SLAM algorithms allow the vehicle to map out unknown environments. Engineers use the map information to carry out tasks such as path planning and obstacle avoidance.

**Why do we use SLAM?**

SLAM is an essential piece in robotics that helps robots to estimate their pose – the position and orientation – on the map while creating the map of the environment to carry out autonomous activities.

**How does SLAM algorithm work?**

Using SLAM software, a device can simultaneously localise (locate itself in the map) and map (create a virtual map of the location) using SLAM algorithms. Sensors may use visual data, or non-visible data sources and basic positional data, using an inertial measurement unit (IMU).