

IIT Bhubaneswar

# Smart Network, Smarter Campus

Signals of Change:  
Reinventing Connectivity at IIT Bhubaneswar



# Challenge

The main challenge was twofold: ensuring uninterrupted internet connectivity and meeting the growing demand for higher throughput and increased speed across the expansive campus. The existing setup struggled to provide adequate coverage and performance to support the diverse academic and personal needs of the students and faculty.

# Solution

To improve connectivity across the campus, a two-phase deployment strategy was implemented. In the first phase, 138 Wi-Fi 5 Access Points were installed to address immediate connectivity gaps. In the second phase, 150 Wi-Fi 6 Access Points were deployed, taking advantage of the advanced features of Wi-Fi 6 technology to enhance speed, throughput, and coverage across the campus.

A total of 288 Access Points were strategically placed in key areas like hostel zones and corridors to ensure reliable coverage across the campus. The solution, featuring speeds up to 1.78 Gbps, WPA3 security, and EasyMesh certification, provided secure and seamless connectivity. This deployment supported the growing need for stable network access, enabling students, faculty, and researchers to stay connected to online resources and educational tools.

## Indoor Wi-Fi



Wi-Fi 6 Access Point



Wi-Fi 6 Access Point

# Result

- 01** The deployment improved throughput, speed, and coverage across the campus, meeting the growing demand for higher data transfer rates.
- 02** Reliable network access was established in key locations, supporting students, faculty, and researchers.
- 03** Expanded coverage ensured uninterrupted connectivity, even in remote areas.
- 04** Secure access to online resources, research materials, and collaborative platforms enabled efficient learning and collaboration.

# Conclusion

The deployment of 288 Wi-Fi 5 and Wi-Fi 6 Access Points effectively addressed connectivity challenges at IIT Bhubaneswar. The solution improved network coverage, throughput, and speed, while ensuring a secure and reliable connection across the campus. This upgrade supported the institute's expanding academic and research needs.



# References

1. <https://www.investindia.gov.in/sector/education>
2. <https://www.statista.com/statistics/1286064/india-education-industry-market-size/>

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# Background

Established in 2008, the Indian Institute of Technology Bhubaneswar stands as one of India's premier technical institutions. IIT Bhubaneswar was established under the mentorship of IIT Kharagpur. The foundation of IIT Bhubaneswar was laid with the vision of nurturing exceptional talent in the fields of science, engineering, and technology, while also emphasizing research and development across various disciplines. The institute has strived to uphold the esteemed legacy of the IITs by fostering an environment conducive to holistic learning, cutting-edge research, and entrepreneurial pursuits. This sprawling campus boasts state-of-the-art infrastructure, modern laboratories, well-equipped classrooms, and comprehensive facilities.

The institute places a strong emphasis on research and innovation, with several research centers and laboratories dedicated to research across various domains. Over the years, IIT Bhubaneswar has excelled in the field of technical education and research, producing skilled professionals and thought leaders who contribute significantly to academia, industry, and society at large. The institute continues to evolve, striving towards greater heights of academic prowess, innovation, and societal impact.

**During FY 2023, airports across India collectively recorded a passenger traffic volume surpassing 327 million, with nearly 57 million of those passengers being international travelers. <sup>1</sup>**

**By 2030, as per projections from the International Air Transport Association (IATA), India is anticipated to surpass both China and the United States, becoming the world's third-largest air passenger market. <sup>2</sup>**



Our deployment at IIT Bhubaneswar has significantly improved campus connectivity. With our advanced Wi-Fi solution, students and faculty now have reliable internet access. The project showcases HFCL's commitment to innovation and its impact on education.

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