The global positioning system

The Global Positioning System (GPS), the pioneer in navigationtechnology, was launched by the government of USA for military purposes to guide the missiles and to move targets. The systems currently consist of 31 satellites (as of March 14, 2018) orbiting twice a day in circular motion at an altitude of 20, 200 km.

GPS provides precision in computing the velocity, position and time. Although, it is subsidized and maintained by Department of Defense, the civil users across the world use it, at free of cost for various purposes. TechnologyGPS consists of three segments namely, the satellite or the space segment, user segment and the control segment.

The space segment consists of satellites, the user segment are the GPS receivers and the control segment helps to monitor the satellite operations. There are five control units to monitor the proper functioning of the satellites, and they are stationed in Krasnosnamensk (Moscow), Schtscholkowo (Moscow), Komsomolsk (Russia), St. Petersburg (Florida) and Ternopil (Ukraine).

The location of the user is determined by the line of visibility of four or more satellites and measured by two factors: pseudorange and carrier phase. Usually three satellites points to the coordinates of the user and the fourth is for the user's clock error. The GPS tracking system which is augmented by Low Earth Orbit (LEO) which is orbiting at an altitude closest to the earth's surface provides comprehensive internet access to remote areas even with low intensive users.

Unmanned Aerial Vehicles (UAVs) or drones having integrates sensors and GPS receivers uses multicopter technology to fly and capture photos and videos. The drones are capable in identifying objects and avoiding collisions and quickly react to the environmental disturbances like wind, tress, buildings by adjusting their position and movements accordingly. Most importantly, the multicopters have an automatic landing when there is an interruption of signals.

UsesWhen people affected byDementiaor Alzheimer's are lost, the GPS tracking device helps to locate the person. The devices are available in various forms to wear them as watch or as pendant around the neck or in the soles of shoes and or can be even attached to the clothing of the patient.

Apparently, to avoid restricting such people withinnursinghomes, it maximised the autonomy and protected them from getting lost. Perhaps, these devices not only help to monitor the location of the person but has fall sensors to alert the caregiver in case of an emergency. The usage of drones in live sports telecasting is an added advantage giving stunning views and movements to the spectators.

As they are smaller in size and less noisy, the drones are able to manoeuvre and get some closer shots which helps in decision making in the corresponding sport. Materials and MethodsResultsConclusionOver the years, there will be a paradigm shift for business running with GPS technologies by Global Navigation Satellite System (GLONASS) or Galileo.

GLONASS was the system developed by the Soviet Union whereas Galileo by the Europe Union (Rizos, 2003). Although, these satellites differ in orbital

planes and the altitude from the earth, they provide accurate navigation to the military and the common man. Today, there are several networking and telecommunication companies like St-Ericsson, Qualcomm and Broadcom to offer devices supporting GPS and GLONASS.