Discuss the use of technology in both the training methods and training environment of elite athletes in global sport!

Technology is used to help advance elite athletes, by achieving the maximum for the individuals needs. Both with the training methods and environments technology is being used more and more, for example simulated competition environments.

Although such technology is becoming increasingly popular with elite athletes, the provision of it depends very much on how much money is at the athlete's disposal. This could be personal/family wealth or funding provided by a third party, such as lottery funding or government funding.

There may be such cases where the athlete is part of a national team that train in a sporting institute where all the technology is provided for them and the sporting institute is funded governmentally. From what I gather this tends to be the case due to the fact that it is cheaper to concentrate expensive technology in a sporting institute, and open up the training facility to the governing bodies of each individual sport. This involves the governing bodies paying a reduced fee, or nothing, depending on the governmental or lottery funding situation for both the governing bodies and the sporting institute.

Along with creating a national training centre for various sports to provide training facilities that aren't normally available to most athletes for financial reasons, these sporting institutes can also replicate many atmospheres, such as a competition atmosphere, which is very important part of training for athletes to aid them with the preparation for the pressures that they will have to deal with on the day of the competition. Another atmospheric change in training is the use of hypoxic chambers, to make the lungs more efficient. This replicates altitude training. Without the technology of hypoxic chambers it is still possible to create the altitude atmosphere by training with a restricted breathing pattern (hypoxic training). This can be an effective way of replication, but technology is still required to measure the carbon dioxide levels in the alveoli air.

The sporting institutes also use technology to analyse performance statistics, such as, speed, power, heart rate, blood lactate, oxygen uptake, flexibility, technique and aesthetics (for some aesthetic based sports, ie dancing, ice dancing). An example of this is using video recording and playback technology to record an athlete's performance so that it can be analysed during playback. This can be used to 'fine- tune' technique, or to work on the aesthetic sides of the aesthetic based sports.

Particularly in aesthetic based sports video is used during media broadcasts to show the public 'snippets' of competitors in slow motion. The clips are normally of a particular specified element. More recently the judges in ice dancing have been using a system that provides each judge with a computer screen and with this they can select the slow motion elements that they want to view before giving their scores.

Another example of the analysis of performance statistics is the use of technology in computerised fitness machines. I have used the computerised weight machines “Technogym” produced by the “Wellness” company. They show you your acceleration, force, range of movement and overall technique, this ensures that you are working the correct muscle groups and at the correct speed and with the overall correct technique. After using each machine all the information is stored on a “Technogym Key” that at the end of a training session you insert in to a main computer. The main computer keeps a record of your training program from the very first time you use it. It monitors your strength, power, burnt calories, distances that have been covered and individual muscle group progress. Some of these machines can also be linked up to a heart rate monitor that sends a signal from your wrist to the machine, that data is stored first on the “Technogym Key” and is then transferred to the main computer for analysis.

Technology also plays a massive part in the manufacture of clothing for sport, particularly those that require the use of streamlined clothes, such as speed skating, cycling and swimming. The technology is used to measure the drag on the particular material and the design of the item of clothing, this helps the manufacturers identify where the drag is created and to design the clothing to be more efficient.

Sometimes technology is required to decide a result in a competition, I am of course referring to the use of photography for a “photo finish”.

As I have experienced in ice skating at international competitions, most nations have their own team behind them. This normally consists of a team doctor, a team physiotherapist and sometimes a nutritionist. The requirement for technology applies here, in the need for the physiotherapist to be able to his job correctly he must have such things a ultrasonic/ultrasound machines for deep tissue therapy, and electromyography equipment to analyse muscle activity. This shows that even the team that follow an athlete/s around for medical support at competitions need to use technology to be able to do their job.

This shows that in modern day global sport it isn’t possible to compete at an elite level without all these forms of technology that have been introduced over the course of time, because if there are people using this high level of technological advancement within a sport then others have to use it to be able to keep up, otherwise they will be over taken. This is because the ones using the facilities will know more about their own personal needs and be able to provide them, hence increasing their performance.