Computers need to transmit data. This can be internally transmitting data between the different components (such as between the CPU and RAM), or it can be externally transmitting data between an IT system and it's peripherals.

|                   | Use  |   | 8   |
|-------------------|--|---|---|
| USB               | Is a connector that is very<br>commonly used with<br>peripheral devices.   | It has fast transfer<br>speeds, can connect<br>multiple devices,<br>provides power and is<br>very compatible with<br>computers. | It does have a relatively short range.  |
| SATA              | Is a connector that is most<br>commonly used with<br>internal storage devices but<br>can work with external<br>ones.         | It is very fast and very<br>compatible with<br>computer systems.  | It has a short range and doesn't supply power.  |
| VGA               | Is a connector that is used with display devices.  | It is compatible with<br>older devices and has<br>built-in locking<br>mechanisms.   | The signal can degrade<br>easily, it cannot achieve a<br>very high resolution and<br>doesn't include an audio<br>signal.                      |
| HDMI              | Is another connector that is used with display devices.  | It is capable of excellent<br>resolutions and transmits<br>an audio signal too.   | It doesn't have a locking mechanism.  |
| Ethernet<br>Cable | Is used to transmit data<br>between IT systems, often<br>in a local area network.  | It is very reliable, has a<br>good range and is very<br>compatible with<br>computers.   | It does offer limited<br>mobility, is often not<br>compatible with mobile<br>devices and cannot<br>transmit data over very<br>long distances. |
| Fibre<br>Optic    | Is a method of transmitting<br>data between IT systems<br>that is commonly seen used<br>as part of the telephone<br>network. | It has excellent transfer<br>speeds & range and also<br>is very secure.   | It is very expensive.   |

### **Wireless Methods of Connecting Devices**

More and more commonly we are seeing wireless connection methods replacing these wired methods in many instances.

|   |                     |   | Use   | $\bigcirc$  | 8  |
|---|---------------------|---|---|---|--|
|   | Infrared            |   | Is a wireless connection<br>that is commonly used<br>with remote controls. It<br>was also commonly used<br>with peripheral devices<br>like wireless mice &<br>keyboard, but not as<br>much anymore.                               | It has a low susceptibility<br>to interference.   | It is short ranged,<br>requires line of sight and<br>is slow.          |
| a | Bluetooth           | G | Is a wireless connection<br>that is commonly used<br>with peripheral devices<br>like wireless mice &<br>keyboards. It's also used<br>to transfer data between<br>two IT systems and to<br>share a mobile<br>broadband connection. | It is easy to connect, has<br>a low susceptibility to<br>interference and has a<br>low power consumption. | It is also relatively slow<br>and not very secure.                     |
|   | WiFi                | Ś | Is a wireless connection<br>that is used to access the<br>internet, create a wireless<br>LAN and to connect to<br>some peripherals such as<br>printers.   | It is relatively fast and<br>long ranged and has a<br>low installation cost.                              | It can be complex to set<br>up and insecure.                           |
|   | Mobile<br>Broadband |   | Is a mobile connection<br>that is used with mobile<br>devices to access the<br>internet on the go.  | It is widely available<br>wherever you are and is<br>very easy to connect to.                             | It is expensive and is<br>quite a bit slower than<br>WiFi connections. |

## Unit 1: Information Technology Systems **B** Transmitting data

**B1** Connectivity

### **Wired Methods of Connecting Devices**

Computers need to transmit data. This can be internally transmitting data between the different components (such as between the CPU and RAM), or it can be externally transmitting data between an IT system and it's peripherals.

#### **Wireless Methods of Connecting Devices**

More and more commonly we are seeing wireless connection methods replacing these wired methods in many instances.

|                   |           | Use |  |                     |  | Use | × |
|-------------------|-----------|-----|--|---------------------|--|-----|---|
| USB               |           |     |  | Infrared            |  |     |   |
|                   | Sec. Anna |     |  |                     | 1000000<br>100000<br>1000000<br>10000000<br>10000000 |     |   |
| SATA              |           |     |  | Bluetooth           |  |     |   |
|                   |           |     |  |                     |  |     |   |
| VGA               |           |     |  |                     |  |     |   |
| HDMI              |           |     |  | -<br>               |  |     |   |
|                   |           |     |  | viii                |  |     |   |
| Ethernet<br>Cable |           |     |  |                     |  |     |   |
|                   |           |     |  |                     |  |     |   |
|                   | ~         |     |  | Mobile<br>Broadband |  |     |   |
| Fibre<br>Optic    |           |     |  |                     |  |     |   |
|                   |           |     |  |                     |  |     |   |

# Unit 1: Information Technology Systems **B** Transmitting data **B1** Connectivity