

Sector:

IT/ITeS

Project Title:

Bio-IT Knowledge Center

Project Description

The 21st century has been acknowledged as the era of knowledge industries such as Information Technology (IT) and Life Sciences. Application of advance IT and biotechnology functions and techniques have become an imperative part of the complex drug discovery cycle. Their convergence is leading to the emergence of novel technologies and niche industry segments such as Bio-IT, with a potential to revolutionize the global business scenario.

Bio-IT represents the marriage of life sciences and Information Technology (IT) and has evolved as a result of convergence of several disciplines of science namely biology, biochemistry, molecular biology, bio statistics and computer science.

The Bio-IT sector is at a nascent stage in India. In an endeavour to provide impetus to Bio-IT industry, the Government of Madhya Pradesh intends to facilitate setting up a State-of-the-art infrastructure in the form of a “Bio-IT Knowledge Center”. The Center would be a geographic cluster of industry (IT & Life Sciences), research institutions and sci-tech academia and would address the IT related needs of the rapidly emerging life sciences industry and is expected to attract investments (both domestic and foreign) in the related areas.

The Center would be set up on over 100 acres of land and would be design in such a manner so as to accommodate companies of all sizes and stages of development. The center would provide developed plots for large and Integrated Bio-IT companies to set up their campuses and ready-to-use modular offices, wet and dry lab space for intermediate, small and start up companies. The two critical components of the knowledge center would be an “Incubation Center” and a “Technology Development Center”.

S.No	Key Components	Area (Acres)	Number of Tenants
1	Developed Plots	40	6
2	Wet & Dry Labs	15	20
3	Incubation Center	10	6-8
4	Technology development Center	2	

The Incubation Center (IC) would provide critical enabling infrastructure to start-up Bio-IT companies and would assist them in the initial years (incubation period 2-3 years) to acquire a critical mass and become self sustainable. Once profitable the company will move out and venture on its own.

Technology Development Center (TDC) would facilitate the Small and medium size IT players, inventors and entrepreneurs in the State, to start, expand or make their business more competitive in the marketplace. TDC would provides direct assistance or locates outside resources to help with business development, operations, sales and marketing, workforce development, technology advancement and integration, and entrepreneurial initiatives.

TDC would foster links with key research and academic institutions in the State and would facilitate in the commercialization of pioneering inventions and technologies developed in these institutes. TDC would also provide operating assistance and management consultancy regarding the technology valuation and transfer, Intellectual Property protection, patent and a range of financial, marketing, human resource and other support functions.

Following would be the focus area and prospective tenants of the envisaged Knowledge Center.

Focus Area	Prospective Tenants
Bioinformatics	Drug discovery Companies
Chemoinformatics	Pure play Bio-IT companies
Pharmacogenomics	Biotechnology companies
Clinical informatics	IT companies with focus on human health
Molecular modeling	Service providers to life science companies
Bio engineering	
Bio simulation	

Proposed Facilities

The Knowledge Center would provide following facilities to its tenants:

Dry & Wet Labs	Technology Transfer Cell
Computational Biology Labs	IT Center
Digital Imaging Center	Central Instrumentation Center
Virtual Reality Center	Business Center
Bio-IT Software and Database Library	Administrative Center
Intellectual Property Cell	D.G SET

Project Rationale

A new breed of specialized service providers with domain expertise across different verticals of drug discovery value chain is emerging very fast. Their growth is further assisted by the increasing trend of outsourcing key R&D functions by integrated drug discovery companies in order to minimize risk and cost associated with new drug research. Development of enabling and facilitating infrastructure such as envisaged Knowledge Center with plug & play kind facilities and incubation center will greatly assist in the rapid flourishing of this new industry segments.

The knowledge revolution is rapidly penetrating towards tier 3 and 4 cities. More and more technology driven companies are evaluating these cities to expand or start new operations. The greater cost competitiveness of these cities in terms of land and manpower and well developed life style options provides enviable value proposition to knowledge intensive sector such as IT/ITeS and biotechnology. The knowledge center will assist in the development of new generation companies and would help position MP as a prominent hub of knowledge intensive industry.

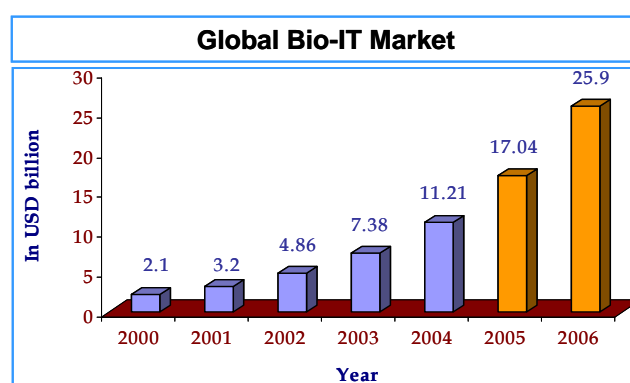
Madhya Pradesh is rapidly emerging as an upcoming IT hub. Many of the leading IT/ITeS and BPO Players are contemplating to establish their key R&D and operation center in the State. The proposed Knowledge Center would assist in exploring new growth avenues for the existing and upcoming IT and related industry players.

Madhya Pradesh has a strong base of engineering, technical, life science, academic and other institutions of higher learning. India's first IT dedicated institute, Indian institute of Information Technology was established at Gwalior

with Bio-informatics as one of the key disciplines. Along with the reputed Rajiv Gandhi Technical University and Devi Ahilya University, the State also has the prestigious Indian Institute of Management (IIM-Indore). The presence of basic R&D infrastructure coupled with the quality talent foster innovation but in the absence of high-end sustainable infrastructure, adequate finance, guidance and facilities, most of these pioneering and revolutionary technologies remain confined to the laboratories and many of the entrepreneurial dreams dies in their fancy. The Knowledge Center would provide requisite infrastructure and other necessary resources enabling the commercialization of these technologies.

Market Potential and Demand Dynamics

The Global Bio-IT market was estimated to be around USD 2.1 billion in 2000. Growing with an estimated CAGR of around 50% the market is expected to be around USD 26 bn by the end of 2006. The global Bio-IT sector is primarily witnessing such growth rates due to the 'ever expanding' computational needs for life sciences industry, especially drug discovery companies.



The major drivers of the transcendent growth of this industry are the resurgent advances in science within the Information Technology and Life Sciences domain and the rapid acceptance of sophisticated Bio-IT techniques in R&D; high computational requirements for biological R&D and the constant drive of the Bio-IT companies to move up in their value chain. The key challenges faced by the global Bio-IT sector includes managing and analyzing the biological research data; developing tools which ameliorate human-computer interface; and increasing the efficiency and effectiveness of database mining; integration of heterogeneous data; and regulatory concerns.

The Indian Bio-IT industry is in the evolution phase. However, considering the wide recognition of India's capabilities in the technology-driven sectors across the globe, it is expected to emerge as a leading player in the Bio-IT space. According to International Data Corporation (IDC) the Bio-IT market in India in the year 2002 was about USD 15 million and is expected to be USD 120 million by the year 2006. The compounded annual growth of the industry during 2002 to 2006 is pegged over 50%.

The primary driver for the growth of the Indian Bio-IT market is the enhanced focus of the Indian IT and Pharmaceutical majors on the Bio-IT sector and the emergence of India as a preferred destination for outsourcing R&D activity. Other key drivers for the Indian Bio-IT industry would be the biodiversity in turn providing clinical trial opportunity; the demand for low cost R&D across the world; large pool of skilled manpower in IT available in India; and the proactive initiatives of the Central and State Governments.

Why Madhya Pradesh?

1. Connectivity is the key

Being the second largest State of Country along with the strategic central location, MP has some innate advantages and can offer strategic benefits to companies establishing their operations in the State. Well connected with all the key metropolitan cities by rail, road and air, the State key business centers such as Indore, Bhopal and Gwalior Provides near equidistance connectivity with all the major commercial centers of India.

2. Support Infrastructure

To support the upcoming knowledge intensive sector, the State Government has proactively initiated the development of support infrastructure, as part of which, over 24,000 kms of optic fiber has been laid to cover all 313 development blocks across 45 districts in the State making it one of the leading States in the Country with highest optical fiber coverage.

3. Burgeoning IT/ITes Base

The IT/ITes base in the State is rapidly expanding. Major players like Taurus Microsystems and Fujitsu already have their presence in the State and are on the road to further expand their operations. The Greenfield SEZ at Indore is attracting lot of attention from leading IT players, HCL is in advance stage of setting up a Center at SEZ. Another leading BPO player Genpact has proposed to set up a 7,000 BPO facility in Bhopal with an estimated investment of US\$ 34 million.

4. Manpower Availability

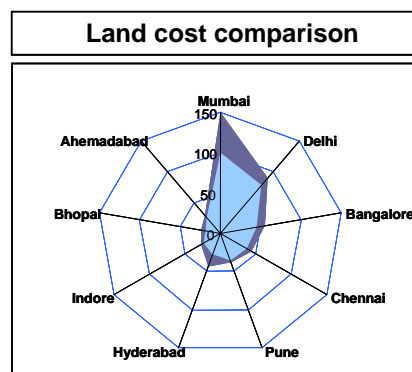
With ~38 engineering colleges and several management institutes along with the prestigious IIM at Indore, the State has ample availability of high quality skilled manpower. Further to foster specifically skilled IT workforce the State has established the Country's first Indian Institute of Information Technology and Management at Gwalior.

Table 2.3 Students Graduating from Technical and Management Institutes in MP as of March 2006

Education	No. of Institutes	No. of Students
Engineering (All streams)	61	20210
MCA	45	2310
MBA	47	3735
Polytechnics	49	9094
Industrial Training	110	14298
TOTAL	312	49647

5. Land Cost Competitiveness

The State has the lowest land rates among the upcoming commercial centers across the Country. The State has ample amount of land available for various commercial entities and corporate houses.



6. Manpower Cost Competitiveness

Rising cost of human resource is severely straining the profit margins of IT/ITeS industry and is the increasing concern of knowledge intensive sector. Madhya Pradesh has the potential to ameliorate the rising manpower cost concern of the industry. Cost of skilled labour in Madhya Pradesh is USD 2.4/day vis-a-vis USD 3.5 – USD 4.0/day in metros. The State has one of the lowest rates of skilled manpower in the Country.

Location Analysis

Indore is the largest city of Madhya Pradesh and is the biggest business center in central India. Being the commercial capital of Madhya Pradesh, it is a key hub for all major business activities in the State. Indore has all the essential ingredients required to support a knowledge intensive industry and thus it is an ideal location for establishing the envisaged "Bio-IT Knowledge Center".



Government Support

The key **Incentives** offered for **developers** under the STPI scheme are:

	PARTICULARS	STP (Industrial Park Scheme, 2002)
1	Period and quantum for tax holiday	100% tax holiday until March 2009
2	Duty exemption on input materials for development	Restricted to telemetric infrastructure/ DG/ AC etc.
3	Ability to sell space to units	Available. Schemes such as the Special Economic Zone Scheme only allow leasing of space to units
4	Foreign direct investment	100% permitted.
5	Minimum Area Criteria	None
6	Minimum Investment Requirement	None

Incentives Offered by the State Govt. Beneficial to Developers:

	INCENTIVES	IMPLEMENTING DEPARTMENT	BENEFITS TO INVESTORS
1	Exemption from payment of Stamp duty on sale/ lease deed relating to plot or built – up area executed with the State Government or any semi government organization or any other State Government undertaking	Commercial Tax Department	Saving of approximately 10% of the investment on land
2	Do not require clearances for water and air pollution	Housing and Environment	Results in saving pre-operative time
3	Relaxation up to 25% in existing FAR in Indore, Bhopal, Gwalior and Jabalpur. No restriction of FAR in other cities	Housing and Environment	

Proposed Investment

Following table provide the estimated area of development and cost of various infrastructures in the Knowledge Center.

S.No	Facility	Area (Acres)	Cost (USD million)	Cost (INR million)
1	Open Space & Utilities	26	0.71	32
2	Developed Plots	40	0.51	23
3	Wet & Dry Labs	15	10.67	480
4	Incubation Center	10	5.56	250
5	Technology Development Center	2	1.78	80
6	Administrative Block	5	2.22	100
7	Common Instrumentation Lab	2	6.67	300
8	Total	100	28.11	1265

Returns

Internal rate of return is estimated around 12-14%.

Coordinating Agency

- Madhya Pradesh State Industrial Developmental Corporation
- Madhya Pradesh Agency For Promotion of Information Technology