

Supporting Document – NAAC 3.2.1

The Institute has taken many steps in recent times to improve Innovation and research at its campus.

Centres of Excellence

The college has the distinction of being the only Engineering College in the State of U.P. to have received approval from Department of Science and Technology (DST), Government of India, for establishment of Centre of Relevance and Excellence (CORE) in the field of Automation & Robotics. The program envisages a unique partnership between AKGEC and nine international industries to promote research, consultancy, project development and training in the emerging technological. Different CoE's of AKGEC are listed below:

KUKA Robotics, AKGEC	KUKA is Chinese owned German manufacturer of industrial robots and solutions for factory automation. The KUKA Robotics Corporation has 25 subsidiaries worldwide, mostly sales and service subsidiaries, including in the Stratasys United States, Australia, CanadaMexicoBrazil, China, Japan, South Korea, Taiwan, India, Russia and most European countries.
Bosch Rexroth, AKGEC	Bosch Rexroth AG is an engineering firm based in Lohr am Main in Germany. Bosch Rexroth employs over 31,000 people worldwide, and achieved total revenue of 5.4 Billion Euro in 2015.
Siemens, AKGEC	Siemens AG is a German conglomerate company headquartered in Berlin and Munich and the largest industrial manufacturing company in Europe. The principal divisions of the company are Industry, Energy, Healthcare (Siemens Healthineers), and Infrastructure & Cities, which represent the main activities of the company.
Advanced Welding Technology and Research centre (AWTRC)	Ajay Kumar Garg Engineering College, jointly with Fronius International GmbH has set up India's first "Advanced Welding Technology and Research centre (AWTRC)" in the state of Uttar Pradesh. AWTRC has been established with an aim of developing state of art infrastructure for becoming a globally recognized source of a competitive workforce and cost-effective, superior-

	performing welding technologies by conducting training, research and development in the field of welding science, engineering and automation technology.
National Instruments, AKGEC	National Instruments Corporation, or NI, is an American multinational company with international operation. Headquartered in Austin, Texas, it is a producer of automated test equipment and virtual instrumentation software. Common applications include data acquisition, instrument control and machine vision. In 2016, the company sold products to more than 35,000 companies with revenues of \$1.23 billion USD
AKGEC-SIEMENS ADVANCE MANUFACTURING CENTRE	AKGEC, jointly with industry partners, has set up Advance Manufacturing Centre for SMEs and Educational Institutions at Ghaziabad. The AKGEC- Siemens Training Centre is setup to produce highly skilled technical manpower in the field of Advance Manufacturing. The trained manpower will help Indian Manufacturing Industry to adopt latest technologies to improve quality. This collaborative effort of AKGEC and industry partners has the main objective to encourage young professionals to take up this cross disciplinary field as a career of their choice and acquaint them in the field of manufacturing and Reverse Engineering.
AKGEC-FABLAB	A fab lab is an initiative of Prof. Neil Gershenfeld from MIT, USA which is typically equipped with an array of flexible computer-controlled tools that cover several different length scales and various materials, with the aim to make "almost anything". AKGEC has established Fab Lab in response to the need arising from students requiring a dedicated space and appropriate equipment to develop their projects. Since then it evolved from being just a product development center to a facility focussed on promoting innovation, imparting much-needed skills for innovators and help developing competency across different disciplines including mechanical, electronics and embedded development areas. This is done through providing access to tool, capabilities and knowledgeable trainers and gurus who can help anyone bring their ideas to

	<p>reality. The center hosts rapid prototyping tools, training kits hardware and software which can be used to train on and fabricate using digital fabrication techniques. It aims to provide training to undergraduates, postgraduates, young kids and to engage with the local community of makers and innovators. These training and experience in digital fabrication techniques not only allows students to apply their theory in practice enhancing their learning of fundamental engineering but is also meant to cater to the need of the hour that is achieving self-sustainability through innovation and entrepreneurship.</p>
<p>AKGEC-AIA CENTER FOR INTEGRATED AUTOMATION</p>	<p>AKGEC, to promote Industry oriented teaching learning, has setup Center for Integrated Automation in association with Automation Industry Association. This initiative of AIA is intended to share global quality learning processes from its vast pool of member companies with chosen Engineering Colleges of our country. Industry Partners namely Siemens, Pepperel + Fuchs, Festo and B&R, have taken the lead among all industry members of AIA to support the initiative. Main objective of this Centre is to encourage engineering students to take up this multidisciplinary field as a choice of their career and have hands-on experience with latest state or art integrated automation technologies as per industry expectation.</p>
<p>AKGEC-JANATICS INDUSTRIAL PNEUMATICS</p>	<p>Industrial Pneumatic Knowledge Centre aims to be a world class Pneumatic Knowledge centre in India. This initiative of Janatics' contribute towards producing skilled workforce in the field of Industrial Pneumatics which will help manufacturing sector to adopt to changes related to automation in substantive way. This is the first Centre in India exclusively focused on Industrial Pneumatics field to teach and train young engineering graduates to meet industry expectations. The centre has developed various low cost automation solutions for SMEs. The IPKC also functions as National Small Industries Corporation (NSIC) Training-cum-Incubation Centre (TIC). The primary objective of TIC is to provide an opportunity to first generation entrepreneurs to acquire necessary skills for enterprise building and also incubate them to become</p>

	successful small business owners. This is the first TIC in the state of Uttar Pradesh at AKGEC.
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IDEA LAB (Centre for Innovation, Development of Entrepreneurship and Application)

The Institute has a Pre-incubation Unit and Incubation Unit called IDEA lab to spread awareness innovation and entrepreneurship among the students. This initiative also provides a platform for students to actively interact with and take guidance from renowned entrepreneurs, industrialists, and academicians. Innovative ideas and confidence of students are nurtured through experimentation with the latest technologies where students get chance to build prototype of the final product. Overall, the college provides students an extremely healthy environment right from ideation to start-ups. The college has a well-defined policy for promoting research through incentives for publication and supports participation in reputed conferences.

Institution's Innovation Council (IIC)

The institute has established the Institution's Innovation Council (IIC) in the year 2018 for promoting different activities related to Innovation, IPR and entrepreneurship. Faculties and students are active members of IIC, which is supported by 26 IIC student members, nine innovation ambassadors, and five faculty mentors. The IIC cell conducts quarterly meetings to plan and review its activities. Due to these activities, students get chance to participate in various Innovation related initiatives and competitions organized by MOE Innovation Cell and the college.

SOFTWARE INCUBATOR - SDC

SOFTWARE INCUBATOR is the research and development centre established within the portal of Ajay Kumar Garg Engineering College. We have set a foothold in the areas of software development, web-based enterprise solutions, mobile development, web application and website development. We focus on high integrity and commitment, quality and rigor at every stage of work, passion for excellence and focus on customer satisfaction. We are an equal opportunity organization that motivates every member to work with passion and commitment.

Big Data Centre of Excellence

"Big Data Centre of Excellence" is the Research and Development centre of AKGEC. It is the first "Centre of Excellence" in AKTU, working in the field of BigData. It was established in 2013 and since 4 years it has been motivating and guiding the students into the world of Big Data. Big Data is the most trending technology of 21st century. It is the hottest market currently. Companies require Big Data Analysts to analyze the large amount of data being generated and gain insights from the data. Businesses are focusing more on agility and innovation, adopting BigData technologies help the companies achieve that in no time. The

team aspires to develop skills in Big Data and gradually move from Machine Learning to Deep Learning and finally Artificial Intelligence.

Open Source Software R&D Center

The establishment of this research and development centre is expected to create a unique opportunity to all stake holders of the institute. The facility so created shall be useful to carry out research/development/training/consultancy related to open source software. The centre will customize the open source software according to the requirements. It will also train the students and faculties of our institute and will involve them in the development and customisation of recent open source software.

Cloud Computing Cell

Cloud Computing Cell has been a part of Ajay Kumar Garg Engineering College since February 2016. The members are exposed to the latest Cloud Technologies that enable them to be market ready thereby increasing their opportunities in placements and research. It provides a platform to the students to compute, manage and deploy the cloud. The Cell is coordinated by Dr. Anupama Sharma and Dr. Parneet Kaur, faculty members, IT department.

Research and Industrial Consultancy Centre (RICC)

Research and Industrial Consultancy Centre (RICC) has been established in the college to promote industrial consultation and extend consultancy and Research as per industry needs. The composition of the RICC, its objective are as follows –

- To create a collaborative environment between industry and academia through joint projects and consulting assignments.
- To develop a self-sustaining and technologically fertile environment.
- To encourage and enable the alignment of R&D activities to potential needs of industry.
- To provide world class infrastructure at AKGEC for R&D activities.

IPR Cell

AKGEC has established an Intellectual Property Rights cell (IPR Cell) under the leadership of Mr. Rahul Sharma, Head of Innovation and Entrepreneurship. AKGEC has it's own IPR policy and has MOUs with two external agencies- Ennoble IP and IP Neeti.

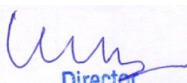
ENNOBLE IP is a market based intellectual property consulting firm which has built up a major client base among Startups, SMEs & Universities. Their workforce possess an invaluable, cumulative experience of over 100+ years which helps us in guiding our clients as to how to handle their intangible assets. The core areas of expertise lie within Patent, Trademark, Design, Copyright, Commercialization, Training.

At IPNeeti, commitment and quality work form the crux of our endeavor to assist you in making your IP- a catalyst for your business growth. Their dedicated team of engineers, patent agents, and lawyers, skilled in varied technology domains such as electronics, mechanical,

software, biotechnology, pharmaceutical, and chemical sciences, promise to deliver the highest quality of work in all types of IPR such as Patents, Trademarks, Copyright, and Design.

The college has organized my activities in this direction. A glimpse of such actives can be seen on the following link.

https://drive.google.com/file/d/1OfcLH4iYLd9oAMIPVRG_yzoDOuwkH2dN/view?usp=sharing


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