

VT

PATENTES

IMPRESIÓN 3D

18



Oficina Española
de Patentes y Marcas

OBJETIVOS
DE DESARROLLO
SOSTENIBLE



Vigilancia
Tecnológica
2º trimestre 2024

NIPO: 220-24-018-3

En este Boletín de Vigilancia Tecnológica se recogen, de manera trimestral, los avances acontecidos en el campo de la tecnología de Impresión 3D que se materializa en forma de solicitudes de patente en todo el mundo.

Aunque en los años 80 comenzaron a desarrollarse los primeros equipos y materiales sobre la tecnología de impresión 3D también denominada fabricación aditiva, no fue hasta 1986 cuando aparece en el mercado la primera impresora 3D comercial, patentada por Charles W. Hull, premiado por la Oficina Europea de Patentes

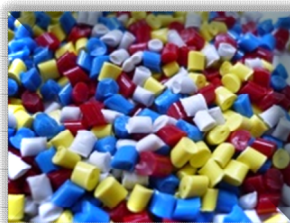
como inventor del año en 2014 en la categoría de inventores no europeos.

Cuando trataba de buscar un sistema para mejorar el proceso de realización de prototipos de pequeñas piezas de plástico que utilizaba para probar nuevos diseños de productos, desarrolló una máquina de impresión 3D que conseguía realizar en pocos minutos procesos que por aquel entonces llevaban semanas.

Contenido



PROCESOS



MATERIALES



DISPOSITIVOS



PRODUCTOS



PROCESAMIENTO
DE DATOS



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Desde entonces, la tecnología no ha parado de evolucionar, especialmente en los últimos años, alcanzándose a partir de 2017 un verdadero auge, cuando se incorpora la automatización utilizando software de inteligencia artificial que permite industrializar la fabricación aditiva y multiplicar la capacidad de los sistemas.

En los últimos años de evolución de la impresión 3D hemos visto pasar del desarrollo conjunto de nuevas tecnologías y materiales innovadores aplicados principalmente a la creación de prototipos y diseños personalizados, a la consecución de productos casi impensables hace tan solo una década. Gracias a esta increíble tecnología hemos visto imprimir, órganos, coches e incluso edificios.

Desde la Oficina Española de Patentes y Marcas, y en cumplimiento de su doble objetivo de proteger y fomentar la innovación tecnológica en nuestro país, así como de divulgar la información técnica que contienen las patentes a través de sus servicios de Información Tecnológica, se realiza este nuevo Boletín de Vigilancia Tecnológica, que se suma a los dieciséis *Boletines VT* que venimos publicando desde el año 2000 con periodicidad

trimestral. Nuestro objetivo es dar a conocer las nuevas solicitudes de patentes que se publican a nivel mundial relacionadas con la tecnología de impresión 3D.

En este Boletín, se incluye una selección de las solicitudes de patentes publicadas a nivel mundial durante el segundo trimestre de 2024, distribuidas en cinco apartados: procesos, materiales, dispositivos, productos y procesamiento de datos.

Para cada patente se incluye su número de publicación, con un enlace que permite la consulta del documento completo, el solicitante, el país de origen y su título.

Esperamos que la información aportada en este Boletín de Vigilancia Tecnológica, sirva para identificar tendencias tecnológicas y sus actores, así como para contribuir a la utilización del conocimiento contenido en los documentos de patente como punto de partida para emprender nuevas actividades de investigación y desarrollo. Para suscribirse a este Boletín basta con cumplimentar este [*formulario de suscripción*](#).

Procesos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024061927	BOSCH GMBH ROBERT [DE]	System and method for printing a three-dimensional object
WO2024076154	RESEARCH & BUSINESS FOUNDATION SUNGKYUNKWAN UNIV [KR]	Composite structure with flame retardant and thermal insulating properties, manufactured by 3D printing, and manufacturing method therefor
WO2024081392	ICON TECH INC [US]; BUNGANE MEHLOMAKULU IAN [US]	Reinforcement of wall structures using solidifiable material
WO2024079037	SIGNIFY HOLDING BV [NL]	A method of manufacturing a 3D item by means of 3D printing
WO2024064650	VADIENT OPTICS LLC [US]	Grin lenses made by 3D printing monomer-based inks
WO2024092237	UNIV TEXAS [US]; CHAKKA LEELA RAGHAVA JAIDEV	Continuous mid-air 3-dimensional printing for pharmaceutical dosage forms
WO2024069198	SZECHENYI ISTVAN EGYETEM [HU]	Layered soft magnetic composite, process for its preparation and apparatus for its preparation
WO2024096821	NAT UNIV SINGAPORE [SG]	An apparatus, system, and method for fluid sensing
WO2024076301	UNIV SINGAPORE TECHNOLOGY & DESIGN [SG]	A colloidal suspension and method of forming the same
WO2024062406	UNIV BOLOGNA ALMA MATER STUDIORUM [IT]	Digital printing and coating of functional materials
WO2024128379	KWANG HEUNG MAKER TRADE LC [KR]	Glasses frame having honeycomb structure, and manufacturing method therefor
WO2024078805	EXONE GMBH [DE]	3D printing method and 3D printer
EP4349778	UNIV INTERNACIONAL DE CATALUNYA FUNDACIO PRIVADA [ES]	Ink for 3D printing
WO2024085863	HEWLETT PACKARD DEVELOPMENT CO [US]	Methods for bonding copper green parts
WO2024107164	KHALIP OLEG YUREVICH [UA]	Method for the continuous production of objects from a liquid photopolymer by 3D printing with a complete post-processing cycle and device for carrying out said method
WO2024102803	UNIV CALIFORNIA [US]	Non-planar granular 3D printing
WO2024100122	4D PIONEERS [FR]	Mechanism for moving a wire-deposition three-dimensional printing tool of an additive manufacturing machine
WO2024107163	KHALIP OLEG YUREVICH [UA]	Method for the continuous production of objects from a liquid photopolymer by 3D printing with a continuous-belt carrier and a complete post-processing cycle and device for carrying out said method
WO2024115231	BOSCH GMBH ROBERT [DE]	3D printer comprising a print head
EP4344854	ORBITAL MATTER UG [DE]	3D printing apparatus
WO2024095146	AQUAFIL S P A [IT]	Polymeric composition for 3D printing and method of use thereof

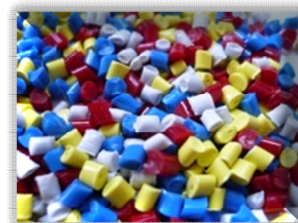
Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4353449	ABB E MOBILITY BV [NL]	Method for manufacturing of a thermally conductive electrical component
EP4349570	UNIV GRAZ TECH [AT]	Method for producing a 3D-printed object made of cellulosic material
WO2024081403	INTERFACIAL CONSULTANTS LLC [US]	Thermally stable water soluble polymer compositions
WO2024079597	MOI COMPOSITES S R L [IT]	Method for three-dimensional printing of fiber composite materials
WO2024093647	UNIV HONG KONG [CN]	Three-dimensional printing methods for making metal-embedded medical implants and devices
WO2024142037	STRATASYS LTD [IL]	Waste removal for three-dimensional printing
WO2024072593	UNIV VIRGINIA COMMONWEALTH [US]	3D printed magnetic-infused origami platform for 3D cell culture
WO2024091248	HEWLETT PACKARD DEVELOPMENT CO [US]	Three-dimensional printing
WO2024124024	3D SYSTEMS INC [US]	Inks for 3D printing having high modulus and dispersion stability
WO2024083433	PUTZMEISTER ENGINEERING GMBH [DE]	Printing system and 3D printing method
WO2024076564	US SYNTHETIC CORP [US]	Nozzles, nozzle assemblies, and related methods
WO2024076401	UNIV ROWAN [US]	A three-dimensional printable biocompatible photopolymerizable ink with spatially controlled dual protein motifs for co-culture functionality
WO2024115228	BOSCH GMBH ROBERT [DE]	Print head for a 3D printer, 3D printer comprising a print head, and method for operating a 3D printer comprising a print head
WO2024089591	ROBOZE S P A [IT]	Additive production process with material reinforced with continuous fiber by means of vibrating deposition means and related apparatus
WO2024061860	BOSCH GMBH ROBERT [DE]	Method for operating a system for printing three-dimensional objects
WO2024101211	MURATA MANUFACTURING CO [JP]	Method for producing ceramic electronic component
WO2024101702	KOREA ADVANCED INST SCI & TECH [KR]	Supramolecular polymerizable photocurable resin for highly durable 3D printing, and method for manufacturing same
WO2024143983	SAMYOUNG MACHINERY CO LTD [KR]	Recoating device and 3D printer including same
WO2024072415	HEWLETT PACKARD DEVELOPMENT CO [US]; UNIV NANYANG TECH [SG]	Three-dimensional printing
WO2024100121	4D PIONEERS [FR]	Pneumatic automatic tool coupling device for a three-dimensional printer with tool change
WO2024061926	BOSCH GMBH ROBERT [DE]	Printing device for a 3D printer, and method for printing a material to be printed for a 3D printer
WO2024115225	BOSCH GMBH ROBERT [DE]	Print head for a 3D printer and method for operating a print head for a 3D printer
WO2024086313	NIKON CORP [JP]; TAKEMOTO TAKUTO [US]	Systems and methods for improved laser manufacturing
EP4385709	META PLATFORMS TECH LLC [US]	Method for producing a three-dimensional optical structure and three-dimensional optical structure

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4344857	UBOT TECH SP Z O O [PL]	Fpd printer for high-speed 3D printing
WO2024126873	MAT & MEDICAL SOLUTIONS [FR]	Apparatus and method for forming a three-dimensional object
WO2024110502	BIOVATURE GMBH [DE]	Device for fabrication of fibers, 3D printer comprising the device and method for fabrication of fibers
WO2024124363	UNIV DIEGO PORTALES [CL]	3D extruder for polymer concrete, method for producing polymer concrete-micro-aggregates, and said concrete
WO2024105574	SOLNTSEV OLEKSII [UA]; YAKHNO ANTON [UA]	Automated system for separating and removing a printed three-dimensional object from a table
WO2024080986	HEWLETT PACKARD DEVELOPMENT CO [US]; UNIV NANYANG TECH [SG]	Powder removal coverages
WO2024086660	HOLO INC [US] SOUTHWEST GREENE INT INC [US]	Systems and methods for stereolithography three-dimensional printing
WO2024081429	DIVERGENT TECH INC [US]	In-situ weld pool spectrum radiation process characterization
WO2024075711	UNIV KYOTO [JP]	Powder material for three-dimensional shaping, method for manufacturing three-dimensional shaped article, and three-dimensional shaped article
WO2024099572	AXTRA3D INC [US]	An additive manufacturing apparatus for additively manufacturing a three-dimensional object by curing a photocurable resin
WO2024100147	SPINESAVE AG [CH]	Load-carrying rod
WO2024126389	MICHELIN & CIE [FR]	Method for additively manufacturing a carcass of an airless tyre for a vehicle
WO2024069272	NAT RES COUNCIL CANADA [CA]	Method of volumetric additive manufacturing
WO2024083519	BATTENFELD CINCINNATI GERMANY GMBH [DE]	Additively manufactured components of an extruder
WO2024076541	ORCA SCIENCES LLC [US]	Laser object printing from a gaseous substrate
WO2024069486	UVIC IND PARTNERSHIPS INC [CA]	Bioprinter systems and apparatus and methods of use
WO2024063137	POLYPLASTICS CO [JP]	Filament for three-dimensional molding, method for producing three-dimensional molded article, and three-dimensional molded article
WO2024125753	KNAUF GIPS KG [DE]	Apparatus for additive manufacturing of reinforced structures and a method for additive manufacturing of reinforced structures
WO2024095596	KOBE STEEL LTD [JP]	Method for correcting control information for additive manufacturing device, device for correcting control information, and program
EP4389424	QSIL METALS HERMSDORF GMBH [DE]	Multisegment printing table
EP4344774	VITO NV [BE]; C2CAT BV [NL]	Three-dimensional porous structure and method for producing it
WO2024121400	UNIV DANMARKS TEKNISKE [DK]	Free-standing biomass-derived carbon hybrid electrodes
WO2024112792	UNIV MICHIGAN REGENTS [US]	Multi-nozzle automated additive spraying and methods of additive spraying to form carbon dioxide-infused fiber-reinforced concrete

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024077074	UNIV TEXAS [US]	Biosensors made by additive manufacturing
WO2024061643	CYTIVA SWEDEN AB [SE]	Heat treatment of 3D printed parts
WO2024132108	SCHUNK KOHLENSTOFFTECHNIK GMBH [DE]; SCHUNK INGENIEURKERAMIK GMBH [DE]	Process for manufacturing a shaped si-sic article, shaped article, and use

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Materiales



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024106178	ZEON CORP [JP]	3D printer modeling material and modeled object
WO2024120547	UNIV INNER MONGOLIA TECHNOLOGY [CN]	Laser additive alloy based on crcovwyc powder, and composite coating and preparation method for composite coating
WO2024106233	MITSUI CHEMICALS INC [JP]	Resin powder, three-dimensional molded body, and manufacturing method for three-dimensional molded body
WO2024126739	COMMISSARIAT ENERGIE ATOMIQUE [FR]; CENTRE NAT RECH SCIENT [FR]	Use of a triple-structured steel in an acidic environment
WO2024120548	UNIV INNER MONGOLIA TECHNOLOGY [CN]	Laser additive alloy based on nitialvcmo powder, and composite coating and preparation method for composite coating
WO2024138140	HARVARD COLLEGE [US]; CALIFORNIA INST OF TECHN [US]	Additively manufactured biocomposites from photosynthetic microorganisms and related methods
WO2024102690	LUNG BIOTECHNOLOGY PBC [US]	Method for manufacturing low modulus articles
WO2024109011	UNIV ARMY MEDICAL [CN]	Method for preparing high-strength interpenetrating polymer network hydrogel blood vessel having directionally arranged fiber microstructure
WO2024109124	UNIV HONG KONG POLYTECHNIC [CN]	Composite 3D printing material containing tea residues, preparation method therefor and use thereof
WO2024091247	HEWLETT PACKARD DEVELOPMENT CO [US]	Build material composition and thermally conductive agent for three-dimensional printing
WO2024091220	HEWLETT PACKARD DEVELOPMENT CO [US]	Three-dimensional printing energy absorbing composition
WO2024102687	LUBRIZOL ADVANCED MAT INC [US]	High resilient thermoplastic polyurethanes and uses thereof
WO2024090447	MITSUBISHI MATERIALS CORP [JP]	Method for manufacturing copper alloy powder for metal am
WO2024081536	HENKEL AG & CO KGAA [DE]; HINOTE STEFAN SALDIVAR [US]	Photocurable compositions for additive manufacturing and use thereof
WO2024126965	ARKEMA FRANCE [FR]	Method for manufacturing sintered objects with improved roughness
EP4369098	CUBICURE GMBH [AT]	Resin composition
WO2024124291	UNIV SYDNEY TECHNOLOGY [AU]	Algal composite
WO2024074793	ARKEMA FRANCE [FR]	Method for producing a polyamide powder
WO2024102853	UNIV LELAND STANFORD JUNIOR [US]	Dynamic hydrogel compositions
WO2024118568	POLYSPECTRA INC [US]	Methods of making compositions from olefin metathesis photopolymers

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024112173	KOREA INSTITUTE OF MAT SCIENCE [KR]	Kit for preparing photocurable slurry for manufacturing functionally gradient ceramic structure, photocurable slurry composition prepared using same, functionally gradient ceramic structure, and manufacturing method therefor
WO2024115851	AGRO INNOVATION INT [FR]	Regolith-based compositions
WO2024123009	DIC KOREA CORP [KR]	Photocurable 3D printing composition for manufacturing stretchable product with lattice structure
WO2024120056	UNIV HUNAN [CN]	Full-tailing-based 3D printing additive and use thereof
WO2024090450	MITSUBISHI MATERIALS CORP [JP]	Copper alloy powder for metal am and method for manufacturing laminate molded article
WO2024090448	MITSUBISHI MATERIALS CORP [JP]	Copper alloy powder for metal additive manufacturing (am) and method for producing laminate molded article
WO2024090449	MITSUBISHI MATERIALS CORP [JP]	Metal additive manufacturing (am) copper alloy powder and method for producing additively manufactured article
WO2024090446	MITSUBISHI MATERIALS CORP [JP]	Copper alloy powder for metal additive manufacturing (am) and method for producing laminate molded article
WO2024077952	XIAN MODERN CHEMISTRY RES INST [CN]	Photocurable and combustible polymer and use thereof
WO2024119473	JF POLYMERS SUZHOU CO LTD [CN]	3D printer nozzle, 3D printer and printing method
WO2024089236	H C STARCK TUNGSTEN GMBH [DE]	Granular mixture for additive manufacturing
WO2024089010	EOS GMBH ELECTRO OPTICAL SYSTEMS [DE]	Method and apparatus for additively producing electrochemical devices
WO2024084272	ARCELORMITTAL [LU]	Metal powder for additive manufacturing
WO2024101048	NAT INST MATERIALS SCIENCE [JP]	Nickel-cobalt-based alloy, nickel-cobalt-based alloy member using same, and method for manufacturing same
WO2024084274	ARCELORMITTAL [LU]	Metal powder for additive manufacturing
WO2024084273	ARCELORMITTAL [LU]	Metal powder for additive manufacturing
WO2024081341	ENTEGRIS INC [US]	Porous sintered bodies and methods of preparing porous sintered bodies
WO2024112562	L LIVERMORE NAT SECURITY LLC [US]	Systems and methods for partial sintering of powder to create larger powder particles for additive manufacturing processes
WO2024144263	GRAPHY INC [KR]	Elastic material composition for photocurable 3D printing, having excellent mechanical properties
WO2024099798	EVONIK OPERATIONS GMBH [DE]	Radiation curable compositions for additive manufacturing of high toughness articles
WO2024141450	ARKEMA FRANCE [FR]	Thermoplastic polymer powder having a large particle size distribution
WO2024124356	VOXCELL BIOINNOVATION INC [CA]	Biopinks and methods of synthesizing, characterizing, and deploying biopinks
WO2024076464	JABIL INC [US]	Additive manufactured article comprising a grafted aliphatic polyketone, filament and powder
WO2024133131	OTTOBOCK SE & CO KGAA [DE]	Method and device for producing an article

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024118942	UNIV CALIFORNIA [US]	3D printing of high cell density vascularized tissue
WO2024133354	INST REGIONAL CANCER MONTPELLIER [FR]; UNIV MONTPELLIER [FR]; CENTRE NAT RECH SCIENT [FR]; ENSCM [FR]; INST NAT SANTE RECH MED [FR]; CT HOSPITALIER UNIVERSITAIRE MONTPELLIER [FR]	Biomaterial for use in the dental field
WO2024119780	SUZHOU AMPRO LTD [CN]; SANFENG 3D LTD [CN]	High-temperature alloy for additive manufacturing, and additive manufacturing method therefor
WO2024107137	SUELEYMAN DEMIREL UENIVERSITESI IDARI VE MALI ISLER DAIRE BASKANLIGI GENEL SEKRETERLIK [TR]	Binder for binder jetting additive manufacturing method
WO2024117367	NAT UNIV CHANGWON IND ACADEMY COOP CORPS [KR]	Dual curable ceramic slurry composition for 3D printing and method for manufacturing dual curable ceramic structure using same
WO2024126967	ARKEMA FRANCE [FR]	Method for producing polyamide powder for 3D printing
WO2024104982	FRAUNHOFER GES FORSCHUNG [DE]	Composition for producing a polymer, use of the composition for producing a polymer, and polymer
WO2024098130	CELLVA INGREDIENTS LTDA [BR]	Method for producing microcarriers, said microcarriers and use of said microcarriers
EP4382230	SIEMENS ENERGY GLOBAL GMBH & CO KG [DE]	Single-phase nickel alloy for additive manufacturing
WO2024121595	ARCELORMITTAL [LU]	Metal powder for additive manufacturing
WO2024083517	ERNST ABBE HOCHSCHULE JENA [DE]	Graduated and adaptive polishing tools, and method for the production thereof
WO2024100175	SABIC GLOBAL TECHNOLOGIES BV [NL]	Process for improving the flow properties of polymeric powder, and article so produced
WO2024140844	FUJIAN INST RES STR MATTER CAS [CN]	Foamable resin for photocuring 3D printing, preparation method therefor and use thereof
WO2024128661	POSCO HOLDINGS INC [KR]; RES INST IND SCIENCE & TECH [KR]; POSTECH RES & BUSINESS DEV FOUND [KR]	Device for manufacturing bioink
WO2024105002	SIKA TECH AG [CH]	Cementitious materials including a luminescent compound for printing 3-dimensional structures
EP4382575	EVONIK OPERATIONS GMBH [DE]	Milled silica and liquid radiation curable compositions comprising same
WO2024094412	SIEMENS ENERGY GLOBAL GMBH & CO KG [DE]	Cobalt base alloy, powder, process and components
WO2024144290	ALDAVER INC [KR]	Hydrogel composition for 3D printing, and 3D printing hydrogel prepared therefrom
WO2024113513	SUZHOU AMPRO LTD [CN]	Al-y-zr-mg-mn-sc aluminum alloy suitable for additive manufacturing process and additive manufacturing method
WO2024118546	ADDMAN INTERMEDIATE HOLDINGS LLC [US]	Methods for in situ formation of disperoids strengthened refractory alloy in 3D printing and additive manufacturing
WO2024120969	BASF SE [DE]	A tube furnace for the use in a sintering and/or debinding process

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024109832	SHENZHEN INST OF ADV TECH CAS [CN]	Photonic crystal 3D printing ink, photonic crystal and preparation method therefor
WO2024143081	RESONAC CORP [JP]	Inorganic oxide particles
WO2024106609	NAT UNIV CHANGWON IND ACADEMY COOP CORPS [KR]	Ceramic slurry composition for 3D printing, and method for producing high-strength ceramic structure using same
WO2024117214	MITSUBISHI CHEM CORP [JP]	Support material
WO2024141537	ARKEMA FRANCE [FR]; CENTRE NAT RECH SCIENT [FR]; UNIV HAUTE ALSACE [FR]	Sulfonium salt photoinitiators and methods of led curing a composition with said sulfonium salt photoinitiators
WO2024074722	UNIV CATHOLIQUE LOUVAIN [BE]	Titanium alloy, powder of the titanium alloy and method of manufacturing thereof
WO2024081115	HENKEL AG & CO KGAA [DE]; HINOTE STEFAN SALDIVAR [US]	Photocurable compositions for three-dimensional investment pattern casting and use thereof
WO2024134666	INDIAN INST SCIENT [IN]	System and process for additive fabrication and manufacturing
WO2024112785	UNIV MICHIGAN REGENTS [US]	Multi-nozzle automated additive spraying and methods of additive spraying to form fiber-reinforced concrete
WO2024128937	OBSHCHESTVO S OGRANICHENNOJ OTVETSTVENNOSTYU INSTITUT LEGKIKH MATERIALOV I TEKH [RU]	Aluminium material for additive manufacturing and item made of said material
EP4382281	INST POLITECNICO DE LEIRIA [PT]	Integrated biomanufacturing system for producing three-dimensional structures
EP4387788	HEADMADE MAT GMBH [DE]	Binder component for a feedstock compound for use in a shaping and sintering process, particulate feedstock compound, and shaping and sintering process
EP4386036	EMS CHEMIE AG [CH]	Materials for selective laser sintering and laser sintering using such materials
EP4357050	LIBURDI ENGINEERING [CA]	High gamma prime nickel based welding material for repair and 3D additive manufacturing of turbine engine components
EP4389793	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Photocrosslinkable polyurethane resin
EP4387790	HEADMADE MAT GMBH [DE]	Binder component for a feedstock compound for use in a shaping and sintering process, particulate feedstock compound, and shaping and sintering process
EP4387789	HEADMADE MAT GMBH [DE]	Binder component for a particulate feedstock compound for use in a shaping and sintering process, particulate feedstock compound, and shaping and sintering process
EP4393706	SUMITOMO RUBBER IND [JP]	Photocurable composition and shaped product of the photocurable composition
EP4374815	IVOCLAR VIVADENT AG [LI]	Method for producing a dental restoration
EP4353448	NEOS S R L [IT]	Device for additive printing of an embossed surface for the decoration of ceramic tiles and corresponding additive printing method
WO2024072868	UNIV CENTRAL FLORIDA RES FOUND INC [US]	Biomaterial-ink for 3D printing

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024142069	STRATASYS LTD [IL]	Formulations for three-dimensional printing on fabric
WO2024089699	COLLPLANT LTD [IL]	Formulations for use in additive manufacturing, containing a tetracycline compound as a light-absorbing substance

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Dispositivos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024086667	DESKTOP METAL INC [US]	Course corrected robotic arm
WO2024128423	FOUNDATION SOONGSIL UNIV INDUSTRY COOPERATION [KR]	Micro hydrocyclone connected in parallel and method for separating substance to be separated
WO2024098479	ZHEJIANG XUNSHI TECH CO LTD [CN]	Liquid containing device for 3D printing and 3D printer
WO2024130242	SPRINTRAY INC [US]	Hydraulic 3D-printing system and method
WO2024101527	T & R BIOFAB CO LTD [KR]	Slit nozzle for large-area printing
WO2024082666	SHENZHEN CREALITY 3D TECH CO LTD [CN]	Hot bed leveling device and 3D printing apparatus
WO2024101528	T & R BIOFAB CO LTD [KR]	Blower apparatus for improving 3D structure printing process
WO2024124192	QUADRATIC 3D INC [US]	Adaptive light sheet for reducing off-target photoexcitation in volumetric printing including two wavelengths
WO2024081658	RELATIVITY SPACE INC [US]	Additive manufacturing modular end effector assembly
WO2024079505	CESKE VYSOKE UCENI TECH V PRAZE [CZ]	Equipment for continuous mixing, transport, acceleration and application of composite cement mixtures
EP4353392	RELATIVITY SPACE INC [US]	Systems for localized work return path and methods thereof
WO2024107771	GREENE TWEED TECH INC [US]; UNIV MASSACHUSETTS [US]	Articles formed from fluorine-containing elastomer compositions using additive manufacturing methods and additive manufacturing methods for thermoset elastomer compositions
WO2024126953	ADDUP [FR]	Device and method for additive manufacturing with dusting of a powder spreading carriage
WO2024086453	MASSACHUSETTS INST TECHNOLOGY [US]; CENTRE NAT RECH SCIENT [FR]	Systems, devices, and methods for high-throughput non-contact characterization of materials via vibrational signatures
WO2024079464	STRATASYS POWDER PRODUCTION LTD [GB]	Method of operation for an apparatus for layer-by-layer manufacture of 3D objects
EP4389324	ROSEMOUNT AEROSPACE INC [US]	A method of manufacturing an object
WO2024097308	DIVERGENT TECH INC [US]	Depowdering of 3D-printed structures
EP4368319	GEN ELECTRIC [US]	Liquid and powder material handling systems within additive manufacturing and methods for their use
WO2024078993	UNIV BRAUNSCHWEIG TECH [DE]; HERRHAMMER GMBH SPEZIALMASCHINEN [DE]	Wax formwork production device and method for producing a wax formwork
WO2024133692	VOXELJET AG [DE]	Printhead unit and method for constructing molded parts in layers

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024110739	STRATASYS POWDER PRODUCTION LTD [GB]	Apparatus for layerwise manufacture of 3D objects and method of operation
EP4368372	GEN ELECTRIC [US]	Build material escapement assembly and additive manufacturing system including same
WO2024136948	WORCESTER POLYTECH INST [US]	Hollow extrusion nozzle
WO2024142068	STRATASYS LTD [IL]	Adhesive and/or coating formulations usable in three-dimensional printing on fabric
WO2024097752	DENTSPLY SIRONA INC [US]	Controlled local modification of volumetric physical properties
WO2024126952	ADDUP [FR]	Device and method for additive manufacturing with a protective gas flow for protecting an optical access window
WO2024068680	DIHESYS DIGITAL HEALTH SYSTEMS [DE]	Printing device for additive manufacturing processes, including screw device for material supply
EP4374993	HOWMEDICA OSTEONICS CORP [US]	Additive manufacturing build removal device and system
EP4371734	ZERO D [FR]	Reinforced filament extrusion tooling for additive manufacturing
EP4355555	FABULOUS [FR]	Additive manufacturing method, polymer powder composition comprising a detection additive, and object obtained by the method
WO2024089344	SAFRAN ADDITIVE MFG CAMPUS [FR]	Depowdering device and depowdering method
WO2024081265	DIVERGENT TECH INC [US]	Tuned support geometries for additive manufacturing support removal and methods of use thereof
WO2024141861	3M INNOVATIVE PROPERTIES COMPANY [US]	Devices and methods for post-processing additive-manufactured workpieces
WO2024114199	SHENZHEN CREALITY 3D TECH CO LTD [CN]	Extrusion apparatus and 3D printing device
WO2024103874	AIXWAY3D JIANGSU CO LTD [CN]	Supporting structure for 3D printing and cantilever printing method
WO2024087421	UNIV NANJING AERONAUTICS & ASTRONAUTICS [CN]	Wire feeding mechanism suitable for fused deposition additive manufacturing of flexible wire
EP4368373	GEN ELECTRIC [US]	Systems for fluid supply containment within additive manufacturing apparatuses
EP4389395	KRONES AG [DE]	Method and device for producing a container comprising fibres using a mould and/or dry module
EP4360781	RTX CORP [US]	Powder extraction tool
EP4393682	UNIV NANJING AERONAUTICS & ASTRONAUTICS [CN]	Wire feeding mechanism suitable for fused deposition additive manufacturing of flexible wire
WO2024096474	UNITECH3DP INC [KR]	3D printing device

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Productos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024080925	UNIV NANYANG TECH [SG]	Method of precision 3D printed glassy carbon
WO2024121653	FIAT RICERCHE [IT]	"A motor-vehicle structural node"
WO2024127106	MASERATI SPA [IT]	A suspension fork of a motor-vehicle wheel made by means of an additive manufacturing
WO2024097682	SWIFT HEALTH SYSTEMS INC [US]	Indirect bonding tray for gum compatibility
WO2024094275	3 PSI LTD [CY]	A method for designing an artificial joint implant and corresponding broaching and osteotomy guide apparatuses and a digital implant platform thereof
WO2024116120	REGENICS AS [NO]	Matrices for wound healing
WO2024132866	COMMISSARIAT ENERGIE ATOMIQUE [FR]; RENAULT SAS [FR]	Heat exchanger made of polymer
WO2024099488	POSEDLA S R O [CZ]	3D printed material with a variably flexible internal structure, in particular for the production of sports equipment
WO2024090478	CANON KK [JP]	Photocurable resin composition
WO2024086178	MARY HITCHCOCK MEMORIAL HOSPITAL FOR ITSELF AND ON BEHALF OF DARTMOUTH HITCHCOCK CLINIC [US]	Expandable endotracheal tube and method for use of same
WO2024106234	MITSUI CHEMICALS INC [JP]	Resin powder, three-dimensional molded article, and method for producing three-dimensional molded article
WO2024100341	SAFRAN ELECTRICAL & POWER [FR]	Battery cell heat transfer circuit incorporated into the base of the battery and associated manufacturing method
WO2024124342	MACDONALD DETTWILER AND ASSOCIATES CORP [CA]	Wide band antenna feed chain device
WO2024090694	DAEGU GYEONGBUK INST SCIENCE & TECH [KR]	Method for manufacturing polymer-based microneedle patch and microneedle patch manufactured thereby
WO2024137275	APPLIED MATERIALS INC [US]	Uv curable printable formulations for high performance 3D printed cmp pads
WO2024117203	MITSUI CHEMICALS INC [JP]	Photocurable composition, three-dimensional shaped article, dental product, and splint
WO2024089355	SAFRAN ELECTRONICS & DEFENSE [FR]	Connection element for infrared vision equipment
WO2024079567	SOLVENTUM INTELLECTUAL PROPERTIES COMPANY [US]	Dental appliance, system, and method
WO2024085227	KJ CHEMICALS CORP [JP]	Photopolymerization initiator
EP4382784	CERATIZIT HARD MAT SOLUTIONS S A R L [LU]	Movable structure element

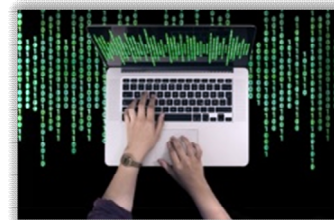
Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024134108	COMMISSARIAT A LENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES CEA [FR]; RENAULT SAS [FR]	Monolithic cushion
WO2024121418	CENTRE HOSPITALIER UNIV VAUDOIS CHUV [CH]; ECOLE POLYTECHNIQUE FED LAUSANNE EPFL [CH]	Article of orthopedic footwear
WO2024112896	OPT IND INC [US]	Additively-manufactured substrate for vibratory conveying
WO2024133035	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Architected lattice structure for a device having a flexible interface
WO2024092041	ALIGN TECHNOLOGY INC [US]	Curable compositions comprising a polymerizable reactive diluent for fabrication of orthodontic appliances
WO2024129925	AARKEL TOOL AND DIE INC [US]	System and method for mold insert venting and venting gas entrapment in any molding device
WO2024121005	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Heat exchanger with cellular structure
WO2024120583	3D MICROPRINT GMBH [DE]	Tool for use as a micromanipulator and method for producing the tool
WO2024091173	BAETTRE DESIGN GOETEBORG AB [SE]	Liquid heater and a method for manufacturing a liquid heater
WO2024133025	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Architected lattice structure
WO2024079442	EPROPELLED INC [US]	Electric machine having a high fill factor
WO2024086289	DIVERGENT TECH INC [US]	Combination additive manufactured structures and methods
EP4353113	ASICS CORP [JP]	Footwear
EP4353168	KUMOVIS GMBH [DE]	3D printed semi-finished part for medical implant manufacturing and medical implant thereof
EP4382757	GOODRICH CORP [US]	Self-locking bushings
WO2024118894	MARSHALL UNIV RESEARCH CORPORATION [US]	Methods and systems for characterizing porosity of additively manufactured bone scaffolds
WO2024086372	SPINTRAY INC [US]	System and method of adjusting dental appliances using additive manufacturing
WO2024126332	NEXA3D APS [DK]	Sacrificial additively manufactured mold with controlled moisture and liquid absorption properties
WO2024141321	BASF SE [DE]; BASF CHINA CO LTD [CN]	Photocurable hyperbranched polyimide and preparation process thereof
WO2024086251	DIVERGENT TECH INC [US]	Crashworthy alloy
WO2024103111	COMMW SCIENT IND RES ORG [AU]	Static mixer element
WO2024084040	CELLINK BIOPRINTING AB [SE]; ALLEGRO 3D INC [US]	An aqueous bioink solution for use in light-based bioprinting applications, and methods of using the aqueous bioink solution
EP4368394	JOTO TECHNO CO LTD [JP]	Resin composition for 3D printing device, filament for 3D printing device, fabricated object, and pellet for 3D printing device
WO2024125912	RODENSTOCK GMBH [DE]	Additive modification of an optical lens
WO2024122692	GRAPHY INC [KR]	Photocurable composition for 3D printer
WO2024081614	COLOSSAL BIOSCIENCES INC [US]	Three-dimensional co-culture system for embryos cultured in vitro and uses thereof

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024126385	MICHELIN & CIE [FR]	Method for manufacturing an airless tyre by additive manufacturing
WO2024127105	SOLVENTUM INTELLECTUAL PROPERTIES COMPANY [US]	Transfer apparatus for orthodontic appliances and related methods of manufacturing
WO2024120579	CELLBRICKS GMBH [DE]	3D fat tissue structure, produced using light-based structuring curing, for use as a breast implant
WO2024097212	MELD MFG CORPORATION [US]	Aluminum lithium alloy and aluminum copper alloy parts produced using solid state manufacturing
WO2024134588	TUBIFLEX SPA [IT]	Gimbal compensator
WO2024133187	ON CLOUDS GMBH [CH]	Method for producing a shoe component and shoe component
WO2024134653	PRECISE BIO 3D LTD [IL]	Bioengineered corneal grafts
WO2024108082	APRECIA PHARMACEUTICALS LLC [US]	Orodispersive dosage forms containing droxidopa
EP4379794	SIEMENS AG [DE]	Pulsating heat pipe support device, power module, and computer program product
WO2024115309	SULZER MANAGEMENT AG [CH]	Granulating device for producing pellets of a polymer core being coated with at least one layer of a polymeric and/or non-polymeric material, related method and pellet
WO2024110805	SOLVENTUM INTELLECTUAL PROPERTIES COMPANY [US]	Curable composition for use in a process of treating a dental situation in the mouth of a patient
EP4375049	META PLATFORMS TECH LLC [US]	A three-dimensional optical structure and a method for producing a three-dimensional optical structure
EP4351879	DREAMWELL LTD [US]	Bedding components including additively manufactured polymeric lattice structures
EP4353411	ERNST ABBE HOCHSCHULE JENA [DE]; GUENTER EFFGEN GMBH [DE]	Tool for removing material and method for producing same
EP4353111	TAUSCH CHRISTIAN [DE]; RING DOMINIC JASON [DE]	Shoe insert, in particular an individual and/or orthopaedic shoe insert, method for producing a shoe insert and computer program product
EP4353114	ASICS CORP [JP]	Footwear
EP4371523	BIOTECH DENTAL [FR]	Surgical guide for the placement of dental implants
EP4357055	SCHUNK SE & CO KG SPANNTTECHNIK GREIFTECHNIK AUTOMATISIERUNGSTECHNIK [DE]	Expansion clamping device for fixing a component
EP4368215	D & D S R L [IT]; UNIV DEGLI STUDI GENOVA [IT]	Resorbable device for bone regeneration
EP4374818	IVOCLAR VIVADENT AG [LI]	Method for producing a dental restoration
EP4364872	RTX CORP [US]	Additive manufactured component including textured witness lines
EP4389392	CQLT SAARGUMMI TECH SARL [LU]	Extrusion tool for producing a plastic component, extrusion system, method for producing an extrusion component, and extrusion component
EP4379327	LANDIS & GYR GMBH [DE]	Cover assembly for a utility meter
EP4385736	RTX CORP [US]	Variable passages to optimize delta p and heat transfer along flow path
EP4360801	WALTER AG [DE]	A blank for a rotary metal cutting tool
EP4385642	FYZIKALNI USTAV AV CR V V I [CZ]	Composite material

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4385530	UNIV GENT [BE]	Scaffolds for tissue engineering, moulds for casting said scaffolds and methods thereof
EP4375624	LANDIS & GYR GMBH [DE]	A housing for enclosing a measurement part of a fluid flow meter
EP4353112	ASICS CORP [JP]	Footwear
EP4385710	ECOLE POLYTECHNIQUE FED LAUSANNE EPFL [CH]	An apparatus and a method for sealing an opening in a small tubular vessel
EP4371583	BIOTECH DENTAL [FR]	New bone regeneration device
EP4389423	HAMILTON SUNDSTRAND CORP [US]	Heat exchanger mount with internal flow passage
WO2024080326	MITSUCHI CORP [JP]	Method for manufacturing high-strength component having exceptional resistance to hydrogen embrittlement
EP4385452	STRATASYS INC [US]	Dental aligner of biodegradable material
WO2024082029	UNIV WESTERN AUSTRALIA [AU]	Mew tissue scaffold

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Procesamiento de Datos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024100248	CREATE IT REAL AS [DK]	Removal of printed articles from a 3D printer
WO2024076024	OSSTEM IMPLANT CO LTD [KR]	Method for providing layer image for 3D printing, and device for implementing same
EP4385711	NANO DIMENSION TECH LTD [IL]	Tile optimization
WO2024125983	IBM [US]; IBM UK [GB]	Three-dimensional printing using configurable movement tracks
EP4371735	AUTODESK INC [US]	Process-aware additive computer aided manufacturing
WO2024132758	MICHELIN & CIE [FR]	Loop compensator for regulating the feed to a 3D printer
WO2024110701	BOICHUT MYRIAM [FR]	System for heating a chamber for a 3D printer for the manufacture of polymer parts
WO2024101526	T & R BIOFAB CO LTD [KR]	3D printer head using local heating method
WO2024136643	ULTIMAKER BV [NL]	Adaptive cooling in additive manufacturing
EP4364927	CENTRE NAT RECH SCIENT [FR]; UNIV STRASBOURG [FR]; INSTITUT NAT DES SCIENCES APPLIQUEES [FR]	A nozzle for 3D printing, a system to control said nozzle and a 3D printing device comprising said system
EP4382229	XEROX CORP [US]	Additive manufacturing systems and methods for the same
WO2024085274	FOCUSVISION INC [KR]	3D printer
WO2024076230	ULTIMAKER BV [NL]	Method of printing a three-dimensional object with an additive manufacturing device
WO2024088841	VIKELA ARMOUR LTD [GB]	Method and apparatus for manufacturing ultra-high molecular weight polyethylene structures incorporating graphene
EP4353452	CREATE IT REAL AS [DK]	An article formed by respective layers
WO2024142044	STRATASYS LTD [IL]	Apparatus and methods for 3D printing using 3D filtering masks
WO2024089173	DIRECTEDMETAL 3D S L [ES]	Laser devices and methods for laser metal deposition
WO2024122914	CHAE HYEOK JU [KR]	Big data-based artificial organ production system
EP4369078	ZEISS CARL VISION INT GMBH [DE]	Computer-implemented method for calculating a digital twin of a spectacle lens
WO2024103113	COMMW SCIENT IND RES ORG [AU]	Machine-learning based method and system for design of mixing devices
WO2024088914	INSTITUT NATIONAL DE RECH EN INFORMATIQUE ET EN AUTOMATIQUE [FR]	Device for generation of a three-dimensional object that encodes data by additive manufacturing



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