LIST OF PATENTS 2021-2023

1. **PATENT OSIM NR. RO135782- B1 / 30.08.2023**

   TITLE RO/EN: Metoda pentru corectia suprafetelor plane din imaginile provenite de la camere cu informatie de distanta / METHOD FOR CORRECTING PLANE SURFACES IN IMAGES FROM CAMERAS EQUIPPED WITH TIME-OF-FLIGHT (TOF) SENSORS, USING CONVOLUTIONAL NEURAL NETWORKS, INVOLVES ADAPTING ERROR CALCULATION FUNCTION TO RECTIFY PLANE SURFACES, AND USING TRAINED NEURAL MODEL TO DELIVER OUTPUT IMAGE WITH RECTIFIED PLANS

   INVENTOR(S): POP MARIAN LEONTIN, TAMAS LEVENTE

   ABSTRACT: NOVELTY - The method acquiring a series of depth images of interior spaces that contain one or more plane surfaces such as floor, ceiling, walls, and converting the images into a cloud of points, using the intrinsic parameters of the camera. The major planes in the cloud of points are identified and each distorted plane on an ideal plane whose coordinates are obtained by iterative use of functions in the PCL library, thus obtaining reference images for the training of the neural model. An error calculation function is adapted to be able to serve to rectify plane surfaces, and a third stage in which the trained neural model is used by the correction program that takes images from the camera, enters them as inputs of the model which, in its turn, processes them and delivers an output image with the rectified plans. USE - Method for correcting plane surfaces in images from cameras equipped with Time-of-Flight (ToF) sensors, using convolutional neural networks.

2. **PATENT OSIM NR. RO135781- B1 / 30.08.2023**

   INVENTOR(S): MOLNAR SZILARD, TAMAS LEVENTE

   ABSTRACT: NOVELTY - The method involves using convolutional neural networks (CNN) to calculate the normals from a cloud of points created by a Time-of-Flight (ToF) camera and storing as a depth image. The information obtained on the three channels is stored and trained using large real and synthetic data sets. USE - Method for automatically calculating normals from surfaces on three-dimensional (3D) scans. ADVANTAGE - The convolutional neural network (CNN) is able to estimate the normals in a faster and more robust manner.

3. **PATENT OSIM NR. RO132554- B1 / 30.08.2023**

   INVENTOR(S): MICLE VALER, SUR IOANA-MONICA, MITREA MIHAI

   ABSTRACT: NOVELTY - The method involves sorting and homogenizing a quantity of 4000 Kg of clay-polluted soil with hydrocarbons with an initial concentration of 4280 mg/kg on a concrete platform. A drainage layer of gravel is formed on the base. The drainage layer of gravel is treated with 151x 105-213x 107 CFU/g of soil. The microorganisms belonging to Psmadonas and Bacillus is maintained at a temperature 24-26 degrees C, pH 7.5-8, humidity 28-30%, under aeration conditions of 5 days/week, 8 hours/day, with a flow rate of 50 mc/min, which results in a depolarization rate of 83% after 12 weeks of treatment. USE - Biological method for extraction of hydrocarbons polluted solutions.

4. **PATENT OSIM NR. RO133031- B1 / 30.06.2023**

   INVENTOR(S): MOCAN BOGDAN, MOCAN MIHAELA

   ABSTRACT: The invention relates to a device for performing an artery puncture with a view to sampling blood from radial artery and to a method for using said device. According to the invention, the device comprises a support (1) on which the back part of a patient's forearm rests, to facilitate blood sampling from the radial artery, with an integrated inflatable element (2) which will stay in contact with the back part of the patient's forearm, in order for it to provide a suitable position and orientation of the front part of the patient's forearm and palmar arcade, thereby ensuring a perfect contact with a sensorial microvibration system (3) and with a device (4) for subcutaneous viewing of the plane of superficial veins, which are located in a support (5) in which there also are two screens (6) of graphic display of superficial veins pattern and of pulse intensity value, the puncture syringe needle being guided by means of a trocar (7) oriented under an angle of 33° in relation with the horizontal medial plane of the forearm, the stasis at the puncture point being ensured by a stasis device (8) which is manually actuated by the doctor, while the extension position between the patient palm and forearm is maintained by a device (9) holding the fingers. The device is also provided with a power supply and control module (10).

5. **PATENT OSIM NR. RO134105- B1 / 30.06.2023**

   INVENTOR(S): COSMA SORIN COSMIN, BALC NICOLAE OCTAVIAN, POPAN ALINA IOANA, HENDEA RADU EMIL

ABSTRACT: The invention relates to a method for making supports to be used in selective laser melting by differential scanning. According to the invention, the method comprises the stages of initialization of process parameters corresponding to the scanning of the lower zone of the supports, material deposition layer by layer and laser scanning of 2D sections of the support for consolidation purposes, the support (13) being divided into a lower zone (13a) which is the contact zone with a working platform (15), an upper zone (13c) on which the piece (14) is fixed and a medial zone (13 b), where the scanning of the support (13) is differentiated on the three zones (13a, 13b, 13c).

6. PATENT OSIM NR. RO132365- B1 / 30.06.2023

INVENTOR(S): CIUPAN CORNEL, STEOPAN MIHAI, POP EMANUELA SORINA

ABSTRACT: The invention relates to a gear box designed as a kit which may be reconfigured in various versions and which is meant to develop students' abilities in the mechanical engineering field. According to the invention, the box consists of kinematic groups comprising some fixed gear wheels (18) positioned on some shafts (8...11), by means of some spacers (21) and some threaded pins (26), and some sliding blocks (20) consisting of some gliding gear wheels (19) positioned between two forks (22) fixed on some slide blocks (23) for changing speed, the shafts (8...11) with the gear wheels (18 and 19) being mounted in a case (4) with axial separation plane made between some lower and upper plates (15a, 16a and 15b, 16b), respectively, fixed with some screws (17) which enable reconfiguration.

7. PATENT OSIM NR. RO131751- B1 / 28.04.2023

INVENTOR(S): DANESCU RADU GABRIEL

ABSTRACT: The invention relates to a system and a method for the remote synchronization of optical systems for sky observation, used for detecting objects on low, medium and high terrestrial orbits. The system, as claimed by the invention, comprises a releasing device (1) which consists of a two-channel GPS receiver (4), a classic one for reading global time and a very precise synchronization signal 1 PPS (Pulse Per Second), a microcontroller board (5), a matricial keyboard (6) available to the user and an LCD display screen (7), a telescope (3) provided with a photo camera (2) being connected to the device (1), in order for them to be released by the device (1) according to a previously loaded exposure software. The method, as claimed by the invention, consists of stages for preparing two devices (1) with an exposure software, for placing said devices in the places where the observations are intended to be carried out, for verifying the GPS signal and satellite synchronization, then making the devices (1) operate in the active mode, connecting the photo cameras (2) to the devices (1) and running the exposure software for capturing images from the telescopes (3).

8. PATENT OSIM NR. RO134764- B1 / 30.12.2022

TITLE RO/EN: Procedeu de desulfatizare, optimizare si aplicare a placilor uzate provenite de la bateria auto / PROCESS FOR DESULPHURIZING, OPTIMIZING AND USING SCRAP PLATES FROM A CAR LEAD BATTERY

INVENTOR(S): RADA SIMONA, OPRE RAZVAN TIBERIU, PINTEA ANDREI, CULEA EUGEN

ABSTRACT: The invention relates to a process for desulphurising, optimizing and using scrap plates from the storage lead battery to make new applications such as battery electrodes. According to the invention, the process uses as raw material the anode electr
ode, as a source of Pb, and the cathode electrode, as a source of PbO_2, from a spent car battery which has a high degree of sulphurisation and a low content of Pb in plates and grids, and it consists in weighing on an analytical balance, the substances with the chemical formulas $xNiO. (100-x) [4PbO_2.Pb]$ where x = 8% moles of NiO and $xCo_3O_4. [4PbO_2.Pb]$, where x = 20% moles of Co_3O_4, expressed as percentages of moles in stoichiometric proportions, by using NiO powder and Co_3O_4, respectively, the mixture of substances is introduced into alumina crucibles and then placed in an oven, melted, and the melt is quickly overturned on a stainless steel plate.

9. PATENT OSIM NR. RO134587- B1 / 30.12.2022

TITLE RO/EN: Procedeu de desulfatizare, optimizare si aplicare a placilor uzate provenite de la bateria auto / PROCESS FOR DESULPHURIZING, OPTIMIZING AND USING SCRAP PLATES FROM A CAR LEAD BATTERY

INVENTOR(S): RADA SIMONA, OPRE RAZVAN TIBERIU, PINTEA ANDREI, CULEA EUGEN

ABSTRACT: The invention relates to a process for desulphurizing, optimizing and using scrap plates from the storage lead battery to make new applications such as battery electrodes. According to the invention, the process uses as raw material the anode electrode, as a source of Pb, and the cathode electrode, as a source of PbO_2,

from a spent car battery which has a high degree of sulphurization and a low content of Pb in plates and grids, and it consists in weighing on an analytical balance, the substances with the chemical formulas xNiO. (100-x) [4PbO2.Pb] where x = 8% moles of NiO and xCo3O4. [4PbO2.Pb], where x = 20% moles of Co3O4, expressed as percentages of moles in stoichiometric proportions, by using NiO powder and Co3O4, respectively, the mixture of substances is introduced into alumina crucibles and then placed in an oven, melted, and the melt is quickly overturned on a stainless steel plate.

10. PATENT OSIM NR. 130496 / 30.08.2022

TITLE RO/EN: Procedeu de obtinere a unui ambalaj alimentar din materiale nano-structurate / PROCESSES FOR OBTAINING INTELLIGENT FOOD PACKAGES

INVENTOR(S): PETER ANCA, NICULA CAMELIA, MIHALY COZMUTA ANCA, MIHALY COZMUTA LEONARD, DANCIU VIRGINIA, BAIA GHEORGHE LUCIAN, KOVACS GABOR, BEGEA MIHAELA, CRACIUN LILIANA, CRACIUN GRIGORE, DUTUC GHEORGHE, FALUP ANCA, ZIEMKOWSKA WANDA, JASTRZEBSKA AGNIESZKA, KURTYCZ PATRYCJA, KARWOWSKA EWA, MIASKIEWICZ - PESKA EWA, ZALESKA RADZIWILL MONIKA, OLSZYNA ANDRZEJ, KUNICKI ANTONI, SITARZ KAROLINA, ROSLON MAGDALENA

ABSTRACT: NOVELTY - The invention relates to a process for obtaining a food packaging which provides the preservation of the food characteristics and prolongs the validity term thereof. According to the invention, the process consists in preparing, in a first stage, a composite of titanium dioxide modified with 0.10...0.15% Au and, possibly, with nitrogen and 0.5...3% Ag or titanium dioxide-silicon dioxide mixture modified with 0.5...3% Ag, to be added to a polypropylene base and cellulose, respectively, after which, in a second stage, the mixture is processed in a manner known per se, to result in a package as a bottle or, possibly, a sheet of paper.

11. PATENT OSIM NR. RO129401- B1 / 30.08.2022

TITLE RO/EN: Sistem de automatizare inteligent bazat pe o arhitectura distribuita, reconfigurabila si adaptiva / INTELLIGENT AUTOMATION SYSTEM BASED ON DISTRIBUTED RECONFIGURABLE ADAPTIVE ARCHITECTURE

INVENTOR(S): MURAR MIRCEA, BRAD STELIAN

ABSTRACT: NOVELTY - The invention relates to an automation system for the control, monitoring and configuration of equipments, intended for industrial processes of SMEs, having a quickly reconfigurable adaptive dynamic architecture, where the equipments are provided with a minimal level of distributed intelligence. According to the invention, the system comprises a control unit (1), a high-priority output equipment (2), a high-priority input equipment (3), a low-priority output equipment (4) and a low-priority input equipment (5), together with some adapters (6, 7) specific to the high-priority output and input equipments (2, 3), respectively, and some adapters (8) characteristic to the low-priority equipments (4, 5); when an intelligent equipment is connected, it configures its internal modules, then it waits for a general interrogation, responds thereto and, further on, waits for it to be self-integrated into the process, to be configured by the operator and programmed by means of a human-machine interface and the control unit (1) according to the available options.

12. PATENT OSIM NR. RO134496- B1 / 30.06.2022

TITLE RO/EN: Masina electrica de propulsie cu actionare directa a rotii motoare pentru vehiculele de transport pe cale de rulare ghidata / ELECTRIC PROPULSION MACHINE WITH DIRECT ACTUATION OF DRIVING WHEEL FOR TRANSPORT VEHICLES ON GUIDED ROLLING TRACK, HAS ROTARY SLEEVE THAT IS PROVIDED WITH ROLE OF PREVENTING ELECTRIC MACHINE INTERIOR CONTAMINATION WITH DUST, AND WATER

INVENTOR(S): BREBAN STEFAN, DRANCA MARIUS ALEXANDRU, FARTAN MARIUS

ABSTRACT: NOVELTY - The electric propulsion machine has a stator that is comprised with a stator magnetic core made of circumferentially superposed sheets where notches are milled. A stator winding is mounted in the notches. A support is arranged for stator mounting on a fixed axle and securing against rotation with a parallel wedge, and a shaft end flange. A rotor is provided with permanent magnets and a clamping ring with ferromagnetic properties, for fixing an elastic element and for closing the magnetic flux lines between the rotor and the stator. A rotary sleeve is provided with the role of preventing the electric machine interior contamination with dust, and water. USE - Electric propulsion machine with direct actuation of driving wheel, for transport vehicles on guided rolling track.

13. PATENT OSIM NR. RO134330- B1 / 30.06.2022

TITLE RO/EN: Placa compozita din fibre naturale si procedeu de obtinere a acesteia / COMPOSITE BOARD USEFUL FOR BUILDINGS INSULATION CONTAINS SHEEP WOOL FIBERS, WHITE PORTLAND CEMENT OR NATURAL HYDRAULIC LIME, POLYVINYL ACETATE GLUE AND WATER

INVENTOR(S): FLOREA IACOB, MANEA DANIELA LUCIA

ABSTRACT: NOVELTY - Composite board comprises 26.6-27.1 mass% sheep wool fibers, 26.6-27.1 mass% white Portland cement or natural hydraulic lime 3.5, 5.75-6.25 mass% polyvinyl acetate glue and 40-40.5 mass% water. Before making composite board, the wool is hydrated with water. The composite board is produced by unbaling the sheep wool bales, loosening the sheep wool fibers with carder, hydrating the wool by spraying water, in mass ratio of 1:1, dosing the binder, adhesive and water to homogenize mixture, spraying the binder in wool fiber mass and stirring the composite simultaneously with its spraying, pouring resulting composition into mold, pressing the board, removing the board after 24 hours, compressing the boards to desired thickness using two perforated cellular PVC boards and keeping them under weight for another 48-72 hours, cutting the board at preset dimensions depending on intended use and finally packing and storing the cut boards as to protect them. USE - The composite board is useful for buildings insulation. ADVANTAGE - The composite boards have a thickness of 50 mm with a thermal conductivity of 0.0486 W/mK for the base boards based on hydraulic lime.

14. PATENT OSIM NR. RO134133- B1 / 29.04.2022

TITLE RO/EN: Procedeu de electrodepunere a aliajului de zinc-nichel pe substrat de otel inoxidabil / ELECTRODEPOSITION OF ZINC-NICKEL ALLOY ON STAINLESS STEEL PART SURFACE BY PREPARING PART SURFACE BY CHEMICAL PICKLING, PREPARING ELECTROLYTE FOR ELECTRODEPOSITION COMPRISING ZINC AND ENVIRALLOY NICKEL AND PERFORMING ELECTRODEPOSITION

INVENTOR(S): VERMESAN HORATIU, CHIRA MIHAI

ABSTRACT: NOVELTY - Method for electrodeposition of zinc-nickel alloy on surface of stainless steel parts involves (i) preparing the part surface by chemical pickling at 60 degrees C for 10 minutes, washing with water for 30 seconds, treating the surface with a solution of sodium hydroxide in a concentration of 350-450 g/l at 70-100 degrees C for 30-50 minutes and washing with water for 30 seconds, (ii) preparing an electrodeposition electrolyte which is a mixture of 4.9-7.5 g/l zinc, 130-145 g/l sodium hydroxide, 10 g/l Envirozin conditioner, 0.5 ml/l Enviralloy nickel 12-15 LCD, 50 ml/l NiSpeed complexor, 5-7 ml/l NiSpeed additive nickel, 0.2 ml/l NiSpeed leveler and 5 ml/l Enviralloy nickel 12-15 Part B and (iii) performing electrodeposition by subjecting the stainless steel part to the electrodeposition of a zinc-nickel alloy in an alkaline solution, where the density of electrodeposition current is 2-3 A/dm2, working temperature is 22-28 degrees C and the anodes employed are made of stainless steel or nickel. USE - The method is useful for electrodeposition of zinc-nickel alloy on surface of stainless steel parts and used in applications in which the stainless steel is intended to be connected with a less noble metal, preferably automotive industry. ADVANTAGE - The method provides product with excellent mechanical properties and high corrosion resistance.

15. PATENT OSIM NR. RO133886- B1 / 29.04.2022

TITLE RO/EN: Sistem eolian aeropurtat de producere a energiei electrice / AIRBORNE WIND-MOTOR SYSTEM FOR PRODUCING ELECTRIC ENERGY, HAS AERODYNAMIC-PROFILED WING WHICH CONFERS ADDITIONAL THRUST IN WIND HAS TWO VERTICAL PLATES AT ENDS, SO THAT IT IS PERMANENTLY ORIENTED ACCORDING TO WIND DIRECTION

INVENTOR(S): BREBAN STEFAN, DRANCA MARIUS ALEXANDRU, MALAEL ION

ABSTRACT: NOVELTY - The airborne wind-motor system has wind turbine having blades for driving one electric generator. Each wind turbine and each electric generator is mounted on a pole made of a light material which has circular cross section or aerodynamic profile. A wing with aerodynamic profile is asymmetrical in relation to the pole. A rotation equipment consists of an axial-radial bearing and a slide-contact element allows the rotation of the anchored assembly depending on the wind direction, and ensures the electrical connection with the electrical conductors within the anchoring cable. The orientation of the wind turbine in the wind is achieved by the drift fin made of a plate, if the turbine is with horizontal axis. The turbine orientation in the wind is not needed, if the turbine is with vertical axis. The aerodynamic-profiled wing conferring the additional thrust in the wind has two vertical plates at the ends, so that it is permanently oriented according to the wind direction. USE - Airborne wind-motor system for producing electric energy.

16. PATENT OSIM NR. RO134350- B1 / 28.01.2022

TITLE RO/EN: Convertor electronic intercalat ridicator/coborator de tensiune / INTERLEAVED VOLTAGE STEP-UP/STEP-DOWN ELECTRONIC CONVERTER HAS VOLTAGE STEP-DOWN CONVERTER THAT IS CONNECTED BY SERIAL CONNECTION AT INPUT OF TWO VOLTAGE STEP-DOWN ELECTRONIC CIRCUITS AND PARALLEL CONNECTION AT OUTPUT

INVENTOR(S): TEODOSESCU PETRE DOREL, SUCIU VASILE MIHAI, SZEKELY NORBERT CSABA, PACURARU ALEXANDRU MADALIN, BOJAN MIRCEA, MATHE ZSOLT

ABSTRACT: NOVELTY - The converter has two independently operating voltage step-up/step-down electronic circuits which take over the energy from a power supply and transfer to the consumer. The voltage step-up

converter is connected by a parallel connection at the input of the two voltage step-down circuits and serial connection at the output, respectively. The amplification factor of the converter is increased, and the voltage step-down converter is connected by the serial connection at the input of the two voltage step-down electronic circuits and parallel connection at the output, respectively. The attenuation factor of the converter is increased. USE - Interleaved voltage step-up/step-down electronic converter.

17. PATENT OSIM NR. RO133074 -B1 / 30.12.2021

TITLE RO/EN: Compozitie de rasina de impregnare, material compozit si metoda de fabricatie a implanturilor cranio-faciale / MANUFACTURING GLASS FIBER-REINFORCED COMPOSITE USED AS BIOMATERIAL, BY MIXING ORGANIC MATRIX MADE OF METHACRYLIC MONOMERS WITH ZIRCONIUM OXIDE AND GENTAMICIN, IMPREGNATING RESIN WITH GLASS FIBER CLOTH, LAMINATING AND THERMALLY TREATING

INVENTOR(S): ROTAR ALEXANDRU-HORATIU, BACIUT GRIGORE, MOLDOVAN MADALINA-ANCA, PREJMEREAN CRISTINA, MOLDOVAN MARIOARA, PRODAN DOINA, BALC NICOLAE, BERE PAUL

ABSTRACT: NOVELTY - Process for manufacturing a glass fiber-reinforced composite, involves mixing an organic matrix made of methacrylic monomers with nano-filling of hydroxyapatite, zirconium oxide and gentamicin at room temperature for 2 hours to obtain a resin, impregnating a glass fiber cloth with the resin, laminating to obtain a glass fiber-reinforced composite, thermally treating the glass fiber-reinforced composite in an electric oven at 100 degrees C, and removing the residual monomer by extraction with solvent to obtain a biomaterial. USE - The process is useful for manufacturing glass fiber-reinforced composite used as biomaterial for manufacturing customized implants by three dimensional printing technique. ADVANTAGE - The process provides biomaterial, which has antimicrobial effects and favorable biological reactions.

18. PATENT OSIM NR. RO133815 -B1 / 29.10.2021

TITLE RO/EN: Robot paralel pentru recuperarea medicala a membrelor inferioare / PARALLEL ROBOT FOR MEDICAL RECOVERY OF LOWER LIMBS, HAS PRISMATIC COUPLINGS THAT PERFORMS TRANSLATION MOVEMENTS BY SOME SLIDING ELEMENTS, WHICH, ALLOWS FLEXION/DORSIFLEXION MOVEMENT OF PLANTAR SUPPORT

INVENTOR(S): PISLA DOINA LIANA, GHERMAN BOGDAN GEORGE, NADAS IULIU ADRIAN, POP NICOLETA MARIA, CRACIUN CRISTEA FLORIN, TUCAN PAUL GEORGE MIHAI, VAIDA LIVIU CALIN, CARBONE GIUSEPPE VENAFRO, BIRLESCU IOSIF, PLITEA NICOLAE

ABSTRACT: NOVELTY - The robot has a table on which a patient is placed in horizontal position, leg supports placed on an adjustable element which is attached onto a first module for hip and a knee medical recovery consisting of a frame on which two toothed belts are placed and driven by some motors. A counterweight is adjustably attached along an element fixed through a rotation coupling to the frame. The ankle rotation is achieved by a second module, where the rotation center of the ankle has to be placed at the intersection of the axes of some rotation couplings. The prismatic couplings performs translation movements by some sliding elements, which, allows the flexion/dorsiflexion movement of a plantar support, when simultaneously performed in the same direction and sense and with the same speed, and allows the eversion/inversion movements to be performed, when performed in opposite senses. USE - Parallel robot for medical recovery of lower limbs.

19. PATENT OSIM NR. RO133814 -B1 / 29.10.2021

TITLE RO/EN: Robot paralel pentru recuperarea mobilitatii membrului inferior / PARALLEL ROBOT FOR PATIENTS LOWER LIMB MOBILITY RECOVERY, HAS FIRST MODULE THAT IS PLACED ON FRAME AND THAT CONSISTS OF FOUR KINEMATIC CHAINS, AND SECOND MODULE THAT IS MOUNTED ON FIRST MODULE AND THAT IS DRIVEN BY TWO ROTARY MOTORS

INVENTOR(S): PISLA DOINA LIANA, BIRLESCU IOSIF, VAIDA LIVIU CALIN, GHERMAN BOGDAN GEORGE, TUCAN PAUL GEORGE MIHAI, CARBONE GIUSEPPE VENAFRO, PLITEA NICOLAE

ABSTRACT: NOVELTY - The parallel robot has two modules for the recovery of hip and knee joints and for the recovery of the ankle joint. The first module is placed on a frame and consists of four kinematic chains, and the second module is mounted on the first module and is driven by two rotary motors. USE - Parallel robot for patients lower limb mobility recovery.

20. PATENT OSIM NR. RO134151 -B1 / 30.09.2021

TITLE RO/EN: Motor sincron reactiv de 2 poli magnetici, cu rotor modular si tole axiale / REACTIVE SYNCHRONOUS MOTOR FOR VARIABLE SPEED ELECTRIC DRIVE SYSTEMS, HAS CONSECUTIVE MODULES THAT ARE INTERCONNECTED BY TRAPEZOIDAL RAILS, HAVING MALE CONNECTOR PROFILE THAT IS INSERTED IN GUIDE RECESSES PROVIDED AT REINFORCEMENT TUBE

INVENTOR(S): PISLA DOINA LIANA, BIRLESCU IOSIF, VAIDA LIVIU CALIN, GHERMAN BOGDAN GEORGE, TUCAN PAUL GEORGE MIHAI, CARBONE GIUSEPPE VENAFRO, PLITEA NICOLAE

ABSTRACT: NOVELTY - The motor has a modular rotor that is arranged with two magnetic poles and axially arranged sheets and stator. The rotor is inclined due to construction of five modules of axial sheets shifted from one another by 1/5 of the angle of the toothing pitch. The axial sheets are packed together to form a reinforcement tube that is made of non-magnetic material and composed of circular elements and two parallel straight. The module of the reinforcement tube has two air spaces that are used to prevent the increase of the motor inertia at the level of air spaces. The consecutive modules are interconnected by trapezoidal rails, having a male connector profile that is inserted in guide recesses provided at a lower portion of the reinforcement tube. A female connector profile and the transfer of torque from the motor to certain load is performed by two-diameter cylindrical portions, which are connected to the modular rotor by a system of guide rails and guide recess. USE - Reactive synchronous motor for variable speed electric drive systems.

21. PATENT OSIM NR. RO130517 -B1 / 30.07.2021

TITLE RO/EN: Actuator cu glisiere telescopic / TELESCOPIC ACTUATOR FITTED WITH SLIDES

INVENTOR(S): NASUI VASILE

ABSTRACT: NOVELTY - The invention relates to a telescopic actuator fitted with slides, with a mechanical transmission made of slides and roller cable used in linear drives in various industrial drives having a high working speed and long travel, in particular, extendable sliding gates and doors. According to the invention, the actuator comprises a gearmotor assembly (A) fixed on a support (1) and having on its output shaft (2) a roller (3) on which a cable (4) is wound, said cable being provided with means for adjusting the tension of the cable, fixed at both ends (a and b) by a support slide (5) in which another slide (6) glides, having at its ends some bolts (7) with rollers (8) on which there is wound another cable (9) or a flexible toothed belt, with the lower branch made integral with the fixed support (1) by means of a connection (10), said cable being guided in a channel (c) within the slide (6) and in a channel (d) within the slide (5), the upper branch of the cable (9) being made integral with the slide (5) by means of another connection (11) which is guided in the channel (e) of the slide (6), thereby resulting in a simultaneous forward motion of the two slides and, when the roller rotates to the left or to the right, the servomechanism fitted with slides being extended.

22. PATENT OSIM NR. RO133611 -B1 / 30.06.2021

TITLE RO/EN: Panou sandvis din puzderie si fibre de canepa si procedeu de realizare a acestuia / SANDWICH PANEL USED IN FIELD OF CIVIL CONSTRUCTIONS, HAS CORE THAT IS MADE OF SPECIFIC RANGE OF HEMP FIBERS, SPECIFIC RANGE OF MINERAL BINDER AND SPECIFIC RANGE OF WATER SUCH THAT CORE IS EXTERNALLY CONFINED BY SPECIFIC THICK RIGID FACES

INVENTOR(S): ISTOAN RALUCA, TAMAS GAVREA DANIELA ROXANA, MANEA DANIELA LUCIA, VASILE OVIDIU

ABSTRACT: NOVELTY - The sandwich panel has a 40 mm-thick core made of 23-24% hemp fibers, 38-39% mineral binder and 38-39% water. The core is externally confined by two 5 mm-thick rigid faces and comprises 42-43% saturated chaff, 21-22% hydrated lime, 21-22% cement and 15-16% water. A composition is evenly poured into a wooden mold. The core of the sandwich panel is made by atomizing the hemp fibers with a cement-based solution obtained by mixing the mineral binder with water and placing in a shutter between the external rigid faces. USE - Sandwich panel used in field of civil constructions. ADVANTAGE - The acoustic performance is improved by perforating one of the external rigid faces. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method for making sandwich panel.

23. PATENT OSIM NR. RO133833 -B1 / 29.04.2021

TITLE RO/EN: Beton eco-inovativ pe baza de ciment si deseuri reciclate din sticla si polietilen tereftalat pentru aplicatii in domeniul constructiilor / CONCRETE COMPOSITION FOR CONSTRUCTION, COMPRISES ARTIFICIAL AGGREGATE, CRUSHED GLASS, POLYETHYLENE TEREPHTHALATE FLAKES, PORTLAND CEMENT, WATER AND SUPERPLASTICIZER ADDITIVE

INVENTOR(S): CORBU OFELIA CORNELIA, SZILAGYI HENRIETTE, PIRGARIU GABRIEL

ABSTRACT: NOVELTY - A concrete composition comprises 64-70 wt.% artificial aggregate, 63-75 wt.% crushed glass having grain size of 0-4 mm, 19-23 wt.% crushed glass with grain size of 4-8 mm, 8-10 wt.% polyethylene terephthalate flakes, 21-24 wt.% Portland cement, water and superplasticizer additive, and has water-cement ratio of 0.4-0.45. USE - Concrete composition for constructions for forming alveolar blocks and arch bricks. ADVANTAGE - The concrete composition is environmentally-friendly.

24. PATENT OSIM NR. RO133822 -B1 / 29.04.2021

TITLE RO/EN: Instalatie si procedeu de depoluare prin spal;are a solurilor poluate cu metale grele / WASHING CONTAMINATED SOILS WITH HEAVY METALS, BY USING SOIL POLLUTED WITH WASHING SOLUTION CONTAINING POTASSIUM SALTS OF HUMIC ACID, STIRRING SOIL MIXTURE, EVACUATING SOIL WITH WASHING SOLUTION AND CARRYING OUT GRAVITATIONAL SEPARATION

INVENTOR(S): DAMIAN GIANINA ELENA, MICLE VALER

ABSTRACT: NOVELTY - Process for washing contaminated soils with heavy metals, involves (a) using potassium salts of humic acids and chitosan as washing agents and adopting a installation in which the soil polluted with the washing solution containing the potassium salts of the humic and chitosan acids, (b) introducing into a chamber through a feed hole, and preparing and storing the washing solution introduced into the chamber, (c) stirring the soil mixture with the washing solution using 12 mixing blades arranged on a rotary shaft, and operating the rotary shaft by a single-phase electric motor, and (d) evacuating the soil together with the washing solution from the chamber through a hole into a decanter with a volume of 3 l after depollution and carrying out gravitational separation of the soil with the washing liquid. USE - The process is useful for washing contaminated soils with heavy metals. ADVANTAGE - The method achieves depollution efficiency of 91.02-99.06% lead and 37.65-49.78% copper. DETAILED DESCRIPTION - Process for washing contaminated soils with heavy metals, involves (a) using potassium salts of humic acids and chitosan as washing agents and adopting a installation in which the soil polluted with the washing solution containing the potassium salts of the humic and chitosan acids, (b) introducing into a chamber inclined 1 degrees from horizontal plane through a feed hole provided with a threaded lid with a sealing gasket, and preparing and storing the washing solution introduced into the chamber in a 2 l pre-filled vessel by manually operating a tap, (c) stirring the soil mixture with the washing solution using 12 mixing blades arranged on a rotary shaft and inclined at 3 degrees to the rotary shaft, mounting the rotary shaft in the chamber by means of two ball bearings, protecting by two rotating cuffs at both ends of the rotary shaft, and operating the rotary shaft by a single-phase electric motor powered by a 220 V alternating current source with a single-phase on/off switch and an automatic 6 A fuse, and (d) evacuating the soil together with the washing solution from the chamber through a hole into a decanter with a volume of 3 l after depollution and carrying out gravitational separation of the soil with the washing liquid.

25. PATENT OSIM NR. RO131186 -B1 / 29.04.2021

TITLE RO/EN: Instrument laparoscopic pentru localizarea extralumenala precisa a unei tumori colorectale / METHOD AND LAPAROSCOPIC INSTRUMENT FOR ACCURATE COLON-RECTAL TUMOUR EXTRALUMINAL LOCALIZATION

INVENTOR(S): MOCAN BOGDAN, BINTINTAN VASILE

ABSTRACT: NOVELTY - The invention relates to a method and an instrument to be used in laparoscopic surgery, with possible applications in the classic surgery of colon and rectum and which enable the precise localization of endoluminal tumours, from the serous face of the gastrointestinal tract. The method and the instrument use may be extrapolated to the conventional thoracic surgery or thoracoscopic-approach surgery. According to the invention, the method consists of a previous marking of the poles, the upper one and the lower one, of a tumour, by means of one or more specific demarcation elements placed by endoluminal approach, followed by the precise identification of the localization thereof by scanning the wall of the colon or rectum on its external/serous face. The claimed instrument consists of a sensitive tip (1) which identifies the position of the tumour demarcation element in the colon/rectum, a metallic rod (2) in the distal extremity of which the sensitive tip (1) is integrated and which comprises an element (3) for visual signaling of the instrument operation and an element (4) for visual signaling of the detection of the tumour position in the colon, an instrument supply and control module (5) and a display device (6) for displaying various data relating to the instrument operation and to the identification of the tumour demarcation elements.