

## TECHNOLOGY PARKS

### Concept and Definition

The term "science and technology park" includes any kind of high-tech cluster such as: technopolis, science park, science city, cyber park, hi tech (industrial) park, innovation centre, Research & Development park, university research park, research and technology park, science and technology park, technology park, technology incubator, technopole and technology business incubator. However there are slight differences between some of these terms.

The first science and technology park was created on the campus of Stanford University more than 50 years ago. It has transformed the Silicon Valley area from one of the poorest regions in the USA into a global centre of technology, finance, education and research. **Silicon Valley** is the U.S. center for innovative technology companies. It's located south of San Francisco, California for a **25 mile** stretch of technology parks, offices. It's home to 2,000 tech companies, the densest concentration in the world. This proximity to suppliers, customers, and cutting-edge research gives each a competitive advantage. Even more important, most of them are also leaders in their industries. **These include software, social media, and other uses of the internet. Its companies also produce lasers, fiber optics, robotics, and medical instruments.** The most well-known Silicon Valley companies are **Apple, Facebook, Google, and Netflix.** The area also launched **Tesla, Twitter, Yahoo!, and eBay.** There are many business support companies such as Cisco, Oracle, Salesforce.com, Hewlett-Packard, and Intel. Other companies include Adobe, Intuit, and Zynga.



**Silicon Valley, USA**



**Apple's** Campus, Silicon Valley, USA



**Google** Campus, , Silicon Valley, USA

Since the inception of Silicon Valley, the high-tech cluster phenomenon has seized the imagination of public policy makers. Hundreds of similar high-tech clusters have been created in various parts of the world, and their numbers continue to grow as the cluster formation is increasingly adopted as an important economic development tool and as an integrated part of the national or regional innovation system. The cluster is attractive for many reasons. It increases economic transformation, drives growth, increases stability.

Several official definitions of science and technology park have been adopted by different organizations.

- The official definition adopted by the International Association of Science Parks (IASP) in February 2002 goes as follows. **A science park is an organization managed by specialised professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions.**

To enable these there are goals to be met-

- a science park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets;
- it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes;
- provides other value-added services together with high quality space and facilities.

IASP's definition also goes on to say that the expression "science park" may be replaced in this definition by the expressions "technology park", "technopole" or "research park".

What Is Technology Park Concept?

The **ultimate objective of a technology park is to provide an environment that will enable the localization of various tech-related companies**. It is a development that **brings together office spaces, residential areas, and retail developments** in order to enhance the operations of tech corporations, thereby providing various benefits and economies of scale to each individual business entity.

Technology parks like the **Infocity IT Park in Gujarat** are able to perfectly integrate row houses, residential complexes, villas, as well as low-rise and high-rise apartments with commercial and convenience establishments, clubs and resorts, and various facilities that make living and working as comfortable as possible. All of these are supposed to help in attracting investors and to promote the setting up of various businesses, ensuring that they get all they need to thrive and reach their operating objectives.

Usually, technology parks take some land space, and there is usually a lot of consideration given to them in order to thrive and work towards their full potential.

**Major objectives:**

**The advancement of technology**

The primary aim for the establishment of a technology park is usually the advancement of scientific and technological endeavors. Millions are usually poured into the creation of technology parks, and a large chunk of this money is spent on efforts such as research and development, experiments and other related efforts in the end, the goal is to come together and create an environment where science and technology are made to thrive and succeed.

**The attraction of investment**

If history has been able to show us anything time and again, it is the fact that technology is very profitable. In the event that a tech company is able to stand on its feet and gain enough popularity and recognition, there is no doubt to the fact that they will make enough money going forward. The prospect of being on the groundwork of something big is one of the major tools which the creators of technology parks use to attract investment, and its goal usually pays off the long run. The investment gotten will help to develop the park, and also go into other aspects of human endeavour.

## **The establishment of companies**

Technology parks also create enabling environments for startups and tech companies to come and set up nicely. Thanks to the infrastructure that they will get, these companies will be able to comfortably pursue their goals and work towards achieving set objectives.

## **The development of an area**

Thanks to the concentration of companies and the attraction of investment, infrastructural development in the general area where the technology park is located will definitely be assured. This is why technology parks are usually founded in areas where the advancement of infrastructure might not necessarily be the best (although in most cases, the biggest factor that affects the location of establishment of a technology park is usually the available land space)

## **The creation of employment**

A direct consequence of company establishment, jobs will be created, and more people will be able to get suitable jobs. People living far and near will be able to get jobs, and this will definitely be a relief to the overall economy of the country.

## **Software Technology Parks of India Overview**

Software Technology Parks of India was established and registered as an Autonomous Society under the Societies Registration Act 1860, under the Ministry of Electronics & Information Technology, Government of India on 5th June 1991 with an objective to implement STP Scheme, set-up and manage infrastructure facilities and provide other services like technology assessment and professional training.

India has earned itself a reputation of an Information Technology superpower. Software Technology Parks of India have played a seminal role in accomplishing this status. Today, STPI across all over the country possess excellent Infrastructure and Statutory support aimed at furthering growth of Information Technology in the country. STPI has a presence in many major cities of India including the cities of [Bangalore](#), [Chennai](#), [Hyderabad](#), [Trivandrum](#), [Kanpur](#), [Patna](#), [Bhubaneswar](#), [Kolkata](#), [Mumbai](#), [Nagpur](#), [Warangal](#), [Gandhinagar](#), [Kakinada](#), [Lucknow](#), [Pune](#), [Surat](#), [Tirupati](#), [Vijayawada](#) and [Visakhapatnam](#). Due to the Electronics City, [Bangalore](#) got its other name as the [Silicon Valley of India](#).

Software Technology Parks of India (STPI) were setup with the objective of encouraging, promoting and boosting the Software Exports from India. Software Technology Parks of India maintains internal engineering resources to provide consulting, training and implementation services. Services cover Network Design, System Integration, Installation, Operations and maintenance of application networks and facilities in varied areas.

Process development is based on the Quality Management System. Software Technology Parks of India centre also adhere to ISO 9001 certification.

## **Objectives of Software Technology Parks of India**

The objectives of the Software Technology Parks of India are:

- (a) To promote the development and export of software and software services including Information Technology (I.T.) Enabled Services/ Bio-IT.
- (b) To provide statutory and other promotional services to the exporters by implementing Software Technology Park/ Electronics and Hardware Technology Park Schemes and other such schemes which may be formulated and entrusted by the Government from time to time.
- (c) To provide data communication services including value added services to IT / IT Enabled Services related industries.
- (d) To promote micro, small and medium entrepreneurs by creating conducive environment for entrepreneurship in the field of IT / IT Enabled Services.

### **Functions of Software Technology Parks of India**

The Software Technology Parks of India perform all functions necessary to fulfill its objectives and include the following:-

#### **(1) To establish Software Technology Parks / centers at various locations in the country;**

- (a) to perform all functions in the capacity of the successor to the erstwhile Software Technology Park Complex which were taken over by the Software Technology Parks of India
- (b) to establish and manage the infrastructural resources such as integrated infrastructure including International communication / Data center / Incubating facilities etc. for 100% export oriented units and to render similar services to the users other than exporters.
- (c) to undertake other export promotional activities such as technology assessments, market analysis, market segmentation as also to organize workshops/exhibitions/seminars/conferences etc.
- (d) to facilitate specialized training in the niche areas to meet the above objectives.
- (e) to work closely with respective State Governments and act as an interface between Industry and Government.
- (f) to promote secondary and tertiary locations by establishing Software Technology Parks of India presence to promote Software Technology Park / Electronics Hardware Technology Park Scheme, and promotional schemes announced by Government.
- (g) to promote entrepreneurship through incubation programmes / seed funds / IP development and other awareness programmes.
- (h) to assist State Governments in formulating IT policies and liaison for promoting the IT industries in respective states to achieve an exponential growth of exports.
- (i) to promote quality and security standards in the I.T industries.
- (j) to work jointly with venture capitalists for providing financial assistance to the IT industries.
- (k) to provide Project Management and Consultancy services both at national and international level in the areas of expertise of Software Technology Parks of India

**(2) To perform financial management functions which comprise of the following activities;**

(a) to obtain or accept grants, subscription, donations, gifts, bequests from Government, Corporations, Trusts, Organizations or any person for fulfilling the objectives of the Software Technology Parks of India. Whenever any gifts, bequests from foreign Governments/ organizations are accepted / obtained they shall be routed through Government and be regulated by such directions as may be issued by Government.

(b) to maintain a fund

(c) to deposit all money credited to the Fund in Scheduled Banks / Nationalized Banks or to invest in such a manner for the benefit of the Software Technology Parks of India as may be prescribed. At least 60% of the funds shall be placed with the Public Sector Banks or in such a manner as may be prescribed by the Government from time to time.

(d) to draw, make, accept, endorse and discount cheques, notes or other negotiable instruments and for this purpose, to sign, execute and deliver such assurance and deeds as may be necessary for the purposes of the Software Technology Parks of India

(e) to pay out of the funds maintained by Software Technology Parks of India or part thereof, the expenses incurred by the Software Technology Parks of India from time to time including all expenses incidental to the formation and reorganization of the Software Technology Parks of India and management and administration of any of the foregoing activities including all rents, rates, taxes, outgoings and the salaries of the employees.

(f) to acquire, hold and dispose of the property in any manner whatsoever for the purposes of the Software Technology Parks of India, with the prior approval of Governing Council as per the procedure laid down by Government.

**(3) to do all such acts and things as may be required in order to fulfill the objectives of the Software Technology Parks of India.**

**1. Boost Economy**

Governments all over the world often invest in technology parks to boost their regional and national economies. For instance, Singapore invested more than \$7 billion to develop the one-north technology park in order to respond to the various overseas threats its manufacturing industries faced in the 90s. Similarly, the Riyadh Techno Valley (RTV) initiative is aimed to promote greater collaboration between private and public sectors and facilitate startups in the Kingdom of Saudi Arabia.

**2. Provide Abundant Space for Growth**

Unlike office buildings, technology parks are large outdoor spaces that facilitate business growth and expansion. These parks contain adequate office space, fully-

equipped laboratories, proper storage and warehouse facilities, and high-quality conference rooms and meeting centers. Since most startups have limited funds and high preliminary expenses, they can benefit from these facilities.

### 3. Encourage Business Development

As startups grow, they often require bigger offices and more facilities. Most technology parks provide ample space for business development.

Take the case of University of Arizona Science and Technology Park. During the first few years of its operations, the park was able to accommodate two companies with more than 700 employees. Today, the park houses more than 40 companies and supports over 7000 employees. The park spreads over an area of 1300 acres of land and nearly 2 million square feet of office, production, and research space. The technology park also contributes more than \$3 billion toward the economy.

### 4. Facilitate Training Sessions

**Technology parks offer access to a wide variety of education and training resources.** For instance, the University of Arizona Science and Technology Park is one of the first tech parks in the United States that houses a high school. The students at this school have greatly benefitted from the vast technical training opportunities offered at the UA Tech Park.

### 5. Include the Latest Technology

Like all public parks, technology parks must comply with basic infrastructure requirements such as clean bathrooms and ample walking space. However, tech parks are also **equipped with high-speed broadband internet and telecommunication** facilities that make it easy to establish and manage a business.

**Technology parks are primarily located in certain places that have been designated as IT hubs** by the government. For instance, the Kista Science City is the largest information and communications technology center in Europe. It is located in Stockholm (Sweden), about 15 minutes away from the Arlanda airport and Stockholm city center.

At present, Sweden's largest company Ericsson is headquartered in this park. Other businesses that operate from within the Kista Science City include Microsoft, Sun, and IBM. The entire park complex is equipped with broadband internet and several other amenities.

### 6. Come with a Range of Amenities

When technology parks were initially introduced in the 50s, they were designed as business incubators. The purpose of these parks was to provide a place where innovative businesses could develop and prosper. The earliest tech parks were built around university campuses, since most of the startups were funded by the universities.

However, technology parks have now grown in size and complexity. Some of the largest tech parks in the world have housing facilities that can accommodate thousands of people at once. The influx of employees and their families to these parks has created “smart cities.”

Today, technology parks all over the world have gyms, shopping centers, restaurants, and nurseries. At the very basic, a tech park has proper office space and parking. Once a tech park grows in size, the government can add more amenities along the way.

## 7. Promote Rest & Recreation

Over the past few years, corporations all over the world have been investing in their employees' health and wellbeing. From increasing paid leaves to reducing working hours, there are several ways companies are contributing toward employee welfare.

Working at a tech park has its perks. The park typically spreads over a large and green area. When tired from their work, employees can simply head out and enjoy a refreshing stroll across the park.

Technology parks are also equipped with gyms, and these fitness centers are usually free of charge. If your startup is located in a technology park, you can easily hit the gym after a long and tiring day. You may not have to pay any charges.

## 8. Equipped with Various Security Features

Technology parks house all types of companies, from emerging startups to established multinational organizations. Since most of the corporations in a technology park are IT-based companies, the park contains tons of sensitive data.

To prevent data theft and vandalism, technology parks are equipped with state-of-the-art security features. From surveillance cameras to a network of security guards, these parks have several measures in place to reduce the likelihood of criminal activities.

A good example of a secure technology park is the Studsvik Tech Park in Sweden. The park is heavily guarded by a team of security professionals who work 24/7 all-year round. The area is surrounded by a deep-water harbour that can easily receive ships. However, all ships and shipments leaving and entering the park must have the highest security specifications.



Studsvik





**Infocity, Gandhinagar**



**KRISP IT Park, Chennai**



**Infotech Park, Mumbai**



**Electronics City Bangalore**



**Millennium City IT Park, Kolkata**



**NOIDA, Delhi**

<https://www.theinfocity.in/what-is-technology-park-concept/>

<http://www.unesco.org/new/en/natural-sciences/science-technology/university-industry-partnerships/science-and-technology-park-governance/concept-and-definition/>

<https://link.springer.com/article/10.1007/s10961-007-9041-3>

<https://www.stpi.in/11014>

<http://www.walkthroughindia.com/walkthroughs/10-famous-and-stunning-it-parks-in-indian-cities/>

wikipedia