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Innovation on Demand ® ohjausanalyysi

Puun hyvinvointivaikutukset

10.9.2021

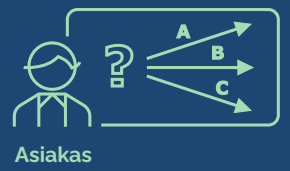
Pekka Laakso

Leitzinger Oy

SISÄLTÖ

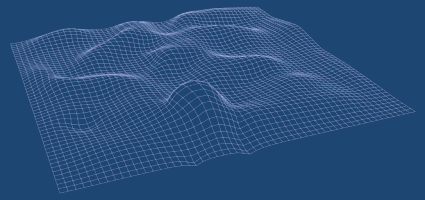
- Projektin kuvaus
- Tutkimuksen kohde
- Yhteenveto ja johtopäätökset
- Teknologiamaisemat ja teknologiatrendit
- Esimerkkiratkaisuja

Innovation on Demand® – ohjausprojektin kuvaus



Kehityshaasteen tunnistaminen

Aloitustapaaminen



Alustava Teknologiahaku

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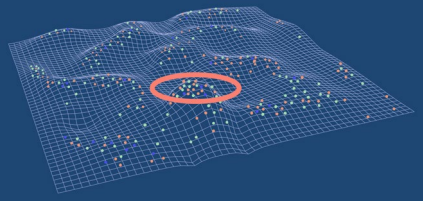
Toinen tapaaminen teknologiahaun täsmentämiseksi



Ohjausanalyysin tuottaminen

IoD®

Kolmas tapaaminen tulosten läpikäymiseksi

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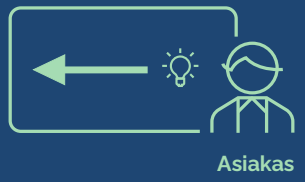
Tulosten jakaminen ja tarkastelu & analysointi



Tuotekehityksen aloitustyö

Keksinnön evaluointi

Kehitysidean evaluointi ja vertailu patenttimaisemaan

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PUUN HYVINVOINTIVAIKUTUKSET

TEKNOLOGIAHAKU

TUTKIMUKSEN KOHDE

- Tutkimuksen kohteena on puun hyvinvointivaikutuksia kartoittavien ratkaisujen/patenttien kartoitus
- Ratkaisuja haetaan liittyen **puupinnan puhdistettavuuteen ja antibakteerisuuteen sekä myös puun kosteuspuskurointiin ja lämpöviihtyvyyteen**
- Haussa keskitytään erityisesti ratkaisuihin, joita voidaan käyttää rakentamisessa (erityisesti sisätilat), huonekaluissa, sisustuselementeissä jne.
- Kartoituksessa haetaan aihepiiriin kuuluvia ratkaisuja globaalisti ja aikarajoittamasti

Ensimmäinen haku
n. 2000 ratkaisua

Tarkennettu haku
433 ratkaisua

Lopullinen haku
129 ratkaisua

YHTEENVETO JA JOHTOPÄÄTÖKSET

Teknologia	Ratkaisut	Teknologia trendi	Toimijat	Havainnot / Johtopäätökset
Puupinnan puhdistettavuuteen ja antibakteerisuuteen sekä puun kosteuspuskurointiin ja lämpöviihtyvyyteen liittyvät teknologiset ratkaisut. Fokuksena erityisesti rakentamiseen liittyvät (sisätilojen rakentaminen / asuminen) tekniset ratkaisut.	433		60	• Tutkitun teknologian/teknologioiden alueella toimii useita eri toimijoita. • Selviä tuoteratkaisuja löydetty hausssa (kuten esim. Rakennusmateriaalit (lattiat, seinät, katot), huonekalut, sisustus. Myöskin valmistus- tai tuotantomenetelmiin fokusoituneita ratkaisuja löydetty useita. • Hakemustrendi on suhteellisen tasainen, jonkin verran vaihtelua vuositasolla. • Uudempia hakemuksia löytyy eri teknologia-alueilta, mutta vanhempaa hakemuskantaa löytyy myös, kokonaisuudessaan noin puolet julkaisuista on aktiivisia. • Oletettavasti liikesalaisuudeksi tai patentoimatta jätettyjä ratkaisuja löytyy haettujen teknologioiden alueelta, joskaan määristä ei voida sanoa varmuudella mitään.

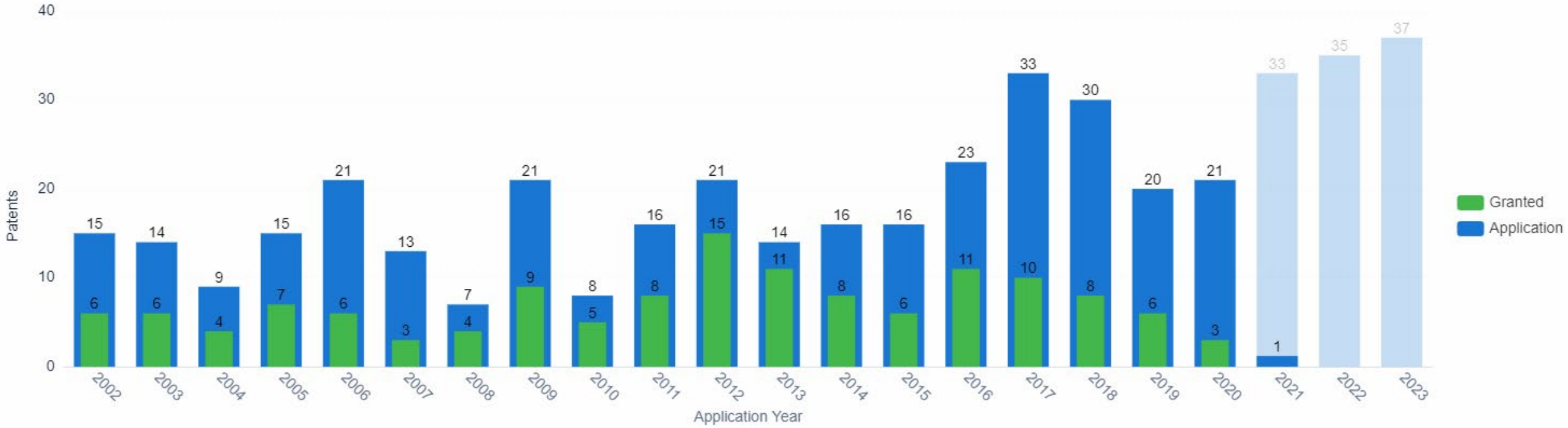
TEKNOLOGIAMAISEMA JA TEKNOLOGIATRENDIT

Teknologia päämaisema

433 Yksittäistä teknistä ratkaisua

	Teknologia alue	Ratkaisut/ lkm
1	PALKKI/ELEMENTTI/PUINEN RAKENNUS	94
2	PUUN PROSESSOINTI/TUOTANPROSESSI/PUUKAP-PALE	71
3	SIDEAINE/KOMPOSIITTI/FORMALDEHYDI/ KOMPOSIITTIAINE	49
4	SIDEAINE/VANERI/KERROS	47
5	PUUÖLJYT/MÄNTYÖLJY/SEOS/YHDISTE/ SÄILYTYS	45
6	KYLLÄSTYS/RAKENNUSMATERIAALI/ TORJUNTA/YHDISTE	40
7	SISÄILMA/MUOTOILU/PUUJAUHE/SISÄSEINÄ	39
8	ILMA/ERISTE/EKOLOGINEN YMPÄRISTÖ/ILMANVAIHTO	24
9	PUUKAPPALE/PARANNUS/LISTA	23

PATENTTIHAKEMUS TRENDI



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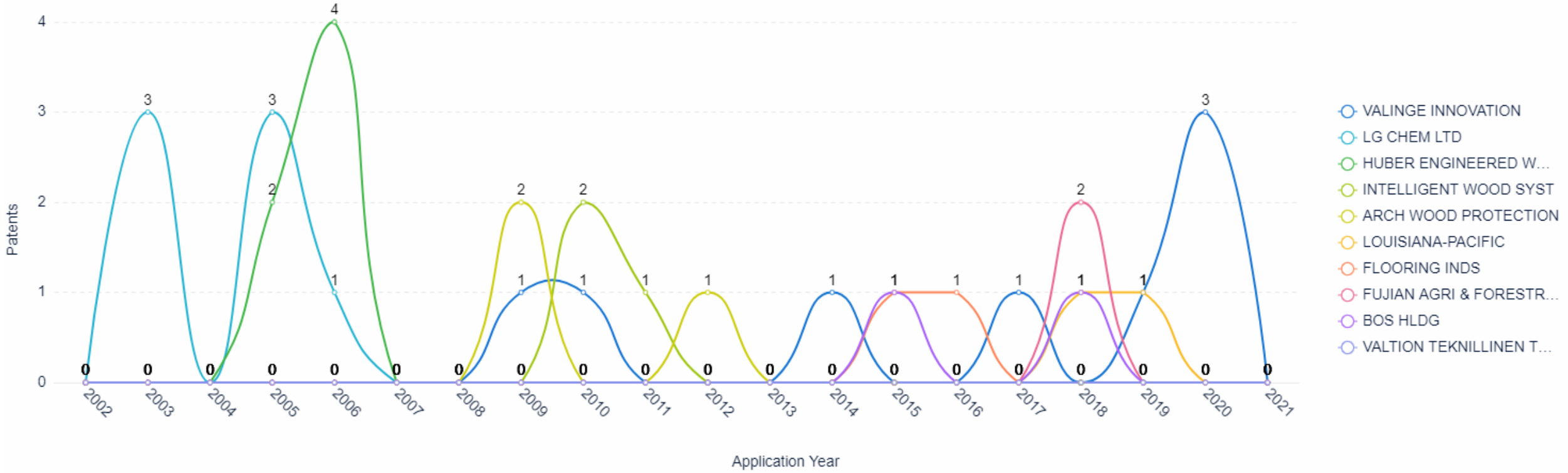
PÄÄHAKIJAT JA HAKEMUSMÄÄRÄT



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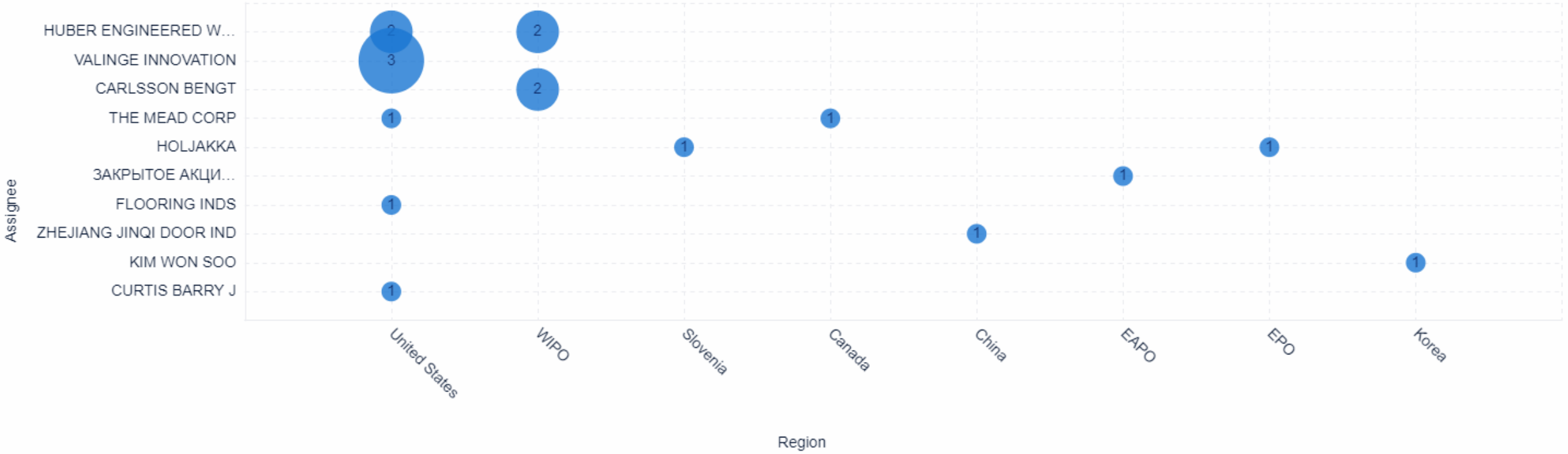
PATENTTITRENDI PÄÄHAKIJAT – HAKUALUEET



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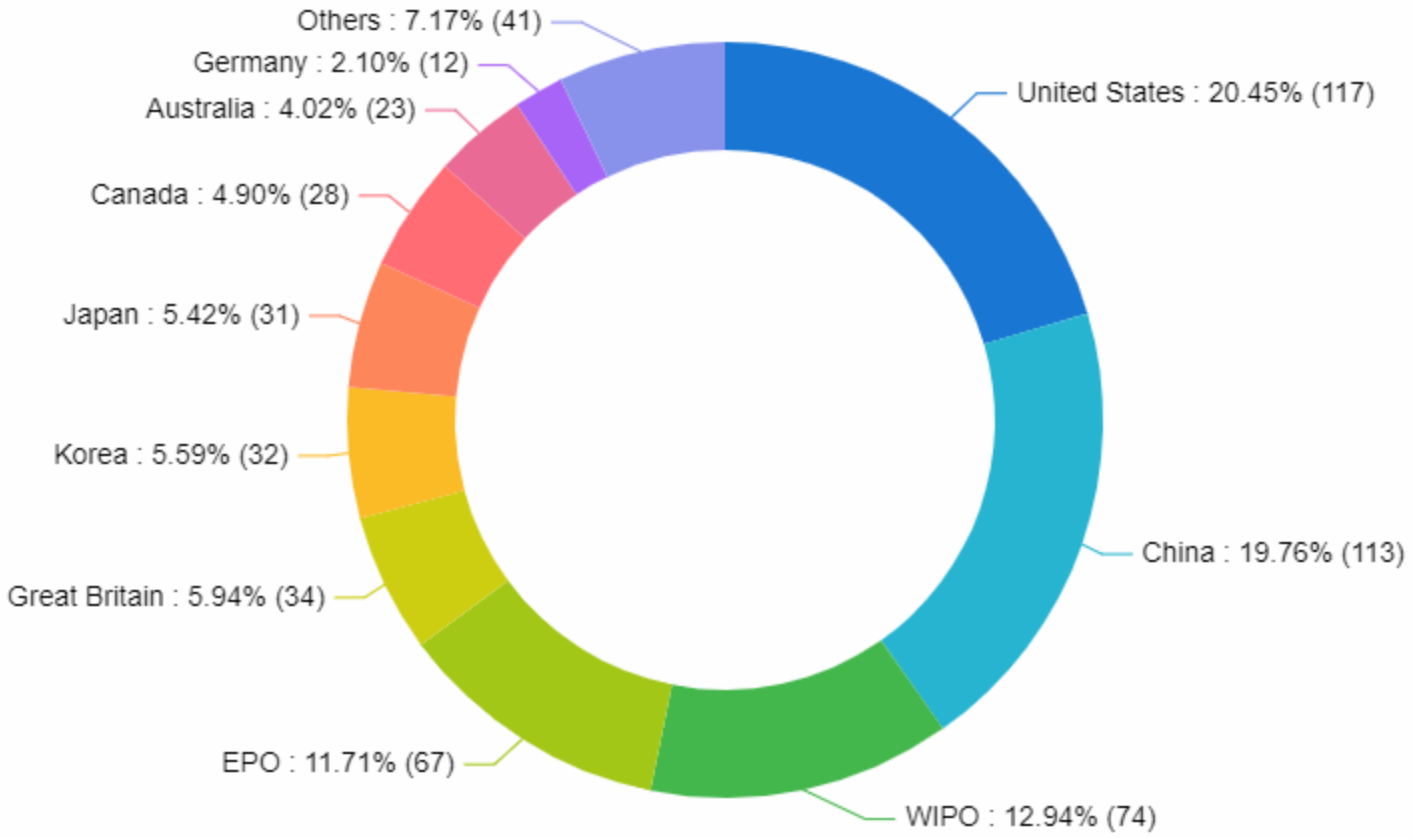
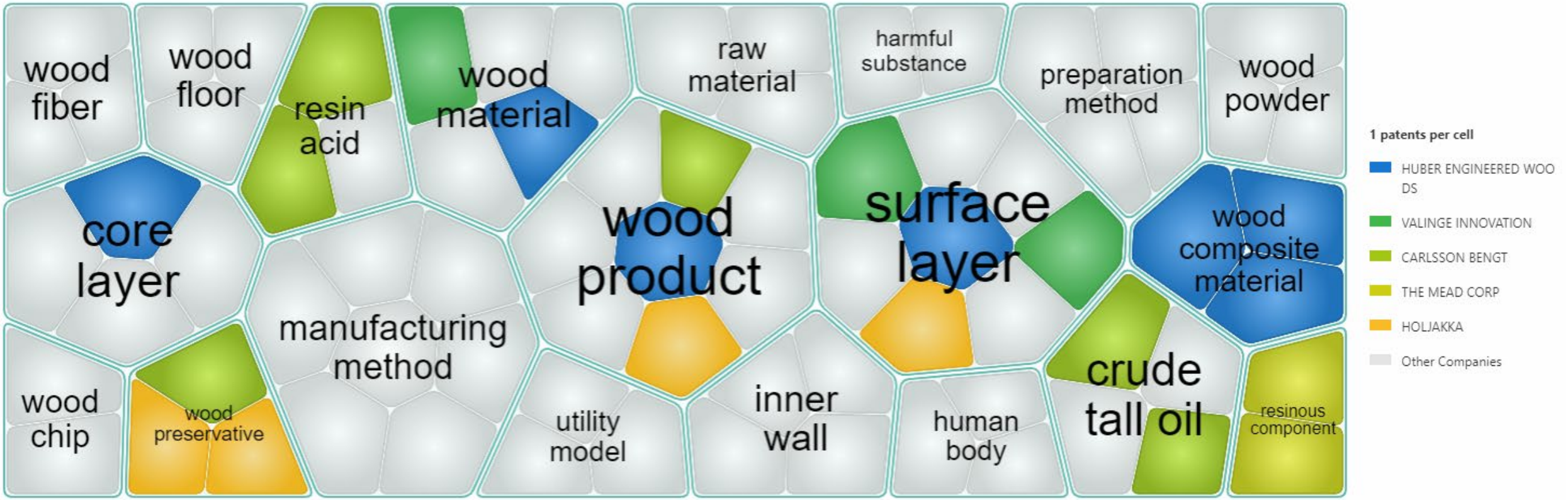
HAKEMUSMAAT - KAIKKI HAKEMUKSET



PATENTTIMAISEMA (TEKNOLOGIA SANAPILVET)



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Teknologia alimaisema

129 Yksittäistä teknistä ratkaisua

	Teknologia nimitys	Ratkaisut/ lkm
1	PUUTUOTE/YHDISTE/SÄILÖNTÄ/PUUÖLJY	31
2	SISÄSEINÄ/LATTIA/ILMA/TUOKSU/TOIMIN-NALLISUUS	30
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5	EKO/PUU/ANTIBAKTEERINEN/NANOPARTIK-KELI/TUOKSU/PUHTAUS	20

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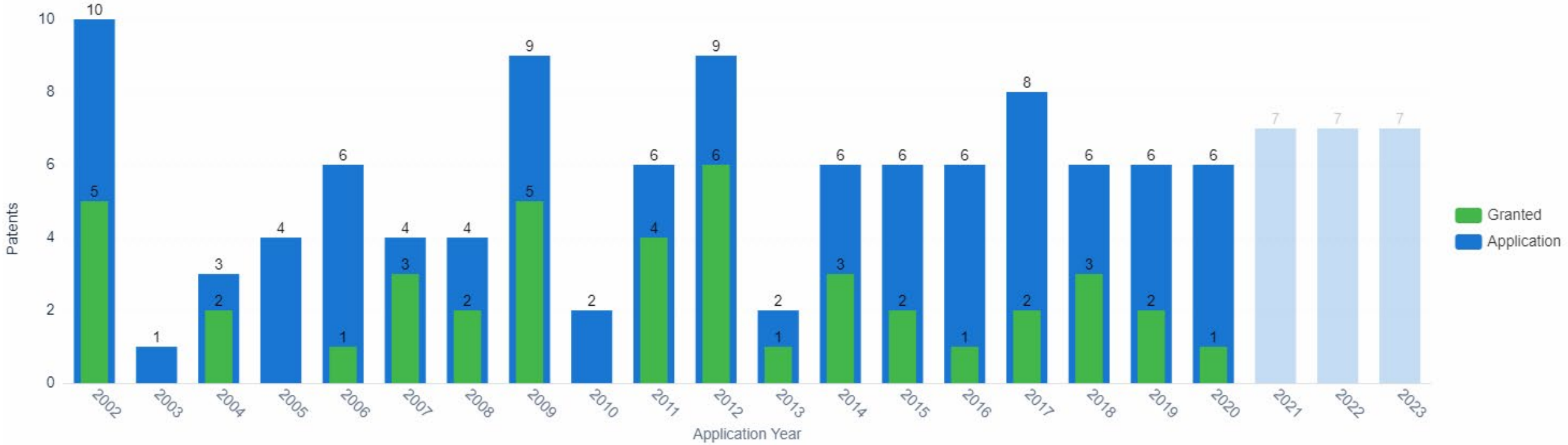
PATENTTIHAKEMUSTRENDI



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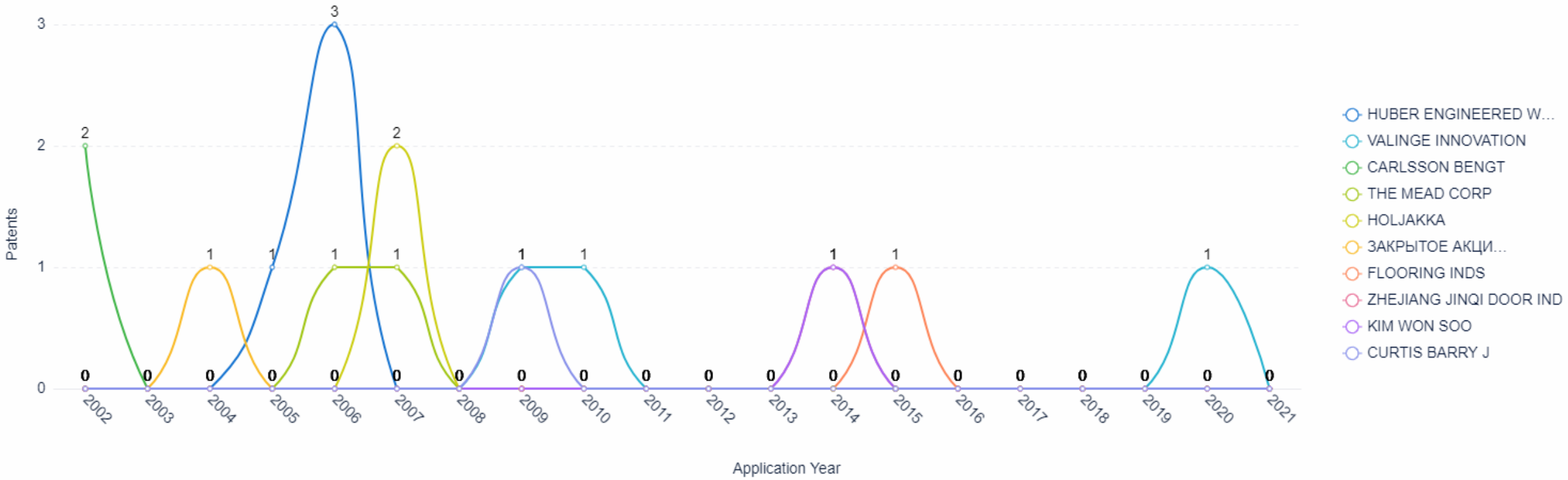
HAKIJAT JA HAKEMUSMÄÄRÄT VUOSITTAIN



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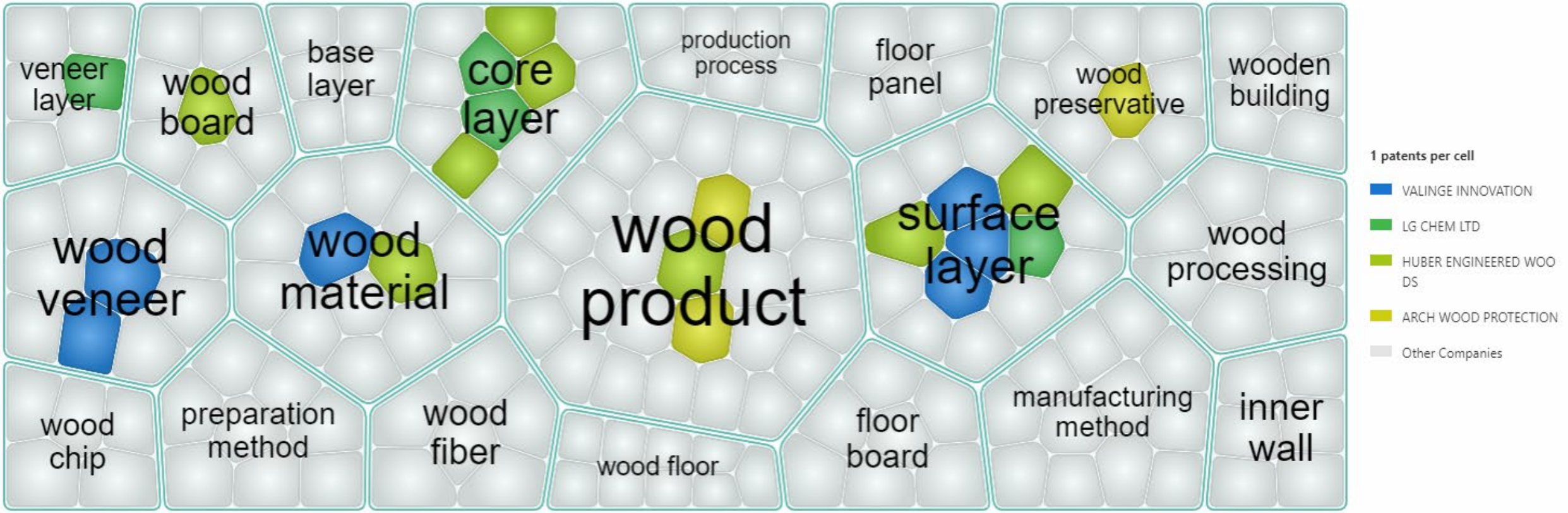
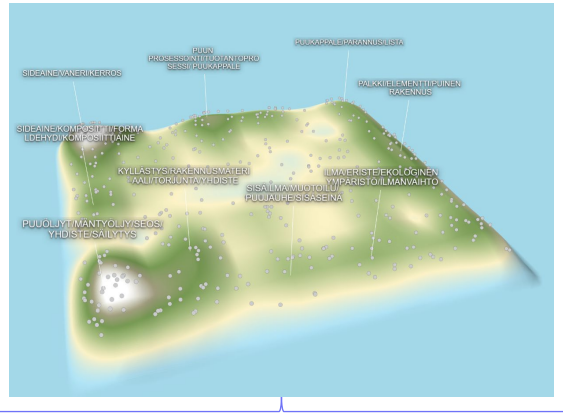
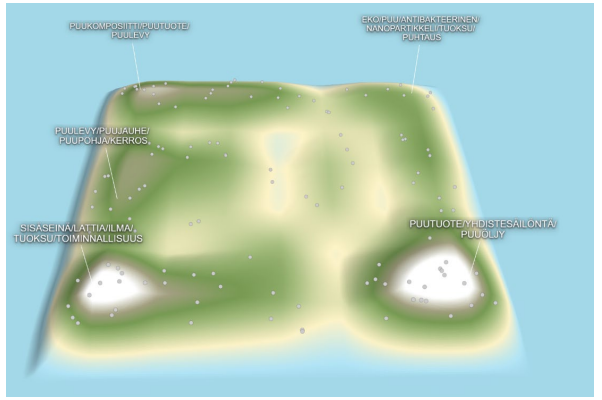
PATENTTIMAISEMA (TEKNOLOGIA SANAPILVET)



HAKIJAT/ PÄÄMAISEMA JA ALIMAISEMA





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BINDER HANS	2
AHF LLC D B A AHF PROD	2
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HOLJAKKA	2
ЗАКРЫТОЕ АКЦИОНЕРНОЕ ОБЩЕСТВО "ЭНЕ...	1
FLOORING INDS	1
ZHEJIANG JINQI DOOR IND	1
KIM WON SOO	1
CURTIS BARRY J	1
安徽欧陆佳家居用品有限公司	1
KEMIRA CHEM	1
WONYANG ARCHITECTS & ENGINEERS	1
JOHANSSON INGVAR	1
NAT INST OF FOREST SCI	1
SUSTAINABLE SOLUTIONS	1
CECCO TRADING	1
邓州市新艺木业有限责任公司	1
江苏百博木业有限公司	1
李兴坚	1

ESIMERKKIRATKAISUJA

EP3265284A4

AALTO UNIVERSITY FOUNDATION

TREATMENT METHOD FOR WOOD AND WOODEN SURFACE OBTAINED BY SUCH METHOD

Abstract:
The object of the present invention is a method for treating of wood that is to be used for example in building and furniture construction. In the method dispersion of micro- and/or nanoparticles is applied on wooden surface to form a non-continuous surface layer which allows moisture vapor permeation thus retaining moisture buffer value (MBV) of non-treated wood or even enhancing it. Another object of the invention is a wooden surface having a non-continuous surface layer of micro- and/or nanoparticles obtained by such a method.

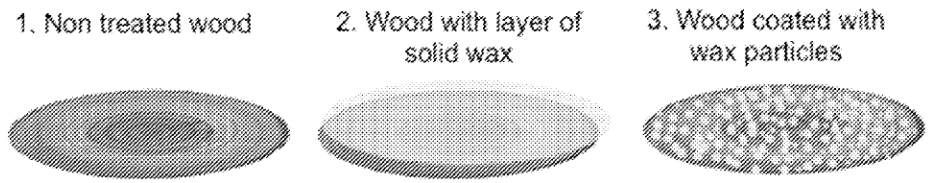


Fig. 1

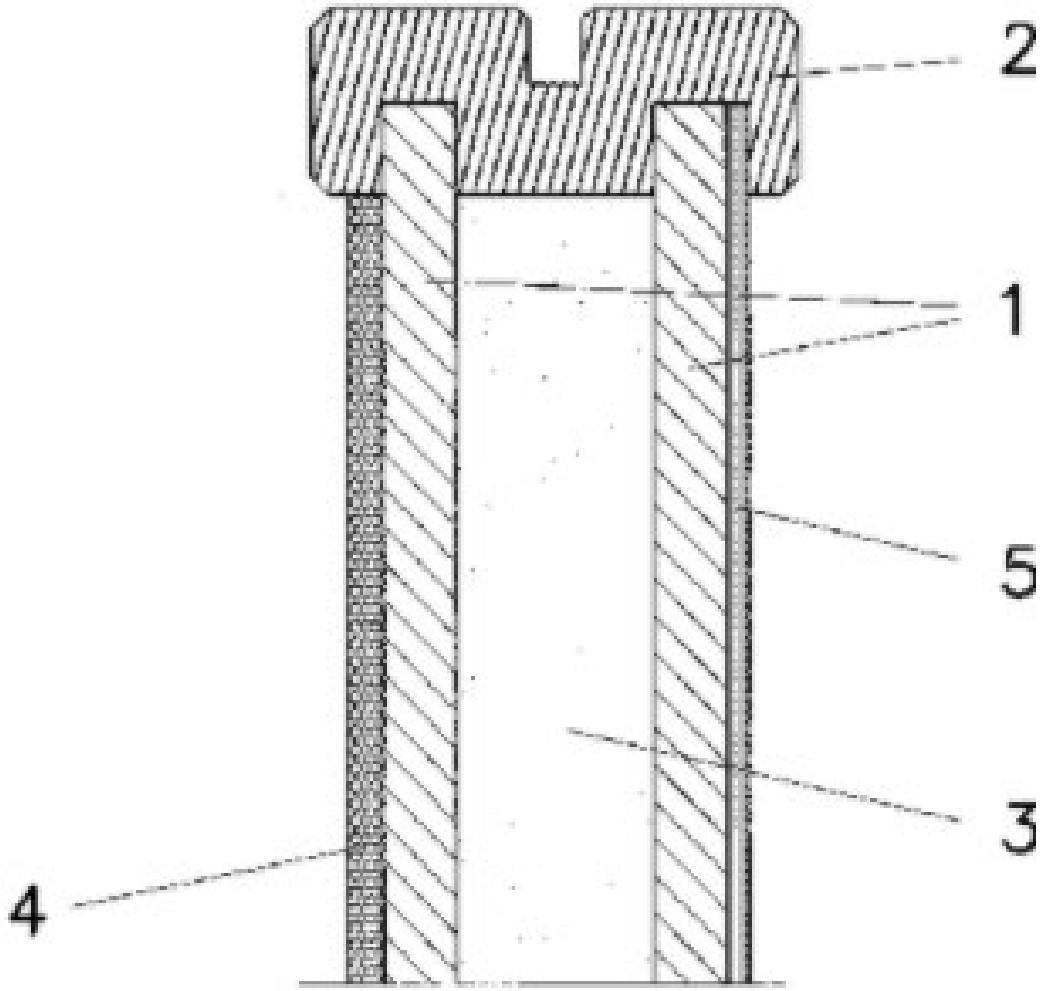
AT512933B1

NATURPRODUKTE HANDELS GMBH

BIODEFENSOR

Abstract:
Radiation protection plate, in particular for attachment or support under beds and bunk beds which offers protection by a respective beech wood panel and a pine wood panel and a protective core consisting of a zeolite mixture. By applying a beeswax mixture on the top of the protective plate, an antibacterial effect is achieved.

Fig.1

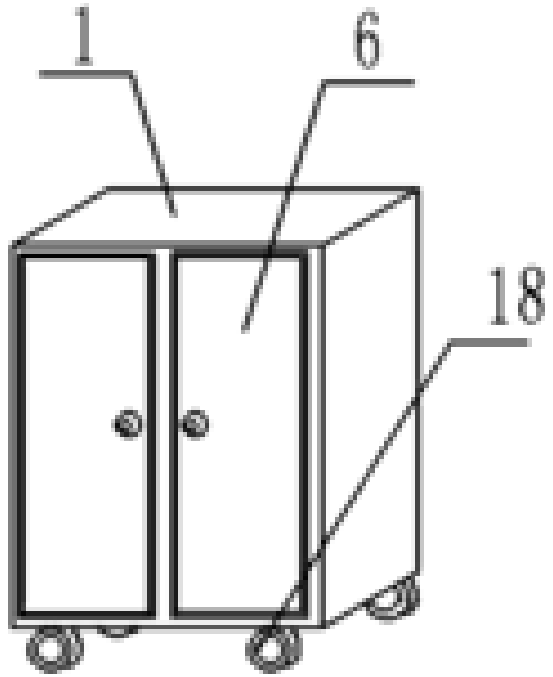


CN107890220A

FOSHAN GUANGXIE ENVIRONMENTAL PROTECTION TECH CO LTD

MULTIFUNCTIONAL ENVIRONMENT-FRIENDLY WARDROBE

Abstract:
The present invention discloses a multi-functional green closet, the closet comprising a green body, wherein: said green body composition wardrobe made from plant fiber, and the internal environment of the body is divided into left and right wardrobe two parts, namely hanging chamber and storage chamber; said storage compartment separated into three parts by a plant fiber, and the top is set to the reservoir chamber; door hinge is connected to the green environmental protection closet body coated with the green door diatom clay coating; coated with an inner wall of the plant fiber layer pine sawdust layer; hanging beneath said chamber, warming drawer is fixedly connected; the clothes hanging on a sidewall of the chamber is fixedly connected to the dehumidifier, and electrically connecting one side of the dehumidifier has a humidity sensor, the present invention is simple in structure, easy to install, structural stability, long life, low cost, environmentally friendly materials and pine diatoms, reducing harm to human body, good mildew proof effect , disinfection of clothing, warm clothes drying, fully functional.



KR102063758B1

김성래

ECO-FRIENDLY WALLPAPER USING PINE NEEDLES, HULL, SAWDUST AND MANUFACTURING METHOD THEREOF

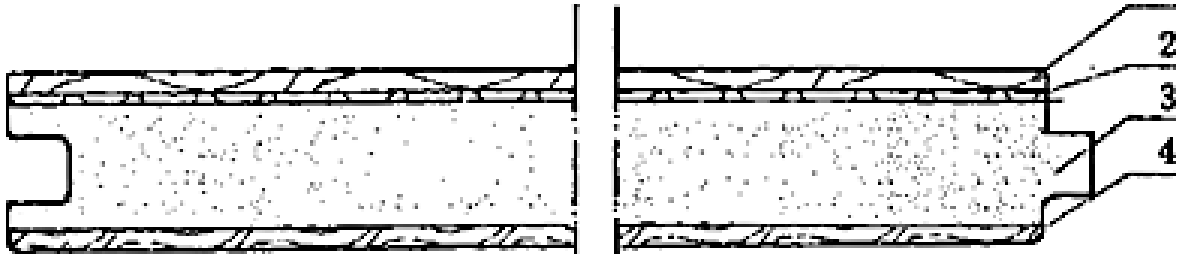
Abstract:
The present invention relates to environmentally-friendly wallpaper using pine needles, rice hulls and sawdust, and a manufacturing method thereof and, more specifically, to environmentally-friendly wallpaper using pine needles, rice hulls and sawdust, which uses materials originated from the nature to express unique color and provide excellent flame retardant performance; and a manufacturing method thereof.

CN201129012Y

上海康拜环保设备有限公司

ENVIRONMENT-FRIENDLY COMPOSITE FLOOR

Abstract:
The utility model relates to the technical field of floorboard, in particular to an environmental protection composite floorboard consisting of a surface board made of quality wood veneer, a core board made of pressed man-made plant fiber board and a sole board made of ordinary wood veneer. The environmental protection is characterized in that: the thickness of the floorboard is 1.5 to 2.5mm; a interlayer made of 0.8-1.2mm thick poplar wood or pine wood veneer is hot pressed between the surface board and the core board via adhesion agent; the fiber direction in the interlayer is identical with that in the surface board; the core board consist of high strength man-made formaldehyde-free board made of plant fiber at the length of 0.1-6mm. Therefore, the environmental protection composite floorboard ensures same comfortable foot feel as that of the veneer floorboard, eliminates the loud sound of footstep and exterminates the emission of formaldehyde.

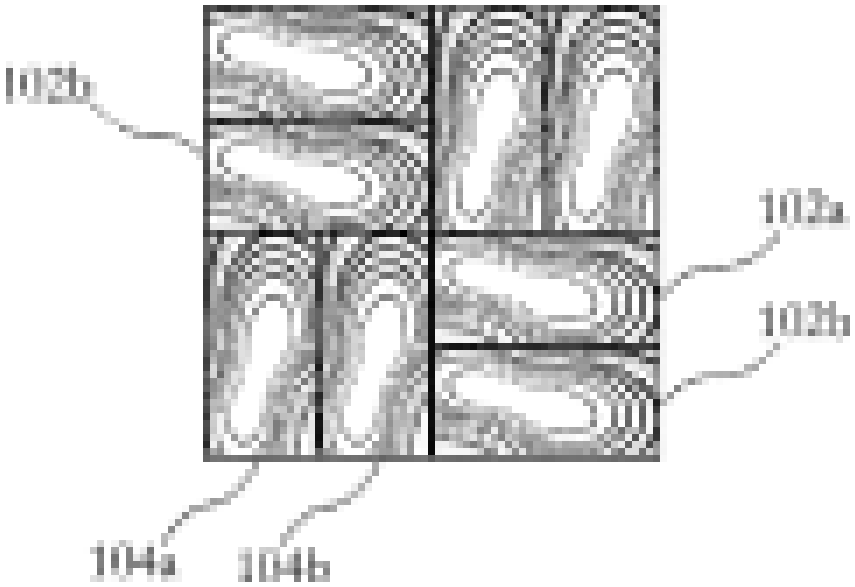


US20120015130A1

JOLOVICH,DANIEL

CROSS-CUT BLUE BLOCK FLOORING

Abstract:
A wood flooring made from beetle-kill pine trees comprising: a plurality of cross cut wood planks, where said wood portions are cut from beetle-kill pine trees, where said wood planks are arranged over a floor surface. The plurality of cross cut wood planks may include a set of horizontal planks; and a set of vertical planks wherein a plurality of sets of horizontal planks and a plurality of sets of vertical planks are arranged in an alternating fashion to completely cover a floor. The plurality of cross cut wood planks creates a uniquely blue colored floor surface due to beetle kill pine tree.



US20210106956A1

BDC-TECHNOLOGY OY

PRODUCTION OF NANOSCALE EMULSION

Abstract:
The present invention relates to a method of producing a wood and textile fibre protection composition from tall oil pitch. The present invention also relates to a wood and textile fibre protection composition comprising tall oil pitch and use of the composition as a wood and textile fibre protection agent.

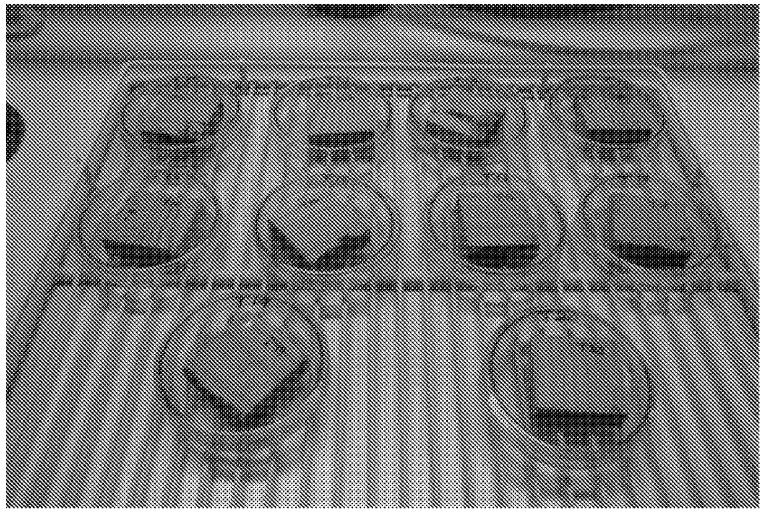


Figure 3

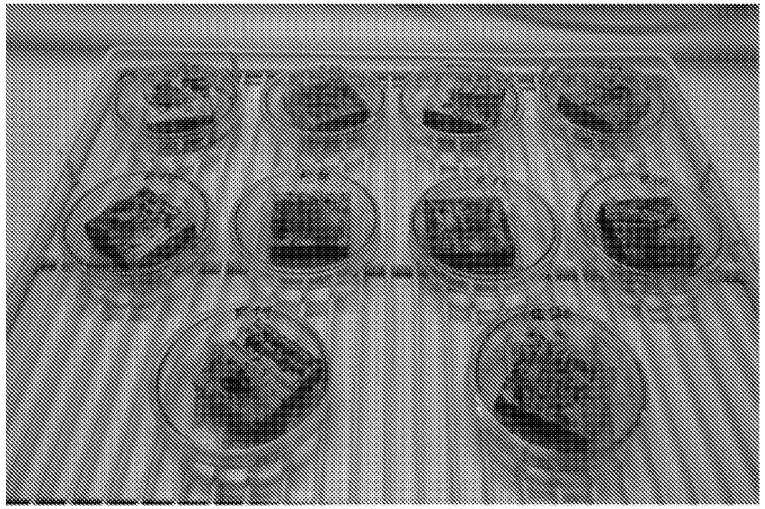


Figure 4

US9278304B2

LEE, HWA HYOUNG

GAS ADSORBING AND SOUND ABSORBING COMPOSITE STRUCTURE OF ACTIVATED CHARCOAL-WOODEN MATERIAL COMPOSITES FOR IMPROVING INDOOR AIR QUALITY AND REMOVING RADON GAS, AND MANUFACTURING METHOD THEREOF

Abstract:
This invention is about an activated charcoal-wooden composites or charcoal-wooden composites and its manufacturing method, which is composed of fancy natural veneered wooden material as a surface layer, activated charcoal board or charcoal board as a central layer and wooden material with round boring holes as a back layer, and especially, which contains both the lined grooves of the surface layer and the round boring holes perforated through the back layer, and also in the function, the activated charcoal-wooden composites or charcoal-wooden composites takes the hidden gas adsorbing room in one or above of each layer, through which many gases can be adsorbed into either one or both sides of the central layer, that is, the above hidden gas adsorbing room can not only adsorb radon gas which comes from the ground or wall of building itself, but also can simultaneously adsorb various harmful gases indoors.

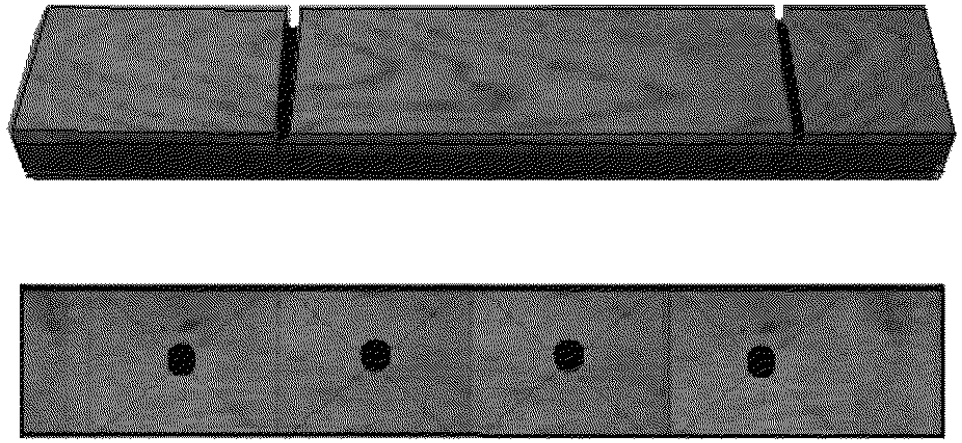
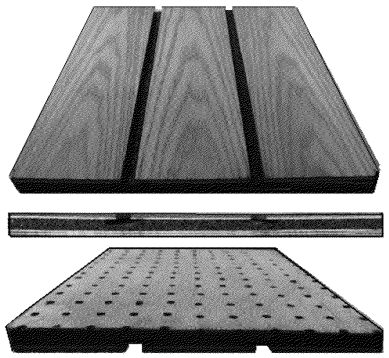


FIG.5



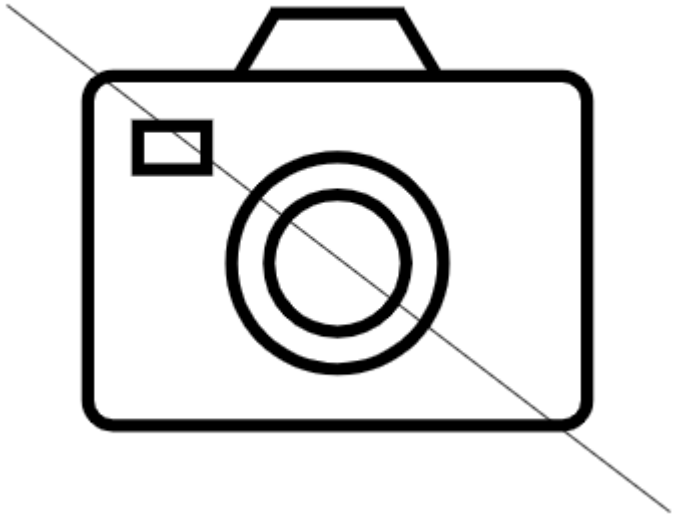
UA73619U

КОСІНОВА ЖАННА МИКОЛАЇВНА

DECORATIVE PIECE OF FURNITURE WITH ANTIBACTERIAL NANOPARTICLES

Abstract:

A decorative piece of furniture with antibacterial nanoparticles relates to the field of decorative arts. Decorative interior item with antibacterial nanoparticles, such as vase, figurine, picture frame, photo frame, flower pot, jar, candlestick, wrought iron, stucco product, container made of plastic or glass or metal , or ceramics, or gypsum, or wood, characterized in that it contains on the surface and in the surface layer of nanoparticles of at least one metal from the group consisting of silver, copper, platinum, palladium, iridium, zinc, magnesium, tin.



ESIMERKKIRATKAISUJA (VÄLIKOKOUKSESSA ESITETTYJÄ)

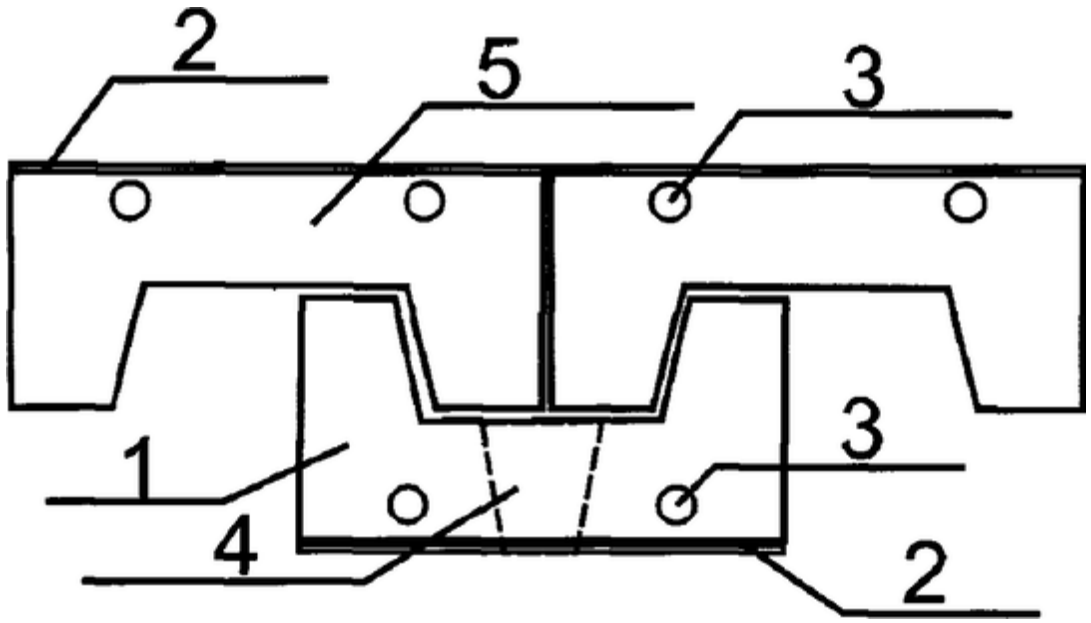
WO2017063552A1

ASSIGNEE
SHENZHEN XINTIANNENG TECH DEV

COMBINATION-TYPE, DECORATION-FREE, ENVIRONMENTALLY FRIENDLY BUILDING FLOOR PANEL

Abstract

Disclosed is a combination-type, decoration-free, environmentally friendly building floor panel, comprising a lower cover floor panel (1), a floor panel surface decoration layer (2), wiring tubes (3), a wall component connecting hole (4) and an upper cover floor panel (5). The upper cover floor panel (5) is fastened to the lower cover floor panel (1) in a staggered manner. The wall component connecting hole (4) is arranged at two ends of the lower cover floor panel (1). A securing rod (6) is connected to a wall through the wall component connecting hole (4). The present floor panel can be mass-produced and produced in a standardized manner, is quick to install, and is green and environmentally friendly.



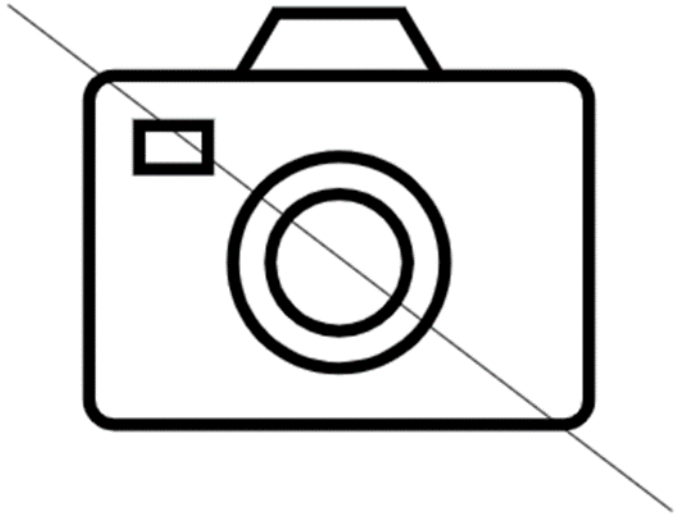
WO2019135424A1

THE IND & ACADEMIC COOPERATION & CHUNGNAM NAT UNIV.

ECO-FRIENDLY BEESWAX COMPOSITE SHEET HAVING WATERPROOF AND ANTIBACTERIAL FUNCTIONS, AND MANUFACTURING METHOD THEREFORE

Abstract

The present invention relates to an eco-friendly sheet having antibacterial and waterproof functions, comprising a microcrystalline wax, beeswax, rosin and wood meal. The eco-friendly sheet having antibacterial and waterproof functions, according to the present invention, exhibits waterproofness and an antibacterial effect, thereby being usable as a functional construction interior material.

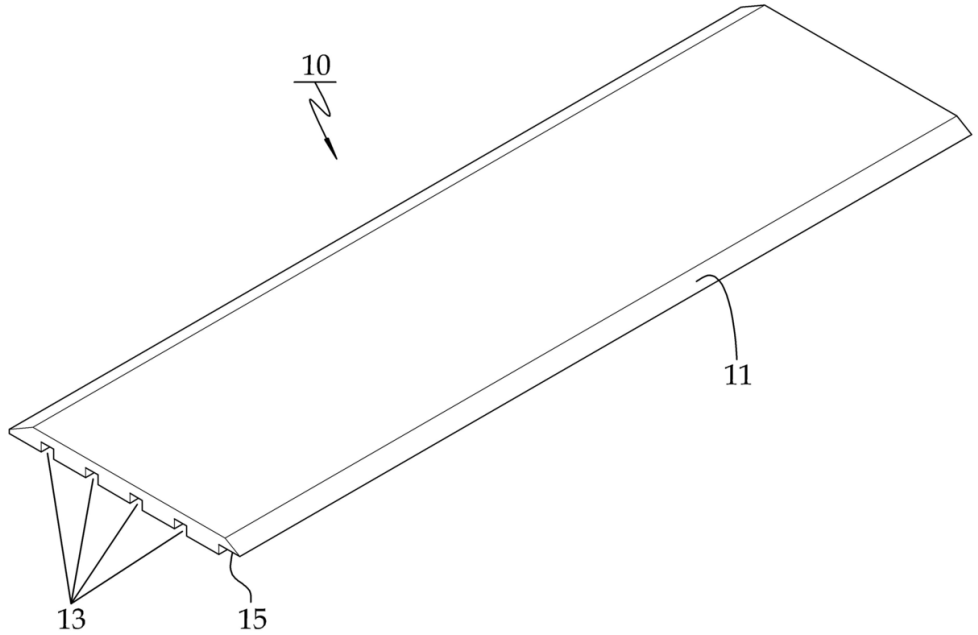


KR100951063B1

NAT INST OF FOREST SCI

WOODEN WALL SHEET FOR INTERIOR

The present invention is to provide the wood wall paper for the interior which thinly makes the wood board of the coniferae with an excellent formaldehyde capacity of removal and it effectively can remove the formaldehyde called the causal factor of the sick house syndrome it attaches in wall to the simple method is able to make the therapeutic effect by the aroma component of timber. The wood wall paper for the interior according to the present invention comprises the projection: multiple grooves: double sided tape adhered in the bottom surface of the slope part: shape which the wood board along the longitudinal direction forms on both end parts it forms on the bottom surface into the equal space it forms among the slope part on one side slope part bottom surface. And the material of the wood board may be any one of cypress, the Big-cone pine, pine, larch, the Cryptomeria japonica. The interior, the wood wall paper, the sick house syndrome, the cypress, the double sided tape .

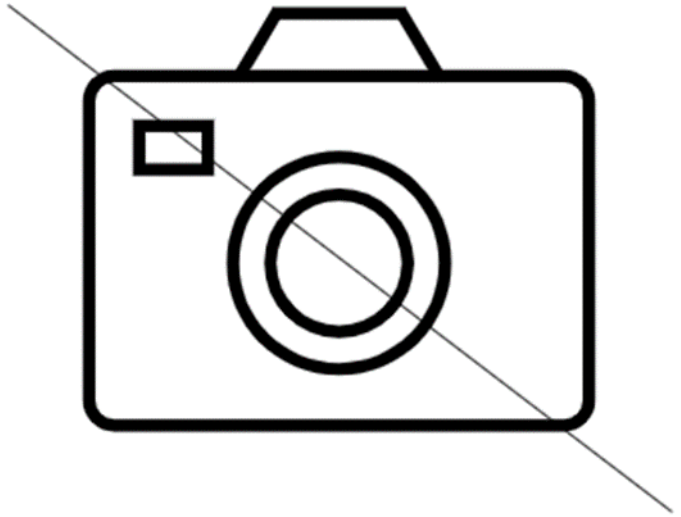


WO2003024681A1

LIGNOVA HB

WOOD PRESERVING AGENT CONTAINING SAPONIFIED TALL OIL OR FATTY ACIDS

Wood preservative based on a tall oil product, fatty acids or mixtures of fatty and/or resin acids saponified with calcium and/or aluminium. The use as a wood preservative of crude tall oil or fatty and/or resin acids partly saponified with calcium and/or aluminium. A method for impregnation of a wood product with a preservative according to the invention.



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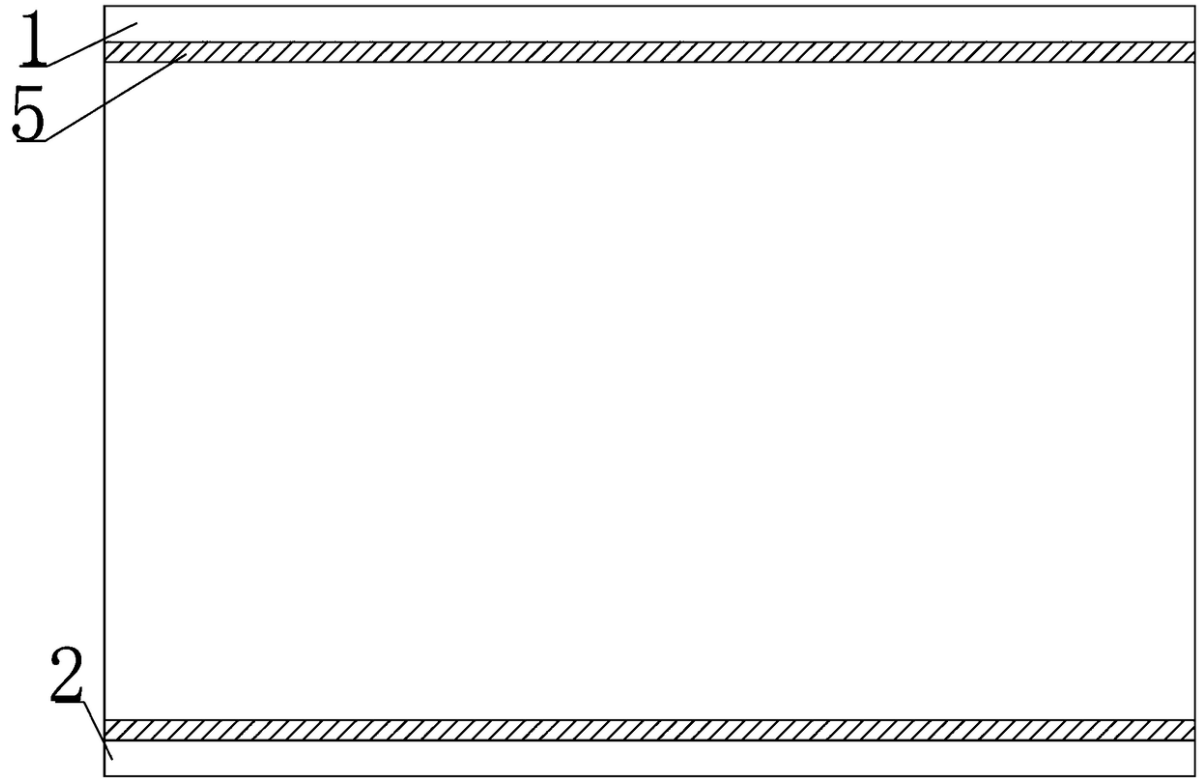
DENGZHOU XINYI WOOD IND CO LTD.

FIRE -RETARDANT ECOLOGICAL WOOD OF BIRCH POPLAR IS GOOD AT BOARD

The utility model belongs to a fire -retardant ecological wood of birch poplar is good at board, medium plate under medium plate, intermediate level and the birch including the birch on, the intermediate level includes six layers of poplar medium plate and five layers of crisscross setting of birch medium plate, be equipped with first adhesive linkage on the birch under medium plate, intermediatelevel and the birch between the medium plate respectively, be equipped with the second adhesive linkage between each medium plate in the intermediate level, have that non -deformable, nail -holding ability are strong, stability is good, low cost, can make the mutual supplement with each other's advantages of poplar and birch to make its advantage that is applicable to the high -grade furniture of preparation.



CN202117279U

XINGJIAN LI

ALL BAMBOO AND WOOD FLOOR FUNCTIONAL IN AIR CONDITIONING

The utility model discloses an all bamboo and wood floor functional in air conditioning, which is formed by flat pressing or lateral pressing and arrangement of bamboo panels, wherein the overall floor is square; tenons or mortises are installed on the side surface of the bamboo wood floor; the tenons are arranged on two adjacent side surfaces of the overall floor; the mortises are arranged on another two side surfaces of the overall floor; the tenons and the mortises are matched with each other in size and shape; micro-pores, which penetrate from the upper surface to the lower surface of the floor, are distributed on the floor in an array way or in a pattern forming way; the micro-pores are shaped as cones having small openings on the upper surfaces and large openings on the lower surfaces The all bamboo and wood floor can be shaped as a square with such a big size of 80 cm*80 cm, is completely made of novel environment-friendly and economic bamboo-wood material, thus increasing fluidity of indoor air, adjusting indoor temperature automatically according to weather, and realizing warmness in winter and coolness in summer; in addition, the floor is beautiful in appearance, and has special using effects, such as, purification of indoor air, absorption of ultraviolet rays, reduction of noise, and the like.