

# The location of Industry



## 3.3 Industry

Demonstrate an understanding of an industrial system: inputs, processes and outputs (products and waste)

I can define industry

I understand how industry works as a system

Describe and explain the factors influencing the distribution and location of factories and industrial zones

I understand the factors that will influence the location of the different types of industry

I understand how economic activities may pose threats to the natural environment locally and globally

I know a case study of an industrial zone or factory

Industry can be described as a systems of  
INPUTS, PROCESSES and OUTPUTS

In pairs:

Define: INPUTS, PROCESSES and OUTPUTS

Give examples of industrial activities that could fall into each category

# Industry as a System

Because industry nearly always involves the making or creation of something, it is often looked at as a system. The three main parts of the system are:

**Inputs:** The things that are needed to make or create a product. These maybe physical or human e.g. labour (workers), money or raw materials.

**Processes:** The events or activities that take place to make a product e.g. watering crops or assembling a car.

**Outputs:** The finished product that is sold to a consumer e.g. milk, a television or a car.



Think of industry as a cake-making process!

**For a company to be profitable, the value of the outputs must be greater than the cost of the inputs.**



### INPUTS

These are the elements required for the processes to take place

- Raw materials
- Labour
- Energy
- Capital (money)

### PROCESSES


These are the activities that are involved in making the product (take place in the factory)

### OUTPUTS

These are the finished products that are sold to customers


- Also by-products (left over from main process that has value)
- + Waste product

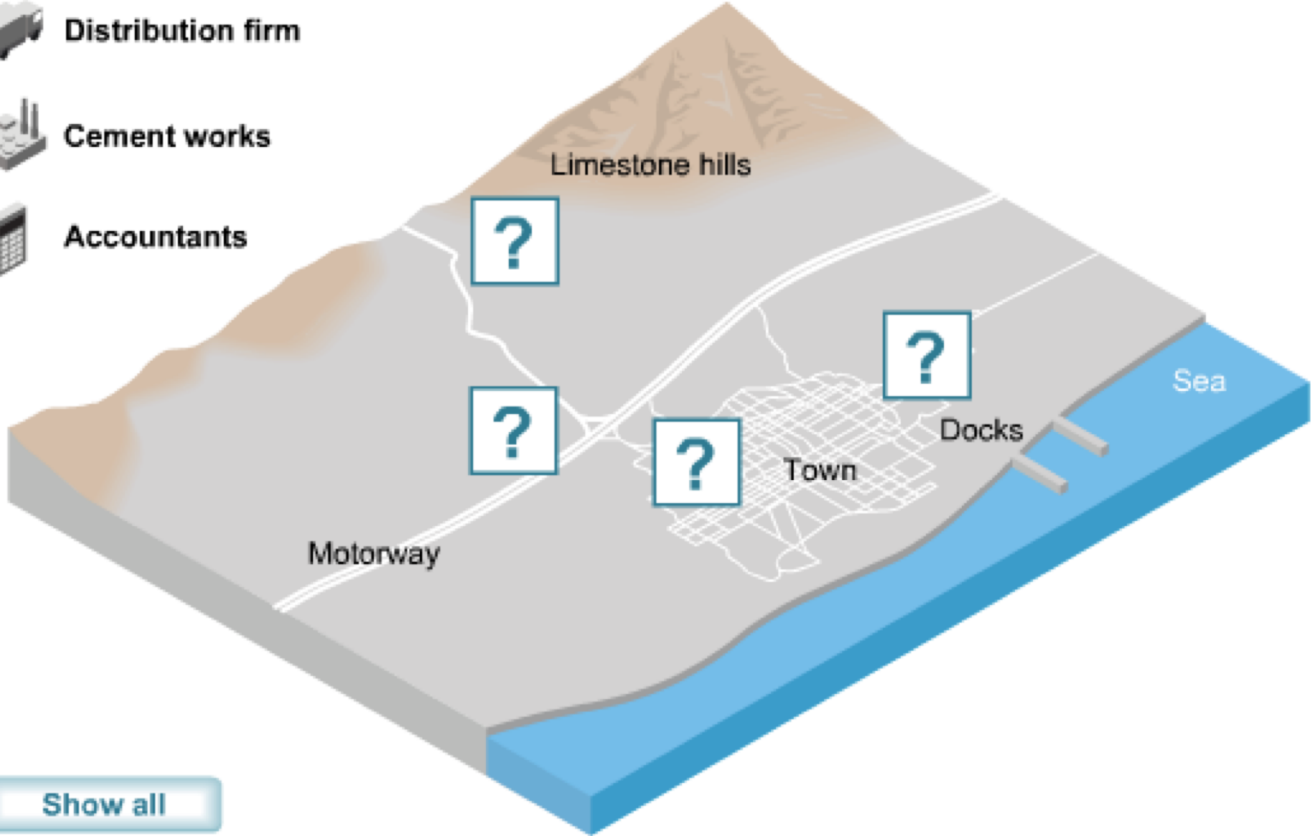
# Where would you locate the below industries and why?

 **Modern steel factory**

 **Distribution firm**


 **Cement works**


 **Accountants**



Show all

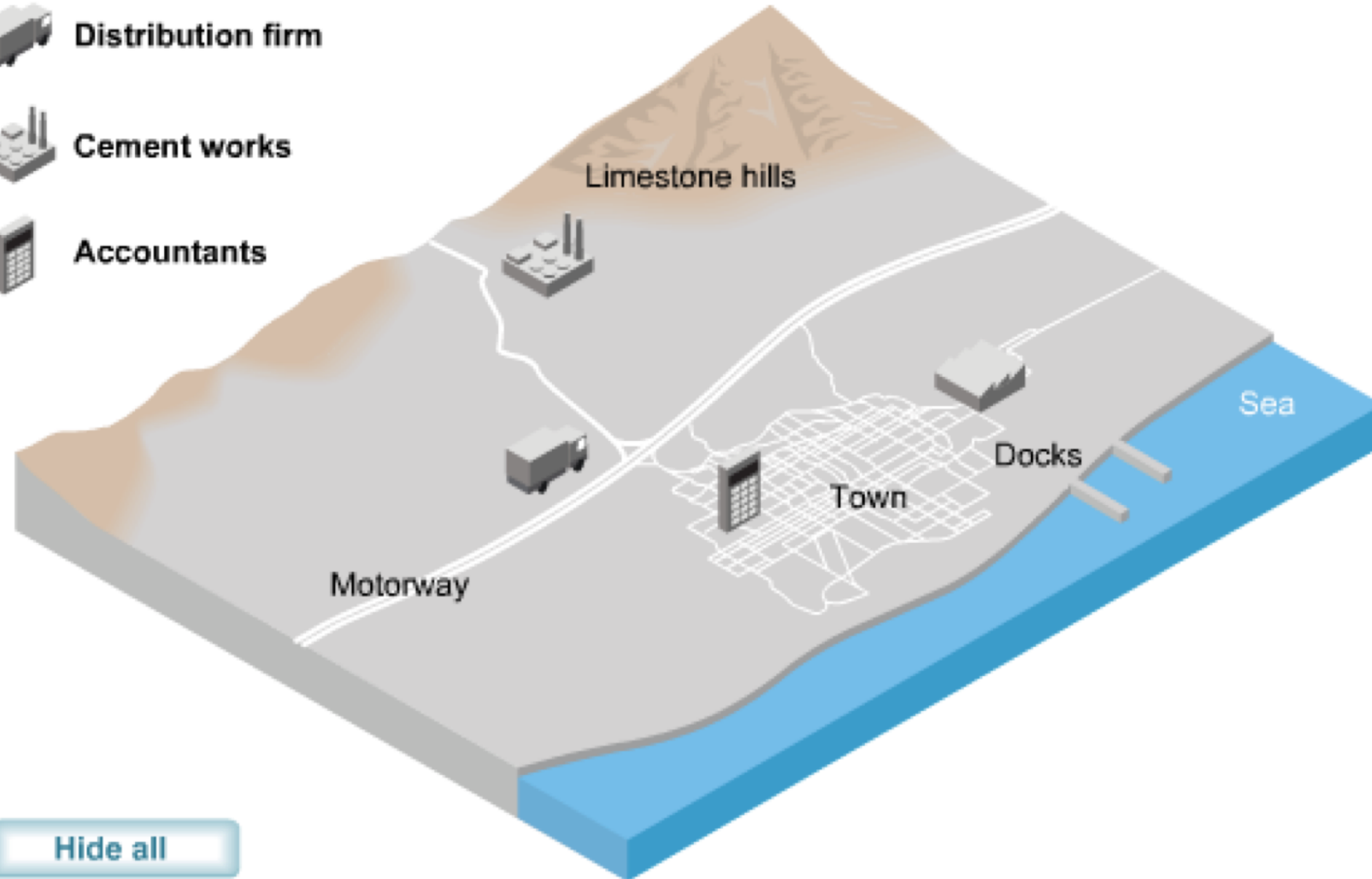
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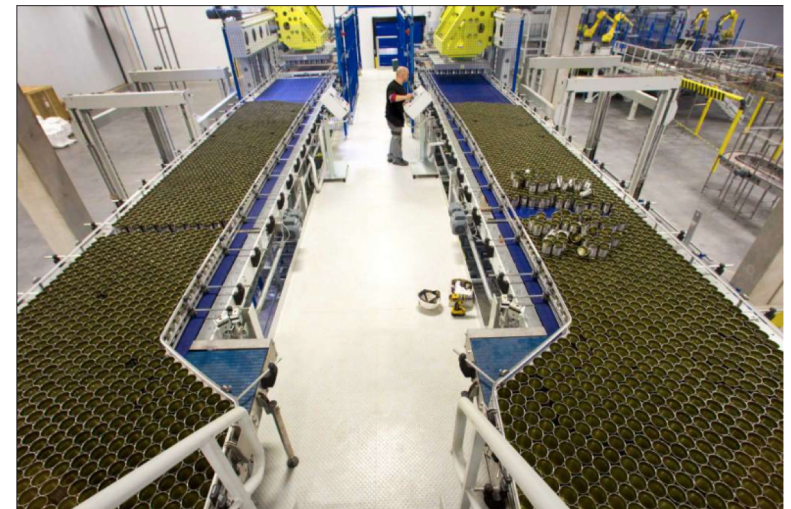
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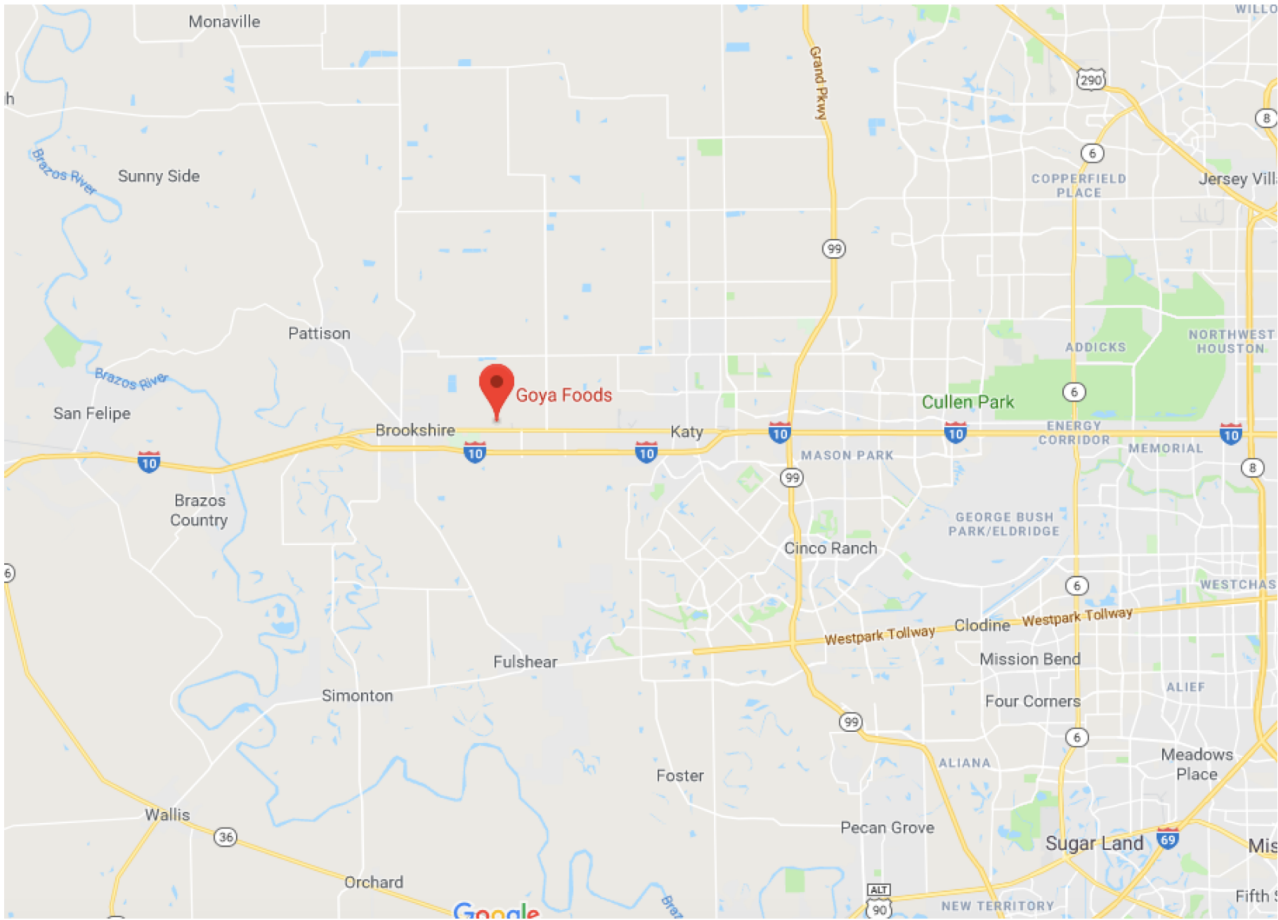
# Factors that impact the location of industry

1. Read through the factors that impact the location of industry worksheet.
2. For each of industries shown on the sheet decide which of the factors would be important.





# Location of industry: Goya Foods, Brookshire Texas



# Location of industry: Goya Foods, Brookshire Texas

- Goya Foods, producer of a variety of Hispanic grocery products, including rice, beans and condiments, has opened a canning facility in Brookshire.
- The factory has created 100 new jobs in the area.
- The location provides access to rail spur, the Port of Houston, and abundant ground water.
- Goya's new 350,000-square-foot facility is capable of producing 1,000 cans of beans per minute.
- Goya selected Brookshire as the location for this cannery because it offers convenient rail and highway access for moving this massive inventory throughout the west and southwest United States.
- "The land was a perfect fit for Goya," Weitzman said. "It's a hub for Goya's distribution to the west. We call it Goya's gateway to the west."
- On I-10 (major freeway) for easy distribution. Also has rail access
- Near large settlement (Katy, Houston)- for workers and market
- Hispanic population nearby
- Lots of land- flat and cheap- easy to build and expand.

What would be the inputs- processes and outputs for the Goya factory?



# Enquiry question: Why is the iPad designed by Apple in California but assembled in China?

## 3.1 Development

### Candidates should be able to:

Use a variety of indicators to assess the level of development of a country

Identify and explain inequalities between and within countries

Classify production into different sectors and give illustrations of each

Describe and explain how the proportions employed in each sector vary according to the level of development

Describe and explain the process of globalisation, and consider its impacts

### Case Study required for 3.1

- A transnational corporation and its global links

### Further guidance

Indicators of development (including GNP per capita, literacy, life expectancy and composite indices, e.g. Human Development Index (HDI))

Primary, secondary, tertiary and quaternary sectors

Use of indicators of development and employment structure to compare countries at different levels of economic development and over time

The role of technology and transnational corporations in globalisation along with economic factors which give rise to globalisation

Impacts at a local, national and global scale

## 3.3 Industry

### Candidates should be able to:

Demonstrate an understanding of an industrial system: inputs, processes and outputs (products and waste)

Describe and explain the factors influencing the distribution and location of factories and industrial zones

### Case Study required for 3.3

- An industrial zone or factory

### Further guidance

Industry types: manufacturing, processing, assembly and high technology industry

The influence of factors including land, labour, raw materials and fuel and power, transport, markets and political factors

Their combined influences on the location, scale of production, methods of organisation and the products of the system

Industrial zones and/or factories with respect to locational and siting factors



We call different parts of the chain of production *sectors*.



There are 4 main sectors:

**Primary**

Produce the raw materials for industry.

**Secondary**

Process raw materials or in other words manufacture and assemble materials.

**Tertiary** **Quaternary**

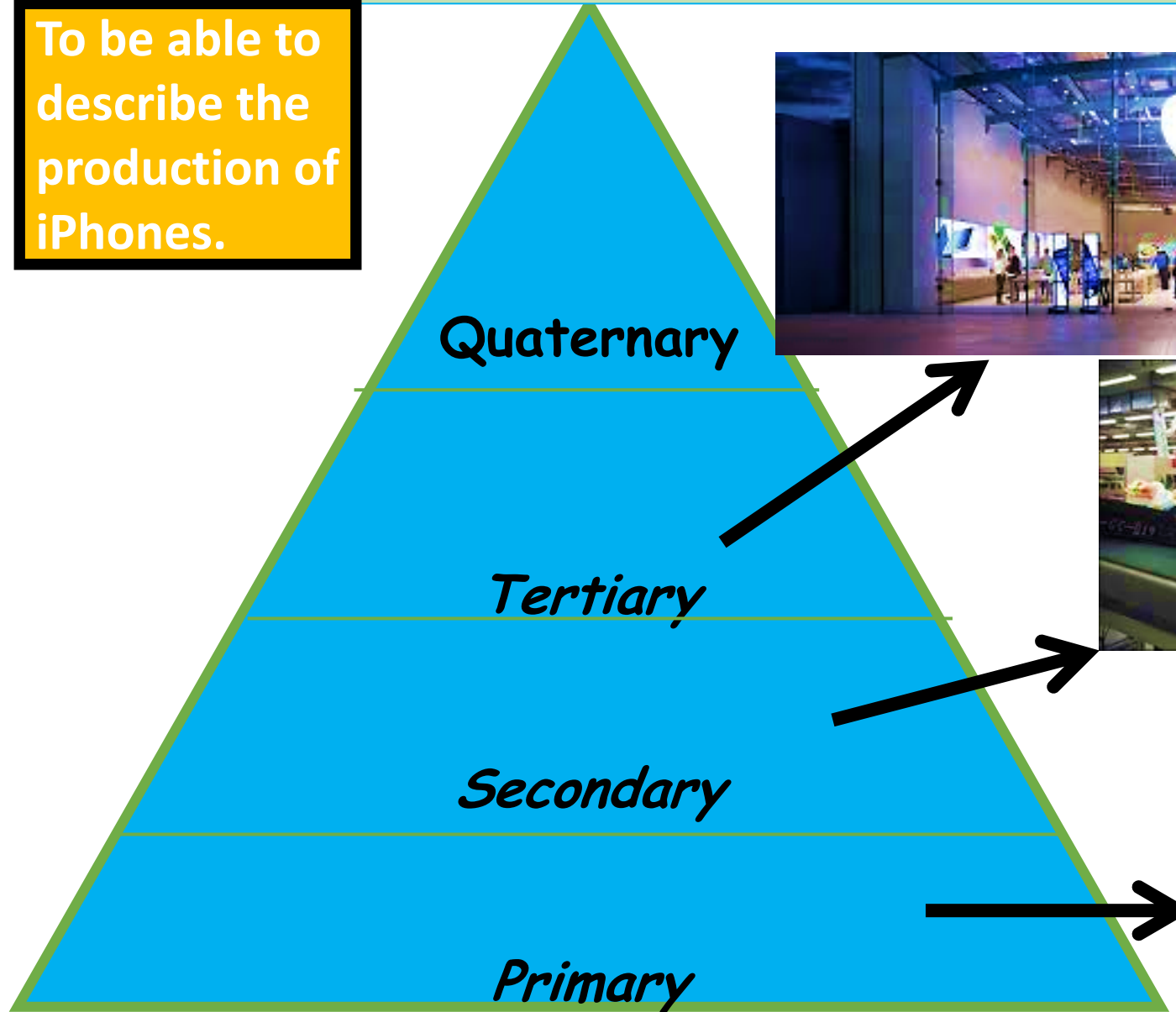
Selling of goods from primary or secondary sectors (retail).

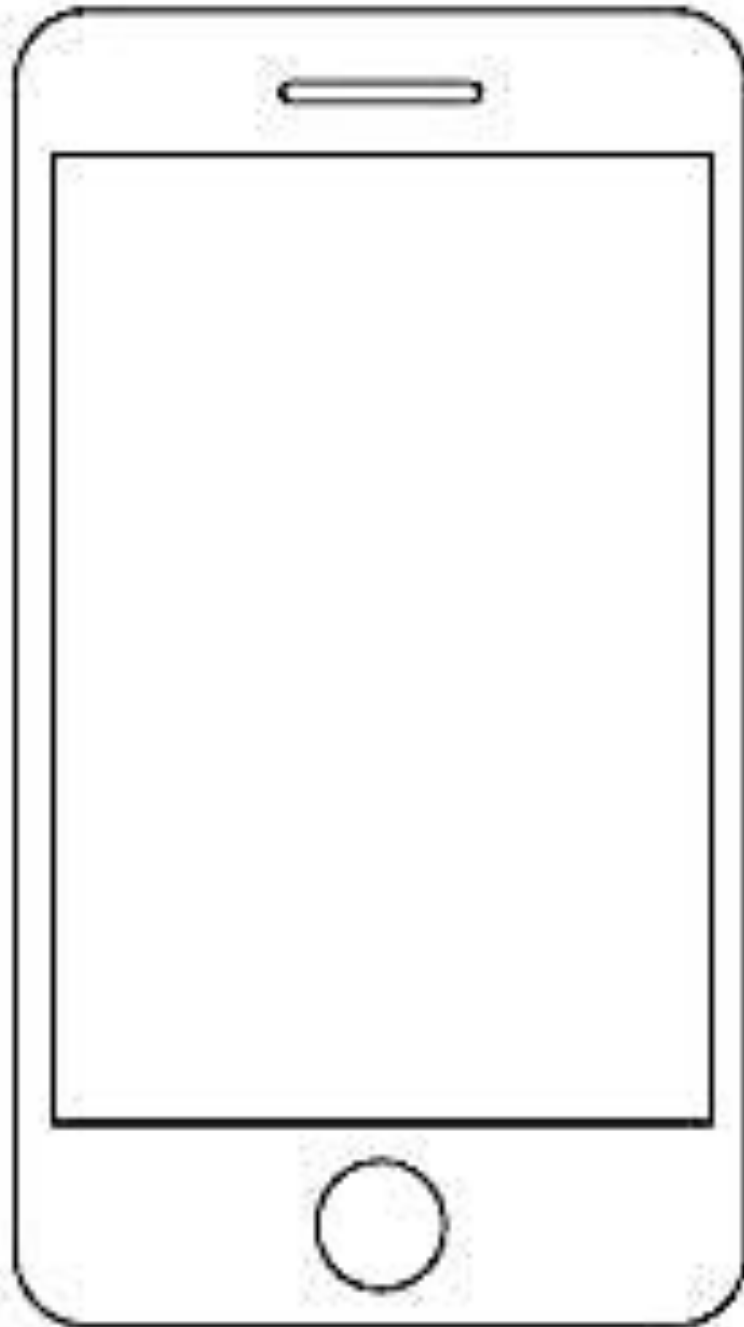
Providing information services, particularly research and design.

To be able to classify economic activity.

# How does employment associated with the iPhone fit into economic sectors?

To be able to describe the production of iPhones.





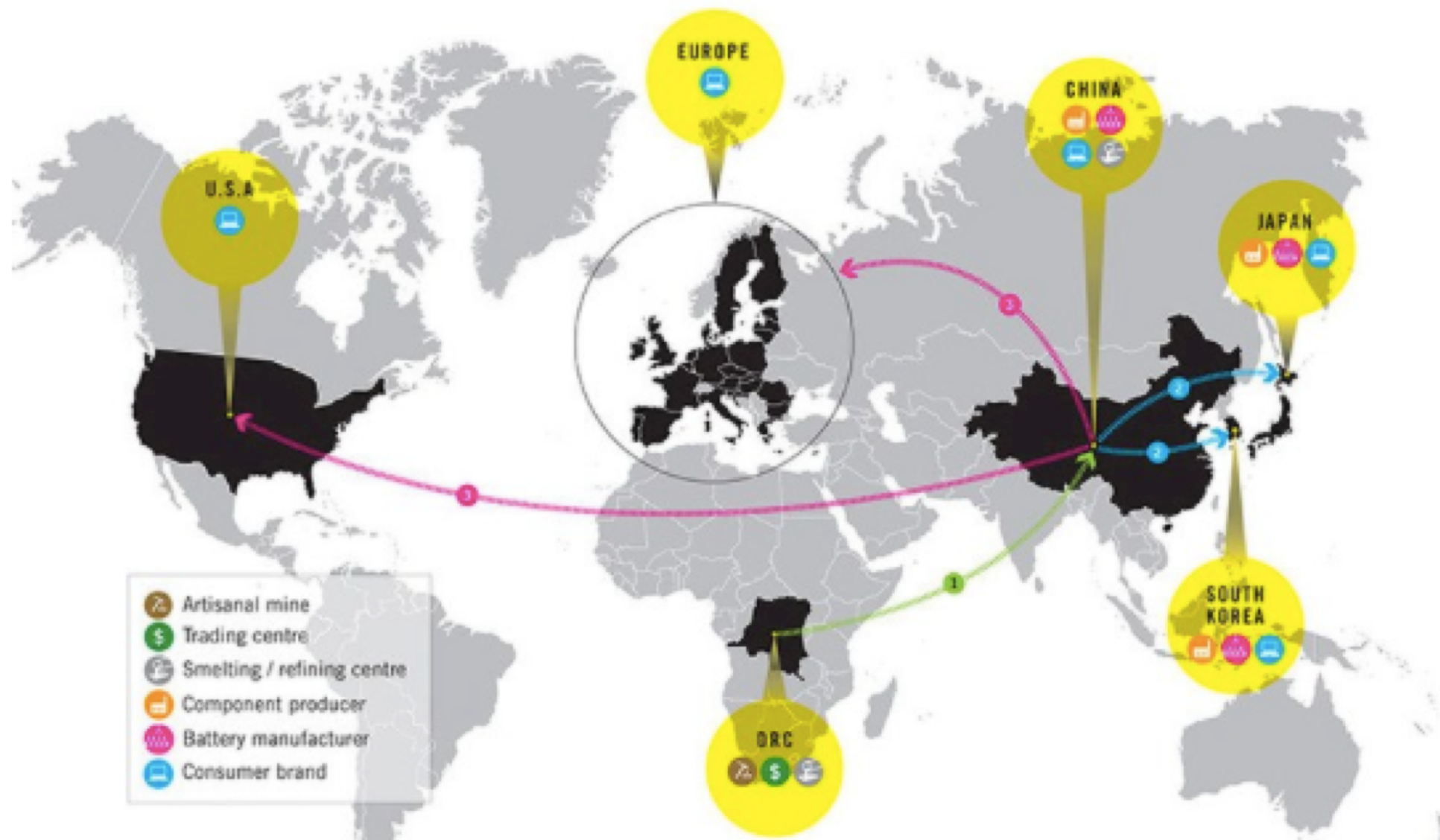
# Text Your Answer

Name and describe each sector of economic activity with reference to your case study.

# The raw materials

More than half of the world's supply of cobalt is mined from the Democratic Republic of the Congo (DRC). Cobalt is a key element in lithium-ion rechargeable batteries required for mobile consumer products such as cellphones, laptops and other mobile devices. It has been estimated by UNICEF in 2014 that as many as 40,000 child laborers work in the mines in southern DRC including cobalt mines.





- 1 Export of cobalt from DRC artisanal mines to China for processing. Over half the world's cobalt comes from the DRC, 20% of which is from artisanal mines.
- 2 Supply of processed cobalt to factories in Asia to make rechargeable batteries.
- 3 Supply of batteries to global technology and car companies.

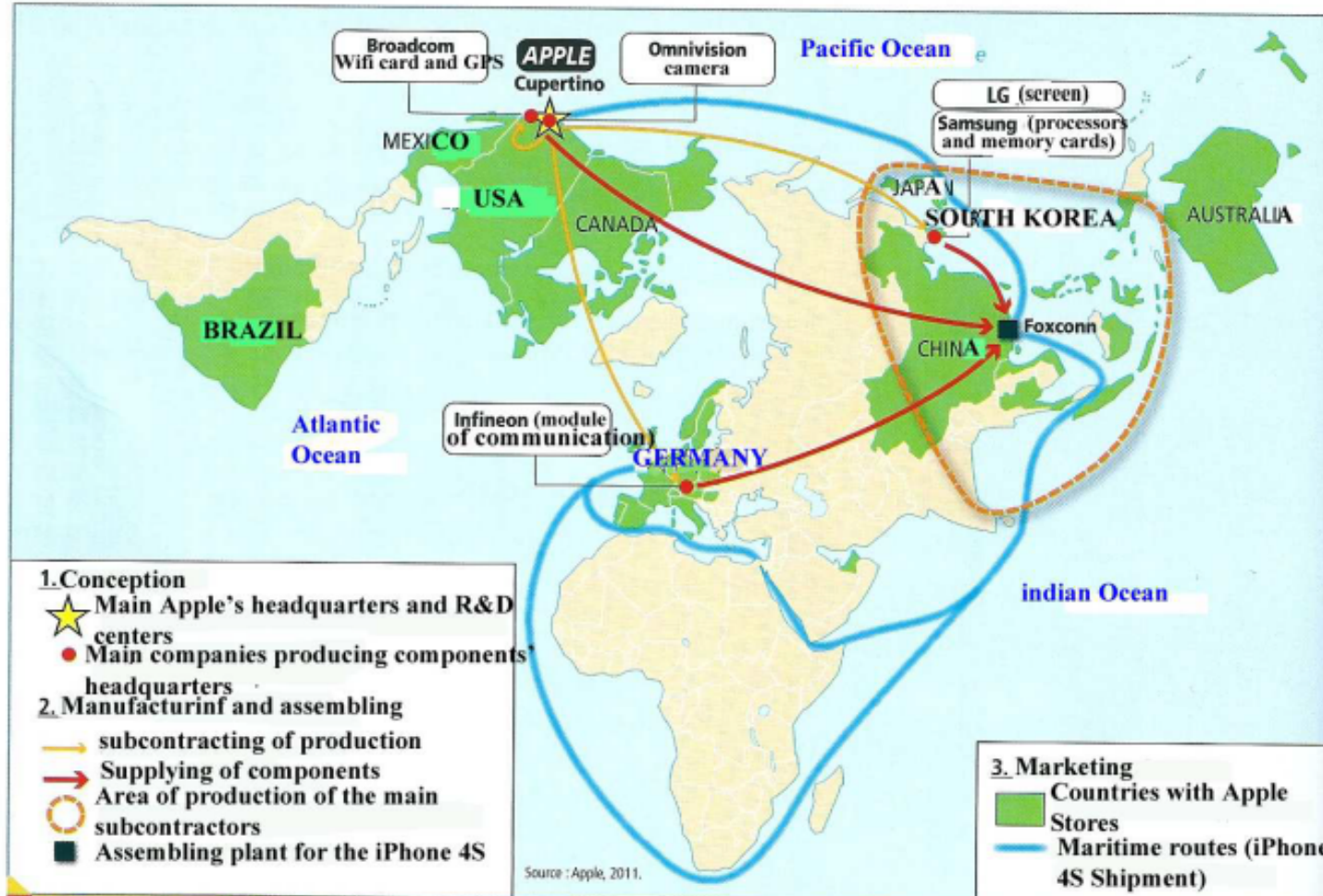


# The supply chain for Apple



Figure 4.24 A small part of the tiered supply chain for the iPhone

Source 1: The production and the distribution of the iPhone 4S



**Task:** Using source 1 describe the pattern shown on the map (4)- how do we answer this sort of question?

**KEY TERM:**

Global shift in manufacturing-

where operations are re-locating to developing countries

# Apple in China: Location of manufacturing



**\$4**

Extra cost if iPhones are assembled in the US. Apple's manufacturing strategy is motivated by scalability & supply chain risk rather than cost.

**\$600 million**

Additional labor cost for reshoring iPhone production to the US.

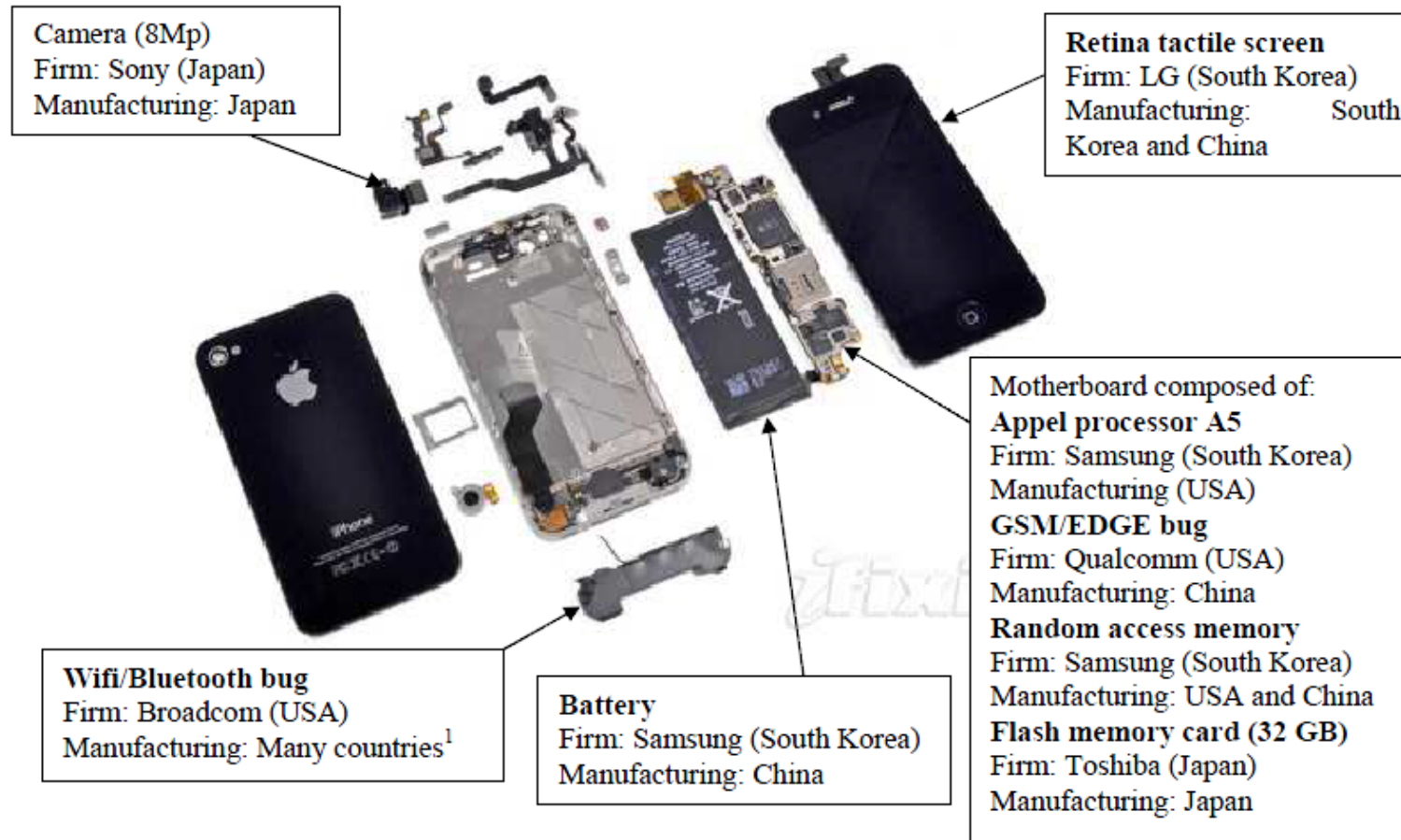
**35%**

Tax on profits Apple would have to pay for US-made iPhones, instead of the current 2% on overseas profits.

If Apple brought iPhone manufacturing to the US it would cost them \$4.2 billion

*Tim Worstall, FORBES*

Link to impact  
of a TNC in a LIC





# The social and economic impacts of Apple for China- Foxconn case study

Task:

Watch the documentary:

<https://www.nytimes.com/video/business/100000001313019/made-in-china.html>

<https://www.youtube.com/watch?v=7cRBBRwBKIE>

Make notes on:

- The advantages for the workers at the Foxconn factory
- The disadvantages for the workers
- The benefits of the factory for China as a whole
- The issues of the investment of TNCs for China as a whole
- Any case study specific information

## The factory with nets for 'jumpers'

June 2010

Apple has promised to investigate whether Foxconn, which employs 300 000 people at 30p an hour, should continue to make its products.

So far this year, ten workers aged under 25 have jumped from roofs to their deaths. They had been disturbed by long shifts, which are often 12 hours a day, and strict discipline. Talking and music are banned. Workers repeat tasks at high speed, under military-style supervision. They complain of not being allowed to sit, of unpaid overtime and poor dormitory conditions. Some have alleged beatings with iron bars and whips.

In an attempt to prevent more suicides, the firm has hired 2000 singers, dancers and gym trainers. It is putting up large nets to catch 'jumpers'. For the future, it has promised to raise wages and relocate some workers closer to their homes.

# The location of High tech industry: Case study-Apple

**Headquarters**



**Factory**



# CASE STUDY: High Tech Industry in Silicon Valley- Where and Why?

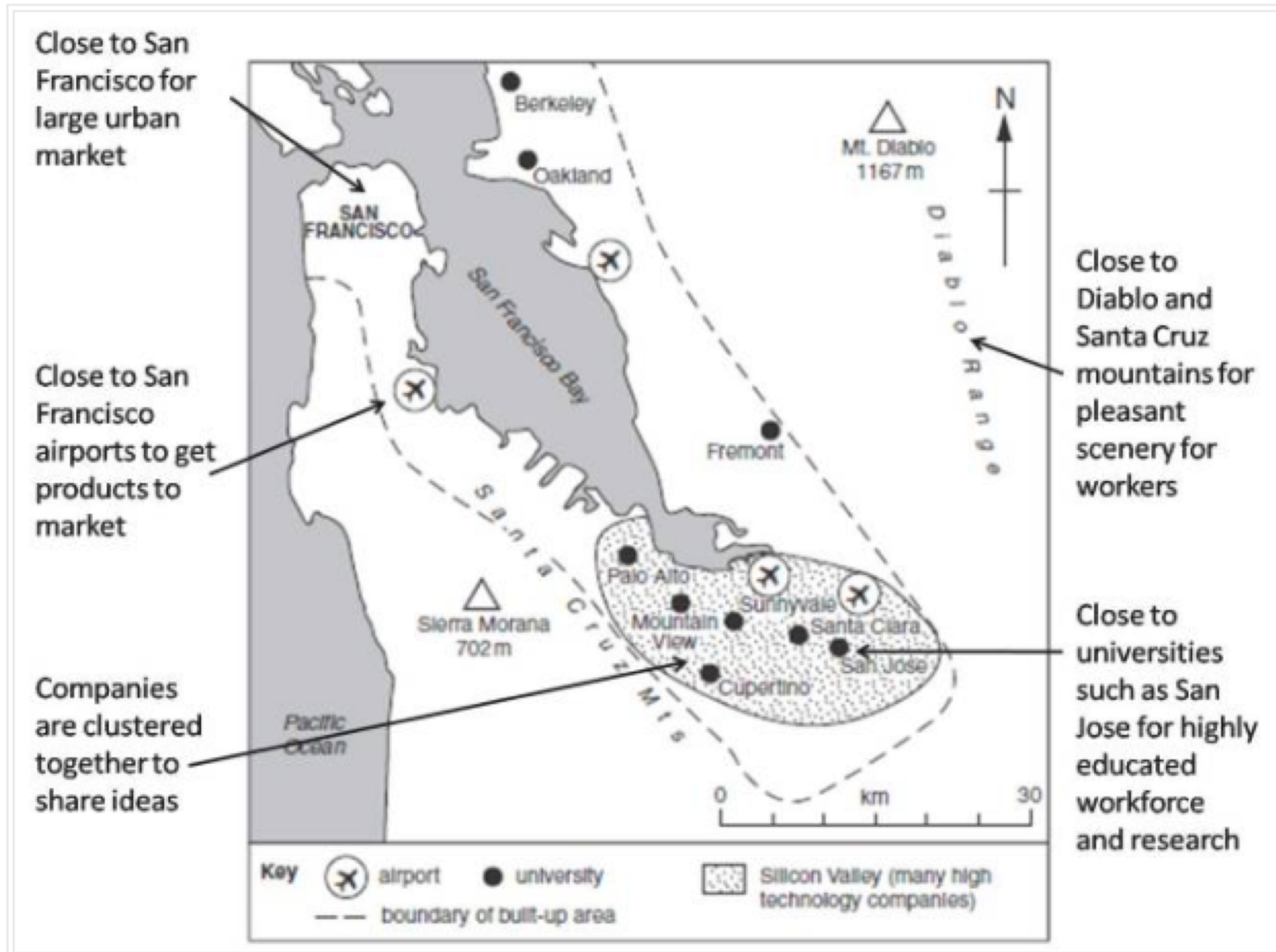
- High-technology industry **uses the most advanced technology** to make products (computerised systems etc)
- They involve a **highly-skilled workforce** and its products require a high proportion of **research and development**.
- High-technology industry is relatively **footloose** since access to raw materials is not very important. The 'raw materials' that are required are usually lightweight electronic components.

## Key term:

**Footloose industries: not tied to a particular location.** They include high-tech industries and are located near motorway junctions or on the edges of towns and cities in business parks.



## Why is Silicon Valley an ideal location for High Tech Industry?



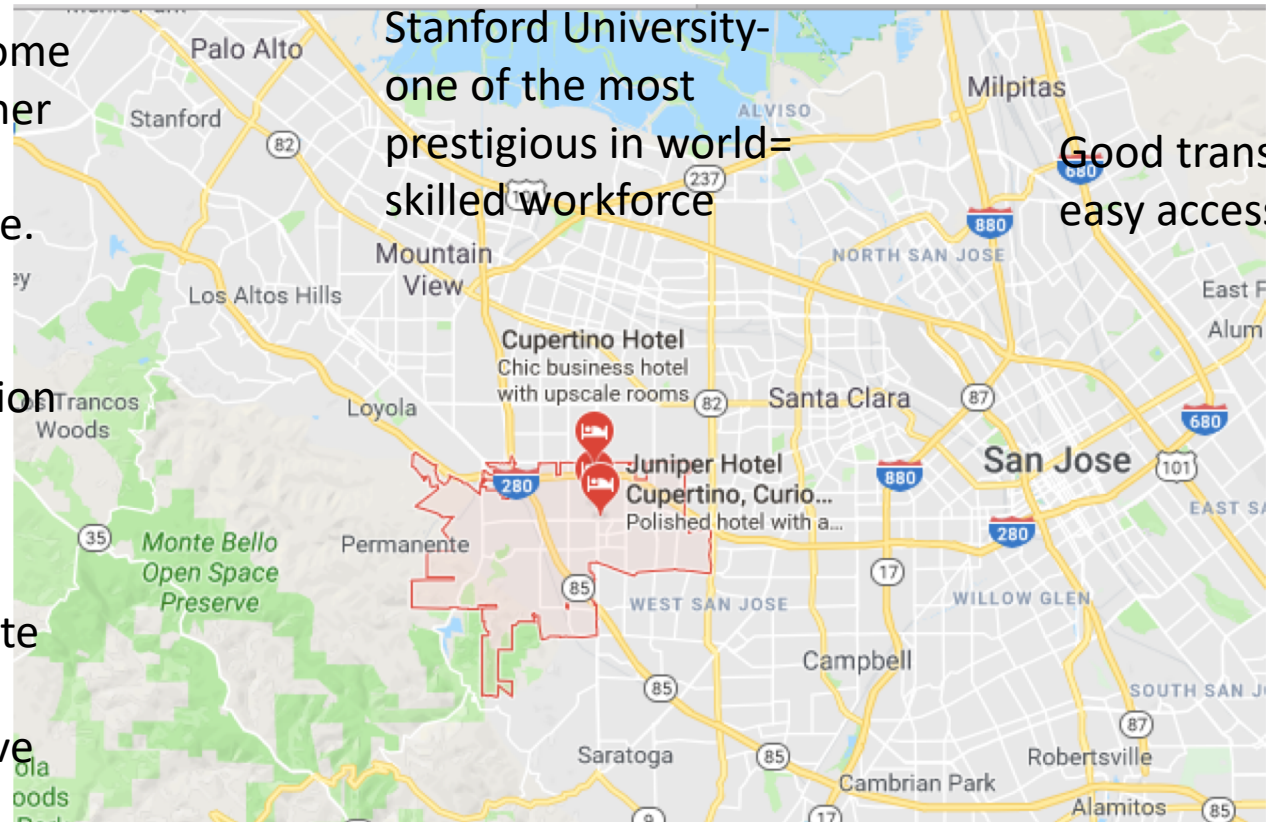
# The location of the new Apple headquarters- Apple Park, Cupertino, California

- <http://money.cnn.com/2017/09/12/technology/future/inside-apple-park/index.html>



Palo Alto home to many other high tech industries i.e. Facebook, Google= agglomeration

Near many state and National Parks- attractive area for living



Stanford University- one of the most prestigious in world= skilled workforce

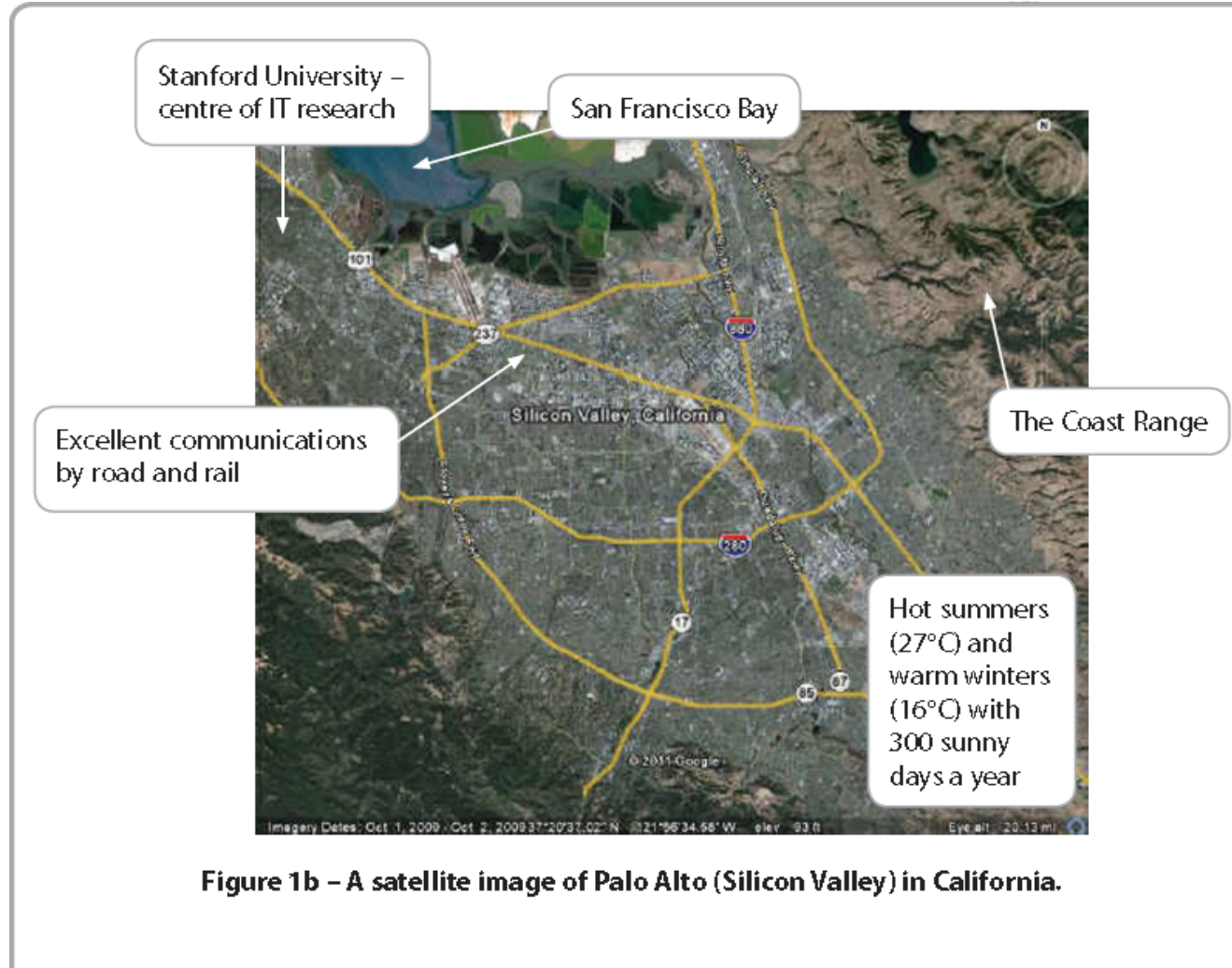
Good transport links- easy access to market

# Task

- Read through p266- 268 of the textbook and make notes on why the silicon valley has so many industries- use specific case study detail.

(e) Study Figure 1b in the Resource Booklet.

Explain how **both** physical and human factors make areas such as Silicon Valley attractive to hi-tech companies.

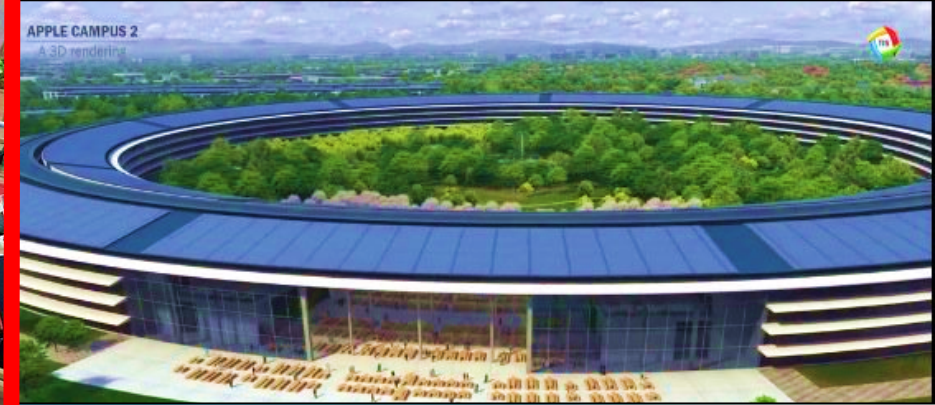


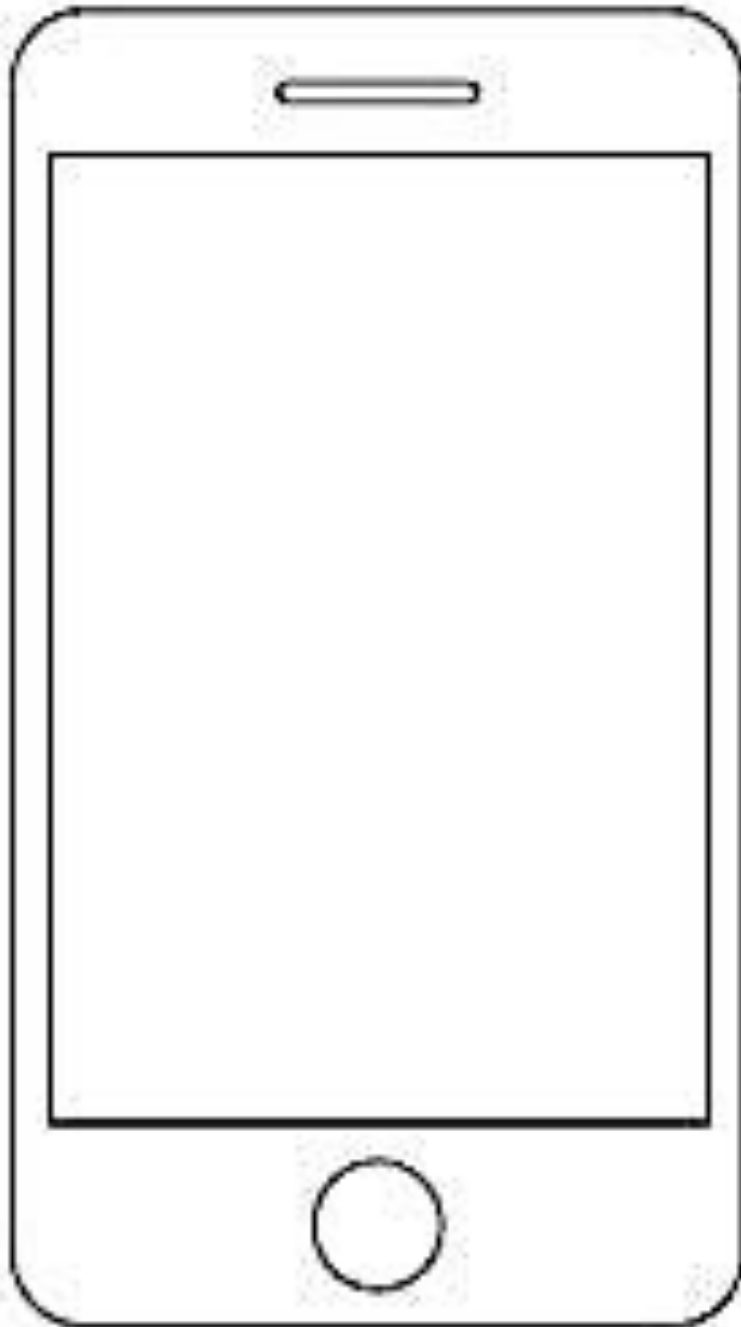
**Figure 1b – A satellite image of Palo Alto (Silicon Valley) in California.**

Question Number	Indicative content	Mark
<b>1 (e)</b>	<p>Physical factors:</p> <ul style="list-style-type: none"> <li>• flat sites that are cheaper to develop</li> <li>• water available</li> <li>• proximity to coast to attract labour and for exports</li> <li>• proximity to mountains (ski resorts) to attract labour.</li> </ul> <p>Human factors:</p> <ul style="list-style-type: none"> <li>• proximity to major city/cultural centre for labour/management</li> <li>• availability of venture capital for start-up capital</li> <li>• proximity to university for contracts/ symbiotic relationship</li> <li>• proximity to other similar companies</li> <li>• proximity to suppliers and contractors.</li> </ul> <p>Good explanation should address:</p> <ul style="list-style-type: none"> <li>• the competitive nature of hi-tech businesses</li> <li>• the need to attract the best graduates into research and development</li> <li>• the expectations of the workforce and the management requirements both drive the location.</li> </ul>	<b>6</b>
Level	Mark	Description
Level 0	0	No acceptable response.
Level 1	1–2	At least one basic descriptive point drawn from resource. Links with hi-tech companies missing. No locational detail.
Level 2	3–4	Some descriptive points adding to resource. Some use of hi-tech examples. Explanation is asserted but not fully explained.
Level 3	5–6	Good descriptive detail with a range of points. Explanations convincingly linked to specific reasons for location (costs/attraction to labour/co-location). Physical and human factors in some detail. Supportive located evidence offered.

# Task

- Read page 269 of the textbook and make notes on how and why China has attracted high tech industries.





Who are the losers  
in the production  
of iPhone?

Describe the working  
conditions for your  
chosen loser using  
facts and figures.



# 7 mark question

- (c)** For a named example of an area where high technology industry has been located, explain the factors which have attracted this type of industry.

Name of area .....

(c) Levels marking

Level 1

[1–3 marks]

Statements including limited detail explaining the factors which have attracted high technology industries.

Level 2

[4–6 marks]

Uses named example

More developed statements explaining the factors which have attracted high technology industries.

NB MAX 5 if no named example

Level 3

[7 marks]

Uses named example (e.g. Cambridge Science Park).

Comprehensive and accurate statements including some place specific reference.

Candidates may refer to ideas such as:

Workforce

Transport

Land availability

Cost of land

Government incentives/investment

Universities

Environmental factors

[7]

**[Total: 25]**

# 7 mark question from 2018

22

- (c) Describe a named transnational corporation (TNC) you have studied and its global links.

Name of transnational corporation (TNC) .....

Question	Answer	Marks
5(c)	<p>Levels marking</p> <p><u>Level 1</u> (1–3 marks) Statements including limited detail which describe a transnational company and/or its global links.</p> <p><u>Level 2</u> (4–6 marks) Uses named example.  More developed statements which describe a transnational company and/or its global links.  (Note: Max 5 if no named or inappropriate example)</p> <p><u>Level 3</u> (7 marks) Uses named example. Comprehensive and accurate statements which describe a transnational company and its global links, including some place specific reference.</p> <p><u>Content Guide:</u></p> <p>Answers are likely to refer to: Products produced/services offered Sources of raw materials Where production occurs markets transport of raw materials/products 'home' country/base etc.</p> <p><u>Place specific reference is likely to consist of:</u> Locational details/named areas/countries Statistics etc.</p>	7