



Editorial

The magazine Science and Air Power, a scientific journal edited by the Postgraduate School of the Colombian Air Force, is pleased to present its readers the eleventh volume. It has articles that describe in detail the original results derived from research projects and / or technological development, under the following typology: *original scientific articles, reflection articles, review articles, short articles and case reports*. Each of the articles, in various subjects, presents results of the research work of the distinguished group of authors, whose dissertations and studies are located in the sections of this publication.

The first section, **Operational Safety and Aviation Logistics**, includes five articles. The author, Marlon Efrén Acuña, studies the international standards in charge of regulating air operations of drones, disseminated by international organizations OACI and EASA, comparing in the process countries like the United Kingdom, the United States and Colombia in a three phases research, taking as a reference the opinion of pilots in areas that involve airspace and operating standards. The following article by the author María del Rosario Calle Rodríguez makes a projection of the demand of logistic support applied to the useful time of the Super Tucano aircraft fleet, in order to establish that the production system responds to the operational needs of the fleet to the service of the Colombian Air Force. Facing the exploration of needs that affect the environment and the repercussions that it implies in the national territory. The author Mayra Mestizo Sosa, presents the implementation of aviation technologies, emphasizing the need to have a fleet of aircraft, granted by the Colombian State, that have the necessary equipment, to cover the needs that of this type are presented. The author Mestizo Sosa, through the quantitative analysis for the years 2015 and 2016, also reviews the case of Chile, with the use of the aircraft Air Tractor AT-802F. Faced with the post-conflict era in Colombia, the author Judy Viviana Reyes Paz, makes an analysis of what the operational law projects, based on the action of the ground forces, in the application of transitional justice in the current scenario, the Articulation of operational administrative law, constitutional law, hence the importance of its evaluation and application in the operational areas, and post-conflict interaction, in order to be carried out in the Peacekeeping Operations, simultaneously with the transition of the process. In the following article, the author Jully Andrea Melo Lugo, makes a review by the International Humanitarian Law, its application and legitimation in Colombia, taking as a synthesis the interpretation and application of the rules that govern the Operational Law, the actions of the military front To situations that question its action in the combat area, and the position of the Military Criminal Justice, as well as the implications of the dialogues of Havana.

The second section, **Management and Strategy**, includes six articles. In the first one, authors Rafael Ignacio Pérez Uribe and Hugo Alfonso Vargas, from EAN University, present an excerpt from the research report of the *Matrix of Cross Impacts Multiplication Applied to a Classification* (MICMAC), within PENTEX, in order to facilitate the processes of consultancies within

the organizations, as a result after the structural analysis. In the second article, a tour of knowledge and some of its branches is made, as the authors of the New Granada Military University, Ana Elsa Vargas Espinoza and Liliana León, explain its evolution, the concepts of character versus management of knowledge, in parallel that involve the past and the present, ranging from Eastern knowledge, through Buddhism, Confucianism, among others, its incidence in Latin American countries, its application to the business area, its implicit and explicit context, as well as the axis of sustainable development in the generation of new knowledge. In the following article, authors Santiago García Carvajal, Robinson Dueñas Casallas and Henry Acuña Barrantes, examine business strategies suitable for the optimal management of Colombian Pymes, taking into account the application of *International Financial Reporting Standards* (NIIF), thanks to the research under the qualitative model and the hermeneutical approach, which gave practical answers to some questions of professionals of the economic sciences. For its part, in the fourth article, author Johnny Subasich explores two concepts of International Relations, Global Governance and Regionalism, applied to the Colombian case, starting from the positions of analysis of geopolitical elements, conflict and strategy, diplomacy, and Regional Security Complex (CSR), in order to generate new advances and better capacities within the established context. In article five, the author Liliana María Perico Aránzazu, makes a tour of the impact generated by the Criminal Bands (BACRIM), inside and outside Colombia, its incidence, the position of the Military Forces, the National Police, proposing a restructuring in their actions, in order to gradually weaken extortion, drug trafficking, among other actions of the BACRIM. To close the second section, the authors Alejandro Bohórquez Keeney and Carlos Antonio Pinedo Herrera, address the nature of war and consequently the defense, establishing the need for protection by each State, with which every society must count; Thus, in the face of world changes, the authors propose the insertion of civil society, within the implementation of Defense Systems in the public sphere.

The third section, **Technology and Innovation**, consists of five articles. In the first place, there is the article by the author Martin Zorrilla, who presents basic concepts of Radio Frequency Identification Technology (RFID), applied within aviation. The above, allows knowing and understanding the operation of the device, in various areas of aviation, especially within commercial aviation. In the second place, we find the article elaborated by the authors Fabio Alejandro Merchant Rincón, Andrés Alberto Ayala Flórez, Cristian Fabián Rodríguez, Fernando Alberto Quintero Vargas, in it, they explore the study of the damage caused to the wing in class aircraft *Light Sport Aircraft* - Light Aircraft (LSA), the *Computer Fluid Dynamics* (CFD) analysis in ANSYS Fluent, establishes the calculation of aerodynamic load that is exerted on the wing, ensuring the repair and integrity of the same, in *Non-Destructive Testing* (NDT), preserving the life of the aircraft. In the third article, the authors, Jesus Andrés Vega Moreno and Jaime Alberto Leyton Moreno, demonstrate the optimization processes for solid fuel engines, through a mixture of Potassium Nitrate and Sorbitol, also known as (KNSB), against Other processes exposed in the use of experimental rocketry, based on the analysis of factors such as mass, power, among others; To conclude with a computer-aided design for engine assembly. The authors, Robín Blanco, An-





drés Cifuentes and Mauricio Plaza, explain the development of BioMePro, as a software tool designed in the Electromyography Sampling Processing (EMG), applied in JAVA, this tool facilitates the extraction of signals (EMG) between Other functions, facilitators in the extraction of data, also confirming the reliability of the samples obtained. At the end of our third section, the authors, Andrés Cifuentes, Mauricio Plaza, Santiago Rondón, of the New Granada Military University, present the process for the transformation of a conventional wheelchair into an intelligent wheelchair, assimilating the Controls and conventional movements, with the additional capacity of planning of routes, monitoring of vital systems, among other intelligent systems, that optimize the quality of life of the users of the same, as well as a new advance in the medical equipment and rehabilitation.

The fourth section, **Education and TIC**, presents four articles. In the first one, the results of the documentary review are presented, which the authors, Mónica Consuelo Murillo León, Fabio Baquero Valdés and Alfonso Sotelo Saiz, make of the war games, and their application within the professional military training, which dynamizes Teaching and learning, as a basis and complement to the didactic methodology, learning and training by competences, which contribute to the integral training of the military. The second article, by the author Erika Juliana Estrada Villa, leads us to the proposal of a research problem in order to be incorporated into mobile technology, that is how, through QR codes, an environment is designed to serve To develop skills that allow to highlight problems that affect the area of aviation safety, through the qualitative study that the author takes, referring to students of the *Specialization in Operational Safety Management* (EGSO), the result is exposed to the interior The research carried out by the author. The third article seeks to develop strategies that contribute to the optimal use of social networks by the youth population. Thus, as authors Alicia Morales and Héctor Alirio Corredor, they seek to capture the attention of the population involved, through the interest in creating attitudes and skills, that generate leadership and potentiate the development of new ideas that contribute to social development, through Of the application of the same within the real context. To conclude our fourth section, we find the article prepared by the authors, Carlos Valerio Echaverría Grajales, German Wedge Rodríguez Pirateque, Julián Santiago Bernal Ospina and Lorena González Meléndez León, in which they explore the current situation of advanced training within the current context at the level World-wide, assumed this as one of the challenges that involve policies, management, that involve the knowledge, from the academic focus, the industry and the organizations in general; Through three axes of research, the support of applied and basic research, followed by the description of a scientific community, and third, the recommendations for the articulation of research.

The articles that make up the eleventh edition of the magazine Science and Air Power" we consider, will be an indisputable source of knowledge for all our readers, students, professionals, professors and researchers, whose reading promotes the generation of reflections, dissertations and debates; that allow not only the postulation of new approaches, but also the application of these in the areas addressed by the authors, together with the motivation to incorporate new research contributions in the following editions.

We appreciate the invaluable collaboration of authors, given the significant contributions that have helped to raise the scientific quality of the Journal. Thanks also extend to the team of Academic Pairs who contributed with their valuable reviews, recommendations and suggestions, making this issue an edition with higher quality criteria and scientific rigor, that allow to present new strategies and methods that offer assertive solutions Within contexts that study different scientific branches. As well, to our prestigious Editorial and Scientific Committee that accompany us in this praiseworthy work, giving a special welcome to our new members; without forgetting our technical team, who with their commitment have made possible the presentation of this volume to our community.

The editorial team of the Postgraduate School of the Colombian Air Force remains committed to the scientific, technological and innovation development to the needs of our country and the international context. In this sense, we seek the active participation of the national and international community in the processes of research and scientific mobility. Also, to generate a greater reach, visibility and impact, including the generation of spaces that allow the creation of academic networks. This challenge goes hand in hand with the project of inclusion of our publication in Bibliographic Bases with Scientific Committee of Selection (BBCS) and other bibliographic indexes, working for the internationalization of the publication.

The above, are some of the challenges that we face the following years (2017 -2018); Goals that continue the path of quality and scientific rigor, in order to maintain a tradition in excellence within the editorial process, recognition and visibility in the scientific - academic field in each of our editorial lines, military and aerospace sector, to National and international level. We only have to invite them to subscribe to our web site www.publicacionesfac.com being part of this important project.

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