# What is a Knowledge Cluster?

A "knowledge cluster" is a system where local universities and other institutions, which possess great potential and their own research development themes, integrate into a cluster to create innovations under local initiatives for the purpose of further developing the results of research development and connecting the results to practical use with the collaboration of other research institutions and companies located both domestically and outside of Japan.
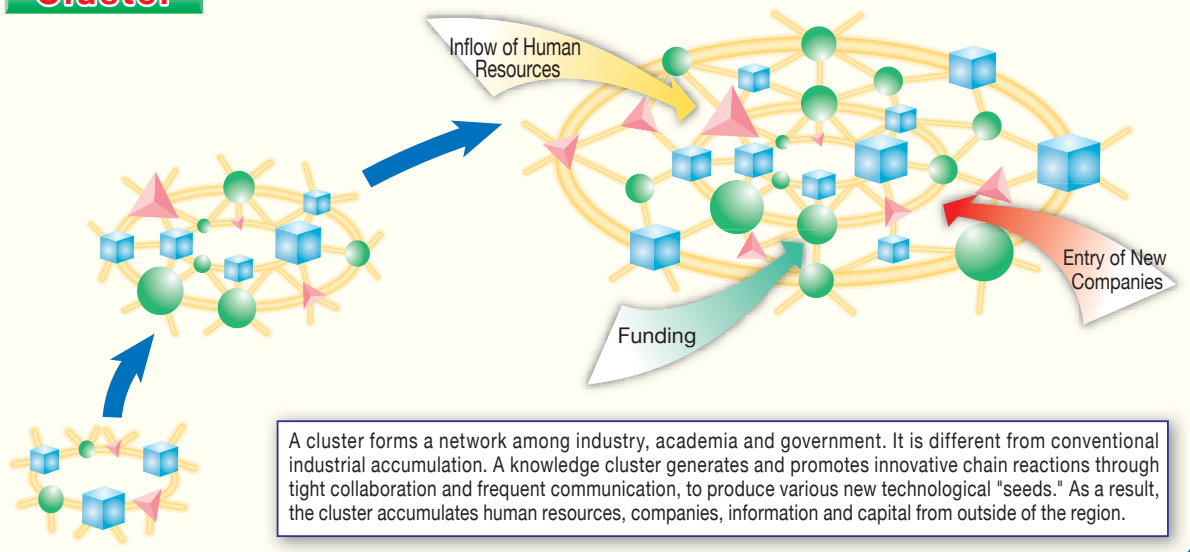
More specifically, a knowledge cluster is a framework where the technological seeds possessed by core universities and other research institutions and the practical needs of businesses provide stimulation and where sustainable innovations are generated in the local areas through the formation of joint research organizations comprised of industry, academia and government and human networks in the local areas, and various policies such as financial facilitation and establishment support are implemented.

Regarding overseas cases, it takes a long time to feed back scientific and technological research results to society. Thus, the creation of a competitive knowledge cluster requires extensive efforts and a long-term vision.
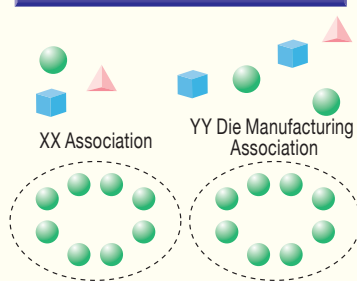
## The Cluster Concept



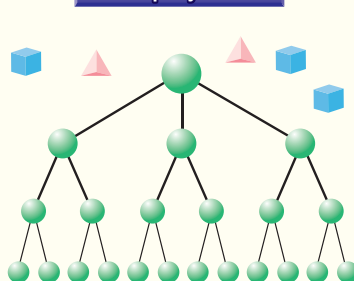**Universities** ■ **Companies** ● **Supporting Organizations, etc.** ▲

### Cluster

Inflow of Human Resources

Entry of New Companies

Funding

A cluster forms a network among industry, academia and government. It is different from conventional industrial accumulation. A knowledge cluster generates and promotes innovative chain reactions through tight collaboration and frequent communication, to produce various new technological "seeds." As a result, the cluster accumulates human resources, companies, information and capital from outside of the region.

## Conventional Industrial Accumulation

### Accumulation of Production Area
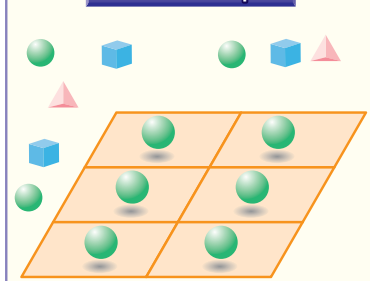
XX Association

YY Die Manufacturing Association

A cooperative system among the same industrial companies does not make for the development of a network among industry, academia and government including universities and municipalities.

### Company Town

A company town forms a pyramid-shaped network with the core company at the top. This system lacks multilayered collaboration and also has a very limited network between companies and universities.

### Industrial Complex

Industrial complexes were designed to allow for the effective sharing of infrastructure, such as roads, water for industrial use and environmental clean-up facilities, and interactions among companies located in the complex are limited.