The goal of this project is to enhance the efficiency of Diesel engines by incorporating nano particles into the intake air filter. The use of nano particles in the air filter can improve engine performance by reducing the amount of pollutants and particulate matter that enter the engine. To achieve this, a suitable ratio and type of nano particles were chosen after reviewing several academic journals and research conducted on the internet. The selected nano particles were then used to coat the air filter using a dip coating method. The efficiency of the coated filter was compared with an uncoated filter by conducting experiments using three different filters. Two of the filters were coated with different types of nano particles, namely TiO2 and SiO2, while the third filter was left uncoated. The readings and calculations were carried out following a standard procedure to determine the efficiency of each filter. The results showed a significant improvement in engine efficiency with the use of coated filters, particularly with the use of TiO2 nanoparticles. The findings from this project have important implications for the automotive industry, as it demonstrates the potential of incorporating nano particles into air filters to improve engine efficiency and reduce harmful emissions.