



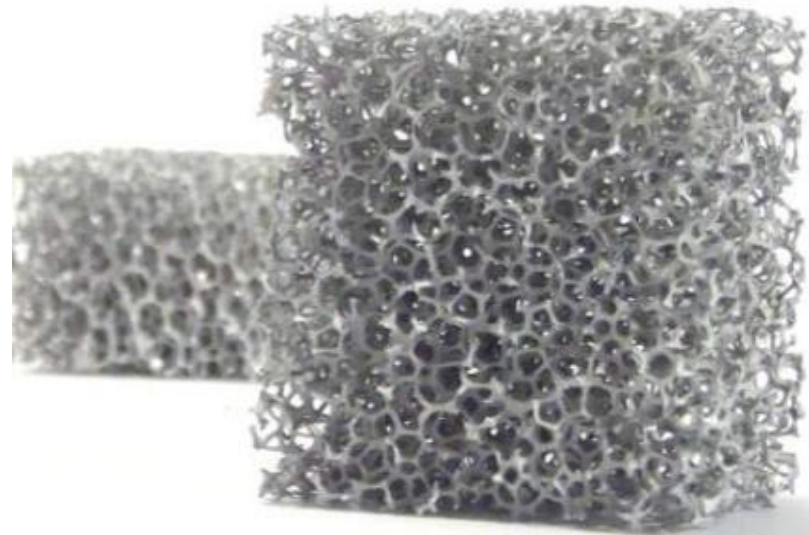
Crowdsourcing through the property-function approach in the patent database, a platform and 6 step approach for technology transfer and innovation



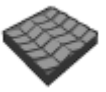
Search

porosity

hollow, porous, capillary foam-, perforated, blowup, aerated,...



contain store absorb cool drain hang glide appear break measure grip



Search

geometry

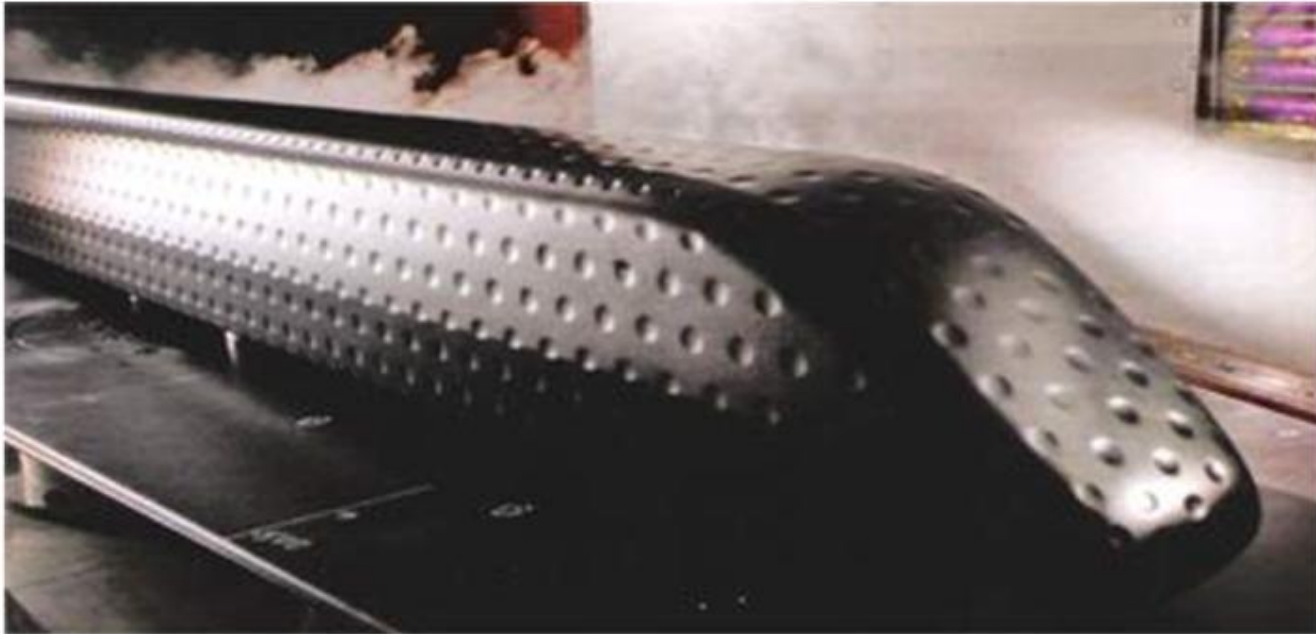
shaped, curved, round, cubic, sharp



appear assemble cut fit glide hold stabilize hang stack cool store

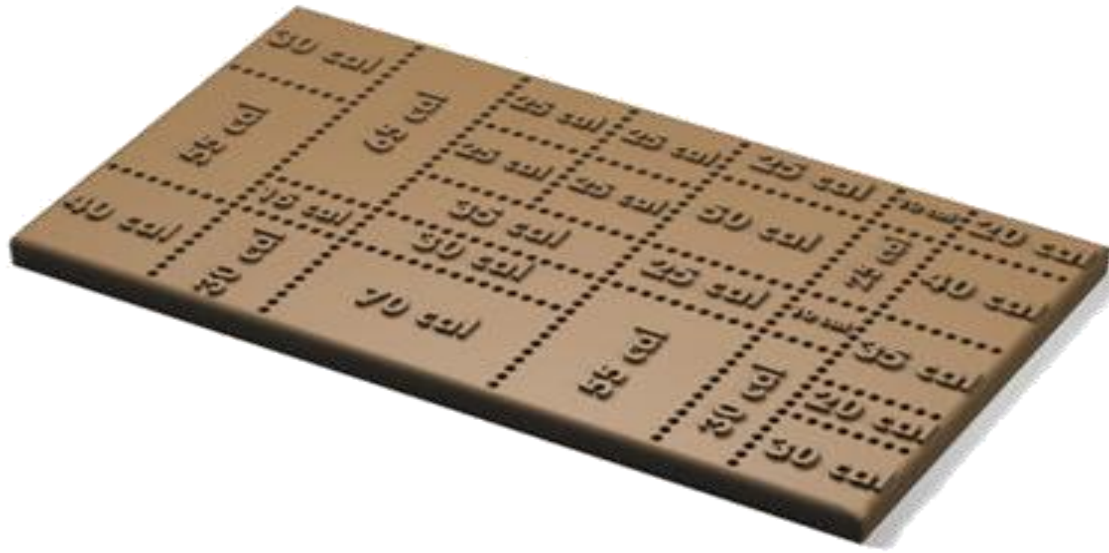


Search

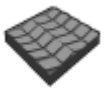


surface

flat, protruded, ribbed, textured, 3D, carved, dented, imposed...



contain store absorb cool drain hang glide appear break measure grip





Search



transparency

transparent, semi-transparent, translucent, opaque, clear



appear detect identify measure control hide protect indicate fit operate filter



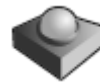
Search

integration

double, integrated, dual use, set, combined



appear assemble cut fit glide hold stabilize hang stack cool store



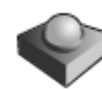
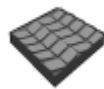


flexibility

jointed, hinged, flexible, foldable, elastic, stretchable, gel, bendable



absorb protect grip fit hold store transport stabilize stack join deform



innovation classification



innovation classification



hollow, porous,

POROSITY

carved, protruded,

SURFACE

feedback, warning,

INFORMATION

translucent, clear,

TRANSPARENCY

self, intelligent,

AUTOMATION

flexible, jointed,

FLEXIBILITY

blue, red,

COLOUR

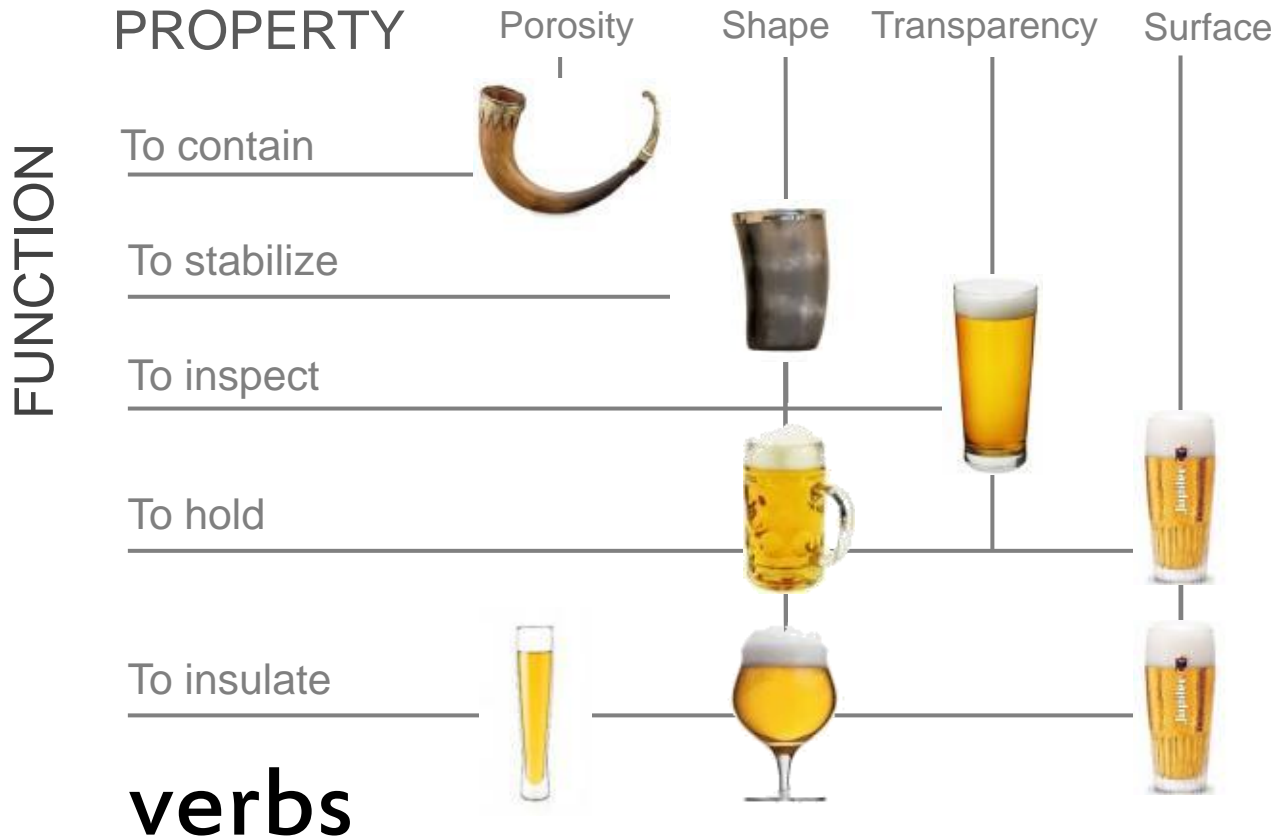
combined, kid,

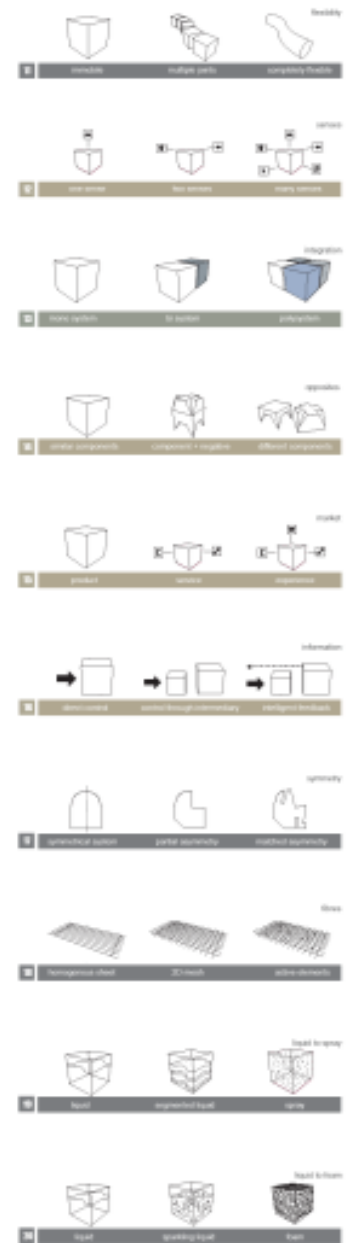
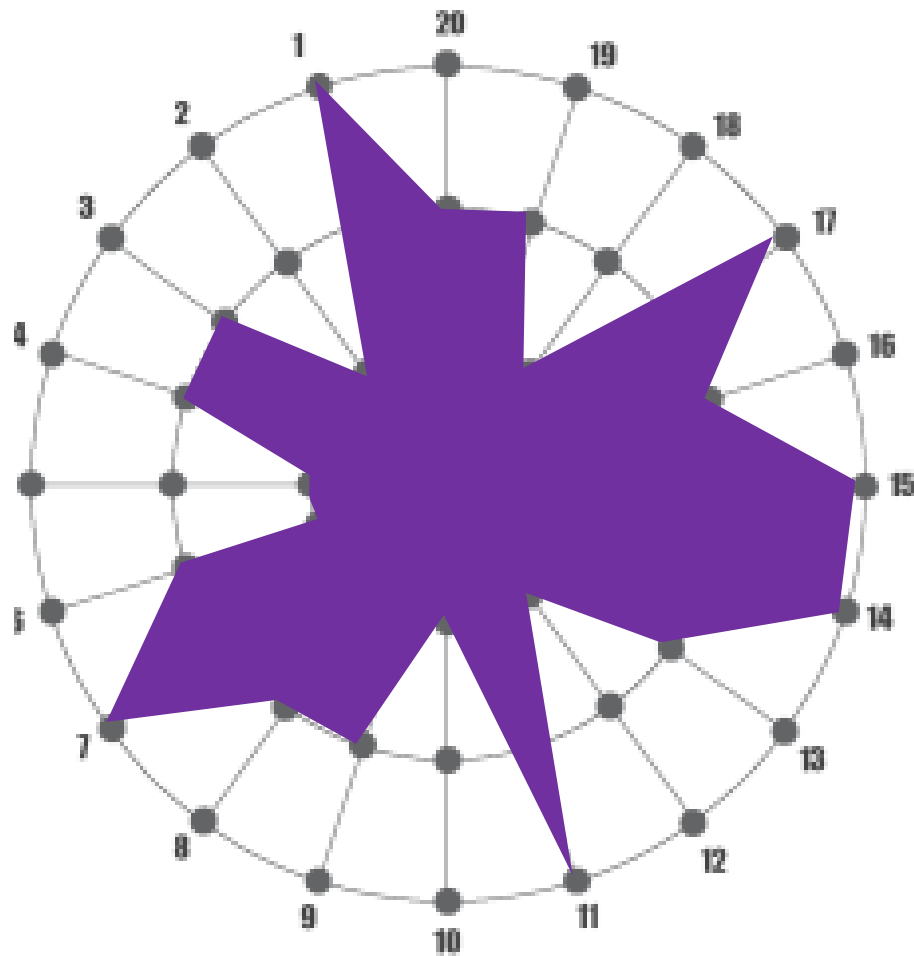
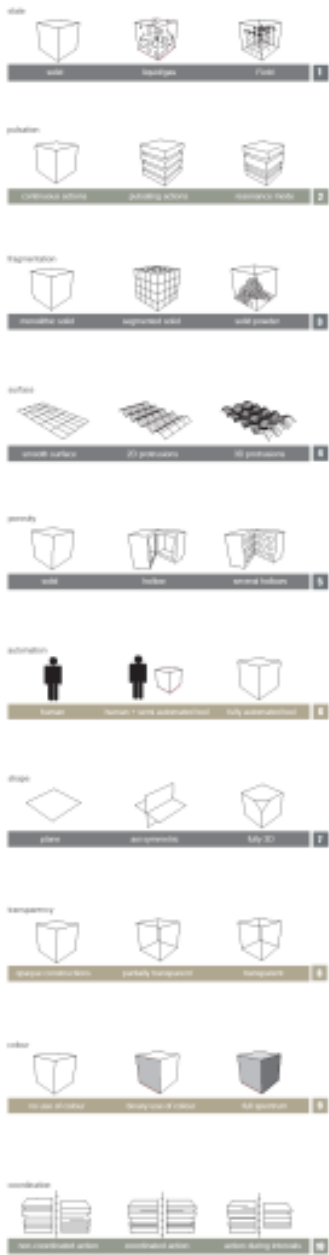
INTEGRATION



VARIATION

adjectives





Δ.U.L.I.V.E. method



STEP 1: AIM: What do we want?



STEP 2 USE: What do we have?



STEP 3 LINK: What is our DNA?



STEP 4 IMPORT: Where do we look?



STEP 5 VARY: What do we change?



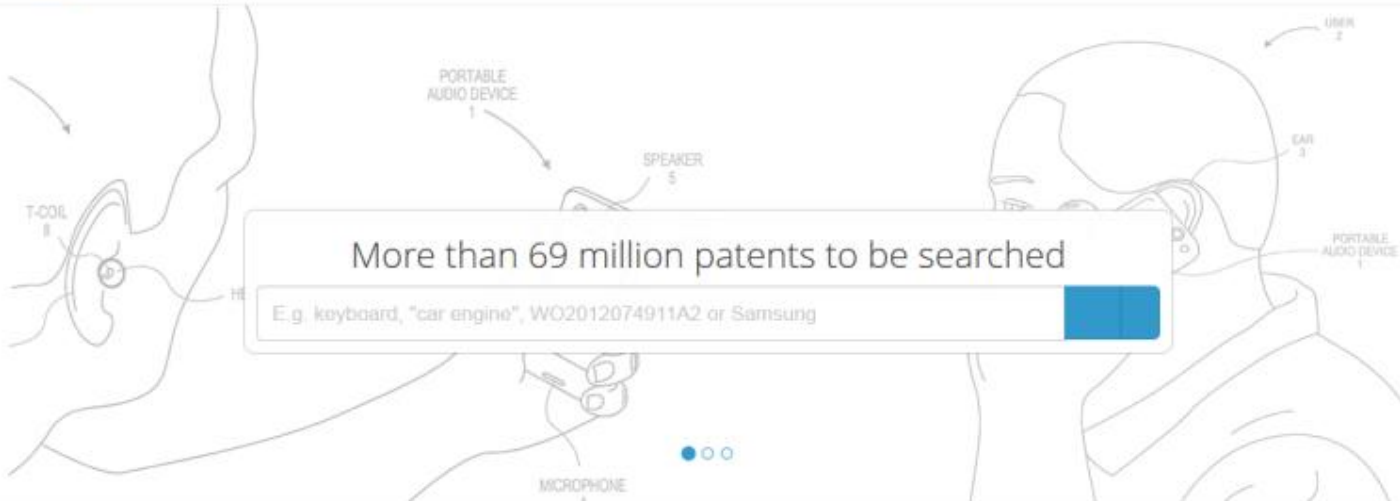
STEP 6: ELECT: What do we select?





Features Pricing Contact

Support Sign in



More than 69 million patents to be searched
E.g. keyboard, "car engine", WO2012074911A2 or Samsung

Get started in 60 seconds. [See Plans & Pricing](#) [Live Preview](#)

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Transferring data from www.google-analytics.com...



Δ .U.L.I.V.E. method



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STEP 5 VARY: What do we change?



STEP 6: ELECT: What do we select?





AIM

Value equation out of patents

$$\text{Value} = P - (H + I + C)$$

Performance	Harm	Interface	Cost
angle of attack balance body boat buoyancy chance of the rider cord draft performance polyolefin porpoising effect removal resistance rigidity shear strength strength surfboards surfboard with respect traction value	cable cross-section of the tubes damage damage from impacts fault-free fin free friction-free hull injury labor reliability risk rotation of the strap safety surfer theft turbulence volume water	auto autonomous autonomously flexibility self self-adhesive self-adjusting self-align self-contained self-explanatory self-fashioning self-fused self-locking self-propelled self-propelling self-rightening self-supporting self-tapping stability weight	cost



- Phrase
- art control problem
- art problem
- balance problem
- control problem
- cord entanglement around the limb
- cover all alternatives
- entanglement with the cord

anchored angled appended appreciate

compromise construed dampening deemed den

entitled explained exploded in

padding **pivoting**

stiffening stowed strapped stre

towing twisting un

auto auto-correlation **autonomous autonomously self**

self-adhesive self-align self-bailing self-build self-cleansing self-contained

self-inflating self-locked **self-locking** self-lubricating **self-orientation self-pivot**

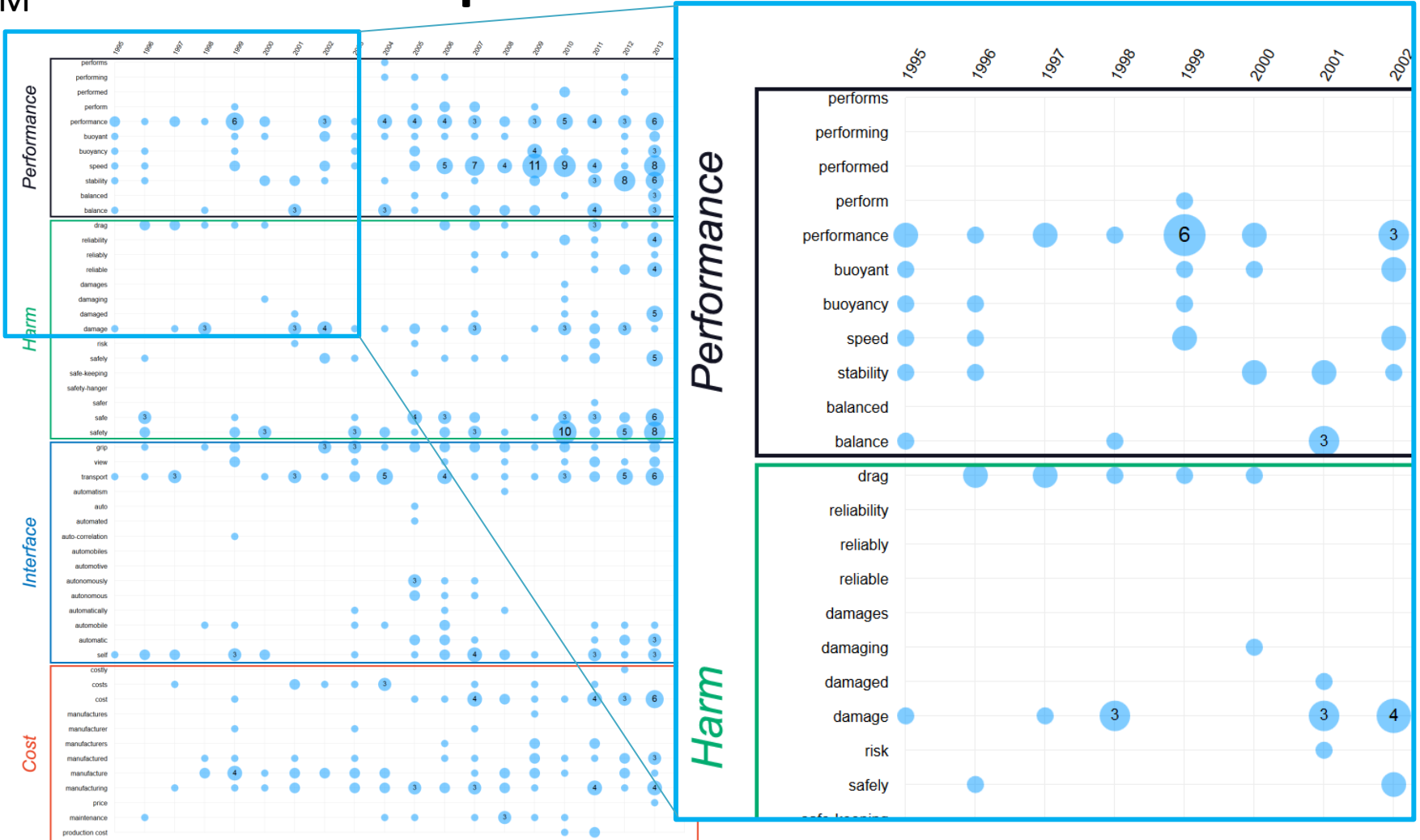
self-propellable self-propelled self-propelling **self-recharging self-releasing**

self-slide **self-straightening self-supporting self-tapping self-traveling**





Values patented over time



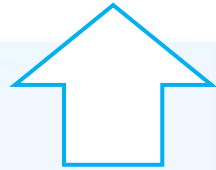


AIM

Modifying elements in patents

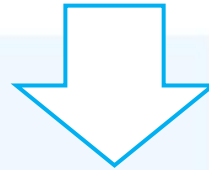
Increase

board
buoyancy
directional stability
drag
flexibility
foam
grip
lift
material
performance
polystyrene
reliability
resistance
rigidity
safety
shear strength
speed
stability
strength
structure
surfboard
traction
value
view
weight



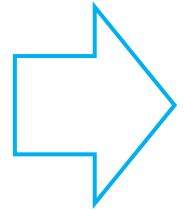
Decrease

board
cable
chance of the rider
cord
cost
cross-section of the tubes
damage
damage from impacts
drag
fin
hull
injury
labor
pressure
pulled
removal
risk
rotation of the strap
surfboard
surfer
theft
turbulence
volume
water
weight



Change or stabilize

angle of attack
balance
board
body
boot
connection between the connector
craft
polyolefin
porpoising effect
rotational orientation of the engagement
such sailboards
surfboard
surfboard with respect





Conflict matrix of patent search

Patents by property variation of solution

	Worsening												
Improving	board	damage	destabilizing	drag	fin	injury	labor	maneuverability	pulled	risk	surfboard	volume	weight
board				6								8	8
buoyancy	4			3									
directional stability				8									
drag				8				4					
flexibility						5						8	9
foam		7										8	8
grip				2									
performance				5		5			5				5
polystyrene		7											
resistance												8	8
safety		1			1	1							
shear strength							9						
speed				6	6								
stability					3					8		8	
strength					5							8	8
structure					6								
surfboard					6								
traction										8		8	
weight												8	8





AIM

Property variation patent hits

improving	worsening	property variation (principle?)	patents
speed	drag	Surface	3 WO9944884A1,US2011197798A1,US2013012083A1
speed	drag	Shape	3 WO9944884A1,US2011197798A1,US2013012083A1
speed	drag	Integration	2 US2011197798A1,US2013012083A1
speed	drag	State	2 US2011197798A1,US2013012083A1
speed	drag	Information	1 US2013012083A1
speed	drag	Fragmentation	1 US2013012083A1
speed	destabilizing	Information	1 US2011256518A1
speed	destabilizing	Surface	1 US2011256518A1
speed	destabilizing	Shape	1 US2011256518A1
speed	destabilizing	Sound	1 US2011256518A1
speed	destabilizing	Integration	1 US2011256518A1
speed	destabilizing	Senses	1 US2011256518A1
strength	drag	Surface	1 US8123580B1
strength	drag	Shape	1 US8123580B1
strength	drag	Fragmentation	1 US8123580B1
strength	drag	Porosity	1 US8123580B1
strength	drag	Integration	1 US8123580B1
strength	weight	Integration	2 US2011045720A1,US2013029547A1
strength	weight	Information	1 US2011045720A1
strength	weight	Surface	1 US2011045720A1
strength	weight	Shape	1 US2011045720A1
strength	weight	Fragmentation	1 US2011045720A1
strength	weight	State	1 US2011045720A1
strength	weight	Pulsation	1 US2011045720A1
strength	weight	Fibres	1 US2011045720A1
strength	surfboard	Information	1 US2011045720A1
strength	surfboard	Surface	1 US2011045720A1
strength	surfboard	Shape	1 US2011045720A1
strength	surfboard	Fragmentation	1 US2011045720A1



Δ.U.L.I.V.E. method



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STEP 5 VARY: What do we change?



STEP 6: ELECT: What do we select?





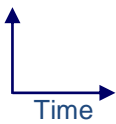
USE

Patents in space and time

surrounding

post-anchor post-die post-lesson post-molding pre-applied pre-arranged pre-assembled pre-coated pre-cured pre-cut pre-cutting pre-determined pre-established
 pre-existed **pre-existing** pre-expanded pre-fitted pre-foam **pre-formed** pre-graft **pre-impregnated** pre-made pre-mold pre-molded pre-positioned
before... pre-prec pre-programmed pre-saturate pre-seated pre-set pre-shape **pre-shaped** pre-stabilization pre-stabilized pre-stress pre-stresses **...after**
 pre-treatment pre-turn prevent prevented preventing prevention prevents repair repairable repaired
 repairers repairing repairs

bar bars base belt board body boom cavity cord core cover device edge element end fin fin blade fins frame head hole holes housing hull
 mast means member opening part pin plate plates portion recesses rope rudder sail screws seat shaft slide slot strap straps surface
 components components components components
 surfboard surfboards underside unit wishbone



Δ.U.L.I.V.E. method



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scan adjectives and verbs

angled annular aquatic **brief** **buoyant** collapsible displaceable
distal dry elastomeric flush **general** hinged hull human hydrodynamic
inflatable lockable motorized negative **non-slip** novel **pivot** prone
proximal rechargeable recreational releasable **resilient** retractable
rigid schematic secondary skilled solar sole spring-loaded stationary stern
synthetic thermoplastic threaded tubular underwater upright useful
watertight wet wooden

anchored angled appended appreciated articulated binding **boarding** bore
brace concave construct **dampening** deemed departing discussed dried
elongate **erected** explained exploded impregnated latch laying
locking looped maneuvered **padding** **pivoting** planing retracted
sail sanded sewn spanning **sporting** stiffening slowed strapped stretched substituted
surfing swimming tensioning tether towing twisting understood unlocking
wedge WOVEN

Product-DNA

anti-slip to grip
flexible to protect
fin shaped to steer
elongated to balance
buoyant to drift
smooth to glide (reduce drag)



Δ .U.L.I.V.E. method



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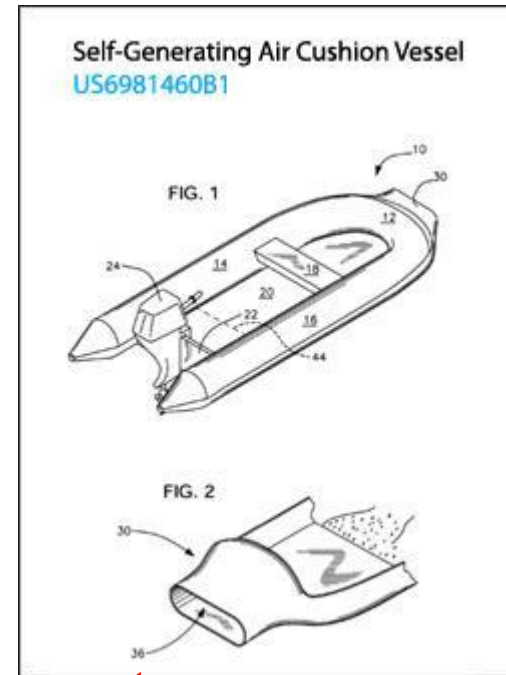




IMPORT

From DNA to family

	"anti-slip"	grip	elongat*	balanc*	buoyan*	drift*	flexib*	protect*	fin	steer*	drag	Terms	Patents
<input type="checkbox"/>	.	●	●	●	.	.	●	●	.	.	.	5	1
<input type="checkbox"/>	.	●	●	.	●	.	.	.	●	●	.	5	1
<input type="checkbox"/>	.	●	●	.	.	.	●	●	●	.	.	5	2
<input type="checkbox"/>	.	●	.	●	.	.	●	●	.	●	.	5	1
<input type="checkbox"/>	.	.	●	●	●	.	●	.	.	.	●	5	1
<input type="checkbox"/>	.	.	.	●	●	.	●	●	.	●	.	5	1
<input type="checkbox"/>	.	.	.	●	●	.	●	.	●	.	●	5	1
<input type="checkbox"/>	.	.	.	●	●	.	●	●	●	●	.	5	1
<input type="checkbox"/>	.	.	.	●	.	.	●	●	●	●	.	5	1
<input type="checkbox"/>	●	●	●	.	.	.	●	4	6
<input type="checkbox"/>	●	●	.	●	.	.	●	4	1
<input type="checkbox"/>	●	●	●	●	.	.	.	4	2
<input type="checkbox"/>	-	-					-			-		4	4





IMPORT

Links to surfboard




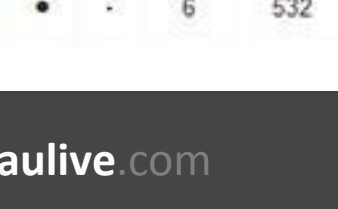


skateboard, boat surface, pool tiles →	anti-slip ●—● to grip	← skateboard, boat surface, pool tiles
bumper cars, packaging, helmet, airbag →	flexible ●—● to protect	← bumper cars, packaging, helmet, airbag
shark, dolphin, windmill →	fin shaped ●—● to steer	← boat, car, sailboat, bicycle
boat, peddle board, raft →	elongated ●—● to balance	← boat, pond raft, Segway
buoy, ship, ball →	buoyant ●—● to drift	← foam, bird, feather, boat
plane, train →	smooth ●—● to glide	← ski sledge, glider, boat



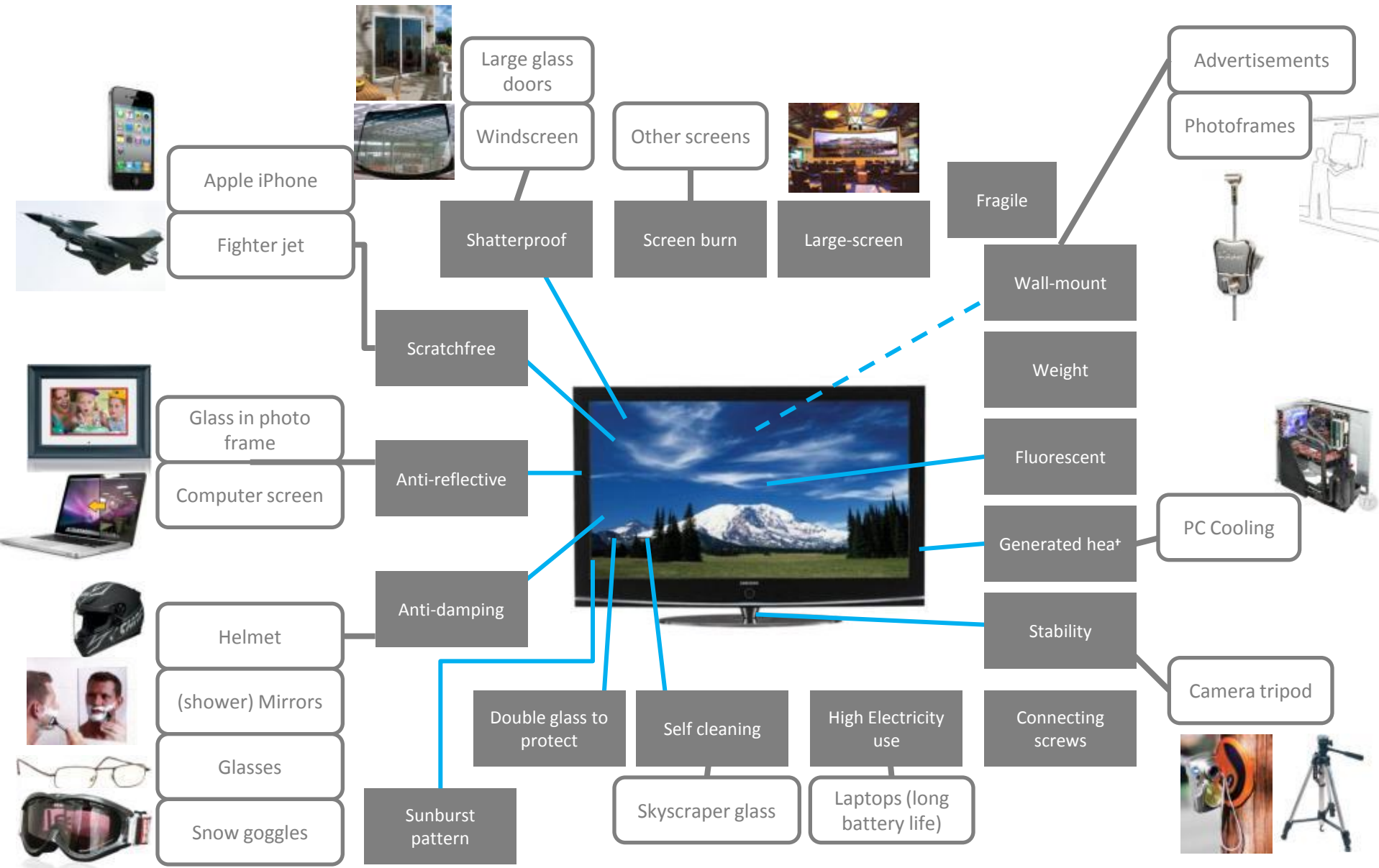


IMPORT

From bicycle to wheelchair

	adjustable	collapsible	comfortable	foldable	folding	pneumatic	portable	wheel	Terms	Patents		
	•	•	•	•	•	•	•	•	8	64	→ bicycle, bed, chair	
	•	•	•	•	•	•	•	•	7	34		
	•	•	•	•	•	•	•	•	7	110	← wheelchair, stroller	
	•	•	•	•	•	•	•	•	7	261	→ lawnmower	
	•	•	•	•	•	•	•	•	7	7		
	•	•	•	•	•	•	•	•	7	110		
	•	•	•	•	•	•	•	•	7	82		
	•	•	•	•	•	•	•	•	7	40	← roller skate, saw	
	•	•	•	•	•	•	•	•	7	4	→ trailer	
	•	•	•	•	•	•	•	•	6	38		
	•	•	•	•	•	•	•	•	6	532		

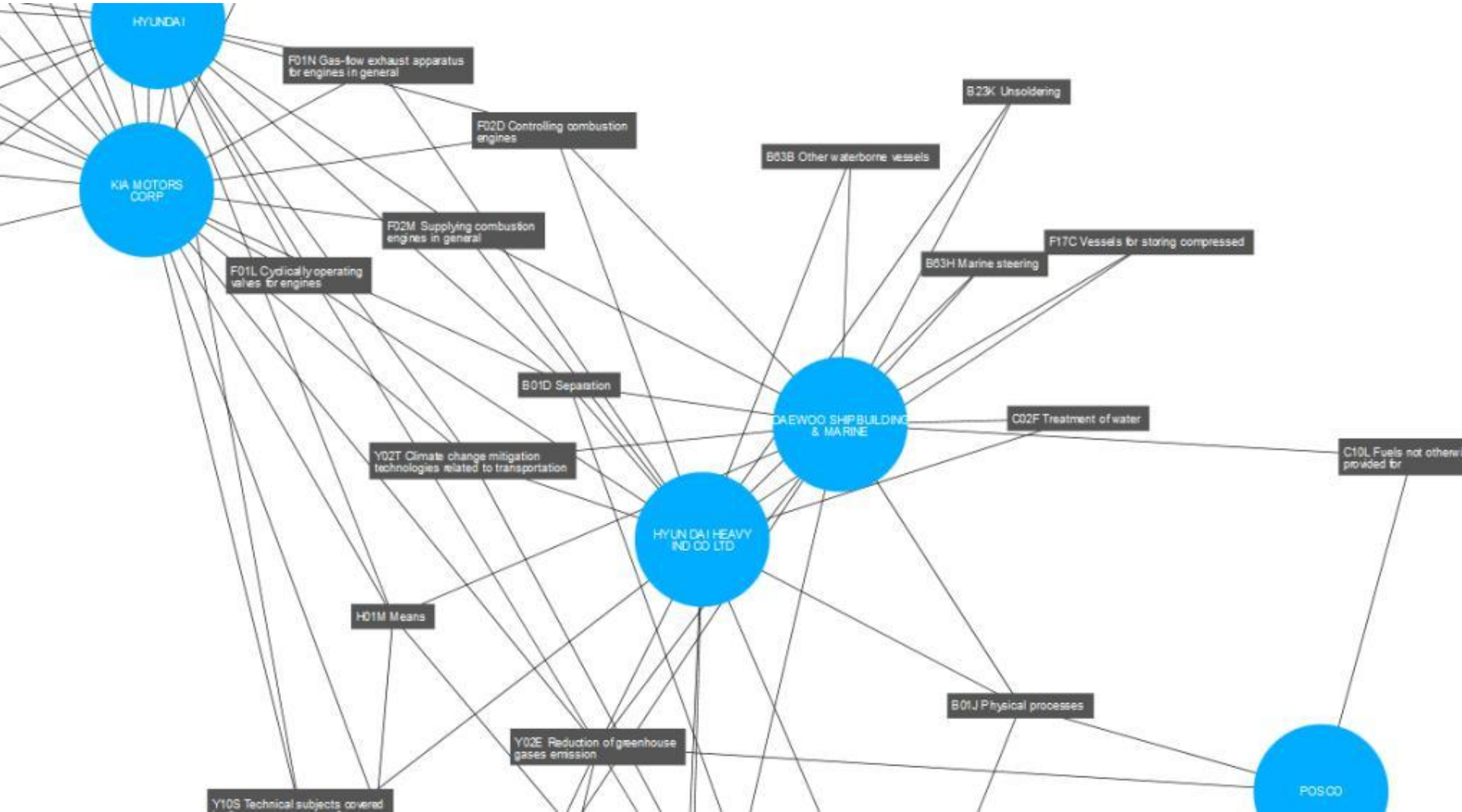






Korean knowledge map

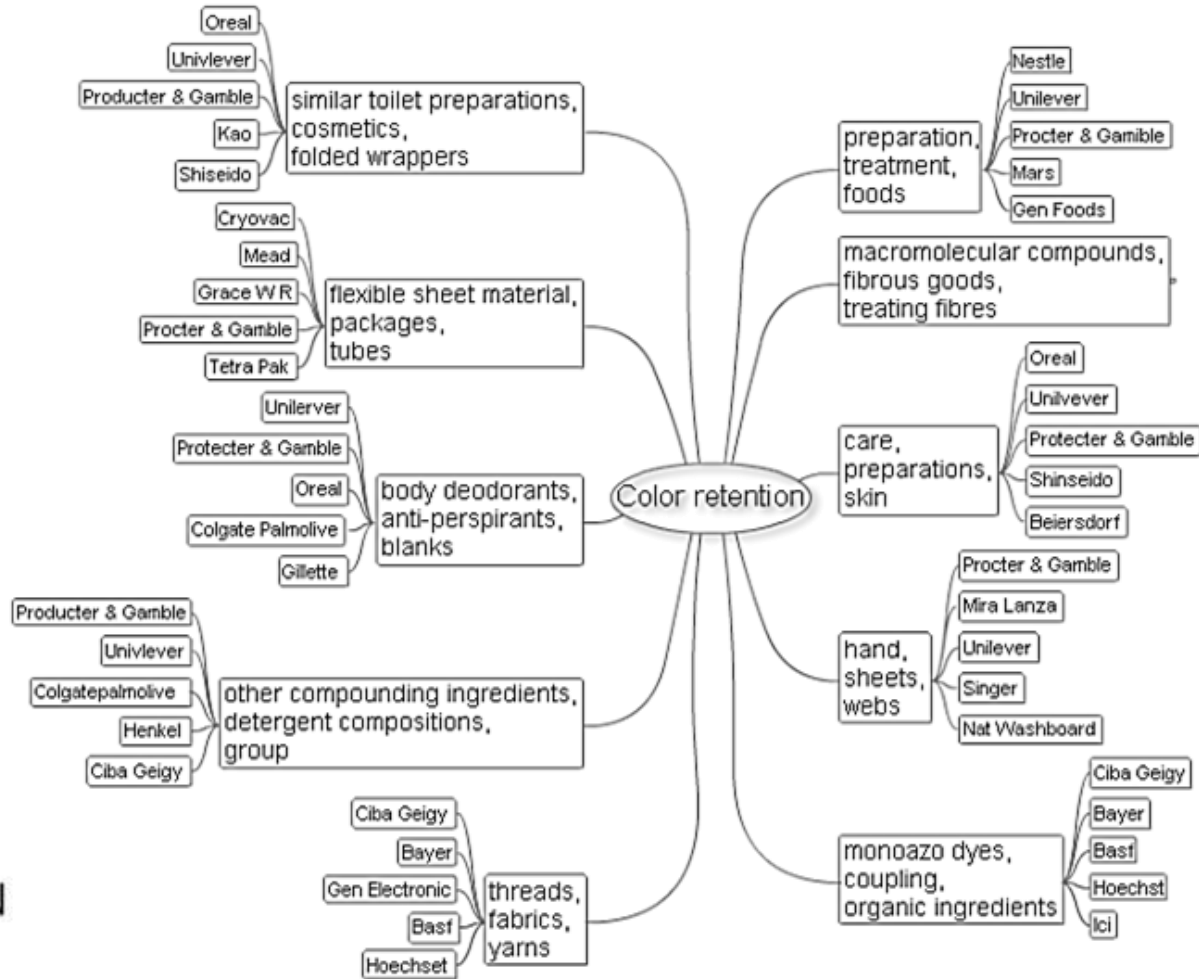
IMPORT





IMPORT

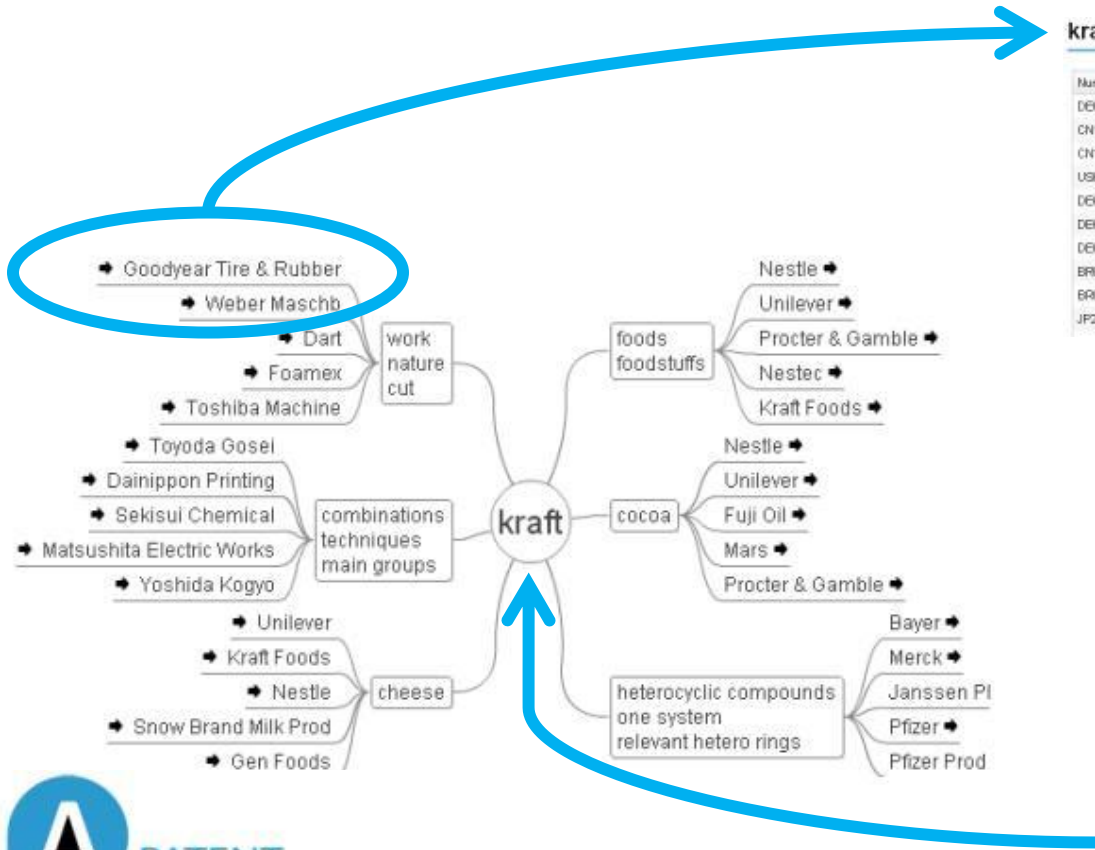
technology transfer map





IMPORT

open innovation scouting



kraft related company Goodyear Tire And Rubber patents

Number	Title	Applicant(s)	Publication Date
DE6022206T	Method for cutting elastomeric materials	GOODYEAR TIRE & RUBBER (I)	12/06/2008
CN1853882	Method for cutting elastomeric materials and the	GOODYEAR TIRE & RUBBER CC	1/11/2005
CN1790063	Apparatus for cutting elastomeric materials	GOODYEAR TIRE & RUBBER (I)	5/07/2006
US6508911	Method and apparatus for cutting the ply stock	GOODYEAR TIRE & RUBBER (I)	16/08/2005
DE69614478T	METHOD AND APPARATUS FOR CUTTING ELA	GOODYEAR TIRE & RUBBER (I)	19/02/2004
DE69604967T	FORMING SPLICE JOINTS FOR ELASTOMERIC	GOODYEAR TIRE & RUBBER (I)	2/10/2003
DE69614478D	METHOD AND APPARATUS FOR CUTTING ELA	GOODYEAR TIRE & RUBBER (I)	12/06/2003
BR0202007	Method for cutting elastomeric materials	GOODYEAR TIRE & RUBBER (I)	15/04/2003
BR0201296	Heated cutting wheel	GOODYEAR TIRE & RUBBER (I)	11/03/2003
JP2003039380	BASE CUTTING APPARATUS HAVING CUTTIME	GOODYEAR TIRE & RUBBER	13/02/2003

Method for cutting elastomeric materials (DE6022206T)

Publication date
12/06/2008

Inventor
DOWNING DANIEL RAY

Applicant
[GOODYEAR TIRE & RUBBER](#)

Abstract
A method and an apparatus for cutting segments (10) to desired lengths from a strip (1) of elastomeric tire components having at least one cord reinforced component includes the step of impacting one cord (22) as the cut is being made and lifting the cord (22) to avoid cutting cords (22) while directing the cutting path (3) along the lifted cord (22). The article resulting from the method has a plurality of cords (22) adjacent a flat cut splicing surface (8) suitable for...

Description Claims

Background of the invention
1. Field of the invention
The invention relates to a method and apparatus for cutting elastomeric materials at low skew angles, in particular cutting layered composites of elastomeric materials including (L...)

Summary of the invention
A method of cutting segments to desired lengths from the strip of elastomeric material as disclosed. The segments have a width W, elastomeric strips being formed of a plurality of tire components, at least one (L...)

Brief description of the drawings
The structure, operation, and advantage of the invention



"Research is often Re-Search"





open innovation scouting

IMPORT

Posco

Coating metallic material

Casting of metals

Production

Alloys

Modifying the physical structure of ferrous metals

Manufacture of steel

ALLETTA CK
ING & MFC
DU PON
FORN
DURACELL INC ✓

HENKEL KGAA
TOKYO ELECTRON LTD
SIEMENS AG
LICENTIA GMBH
MITSUBISHI ELECTRIC CORP
SEKISUI CHEMICAL CO LTD

BUEHLER AG GEB
GEN MOTORS CORP
ASEA BROWN BOVERI
KOBEL ELECTRIC MACHINERY
YUASA BATTERY CO LTD
FORD MOTOR CO

ISSARIAT ENERGIE ATOMIQUE
TINGHOUSE ELECTRIC CORP
HENKEL CORP
ASAHI CHEMICAL IND
UNION CARBIDE CORP

SHINETSU CHEMICAL CO
MASSACHUSETTS INST TECHNOLOG
SHOWA DENKO KK
KANSAI ELECTRIC POWER CO
BBC BROWN BOVERI & CIE
MALLORY & CO INC P R

KRAFTWERK UNION AG
FRAUNHOFER GES FORSCHUNG
KUBOTA KK
LINDE AG
AIR LIQUIDE
SANDVIK AB

BABCOCK & WILCOX CO
METALL GESELL SCHAFT AG





open innovation scouting

- MICRO TECHNOLOGY II
- BATTERY II
- TELECOM
- SILVERBROOK RES PTY L
- MACRONIX INT CO LTD
- ERICSSON TELEFON AB L M
- RESEARCH IN MOTION LTD
- DAIKIN IND LTD
- WOBLEN ALOYS
- VESTAS WIND SYS AS
- ACCUMULATEURS FIXES
- UNION CARBIDE CORP
- GLOBAL TECH OPERATIONS INC
- HONDA MOTOR CO LTD
- TOYOTA MOTOR CO LTD
- GEN MOTORS CORP
- SHIKAWAJIMA HARIMA HEAVY IND
- TOKYO ELECTRON LTD
- ELPIDA MEMORY INC
- LAM RES CORP
- TAIWAN SEMICONDUCTOR MFG
- TECH MICROELECTRONICS CORP

Indexing scheme relating to climate change mitigation technologies related to buildings

Reduction of greenhouse gases emission

Semiconductor devices

Samsung

Information storage based on relative movement between record carrier

Circuits for control of indicating devices using static means to present variable information

- QUALCOMM INC
- HUAWEI TECH CO LTD
- BROTHER IND LTD
- ZTE CORP
- UNITED VIDEO PROPERTIES INC
- SCIENTIFIC ATLANTA
- VICTOR COMPANY OF JAPAN
- KONISHIROKU PHOTO IND
- MICROSOFT CORP
- INT STANDARD ELECTRIC CORP
- RENESAS ELECTRONICS CORP
- NEC ELECTRONICS CORP
- SEIKO EPSON CORP
- SONY ELECTRONICS INC
- NAT SEMICONDUCTOR CORP



Δ .U.L.I.V.E. method



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STEP 2 USE: What do we have?



STEP 3 LINK: What is our DNA?



STEP 4 IMPORT: Where do we look?



STEP 5 VARY: What do we change?



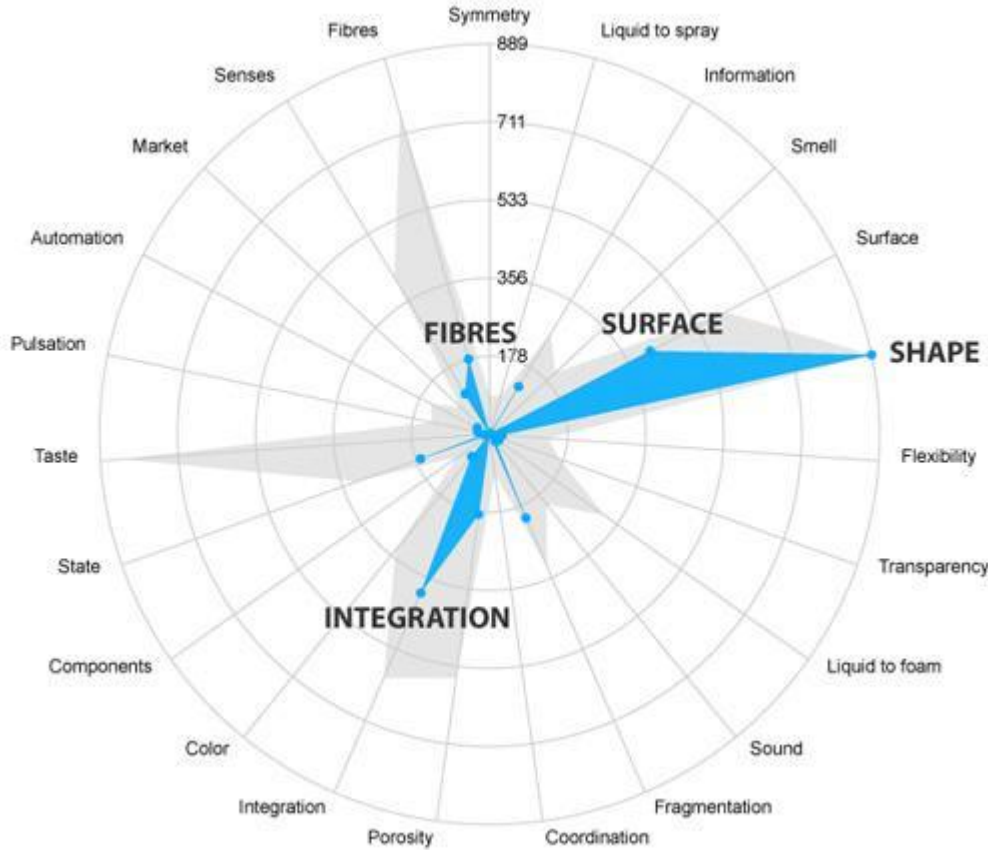
STEP 6: ELECT: What do we select?





VARY

change a property, gain a function



POROSITY: hollow porous, capillary foam, perforated, blow-up, aerated
 contain, store, absorb, cool, drain, hang, glide, appear, break, grip

SURFACE: flat, protruded, carved, textured, embossed, dimpled, rough
 hold, break, glide, cool, drain, grip, join, stack, identify, measure, clean

FLEXIBILITY: jointed, hinged, flexible, foldable, elastic, stretch, gel, bendable
 absorb, protect fit, hold, grip, transport, stabilize, stack, join, deform

TRANSPARENCY: transparent, semi-transparent, translucent, opaque, clear
 appear, detect, identify, measure, control, hide, protect, identicate, filter

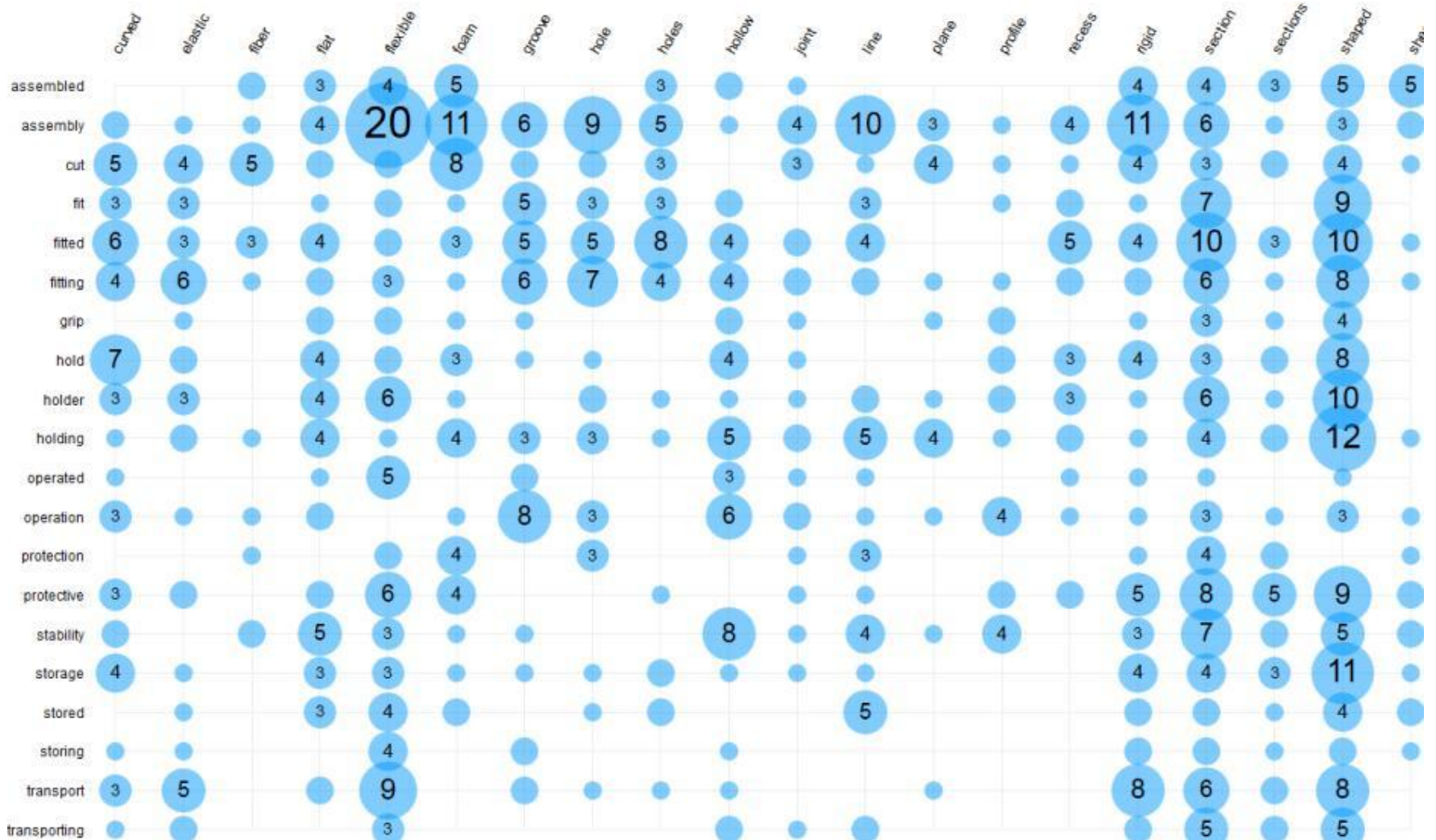
GEOMETRY: shaped, curved, round, cubic, sharp
 appear, assemble, cut, fit, steel, glide, hold, hang, stack, cool, store





change a property, gain a function

VARY



Δ .U.L.I.V.E. method



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STEP 4 IMPORT: Where do we look?



STEP 5 VARY: What do we change?



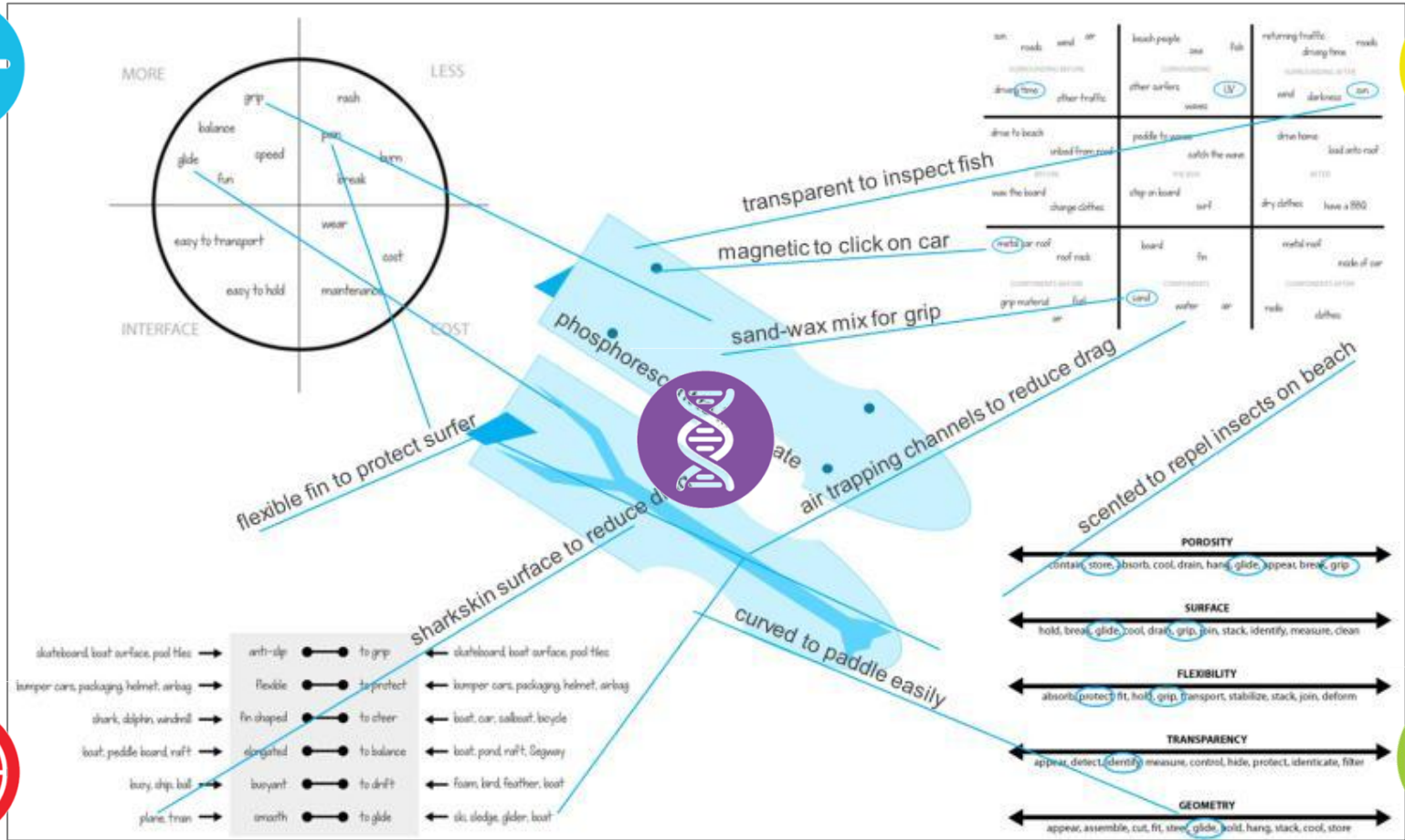
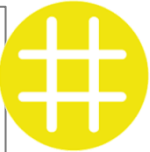
STEP 6: ELECT: What do we select?





ELECT

6 easy steps to innovate



AULIVE Method

PROPERTIES for FUNCTION

adjectives

verbs

science

technology

creativity

innovation



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 **NEWSLETTER**

 **PATENT INSPIRATION**

 **PRODUCTION INSPIRATION**

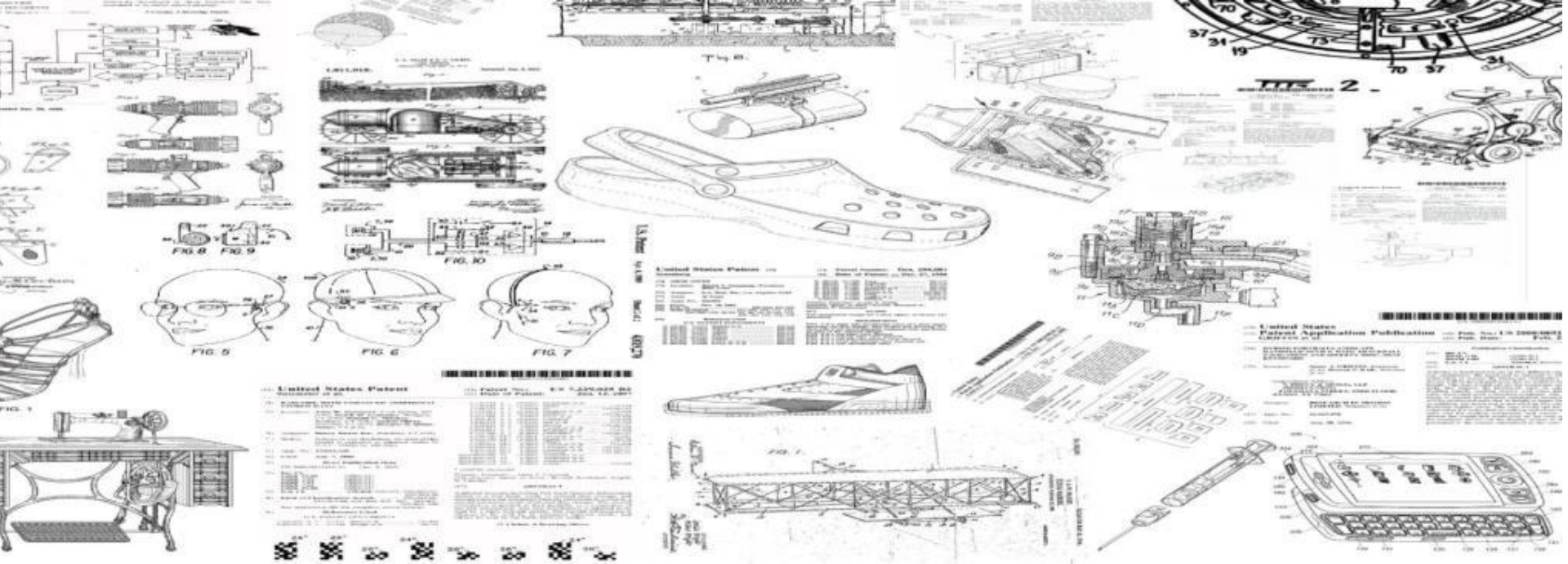
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NEXT KOREA AULIVE COURSE

October 2014

Kensington, JEJU





Cooling from room
temperature to 4
degrees in 45
seconds

16 EFFECTS FOUND



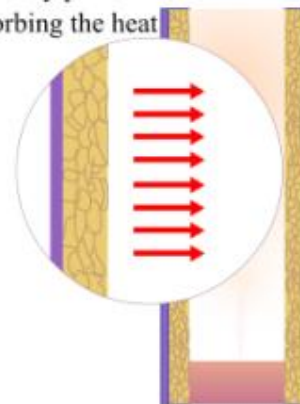
Endothermic Reactions

An Endothermic Reaction is one that needs to absorb some form of energy (normally heat) from its environment or surroundings to carry out the process, causing a depletion of energy capacity of the surroundings.

A chemical reaction where the energy content of the products is more than that of the reactants; heat is taken in by the system.

Example: Solid Barium Hydroxide Octahydrate and Ammonium Thiocyanate are mixed in a beaker

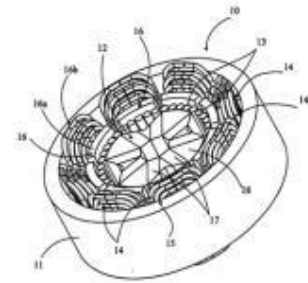
Capillary porous material
absorbing the heat



Capillary-porous materials

Capillary-Porous Materials are porous structures made of materials like Steel, Aluminum, Nickel or Copper in various ranges of pore sizes. Fibrous materials, like ceramics, have also been used widely.

The main disadvantage of ceramic fibres is that, they have little stiffness and usually require a continuous support by a metal mesh. More recently, interest has turned to carbon fibres as a wick material. Carbon fibre filaments have many fine longitudinal grooves on their surface, high capillary pressures, and are chemically stable. A number



adiabatic conduction convection corrugation **cryogenic** cryogenically curie electrocaloric electron
 electrostatic electrostatically endothermic **evaporation** exothermic **expansion fan**
 fin hall **heat exchanger** heat pipe heat sink hydrated infrared laser
 latent heat lens **magnet magnetic** magnetically magnetized magneto **magnetocaloric**
 magneto-caloric magnetocalorically magnets **peltier** phase change pulse tube radiation
 reduction reflection spray stirling **supercooling** thermoacoustic thermocouple thermosyphon
 thomson wind zeolite

ECOLE D INGENIEURS DU CANTON D
HAUTE ECOLE D INGENIERIE ET DE
HAUTE ECOLE D INGENIERIE ET DE GESTION DU
CANTON DE VAUD HEIG VD

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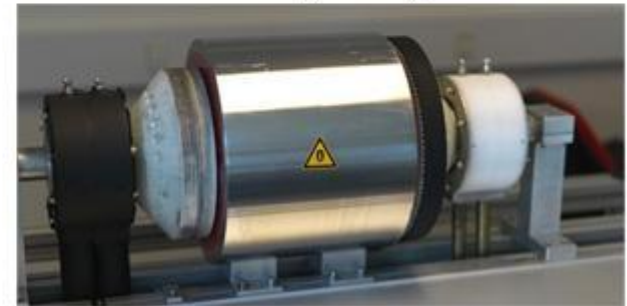
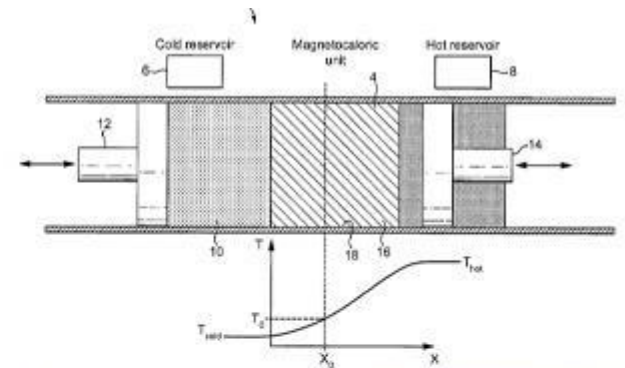
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