

VT

PATENTES

IMPRESIÓN 3D

20



OBJETIVOS
DE DESARROLLO
SOSTENIBLE



Vigilancia
Tecnológica
4º 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



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 cuarto trimestre de 2024, distribuidas en cinco apartados: procesos, materiales, dispositivos, productos y procesamiento de datos.

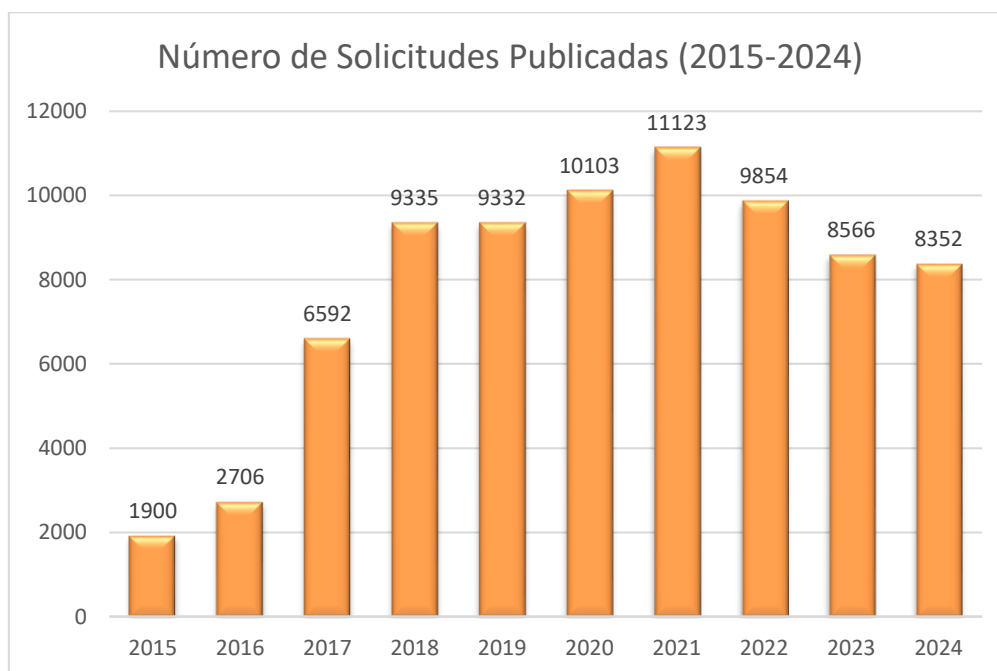
Para cada patente se incluye su número de publicación, con un enlace que permite la consulta del documento completo, el solicitante, el país de origen y su título.

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*](#).

ANÁLISIS ESTADÍSTICO DE LAS SOLICITUDES DE PATENTE PUBLICADAS EN EL PERIODO 2015-2024

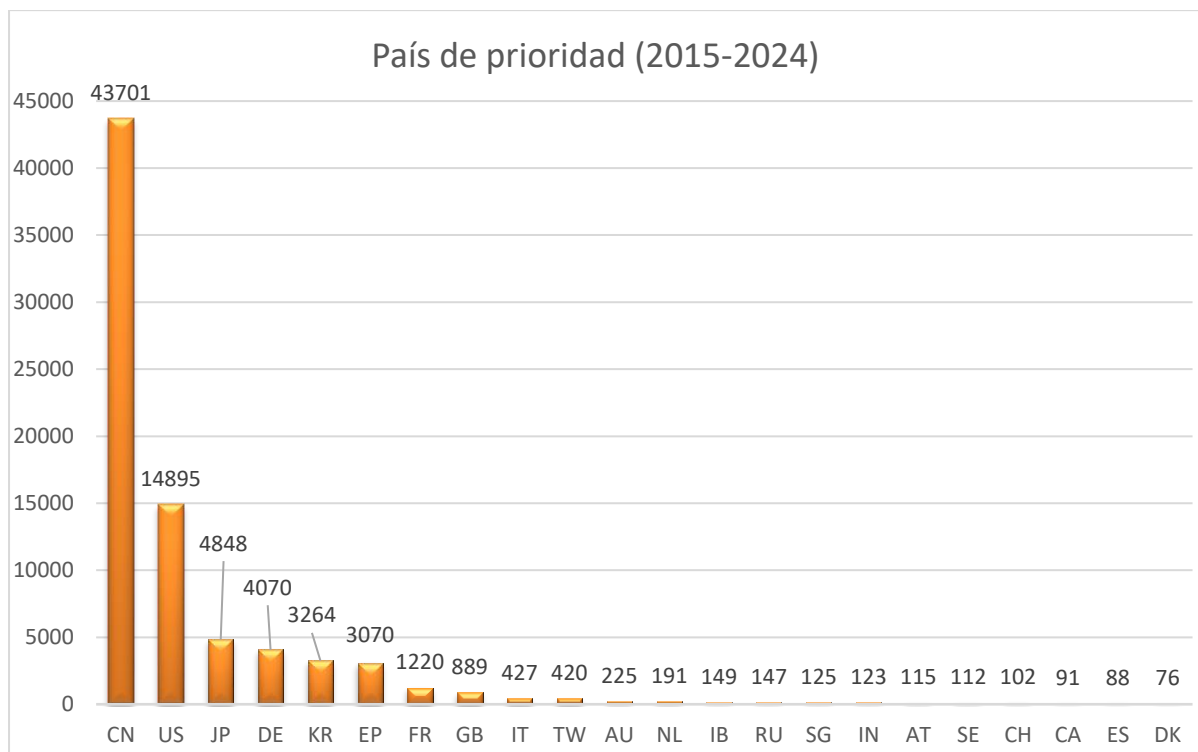
Se ha realizado un estudio estadístico con el fin de analizar la evolución tecnológica de la Impresión 3D en lo que respecta a la protección de invenciones por medio de patentes de invención. Se han extraído los datos de las publicaciones de solicitudes de patentes publicadas desde el año 2015 hasta el 2024, recopilando de ésta forma las tendencias en términos de innovación para esta tecnología de los últimos años. La herramienta empleada para este estudio ha sido Global Patent Index (GPI) de la Oficina Europea de Patentes, extrayéndose los datos a fecha de 10/01/2025. Se han recuperado un total de 72.220 familias de patentes, que corresponden a 198.416 documentos de patente.

En la Gráfica 1 se recoge la evolución del número de solicitudes del sector desde el año 2015. Se observa como tras un acusado crecimiento del año 2016 a 2018, desde el 2019 parece haberse estabilizado el número de publicaciones sobre tecnología de impresión 3D en los últimos años, destacando un despunte en 2021.



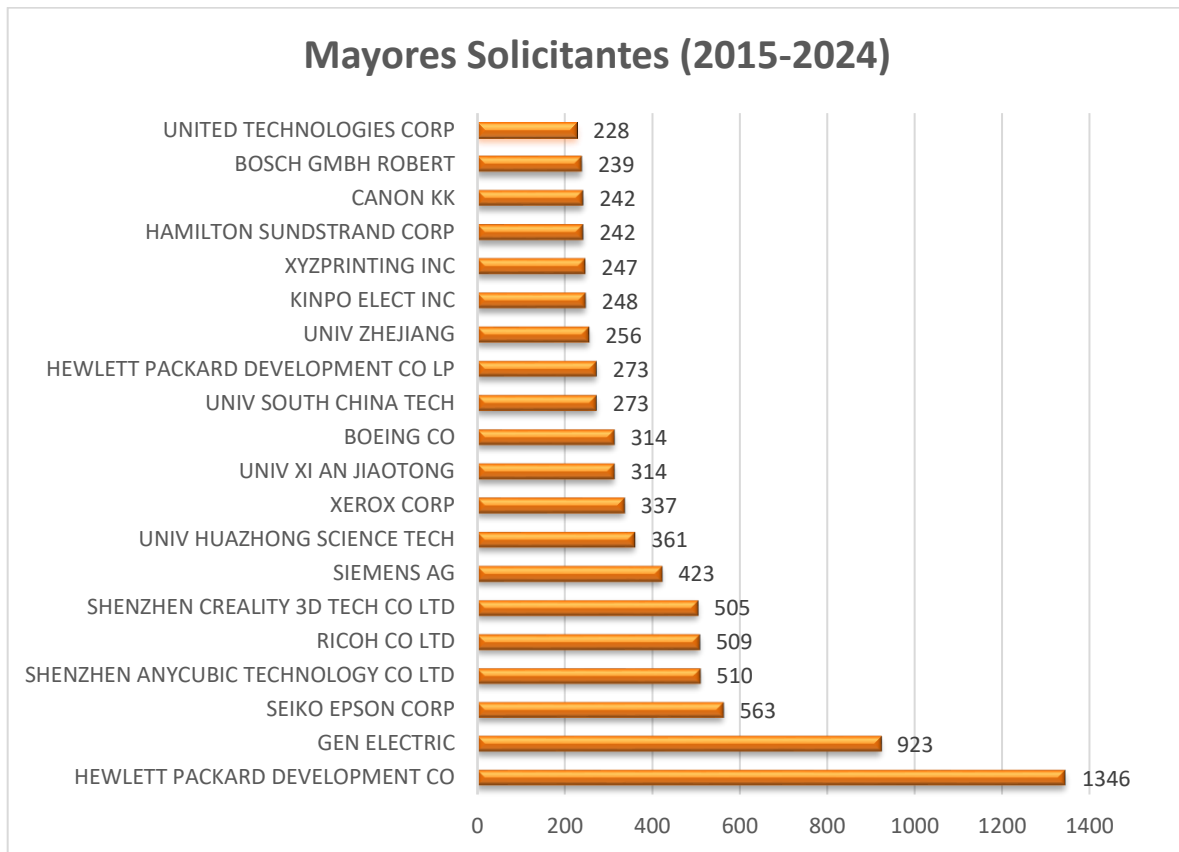
Gráfica 1. Número de solicitudes publicadas por año desde el 2015 hasta el 2024

La Gráfica 2 agrupa los documentos de patente recuperados con relación al país de origen de la tecnología de impresión 3D. Se puede apreciar que China figura en primer lugar, con una enorme diferencia respecto del segundo país con mayor número de publicaciones, que es Estados Unidos. En el caso de España, nuestro país figura en el puesto número 21, mismo puesto en que figuraba en el año 2023, en este caso con 88 patentes publicadas.



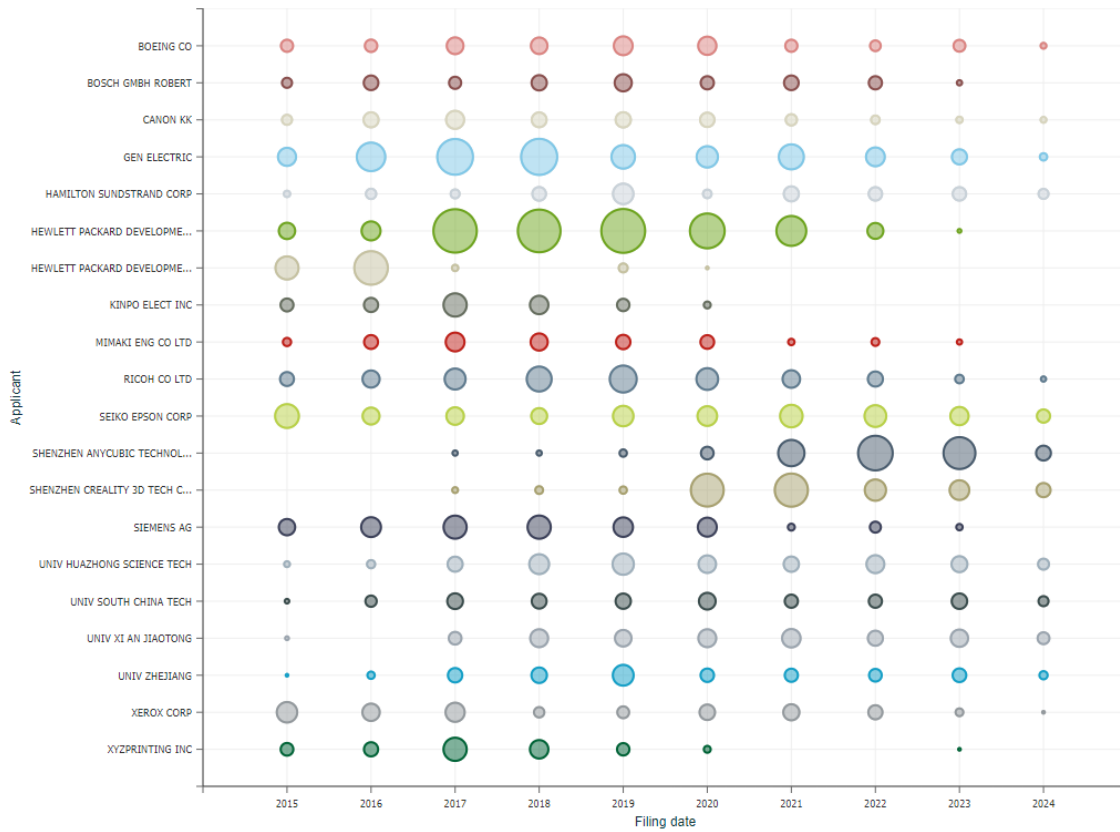
Gráfica 2: Documentos de patente agrupados por país de prioridad

La Gráfica 3, se muestra la relación de los solicitantes con mayor número de patentes publicadas en relación con la tecnología de Impresión 3D. Se observa que, de manera casi exclusiva, los grandes titulares de la innovación son empresas, destacando la empresa Hewlett Packard como líder del sector.



Gráfica 3: Mayores solicitantes de solicitudes de patente

Para finalizar, la Gráfica 4 plasma la actividad innovadora de las mayores empresas en el sector, año a año. Se puede observar que, para las empresas más punteras, los años 2017 a 2019 se aprecia un crecimiento considerable en el sector, que se ha estabilizado desde entonces.



Gráfica 4: Actividad en la solicitud de patentes año a año de los mayores solicitantes de patentes de impresión 3D.

Procesos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024237926	MIGHTY BUILDINGS INC [US]	3D-printed integrated wall panel assembly
WO2024229533	KDH ADVANCED RES PTY LTD [AU]	3D printing methods and light guides made therefrom
WO2024205466	BAE SYSTEMS BOFORS AB [SE]	Breach block for a firing device and method for the manufacturing of a breach block for a cannon
WO2024239334	SHENZHEN INST OF ADV TECH CAS [CN]	Collapse compensation method and device for variable-diameter-fiber extrusion 3D printing
WO2024260582	ARLANXEO DEUTSCHLAND GMBH [DE]	3D-printable compositions comprising polylactic acid and a crosslinked functional ethylene-vinyl acetate copolymer
WO2024241216	3D4MEC SRL [IT]	Container for storing hydrogen in a solid state
WO2024256207	RENAULT SAS [FR]	Method for manufacturing a large-sized cushion by 3D printing
EP4481160	RTX CORP [US]	Support structure for forming turbine engine rotating structure
EP4458492	HOWMEDICA OSTEONICS CORP [US]	Breakaway covers for use in processing build structures with porous regions
EP4467456	ROSEMOUNT AEROSPACE INC [US]	Additive manufactured permanent magnets in magneto strictive oscillating ice detector sensors
WO2024246384	PETERS SYLLM STEPHAN [ES]	3D-printed splint for immobilising limbs or the pelvis
WO2024220544	UNIV ILLINOIS [US]	Additive manufacturing of three-dimensional solid parts by self-propagating curing reactions
WO2024240278	SCHAEFFLER TECHNOLOGIES AG [DE]	Tool half of a casting tool, and additive manufacturing method for producing a tool half
WO2024260449	UNIV CITY HONG KONG [CN]	Shape memory ceramics and manufacturing and 4D printing methods thereof
WO2024262823	SAMSUNG ELECTRONICS CO LTD [KR] KYUNGPOOK NAT UNIV IND ACADEMIC COOP FOUND [KR]	Exterior cover, electronic device comprising same, and manufacturing method therefor
WO2024207794	SHENZHEN TUOZHU TECH CO LTD [CN]	Printing plate for three-dimensional printer and three-dimensional printer
WO2025001024	ENOVATE3D HANGZHOU TECH DEVELOPMENT CO LTD [CN]	Preparation method for morphology-controllable microlens array, microlens array, use, and 3D printing device
WO2024201473	PORGES LILACH [IL]	System and method for manufacturing a custom fit garment
WO2024259640	TRIASTEK INC [CN]	Flexible, extendable, and modularized pharmaceutical additive manufacturing system
WO2024226194	APPLIED MATERIALS INC [US]	Elastomer bonded door for vacuum systems

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024207561	UNIV ZHEJIANG [CN]	Design and manufacturing method and system for 3D printing cavity structure with controllable deformation
WO2024251299	BEIJING RESEARCH INSTITUTE OF MECHANICAL & ELECTRICAL TECH CO LTD CAM [CN]	Thermal insulation plate for vacuum isothermal forging, thermal insulation device, preparation method, and application
WO2024262400	SHINETSU CHEMICAL CO [JP]	Method for producing three-dimensional (3D) molded article using room temperature-curable organopolysiloxane composition, and three-dimensional (3D) molded article produced using said method
WO2024226472	VADIENT OPTICS LLC [US]	Multi-material halftoning of additively manufactured optics
WO2024234104	FINGERPRINT TECH CORP [CA]	Bicycle, a bicycle frame thereof and a method of manufacturing the same
WO2024227158	PLASTIPAK PACKAGING INC [US]	Mold insert, mold assembly, and system
WO2024231790	NAT RES COUNCIL CANADA [CA]	Micro-optics fabrication using tomographic additive manufacturing
WO2024254697	EVIDENT CANADA INC [CA]	Flexible probe cushion for non-destructive test
WO2024224701	NIPPON CHUZO K K [JP]	Casting method and member therefor
WO2024227048	ADDIGURU LLC [US]	Determination and mitigation of anomalous interlayer temperature in manufacturing processes
WO2024227484	SCHAEFFLER TECHNOLOGIES AG [DE]	Tool half of a casting tool and additive manufacturing method for producing the tool half
WO2024217629	MTU AERO ENGINES AG [DE]	Method for smoothing at least one surface region of a duct of an additively manufactured component of an aircraft engine
EP4470714	RTX CORP [US]	Hybrid additive manufacturing repair method
EP4470694	HONEYWELL INT INC [US]	Systems and methods for producing cold sprayed components with coatings thereon
EP4438218	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Method for welding of two metallic workpieces by laser melting and then cooling with powder inerting
EP4455250	MERCK PATENT GMBH [DE]	Method for producing a high-frequency device, use of a polymerizable liquid crystal medium for producing a highfrequency device, and high-frequency device
EP4450188	GEN ELECTRIC [US]	Methods for additive manufacturing parts with integrated sacrificial supports
EP4450192	HOWMEDICA OSTEONICS CORP [US]	Implant support structure and method of fabrication of implant using the same
ES2991116	PETERS SYLLM STEPHAN [DO]	Ferula para inmovilizar extremidades o pelvis impresa en 3D
ES2989810	UNIV LA LAGUNA [ES]	Procedimiento de obtencion de un catalizador por impresion en tres dimensiones, catalizador obtenible y uso del mismo
WO2025007111	OHIO STATE INNOVATION FOUNDATION [US] US GOV ADMINISTRATOR OF NASA [US]	Endoscopic additive manufacturing of conductors and wireless implants
WO2025000102	VANQUISH HOCKEY LTD [CA]	3-dimensional printed sporting implement and method of manufacture thereof

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024263587	ADDITIVE TECH LLC DBA ADDITEC [US]	Variable line spacing print method for unsupported features in three-dimensional objects
WO2024255952	SCHAEFFLER TECHNOLOGIES AG [DE]	Method for producing a plate assembly, plate assembly and electrochemical cell
WO2024259403	STEAKHOLDER FOODS LTD [IL] THE IP LAW FIRM OF GUY LEVI LLC [US]	Materials and liquid handling system for cultivated and plant-based foods
WO2025007152	BEEHIVE IND LLC [US]	Systems and methods for using a segmented scan pattern to build large single crystal objects
WO2024263588	ADDITIVE TECH LLC DBA ADDITEC [US]	Bimetallic composite parts and methods thereof
WO2024254502	BEEHIVE IND LLC [US]	Forming a single crystal structure during additive manufacturing
WO2024232797	BAE SYSTEMS BOFORS AB [SE]	Breech block for a cannon and method for the manufacturing of a breech block for a cannon
WO2024258205	CJ CHEILJEDANG CORP [KR]	Implant comprising biodegradable polymer, manufacturing method therefor, and composition therefor

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Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024210802	TEKSIC AB [SE]	Material for additive manufacturing and uses thereof
WO2024262948	TOP TABLE INC [KR]	Three-dimensional food item printing system and three-dimensional food item printing method
WO2024252788	TOKYO BRAZE CO LTD [JP]	Brazing material, brazing member, and method for manufacturing said material and member
WO2024241943	HELICAL FUSION CO LTD [JP]	Non-magnetic austenitic steel, and magnetic field confinement-type nuclear fusion device comprising same
WO2024244622	BEIJING AK MEDICAL CO LTD [CN]	Medical magnesium alloy and preparation method therefor
WO2024210212	JAPAN POLYETHYLENE CORP [JP]	Resin composition for 3D printer and formed article of resin composition
WO2024248099	KURARAY NORITAKE DENTAL INC [JP]	Stereolithographic resin composition
WO2024214654	MITSUI CHEMICALS INC [JP]	Method for producing cured composite resin, curable resin composition, ink, ink set, and cured object
WO2024210849	UNIV NANYANG TECH [SG]	3D printed dielectric elastomer actuator
WO2024248007	KIGUCHI TECHNICS INC [JP] NATIONAL UNIV CORPORATION SHIMANE UNIV [JP]	Method for producing tial-based alloy and tial-based alloy
WO2024260561	RAYO 3D BIOTECH OY [FI]	A method for producing and using a complex fluid
WO2025002659	SIRRIS [BE] MATERIA NOVA [BE]	Metal-coated aluminium alloy particles, process for producing same, and additive process using the coated, aluminium alloy-particles
EP4480705	SSAB TECHNOLOGY AB [SE]	Steel powder for use in additive manufacturing processes
WO2025006934	3D SYSTEMS INC [US]	Method and composition for redeploying a polymer feedstock
EP4470756	RTX CORP [US]	Non-planar toolpaths for material extrusion having crossing toolpaths
WO2024246209	ROLEX SA [CH]	Lightweight and robust timepiece component
WO2024246292	ROLEX SA [CH]	Light-weight and robust timepiece component
WO2024226060	HEWLETT PACKARD DEVELOPMENT CO [US] UNIV NANYANG TECH [SG]	Three-dimensional printing
EP4454785	CERATIZIT AUSTRIA GMBH [AT]	Material for additive extrusion-based component production
WO2024238357	PPG IND OHIO INC [US]	Method of improving the reactivity of compositions that include epoxy functional compounds and compositions derived therefrom

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024232768	POLBIONICA SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA [PL]	A pre-crosslinking process, a bio-ink composition comprising a pre-crosslinked
WO2024208450	DURST GROUP AG [IT]	Support structure for material jetting
WO2024228032	CARCINOTECH LTD [GB]	Cancer models
WO2024237059	KAO CORP [JP]	Resin composition
WO2024219545	EZ CERAM FORUM CO LTD [KR]	Ceramic bracket for orthodontics
WO2024216019	PURDUE RESEARCH FOUNDATION [US]	Flexible pressure sensors, robot hands, and methods of fabrication
WO2024232675	SAMYANG CORP [KR]	Photosensitive resin composition, 3D-printed object formed therefrom, and manufacturing method therefor
WO2024234436	CHINA MACHINERY INSTITUTE OF ADVANCED MAT ZHENGZHOU CO LTD [CN]	Preparation method for and application of crack-resistant nickel-based high-temperature alloy powder
WO2024232253	CHUO MALLEABLE IRON CO LTD [JP]	Metal powder material for deposition modeling, modeling method for three-dimensional model, and three-dimensional model
WO2024227160	SAVARY ROUZBEH [US] EMINOV SANAN [US] C CRETE TECH LLC [US]	Compositions and methods of making cementitious binders with low CO2 footprint
WO2024249802	UNIV CALIFORNIA [US]	3D epithelial organoid culture systems and methods
EP4471506	ROLEX SA [CH]	Lightweight and robust timepiece component
EP4484436	IVOCLAR VIVADENT AG [LI] UNIV WIEN TECH [AT]	Radical polymerisable materials for producing dental moulded bodies with low discoloration
EP4450186	SANDVIK MACHINING SOLUTIONS AB [SE]	Managing steel powder free from co, ti, and al
WO2024208793	BASF SE [DE] BASF CHINA CO LTD [CN]	Thermoplastic polymer powder composition and use in producing lightweighted 3d objects
WO2024223794	AMSILK GMBH [DE]	Method for producing a collagen and silk polypeptide composite structure
EP4461535	SSAB TECHNOLOGY AB [SE]	Steel powder for use in additive manufacturing processes
EP4470753	RTX CORP [US]	Material extrusion with selectively added infill material
EP4480604	TECHNISCHE UNIV BERGAKADEMIE FREIBERG KOERPERSCHAFT DES OEFFENTLICHEN RECHTS [DE]	Method for producing metal powder
EP4446038	RTX CORP [US]	Mitigating down skin effects in additive manufacturing
EP4445923	UNIV HANNOVER GOTTFRIED WILHELM LEIBNIZ [DE]	Dimensionally stable gelatin-based bone implant
WO2024249404	PENN STATE RES FOUND [US]	Extrusion and characterization of compounded recycled polyethylene terephthalate (rpet) filaments for material-extrusion additive manufacturing
WO2024237865	UNIV NANYANG TECH [SG] NAT UNIV SINGAPORE [SG]	Hydrogel ink, hydrogel and uses thereof
WO2024254696	UNIV OTTAWA [CA] SPIDERWORT INC [CA]	Plant-based scaffolds and tunable hydrogels for bioprinting and methods thereof

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024258349	UNIV NANYANG TECH [SG]	Photo-crosslinkable and 3D printable amphibian collagen derivatives
WO2024242974	UNIV NORTHWESTERN [US]	Additive manufacturing of covalent organic framework devices via aerosol jet printing of colloidally stable inks and applications of same
EP4479355	TITAN AMERICA LLC [US]	Concrete composition suitable for 3-D printing and a method for 3-D printing of multiple layers of concrete

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Dispositivos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4484131	RTX CORP [US]	Powder bed fusion additive printer architecture for annular geometries
WO2024209761	EBARA CORP [JP]	Powder supply device
WO2024262192	KOBE STEEL LTD [JP]	Additive manufacturing method, additive manufacturing equipment, and program
WO2024242647	IFA MAKINA TASARIM MUHENDISLIK HIZMETLERI SANAYI VE TICARET LTD SIRKETI [TR]	A resin tank configuration for a 3D printer
WO2025004168	NISSAN MOTOR [JP]	Stereolithographic article for vehicle and method for producing same
WO2024253688	VULCANFORMS INC [US]	Compliant recoater assemblies, systems, and related methods
WO2024216359	DYZE DESIGN [CA]	Extruder head assembly for additive manufacturing machines
WO2024254890	GUANGDONG ADIT INTELLIGENT TECH CO LTD [CN]	Device and method for wire arc additive manufacturing of magnesium and aluminum dissimilar metals
WO2024250619	ORBEC INC [CN]	Image collection device calibration method and apparatus applied to 3D printer
WO2024250570	CHENGDU AIRCRAFT IND GROUP CO LTD [CN]	Filament feeding apparatus and method for fdm numerically controlled 3D printing device
WO2024251563	SIGNIFY HOLDING BV [NL]	A method for improved adhesion of polymers to the receiver item during 3D printing
WO2024256462	SAINT GOBAIN WEBER FRANCE [FR]	Print head for a system for three-dimensional printing of material
EP4464490	DYMAX ENG ADHESIVES IRELAND LTD [IE]	Chamber for curing a workpiece
WO2025006417	3D SYSTEMS INC [US]	Stereolithography apparatus for improving localized planarity of a transparent sheet
WO2024220387	3D SYSTEMS INC [US]	Rotational stereolithography for arcuate 3D articles
WO2024263034	ZAVHY COLLECTIVE B V [NL]	A system for three-dimensional printing of a concrete structure with a fresh cementitious mixture comprising reinforcement means
WO2024254624	DENTAL MFG UNIT GMBH [AT]	Device for producing a dental splint
WO2025006424	3D SYSTEMS INC [US]	Stereolithography apparatus for improving planarity of a transparent sheet

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024216315	PLASMICS GMBH [AT]	Extrusion head for the additive manufacturing of a shaped body
WO2024208425	AXTRA3D INC [US]	Additive manufacturing apparatus
WO2024241215	3D4MEC SRL [IT]	Method for producing a magnesium body by laser powder-bed fusion 3D printing
WO2024254170	LUNG BIOTECHNOLOGY PBC [US]	A high resolution printing system and a method of aligning pixelated tiles
WO2024223342	SIGNIFY HOLDING BV [NL]	Sustainable 3D printed sparkle and hide structure
EP4488040	UNIV SALAMANCA [ES]	Additive ultrasonic manufacturing system and method
EP4484130	RTX CORP [US]	Shrouded build plate for powder bed fusion additive printer
EP4458496	HAMILTON SUNDSTRAND CORP [US]	Rotating relative recoater and part orientation
EP4478232	FRAUNHOFER GES FORSCHUNG [DE]	Apparatus and method for restricting 3D printing
EP4467320	TING CHUNG WU [TW]	Filament spool dry box
EP4450258	CMS SPA [IT]	Additive manufacturing method
EP4454862	UNIV ZIELONOGORSKI [PL]	A system for self-levelling the table for 3D printers
WO2024261169	VITO NV [BE]	Improved additive manufacturing system and method
EP4471169	JFE STEEL CORP [JP]	Lamination molded article and method for manufacturing same
ES1311878	PIMIENTA RODRIGUEZ JAVIER [ES]	Impresora 3D multicolor
WO2024216295	UNIV SOUTHERN CALIFORNIA [US]	Continuous vat polymerization for three-dimensional printing
WO2025005899	KHALIP OLEG YUREVICH [UA]	Method for high-speed 3D printing of objects with a structured build surface using a liquid photopolymer and device for implementing same
WO2025005505	UNIJET CO LTD [KR]	3D printer cartridge
WO2024215728	ALTYMIK INC [US]	Additive manufacturing using carbon nanotubes and formulation for use in same
WO2024215644	FREEFORM FUTURE CORP [US]	Build plate with integrated cooling channels
WO2024254588	UNIV TEXAS TECH SYSTEM [US]	Capillary-embedded rapid adaptable multiscale bioprinting for engineering large vascularized tissues
WO2024261422	SAFRAN [FR]	System for producing a composite part by automated layup with tape preheating
WO2024211907	OHIO STATE INNOVATION FOUNDATION [US] WOLFF SARAH [US]	Methods and systems for additive manufacturing
WO2024209034	UNIV DANMARKS TEKNISKE [DK]	Print volume upscaling using multiple projectors in tomographic volumetric 3D printing

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024256591	XOLO GMBH [DE]	Apparatus for volumetric 3D-printing for forming a three-dimensional object
WO2024219542	GRAPHY INC [KR]	Method for manufacturing antibacterial denture by using three-dimensional printer, and antibacterial denture manufactured using manufacturing method
WO2024216245	LUXCREO INC [US]	Support structures for 3D printed orthodontic dental appliances and manufacturing methods thereof
WO2024206211	GOPAL PARTHASARATHY [US] KUNCHITHAPATHAM KARKUZHALI [US]	Custom three-dimensional printing of objects
WO2024215497	APPLIED MATERIALS INC [US]	Plating seal with improved surface
WO2024227162	OHIO STATE INNOVATION FOUNDATION [US]	Droplet impact-induced chemical release from structured fluids
WO2025002706	PUTZMEISTER ENGINEERING GMBH [DE]	Extruder device, extruder system and use
WO2024256137	TRUMPF LASER UND SYSTEMTECHNIK AG [DE]	Adjustment method, coater, and additive manufacturing device

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Productos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024220973	UNIV MICHIGAN REGENTS [US]	Additively manufactured formwork assemblies and sequential cast-in-place methods to create compression-based structures
WO2024243120	VADIENT OPTICS LLC [US]	Optimized additive manufacturing of optics
EP4470740	RTX CORP [US]	Additively manufactured graphite tooling
WO2024216082	ALIGN TECHNOLOGY INC [US]	Systems and methods for designing objects
WO2024224341	BOADLE CHRISTOPHER JOHN [GB]	Footwear lasts, methods of manufacturing thereof, and footwear made using the same
WO2024227544	MAHLE INT GMBH [DE]	Additively manufactured heat exchanger
WO2024233463	BAE SYS INF & ELECT SYS INTEG [US]	Additive manufacturing compatible liquid-cooled PCB chassis
EP4450658	GENERAL ELECTRIC TECHNOLOGY GMBH [CH]	Alloy compositions and articles formed of such compositions
WO2024257102	SHEBA IMPACT LTD [IL]	Patient specific instrumentation automation platform
WO2024247195	ZOZO INC [JP]	Thermal insulation material
WO2024258217	GRAPHY INC [KR]	Retainer and manufacturing method therefor
WO2024231752	SOLVENTUM INTELLECTUAL PROPERTIES COMPANY [US]	Process for producing a zirconia dental article
WO2024237771	LIM JOON RYUL [KR]	Acromioclavicular joint reduction or clavicle reduction and bone tunnel guide using 3D printer and manufacturing method therefor
WO2025003226	SIGNIFY HOLDING BV [NL]	Fdm printed housings providing improved ingress protection
WO2024246534	UCL BUSINESS LTD [GB]	Neck collar and method of manufacture
WO2024235585	DENTAL MFG S P A [IT]	Device for positioning a dental prosthesis in an articulator and method for providing it
EP4461538	AIRBUS OPERATIONS GMBH [DE]	Interior module with a compressible side edge and method of producing an interior module
EP4477981	HAMILTON SUNDSTRAND CORP [US]	Heat exchanger core design
WO2025005800	KILSDONK ROGER [NL] SPRANGERS HARRY [TH]	Method for manufacturing a lighting tube
WO2024246580	NUTISSU LTD [GB]	Biopinks for tissue engineering
WO2024231211	ALLNEX BELGIUM SA [BE]	A biobased radical curable composition for forming solid objects
WO2024220734	PONOMAREV EDWARD [US]; HARMS DONN K [US]	Device and method for footwear customization
WO2025005467	JEONG IN SUN [KR]	3D printing resin composition for transparent structure, fluorescent implant guide, and manufacturing method for composition and guide
EP4477984	HEATEX AB [SE]	Header for directing fluid to and from a heat exchanger body
WO2024259059	BEEHIVE IND LLC [US]	Impeller

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024224068	RUSTY DESIGN LTD [GB]	Biodegradable composite article and method of recycling
WO2024232571	ODS CO LTD [KR]	Design method of transparent orthodontic device and attachment for orthodontics
WO2024240806	VOLKSWAGEN AG [DE]; FRAUNHOFER GES FORSCHUNG [DE]	Method for producing function-relevant contents on the basis of regenerative, cell-based materials
EP4480429	KARL LEIBINGER ASSET MAN GMBH & CO KG [DE]	Implant and method for covering large-scale bone defects for thorax
WO2024251716	LORAMENDI S COOP [ES]	Sand core and sand core making method
WO2024220111	PRODUCT DEV FACTORY INC [US]	Systems and methods for computer aided manufacturing using an integrated scanner
EP4473931	UNIV DEGLI STUDI MAGNA GRAECIA DI CATANZARO [IT] ARGA MEDICALI S R L [IT]	Support device for a dynamic reference sensor for tracking in navigated maxillofacial surgery
EP4477417	VITA ZAHNFABRIK H RAUTER GMBH & CO KG [DE]	Method for producing a dental restoration
EP4471264	RTX CORP [US]	Acoustic treatment made by additive manufacturing
WO2024211902	33 MEDICAL INC [US]	Inverted contact-aided rolling element mechanisms and devices
EP4488610	HAMILTON SUNDSTRAND CORP [US]	Heat exchanger core layer design
EP4467402	GOODRICH AEROSPACE SERVICES PRIVATE LTD [IN]	Composite wiper arms
WO2024251687	VALEO SYSTEMES THERMIQUES [FR]	Heat exchange bundle for a heat exchanger and circulation of a fluid within this heat exchange bundle
EP4481252	HAMILTON SUNDSTRAND CORP [US]	Nonuniform wall thickness profile for teardrop pressure vessels
EP4446632	GOODRICH CORP [US]	Drain valve sealing arrangement
WO2024236245	ARIANEGROUP SAS [FR]	Casing for a rotary machine
WO2024261122	SURGICAL FUSION TECH GMBH [CH]	Implant, instrument, kit and method for implanting an implant
WO2024245512	KK WIND SOLUTIONS AS [DK]	Electrical distribution system with transition busbars
WO2025003613	SAFRAN SEATS [FR]	Composite panel
EP4481314	RTX CORP [US]	Composite heat exchange apparatus for a turbine engine
EP4461636	AIRBUS OPERATIONS GMBH [DE]	Transition for a sidewall to a monument in an aircraft and method of adapting a sidewall
WO2024245669	MICRO MATIC AS [DK]	A molded cask seal, use of said molded cask seal and an extractor tube assembly
WO2024252158	VIVO BAREFOOT LTD [GB]	A method and system for designing and manufacturing wearable articles
EP4450282	BOEING CO [US]	Cellular core for aircraft acoustic panel and method of manufacture

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Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024263190	HEWLETT PACKARD DEVELOPMENT CO [US] UNIV NANYANG TECH [SG]	Mechanical property prediction from manufacturing parameters for additive manufacturing
EP4467268	RTX CORP [US]	Predictive defect model for highly productive laser powder bed fusion additive manufacturing
EP4468193	RTX CORP [US]	Quality metric for predictive defect model for multi-laser powder bed fusion additive manufacturing
EP4464503	GEN ELECTRIC [US]	Systems and methods providing surface offsets for additive manufacturing
EP4467269	GENERAL ELECTRIC TECHNOLOGY GMBH [CH]	Additive manufacturing part marking system and process
WO2024215691	PROCTER & GAMBLE [US]	High speed laser processes for 3D forming of parts
WO2024228617	TECTONIC 3D SWIP B V [NL]	A method and system for comparing multiple polymeric materials for 3D printing
WO2024238445	GEN ELECTRIC [US] UT BATTELLE LLC [US]	Apparatus, systems, and methods for monitoring, regression analysis using calculation of phase diagram-based data mining for controlling sintering processes in powdered metallurgy
WO2024213321	SIEMENS ENERGY GLOBAL GMBH & CO KG [DE]	Method for preparing a process in additive manufacturing, and computer program product
WO2024244723	SHENZHEN CREALITY 3D TECH CO LTD [CN]	3D printing method, electronic device, and computer readable storage medium
WO2024220011	CELLINK BIOPRINTING AB [SE]	Calibrating a dispensing means of a 3D bio-printer
WO2024250621	ORBEC INC [CN]	Printing anomaly detection method, 3D printer and computer-readable storage medium
WO2024244724	SHENZHEN CREALITY 3D TECH CO LTD [CN]	Processing step detection method for 3D printing device, and electronic device and storage medium
WO2024207634	SHENZHEN ANYCUBIC TECHNOLOGY CO LTD [CN]	Control method for 3D printer, storage medium, and 3D printer
EP4442434	CANON PRODUCTION PRINTING HOLDING BV [NL]	Inkjet printing of three dimensional structures
WO2024212747	SHANGHAI LUNKUO TECH CO LTD [CN]	3D printing method and apparatus, and storage medium and computer program product
WO2024235075	SHENZHEN ANYCUBIC TECHNOLOGY CO LTD [CN]	Printing control method, photocuring printing device and additive manufacturing device
WO2024250620	ORBEC INC [CN]	Installation error acquisition method and apparatus, and 3D printer

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024244681	SHENZHEN CREALITY 3D TECH CO LTD [CN]	Automatic leveling method, electronic device and computer-readable storage medium
WO2024216246	BERNKRANT KEITH [US]; OLIVER SIMON [US]	Custom, user-specific firearm grip and method of manufacture
WO2024234799	SHENZHEN CBD TECH CO LTD [CN]	Group support unit generation method and apparatus, electronic device and storage medium
WO2024239477	NANJING CHAMLION LASER TECH CO LTD [CN]	Method for correcting distortion of optical engine of dlp printer
WO2024262421	BROTHER IND LTD [JP]	Data generation program and data generation device



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