

High-technology industries

- ❖ = industry which makes very sophisticated products, involving a great deal of scientific R&D
- ❖ = employs mainly highly skilled labour force
- ❖ High-tech industries = great variety of:
 - ❖ *Electronic equipment*
 - ❖ *Consumer electronics*

Electronic equipment

- ❖ computers
- ❖ telecommunications (phones)
- ❖ industrial control systems
- ❖ testing and measuring equipment (GPS)
- ❖ office equipment
- ❖ aerospace and military equipment (weapons, navigation systems)
- ❖ incorporation in consumer products
 - ❖ e.g. automobiles, washing machines, etc.

Consumer electronics

- ❖ TV sets (television receivers)
- ❖ radio receivers and video cassette recorders
- ❖ audio-tape recorders, CD/DVD players/recorders
- ❖ tuners, amplifiers
- ❖ pocket calculators, diaries
- ❖ electronic games (Game Boy)

High-tech industries

- ❖ = grew very rapidly in the 1980s and 1990s = **footloose industries** ⇔ they have relatively free choice of where to locate
- ❖ many high-tech industries → distinct locations or on the edge of towns and cities on *purpose-built estates*

- ❖ Once an area has become attractive to a firm, it tends to attract more companies of a similar nature => agglomerations of industries
- ❖ Purpose-built estates have:
 - ❖ space for single-storey factories and future expansion
 - ❖ cheaper land values on edge-of-city
 - ❖ accessibility to main roads and motorways
 - ❖ pleasant environment (quiet, clean environment)
 - ❖ labour supply from a nearby residential and commuter villages
- ❖ 3 types of purpose-built estates:
 - ❖ *Science parks, Business parks, Industrial estates*

Science parks

- ❖ industrial estates with direct links to universities
- ❖ situated on greenfields out of university towns (cities)
- ❖ concentration on R&D for high-tech firms

Business parks

- ❖ areas heavily landscaped with grass and trees to provide pleasant out-of-town working environment for offices and workers
- ❖ sometimes they have retail-outlets such as hypermarkets

Industrial estates

- ❖ often found in industrial zones
- ❖ they don't realise much R&D themselves
- ❖ they perform more manufacturing/production
- ❖ buildings are built before a company considers to locate a branch there => reconstructions of older buildings quite often

Structure of a major high-tech firm

Part of company	Process	Location factors
<i>R&D</i>	new ideas, prototypes, testing new products	high-skilled labour, near a research centre (university), pleasant environment
<i>Product manufacture</i>	assembling of various component parts or raw materials in branch factories	cheap (often female) labour but skilled in precision assembly of small parts, areas with government incentives
<i>Administration and sales</i>	marketing + dealing with administration of the company	city or close-to-city, managerial workforce needed

Services

- ❖ activities that do not produce or modify goods => increasingly the main form of employment in developed countries => employment in:
 - ❖ *finance, retailing, administration, education, health care, social welfare, local and national government, emergency services, tourism, transport, cleaning and domestic work*
 - ❖ main factor = **accessibility**

Classification of services

- ❖ *Producer services* = activities like market research, management consultancy, finance, advertisement
 - vs.
 - ❖ *Consumer (household) services* = provided generally for people
 - ❖ e.g. health care, retailing, education, distribution
- ❖ *Private (market) services* = organised by independent companies, ranging from retailing to international banking and insurance
 - vs.
 - ❖ *State (non-market) services* = organised by national and local government
 - ❖ e.g. health care and education

Another classification of services

- ❖ *Distributive services* = transport and communications, wholesale and retail
- ❖ *Producer services* = finance, insurance, business services
- ❖ *Social services* = health and welfare, education, postal services and government
- ❖ *Personal services* = domestic and personal services, hotels and restaurants, repairs, entertainment

Services

❖ **Characteristics:**

- ❖ labour intensive but limited possibilities for *economies of scale*
- ❖ the *quality* of the product *depends upon the quality of the labour*
- ❖ much *services are non-manual* and salaried
- ❖ service *employment is easily started* due to low levels of capital intensity

Services

- ❖ Decline of manufacturing employment (process of deindustrialisation) in developed countries has forced many manufacturing *employees to service sector*.
- ❖ There are many *factors influencing the location of services:*
- ❖ quality of telecommunications, access to information
- ❖ direct access to motorways and an international airport
- ❖ qualified labour, cost of rent, distribution of customers
- ❖ accessibility to other businesses/companies
- ❖ image and prestige
- ❖ quality of environment

Keywords

- ❖ high-technology industries, R&D, electronic equipment, consumer electronics
- ❖ footloose industries, purpose-built estates, science/business/industrial parks, incentives, agglomeration of industries
- ❖ economies of scale, deindustrialisation, competition, customer