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AN INDUSTRIAL DESIGN APPROACH, IMPLEMENTATION, AND APPLICATION: PERSPECTIVES OF SURVEILLANCE RADAR SYSTEMS

Esmat Abd-Elfattah[1], Abd-El-Rahman El-Bardawiny[2], Nabil Girgis[2], Khaled Hussein[2], Alaa Hafez[3], Fathy Ahmed[2] and Mohamed Mabrouk[3]

Technical crew:

Ashraf Selium[1], Ahmed Attia[1], Haytham Abdulla[1], Dalia Nashaat[1], Tamer Ali[1], Hesham Abd-El-Hady[1], Mohamed Shaker[1], Osama Dardeer[1], Hesham Yamani[1], Amgad Said[4], Mohamed Shalaby[5], Walid Saad[6], Abdelrahman El-Akhdar[4], Ahmed Alieldin[6], Mahmoud Abd Elzaher[4], Ahmed Mansour[4], Ahmed Amar[4], Bahaaeldin Elsor[4], Hossam Hassan[6], Kamal Mustafa[4], Mostafa Abdalla[7], Alla Eid[6], Mohammad Abdul-Atty[4], Anas Elfaramawy[4], Ahmed Shora[7], Ahmed El-Agamy[6], Moustafa Yassen[6]

[1]Electronics Research Institute, [2]Military Technical College, [3]Air Defense Forces, [4]Ain Shams University, [5]Arab Academy of Science, Technology and Maritime, [6]Alexandria University, [7] Cairo University, [8] Al Azhar University,

ABSTRACT

This work is devoted to demonstrate the most important keys to interface the design and implementation of radar systems with industrial considerations to achieve a competitive radar product. The investigation is focusing on the industrial design ideas for radar systems by formulating the advanced design concepts, system engineering design requirements and disciplinary perspective for radar production. Industrial design is synergic the industrial society, which makes originally isolated disciplines contact and interact each other to form an organic unity. It implements science, technology and creative art together. Science and technology objectively reveal the laws of nature and creative art dynamically. It doesn't only seek for unity of radar subsystems but also interested in product coordinate, human resources and environment. The implementation of the approach is demonstrated through systems engineering design rules for all radar system disciplines including, electronics, microwave, antenna, computer, digital signal processing and electrical power engineering.