Indian University Offers Next-Generation Learning Experience

Cisco solutions enable students and faculty at BITS Pilani to collaborate efficiently within and beyond the campus

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- **Customer Name:** BITS Pilani
- **Industry:** Education
- **Location:** Rajasthan, India
- **Number of Employees:** 700 full time faculty

BUSINESS CHALLENGE

- Connect all four geographically distributed campuses of BITS tightly for pedagogic as well as administrative reasons
- Facilitate alumni to easily connect with all campuses (especially the new ones)

BUSINESS RESULTS

- **Time and money savings:** Administration and/or faculty collaborate effectively over telepresence. About 10 meetings conducted every day.
- **New courses:** Leveraging Cisco's collaboration portfolio, 14 specialized electives are offered to students across all campuses.
- **Enhanced learning experience:** On an average 8 classes every day, comprising of at least 20-60 students in each class is conducted using telepresence.
- **Sharing global expertise:** On an average 3-5 meetings per day are conducted over telepresence including guest lectures, workshops, and other academic pursuits from experts across the globe.
- **Competitive advantage:** BITS Pilani can pool its resources effectively together to leap ahead in both pedagogy and research.

Business Challenge

BITS Pilani is a premier independent Indian University with 4 campuses at Pilani, Dubai, Goa and Hyderabad. It employs 700 full time faculty and has 11,000 on-campus & 19,000 off-campus students. Accredited by NAAC with the most coveted "A" grade in University accreditation, BITS Pilani has a world-class benchmarked curriculum and the largest industry-university network.

A progressive University which moved into the 21st century with BITSConnect to provide gigabit internet, IP telephony, video conferencing, and wireless access on campus way back in 2002, BITS has leveraged technology infrastructure to bring state of the art knowledge from industry and academia into the campus.

BITS has four geographically distributed campuses and there was a need to connect all of them tightly for pedagogic as well as administrative reasons. It was also critical to enable the alumni to easily connect with all campuses (especially the new ones). BITS was challenged with regards to campus placements because the same company had to visit different campuses multiple times.

Additionally when an alumni or a dignitary visited one campus, students in all campuses could not benefit from their wisdom. Guest lectures from abroad could be facilitated in only one campus at a time via video conferencing. Since these lecturers did not have time to repeat the same lecture four times, many students were deprived of knowledge transfer in real-time.

Faculty shortage in higher degree courses/electives was a challenge across campuses because the need for specialized electives varied in extent across different campuses making it very difficult to launch electives in all four campuses.

To overcome these issues, BITS along with BITSAA, its alumni community, launched the BITSConnect 2.0, a multi-million dollar project that leverages Cisco's collaboration portfolio to enhance teacher-student-alumni interaction across its campuses.

Network Solution

BITS Pilani began to evaluate the need for an integrated solution that could facilitate next-generation learning experience for its students across geographies. A very detailed evaluation process was undertaken with many vendors including Cisco. Cisco's Immersive Telepresence, High-definition Video Conferencing, and Cisco's Webex technologies were chosen to be part of the integrated solution. The primary reason for choosing Cisco was the breadth of its offerings in addition to the fact that the solutions are inter-operable and scalable. The project investigation began in Sept 2010 and the project was delivered in Jan 2013 well before the 2014 timeframe.

Using Cisco's collaboration solution portfolio BITS has been able to facilitate knowledge transfer in real time more efficiently. Faculty and staff meetings are conducted via multi-party voice-conferencing (scheduled and on-demand with optional recording), and numerous voice-conferences are required each week between various campuses and collaborators (faculty for coursework discussion or between administrative staff). On an average about 10 meetings are conducted every day with about 2-8 users from each of the 3 campuses at any point and these meetings are supported in-house without reliance on a third party.

In addition to this web-conferencing with people outside BITS is also possible, where the alumni or Industry experts from outside BITS deliver lectures via audio/video/PPT into BITS classrooms and join meetings with the BITS faculty. On an average 3-5 such meetings take place every day with nearly 100 plus users.

The implementation has also made possible multi-campus classroom teaching whereby high-definition telepresence is used for teaching and helps provide multi-way HD Video and interactivity within the classrooms. One professor or an invited dignitary can interactively address students/ staff across all campuses from one of the

designated classrooms in any given campus. The classroom is equipped with all necessary audio/video/presentation capabilities making it a seamless experience.

The interaction between the teacher and students is such that the teacher feels like it is a single classroom & any student can ask a question anytime. On an average eight such classes are conducted every day, each with about 20-60 students across the three campuses.

> "This is the largest and first-of-its-kind implementation in India. This deployment has helped us increase collaboration, foster innovation, enhance productivity, and streamline administration. Additionally it has enabled us to build relationships with industry partners, government agencies, research organizations, educational institutions and alumni from across the globe."
> **— Prof Bijendra Nath Jain, Vice Chancellor BITS Pilani**

Immersive telepresence is also being used for administrative staff meetings. Providing HD quality face-face interaction allows the administrators of BITS Pilani to conduct multi-campus meetings simultaneously. Additionally BITSConnect 2.0 helps mentoring budding entrepreneurs by alumni who are entrepreneurs or venture capitalists.

This facility is reusable in case another organization with compatible desktop infrastructure in India or abroad likes to have high-quality discussions with faculty/students/administrators at BITS campuses. On an average one such meeting take place every day in each campus (Pilani, Goa, Hyderabad) besides one at Mumbai.

Desktop Video Conferencing in the Director's offices helps the directors and Vice Chancellor at different locations to interact with each other and their faculty via high speed internet.

Business Results

The three campuses of BITS Pilani are connected together thanks to Cisco collaboration solutions. Previously, for most meetings where important decisions had to be made, the administration and/or faculty used to travel and get together in person at one campus. Now they can collaborate effectively over telepresence. This has resulted in significant time and cost savings.

The implementation has also ensured better resource utilization. Using Cisco solutions, qualified faculty can teach electives like 'Network Security', 'VLSI Architecture' etc. across multiple campuses. Nearly 14 such courses are being taught cross-campus, and this number will only rise in future

BITSConnect 2.0 also provides a huge competitive advantage because BITS Pilani can now pool its resources effectively together to leap ahead in both pedagogy and research. Every faculty now has a bigger pool of students to work with for their research. Every student has a bigger pool of courses which he can take. Every student has a bigger pool of recruiters/companies that he can interview at and get jobs pertaining to his specific discipline.

Among other benefits, teaching under the 'Work Integrated Learning Program' run by BITS Pilani is now enhanced using Webex. Students in any campus can sit for placements from companies visiting any campus. Similarly, recruiters have much larger student pool to interview to find the perfect match for their company.

The alumni can connect much more closely with the institute from all over the world and conferences (technical or otherwise) are now much larger because they are being conducted cross-campus.

Commenting on the benefits Prof Bijendra Nath Jain, Vice Chancellor BITS Pilani said, "This is the largest and first-of-its-kind implementation in India. This deployment has helped us increase collaboration, foster innovation, enhance productivity, and streamline administration. Additionally it has enabled us to build relationships with industry partners, government agencies, research organizations, educational institutions and alumni from across the globe."

Next Steps

While most of the BITS campuses are using the Cisco solutions, the implementation at the Dubai campus is still underway due to some regulatory constraints.That is being worked out currently. While there have been no major concerns, BITS is working to improve the inter-operability (e.g. WebEx with VC and TP systems, Jabber) quality over the internet.

For More Information

To find out more about the Cisco collaboration solutions visit: http://www.cisco.com/go/collaboration
To find out more about BITS Pilani visit: http://www.bits-pilani.ac.in