**Unit 2 Technology Systems**

**Applications of technology systems and issues**

Technology systems are used by most organisations in every type of sector for many different purposes. Some examples are given in this section, but see what others you can find out about. This section also explores some of the issues involved with using technology systems such as environmental and safety concerns. The final part of this section gives some information about why organisations need to plan and develop their technology systems.

**Uses in different sectors**

Depending on the type of organisation, they may use their technology systems to store information, keep accounts, plan, draw, do calculations, send email, access the internet or produce documents. Here are some examples of uses in different sectors:

Construction sector: uses technology systems to plan projects, create architect drawings (using CAD) and to track spending.

Finance sector: uses technology systems to follow the prices of stocks and shares and to calculate the effects of interest rates on loans and savings.

Health sector: uses technology systems to scan patients and in life support systems to monitor heart beats, breathing and other processes.

Manufacturing sector: uses computer aided design/computer aided manufacture (CAD/CAM) systems to design parts for production and to control robots and other machines on the production lines. Robots are good at production tasks because that are fast, accurate, never get tired of repetitive tasks and can work in dangerous conditions.

Retail sector: uses technology systems to track sales at tills, using point of sale (PoS) systems that automatically update stock records and produce reports. The retail sector also uses the internet to advertise and sell products.

**Issues involved in the use of technology systems**

**Environmental issues**

Technology systems can be good for the planet and help sustainability by reducing the need for travel. Video conferencing enables people from different locations around the world to meet.

Technology systems can also be bad for the planet, as hardware devices consume power. Many technology systems are left switched on 24/7, creating heat and wasting electricity.

For example, online shopping reduces the need to travel to shops. However, delivering the products ordered online uses a similar amount of energy.

**Computer security and copyright**

All computers in technology systems are at risk of attack from sources that do not have authorised access to the system. Attacks commonly occur for the advantage of others, such as for financial gain or to obtain sensitive information. Malware, such as a computer virus, worm, spyware or Trojan horse, is a common form of attack.

The privacy of personal and sensitive data contained within computers or entered into a website and transferred across the internet is also an issue.

Computer security is used by individuals and organisations to protect their computers from attack and to safeguard their privacy. Typical security measures include using secure passwords, which are used to authenticate user Ids, and by setting different levels of access to system servers and folders for different users.

The internet contains a massive amount of information, which you are able to view and download. Often this information is protected by copyright, so you can be breaking the law by downloading music, artwork, photographs or other material such as documents.

**Developing technology systems**

There are many reasons why organisations (and perhaps individuals) want to improve and develop new technology systems. These include:

**Competitive advantage**

The objective is to gain advantage over competitors by using technology. For example, by using advanced technologies Rolls-Royce is able to monitor the performance of their jet engines while in flight, in real-time. They are able to charge their customers for this service as it reduces their staff and maintenance costs, and helps prevent service disruption.

**Reduced costs**

Cost savings can be made by developing the system so that fewer people are needed to operate it or to save time and distance by using the system to plan routes for deliveries.

**Improved performance**

This can be achieved by developing systems to deliver results more quickly, by making it easier for staff to use the systems and by providing a more satisfying experience for customers.