Simulation of Thin-Wall Injection Molding

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Abstract By simulating the injection molding process can be obtained, inter alia, data on warpage occurred in injection molded parts, these data are very useful both for molds and components designers and for injection molding machines operators. Such data may be more or less accurate, depending on input parameters of the simulation, the most important being the viscosity of the material and the PVT data. Thus, if the data does not provide a satisfactory accuracy, it provides at least approximate data on where warpage occur in the part, and direction of warpage. In this paper we have conducted a series of simulations of the injection molding process in order to study the predictive capability of deformation by a commercial simulation program, then the warpages being compared with those occurred in a conducted experiment.

Keywords: injection molding, simulation, warpage, thin-wall parts.

Romanian Shipyards - Present and Perspective

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Abstract The paper present a brief information about present state that there are romanian shipyards and their outlook. The paper was elaborated from the specialization economical engineering on mechanical field students point of view in order to disovery the place and role that their might have on the shipyards. Are presented Naval Shypyard of Constanta, mangalia and Tulcea.

Keywords: shipyard, management.

New Elements of Investments Efficiency in Production

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Abstract In this paper aims to provide theoretical and practical knowledge to substantiate the decision of investment in new conditions of our country's transition to market economies. It includes: the investments and their role in economy, sources of financial investments, essential element of economic efficiency, investment decision and optimal size of production capacity, design and siting.

Keywords: investments, economic efficiency, optimal size of production.

New Concepts of Economic Conquer Global Marine Industry

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Abstract This paper presents some information about efforts by Spanish shipbuilders to conquer new market niches under the current global financial economic crisis**.**

Keywords: shipbuilders, management, market.

Place, Role and Importance of the Engineer Economist in to Romanian Naval Industry

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Abstract Authors of this paper tried to discover what is important and utility to economist engineers in the marine industry through a series of interviews conducted in the Romanian shipyards.

Keywords: economical engineering, shipyards.

Analytical Determination for Assembling a Negative Hull Sections on Beds Universal

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Abstract If the usual devices for assembly of the hull, the distance between cross sections depends on the regular distance of the ship which is a major disadvantage, especially for unique vessels or vessels in small series. Even using adjustable devices, such as pillars or folding bed, cross sections must be repositioned for each section, taking into account the position of the base relative to the main projection planes. To eliminate this disadvantage, were built universal type devices (stall), which generate negative hull is balanced by transverse sections, fixed and independent of regular distance. In this respect, it is important that hull surface is described by numerical methods to enable analytical description of cross section shape joining devices, based on computer programs. This article establishes procedures for lifting, checking and correcting data stall the negative generation hull required for assembly of complex surfaces with volume shipping departments.

Keywords: analytical determination, negative hull, assembly, ship, projection planes.

Study Concerning the Homologation of MAG Welding Procedure Used for Reflux Vessel Construction

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Abstract In the actual context of the papers design and homologation of the welding procedure has been realized a study concerning a welding structure, respectively a reflux vessel.
The welding procedure MAG (Metal-Active-Gas) elaboration has been made taking account of the necessities and possibilities of the execution from the production sphere. Also, like any other new elaborated procedure, the homologation conditions taking account of the ISCIR specification have been made.
The paper presents proves and analyzes samples that are in the MAG homologation procedure.

Keywords: reflux vessel, homologation procedure, ISCIR specification.

Influence of the Embarkation / Debarkation of the Weights on the Ship's Sailing Qualities

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Abstract Embarkation / debarkation operations of the weights, have immediate consequences on the ship's sailing qualities like floatability and stability. This operation causes modification of the gravity point, G, buoyancy point, B, and significantly modified the measure of the metacentric heights. The paper presents, on the schematization form, the sum of this influences and modifications. Also, the displacement structure is given.

Keywords: ship's sailing qualities, gravity point, buoyancy point, metacentric heights, flotability, stability.

Methods of Gas Noxes Reduction in Naval Engines

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Abstract The paper presents some technologies, established and reglementated by the International Maritime Organization (IMO), on the exhaust gas treatment of the naval engines, to reduce pollution by emissions.

Keywords: transmisions, chains, Mathcad.

Decision Making Process

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Abstract Management decision theory refers to the methods by which they can lead managers to accomplish their main activity - making decisions. Decision-making ability and problem solving is important both in everyday life, and in the business. There are several types of processes and techniques to improve the quality of decisions. Problem solving and decision making have a strong connection, each requiring creativity and ability to identify and develop existing options. Managing a project involves the planning, execution, and closing of the project , activities that are influenced by the ability of managers to identify optimal solutions and effectively implement these solution.

Keywords: management decision, project

Transmissions by Chain

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Abstract In this project we solved a problem with transmissions by bushing and roller chain. I solved the problem using computer-assisted program Mathcad. This program solves equations written after we introduced the initial data.

Keywords: transmisions, chains, Mathcad.

Opportunity of Using Combined Road-Rail Transport these Days

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Abstract Unprecedented increase in freight traffic in the current period has more negative impact on environment and human health. An alternative to road freight transport is combined transport of goods, which involves using the same loading unit and at least two transport modes (road and rail) so as not to incur intermediate freight handling along the transport chain from sender to recipient.
Combined road-rail travel is achieved by moving the means of road transport on railroad, the largest distance (and may be with or without drivers), or can be achieved using bimodal trailer. In both cases combined road-rail offers a number of advantages**.**

Keywords: combined road-rail transport, bimodal trailer.

Coaching – Change Management Process in Industrial Organization

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Abstract Coaching refers to the activity of a coach in developing the abilities of coachees or clients. Coaching tends to focus on the achievement by coachees of a goal or specific skill. Methodologies for coaching are positioned away from the directive or the facilitative, and rest on accompanying clients within a dialogue that will allow emerging patterns and solutions to surface. Coaching lies out of the scale between mentoring and training on one end, and psychotherapy and counseling at the other. Coaching, it is helping to identify the skills and capabilities that are within the person, and enabling them to use them to the best of their ability – and by that increasing the independence within the individual, and reducing reliance. Today, coaching is a recognized discipline used by many professionals engaged in human development focused on achieving results. In this paper, we discussed about coaching, change in organizations, organizational change models and organizations resistance to change.

Keywords: Coaching, organizational changes.

Considerations Regarding the Aplications of the Multicriteria Methods in Energy Planning

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Abstract The MCDA methods have been strongly used since the early eighties as a consequence of the growing environmental awareness and the apparent conflict between economic and environmental objectives. Thereafter, the rapid changes and the increasing complexity of the energy market gave rise to further methodological developments. Although the energy market restructuring and ongoing liberalization seemed to restrict the purpose for centralized energy decisions, they added new dimensions in energy planning. Outranking approaches have known a remarkably rapid development and an extensive use in several application fields. Among these fields, energy and environmental planning have a prominent place, mainly because the imprecision associated with the measurement and evaluation of environmental parameters calls for modeling approaches giving more freedom to the decision makers to express their hesitations. Some of the most widely known outranking relations are ELECTRE and PROMETHEE methods.

Keywords: Multiple criteria decision aiding, Outranking approaches, ELECTRE and PROMETHEE methods.

The Advantages of Applying Planning Principles on Production Activities

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Abstract Due to the intense development of the planning conception applied in the production management activities, it recieved propagation as a concept in all the production stages related to it elaboration. The planning development it is considered to be a milestone for the product „Hydraulic Grup", which is presented in the study, whose production process is promoted throught the applying of the „as soon as possible", „as late as possible", „methodise" concepts. And based on these it is possible to determine the optimum regarding the time and the assigned budget of the production process. So , always, on the planning study , the owner or the beneficiary who initiates the process will organize his activities so that the waste of time and money to be avoided, or to be at the mimimul in case when it can not be avoided.

Keywords: production management, as soon as possible, as late as possible, methodise

Forms and Duality in Linear Programming

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Abstract This presentation contains forms and duality in linear programming in operation research. There are three forms important:general, standard and canonical. Duality in linear programming is based on certain rules very important and are particular form and duality theorems. There are four theorems but two of them are more important and there are: fundamental theorem and addition carts theorem. This presentation contains an application to the dual problem and stage of dual problem.

Keywords: linear programming, duality.

A Consideration of Life Cycle Cost of a Ship

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Abstract This paper presents some aspects of technical, technological and economic costs of modalities to optimize the design, construction and operation of a vessel, compared with its lifetime

Keywords: shipyards, lifetime, costs.

Transmissions by V-Belts

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Abstract In this project we solved a problem with transmissions by V-belts. I solved the problem using computer-assisted program Mathcad. Problem solving can be done without the computer, but we have some advantages using Mathcad program:
- if you change your program made only problem calculations using the same algorithm as for solving the initial data;
- working time is much shorter because the calculations are made automatically;
- the program is easy to use.

Keywords: transmisions, V-belts, Mathcad.

Aspects of Quality Assurance in a Construction Company

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Abstract Quality is a factor of competitiveness and proper functioning of an enterprise. Quality construction is the result of the totality of their performance in operating behaviour, in order to meet the entire period of existence, the demands of users and communities. To obtain proper quality construction are required to achieve and maintain, during the entire duration of the construction, the following requirements: strength and stability; safety operation; fire safety; hygiene, human health and environmental restoration; thermal insulation, waterproof and energy saving; noise protection.

Keywords: quality assurance in a construction company.

Optimization of Manufacturing Cycle Ship

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Abstract The problem facing the Romanian shipyards are delays in delivery of contracted work, no delays due to skilled labor, but technology and procedures used. The lack of financial resources, it requires optimization technologies, systems and existing facilities in shipyards. In the present paper will make some considerations regarding the optimization of manufacturing cycle of the ship, which can extend and apply in any shipyard.

Keywords: optimization technologies, manufacturing cycle, procedures, ship, shipyard.

Considerations on Sandwich Panels

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Abstract In the study of composite materials have made spectacular progress which led to obtaining new materials with superior performance, cutting-edge technologies used in aviation, electronics, telecommunications, shipbuilding and civil engineering. The shipping industry, composite materials began to be widely used, based on the immersion of the vessel and advanced drilling equipment to reach the sea. The most interesting and promising ways to use composites are sandwich panels. This removes the disadvantages of panels of foam core panels or polystyrene and superior mechanical properties. Article intention is to propose for consideration to be built a naval structure with sandwich panels with composite materials.

Keywords: sandwich panels, composite materials, shipbuilding.

Study of Hydrostatic Transmission Equipment in the Modern Harbour

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Abstract Most efficient and modern equipment in modern seaport are using hydrostatic transmission for the motion mechanism . Hydrostatic transmission include a number of factors that produce, control and direct the potential energy contained in a working fluid (energy and information carrier) to the hydraulic engine that converts this energy into mechanical energy. Therefore, hydrostatic transmission consisting of two volumetric machines who transmit motion through a double conversion, such as mechanical- hydro-mechanical tipe. Easy realization of high power and strength with simple hydraulic mechanisms and small dimensions, easy command of high energies and full control over the forces, slight reversal of direction of movement, high dynamic demands is the main advantage of using hydrostatic transmission equipment.

Keywords: Hydrostatic transmission equipment .

Tomorrow Fleet Fueling

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Abstract MAN Diesel Company in Denmark, the best manufacturer of low speed engines in the world and questioned the long term to replace the traditional engines with engines that use natural gas. The paper presents the MAN Diesel Company vision regarding this problem.

Keywords: natural gas, gas noxes

Fatigue Parametric Study of the Ship Structural Joint

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Abstract A FEM analysis used for fatigue assessment of a ship structure, based on the rules, was done. The approach for fatigue assessment in the early design stage of the ship structure has been developed. To overcome the challenges due to limited information in the early design stage, generic structural elements and predefined fatigue-critical details were chosen. This allows the development of a common approach for different ship types, which is also applicable for optimization purpose. In this study, a refine mesh static analysis was done with the finite-element code COSMOS/M.

Keywords: fatigue, ship structures, FEM.

Study Concerning the Weldability of K410 Steel Used for Propylene Tank Welded Construction

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Abstract In the present study are presented weldability of K410 steel used in construction propylene tank. To develop a procedure for welding construction analysis is based on material weldability. Following this analysis can determine the degree of weldability of a material and any measures to be taken to improve the weldability of the material that. The experimental study conducted on K 410 steel could establish the necessary measures in welding process to obtain a structure without defects and working in required operating conditions.

Keywords: propylene tank, weldability, K410 steel.

Determination of Dynamic Characteristics of External Friction Clutches with Piston Stepwise Multiple Discs

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Abstract Intermittent couplings (clutches) made friction coupling of the two shaft load, without shocks, the relative speed at any value. They offer the possibility of limiting the torque transmitted by

friction and allow sliding elements, whichever construction, inspection time engaged and driven element default acceleration boards. The surface friction on the torque transmission is performed is usually flat. Pressure on the friction surface (friction wheels) can be achieved by mechanical control, hydraulic, pneumatic or electromagnetic.

Keywords: Friction clutches with piston stepwise multiple discs.

The Strain in the Cable When Lifting Loads with Harbour Cranes

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Abstract In order to bind, suspend, lift or tow loads or mobile parts of cranes, steel wire rope are used. Because their dimension range is very large, for choosing the cables according to destination and working conditions, is very important to carefully analize the cables' deformation under the influence of dynamic applications. In this paper we study the strain in the cable in the time before the load's separation from the seating surface.

Keywords: seated load, beam deflection, cable deformation, the strain in the cable

Theoretical and Experimental Research Regarding the Variation of the Cutting Forces in Turning of Aluminum

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Abstract: This paper presents how with the help of Third Wave System AdventEdge™ software can achieve results that can accurately predict the cutting forces, temperature distribution in the cutting region, breaking stress and strain. Simulations were used to study the influence of cutting parameters on tangential force in turning of aluminum alloys and to compare them with the experimental data. Tangential force values increase when the depth of cut and feed grow. Cutting speed does not affect the tangential force as we know from literature.

Keywords: turning, cutting forces, numerical simulation, AdvantEdge, aluminum.

Theoretical and Experimental Research of the Thermal Regime in Turning of Steel

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Abstract: In this paper a theoretical and experimental research was performed on the thermal regime on turning of two types of steel: an ordinary steel OL 60, and an alloyed steel 40MoCr11.

Theoretical research involved the study of mathematical modeling using finite element analysis with the help of the numerical simulation software AdvantEdge^{TM}, and the experimental research materialized by carrying out experiments on a universal lathe, in which different cutting regimes were obtained.

Keywords: turning, cutting temperature, numerical simulation, AdvantEdge, alloy steel.

Design, Construction and Operation of an Off-Road Vehicle Model

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Abstract In the paper the authors had the proposed to design and build an off road vehicle. The design was made using a CAD program, Autodesk Inventor, that the virtual model will be build more precisely. Gear box powered by an electric motor, chassis and axles were designed CAD. Construction was possibly because it was used parts of model cars on scale 1:10, such as differentials and shock absorbers. To the driving of this vehicle will be using a car radio or will be used in various applications like: traking, supervision or construction of an autonomous vehicle.

Keywords: design, off road vehicle, CAD program, Autodesk Inventor.

Stand for the Measurement of the Mechanical and Hydraulic Parameteres of a Direction Mechanism

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Abstract The stand measures the mechanical and hydraulic parameters using a secondary hydraulic circuit that acts on a cylinder. The hydraulic cylinder is braked by a pressure reducer (drossel). The stand measures the force of the mechanism, the travelling speed and the consumed power. On this stand we measure the following parameters: pressure, hydraulic flow and the hydraulic ressistance.

Keywords: measurement of the mechanical and hydraulic parameters, direction mechanism.

Short Introduction to Naval Management. Risk Analysis

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Abstract The paper present a few information regarding risk analysis, as part of the general management of the ship yards. Are considered some subjects, like: risk evaluation and initiative

management techniques; formal evaluation of the safety; risk analysis and operability; failure rate. Also, the paper present some aspects regarding signed contracts for new construction and / or ship repairs: design, fabrication, price and payment, delivery, insurance, jurisdiction.

Keywords: management, rysk analysis, ship yards.

Steering Assist Automotive Systems

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Abstract The steering system of the car is very important part of a modern automotive engineering. The paper focused on different modalities of driver's steering assist in traffic and points how a modern car can be guided even under total steering controll. The paper deals with mecathronic features on the topic, from a new and documentated point of view.

Keywords: controlled steering systems, automotive mechatronic systems.

Inside the Body of the Car - On Board Mechatronics

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Abstract The interior of the car and the way in which it preserves occupant's life and entertainement is very important in a modern car. The paper deals with mechatronic features on the topic, from a new and documentated point of view.

Keywords: inbody car mechatronics, passager protection.

Intelligent Highways and Fleet Control

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Abstract The paper deals from a new and documentated point of view about mecathronic features of the modern communication, and safety systems which are integrate on the new automotive fast lanes. Also other industrial areas are investigated (such are port, ferry terminals, railway and airport areas).

*Keywords: H*ighway mechatronics

New Computer Communication Patterns in Automotive Electronic Control Units

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Abstract The paper is focused on informational management comunication in automotive computer controlled systems and points some targets for future innovative communication ECU skills.

Keywords: ECU & informational patterns, automotive mechatronic systems.

Automotive Interior - Comfort and Passive Safe

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Abstract The paper deals from a new and documentated point of view about mecathronic features of the modern occupant's seats & Air Bag passive protection systems, designed both from efficient economical&construction point of view and also from a safety one.

Keywords: Passive Safety, on board mechatronics.

Active Differential and Automotive Power Mechatronics

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Abstract The paper shows how engine power force can be intelligent distributed to wheels in a way that contributes to an efficient increasing of traction.

Keywords: traction & drag electronic assist systems, automotive mechatronic systems

Urban Telematics

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Abstract The paper deals from a new and documentated point of view about mecathronic features of the communicational management of traffic systems in modern cities.

Keywords: automotive *in city* telematics.

From Modern Computer Control of Auxiliary Engine Systems to Hydrogen Fuelled Vehicles

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Abstract The paper deals about new bio-fuels that can replace the traditional ones and points the H_2`s advantages and disadvantages thinking to using it as a future alternative fuel.

Keywords: thermal engine Hydrogen fuelled systems, automotive mechatronic systems.

Off-board Diagnose Systems and Diesel Engine Control

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Abstract The paper shows some features of modern Service Diagnose Centre for Automotive bengines and reveals some specific ways of EDC Diagnose and Control Systems.

Keywords: Diesel control, automotive mechatronic systems, Off Board Diagnostic.

Intelligent Automotive Suspension Systems

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Abstract The paper deals with mecathronic features of the modern computer air / oil / magetic controlled susspenssion systems for heavy and light vehicles, from a new and documentated point of view.

Keywords: suspenssion systems, automotive confort and safe, automotive mechatronics systems

DACIA *TrenD* – Rail and High Way - Automotive Prototype

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Abstract: The paper reveals the new Mix *Rail&Road* Dacia *TrenD* Prototype that come to life thanks to the hard effort of a very dedicated students team, that designed such an unusually research new vehicle to prove that the ideeas can be put in practice with determination and high quality engineering work.

Keywords: propulsion with water paddle wheels control, mix electric & gasoline prototypes.

High Efficient Light Systems Under Steering and Traffic Condition's Control

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Abstract The paper is focused on how an intelligent light system can rise the security of driving in different traffic conditions and in which way other different mecatronic systems contributes to *the head and rear* beam intensity and efficiency.

Keywords: light assist automotive systems, automotive mechatronic systems.

In-body Climate Automotive Control and Passengers Comfort

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Abstract The paper shows some features of Climate Control Systems and reveals how these components can increase the Driver and Passengers's comfort during day by day use of the car.

Keywords: automotive climate control, automotive mechatronic systems.

Optimization of Logan Dacia Body Parts in the Industrial Pitesti Plant Chain

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Abstract The paper shows some features of industrial components & body parts process of Logan Type structure and reveals the work of the students in Dacia Enterprise & Ovidius University parteneship relative to topics proposed by the specialsts for engineering diploma licence.

Keywords: industrial component body structures fabrication chanes.

ABS / ASR / ESP –Management of Automotive Wheel's Brake

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Abstract The paper show how ABS sistem contributes to the increase of the efficiency of the modern car brakes.

Keywords: brake assist, automotive mechatronic systems.

New Approaches to a Gasoline & Electric Hybrid (2x1) Propulsion 3Wheel-vehicle Prototype

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Abstract: The paper shows how cames to life the new *gasoline &electric* hybride (2x1) prototype, thanks to the effort of more than a hundred of students, done during Practical Skills Stage.

Keywords: Hybrid Propulsion, electric & gasoline Mix prototypes.

From O*n board* Information Management to an Efficient Way of Autonomous Drive Assist

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Abstract The paper is focused on modern and efficient ways of management of multistage information flows and deals about how theese can be be organise in order not to disturb driver's attention from the traffic.

Keywords: communication assist automotive systems, automotive mechatronic systems.

From Mechatronic Control of Spark and Combustion Process to Plasma Ignition Systems in Modern Gasoline Engines

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Abstract The paper deals about new capabilities of the modern ignition systems designed for spark ignitted engines and points the features of the newest proposals of using plasma instead of clasical spark discharges.

Keywords: thermal engine plasma discharge systems, ignition systems, automotive mechatronic systems.

Automotive Parking Assist Systems

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Abstract The paper focused on different modalities of assisting the driver during the complex parkig procedures and shows the innovative free steering wheel control programms that is part of some high level equipped models of actual production cars.

Keywords: park assist and low speed controlled steering systems, automotive mechatronic systems.

Engine's Exhaust Gases Management Systems

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Abstract The paper shows the stages of exhaust gases treatement equipments and reveals how they maintain pollution controll under the EU regulation and also points different modalities of charge control and fresh & exhaust mixture gases ratio, suitable to gain emision control under specific limits.

Keywords: controlled exhaust emission systems, automotive mechatronic systems.

HyDACIA Gasoline & Electric Hybrid (2x2) 4Wheels propulsion -vehicle Prototype

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Abstract: The paper shows how in a total different way than Hy 1 Threewheels prototype Team cames to life the *gasoline &electric* automotive hybride prototype HyDacia, thanks to the effort a very dedicated student team.

Keywords: Prototype with Mix electric&gasoline propulsion.

Innovative Turbochargers and Engine Admission Systems

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Abstract The paper points the new and interesting mecathronic features of the modern computer controlled *one and multistage* addmission charge systems for heavyduty automotive engines, from an interesting and documentated point of view.

Keywords: turbocharhers, admission engine systems, automotive mechatronic systems.