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ABSTRACT
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THE MILITARY BRIEFING - A TYPE OF INFORMATIVE SPEECH

Abstract: *Speech is important in the life of any military officer. Each officer must be a competent communicator. The primary job of every commander or staff officer is to get things done through the people who are in lower positions in the chain of command. This means that they must be able to speak accurately, briefly, and clearly.*

Most speaking in the military field is done to make something clear or to achieve agreement concerning a plan or a policy of any kind. The response attended is usually understanding in preparation for some actions that had been suggested in the briefing.

The present paper intends to underline the purpose of a military briefing, its most important traits, the best way to organize the material so the audience could understand better.

DINU ATODIRESEI, OZANA CIOCA, ALEXANDRA GHINGHILOSCI

“Mircea cel Batran” Naval Academy, Constanta, Romania, Alexandru Ioan Cuza University, Romania

THE NECESSITY OF IMPLEMENTING A NEW TIDE GAUGE SYSTEM ON THE ROMANIAN BLACK SEA COAST

Abstract: *The analysis of the sea level record at the Black Sea, reveals a significant rising trend. In this study there are presented the changes of the Black Sea level, analysing the data from nine tide gauges locations. Also, there is proposed the introduction of a new system of tide gauges at the Romanian Black Sea coast. The five sites where the tide gauges will be placed are: Sulina, Sfantul Gheorghe, Gura Portitei, Constanta and Mangalia. The information will be stocked on a computer and transmitted via a network. The main purpose of this study is to determine the datum.*

DINU ATODIRESEI, SERGIU SERBAN, ROBERT-VLAD BADIU

„Mircea cel Batran” Naval Academy, Constanta, Romania

THE IMPACT OF THE SEA WATER FREEZING PHENOMENON ON MILITARY OPERATIONS ON THE ROMANIA’S BLACK SEA’S SHORE

Abstract: *The purpose of this paper is to emphasize the importance of studying the ice regime at the Black Sea, as there are not many studies made on the Black Sea’s water freezing phenomena. Based on the few studies made in this domain, which include meteorological data analysis, satellite images of the main parameters which determine the optimal conditions for sea ice formation, periodic measurements and observations of the ice evolution along the past decades, we have analyzed their results and drawn some conclusions regarded to the negative influence of these rare but very important phenomena on the main military activities executed on the Romania’s Black Sea’s shore by different naval, air and special units forces.*

ROMEO BOSNEAGU, VLAD BORDANC, BOGDAN SOCOLIUC

“Mircea cel Batran” Naval Academy Constanta, Romania

GRAIN SEABORNE TRADE SHIPOWNERS STRATEGIES

Abstract: *Grains are, as bulk cargo, included in the major dry bulk category along with iron ore and coal. The shipping principles demonstrate that the trend in seaborne trade on this segment of the bulk market is dictated by the relation between the supply available from the producing countries and the demand in the main importing regions. This relation is strongly influenced by the seasonal conditions which determines the quantities transported on the main shipping routes to vary. All of this makes freight rate to fluctuate along with the ratio of shipping demand and supply per time. This relationship defines the characteristics of the market in terms of structure, the number of companies providing transport services, scale of their operations,*

fleet size. Various studies conducted in this regard have concluded that this market activity is conducted in such manner as it can be considered a "perfect competition". In these conditions the ship owners and operators develop their strategies based on statistical analyzes related to the temporal evolution of grain production, and forecasting trends for the entire shipping system analyzed.

ROMEO BOSNEAGU, SORIN MARIAN VASILACHE, ALEXANDRU NICOLA RAICIU

Mircea cel Batran Naval Academy, Constanta, Romania

LIQUEFIED NATURAL GAS CARRIERS. PRESENT AND FUTURE

Abstract: *LNG & LPG are the fleet of modern and efficient vessels, all built in the accordance with the most up to date specifications and fitted with new and efficient technology which carry liquefied natural gas and liquefied petrol gas all around the world. The companies which own those vessels operate in ways that balance economic, environmental and social considerations in a responsible way. Their sustainability performance is ranked in some leading index. They maintain the strong investment in projects that will deliver energy resources for decades to come. They also continued to work to reduce the impact on the environment, to respond transparently to the views of their neighbors and to generate jobs and business opportunities for local economies.*

RODOLFO SANTOS CARAPAU, ALEXANDRE VALÉRIO RODRIGUES, MARIO MONTEIRO MARQUES, VICTOR LOBO

CINAV, Portuguese Navy Research Center, Almada, Portugal

UNMANNED AERIAL SYSTEMS IN MILITARY ENVIRONMENTS: THE BENEFITS OF INTEROPERABILITY

Abstract: *Nowadays, the use of Unmanned Aerial Vehicles (UAVs) is a growing presence in both civilian and military environments, which has resulted in an opportunity to explore this technology, its benefits and how they can be improved. This paper aims to present a study focused on the impact of UAVs in military environments and how interoperability can further develop the benefits of the use of unmanned systems. It presents the importance and motivation for the use of UAVs, developing to a description of an UAV and its supporting structure. Afterwards, the study presents the primary military UAV applications, as well as studies that have been conducted to develop UAV capabilities in performing tasks such as surveillance, reconnaissance, search and rescue, and hazardous materials detection. Following the study of UAV in military scenarios, an approach to interoperability of unmanned systems is presented: its concept, and a project that has proved its reliability, converging to the benefits of interoperability. Overall this study hopes to improve awareness regarding unmanned systems and how it can play a key role for the future of military technology.*

ALEXANDRU COTORCEA, FILIP NISTOR, CATALIN POPA

"Mircea cel Batran" Naval Academy, Constanta, Romania

KEY TRENDS IN THE GLOBAL PORT DUE TO TRAFFIC VOLUMES

Abstract: *In recent years, the ports are facing issues like: operation of biggest ships, connectivity to the hinterland and competition with other ports to attract new traffic volumes. Alliances that forms on some routes conduct to an increasing freight volumes for certain ports positioned favorably to the main logistics chains. Thus, there are situations where ports operate equal volumes of cargo by a different number of terminals. This matter is not liked by the shipping companies, because they'll have to operate all traffic in more than one place. As shown in the article below, the fragmentation of a port's capacity represents an important issue to which ports have to deal with in context of increasing traffic volumes.*

SERGIU LUPU, ANDREI POCORA, FLORENȚIU DELIU, ROMEO BOȘNEAGU

"Mircea cel Batran" Naval Academy, Constanta, Romania

THE USE OF THE ELECTRONIC MAP IN THE SURVEILLANCE OF THE ROMANIAN SOVEREIGNTY ON BOARD THE SHIP

Abstract: *According to United Nations Convention on the Law of the Sea, the sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea. Under the law 17/2002 – Republished in Official Journal of Romania no. 252, April 8, 2014, article 2, „The Romania territorial sea includes the strip of the sea adjacent of shoreline, where appropriate, internal waters, having the breadth equal to 12 nautical miles, measured from baselines”. The observation, surveillance and Romanian border control at the Black Sea is in responsibility of the complex system SCOMAR. The operational units of the*

system include navy, land and air force. On board, the ships unauthorized entry in the territorial sea or contiguous zone can be detected using the radar. Using the electronic map facilities, the authors performed the territorial sea and the contiguous zone starting from the baselines. Thus, these areas were made as zonesto overlap on radar. The aim of this paper is to show how electronic map can be used on board the ships for surveillance of the territorial sea or contiguous zone.

SERGIU LUPU, ANDREI POCORA, ROMEO BOSNEAGU

"Mircea cel Batran" Naval Academy, Constanta, Romania

THE ROMANIAN ASTRONOMICAL NAVIGATION THERMS AND ABBREVIATIONS AND THE NEED OF IMPROVE AND CHANGE THEM

Abstract: Romanian astronomical navigation is based on the books authors Chirita M., Pavica V. and Balaban Gh. These known authors have influenced the training of the Navy and merchant officers from our country. The maritime industry, by definition, is international. The mariners from all corners of the earth are required to work together, communicate and interact. They are also required to train and be trained. For this purpose, the IMO, in 1995, designated one language, English, as the official language for mariners. Currently, due to the use of national nautical documentations, the Romanian Marine officers on board the ships encountering difficulties into using nautical documents, specific astronomical navigation terms and abbreviations to determine their fix position or to control the compasses corrections. This paper aim is to present how certain terms and abbreviations should be renamed for their correlation with international nautical documentations.

CONSTANTIN C. MAFTEI, SERGIU LUPU

"Mircea cel Batran" Naval Academy, Constanta, Romania

DYNAMIC POSITIONING. A CASE STUDY

Abstract: Ship's dynamic positioning (D.P.) it's technology with a fast development, born from a necessity of a precise positioning for offshore vessels inside of oil and gas reserve exploitation industry. In 1961 the ship Eureka was the first ship which was fully accepted as a DP vessel. For keeping the vessel or structure in fix position is few methods which include spread and fixed moorings or combinations of each. The jack-up rig or vessels using moorings or legs may also occasionally have DP control systems to assist the setting-up on position and, in the case of a moored unit, to reduce mooring line tension. Each system has advantages and disadvantages. Every ship it's a subject of wind forces, waves, and tidal movements, as well of propulsion forces and of other external elements. The answer of these forces is the ship movement, produced by changing the position and heading. These are measured by position reference systems and gyrocompasses. DP control system is calculating the compensation between the measured values of position/heading and the setting values and calculates the propulsion force to be generated to reduce the errors to zero. The aim of this paper is to present a case study regarding how it work the dynamic positioning system on board the ship operating in the Black Sea.

ANDRA-TEODORA NEDELUCU, DINU ATODIRESEI, ALECU TOMA

"Mircea cel Batran" Naval Academy, Constanta, Romania

ASSESSMENT OF THE MARINE WAVE ENERGY FOR THE NORTH-WESTERN AREA OF THE BLACK SEA

Abstract: The subject of this paper is to assess the wave energy for the north-western area of the Black Sea based for the last years from meteorological costal stations.

Marine waves are a combination of the action of winds, gravity and surface tension of the sea surface. Wave energy is an indirect form of solar energy. The energy potential of waves generated from the north-western Black Sea is modest and efficient exploitation its almost impossible. Due to the irregularity waves and their height dependency during the year, makes the installation of wave energy recovery systems, remain from an idea, a concept.

ANDRA-TEODORA NEDELUCU, ALECU TOMA, DINU ATODIRESEI

"Mircea cel Batran" Naval Academy, Constanta, Romania

OPTIMIZATION OF TRAINING SHIP "MIRCEA" UNDERWAY ON ROUTE CONSTANTA TO NEW YORK

Abstract: *The subject of this paper presents the optimization and safe execution of the training ship Mircea underway, between Constantza Port (Romania) and New York Port (United State of America), with a stoper for refueling.*

Training Ship „Mircea is a sailing – ship; she executed three ocean pass. The first one was in 1976, then in 2004 and the last in 2009. The last ocean pass lasted 40 days, when traveles 4700 miles marine. During the paper were studied navigation maneuvers in bad weather, the hidrometeorological condition during the march, the ways to execute safety the ship maneuvers input/output to/from port, passes through the straits, narrow passages or low visibility.

DANIELA SIMONA NENCIU, ADRIANA TEODORESCU

"Dimitrie Cantemir" Christian University Bucharest, Romania

INCREASING TOURIST CIRCULATION IN NAVODARI AREA - EFFECT OF ADAPTING MARKETING STRATEGIES ADOPTED BY STAKEHOLDERS IN TOURISM TO MARKET DEMANDS

Abstract: *During the last 5 years, the tourist circulation in Navodari area has registered a significant increase. This is due mainly to the increase in the number of tourist structures, the adaptation of the marketing strategies adopted by stakeholders in tourism in this region and the promotion of tourism products offered for sale on the domestic tourism market. Marketing strategies have targeted the launch of some diversified travel packages made to fully satisfy tourist demand manifested among segments of domestic tourists. As regards product policy, strategies of differentiation and flexibility have been adopted which aimed to adapt the offer to the needs of tourists. Tourism entrepreneurs in this area have given special attention to recreation services which have experienced a significant development in recent years.*

FLORIN NICOLAE, MARIAN RISTEA, ALEXANDRU COTORCEA, MARKO PERKOVIC

"Mircea cel Batran" Naval Academy, Constanta, Romania, Univesity of Ljubljana, Slovenia

SYSTEM FOR SIMULATION, CONTROL AND EVALUATION OF EMERGENCY SITUATIONS IN THE EVENT OF POLLUTION WITH DANGEROUS SUBSTANCES

Abstract: *Analysis of accidents on waterways, sea or river resulting pollution with harmful substances (hydrocarbons, chemicals) reveal that each accident is unique in its kind. Therefore, for each type of pollution a different strategy must be applied. In these circumstances, simulation, control and evaluation of these emergency scenarios, based on rigorously constructed scenarios, are necessary both to avoid or limit of possible mistakes and necessary for gaining experience used further for a correct approach to possible situations that can occur. Present paper is a result of the implementation of PISCES II (Potential Incident Simulation, Control and Evaluation System) in the research and education process of the "Mircea cel Batran" Naval Academy. Research undertaken by the authors highlights how this module helps to: reduce risks of pollution and response time; assign appropriate logistics and equipments to intervention; train human resource for effective management of emergency situations caused by pollution.*

FLORIN NICOLAE, ROSEN IVANOV, CĂȚĂLIN POPA, FILIP NISTOR, ALEXANDRU COTORCEA

"Mircea cel Batran" Naval Academy, Constanta, Romania, University of Ruse, Bulgaria

THE RELATIONS BETWEEN THE PORT BUSINESS FRAMEWORK AND THE QUALIFIED MANPOWER COMPENTENCIES – LITERATURE REVIEW AND PROPOSED GUIDELINES

Abstract: *The maritime, inland and river transportation framework counts as essential component of the international trade and of the global business environment nowadays, more than 80% out of the global or regional exchanges being basically grounded on these means of goods' relocation, due to the lowest level of unit prices of the services. In this context, the sustainable development of the naval transportation system alongside the Romanian-Bulgarian cross border area, became both countries' challenge, in order to achieve the desired business competitiveness, among other European states and not only. Implicitly, aiming for the economic productivity has become very relevant to build strong profiled human resources, accordingly qualified, based on adapted professional competencies in terms of its skills, abilities and knowledge, correlated with the required qualifications on the labour market in the naval sector. The authors have identified those professional and transversal competencies required by the port business sector, by investigating the nowadays international tendencies in rebound for the new technological and business developments for the freight services logistics. In the paperwork the author have shown how the research results will support the learning goals, using facts' data, concepts, theories, models but also practices, procedures, operations, intention and solutions techniques. The research results as initially drafted have been further validated by the relevant Romanian port business entities, in order to be adopted and implemented in the curricula definition process for the future, carrying the endeavour of defining the adapted*

skills, abilities and knowledge for the port adapted qualification framework. The paperwork is a scientific output of the POSDRU/161/2.1/G/140706 project implementation, entitled “Facilitating the insertion into the labour market of naval education” financed within FSE-POSDRU-Priority 2, Linking lifelong learning and labour market, POSDRU – 2.1 Key Area of Intervention Transition from school to active life.

GEORGE NOVAC, MIHAIL PRICOP

„Mircea cel Batran” Naval Academy, Constanta, Romania

REDUCING POLLUTING EMISSIONS BY IMPROVING NAUTICAL FEATURES OF EXISTING COMMERCIAL SHIPS

Abstract: *The paper treats a range of solutions for retrofitting commercial vessels to increase energy efficiency as a imposed necessity by new pollution regulations for the marine environment. Based on research made in this study area by major international shipping companies, the paper summarizes the main results obtained through various methods in order to improve nautical qualities of the ship.*

CLAUDIU IONEL PASĂRE

”Mihai Viteazul” National Intelligence Academy, Bucharest, Romania

FEATURES OF THE NEW CLIMATE OF GLOBALIZATION AND MEMBERSHIPS IN REGIONAL TREATIES

Abstract: *Globalization is not a unique phenomenon of our time, but one with a long history. Each era has left its mark on what globalization meant. All the time people tended to know more and to connect with their peers from other lands. The latest developments in the Western Balkans and the Middle East, the orientation change US on NATO's evolution following the election of Donald Trump as president and tensions between the Russian Federation, the United States and Turkey about the situation in Syria, lead the new features of a new climate of globalization regionally and globally. This paper's aim is to highlight these new features and to bring to the attention of practitioners this paradigm change on regional treaties.*

ANDREI POCORA, ALECU TOMA, SERGIU LUPU, COSMIN KATONA

“Mircea cel Batran” Naval Academy, Constanta, Romania, Politehnica University of Bucharest, Romania

RISK MANAGEMENT FOR COLISSION AT SEA

Abstract: *Human error is widespread in the navy and merchant marine and literature confirms the need of research into maritime accidents. Investigation of a collision involves gathering evidence before the incident and after it. Some investigators agreed that the human factor is the main cause for putting ships aground, although few ships have recorded data from incidents, that can later be analyzed as a chain of errors. Respecting COLREG rules, officers of the watch need a simplified procedure to indicate how to act in various circumstances, stressing out the fact that time in an important parameter in COLREG rules. This paper aims to analyze collision risk factors using Human Factors Analysis Classification System improved by Reinach Viale by introducing external factors in the classification. Operations with high level of difficulty that have to be dealt in short time, with overload can lead to impaired performance of the crew create and collision risk situations. Inadequate planning operations my become a problem when risks are not exposed or wrongly addressed.*

CATALIN POPA, FILIP NISTOR, IMRE RECZEY

”Mircea cel Batran” Naval Academy, Constanta, Romania, ADMC-Higher Colleges of Technology, United Arab Emirates

THE TRADITIONAL MARITIME MARKET COMPONENTS AND ITS RELATIONS WITH THE GLOBAL MARITIME BUSINESS MODEL VARIABLES

Abstract: *Traditionally, as approached within the applied literature concerning the maritime market components functional description, just four major segments have been depicted, namely: the freight market, the used ships trading market, the shipbuilding market and the ship scrapping market. These components were defined peculiarly within an integrated perspective, building together a well known and widely accepted maritime business model. But the naval industry logistic system became more than that, as nowadays other maritime business sectors come up as related dependent or even determinative to these predefined market segments. The authors have carried out a wide endeavor of redefining the maritime business components, defining a more comprehensive business model for maritime industry, promoting a new perspective for the*

Maritime Logistic Chain as well. The major contribution of the present article is due to the modern consideration of collaborative business model promoted as to be recognized and implemented within the maritime business on international level.

ALEXANDRE VALÉRIO RODRIGUES, RODOLFO SANTOS CARAPAU, MARIO MONTEIRO MARQUES, VICTOR LOBO

CINAV, Portuguese Navy Research Center, Almada, Portugal

UNMANNED AERIAL VEHICLES: SYSTEM ARCHITECTURE AND PROTOCOLS

Abstract: *Unmanned Aerial Vehicles are nowadays a very important tool in any military organization. Especially in the navy, they can be used for many missions, in order to increase their success and efficiency, reducing at the same time the risk with personnel. This paper focus in the UAV importance, especially in the navy. Also, it introduces UAV system architectures, and how they can be helpful in the Navy, introducing an interoperability approach for these systems' protocols.*

CRISTIAN DRAGOȘ TEODORESCU

Petroleum- Gas University of Ploiesti, Romania

THE EFFECTS OF FDI ON ECONOMIC GROWTH IN EUROPEAN UNION

Abstract: *Foreign direct investment (FDI) is support the economic development of a country, influencing the economy and leading to increased productivity and increased the competitiveness. In the same time, FDI have a decisive contribution to increasing labor's employment, technological development and the changing of ownership structure. Starting from theoretical studies and empirical analyzes on FDI and economic growth, this study addresses the impact of FDI on economic development in the European Union.*

CRISTIAN DRAGOȘ TEODORESCU

Petroleum- Gas University of Ploiesti, Romania

BANKRUPTCY RISK – CLASSICAL MODELS VERSUS ROMANIAN MODELS

Abstract: *In a competitive economy, business evolution is closely linked to any type of risks and their manifestations. Bankruptcy risk is due to the likelihood that a company enters into default or be declared bankrupt.*

Knowing the threats related to companies, the determinant factors of risks are essential information for managers, shareholders, investors, suppliers or customers.

This paper presents classical models based on scores of forecasting bankruptcy risk (Altman, Conan & Holder, the French model, etc.) compared to models used in the Romanian economy (Anghel, Mironiuc Robu, Cămășoiu, etc).

AYDIN TOKUSLU, EGEMEN SULUKAN, MURAT KAGAN KOZANHAN, DOGUS ÖZKAN, VOLKAN DEMİR, ERINC DOBRUCALI

Istanbul University, Istanbul, Turkey, Turkish Naval Academy, National Defense University, Istanbul, Turkey

MODELLING OF TURKISH MARITIME TRANSPORTATION FLEET'S EMISSIONS AND REFERENCE ENERGY SYSTEM

Abstract: *Maritime transportation is the most environmentally-friendly mode of transport with respect to air and road transport and considered as a safe system for years. This form of transportation is increasing due to the globalization of manufacturing processes and the increase of global-scale trade. However, maritime transport is seen as an important source of emissions worldwide. Maritime shipping produces an estimated 2.7% of the world's CO₂ emissions, there are also other emissions from ships respectively NO_x, SO_x, CO, HC, VOC and particulate matter (PM). All these emissions threat people's health, life quality and environment. For that reason, ship based emissions have to be analyzed carefully. Following this target, this paper is concerned with the optimal fuel consumption pattern focusing on Turkish Maritime Transport Fleet emissions within the next 40 years (up to 2050). Using MARKAL (an acronym for MARKet ALlocation) Maritime Transportation model, various steps as designing of "Reference Energy System (RES)" of the model, data processing and prepare of scenario are followed.*

ALECU TOMA, VIRGIL CHIRIȚĂ, ANDRA NEDELUCU

„Mircea cel Batran” Naval Academy, Romania

IMPLEMENTATION OF NON-LETHAL DEFENSE SYSTEMS ABOARD COMMERCIAL VESSELS FOR CLOSE COMBAT TERRORIST THREATS

Abstract. *Implementation of non-lethal defense systems aboard commercial vessels for close combat terrorist threats is just an idea of protection against any threats that can jeopardize the ship, cargo or sailors. If the military can develop and use a non-lethal, directed-energy weapon that is designed for area denial why not design a similar system, but for commercial vessels. Imagine that each ship could be equipped with a system based on millimeter-wave transmitter that could protect against possible attacks, putting an end to piracy. The impact of this system would not only eliminate close combat to defend the ship but even remove the costs of protection paid when ships transit dangerous areas. Rapid heating of the target's skin followed by a rapid deviation from the original path of any potential risk is the effect that it will create. Even if the system requires a larger investment, mitigating will be felt over time. Developing this system followed by applying some specific operating procedures would ensure a correct and legal use. The system works by firing a high-powered beam of 95 Ghz wave of heat, similar to the microwave oven, that excites the water and fat molecules from the skin. A smaller version of the army system would keep the commercial vessels safe from any attacks, a simple idea but with big consequences.*

ALECU TOMA, IULIAN CREȚU, WALDEMAR MIRONIUK

„Mircea cel Batran” Naval Academy, Romania, Polish Naval Academy, GDINIA, Poland

MODERNIZATION OF THE ROMANIAN TUG “HERCULES” TO FULFIL THE CLASS NOTATION CORRESPONDING TO THE RULES OF INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

Abstract: *The subject of this study is to show the technical alternative given by the importance and necessity of tug “HERCULES” modernization in the context of offshore activities development on Romanian Exclusive Economic Zone for Search and Rescue and pollution. This study presents the modernization stages of the tug “HERCULES” to fulfil the class rule requirements established by the International Association of Classification Societies.*

VALENTIN S. VASILEV, PETAR KLIMOV

Nikola Vaptsarov Naval Academy, Varna

IMPACTS OF INTEGRATED MONITORING SYSTEM UPON CONTROL AT SEA

Abstract: *This paper treats problems concerning different aspects of control at sea. Normally, it includes control and safety of various activities at sea and environmental protection. Trends in management process show that it is necessary to divide maritime areas into zones with precise spatial dimensions and activities to be organized in particular groups – navigation, offshore activities, marine agriculture, tourism, etc. Contemporary researches in maritime safety point out that the control of sea is available by means of integrated maritime surveillance systems. The impact of coastal state's authorities needs of reliable surveillance system which helps in real time situational awareness. Moreover, coordination between governmental institutions, non-governmental organization and multinational cooperation and mutual understanding between neighboring countries is another milestone. Integrated maritime surveillance is sub-system of maritime control system that figure out its essential characteristics.*