RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY,(RKGIT)

GHAZIABAD,UTTAR PRADESH

Institution Innovation Council (IIC 3.0) IC201810409

QUARTER II(Self Activity)

Online Guest Lecture On COBOTICS 22nd December 2020

Report on Online Guest Lecture On COBOTICS 22nd December 2020

Department of ECE with Institution Innovation Council of Raj Kumar Goel Institute of Technology, Ghaziabad under Entrepreneurship, Innovation and Incubation Department at Raj Kumar Goel Institute of Technology, Ghaziabad organized an Online Guest Lecture On COBOTICS on December **22nd , 2020**, from 10.00am onward titled It was well-received by 129 participants from college. Prof. Puneet Chandra Srivastava,(Dean EII-RKGIT) started the session with a warm welcome to all the attendees, introduced the mission and vision of EII Department established at RKGIT campus, and gave an overview of its' function & activities. He then introduced the guest speaker. The details are-

EVENT DETAILS:-

KEYNOTE SPEAKER
Dr.Anand Nayyar
(Professor, Duy Tan University, Vietnam).

Guest Lecture Information
Date: - 22/12/2020
Timing:-10:00 AM onwards

Youtube Link : https://youtu.be/H30EwcYwDv8?t=19

Number of Participants : Around 250

Event Coordinator
Dr.R.K.Yadav
Professor (ECE Department)
9810319261

Brief details of the event highlights: Many such online lectures have been conducted at RKGIT to inform our students about the latest technology. In this episode, this online guest lecture was organized for students on the subject of Cobotics. The keynote speaker of this lecture, held on 22 December 2020, was Dr. Anand Nayyar (Professor, Duy Tan University, Vietnam). While addressing the students on this topic, Dr. Nayyar inspired the students to think out of box and try something new. Giving the mantra of success, he said that it is possible to achieve anything with determination and passion. While answering the questions

of the students, Dr. Nayyar offered to support them in their masters program. About 250 students participated in this program. Director of the institute Dr DR Somashekar thanked Anand Nayyar. Coordinators of the program were Kunal Lala and Charu Tyagi. Everyone congratulated Dr. RK Yadav, divisional head of the Department of Electronics and Communication, for the success of the program. Dr. Pawan Kumar Shukla and Dr. Puneet Chandra Srivastava etc. were present in the program.

The session ended with a Q&A session, giving the participants opportunity to clarify their doubts about entrepreneurship. The session was concluded with vote of thanks by Dr Puneet Chandra Srivastava, Dean, EII-RKGIT, and Ghaziabad.

✓ **SOME PICS OF THE EVENTS-**

Definition

Robotics is the branch of engineering responsible for the inventing, design, manufacturing and operatin robots, where a ***robot*** is the name given to any articulated device or mechanism that develops moveme or automatic functions in line with external instructions or with rules that have been incorporated into it. Robots is a multidisciplinary field that overlaps with electronics, computer science, artificial intelliger mechatronics, Internet of Things, 5G, nanotechnology and bioengineering.

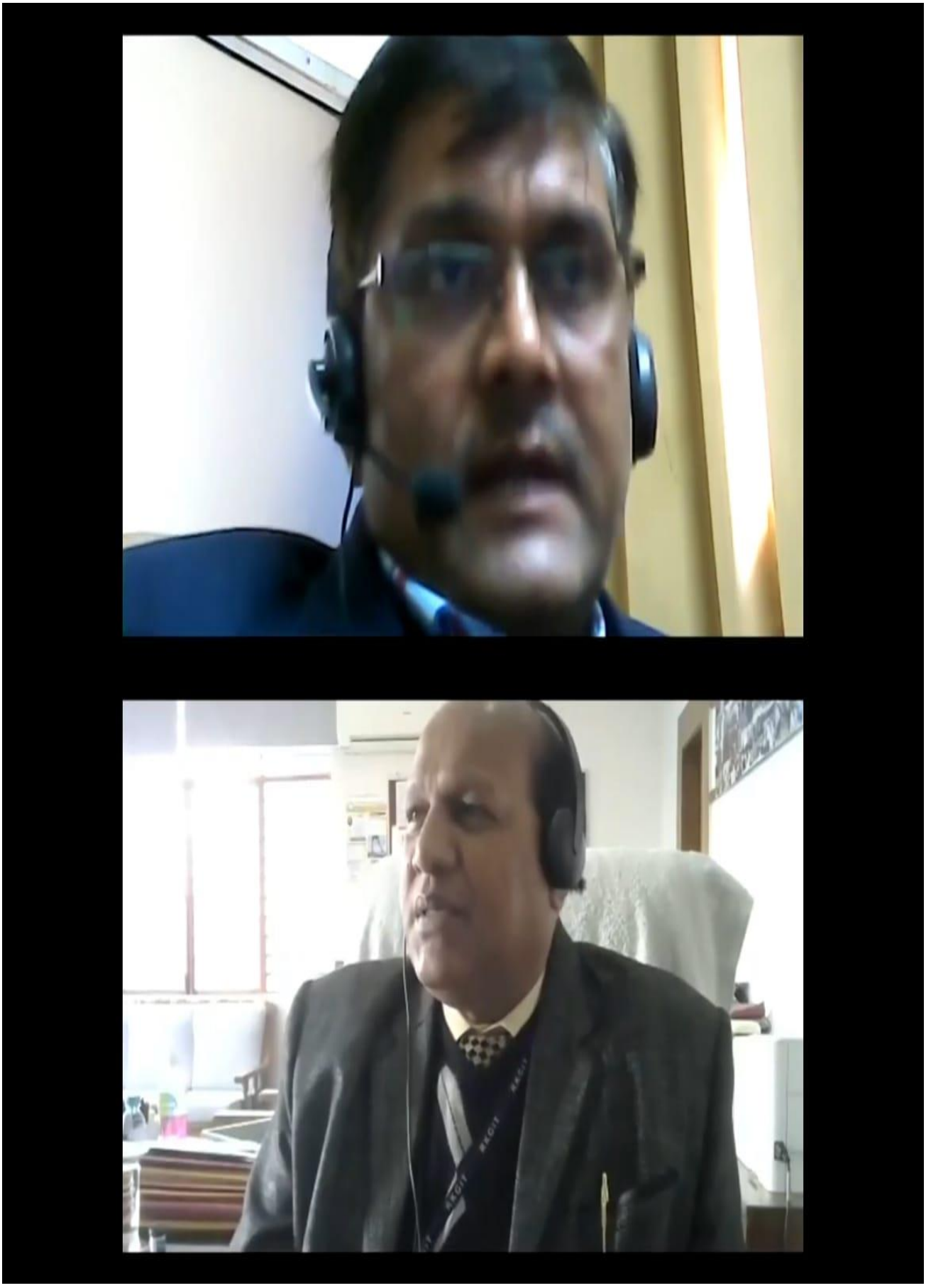
Although the idea of creating machines that operate automatically dates back to Classical antiquity, this field was not substantially developed until the late 20th century.

Nowadays, robotics is a discipline that is growing significantly, given its implantation in many different industries. Furthermore, it is expected to continue progressing, as it is thought to be a key component in the transition to Industry 4.0.

Benefits of HRC

- Robots excel at simple, repetitive handling tasks.
- Humans, on the other hand, have unique cognitive skills for understanding and adapting to any changes in the task.
- The combination of humans and robots can greatly improve performance, long as the work is optimally shared.
- Human-robot collaboration allows for various levels of automation and human intervention. Tasks can be partially automated if a fully automated solution is not economical or too complex.
- Non-ergonomic workstations can be greatly improved with the help of robots.

Safety of the human is an absolute prerequisite



Biological Cybernetic Research

Source: Max Planck University for
Biological Cybernetics - Tübingen, Germany

Others applications of robotics

Education. Educational robotics is an interdisciplinary learning system that uses robots as encouragement among younger children.

Health and medicine. Surgical and surgical assistance robots allow for highly complex surgical procedures to be carried out.

Exoskeletons can help people with mobility difficulties.

Domestic. The continuous advances in robotics and home automation have led to the appearance of a wide variety of domestic robots such as cleaning robots.

Security and military. Autonomous or remote control robots such as drones particularly stand out in this field. The number of military drones is soon expected to triple.

Healthcare services. Healthcare robotics includes robots designed to help the elderly or people with some kind of physical disability in their everyday activities.

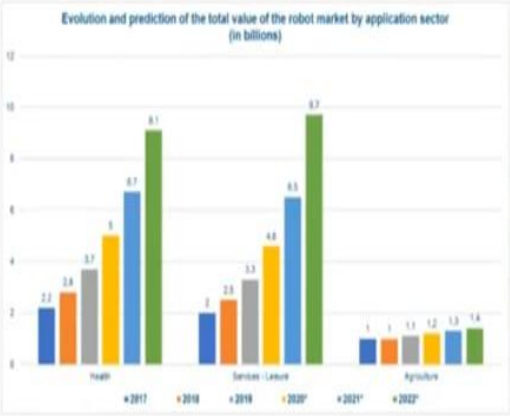
Finances. In 2020, robots are expected to make investments amounting to $2.2 trillion worldwide.

Agriculture. The introduction of robotics into this field is expected to be in the form of autonomous tractors, drones, and milking robots.

Source: SmartCatalonia

Global market: current and future data(III)

Within non-industrial applications, health and agriculture show noteworthy growth forecasts in the adoption of robotics ove coming years.



At present, the sector with the highest turno that of **health**, at $2.8 billion. Despite this forecasts indicate that ***domestic robots*** exceed them.

On one hand, it is estimated that ***agricu robots*** might witness even higher growth, annual growth rate of 50% until 2022. **specific needs** in agriculture due to **environmental challenges** must be v positively.

On the other, in the field of **medicine *medical service robots*** accounted for a turnover of 2.8 billion US dollars in 2018, and the number of units deployed is expected to grow at an annual growth rate of 40% until 2022.

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Working as Professor, Researcher and Scientist-Graduate School, Duy Tan Uni Nang, Vietnam

Ph.D Computer Science in area of Sensor Communications, Swarm Intelligence Simulation

16+ Years Teaching and Research Experience including Consultant in various Re Projects

SPECIALIZED IN: WSN, MANETS, Swarm Intelligence, Machine Learning, Dee Cloud Computing, Big Data, IoT, Cyber Security, Intelligent Computing, Brain Co Network Simulation, Artificial Intelligence, Smart Cities

Published 425 Papers, 50+ Articles (Open Source), 25 Books 75+ Certifications from IT Organizations. 2200+ Citations in Google Scholar, H-Index: 25, I-Index: 67

Member of 90+ Research Organizations as Senior/Associate and Life Member

Senior Member: IEEE and ACM, ACM DISTINGUISHED SPEAKER (1st In Vietnam)

Associate Editor of IJISP, IJDST (IGI-Global)- SCOPUS Indexed; Editor in Chief- IGI-Global-International Journal of Smart Vehicles and Smart Transportation

Associated with more than 500 Conferences- National and International as Reviewer, Technical Advisory, Programme Committee and Many more.

INTRODUCTION & AGENDA