

VT

PATENTES

IMPRESIÓN 3D

17



Vigilancia
Tecnológica
1º trimestre 2024

NIPO: 116-19-050-9

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 testar 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 primer 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
WO2024046422	ELKEM SILICONES SHANGHAI CO LTD [CN]	Method for additive manufacturing of wearable consumer goods
WO2024064650	VADIENT OPTICS LLC [US]	Grin lenses made by 3D printing monomer-based inks
WO2024013670	UNIVERSITA' DEGLI STUDI DI MILANO [IT]; FOND IRCCS "CA' GRANDA OSPEDALE MAGGIORE POLICLINICO" [IT]	Clear orthodontic aligner
EP4335569	PRATT & WHITNEY CANADA [CA]	Additively depositing braze material
EP4335607	JIN YA DIAN TECH CO LTD [TW]	Method of fabricating light-transmitting decorated molding article
WO2024030019	CYBE CONSTRUCTION BV [NL]	Method for manufacturing a module for a building using 3D concrete printing
WO2024047471	REOPHOTONICS LTD [IL]	Methods for printing a conductive pillar with high precision
WO2024047304	FAURECIA SIEGES DAUTOMOBILE [FR]	Method for manufacturing seat padding and padding associated therewith
WO2024059071	SKYPHOS IND INC [US]	Additive manufacturing platform, resin, and improvements for microdevice fabrication
EP4302967	ZEISS CARL VISION INT GMBH [DE]	Method for inkjet printing a spectacle lens
WO2024041782	TESA SE [DE]	Method for printing three-dimensional structures with reduced processing effort
WO2024038000	MERCK PATENT GMBH [DE]	Process for the manufacture of a solid pharmaceutical administration form
EP4328776	SIEMENS AG [DE]	Method for securely printing one or more three-dimensional objects visualized in a computer simulated virtual environment communicatively coupled to a blockchain network
WO2024048791	MITSUBISHI MATERIALS CORP [JP]; NAT UNIV CORP YOKOHAMA NAT UNIV [JP]	Metal member having three-dimensional regular skeleton structure, electrode having three-dimensional regular skeleton, water electrolysis apparatus, and fuel cell
WO2023247147	TRUMPF LASER & SYSTEMTECHNIK GMBH [DE]	Method for planning the local solidification of a layer of powder material when manufacturing a three-dimensional object layer by layer
WO2024038705	TOKUYAMA DENTAL CORP [JP]	Cationically polymerizable resin composition for 3D stereolithography and method for producing 3D stereolithography product
WO2024068684	UNIV DANMARKS TEKNISKE [DK]	System and methods for tomographic vat photopolymerization
WO2024073024	INKBIT LLC [US]	Frequency domain spatial packing for 3D fabrication

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024054947	UNIV CORNELL [US]	Polymerizable compositions, methods of making a polymer using same, and products thereof
WO2024059954	ALLARTA LIFE SCIENCE INC [CA]	Thiol-ene hydrogel
WO2024033569	BRINTER OY [FI]	Multi-material fluidic printing system and method of printing
WO2024028478	ARBURG GMBH CO KG [DE]	Support geometry
EP4339898	BOEING CO [US]	System and method for generating an infill geometry of a body
WO2024026100	NUTECH VENTURES [US]; RIENSCHÉ ALEX [US]; RAO PRAHALADA [US]; BEVANS BENJAMIN [US]; COLE KEVIN D [US]; YAVARI REZA [US]	Feedforward control of laser powder bed fusion

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Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024036300	MATERION CORP [US]	Method for producing a beryllium article
WO2024010720	DIFUSION INC [US]	Cardiac valve with early preferential polarization towards an M2 phenotype post-implantation, and method of implantation
WO2024004696	UNIV OSAKA [JP]; NAGASE CHEMTEX CORP [JP]	Method for manufacturing three-dimensional object and ink set for manufacturing three-dimensional object
EP4331811	UNIV STUTT GART [DE]	Demand-matched water-soluble support structures for additive manufacturing
WO2024059302	L LIVERMORE NAT SECURITY LLC [US]	High throughput materials screening
WO2024047317	UNIV DARTOIS [FR]; UNIV LILLE [FR]; CENTRE HOSPITALIER UNIV DE LILLE; INST NAT SANTE RECH MED [FR]; ECOLE NAT SUPERIEURE MINES TELECOM LILLE DOUAI [FR]; JUNIA [FR]	Surgical insert and bone cement
WO2024051928	AM EXTRUSION GMBH [DE]	Material for additive manufacture of three-dimensional components with a printing process
WO2024044063	JABIL INC [US]	Producing semi-crystalline polycarbonate and use thereof in additive manufacturing
WO2024043029	TORAY INDUSTRIES [JP]	Polymer particles and polymer particle composition for producing three-dimensional shaped article, production method for polymer particles, and three-dimensional shaped article and production method therefor
WO2024006374	ATI PROPERTIES LLC [US]	Nickel-base alloy
EP4302905	EOS GMBH ELECTRO OPTICAL SYSTEMS [DE]	Ni-base superalloy
WO2024058145	SANYO SPECIAL STEEL CO LTD [JP]	Iron-based alloy powder and method for producing molded body
WO2024020650	UNIV QUEENSLAND [AU]; UNIV QUEENSLAND TECHNOLOGY [AU]	Particulate filled thermoplastic polymer
WO2024014972	FUND BADAN I ROZWOJU NAUKI [PL]; POLBIONICA SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA [PL]	Recombinant proteins, recombinant DNA sequences, vectors, eukaryotic and prokaryotic expression systems and their use

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Dispositivos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024047592	DWS SRL [IT]	Device and method for producing a three-dimensional layered object
WO2024073400	MASSACHUSETTS INST TECHNOLOGY [US]	Line scanning temporally focused two-photon lithography system
WO2024041898	TRUMPF LASER & SYSTEMTECHNIK GMBH [DE]	Device and method for additive manufacturing with fresh-water-free emergency cooling
WO2024050344	SCHULTZ JEFFREY [US]; PHASE INC [US]; BROWN SIMEON [US]	Additive manufacturing of thermosetting polymers using thermal laser curing
WO2024013144	MICHELIN & CIE [FR]	Removable module for reducing the energy consumption of a 3D printer
WO2024035803	VELO3D INC [US]	Additive manufacturing systems
WO2024025844	NEXA3D INC [US]	Method and apparatus for ensuring consistent tensioning of membrane in frame
WO2024013123	BROSE FAHRZEUGTEILE SE & CO KG COBURG [DE]	Process for the additive manufacture of a component by using a metal/polymer powder mixture
EP4324623	GEN ELECTRIC [US]	Systems and methods for additive manufacturing using pixel shifting
EP4302907	JEOL LTD [JP]	Three-dimensional powder bed fusion additive manufacturing apparatus, three-dimensional powder bed fusion additive manufacturing method, and method for setting moving speed of recoater member in three-dimensional powder bed fusion additive manufacturing
WO2024048234	IHI CORP [JP]	Three-dimensional shaping device and pre-heating device
WO2024053281	KOBE STEEL LTD [JP]	Control information generation device, control information generation method, and program
WO2024003336	EOS GMBH ELECTRO OPTICAL SYSTEMS [DE]	Additive manufacturing process using pulsed laser radiation
WO2024005630	ULTIMAKER BV [NL]	Liquefier assembly with a cooled protective sleeve around hot-end
EP4324622	GEN ELECTRIC [US]	Systems and methods for additive manufacturing using pixel shifting
WO2024038408	DEI HOLDING LTD [IL]	Apparatus, system, and method for automated depowdering and extraction of three-dimensional printed parts
WO2024037928	SIGNIFY HOLDING BV [NL]	Method for obtaining good adhesion of semi crystalline polymers to the build plate during FDM printing

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4302978	ESSILOR INT [FR]	Method for additively manufacturing an ophthalmic lens and manufacturing system
WO2024041750	DMG MORI ADDITIVE GMBH [DE]	Additive manufacturing device and additive manufacturing process
EP4345560	SIEMENS AG [DE]	Method and device for determining an additive production process of a component and additive production process of the component
WO2024026333	NORDSON CORP [US]	Polymer processing device and process of implementing the same
EP4324581	XEROX CORP [US]	High-throughput liquid metal inkjet nozzle with porous layer for meniscus damping
EP4302950	HOCHSCHULE FUER ANGEWANDTE WSS AUGSBURG [DE]	Method and device for producing a component
EP4331810	GEN ELECTRIC [US]	Gas control systems for purging a printhead manufacturing apparatus
WO2023247905	ADDUP [FR]	Additive manufacturing machine configured to manufacture an object from a printing powder
WO2024042793	JVCKENWOOD CORP [JP]	Image generation control device and optical shaping device
EP4328008	BOEING CO [US]	Methods of additively manufacturing a manufactured component and systems that perform the methods
WO2024035806	NEXA3D INC [US]	Light engines for vat polymerization 3D printers
WO2024019614	CEAD B V [NL]	A printing platform for supporting an object and a method for producing an object
WO2024007082	OQAB DIETRICH INDUCTION INC [CA]	Multi-phase heating systems for bidispersed and polydispersed particle applications
WO2024062629	FUJI CORP [JP]	Control device, printing device, and method for controlling printing device
EP4299217	JEOL LTD [JP]	Three-dimensional powder bed fusion additive manufacturing apparatus
EP4344855	HENSOLDT SENSORS GMBH [DE]	Method for additive manufacturing electronics and a printing support for the manufacturing
WO2024029276	KOBE STEEL LTD [JP]	Control information correction method, control information correction device, and program
WO2024004768	KOBE STEEL LTD [JP]	Method for controlling additive manufacturing device, control device, and program
WO2024014474	UNIV NIHON [JP]	Three-dimensional printing apparatus, three-dimensional printing method, and compression apparatus
WO2024026039	UNIV TEXAS [US]	Multi-channeled and guided inner controlling (magic) printheads
WO2024027919	SEI S P A [IT]	Method and device for preparing plates to treat items in the paper processing industry
WO2024001369	SHENZHEN CREALITY 3D TECH CO LTD [CN]	Height compensation method for printing platform, apparatus, and computer device
WO2024005697	CELLINK BIOPRINTING AB [SE]	Modular nozzle for coaxial extrusion

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024059932	NAT RES COUNCIL CANADA [CA]	Photoresin formulations and use thereof for volumetric additive manufacturing
EP4311932	GENERAL ELECTRIC RENOVABLES ESPANA SL [ES]	System and method for tracking reinforcement member placement in an additively manufactured structure
EP4338936	IN VISION TECH AG [AT]	3D-printing method
WO2024017561	TRUMPF LASER & SYSTEMTECHNIK GMBH [DE]	Beam-guiding device for guiding an energy beam and manufacturing device for additively manufacturing components from a powder material and having such a beam-guiding device
WO2024062699	SCREEN HOLDINGS CO LTD [JP]	Additive manufacturing device and additive manufacturing method
WO2024038012	SIGNIFY HOLDING BV [NL]	Single nozzle pellet extruder with fdm filament feed from the side
WO2024049443	HEWLETT PACKARD DEVELOPMENT CO [US]	Forming build material layers
EP4324625	SCREEN HOLDINGS CO LTD [JP]	Optical apparatus and three-dimensional modelling apparatus
EP4349576	DAHER AEROSPACE [FR]	Prepreg fiber laying head with laser heating control device
WO2024062696	SCREEN HOLDINGS CO LTD [JP]	3D molding device
EP4313597	ADBIOINK BIYOSISTEM TEKNOLOJI ANONIM SIRKETI [TR]	Extrusion-based and portable handheld three-dimensional bioprinter
EP4344858	SOLUKON INGENIEURE GBR [DE]	Depowdering device for depowdering objects produced in 3D printing method
WO2024010581	STRATASYS INC [US]	Tethered spool assembly and methods of use thereof
EP4304835	SITAR LIBOR [CZ]	Printing head assembly for a 3D printer and a 3D printer with this assembly
WO2024012925	SIGNIFY HOLDING BV [NL]	Improved adhesion of fdm printed layer to a metal part
EP4338960	COLLINS ENGINE NOZZLES INC [US]	Valve body and fluid pump housing made by additive manufacturing
WO2023249818	INKBIT LLC [US]	Hybrid additive manufacturing with dual phase-change materials
WO2023247432	SIGNIFY HOLDING BV [NL]	A method for applying a 2D pattern onto a 3D object
EP4299288	GENERAL ELECTRIC TECHNOLOGY GMBH [CH]	Methods and systems for manipulating an additive build assembly
WO2024035874	INTERFACIAL CONSULTANTS LLC [US]	Multicomponent composite article
WO2024019944	POWDER MOTION LABS LLC [US]	Powder bed recoaters including non-contact powder redistributors
WO2024006296	ENTEGRIS INC [US]	De-powdering of green samples using freezing method for additive manufacturing
EP4339463	COLLINS ENGINE NOZZLES INC [US]	Valve body produced by additive manufacturing and method of manufacturing the valve body
WO2024009070	ADDITIVE MANUFACTURING TECH LTD [GB]	Method for post-processing thermoplastic parts

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4321325	TERRAPLASMA GMBH [DE]; APRINTAPRO GMBH [AT]	Additive manufacturing apparatus, system, method, and use
WO2024012852	NIKON SLM SOLUTIONS AG [DE]	Powder container for an additive manufacturing process
EP4309878	IVOCLAR VIVADENT AG [LI]	Method for cleaning a print head
WO2024050334	WATLOW ELECTRIC MFG [US]	3D printed heater system
WO2024059749	ALIGN TECHNOLOGY INC [US]	Systems and methods for modifying surfaces of additively manufactured objects
WO2024062105	ARKEMA FRANCE [FR]	Polyamide composition prepared from a powder of polyamides to be recycled
WO2024010135	GRAPHY INC [KR]	Device for post-curing of 3D-printed product
WO2024064832	CUBICURE GMBH [AT]; ALIGN TECHNOLOGY INC [US]	Modular build platforms for additive manufacturing
EP4311657	GEN ELECTRIC [US]	Apparatus and methods for additive manufacturing
WO2024037941	SIGNIFY HOLDING BV [NL]	A method for printing a 3D object using material shaped from a sheet
WO2024019991	BATTELLE SAVANNAH RIVER ALLIANCE LLC [US]	In situ chemical modification during additive manufacturing
WO2024056928	VOXELCARE SL [ES]	Granule-based three-dimensional printing equipment
EP4311658	GEN ELECTRIC [US]	Systems and methods for additive manufacturing
WO2024010691	POSTPROCESS TECH INC [US]	System and method for removal of resin from 3D printed objects
EP4338763	FRAUNHOFER GES FORSCHUNG [DE]	A process for 3D bioprinting utilizing a hydrogel comprising a water-soluble elastin derivative
EP4349579	ESSILOR INT [FR]	Method for manufacturing an optical device comprising a microstructure, manufacturing system to carry out such a method, and optical device thus obtained
EP4309876	IVOCLAR VIVADENT AG [LI]	Method for preventing deposits on a nozzle plate
WO2024010421	GRAPHY INC [KR]	Device for post-curing of 3D-printed product
WO2023248227	YISSUM RES DEV CO OF HEBREW UNIV JERUSALEM LTD [IL]	Microfluidics devices and printing methods therefor
WO2023250409	SAN DIEGO STATE UNIV SDSU FOUNDATION DBA SAN DIEGO STATE UNIV RESEARCH FOUNDATION [US]	Terahertz nondestructive testing apparatus and method

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Productos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4327864	ION BEAM APPLIC [BE]; UNIV PENNSYLVANIA [US]	Off line quality control of a beam shaping device for radiation therapy
WO2024052225	EVONIK OPERATIONS GMBH [DE]	Improved nanocarrier manufacturing
WO2024045431	UNIV SHANGHAI JIAOTONG [CN]; JIAXING YAOJIAO MEDICAL DEVICE CO LTD [CN]	Zein fibril powder, zein new gel, and preparation methods therefor and uses thereof
EP4306236	LIBURDI ENGINEERING [CA]	High gamma prime nickel based welding material
WO2024005673	AUTONOMOUS NON PROFIT ORGANIZATION FOR HIGHER EDUCATION "SKOLKOVO INST OF SCIENCE AND TECHNOL [RU]	Method for the laser synthesis of endodontic instruments from nickel-titanium
WO2024071987	POSTECH RES & BUSINESS DEV FOUND [KR]; ST PHARM CO LTD [KR]	Microfluidic mixing structure and microfluidic mixing apparatus comprising same
WO2024014377	JSR CORP [JP]	Composition for 3D printing support or 3D cell culture support
WO2024010877	ALIGN TECHNOLOGY INC [US]	3D printable material for the fabrication of printed dental attachments and dental attachment placement devices
WO2024015523	NICHOLSON MFG LTD [CA]	Self-sharpening knife tip
WO2024023392	EKOTEKT AB [FI]	Method for manufacturing building elements
WO2024013569	APPLIKON BIOTECHNOLOGY B V [NL]	Impeller system for use with a bioreactor
WO2024008348	PFEIFFER VACUUM [FR]	Turbomolecular vacuum pump and methods for manufacturing a rotor
WO2024014599	INTER MEDI CO LTD [KR]	Jig for post-processing of customized implant for orthopedic surgery and method for fabricating same
WO2024064864	MATERION CORP [US]	Method for manufacturing objects comprising beryllium
WO2024002627	BAUER LEAN ENG GMBH [DE]	Method and device for producing laminated cores from laminations
WO2024071222	SUMITOMO PRECISION PROD CO [JP]	Heat exchanger
WO2024059684	LAM RES CORP [US]	Showerhead faceplates
WO2024008850	SIGNIFY HOLDING BV [NL]	3D printed light fixture
EP4302903	COMMISSARIAT ENERGIE ATOMIQUE [FR]	Method for manufacturing a complex-shaped part and a densifiable counter-form useful for preparing said part
WO2024028870	TECHNION RES & DEV FOUNDATION [IL]	Spacer fabrics analogous structures and production techniques thereof
WO2024039773	DIMENSION INX CORP [US]	Biointegrative implantable cell encapsulation device and system

Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
WO2024068162	SIEMENS AG [DE]	Method for manufacturing a measuring tube, flowmeter, computer program product and use of a flowmeter
EP4306218	HON HAI PREC IND CO LTD [TW]; SOLIDEDGE SOLUTION INC [TW]	Horizontal grinder rotor, grinding bead driving device and horizontal grinder
WO2024053501	ITOCHU CERATECH CORP [JP]	Refractory aggregate for casting sand
WO2024063222	FOUND RES & BUSINESS SEOUL NAT UNIV SCI & TECH [KR]	Microcellular heat exchanger using local filtering
WO2023249395	M O P CO LTD [KR]	Image processing method for high-precision ceramic 3D printing and high-precision ceramic 3D printing method using same
WO2024030661	UNIV WASHINGTON [US]; ASOCIACION CENTRO DE INVESTIG COOPERATIVA EN BIOMATERIALES CIC BIOMAGUNE [ES]; UNIV OF THE BASQUE COUNTRY UPV/EHU [ES]	Systems and methods for selective shape transformation of 3D-printed materials
EP4339547	HAMILTON SUNDSTRAND CORP [US]	Crossflow heat exchanger with stacked distribution tubes
WO2024018896	FUJIFILM CORP [JP]	Method for manufacturing radio wave absorber, radio wave absorber, and radio-wave-absorbing article
WO2024014763	AMSOLUTIONS INC [KR]	Method for forming multi-material structure
EP4350270	RTX CORP [US]	Tube heat exchanger using 3-tube bundles
WO2024063138	POLYPLASTICS CO [JP]	Three-dimensional shaped object and method for producing three-dimensional shaped object
EP4316693	FYZIKALNI USTAV AV CR V V I [CZ]	Method for improving surface integrity of an additive manufactured mesoscopic gear, and product thereof
WO2024049993	BIOGENNIX LLC [US]	Tissue regeneration particles with a controlled structure
WO2024026429	PENN STATE RES FOUND [US]; WATSON NATE [US]	Systems and methods for additive manufacturing of discontinuously supported structures
WO2024026021	FUELCELL ENERGY INC [US]	Hybrid fabrication of fuel cell flow fields
WO2024008897	VALLS BESITZ GMBH [DE]	Methods for manufacturing ultra high-performance metal additive manufacturing components (A3) methods for manufacturing additive manufacturing components
WO2024020584	UNIV WASHINGTON [US]	Grayscale fabrication of 4D materials
WO2024020602	UNIV JOHNS HOPKINS [US]	Lattice heatsink for impingement cooling
WO2024026023	BRIGHAM & WOMENS HOSPITAL INC [US]	Double networked 3D-printed biomaterials

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Procesamiento de Datos



Nº PUBLICACIÓN	SOLICITANTE Y PAÍS DE ORIGEN	CONTENIDO TÉCNICO
EP4311656	AIRBUS OPERATIONS GMBH [DE]	Method of producing an object, object, and aircraft or spacecraft
EP4322082	FEHRMANN MAT X GMBH [DE]	Computer-implemented determination and qualification of material compositions
WO2024066485	SHENZHEN CREALITY 3D TECH CO LTD [CN]	3D printing consumable test apparatus and 3D printing apparatus
WO2024039993	STRATASYS INC [US]	Method and computer for simplified tuning of 3D printers
WO2024013264	BUNDESREPUBLIK DEUTSCHLAND VERTRETEN DURCH DEN BUNDESMINISTER FUER WIRTSCH UND KLIMASCHUTZ DIESER VE [DE]	Fabrication and inspection of non-tamperable manufactured components



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