

APSSDC-ECM-Convergence Training Centers

A one of its kind initiative of Government of Andhra Pradesh through APSSDC in collaboration with ECM Germany to creating a world class ecosystem in the fields of industrial manufacturing and robotics, collaborating with German partner APS European center for Mechatronics and Engineering colleges across the state in training students at bachelors engineering level, preparing them to be industry ready by the time of graduation.
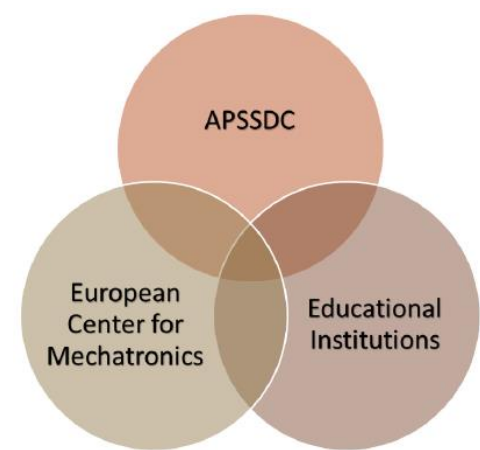
Objectives:

- This is a first kind of MoU in with State of Andhra Pradesh to develop the skill of the students in the area of Automation and Industrial Robotics.

- 40 Engineering colleges across AP will be selected as "Indo-European Skilling Centers for Mechatronics and Industrial Robotics" and "Applied Robot Control (ARC) Labs" will be set up in partnership between ECM and respective colleges.

- Faculty members from the colleges who will be delivering this program to the students, will be given intensive training in Germany and through online workshops by experts from ECM and its partners.

- Students will be trained to the highest global standards in the fields of industrial robotics and manufacturing automation with hands-on experience at industrial production sites.

- Improve the students' skill in the field of automaton and increase their employability.

Fig.1 ARC offline training

Training to students:

Students from IV B.Tech ECE, EEE, Mechanical and EIE Engineering departments in the college will be trained on ARC 1.0, ARC 2.0 and ARC

3.0 courses for 3 months training for each of the course. APSSDC and ECM are jointly sponsoring 90% of the course fee, offering a one of its kind high end robotics skills courses to the students at a very marginal cost.

Figure 2. Students participating in ARC1.0 Online sessions

Online sessions will be offered by German faculty, where as offline sessions and hands on training on Robots will be given by the college faculty who were already trained earlier by APSSDC.
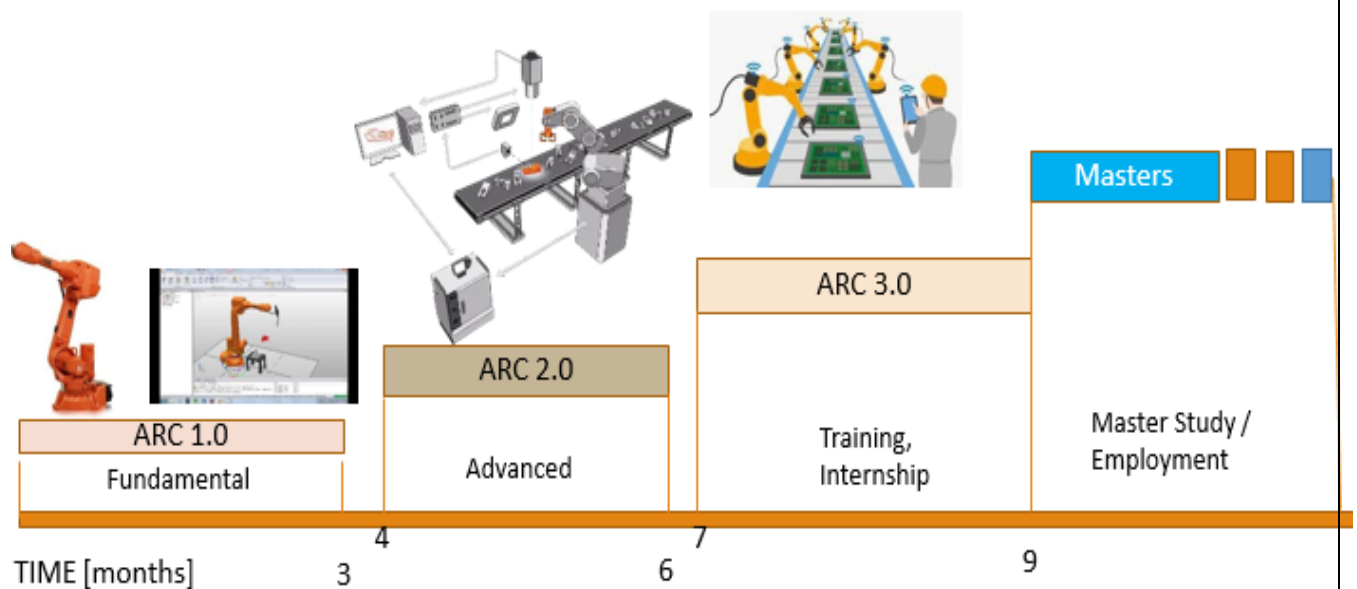
Training Methodology:

ARC training will be carried out in 3 phases as mentioned below. Starting from basics in phase 1, the training progresses giving the advanced and hands on practice in the later phases. After successful completion of ARC 3.0, students are offered with internships in industries.

▪Students for the program shall be selected based on their academic record and performance in the ARC eligibility test.

▪Selected students will be provided with the materials to get well versed with the prerequisites like C language programming.

▪Apart from theoretical classes, emphasis will be on assignments involving designing tasks/jobs for the robots stationed in ARC Labs of their colleges and also at APS ECM.

▪Under experts supervision, students will be able to remotely access and work on the industrial scale robots at the labs of APS ECM, Germany during ARC 2.0.

▪The aim is to replicate environment of an industry using advanced robotics, for the students to work on. Helping them evolve from having theoretical knowledge towards practical approach to a problem.

Course Details:

	ARC 1.0	ARC 2.0	ARC 3.0
Eligibility	6th Semester	7th Semester	8th Semester
	Mechanical/ECE/EEE/Automobile/Instrumentation Engineering		
Activity	12 weeks course/ crash course	12 weeks Training + Bachelor project	6 weeks course with job assistance
Course contents	Topics of Mechatronics, Manufacturing, Industrial Automation and Robotics	VR in Automation and Robotics. Bachelor project on Industry scale application	Hands on experience on Industry scale robots in an industrial setup
Location	ARC Labs	ARC labs	ECMM, India/Germany
Hours	120	120	6 weeks
	(50% - Teaching/Labs 50% Self learning and Implementation work)		

Benefits to students:

- Exposure to high end technologies, international collaborations and innovations at bachelor's degree level, making them stand out from their peers.

- Training from highly qualified and experienced faculty from network colleges and research institutions in Germany.

- Certification from reputed German Universities, on Successful completion of the courses.

- Best performing students will be invited to join international exchange programs to Europe, workshops and factory visits to reputed manufacturing and robotics factories.

- Opportunity to join masters programs in reputed universities in Europe with possible scholarships. Participate in JobMelas organized by European Center for Mechatronics and APSSDC.

Facilities in ARC lab:

1. IGUS Robots – 5 axis – 2 Nos
2. CPRog software
3. Robot Studio simulation software

Model	:	ROBO robolink® RL-DCi
Axes	:	5
Reach	:	680 mm
Payload	:	500 g
I/O modules	:	1 digital input/output module with 4 inputs, 4 outputs on 24 V level, can be increased to 3 modules

For more details contact:

Dr. Deepak Kumar Naik
Asst. Professor(SL),
Dept of Mechanical Engineering,
Sree Vidyanikethan Engineering College,
Mobile: 9776964252
Email: deepakkumar@vidyanikethan.edu

STUDENT REGISTRATION FORM

Affix recent
passport size
photo here

Name of the student   :

Roll Number   :

Branch   :

Aadhar Number   :

Email ID   :

Contact Number   :

Academic CGPA   :

Name of Father/Mother   :

Parent's contact number   :

Address   :

Office Use

Admission No.   :   _____

Batch No   :   _____

Course Joining Date   :   _____

ARC   :   **1.0/2.2/3.0**

Signature of the Student