International Conference on Latest Trends in Engineering, Management, Humanities, Science & Technology (ICLTEMHST -2022) 27ᵗʰ November, 2022, Guwahati, Assam, India.

CERTIFICATE NO : **ICLTEMHST /2022/C1122995**

THE FUNCTION OF AIR TRAFFIC CONTROL SYSTEMS IN IMPROVING EFFICIENCY AND SAFETY

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ABSTRACT

The primary focus of air traffic control and management is the regulation of airspace, airports, and terminals. The responsibility for maintaining a safe distance between all aircraft, whether in the air or on the ground, is with the air traffic controllers who operate out of the air traffic control (ATC) towers.

Lead Providers of Air Traffic Control Systems and Companies That Manage Air Traffic

There are a number of businesses that focus on supplying ATM and ATC systems for the aviation industry. These businesses are leading the way in improving aviation safety, efficiency, and sustainability through creating cutting-edge solutions and technology for air traffic control and management. Here are only a handful of them:

The Thales Group

Thales is a world leader in security, defence, and aerospace solutions. They offer many ATM devices and services. They sell air traffic control centres, radar systems, data networks, and automation tools that make it easier to handle air traffic.

The Saab Group

Saab is a Swedish aerospace and defence company that is known for its advanced ATM solutions, such as surveillance cameras, tools for making decisions together, and air traffic control systems. They offer unified ways to handle air travel in a safe and effective way.

Harris Corporation, which is now Called L3Harris Technologies

It makes some of the best ATM and ATC systems. For managing air traffic, they have a lot of different options, such as radar systems, surveillance sensors, communication networks, and automation software.

Raytheon Business

Raytheon is a big defence contractor based in the U.S. that makes ATMs and ATC systems for both military and commercial use. They sell advanced technologies for handling air traffic, automation tools, communication networks, and radar systems.

Navi Canada

The civil air guidance services in Canada are run by Nav Canada, a non-profit organisation. They offer ATM solutions, ATC systems, navigation services, and more. These services include radar monitoring, communication networks, and processing of flight data.

Searidge Technologies

This is a Canadian business that makes smart video solutions for managing air traffic. They provide high-tech tracking systems, automation tools, and analytics software to help people better understand what's going on and make air traffic management more efficient.

Air Traffic Control Systems and Technologies

To keep the air traffic flow steady and avoid accidents, air traffic controllers are important. Air traffic management and control typically make use of the following technologies and systems:

- Tracking and monitoring radars for surfaces
- Radar with holographic capability
- Systems for navigation and monitoring
- Systems for controlling voice communication
- Devices for transmitting data at extremely high frequencies (UHF and VHF)
- The apparatus used to show flight data information