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La Oficina Española de Patentes y Marcas tiene como misión impulsar la innovación y compartir sus resultados como valores y activos de diferenciación y desarrollo tecnológico. Por ello sus dos objetivos principales son proteger la innovación tramitando distintos títulos de propiedad industrial y difundir la información técnica contenida en las patentes a través de sus servicios de Información Tecnológica, uno de ellos estos Boletines.

En esta nueva andadura del Boletín de Vigilancia Tecnológica del Sector Transformador Plástico que comenzó el primer trimestre de 2021, se ha reestructurado el contenido del Boletín, intentando reflejar la realidad en propiedad industrial de la Industria del Plástico para hacer llegar a las empresas e investigadores del sector, con periodicidad trimestral, una selección de las patentes más recientemente publicadas en el sector de transformación de los materiales plásticos. Las patentes aparecen clasificadas en los siguientes apartados: nuevos productos en los principales

sectores de aplicación, invenciones que contribuyen al desarrollo sostenible, mejoras de procesos productivos y nuevos materiales plásticos con propiedades avanzadas. No se ha incluido en este Boletín información sobre la tecnología de impresión 3D, ya que esta aparece recogida en el Boletín de Vigilancia Tecnología Impresión 3D que la OEPM comenzó a publicar en el 2020.

A través de las imágenes que representan cada sección y que aparecen en la portada del Boletín, se accede de forma directa a los contenidos de las mismas, donde encontraremos el número de publicación de cada patente, quien la solicita, una pequeña descripción de la invención y el enlace de acceso al texto completo del documento. De forma complementaria, se incluye una selección de noticias sobre propiedad industrial y actividades relevantes de la OEPM.

Si se desea recibir este Boletín periódicamente basta con cumplimentar el correspondiente [formulario de suscripción](#)

## Contenido



NUEVOS PRODUCTOS

SOSTENIBILIDAD Y  
ECONOMÍA CIRCULARNUEVOS PROCESOS  
INDUSTRIALESMATERIALES CON  
PROPIEDADES AVANZADAS  
O MEJORADAS

# NUEVOS PRODUCTOS

En el siguiente gráfico se muestra la distribución de las 19.437 familias de documentos de patente recuperadas en este trimestre en el apartado de Nuevos Productos. Tal y como viene ocurriendo, el sector dedicado a la electrónica sigue siendo el que más documentos de patente aporta.



Las siguientes tablas muestran una selección de los documentos más representativos, junto con un enlace directo a la base de datos Espacenet, el solicitante y una breve descripción de la invención.

# Envase y Embalaje

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
US2022287441	(LAUR-N) LAUREN FRANCES INC (FRAN-I) FRANCES L (ROSA-I) ROS A P	System for releasably connecting interchangeable components in cosmetic holder assembly for holding cosmetic containers, has physical connecting system for relative positioning of set of units with another one of units
WO2022179711	(DWRE-N) DW REUSABLES NV	Multipurpose bottle crate for accommodating plastic bottle packagings, has slits extending from reinforcing bottom connector to merging edge, where surfaces are independently elastically bent inwardly towards pinnacle symmetry center
JP2022110368	(NAXN-N) NAX CO LTD	Band stopper for fastening product packing box E.G. cardboard box, has engaging portion which elastically engages claw piece when bar rod is folded back to upper surface of frame body, and is formed in frame body
WO2013123314	(SHEW) SWIMC LLC (VALS) VALSPAR BUYING CO (VALS) VALSPAR SOURCING CO (VALS) VALSPAR SOURCING INC	Article E.G. food and beverage can, comprises metal substrate disposed with coating containing aqueous dispersion of water-dispersible polymer including backbone having heteroatoms and side group including salt group
WO2022136937	(MINN) 3M INNOVATIVE PROPERTIES CO	Packaging article used for packaging vaccine or pharmaceutical product, such as drugs and vaccines during shipping and transport, comprises phase change materials, protective covering adjacent to phase change materials, and comprising bio-based polymer and bio-based hydrophobic agent
WO2022137059	(PLNE) COLORMATRIX HOLDINGS INC	Closure used for container, comprises hydrogen-generating unit comprising active material, catalyst capable of catalyzing reaction between molecular hydrogen and molecular oxygen, and barrier component, and has preset toluene production value
US2022186158	(KURS) MONOSOL LLC	Water-soluble unit dose article comprises two compartments and optionally contains composition housed at least one of compartments, where unit dose article comprises first water-soluble film, first water-soluble film has first side and second side, and first water-soluble film comprises first PVOH
WO2022144196	(SABI) SABIC GLOBAL TECHNOLOGIES BV	Transport system for moving freight by using plastic pallet, has fastener channel defined by fastener channel sidewall and resiliently engaged by fastener boss, where fastener boss is conformingly shaped to fit in fastener channel

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
DE102020215947	(BENE) BENECKE-KALIKO AG	Producing plastic layer based on plastic raw material for multi-layer composite material, in which plastic raw material is mixed with additives including tea leaves, and formed into plastic layer
US2022154404	(MITW-N) MI2 HOLDINGS LLC	Material used in packaging, boxes, and containers and shipping comprises paper fibers comprising liner board, liner, medium, corrugated, corrugated containers, boxes, corrugated boxes, sheet material and corrugated sheet material

## Construcción Tejados

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
US2022251840	(DTIL-N) DAL TILE CORP	Ceramic roof tile for roof covering, has anchoring element that is provided for anchoring roof tile to structure or framework
KR102441491	(CTMA-N) CT MATERIALS CO LTD	Roof covering material comprises waterproof adhesive layer containing asphalt, and finishing layer including nonwoven fabric member provided on waterproof adhesive layer, and multiple ceramic particles provided on nonwoven fabric member
US2022290435	(CERT) CERTAINTEED LLC	Roofing granules for asphalt roofing shingles, comprises base particles coated with another cured second coating composition including coating binder, and infrared reflective-reflective functional pigment comprising light-interference platelet pigments including mica, titanium dioxide, or alumina
JP2022123724	(KYOY) KYORITSU IND CO LTD	Film membrane structure used for roof of building E.G. stadiums, has film membrane material that is transversely cut in state of being in contact with upper surface and lower surface of film material, and both end portions of reinforcing rope-like portion
WO2022162653	(DANP-N) DAN-PAL	Industrial roof panel for interconnection with so-called sandwich-type panels having outer metal skins, comprises projection at first side, and complementary wing at second side, where panel is configured for modular assembly

## Construcción Conducciones

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
FR3119628	(POUL-I) POULAIN Y	Mobile rainwater collector for allowing user to collect and reuse rainwater, has pipe connected on outlet of diverter through which water which is diverted from vertical gutter by diverter
US2022290781	(MERC-I) MERCIER J K	Method for providing pipe passageway through concrete slab in plumbing pipe drain system, involves positioning plastic pipe of predetermined diameter in upright position with open end, and inserting plastic pipe with outer diameter connecting with smaller diameter of passageway
US2022275636	(GILS-I) GILSTRAP M	Flashing piece for installing pipe during construction of building structure, has inner portion made of polymeric material that is more flexible and elastic than outer material and defines indented rings
CA3147559	(PLAT-N) PLATINUM TECHNOLOGIES LTD	Seal assembly for sealing junction between two pipes, has flexible seal received between first and second seats, where flexible seal expands axially outwards when compressed to engage with inner surface of body in which assembly is received
JP2022110274	(FUNEN-N) FUNEN ACROSS CORP	Drainage pipe coupling for use in building E.G. housing complex, has control guide which is controlled so that drainage flowing down from guide tube downward is controlled not to flow into horizontal branch pipe

## Construcción Aislamientos

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
EP4047168	(LAMB-N) LAMBAERTS GLASS CONCEPT NV	Insulated window or door profile, has insulator including shape of slat cut from flat sheet, where longitudinal edges of insulator are elastically clamped in grooves of half-shells by elastic deformation of deformable lip
EP4043201	(KNAU-N) KNAUF INSULATION SRL	Mineral wool insulating element for insulating high temperature industrial pipes, has continuous mesh forming threads and continuous stitching threads together form polygonal mesh openings, notably quadrilateral mesh opening

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
FR3118087	(COMP) SAINT-GOBAIN GLASS FRANCE	Double insulating glazing for opening of climatic cabinet E.G. refrigerated cabinet, has sealing barrier that is arranged between longitudinal surfaces of spacer and periphery of glass sheets, where junction between longitudinal surface and external surface of spacer is provided with chamfer
EP4015210	(GERF-N) GERFLOR	Multilayer structure for producing floor covering comprises at least one decorative wear layer, one backing layer and one acoustic insulation layer made of non-woven fabric part of thickness comprises free fibers
WO2022126230	(POLY-N) POLYCRETE INT INC	Insulating formwork panel for forming mold into which concrete is poured, has polyurethane panel whose bottom edge is configured to cooperate with top edge of concrete wall formwork panels for mounting
EP4015724	(ETEX-N) ETEX BUILDING PERFORMANCE INT SAS	Support for installing two adjacent rectangular vacuum insulated panels on interior side of horizontal or inclined base structure of building, has planar support portion that serves as attachment location for framework
WO2022123116	(FFFU-N) FF-FUTURE OY	Sheet of insulating plates for use as protective covering for storing snow, has surface layer that is arranged in longitudinal direction of sheet alternately attached to and detached from lamellae in groups

## Construcción Ventanas

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
AT17556	(MAGC-N) MAG CHRISTIAN MICK	Strip for covering area between component E.G. window or door frame, and section of building such as plaster on wall, has strip section made of expandable or elastic material, that is provided in region of edge of strip adjacent to building section when strip is in position of use
KR102435270	(APLU-N) APLUSCM CO LTD	Producing window device, comprises fitting outer window and inner window to lower surface of window frame and opposite upper surface, forming air layer between outer and inner window, and adhesive layer on one side of polyester film
JP2022116730	(LIXI) LIXIL CORP	Cement window E.G. sliding window, has shoji which is selected from multiple casement windows having different shapes of frames of shoji (Japanese paper sliding door) or different opening/closing modes, and has frame and glass held by frame

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
KR102429820	(ENAS-N) ENAS INC	Aluminum PVC explosion-proof insulation double-glazed window installed in building, has gasket that is inserted and in close contact with first window frame to fill gap between first and second window frames
US2019333490	(MASI) MASSACHUSETTS INST TECHNOLOGY	Aerogel retrofit for single-pane window, has envelope sealed at internal pressure of less than or equal to one atmosphere, monolithic silica aerogel slab encapsulated in envelope, and low-emissivity coating placed on surface of envelope
US2016344148	(VIEW) VIEW INC	Electrical connection system for sliding door or window, has shuttle which passes wires from sliding door/window, through case of shuttle into recess in guide and wires are protected from interaction with moving components
US2022228433	(HONG-I) HONG W	Venetian blind, such as window venetian blind for blocking sunlight and protects privacy in modern living rooms, has actuating element that is moved together with associated pivotal casing to change angular position and orientation in circumferential direction
DE202021101174	(SEXT-N) ST EXTRUDED PROD GERMANY GMBH	Window sill finish for installing window sill or corresponding cover unit above masonry of building, has profile element which is slid onto combination of window sill unit and holding unit in such way that it comes to bear against support areas on its inside
ES1291643	(CAJA-N) CAJASLANT GRUPO SLU	Box for linearly connectable roller shutters/blind for E.G. window enclosures of buildings, has slits made at ends of sections as required by width of door or window frame for forming semi-tubular box in general shape of inverted-U
KR20220098087	(JCHE-N) JCHEM CO LTD	Welded chandelier profile step prevention device for use in building, has prevention sphere body whose rear end forms tapered surface that is tapered at specific angle corresponding to diagonal surface, and elastic hooks formed in window jangjak profile
WO2015095615	(VIEW ) VIEW INC (ONLY-N) ONLYME INC	Electrochromic (EC) window lite for electrochromic window, has tinting zones that are formed by partially cutting through uppermost transparent conductor layers of electrochromic device to form resistive zone between tinting zones
WO2022130738	(FUJF ) FUJI FILM CORP	Film used for blocking gaps in window or door, comprises base material, permeation layer and water-absorbent polymer-containing layer and water-absorbent polymer-containing layer is outermost layer

# Automoción

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
US2022289145	(ROEC) ROSEMOUNT AEROSPACE INC	Wiper blade for use on WWS used on windshield of aircraft, has support element coupled to blade element and clip is coupled for surrounding portion of support element and portion of blade element and fastener extends through blade element
CN114602209	(UGTE) UNIV GUANGDONG TECHNOLOGY	Vehicle-mounted intelligent mobile complete equipment for traditional Chinese medicine extraction and condensation, has remote intelligent control module that uses device sensing unit in sensing layer to collect process parameter
DE102021201720	(ZAH ) ZF FRIEDRICHSHAFEN AG	Multipoint link for chassis of motor vehicle, has load introduction element which has cuboid connection section for connection to flat contact surface of profile section and semicircular outer section for deflecting loop-shaped element
WO2022176661	(TEIJ) TEIJIN LTD	Impact-absorbing component installed in door of vehicle, makes by satisfying predetermined formula in which fracture deflection in three-point bending deflection test of inner beam is less than fracture deflection in three-point bending deflection test of outer beam
EP4049919	(MAZD) MAZDA MOTOR CORP	Body structure of vehicle, has boundary portions between pair of fixing elements and coupling element are formed in both end portions in longitudinal direction of coupling element
CN114539593	(GUIZ-N) GUIZHOU KUMKUAT MATERIALS LTD	High wave transmission composite material useful in fields of unmanned vehicles, aerospace and fifth generation communications radar cover, comprises fiber-reinforced polypropylene resin comprising polypropylene resin, quartz fiber, toughening compatibilizer and lubricant, and foaming master batch
DE102021000659	(DAIM) MERCEDES-BENZ GROUP AG	Side door for motor vehicle, has reinforcing element having respective plastic foam frames in respective overlapping areas of side door with door pillar arranged behind side door and side sill
WO2022158367	(MITA) MITSUI CHEM INC	Battery pack case used for formation of battery pack mounted on electric vehicle, has cover which covers tray and battery holding component, where two of cover, tray and battery holding component is made of fiber-reinforced plastic
DE102022100129	(TOYT) TOYOTA JIDOSHA KK (TOYT ) TOYOTA MOTOR CORP	Fuel cell vehicle has strap that is extended in circumferential direction along tank side surface and is arranged within range of predetermined distance from bottom-side end or within range of predetermined distance from valve-side end

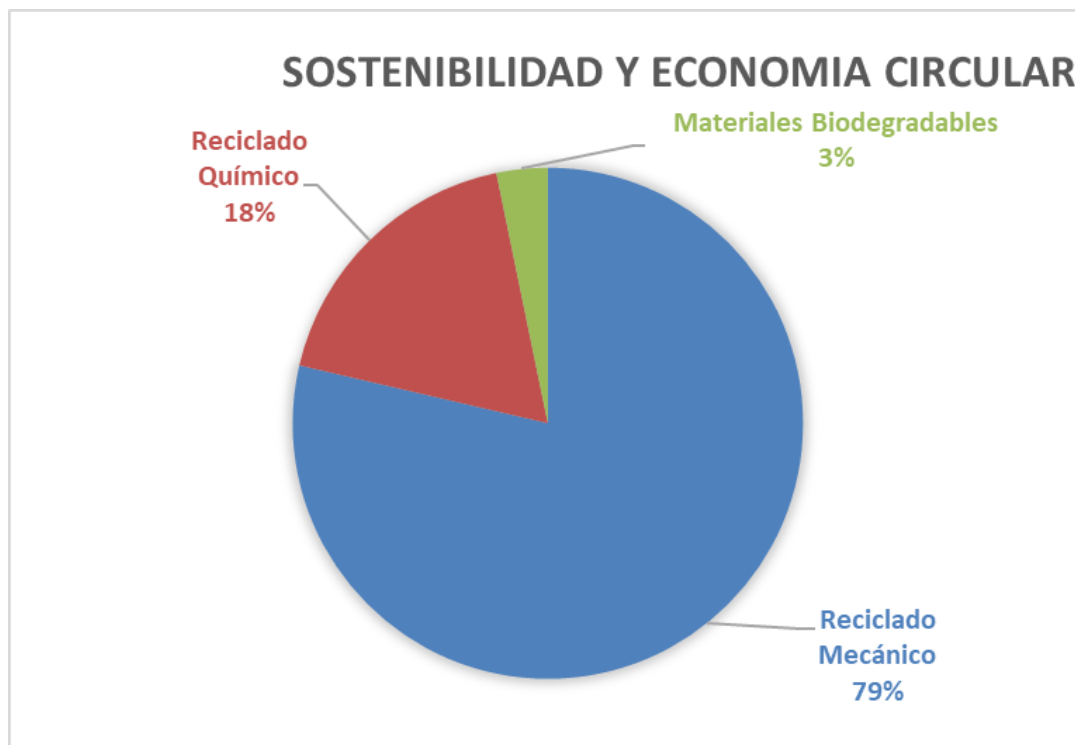


Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
DE102021131624	(GENK) GM GLOBAL TECHNOLOGY OPERATIONS INC	Vehicle chassis structure E.G. side roof rail for motor vehicle, has elongated support pillar which adjoins support rail and is provided with inner contoured pillar panel joined to outer contoured pillar panel to define internal pillar cavity coupled to internal rail cavity
DE102021130364	(GENK) GM GLOBAL TECHNOLOGY OPERATIONS INC	Multi-layer component panel used as transparent roof panel for motor vehicle, comprises outer layer containing transparent rigid material, and structural reinforcement layer containing fiber reinforced polymer material containing fibers
WO2022130590	(SHOW) SHOWA DENKO KK	Back door for automobile, has metal portion in which resin coating layers are laminated on surface of metal base material, resin portion is bonded to surface of metal base material on resin coating layer side, and resin coating layers is modified polyolefin layer formed from resin composition
EP4015235	(RFIR-N) RFI SPA	Wheel for vehicle for inspecting railway line, has wear element that is superposed on first portion and defines first contact surface designed to make contact with rolling portion of track

VOLVER A  
CONTENIDO

# SOSTENIBILIDAD Y ECONOMÍA CIRCULAR

En el siguiente gráfico se muestra la distribución de las 1.236 familias de documentos de patente recuperadas en este trimestre en el apartado de Sostenibilidad y economía circular. El reciclado mecánico sigue siendo el sector que mayor actividad innovadora presenta.



Las siguientes tablas muestran una selección de los documentos más representativos, junto con un enlace directo a la base de datos Espacenet, el solicitante y una breve descripción de la invención.

# Materiales Biodegradables

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
DE202022104262	(LEAN-N) LEANG YU INT CO LTD	Biodegradable composition useful in biodegradable foil for biodegradable film article, comprises bio-based polyester material E.G. bio-based poly(butylene succinate), calcium-containing powder material and insect repellent additive
KR20220115159	(DAEJ-N) DAEJIN CHEM CO LTD	Manufacturing biodegradable plastics comprises preparing biomass particles, mixing starch, biomass particles, biodegradable polymers and polypropylene carbonate to prepare biodegradable plastic composition, extruding and molding
WO2022173073	(DAES) DAESANG CORP	Thermoplastic starch composition used for biodegradable composition, comprises starch, plasticizer, compatibilizer comprising unsaturated dicarboxylic acid, unsaturated dicarboxylic acid anhydride or styrene-unsaturated dicarboxylic acid copolymer anhydride copolymer, and biodegradable polymer
WO2022167730	(SULA-N) SULAPAC OY	Container useful as closable jar or bottle for cosmetics, foodstuff or beverages, comprises wall having inside defining cavity and opposite outside, in which cavity having closable opening
WO2022146162	(MINE-N) MINERALIDIA LLC	Bionanocomposite material used in extruded threads and nanocomposite chips to make packaging, contains nanofiller, preferably palygorskite silanized and surface-modified with vinyltrimethoxysilane, and polymer matrix having polylactide
WO2022176741	(ASAH) ASAH KASEI KK	Biodegradable nonwoven fabric used for producing molded article, comprises fibers containing biodegradable thermoplastic resin, and has preset basis weight, difference between melting point and crystallization onset temperature, and cold crystal enthalpy heat quantity
KR20220114177	(SONI-N) SONIAKOREA CO LTD	Biodegradable cell phone case comprises printing base layer having biodegradability, antibacterial printing layer, and antibacterial coating layer
WO2022163117	(MATU) PANASONIC INTELLECTUAL PROPERTY MANAGEME	Composite resin molded article used for packaging materials, comprises base resin comprising biodegradable plastic including E.G. polyhydroxy acids or polyhydroxyalkanoates, and natural fibers dispersed in base resin, and have portion exposed on surface of composite resin molded article

# Reciclado Mecánico

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
ES1291468	(ALBA-I) SALCEDO ALBARRACIN F	Thermo melter for recycling plastic wastes, has casing in which grinding/crusher rotors, drive motor, melting drawer, heating elements and control module are mounted, where casing is provided with thermal and acoustic insulation
WO2022114032	(KURS) KURARAY CO LTD	Multi-layer structure used as food packaging material, comprises barrier layer, water-soluble layer, and adhesive layer, where adhesive layer is laminated on one or both surfaces of barrier layer via water-soluble layer, and barrier layer has polyamide or ethylene-vinyl alcohol copolymer
KR20220125742	(CKUC-N) CK U CO LTD	Method for recycling film sheet-type waste plastic, involves pulverizing film-sheet-type living system waste plastic, washing and drying, mixing waste plastic and compatibilizer to produce recycled plastic raw material
GB2604599	(LOOW-N) LOOWATT LTD	Waste processing apparatus for separating film-wrapped waste E.G. human excrement, has adjustable trough portion comprising adjustment unit to adjust clearance between screen and conveyancing unit
DE102022000990	GAW TECH GMBH [AT]	Apparatus and method for processing plastic waste
WO2022172735	(TORA) TORAY IND INC	Laminated polyester film used at least as part of release film for multi-layer ceramic capacitor (MLCC) manufacturing process, comprises polyester film and layer
WO2022186754	(SOED-N) SOEDRA SKOGSAEGARNA EKONOMISK FOERENING	Method for decoloring E.G. cotton , involves treating textile material in alkaline solution containing anionic polyelectrolytes, and recovering some of the textile material after the treatment period
KR20220111894	(DCAR-N) D-CARBON CO LTD	Modified asphalt composition comprises thermoplastic waste plastic based on asphalt, thermoplastic polymer additive, and compatibilizer
WO2022180441	(KALV-I) KALVAND A (KALV-I) KALVAND D (YOUS-I) YOUSEFI E	Device for producing and recycling filaments of three-dimensional printers by additive deposition, has electronic board components connected with device controller, metal insole, filament roll pulley, melting chamber and outlet nozzle
KR102306757	(CHAW-I) CHA W S (MIND-I) MIN D R	Sidewalk block made of recycled plastic waste comprises first and second particle layers that are alternately arranged in horizontal direction and integrally formed, and whose width is formed to be narrower
WO2022175887	(SHAR-N) SHARK CONTAINERS AS	Method for reducing volume of deformable and compactable waste material, involves determining hardness of block and temperature of waste material in compactor, and adjusting act of compacting as function of hardness and temperature

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
US2022243037	(ECOG-N) ECOGENSUS LLC	Composite used in form of board, plank, stud, block, or brick, comprises a combination of heat-treated solid waste composition comprising mixed plastics and organic material, where heat-treated solid waste composition comprises water, and polymers in addition to mixed plastics
US2022241829	(ECOG-N) ECOGENSUS LLC	Powder composition comprises solid waste composition comprising organic material, mixed plastics, water, where powder composition further comprising biocide selected from group consisting of copper azole, alkaline copper quaternary, 4, 5-dichloro-2-octyl-isothiazolone, zinc pyrithione, carbendazim
US2022242009	(RECO-N) RECON FIBERGLASS LLC	Method for processing wind turbine blade fiberglass, balsa wood, and foam materials to produce reinforcement fibers and composite fillers, involves scalping composite chips to separate balsa and foam from fiberglass to produce chips
EP4023702	(SMAR-N) SMART COLORING GMBH	Stabilization of dye in colored plastic article E.G. sheet, involves providing article comprising plastic base material containing polar polymer or polymer blend and dye and exposing colored surface of article to ionizing radiation
WO2022150528	(SLTA) SOLUTIA INC	Process for recovering stiff poly(vinyl butyral) from plasticized polyvinyl butyral multilayer sheet containing stiff and soft poly (VVB) involves adding additional plasticizer to granulate to remove portion of soft PVB from granulate
US2022204870	(CBRI) LUMMUS TECHNOLOGY LLC	Producing raw materials for producing truly circular polymers, involves processing waste plastic pyrolysis oil in first reactor system with catalyst mixture, processing fossil-based feedstock in second reactor system with catalyst mixture, supplying catalyst mixture
FR3118722	(REPL-N) REPLACE	Recycling residues in form of flakes containing plastic-based materials involves melting and mixing flakes in plasticizing tool, injecting extruded material under high pressure into mold to form part, and extracting part from mold
WO2022126210	(BARB-I) BARBOSA J L A A (COST-I) COSTA D D A (DFON-I) DA FONSECA L M (FEIT-I) FEITOSA S B H	Multilayer filter used at outlet of residential washing machine, has housing that is arranged for containing filter element, magnetic safety devices are located at base of outer casing and magnetic devices which are located internally to filter element
FI20206318	(LAAT-N) LAATUINSINOEERIT OY	Method for recycling tires of I.E. dumper by modular, mobile recycling apparatus for transferring heavy loads in mining sites, involves coupling modules at site to form mobile recycling apparatus with desired configuration

# Reciclado Químico

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
DE102021105970	(RITT-N) RITTEC UMWELTECH GMBH (UYTE-N) UNIV TECH BRAUNSCHWEIG KORPERSCHAFT OFFENTLICHEN RECHTS	Obtaining aromatic dicarboxylic acids from effluent of basic depolymerization reaction of polycondensate containing metal carboxylate of aromatic dicarboxylic acid to be obtained, in which mineral or organic acid is added to effluent
WO2022189864	(BRKS ) BRASKEM SA	Preparing thermoplastic polymer composition, involves processing crosslinked polymer and catalyst to form dynamic crosslinked polymer during melt processing operation, where crosslinked polymer comprises monomer comprising vinyl ester, olefin, and their combinations
EP4029906	(DESP-N) DESPRIET GEBR NV	Recycling polylactic acid in polylactic acid waste, comprises subjecting polylactic acid to a catalytic extrusion over extrusion path to obtain lactide, condensing the lactide vapor and collecting the lactide crystals
WO2022184961	(BOIX-I) RIERA I BOIX D	Treating complex sheets comprising first and second simple sheets of polymer and layer of adhesive, comprises breaking up complex sheets, and separating simple sheets and subsequent treatment of one of two simple sheets
WO2022178372	(PROC ) PROCTER & GAMBLE CO	Degrading superabsorbent fibers to soluble polymers, involves flowing feed stream comprising superabsorbent fibers into inlet of extensional flow device and producing product stream comprising soluble polymers at outlet of extensional flow device
WO2022180563	(GARB-N) GARBO SRL	Producing bis(2-hydroxyethyl) terephthalate (BHET) in liquid form by depolymerization of polyethylene terephthalate (PET) for producing polyethylene terephthalate, by depolymerizing PET by glycolysis with monoethylene glycol, subjecting crude BHET solution to purification, crystallizing, and melting
WO2022177949	(CONN-I) CONNOR A J (KOFF-I) KOFFAS M A (ZHAR-I) ZHA R H	Up cycling plastics by inserting exogenous genes into several Pseudomonas species bacteria to form recombinant Pseudomonas species bacteria, preparing growth medium, producing product from recombinant species, and isolating product
WO2022178373	(PROC) PROCTER & GAMBLE CO	Degrading superabsorbent fibers to soluble polymers used in adhesives, coatings, and fabric care, involves flowing feed stream comprising superabsorbent fibers into inlet of extensional flow device and producing product stream comprising soluble polymers at outlet of extensional flow device

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
TW202221075	(BORA) BOREALIS AG	Treating recycled polyolefin used as packaging material, comprises contacting recycled polyolefin with emulsion comprising aqueous phase having preset pH and organic phase comprising saturated organic solvents, removing aqueous phase and organic phase and recycling aqueous phase and organic phase
WO2022178371	(PROC) PROCTER & GAMBLE CO	Degrading superabsorbent fibers (SAF) to soluble polymers, by flowing feed stream comprising SAF to UV irradiation zone, irradiating feed stream with UV and producing product stream comprising soluble polymers at end of irradiation zone, where polymers comprise polymerized acrylic acid monomer units
WO2022175592	(VALW) VALTION TEKNILLINEN TUTKIMUSKESKUS	Degrading hydrocarbon chain comprises providing a material comprising a hydrocarbon chain and an enzyme or a fragment capable of degrading the hydrocarbon chain, and allowing enzyme or fragment
WO2022177533	(KOKS-I) KOKSAL H B	Producing bioplastics and/or plastic admixture materials, involves obtaining waste bread powder water mixture, adding hydrochloric acid, sodium hydroxide and sodium metabisulphite water solution to mixture, reducing dried bio-raw material dimension by grinding and subjecting to extruder process
FR3117496	(OREA) L'OREAL SA	Thermoplastic composition used to make molded article, comprises recycled homopolypropylene and mixture of olefins having propylene/alpha-olefin copolymer, and homogeneous, linear or branched, ethylene/alpha-olefin copolymer
WO2022158287	(KYKK) KYOEISHA CHEM CO LTD	Agent for extracting and recovering ethylene-vinyl alcohol copolymer, comprises polar solvent having preset solubility parameter value, and quaternary ammonium salt
WO2022171586	(CVST) COVESTRO DEUT AG	Recovery of raw material from polyurethane foam used for E.G. adhesive, involves chemolyzing polyurethane foam based on isocyanate and polyol components, with alcohol and water to obtain product mixture, processing mixture to obtain polyol phase and amine phase, and recovering polyol
WO2022158452	(TOST-N) TOYO STYRENE CO LTD	Recycled-styrene-based resin composition used in molded article, such as container for toner cartridge, comprises styrene-based recycled material and styrene based virgin material, where composition has specific rubbery polymer content, toluene-insoluble content, and bending strength
WO2022138094	(KONS) KONICA MINOLTA INC	Production of granulated substance for producing optical film, involves preparing crushed substance containing (meth)acrylic resin and/or cycloolefin resin and having preset bulk density, and melting crushed substance by frictional heating

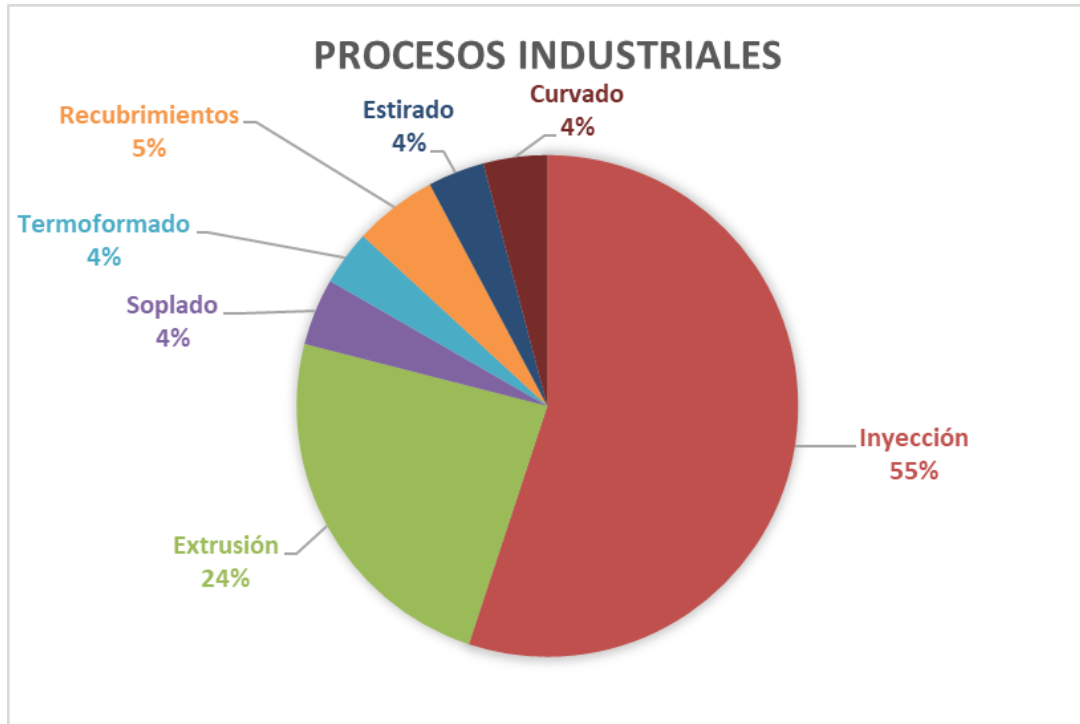
Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022120459	(SIXR-N) SIXRING INC	Controlled delignification of lignocellulosic feedstock comprises E.G. combining reactive phase comprising water, sulfuric acid, source of peroxide and modifying agent, holding phase comprising organic solvent, and delignificating
US2019218362	(CIRC-N) CIRC LLC (TYTO-N) TYTON BIOSCIENCES LLC (TYTO-N) TYTON BIOSCIENCES	Producing cellulose and/or terephthalic acid from waste textile material for E.G., textile, by treating waste textile material comprising cotton or cotton/polyester blend material in subcritical water reactor
KR20220091890	(UYGY) UNIV GYEONGSANG IND ACAD COOP FOUND	New Acinetobacter nosocomialis GNU 001 strain having plastic degradation activity
EP4019576	(STRY) TRINSEO EURO GMBH	Recycling of toughened thermoplastic polymers used for forming impact modified thermoplastic polymer, involves dissolving thermoplastic polymer dispersed in solvent, applying force to separate elastomeric droplets and recovering polymer(s)
CA3128539	(SIXR-N) SIXRING INC	Delignification of plant material used for E.G. energy production application, involves exposing plant material comprising cellulose fibers and lignin to composition comprising acid, modifying agent E.G. taurine, metal oxide and peroxide, adding organic solvent, and performing delignification
WO2022133008	(EACH) EASTMAN CHEM CO	Producing polyolefin composition used for article, by extruding recycled polyolefin in presence of radical initiator to produce extruded visbroken recycled polyolefin, and melt blending extruded recycled polyolefin, random alpha-olefinic copolymer, tackifier, and additional polymer
US2022169809	(IBMC) IBM CHINA INVESTMENT CO LTD (IBMC) IBM UK LTD (IBMC) INT BUSINESS MACHINES CORP	Recycling polyester by distilling material comprising polyester to remove volatile impurities, depolymerizing with organocatalyst and alcohol solvent, and recovering reaction products comprising monomeric or oligomeric diester

VOLVER A  
CONTENIDO



# NUEVOS PROCESOS INDUSTRIALES

En el siguiente gráfico se muestra la distribución de las 13.022 familias de documentos de patente recuperadas en este trimestre en el apartado de Nuevos procesos industriales. Los procesos que mayor actividad innovadora reflejan son el de inyección y el de extrusión.



Las siguientes tablas muestran una selección de los documentos más representativos, junto con un enlace directo a la base de datos Espacenet, el solicitante y una breve descripción de la invención.

# Inyección

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022189985	(INCO-N) IN-CO SRL	Mold for injection-blow molding containers made of polymer material, has left element portion and right element portion that are shaped to be accommodated in punch impressions to blow mold container preforms when mold is closed
WO2022189471	(LEGO) LEGO AS	Injection-molding tool for automated molding of work pieces in plastics, has guide bushings and mold insert socket of mold plate interconnected via connection plates each extending parallel to abutting side faces
WO2022185613	(NIKL) JAPAN STEEL WORKS LTD	Device for manufacturing resin molded product, has heater inserted into cavity formed by first mold and second mold to portionally melt and join first portion and second portion of resin molded product, and heater and notch overlapped in plan view, when heater moves to outside of cavity
EP4052885	(SUMH) SUMITOMO HEAVY IND LTD	Injection molding machine, has injection motor for advancing and retreating screw, and load detector for measuring load transmitted between screw and injection motor and including outer peripheral ring and inner peripheral ring connected to screw
WO2022180151	(DUIN-N) DUTCH INNOVATION AIR TREATMENT BV	Method for manufacturing interconnected stack of thermoplastic frames, involves supplying pressurized melt of plastic material to elongated conduit and branched conduits while stack is held together by external unit to obtain stack
US2022274307	(ALLA) ALCON INC	Method for verifying whether molding insert is accurately mounted to tooling plate of injection-molding apparatus for molding ophthalmic lens molds, involves providing confocal sensor having measurement beam
WO2022176899	(SHBU) SHIBAURA MACHINE CO LTD	Injection device for molding machine such as die casting machine, has control unit which is provided for controlling accumulator so as to supply hydraulic fluid to the head side chamber by using accumulator
EP4049900	(SUZM) SUZUKI MOTOR CORP	Protection structure for wire harnesses, has bulging portion bulging from wall surface of side wall so as to be away from side surface of electrical device, and one of harnesses is laid out in space defined by portion within cover
WO2022172518	(TOWK) TOWA KK	Resin molding apparatus has moving rollers that are supported by fixed frame on sending mechanism side and recovering mechanism side in carrying path of mold release film, and are moved with displacement of relative position

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022163412	(FUFA) FANUC CORP	Control device comprises mold clamping mechanism for opening and closing mold, ejection mechanism for ejecting molded article so that molded article is ejected from mold after completion of mold opening operation, and mold clamping device comprising cover
DE102021103078	(ARBH) ARBURG GMBH & CO KG	Device for setting and monitoring belt tension or belt stiffness of belt of injection molding machine, has belt tensioning device that is arranged to adjust belt tension or belt stiffness of belt and is at least section of sensor device
WO2022158599	(SEKI) SEKISUI TECHNO MOLDING CO LTD	Resin composition used for manufacturing resin molded product E.G. heat dissipation chassis, comprises thermoplastic resin, graphite, and carbon blacks with different BET specific surface area
EP4035866	(SUMH) SUMITOMO HEAVY IND LTD	Injection molding machine for ejecting molding product from mold unit, has control device that includes setting unit that sets first ejection condition for controlling first ejector unit
JP2022113521	(NIKL) JAPAN STEEL WORKS LTD	System for detecting abnormality of molding machine E.G. injection molding machine, used in molding machine system, has communication unit which is provided to transmit judgment result and statistic to control device
WO2022138052	(NSHA) NISSHA CO LTD	Decorative film for insert molding, has multilayer film having polycarbonate resin layer, and gravure printing layer having symbol layer, where light transmission pattern of light transmission pattern layer is arranged so that visible light passes through position of symbol of design layer
FR3118897	(ROCT-N) ROCTOOL	Induction heating mold for molding E.G. organic glass by plastic injection molding machine for mass production of miniature camera lenses of smart phone, has turn connected to high frequency alternating current generator
WO2022148826	(CONW) CONTITECH VIBRATION CONTROL GMBH (CONW ) CONTITECH VIBRATION CONTROL	Rod for connecting between E.G. wheel joints, of motor vehicle, has stirrup connected to eyelet by continuous reinforcing strip forming loop, where stirrup, eyelet and strip are molded partially by thermoplastic material
WO2022138446	(KAPA) KANSAI PAINT CO LTD	Coating composition used for forming coated article, and used for mold inner coating applications, and can be applied to plastic materials, comprises polymerizable unsaturated compound having polymerizable unsaturated group in molecule and having hydrocarbon group and polymerization initiator
US2022183362	(BLAC-N) BLACKSHIP TECHNOLOGIES DEV LLC	Modular heating element assembly for use in multiple configurations of vaporizer, has access closure arranged within access opening and attached to upper wall, and is sized and configured to seal access opening

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022138035	(SHBU) SHIBAURA MACHINE CO LTD	Screw machine such as screw type twin-screw kneading extruder used for kneading and extruding material, regulates relative movement of coupling to output shaft in direction toward screw along axial direction of screw
EP4015183	(GEEL) NINGBO GEELY AUTOMOBILE RES & DEV CO LTD (GEEL) ZHEJIANG GEELY HOLDING GROUP CO LTD	Injection molding apparatus for reducing velocity increase of flow front during injection molding, has second gate that is provided with second gate volume allowing injection material to flow into gate volume at same time as into first gate volume
US2022203588	(KASK-N) KASK SPA (KASK-N) KASK SRL	Mold for manufacturing the sporting helmets, particularly cycling helmets, has a frame defining a molding concavity for molding a respective sporting helmet, and gripping portion is defined by a block engaged to an annular structure of intermediate support element
WO2022131165	(KOIT) KOITO MFG CO LTD	Mold device for molding two-color molded product, has primary molded article holding portion that is retracted from second cavity, and slide portion that slides with primary molded article holding section to protrude into second cavity to define second cavity, when secondary molding is clamped
WO2022125608	(SYNV-N) SYNVENTIVE MOLDING SOLUTIONS INC	Injection molding apparatus for performing injection molding cycles controlled by electric motor actuator mounted for protection from overheating, has heat absorptive fluid routed through channel in flow of molten injection fluid
WO2022122614	(SABI) SABIC GLOBAL TECHNOLOGIES BV	Polymer composition used for battery case, comprises polypropylene, and copolymers of ethylene and alpha-olefin having different densities
JP7082254	(FUFA) FANUC CORP	Injection device has motor control unit that executes control process for controlling linear motor and rotary motor while monitoring linear motion torque and rotational torque so that bush is spline-fitted to screw

# Extrusión

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022168836	(KURS) KURARAY CO LTD	Porous particles used as purging agent for various resins that are melt-molded, comprises ethylene-vinyl alcohol copolymer and alkali metal, where porous particles have specific pore median diameter and average particle diameter
EP4023414	(ECCO-N) ECCO BV	Device for manufacturing product from extruded plastic, has feed system for setting effective ratio between minimum ratio and maximum ratio based on quantity of granulate in granulate storage
WO2022181762	(KANF) KANEKA BELGIUM NV (KANF) KANEKA CORP	Polypropylene-based resin extruded expanded particle for foam-molded article for E.G. cushioning material, and packaging material, comprises base resin comprising polypropylene-based resin having branched structure, where base resin further comprises thermoplastic elastomer and inorganic colorant
WO2022180850	(NIKL) JAPAN STEEL WORKS LTD (AXMO-N) AX MOLDING CO LTD	Heat bolt unit for die lip adjusting apparatus, has heat bolt main portion that is formed with heater insertion hole that is open at distal end side and extends from distal end side toward proximal end side
US2022281005	(KAND-I) KANDASAMY K	Producing extruded material from feedstocks for use in machine, involves feeding deformable solid-state first feedstock, continuously extruding stirred material from cavity through dies to generate material, where rotor defines rotational axis about which rotor is rotated
WO2022180441	(KALV-I) KALVAND A (KALV-I) KALVAND D (YOUS-I) YOUSEFI E	Device for producing and recycling filaments of three-dimensional printers by additive deposition, has electronic board components connected with device controller, metal insole, filament roll pulley, melting chamber and outlet nozzle
WO2022171307	(TENZ-N) TEN ZIMMER GMBH	Producing polyamide 6 pellets, involves providing melt of polyamide 6, feeding melt into underwater pelletizing system, transporting pellets comprising screw and/or rotary gate valve for conveying pellets and extracting cyclic dimers and oligomers from pellets
WO2022168546	(TORA) TORAY IND INC	Manufacture of microporous polyolefin resin sheet involves discharging sheet material to cast device, covering space between material and device with chamber, suctioning air in chamber to form space, bringing material into contact with device, cooling and solidifying material

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022167060	(BATW) BATTENFELD-CINCINNATI GERMANY GMBH	Device for moving module bodies of extrusion line used to manufacture continuous plastic products E.G. plastic pipes, has axle whose connection to bearing block is designed such that distance between two levels is changed
WO2022158479	(KYKO) KYORAKU CO LTD	Resin residue removal device for removing resin residue adhering to lower surface of die of molding apparatus, has resin scrap removal head that is constituted so as to remove resin residue adhering to the lower surface by moving along the lower surface
FI20215066	GOLD&GREEN FOODS OY [FI]	A meat-replacement product and a method of manufacturing the same
EP4029674	(CVST) COVESTRO DEUT AG	Additive manufacturing method involves fabrication of article in fused deposition modeling process from build material comprising thermoplastic polyurethane
US2022212378	(PROM-N) PROMIX SOLUTIONS AG	Method for producing foamed extrudate, such as fine cell foamed plastic or plastic extrudates or functionally comparable mass or extrudating containing biopolymers or natural substances, such as wood, involves generating first melt in main melting device
WO2022138094	(KONS) KONICA MINOLTA INC	Production of granulated substance for producing optical film, involves preparing crushed substance containing (meth)acrylic resin and/or cycloolefin resin and having preset bulk density, and melting crushed substance by frictional heating
WO2022137867	(TOYM) TOYOBO KK	Heat-fusible laminated oriented film used in roll, comprises heat-fusible layers comprising heat-fusible polyolefin resin provided by coextrusion to be in direct contact on both sides of base material layer comprising resin composition containing polyamide resin and modified polyolefin resin
US2022202060	(LIVE-N) LIVEKINDLY CO SWITZERLAND GMBH	System for performing HME food processing by using adjustable height cooling die for shaping food product, such as high-moisture textured soy product, has automatic dynamic HME feedback loop that automatically controls input HME parameters
WO2022123296	(MINN) 3M INNOVATIVE PROPERTIES CO	Slot die adjusting method for forming E.G. extruded article, involves adjusting position of actuators based on residual vector to obtain corrected shape for choker bar or flexible die lip
FR3117918	(MICL) CIE GEN ETAB MICHELIN & CIE	Extrusion installation for producing profile from rubber compounds, has underground transfer device that comprises lift shaft is designed to pass tool module through floor or respectively towards basement level is located under floor of working level

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
FR3117919	(MICL) CIE GEN ETAB MICHELIN & CIE	Method for implementing extrusion installation intended to produce profile, involves subjecting head modules to clamping force oriented along coupling direction to hold tooling module by compression between head modules
WO2022131718	(HSRA-N) HS R & A CO LTD (HWAS-N) HWASEUNG R & A CO LTD	Method for manufacturing gasket for fuel cell involves extruding and molding a raw material sheet using roll die forming process to make gasket raw material sheet, and inserting gasket raw material sheet into progressive forming process to form multiple m
WO2022122805	(BOBS) BOBST MEX SA	Positioning device for holding sheet on positioning surface of paper or cardboard processing machine, has suction channel connected to circulation channel adjacent to section of reduced cross section area such that jet pump is formed
EP4011515	(UYBE) UNIV BERLIN TECH	Method for coaxially extruding extruded product, involves cohesively and positively connecting first and second materials to form extruded product in mold, such that first material surrounds second material in extruded product
WO2022125724	(NORS) NORDSON CORP	Extrusion mold for extruding molten thermoplastic into film or sheet, has outlet fluidly communicated with primary manifold and intermediate chamber and formed with slot that is elongate along second direction

## Soplado

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022181627	(NASB) NISSEI ASB MACHINE CO LTD	Temperature adjusting mold for adjusting temperature of injection molded bottomed resin-made perform used for manufacturing resin-made container, has adjusting unit that is arranged so as to form gap in circumferential direction, and whose mounting position is adjusted in circumferential direction
WO2022176423	(YOSK) YOSHINO KOGYOSHO CO LTD	Method for manufacturing liquid-containing container for storing liquid such as beverage, involves molding preform into container having shape along inner surface of mold
WO2022167679	(ALPL) ALPLA WERKE ALWIN LEHNER GMBH & CO KG	Production of rPET plastic material for thin-wall injection molding process, by adding chain breaker to granulated material, and reactively extruding and injecting melt of granulate and chain breaker directly into injection mold

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022153844	(MITN) MITSUBISHI GAS CHEM CO INC	Multilayer hollow container used in preparation process of recycled polyester, comprises polyester layer comprising polyester resin, polyamide layer comprising polyamide resin, and yellowing inhibitor, where polyamide layer is intermediate layer
FR3117920	(SIDL) SIDEL PARTICIPATIONS	Method for automatically positioning ramps in station for heating preforms of an installation for manufacturing containers, involves performing automatic adjustment of width of slot by movably moving ramp according to diameter
WO2022137097	(SPIA) SIPA SOC IND PROGETTAZIONE & AUTOMAZIONE	Rotary cooling apparatus for producing preforms or containers made of thermoplastic material, E.G. polyethylene terephthalate, comprises carousel, fixed guide element(s), cooling devices, and picking and releasing devices

## Transformado

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
EP4029990	(PULP-N) PULPAC AB	Forming cellulose products in forming mold system from air-formed cellulose blank structure, comprises E.G. compressing portion of residual section to first degree of compression higher than that of product sections
WO2022181487	(KYKO) KYORAKU CO LTD	Manufacturing method of structural component E.G. resin made panel, involves moving movable portion relatively to split molds in state that burr portion is shaped to engagement portion, and cutting off burr portion from molded object main portion along cutting line in cutting process
WO2022162207	(HAMO-I) HAMOUD M	Mold for flexibly forming mold surface with pin segments, has first guide element and clamping element that can be moved relative to each other along longitudinal extension direction
FR3118899	(SFRA) SAFRAN	Method for continuously manufacturing complex acoustic multi-element panel for sound attenuation structure for engine turbines of aircraft, involves heating thermoplastic resin film by upstream of entrance to stamping system, and passing thermoplastic resin film between complementary cylinders



## Recubrimiento

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
EP4046769	(ALCI-N) ALCI SRL	Method for treating of pre-impregnated fiber-reinforced composite material, involves partially separating protective films from cooled elements by agitation performed in peeling machine of cooled elements
EP4043185	(BODU-N) BODUS GMBH	Device for introducing pipeline lining into pipe and for final positioning of pipeline lining, has cover plate or inverter attachment that is attached to second housing opening in first state for inserting pipeline lining
WO2022167336	(NETZ-N) NETZSCH PROCESS INTELLIGENCE GMBH (PROK-N) PROKASRO MECHATRONIK GMBH	Mobile irradiation platform for use in pipe lining method for sewer or manhole rehabilitation, has dielectric sensor that is mounted at far end of stabilization arm remote from chassis and detects changes in properties in vicinity of arm
ES2915586	(PARA-N) FUNDACION PARA PROMOCION INNOVACION INVE	Automatic sticker dispensing system for use in vehicle in automotive field, has driving device moving sticker dispenser until distal edge of dispensing tray located next to target reference position of surface with roller

## Estirado

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
JP2022140299	(OJIP) OJI HOLDINGS CORP	Film for metal layer-integrated film for capacitor, contains syndiotactic polystyrene resin and polyphenylene ether resin, where film contains titanium oxide particles as inorganic particles
WO2022187604	(LUBR) LUBRIZOL ADVANCED MATERIALS INC	Wetting and dispersing pulverulent polycarboxylic acid used as thickener, involves mixing carboxylic acid containing polymer or copolymer prepared from monomer mixture comprising unsaturated carboxylic acid group containing monomer(s), and mixing de-swelling agent
WO2022153893	(PPOL) PRIME POLYMER CO LTD	Stretched film used in laminate and packaging material, is made of polyethylene-based resin composition, where stretched film has specific melt flow rate, density, and melt index ratio
JP2022119248	(NIKL) JAPAN STEEL WORKS LTD	Link mechanism for resin film stretching device of film manufacturing system used in manufacture of thermoplastic resin film, has roller which is attached to bracket and brought into contact with link presser, where bracket is fixed to link shaft

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022167992	(ESTL-N) ESTL NV	Method for testing stretch wrap film, involves unwinding a roll of stretch film in an unwinding station, measuring impurities in stretch film, and correlating measured impurities to predetermined result
DE102021000710	(BBEN-N) BB ENG GMBH	Method for stretching plastic films, involves holding several plastic films at distance one above other by using holding units and are formed and stretched by dividing mother film in continuous extrusion process
WO2022145238	(JAPG) ZEON CORP	Birefringent film used for manufacturing optical film, comprises crystalline polymer, and solvents having preset boiling points, and has preset retardation in thickness direction of lamellar structure

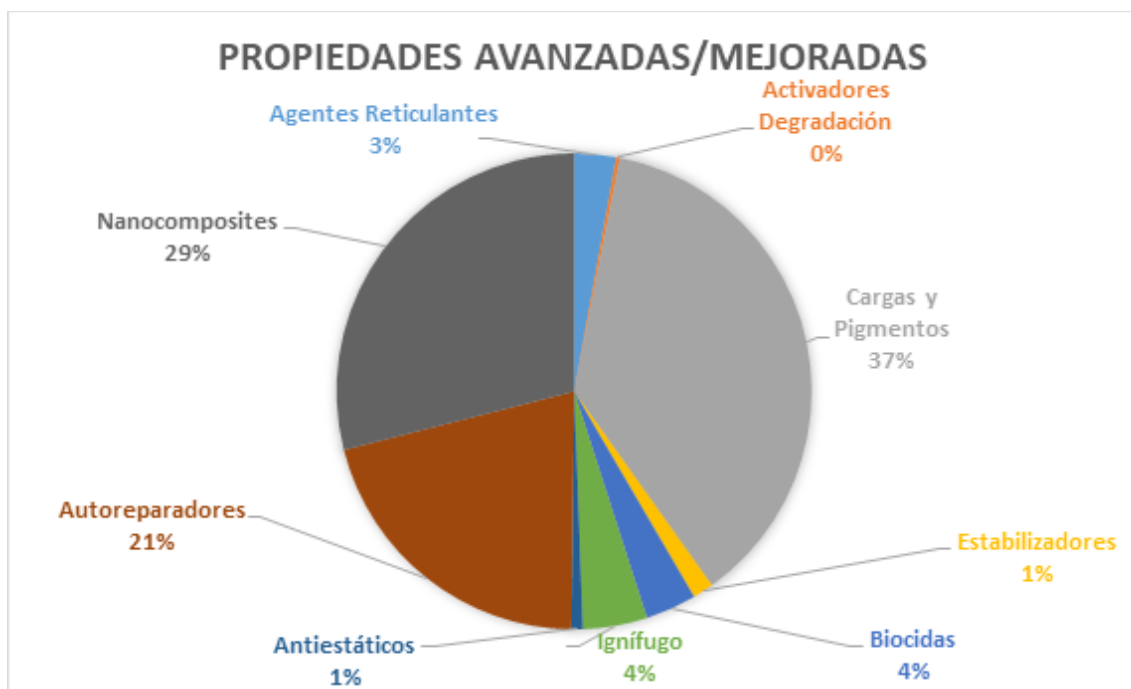
## Curvado

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022189406	(PLAS-N) PLASTIC OMNIUM NEW ENERGIES FRANCE	Method for winding filament around winding support, involves rotating winding support with respect to base around pitch axis of winding support
FR3118451	(COMS) COMMISSARIAT ENERGIE ATOMIQUE	Laying head for winding installation of wick of fiber dice coil, has pair of line rollers provided to be associated in operation with given wick and comprising upstream roller and downstream roller relative to direction of unwinding of wicks
WO2022130435	(IMAI) IMA IND MACCHINE AUTOMATICHE SPA	Flexible shaped portion making apparatus for use in E.G. glass, has forming units moving alternately between configuration of engagement and configuration of disengagement

VOLVER A  
CONTENIDO

# MATERIALES CON PROPIEDADES AVANZADAS O MEJORADAS

En el siguiente gráfico se muestra la distribución de las 522 familias de documentos de patente recuperadas en este trimestre en el apartado de Materiales con propiedades avanzadas o mejoradas. En este trimestre el volumen de documentos de patente a cargas y pigmentos sobresaleara claramente al resto de propiedades estudiadas.



Las siguientes tablas muestran una selección de los documentos más representativos, junto con un enlace directo a la base de datos Espacenet, el solicitante y una breve descripción de la invención.

## Cargas y Pigmentos

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
EP4056384	(SUMR) SUMITOMO RUBBER IND LTD	Tire for vehicle, has tread portion being provided with cap tread and base tread, where land ratio of tread portion is seventy percentage or higher, and average loss tangents of cap tread and base tread are in specific range

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022169231	(GLDS) LG CHEM LTD	Composition used for forming cured material, comprises resin component and filler component containing filler having specific gravity more than preset value and filler having specific gravity less than preset value, in specified weight ratio, and provides cured material with preset specific gravity
DE102021129647	(FISA) FISCHERWERKE GMBH & CO KG	Radically hardenable synthetic resin mixture comprises free-radically curable reactive resin and multiple different free-radically curable reactive diluents
WO2022163436	(SHIE) SHINETSU CHEM CO LTD	Two-component organopolysiloxane composition used in adhesive for forming cured product for automobile component, comprises agents comprising organopolysiloxane hydrolyzable organosilane compound and its partial hydrolytic condensate and curing catalyst
WO2022168694	(SUMB ) SUMITOMO BAKELITE CO LTD	Resin composition used for encapsulating gallium-arsenide chip, has preset die shear strength as measured by applying composition to surface of gallium-arsenide test piece, heat-treating, curing, and measuring die shear strength of test piece and cured product
WO2022163524	(TORA ) TORAY IND INC	Resin powder mixture used for producing three-dimensional model, obtained by mixing resin powder and inorganic reinforcing material with different densities
KR20220103220	(HAER-N) HAE RYONG SILICONE CO LTD	Silicone rubber composition with improved adhesion and heat dissipation used in thin film sheet for fixing belt, comprises organopolysiloxane, organopolysiloxane, heat dissipation filler, silane monomer, curing agent, catalyst and retardant
WO2022149436	(ASAH) ASAHI KASEI KK	Polyamide composition for forming molded product, comprises noncrystalline polyamide having preset number average particle size dispersed in crystalline polyamide to form domain, and has preset tan peak temperature
WO2022137949	(ELED) DENKA CO LTD	Oxide composite particles used in resin composition for high frequency board, comprise silica and alumina and has alpha-cristobalite crystal phase, alpha-alumina crystal phase and mullite crystal phase
WO2022138160	(TORA) TORAY IND INC	Resin composition used for producing sheet-like composition for producing cured sheet of laminate for wafer holder, comprises polymer chosen from polyimide, and polyamic acid having diamine residue and acid anhydride residue, and thermosetting resin
WO2022113437	(SHIE ) SHINETSU CHEM CO LTD	Room temperature curable organopolysiloxane composition used for forming cured product for E.G. automobile component, comprises organopolysiloxane having preset viscosity, and hydrolyzable organosilane compound and/or partially hydrolyzed condensate as curing agent

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022131199	(TOKU) TOKUYAMA CORP	Hydrophobic aluminum nitride powder used as filler blended in resin composition for heat dissipation material requiring high reliability under high humidity conditions, has specific hydrophobicity degree, where hydrophobizing agent is silane compound
WO2022138323	(SHOW) SHOWA DENKO KK	Separator binder used for non-aqueous secondary battery, comprises polymer having primary amide group and hydroxyl group, and main chain consists of bonds between carbon atoms and polymer having hydroxyl group, and main chain consists of bonds between carbon atoms
EP4011947	(COMS) COMMISSARIAT ENERGIE ATOMIQUE (ACCF) SAFT	Preparing solid electrolyte, preferably solid polymer electrolyte or hybrid solid electrolyte type for electrochemical system for rechargeable battery, comprises synthesizing at least one (co)polymer by ring-opening (co)polymerization
WO2022129016	(INEO) INEOS STYROLUTION GROUP GMBH	Fiber-reinforced thermoplastic composite material for forming molded products, comprises thermoplastic molding composition comprising polymer(s) and optionally polar functionalized polymer(s) comprising repeating unit(s) of functional monomer(s)
WO2022130772	(BRID) BRIDGESTONE CORP	Rubber composition used for tire, comprises rubber component and copolymer obtained by polymerizing monomer components comprising glycidyl (meth)acrylate and stearyl (meth)acrylate

## Agentes Reticulantes

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022138795	(SAKB) OTSUKA CHEM CO LTD	Rubber composition used for forming foam, comprises rubber component, chemical foaming agent, 4,5-dihydro-1H-pyrazole-containing compound or its salts, and at least one of vulcanizing agents and cross-linking agents
DE102020215719	(CONW) CONTINENTAL REIFEN DEUT GMBH	Sulfur-crosslinkable rubber mixture for tread of pneumatic vehicle tires e.g. cars, vans, trucks or two-wheelers, comprises functionalized styrene-butadiene copolymer A, diene rubber, plasticizer I.E. not mineral oil plasticizer, and filler
JP2022087806	(SUMR) SUMITOMO RUBBER IND LTD	Tire for E.G. passenger car, truck or bus, or two-wheeled vehicle, comprises tread, which is formed of a rubber composition comprising a rubber component comprising isoprene-based rubber

## Estabilizadores

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
DE102021101685	(ALZC-N) ALZCHEM TROSTBERG GMBH	Use of boronic acids to increase storage stability of epoxy resin composition for producing one component adhesive and acoustic insulation material, and fiber composite material, preferably prepreg and towpreg
WO2022146168	(MINE-N) MINERALIKA LLC	Making polymer-based composition by treating halloysite mineral nanotubes (HNT) and acid solution, loading dipeptide into internal cavities and layer-by-layer adsorption of oppositely charged polyelectrolytes on HNTs loaded with dipeptide

## Biocida

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
KR20220121729	(UYKO) UNIV KOOKMIN IND ACAD COOP FOUND (KOOK-N) KOOKMINBIO CORP	Spray coating composition useful for coating foods, cosmetics, topical preparations for skin, medicines to prevent contamination of microorganisms comprise edible polymers, ascorbic acid and inorganic particles E.G. copper particles
KR102422467	(DLAN-N) DLAND CO LTD	Environmentally-friendly low-concentration acrylic wood oil stain composition useful for deck wood comprises dimethyl carbonate, hydrodesulfurized heavy naphtha, heated linseed oil, wood impregnant mixed with silicone oil
RU2766332	(PROM-N) PROMMETEX CO LTD	Bioprotective polymer powder composition to protect hulls of sea and river vessels

## Ignífugo

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022183391	(DOWC) DOW GLOBAL TECHNOLOGIES LLC (DOWO ) DOW SILICONES CORP (BHAG-I) BHAGWAGAR D (CHEN-I) CHEN C (CHEN-I) CHEN H (HECC-I) HE C (WEIP-I) WEI P (ZHAN-I) ZHANG J (ZHEN-I) ZHENG Y	Curable polyolefin composition used in thermal interface material or encapsulant for electric devices, comprises polyolefin having aliphatic unsaturated bonds, wax, organopolysiloxane having silicon atom-bonded hydrogen atoms, and catalytic amount of hydrosilylation reaction catalyst

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022184543	(EVON) EVONIK OPERATIONS GMBH	Composition useful in production of PU rigid foam used as insulating material and construction material, comprises polyisocyanate component, polyol component, blowing agent, solid flame retardant, quaternary ammonium compound and catalyst
US2022184441	(FRSF-N) FRS GROUP LLC (BURN-I) BURNHAM R J (GEIS-I) GEISSLER G (HULB-I) HULBERT D (MCLE-I) MCLELLAN J (SCHN-I) SCHNARR M S (WILK-I) WILKENING D W	Forest fire retardant composition for direct or indirect attack of forest fires, comprises retardant compound comprising at least one magnesium sulfate hydrate, preset amount of corrosion inhibitor for at least one of iron, brass, aluminum or magnesium, thickening agent, and colorant

## Antiestáticos

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
ES2920623	(AVAN-N) AVANZARE INNOVACION TECNOLOGICA SL	Imparting low electrical resistance to thermoplastic elastomers and articles useful for E.G. floors made from E.G. lithium, sodium or potassium salt of linear, branched or 6-18C cyclic alkane sulfonate, diols and thermoplastic elastomer

## Autorreparador

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
TW202219099	(HONH) ZHEN DING TECHNOLOGY CO LTD	Preparing self-healing material, comprises E.G. providing first solution including isocyanate monomer, providing second solution including dihydric alcohol containing heterocyclic structure, and mixing polymer precursor with third solution
EP4029910	(BRID) BRIDGESTONE EURO NV SA	Preparing rubber composition used for self-healing tire, by polymerizing methacrylic acid in presence of cobalt(II) complex as catalytic chain transfer agent, and blending poly(methacrylic acid) oligomer with zinc oxide, dienic rubber, sulfur and vulcanization accelerator
WO2022118171	(UYRJ) RIJKSUNIV GRONINGEN (EPOX-N) EPOX-CO2 SRL (UYBR-N) UNIV BRESCIA	New polyalkylene carbonate obtained through heterogeneous catalytic copolymerization reaction from carbon dioxide and alkyl epoxide, useful for preparing product, such as film, composite material and microspheres

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022146248	(UYBU-N) UNIV BURSA ULUDAG	Self-healing sandwich composite structure for use in E.G. military vehicle, has upper and lower surface plates holding structure together, and combining layer joining surface plates to sandwich core

## Nanocomposite

Nº DE PUBLICACIÓN	SOLICITANTE	CONTENIDO
WO2022183298	(MCST) UNIV MCMASTER	Production of nanoscale feature on pre-stressed polymer film involves imprinting film with nanoscale or microscale pattern, constraining film in direction with constraint, shrinking film in direction by heat-treating, and releasing constraint
EP4047054	(THOR-N) THORN ASSETS LTDA	Obtaining leather, polymer and graphene-based nanocomposite compound comprising graphene used to make E.G. cups, and shoe soles, comprises adding graphene oxide, leather, polymers and calcium carbonate using extrusion in extruder
ES2919782	(UYVG) UNIV VIGO	Complex useful for producing prosthetic-type biomedical device, preferably 4D prosthetic-type biomedical device, comprises polylactic acid and graphene oxide
WO2022162297	(CNRS) CNRS CENT NAT RECH SCI (UNBO) UNIV BORDEAUX (OPTI-N) INST OPTIQUE THEORIQUE & APPLIQUEE (UYPA-N) UNIV PARIS-SACLAY	Nanostructured surface coating for generating visual appearances in visible spectral band, comprises first layer comprising random distribution of nanoparticles, substrate, and nanoparticles having optical index of refraction

VOLVER A  
CONTENIDO



# NOTICIAS

## ESPAÑA OCUPA EL PUESTO 29 SEGÚN EL ÍNDICE MUNDIAL DE INNOVACIÓN GII 2022 QUE ANALIZA 132 ECONOMÍAS CON 80 INDICADORES DE FUENTES PÚBLICAS Y PRIVADAS



El 29 de septiembre se ha hecho pública la *decimoquinta edición del Índice Mundial de Innovación*, (GII según sus siglas en inglés, Global Innovation Index) con el tema ¿Cuál es el futuro del crecimiento impulsado por la innovación?.

El GII lo elabora la *Organización Mundial de la Propiedad Intelectual (OMPI)* en colaboración con el *Instituto Portulans* y sus socios corporativos. Se trata de una clasificación de las capacidades de innovación y los resultados de las economías mundiales. Desde el año 2021, cuenta también con una Red Académica para involucrar a las universidades líderes en el mundo en la investigación del GII y apoyar la difusión de los resultados de GII dentro de la comunidad académica.

Contiene la más reciente clasificación mundial de innovación de 132 economías, basándose en 80 indicadores de fuentes públicas y privadas internacionales, incluyendo no sólo las medidas tradicionales de innovación (I + D, artículos científicos publicados, etc.), sino también aspectos sociales y técnicos, y el modelo empresarial, entre otros. El GII tiene dos subíndices: el Subíndice de Inversión en Innovación y el Subíndice de Resultados de Innovación, y siete pilares, cada uno de los cuales consta de tres subpilares.

Un año más, Suiza, Estados Unidos, Suecia y el Reino Unido continúan liderando el ranking de innovación estando todos clasificados entre los 5 primeros puestos en los últimos tres años. Los Países Bajos se unen al top 5 del GII desbancando a la República de Corea este año. Por otro lado, este año, China (11) se queda a las puertas de las 10 primeras posiciones de la lista.

En lo que se refiere a España, el GII 2021 la sitúa en el puesto 29, avanzando un puesto con respecto al año 2021. En esta ocasión, su posición en resultados obtenidos (puesto 26) supera a su posición en inversión realizada (puesto 28), posición que repite del año 2021. En el ranking de las economías europeas, España ocupa el puesto 18 de 39.

En relación a economías de grupos de ingresos altos, España se sitúa por encima de la media del grupo de rentas altas en tres pilares: Infraestructura; Resultados de conocimiento y tecnología y Resultados en Creatividad.

En relación a Europa, España se comporta por encima de la media regional en cinco pilares: Instituciones; Capital humano e investigación; Infraestructura; y Sofisticación del mercado y Resultados en Creatividad.

Entre nuestras fortalezas destacan el gasto en software (puesto 5 de todas las economías analizadas), matrículas universitarias (9), sostenibilidad ecológica (14), un buen índice H (12) y, diseños industriales (12), entre otros. Con relación a las debilidades, la peor posición la ocupa el crecimiento de la productividad laboral (104) seguido de la formación bruta de capital (85), las importaciones de alta tecnología (72) o el gasto en educación (71).

El estudio referido a España se ha recogido en este [documento](#).

## Conclusiones Generales del GII

- Las inversiones en innovación continuaron en aumento en los momentos críticos de la pandemia de COVID-19 y se multiplicaron en 2021, aunque es difícil predecir si continuarán en esta línea en 2022, debido a los nuevos desafíos a los que se enfrenta el mundo.
- El progreso tecnológico y de innovación muestran síntomas de fragilidad: está en riesgo el futuro del crecimiento impulsado por la innovación.
- Se observan cambios significativos en la clasificación de los 15 primeros puestos de la clasificación del Índice Mundial de Innovación; China, Turquía e India se consolidan como potencias mundiales de la innovación.
- Varias economías en desarrollo obtienen resultados en innovación que superan las expectativas en relación con su nivel de desarrollo económico.

### Más información:

[Índice Mundial de Innovación 2022](#)

[Resumen del Índice Mundial de Innovación en español](#)

## ENCUENTRO DE LAS COMISIONES CONSULTIVAS DE LAS CÁMARAS DE COMERCIO DE ESPAÑA CON EL PRESIDENTE DE LA OFICINA EUROPEA DE PATENTES

Durante el mes de septiembre el Presidente de la [Oficina Europea de Patentes](#) (EPO, por sus siglas en inglés), Antonio Campinos realizó una visita institucional a España, a lo largo de la cual tuvieron lugar diferentes actos y eventos.

Uno de estos actos fue el encuentro organizado por la [Oficina Española de Patentes y Marcas, O.A. \(OEPM\)](#), en colaboración con la [Cámara de Comercio de España](#).

Este encuentro tuvo lugar el pasado 14 de septiembre, en formato *online* y presencial, en la sede de la Cámara de Comercio de España, en Madrid.

Dicho evento consistió en una reunión con distintas empresas, instituciones públicas y privadas e instituciones científicas y universitarias, así como con los representantes de las tres comisiones establecidas dentro de la Cámara de Comercio: Universidades, I+D+I e Industria.

El encuentro se planteó como un debate abierto entre empresas y el Presidente y delegación de la EPO, donde los asistentes formularon preguntas y se debatieron los aspectos más relevantes relacionados con las patentes europeas y la propia EPO.

El evento también contó con la participación del Director de la OEPM, José Antonio Gil Celedonio.

## EVENTO UNIVERSIDAD AUTÓNOMA DE MADRID- "PATENTS FOR INNOVATION, P4I"-MADRID



Los próximos días 26 y 27 de octubre se celebrará en Madrid la primera edición del evento "Patents for innovation, P4i" que incluye un foro internacional sobre innovación tecnológica y una feria de patentes para facilitar la transferencia de tecnología y la compra y venta de patentes de índole científica entre universidades y empresas.

Este evento, promovido por la *Universidad Autónoma de Madrid* y organizado por *Phantoms Foundation* y *BeAble Capital*, pretende ser un punto de encuentro de innovación y transferencia de tecnología para empresas y universidades de referencia en Europa.

La *Oficina Española de Patentes y Marcas, O.A. (OEPM)*, participará activamente como socio y patrocinador de este evento y realizará talleres sobre patentes universitarias e internacionalización y comercialización de patentes, así como de transferencia de tecnología.

[Más información](#)

