# Role of IT in following Industry

1. **IT in Automobile**

Information Technology (IT) has transformed the automobile industry through AI-driven self-driving cars, connected vehicles, and predictive maintenance. Modern cars are equipped with IoT sensors that track engine performance, tire pressure, and even driver behavior. Advanced Driver Assistance Systems (ADAS) use real-time data processing to enhance safety.

IT has also enabled smart infotainment systems, offering voice assistants, navigation, and even remote control via smartphones. Additionally, cloud computing and big data help manufacturers analyze customer preferences to improve designs.

**2. IT in Metro Rail**

IT plays a crucial role in metro rail systems through **Automatic Train Control (ATC), AI-based signaling, and real-time tracking systems**. IT-driven ticketing solutions like RFID smart cards and QR code-based mobile tickets reduce wait times.

AI-powered surveillance systems improve security, while **IoT-based predictive maintenance** ensures tracks and trains remain in top condition. With cloud computing, metro operators analyze passenger flow, optimize train schedules, and reduce delays.

**3. IT in Avionics**

Modern aircraft rely on **IT-driven avionics systems** like Flight Management Systems (FMS), GPS-based navigation, and AI-powered autopilots. **Cybersecurity in aviation** ensures that flight data and communication remain secure from hacking threats.

IT also enhances **air traffic management**, enabling real-time tracking of flights, reducing congestion, and ensuring safe landings. Airlines use **big data analytics** to optimize fuel consumption, monitor engine health, and enhance passenger experience through in-flight entertainment systems.