World Academy of Science, Engineering and Technology International Journal of Aerospace and Mechanical Engineering Vol:8, No:06, 2014

Evaluating the Use of Manned and Unmanned Aerial Vehicles in Strategic Offensive Tasks

Authors: Yildiray Korkmaz, Mehmet Aksoy

Abstract: In today's operations, countries want to reach their aims in the shortest way due to economical, political and humanitarian aspects. The most effective way of achieving this goal is to be able to penetrate strategic targets. Strategic targets are generally located deep inside of the countries and are defended by modern and efficient surface to air missiles (SAM) platforms which are operated as integrated with Intelligence, Surveillance and Reconnaissance (ISR) systems. On the other hand, these high valued targets are buried deep underground and hardened with strong materials against attacks. Therefore, to penetrate these targets requires very detailed intelligence. This intelligence process should include a wide range that is from weaponry to threat assessment. Accordingly, the framework of the attack package will be determined. This mission package has to execute missions in a high threat environment. The way to minimize the risk which depends on loss of life is to use packages which are formed by UAVs. However, some limitations arising from the characteristics of UAVs restricts the performance of the mission package consisted of UAVs. So, the mission package should be formed with UAVs under the leadership of a fifth generation manned aircraft. Thus, we can minimize the limitations, easily penetrate in the deep inside of the enemy territory with minimum risk, make a decision according to ever-changing conditions and finally destroy the strategic targets. In this article, the strengthens and weakness aspects of UAVs are examined by SWOT analysis. And also, it revealed features of a mission package and presented as an example what kind of a mission package we should form in order to get marginal benefit and penetrate into strategic targets with the development of autonomous mission execution capability in the near future.

Keywords: UAV, autonomy, mission package, strategic attack, mission planning

Conference Title: ICAA 2014: International Conference on Aeronautics and Astronautics

Conference Location: New York, United States

Conference Dates: June 05-06, 2014