Rather than emitting a signal, passive radar and surveillance systems scan the surrounding environment for other transmissions passing through the air. The system then uses reflections from these other transmission signals to illuminate objects passing through the area. These ‘illuminators of opportunity’ (IO) most commonly include radio waves, television signals, or mobile phone transmissions. Crucially, they are not controlled by the radar operator.

Figure 1: Passive vs. Active Radar Technology Comparison

*Source: SNS Research*
3 Chapter 3: Passive Radar in Civil Aviation

This chapter analyses the civil aviation passive radar market.

3.1 General Market Characteristics

3.1.1 Safety Regulations: Major Constraint

The market for passive radar systems within civil aviation looks markedly different from the military market. This is primarily due to the civil market’s largest constraint: safety regulations.

While passive radars in use for military surveillance need not necessarily undergo any safety certifications in order to deploy, global civil air traffic regulators have strenuous safety criteria that the passive radar systems must meet. As a result, it is likely that the civil aviation market is going to develop much more slowly as passive radar systems gradually gain regulatory acceptance.

3.1.2 Applications: Air Traffic Control

However, projects are currently underway in the United Kingdom by Roke Manor and NATS (a public-private partnership in which the government has a 49% stake) to determine the applicability of passive radar to air traffic control. These studies, slated to last two years, will likely act as a gateway to greater regulatory acceptance.
3.5.5 Latin & Central America

Though Latin America composes a smaller proportion of the global market than the Middle East, at only 4%, this region could prove a much more dynamic one for passive radar technologies. More consistent regional growth means that the Latin American market will likely grow at a faster rate, over the long term, than the Middle East.

![Graph](image)

**Figure 10:** Latin & Central America Civil Aviation Passive Radar Spending: 2013 – 2023 ($ Million)

*Source: SNS Research*

There are barriers to success though. Brazil’s economy has slowed of late, and government finances in Argentina and Venezuela are a concern due to factors ranging from high inflation rates and limited access to international debt markets.
Chapter 4: Passive Radar in the Military

This chapter analyses the military passive radar market.

4.1 General Market Characteristics

4.1.1 Healthy Outlook for Radar Investments Despite Spending Cuts

The military market for radar is currently experiencing interesting shifts. There are a number of market forces at play that are affecting military spending, across all programs, worldwide. However, radar on the whole, seems to be experiencing growth. This is due to a number of factors. First, though the United States Department of Defense is currently wrestling with the effects of the sequester, and associated cuts to its budget, radar spending promises to be a bright spot. This is a strategic decision based on the fact that troops will now be thinner on the ground and deployment will no longer be as easy or as affordable. Investing in radar capabilities of all kinds helps bridge some of the capability gap by providing for better surveillance, reconnaissance, and intelligence.

Passive radar stands in a particularly good position within this market. As weapon programmes and large equipment acquisitions are, in no small part, cancelled or put on hold as a way of finding savings, the radar systems that support these programmes will also suffer. Contracts for Target Acquisition (TA) radars are likely to slump along with the orders for the equipment that they support. Likewise, missile guidance systems are likely to see funding cuts. However, as of yet, passive
5.2 **Dominant Market Players**

While there are many companies that stand to gain from the growth in these markets in the near future, the companies listed below are best placed to take advantage of growth in this area immediately. As a result, they are likely to remain the prime players in the passive radar market.

5.3 **Cassidian**

Cassidian is the defense and security division of European Aeronautic Defense and Space Company (EADS), based in Germany. With an increasingly global presence, Cassidian experienced turnover of €5.8 billion in 2011.

As part of EADS, Cassidian enjoys strong access to the European defense and security markets, making them an important contender for European passive radar contracts. Cassidian has worked closely with the German government on its passive radar technologies, thus improving its links to European governments and increasing the likelihood that Cassidian will stand to gain significantly from the development of the European market in particular.

Cassidian’s system is flexible, allowing it to be deployed either as a stationary system suitable for permanent military installations or airports, or as a mobile system. The mobile configuration of the system, which can be deployed in a vehicle the size of a commercial van, is easily transportable and could fare well in the market for battlefield radar systems.