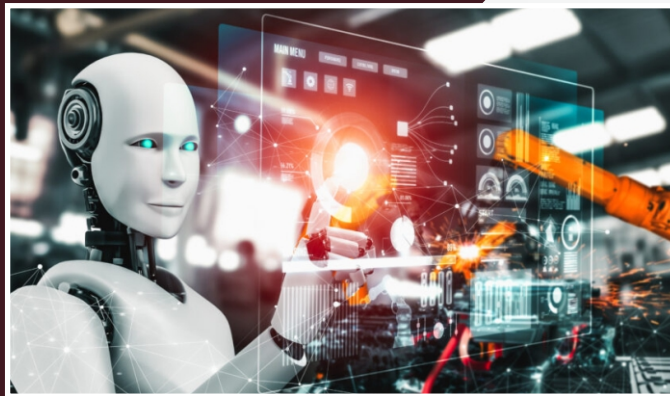




# Shri Wardhaman Academy for Technical Education's Gyan Ganga Institute of Technology & Sciences

Near Bargi Hills, Tiwara Ghat Road, Jabalpur (M.P., India)

## Artificial Intelligence and Robotics



Admission  
2023-24

### About Us

ARTIFICIAL INTELLIGENCE AND ROBOTICS is an allied branch of Computer Science and Engineering which amalgamates many fields of engineering including Computer Science, Artificial Intelligence, Mechatronics, Nanotechnology, electronics and Bio-Engineering. Robotics Engineering focuses on the creation, design, production, and use of robots as well as their manipulation and processing. The work that these engineers produce demonstrates their understanding of how to apply AI technology and processes to create robots that can adapt to difficult circumstances. In the modern world, it is one of the most promising and gratifying engineering fields. Most modern industries depend heavily on robotics. It is extensively employed in the fields of industrial, aerospace, defence, and medical research. The department has various cutting-edge labs that work to foster a desire for investigation and invention. Gyan Ganga Institute of Technology and Science 's curriculum is carefully chosen to put students on level with industry norms and to encourage an inventive mindset. The Gyan Ganga has solid relationships with many of the industry's main players and is now working with other businesses to expand its industrial exposure and provide undergraduate students with relevant hands-on experience.

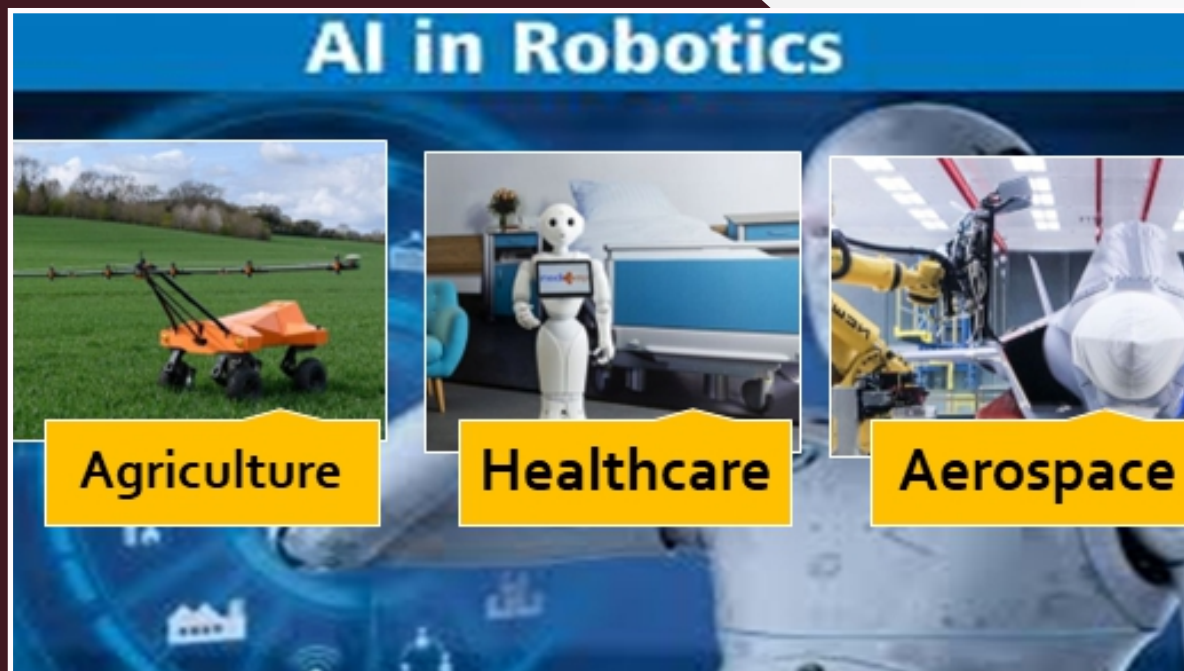
**“Artificial intelligence is growing up fast, as are robots whose facial expressions can elicit empathy and make your mirror neurons quiver.”**



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### PROGRAMME SPECIFIC OUTCOMES (PSOs)

**PSO1:** Understand, synthesize, model and examine mathematical fundamentals in the development of computational solutions of both computer software and hardware.

**PSO2:** Apply the engineering skill for the utilization of Artificial Intelligence technologies for robots to adapt to challenging environments.

**PSO3:** Develop the ability to address and resolve societal issue with artificial intelligence enabled robots.

### PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

1. Graduates will be engineering executives and professionals who could assist in resolving the technology issues facing industry through AI techniques.
2. Graduates will be able to apply modern technologies in order to promote creativity, invention and entrepreneurship for social requirements.
3. The graduates will receive multidisciplinary technology training to exhibit the learning abilities required for a prosperous professional career.
4. Graduates will be successful in pursuing higher studies in the field of Artificial Intelligence and Robotics.



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<u>RESEARCH AREAS</u>	<u>ADD ON COURSES OFFERED</u>
<ul style="list-style-type: none"><li>• Intelligent Automation</li><li>• Internet Of Things</li><li>• Artificial Intelligence</li><li>• Rehabilitation Robotics</li><li>• Teleoperated Robot</li><li>• Collaborative Robot</li><li>• Assistive Device</li><li>• Machine Learning</li><li>• Deep Learning</li><li>• Smart System</li><li>• Mobile Robot</li></ul>	<ul style="list-style-type: none"><li>• C, C++, embedded C</li><li>• Python Programming</li><li>• RPA Developer training</li><li>• PLC and DCS training</li><li>• MATLAB and LabVIEW</li><li>• Arduino, Raspberry Pi training</li><li>• Automation Workshop</li></ul>

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### Role of Artificial Intelligence and Robotics in Industry 4.0

Robotics and artificial intelligence are two potent technologies that, when coupled, become even more potent. Robotics and artificial intelligence can be utilised to efficiently complete a range of jobs, often eliminating the need for human labour.

Digital manufacturing plays a vital role in the Fourth Industrial Revolution, under which physical equipment, data, and people must efficiently collaborate to transform the manufacturing process. While large-scale production and standardization were essential in traditional manufacturing, Digital Manufacturing (DM) places emphasis on mass customization and cooperation. Through the use of digital technology, businesses can improve all aspects of their operations, including faster production and the provision of data intelligence to adapt different capabilities and outputs.

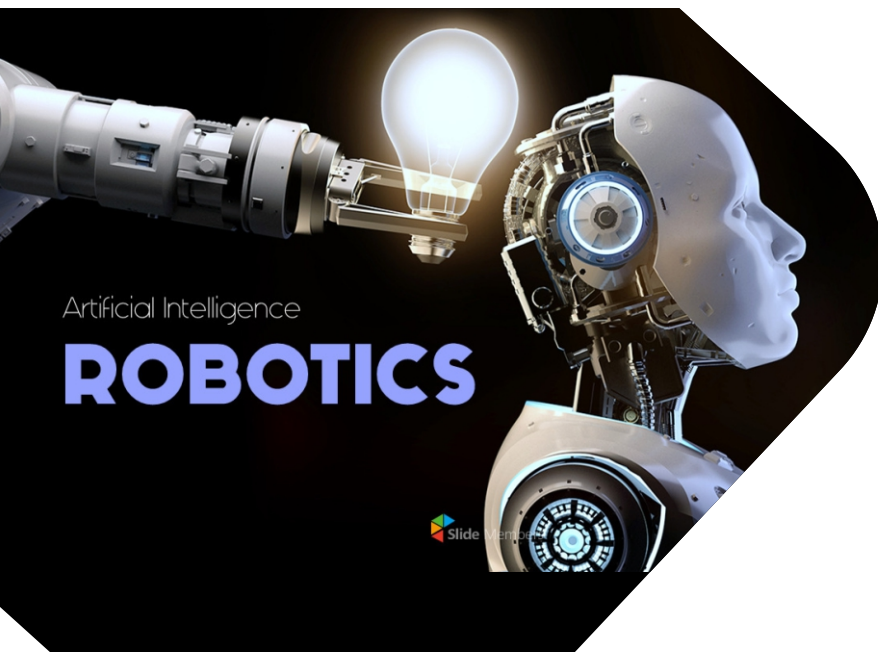
Today, the Internet of Things (IoT) is being used in nearly every industry to connect systems and share data. This provides companies with access to valuable big data insights that can be utilized through artificial intelligence and machine learning (AI/ML) capabilities to transform their pricing, efficiency, product, and service quality. The significance of this technology lies in its ability to increase the overall effectiveness of a manufacturing operation, from predicting maintenance to automating various processes. Businesses that adopt digital manufacturing are becoming more competitive and agile than those that rely heavily on traditional manufacturing, with quicker production, reduced costs, real-time inventory monitoring, and the ability to foresee market trends and potential success.



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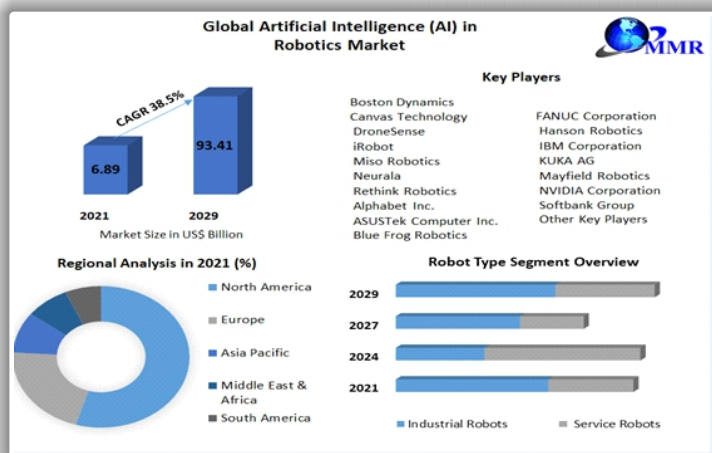
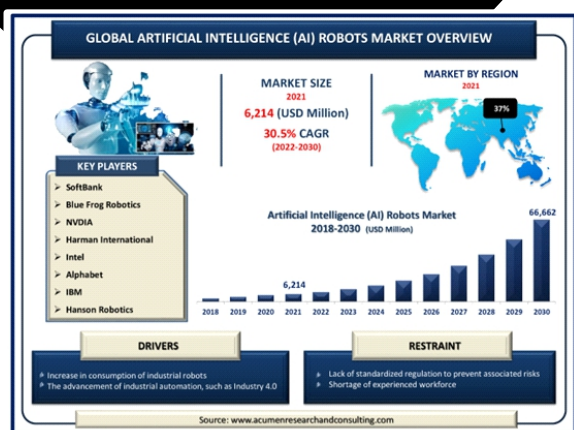
## Artificial Intelligence and Robotics



### Growth of AI and Robotics in global market

The market for artificial intelligence (AI) in robotics is predicted to develop at a 38.5% CAGR from 2017 to 2029, reaching over US\$ 93.41 Billion.

The market study on Artificial Intelligence (AI) in Robotics provides a detailed examination of the sector, the market, and the major players. Both the supply-side and demand-side of the market have been examined in the research. In addition to trends by market segmentation, technology, and investment, the global Artificial Intelligence (AI) in Robotics research also offers a competitive landscape.



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