





SUMMER SCHOOL NETVAL 11-14 settembre 2017, Lecce

EXPLOITING INNOVATION IN HEALTHCARE



Patent trends in clinical innovation:

Comparing
NETVAL associates' and
Big Pharma companies

Clinical innovation

Current developments in clinical innovation / from gene edition to 3D bioprinters /

interdisciplinary



What are the main trends in clinical innovation?

Emerging trends?

Main players?

Trends inside Netval associates?

Netval portfolio vs Big Pharma in the same area

Netval vs the biggest actor, Roche

Insights in terms of technology/innovation, portfolio pruning or licensing out





A61 Main subclasses definition (Espacenet)



A61	MEDICAL OR VETERINARY SCIENCE; HYGIENE
☐ A61B	DIAGNOSIS; SURGERY; IDENTIFICATION (analysing biological material G01N, e.g. G01N 33/48; obtaining records using waves other than optical waves, in general G03B 42/00)
A61C	DENTISTRY; APPARATUS OR METHODS FOR ORAL OR DENTAL HYGIENE (non-driven toothbrushes A46B; {tongue scrapers A61B 17/24;} preparations for dentistry A61K 6/00; preparations for cleaning the teeth or mouth A61K 8/00, A61Q 11/00)
A61D	VETERINARY INSTRUMENTS, IMPLEMENTS, TOOLS, OR METHODS
☐ A61F	FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY TO, OR PREVENTING COLLAPSING OF, TUBULAR STRUCTURES OF THE BODY, E.G. STENTS; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS (dental prosthetics A61C)
A61G	TRANSPORT OR ACCOMODATION FOR PATIENTS; OPERATING TABLES OR CHAIRS; CHAIRS FOR DENTISTRY; FUNERAL DEVICES (embalming corpses A01N 1/00; {chairs or beds in general A47C; walking aids A61H 3/00})
☐ A61H	PHYSICAL THERAPY APPARATUS, e.g. DEVICES FOR LOCATING OR STIMULATING REFLEX POINTS IN THE BODY; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES FOR SPECIAL THERAPEUTIC OR HYGIENIC PURPOSES OR SPECIFIC PARTS OF THE BODY (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy
☐ A61J	CONTAINERS SPECIALLY ADAPTED FOR MEDICAL OR PHARMACEUTICAL PURPOSES; DEVICES OR METHODS SPECIALLY ADAPTED FOR BRINGING PHARMACEUTICAL PRODUCTS INTO PARTICULAR PHYSICAL OR ADMINISTERING FORMS; DEVICES FOR ADMINISTERING FOOD OR MEDICINES ORALLY; BABY COMFORTERS; DEVICES FOR RECEIVING SPITTLE
☐ A61K	PREPARATIONS FOR MEDICAL, DENTAL, OR TOILET PURPOSES (devices or methods specially adapted for bringing pharmaceutical products into particular physical or administering forms A61J 3/00; chemical aspects of, or use of materials for deodorisation of air, for disinfection or sterilisation, or for bandages, dressings, absorbent pads or surgical articles A61L {; compounds per se C01, C07, C08, C12N; } soap compositions C11D {; microorganisms per se C12N})
☐ A61L	METHODS OR APPARATUS FOR STERILISING MATERIALS OR OBJECTS IN GENERAL; DISINFECTION, STERILISATION, OR DEODORISATION OF AIR; CHEMICAL ASPECTS OF BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES; MATERIALS FOR BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES (preservation of bodies or disinfecting characterised by the agent employed AO1N; preserving, e.g. sterilising, food or foodstuffs A23; preparations for medical, dental or toilet purposes A61K; preparation of ozone C01B 13/10)
☐ A61M	DEVICES FOR INTRODUCING MEDIA INTO, OR ONTO, THE BODY (introducing media into or onto the bodies of animals A61D 7/00; means for inserting tampons A61F 13/26; devices for administering food or medicines orally A61J; containers for collecting, storing or administering blood or medical fluids A61J 1/05); DEVICES FOR TRANSDUCING BODY MEDIA OR FOR TAKING MEDIA FROM THE BODY (surgery A61B; chemical aspects of surgical articles A61L); DEVICES FOR PRODUCING OR ENDING SLEEP OR STUPOR
☐ A61N	ELECTROTHERAPY; MAGNETOTHERAPY; RADIATION THERAPY; ULTRASOUND THERAPY (measurement of bioelectric currents A61B; surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body A61B 18/00; anaesthetic apparatus in general A61M; incandescent lamps H01K; infra-red radiators for heating H05B)
A61Q	SPECIFIC USE OF COSMETICS OR SIMILAR TOILET PREPARATIONS

Netval's A61 portfolio





Netval portfolio

Looking at Netval associates in A61 main class

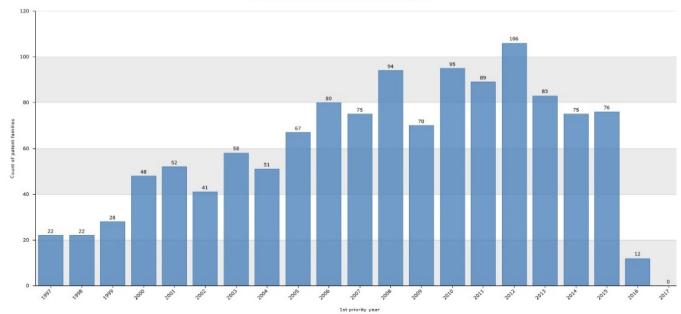




The following query wil retrieve **1519 patent families**:

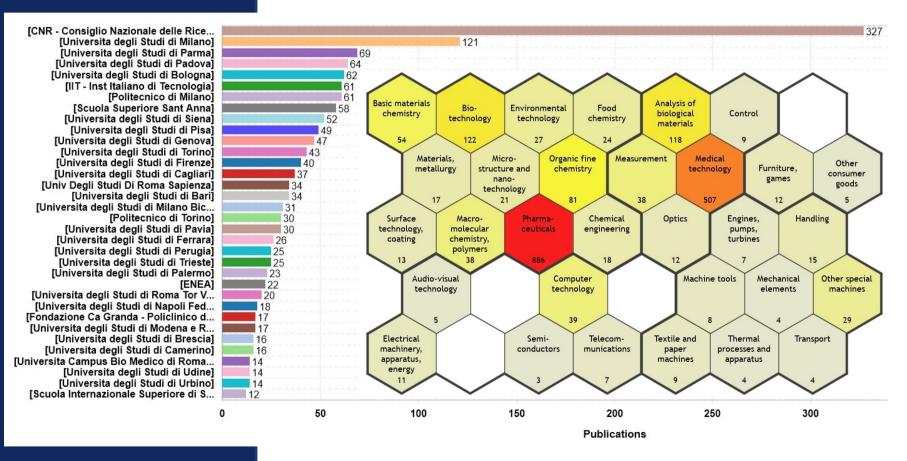
(((UNIVERSIT+ S (AQUILA OR INSUBRIA OR BARI OR BERGAMO OR BOLOGNA OR BRESCIA OR CAGLIARI OR CALABRIA OR CAMERINO OR CATANIA OR FERRARA OR FIRENZE OR FOGGIA OR GENOVA OR MESSINA OR MILANO OR PADOVA OR PALERMO OR PARMA OR PAVIA OR PERUGIA OR PISA OR SANNIO OR SALENTO OR SALERNO OR SASSARI OR TORINO OR TRENTO OR TRIESTE OR UDINE OR VERONA OR BOCCONI OR MODENA OR (NAPOLI FEDERICO) OR (CAMPANIA LUIGI VANVITELLI) OR (FOSCARI S VENEZIA) OR CATTOLICA OR (REGGIO CALABRIA) OR CASSINO OR (LAZIO MERIDIONALE) OR (PIEMONTE ORIENTALE) OR (CAMPUS S ROMA) OR (ROMA S VERGATA) OR URBINO OR SIENA OR PERUGIA OR BOLZANO OR (CARLO CATTANEO) OR (ANNUNZIO S CHIETI S PESCARA))) OR (POLITEC+ S (BARI OR MARCHE OR MILANO OR TORINO)) OR (SCUOLA S (PISA OR (SANT ANNA) OR TRIESTE)) OR (AREA SCIENCE PARK) OR (CENTRO ITALIANO RICERCHE AEROSPAZIALI) OR (CONSIGLIO S RICERCA S AGRI+) OR (CRA S RICERCA) OR (CONSIGLIO S NAZ+ S RICERCHE) OR (CENT+ S RIFERIMENTO S ONCOLOGICO) OR (ENEA AND (NUOVE S TECNOLOGIE S ENERGIA)) OR (I?STITUT# ORTOPEDIC# RIZZOLI) OR (FONDAZIONE S GRANDA) OR ((ITALI+ 1D I?STITUT+) S TEC?NOLOG+) OR ((I?STITUT# 1D NA+) S (FISICA 2D NUCLEA+)) OR INFN OR ((I?STITUT? 1D NA?IONAL?) 3D TUMOR?))/PA/OPA/PAH/OWR/REAS) AND A61+/CPC/IPC (no restriction on date)

Distribution of search results by 1st priority year



Netval associates (always considering the "A61 portfolio")

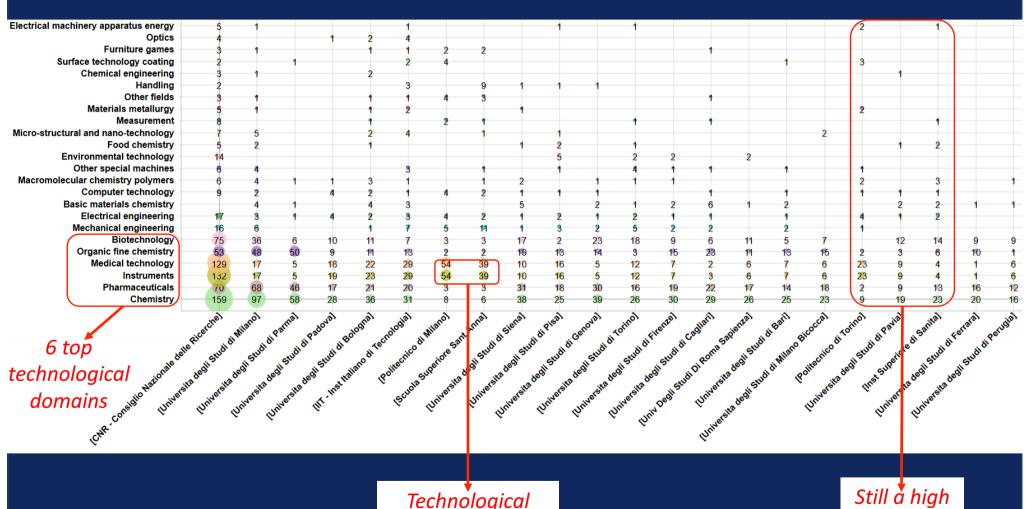
Assignees & technological overview Still an interdisciplinary environment







Technological domains scattering Looking closely...



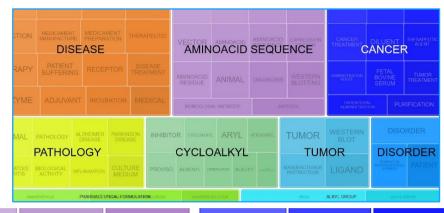


Technological specialization or major trend for those 2 actors

Still a high technology scattering on smaller datasets

Top concepts in the A61 class among Netval's associates

Proteins and cancer related concepts are preponderant



DISEASE	PREVENTIO	ON AD	MINISTR	ATION	EXCI	PIENT	ANTIE	SODY	FRAGME	ENT	PEPTIDE	PROTEIN	MEDICAMENT	ACT INGRE		CANCER
INFECTION	MEDICAMEN MANUFACTUI		EDICAM REPARA		THERA	APEUTIC	VEC	TOR	AMINOA		AMINOACID SEQUENCE		CANCER TREATMENT	DILU	ENT	THERAPEUTIC AGENT
THERAPY	PATIENT		ECEP	TOR		EASE	AMINO RESI		ANIM	AL	DIAGNOSIS	WESTERN BLOTTING	ADMINISTRATION ROUTE	FET BOV SER	INE	TUMOR TREATMENT
ENZYME	ADJUVA	NT	IT INCUBAT		ME	DICAL	MOM	NOCLONA	AL ANTIBOI	DY	Al	NTIGEN	PARENTER/ ADMINISTRAT		PUR	RIFICATION
MAMMAL	MMAL PATHOLOGY		ALZHEIMER PARK DISEASE DISE			INHIBIT	OR CYCLOALKY		- ARY	/L H	ETEROARYL	TUMOR	WESTERN BLOT		DISO	RDER
													BLOT			
RHEUMATOID ARTHRITIS	BIOLOGICAL ACTIVITY	INFLAMI	MATION	CULTI MEDI		PROVISO	ALKEN	NYL HET	TEROATOM ,	ALKOXY	CHRONATOGRAPHY	MANUFACTURER INSTRUCTION	LIGAND	REN PHARM SC	INGTON ACEUTICAL IENCE	PATIENT





Orbit Inteligence - Concepts golf map on Netval's portfolio



Netval's portfolio – Players analysis

CNR 33 32 16 16 18 19 15 14 12 17 9 15 11 10 12 6 12 15 4																				
CNR	33	32	16	16	18	19	15	14	12	17	9	15	11	10	12	6	12	15	4	9
UNIVERSITA DEGLI STUDI DI MILANO	26	17	22	8	13	18	22	12	10	7	5	19	16	10	15	10	8	15	10	9
UNIVERSITA DEGLI STUDI DI PARMA	10	4	6	7	8	4	1	5	2	2			4	6	10	3	1	12	3	6
SCUOLA SUPERIORE SANT ANNA	5	1	1	5	1	1		3		3	4		1		1	2			1	
UNIVERSITA DEGLI STUDI DI BOLOGNA	8	3	10	7	4	4	2	2	1	4	4		6	6	2	3	3	3	2	3
UNIVERSITA DEGLI STUDI DI PADOVA	9	5		8	5	6	1	6	4		3	4	3	8	1	4	3	3	10	4
ISTITUTO ITALIANO DI TECNOLOGIA	10	8	11	8	7	2	1	5	5	1	2	2	6	2	12	1	1	11	4	1
POLITECNICO DI MILANO		1	4	1	2		1	2				2	1	2	1					
UNIVERSITA DEGLI STUDI DI SIENA	17	4	8	10	5	8	8	5	14	9	3	1	4		3	7	5	3	3	2
UNIVERSITA DEGLI STUDI DI PISA	5	2	5	4	3		3	1	2	1	1	3	2	2	3	1		2	1	
UNIVERSITA DEGLI STUDI DI GENOVA	10	7	11	11	1	1	4	6	5	12	14	3	4	2	2	2	2	2	8	8
UNIVERSITA DEGLI STUDI DI TORINO	2	6	8	5	3	6	2	3	3	7	3	1	5	3	1	6	3	3	3	4
UNIVERSITA DEGLI STUDI DI FIRENZE	7	2	6	2	4	1	4	4	7	1	3	3	5		3	4	2	4	2	
UNIVERSITA DEGLI STUDI DI CAGLIARI	10	4	3		5	8	1	5	10			4	4	3	8	7	9	4		8
UNIVERSITA DEGLI STUDI DI BARI ALDO MORO	8	5	10	4	5	1	7	6	2			4	7	2	4		1	3	3	2
POLITECNICO DI TORINO		1		1	4	2		1						1			1	2		
ISTITUTO ORTOPEDICO RIZZOLI		2	4				1			1	1	1	1							
UNIVERSITA DEGLI STUDI DI FERRARA	2	2	7	4	3		7		3			2	1	2						1
UNIVERSITA DEGLI STUDI DI PAVIA	10	8	3	3	2	3	1	1	2	3	4		5	2	2	2	5	1	1	
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA	11	4	2	4	3	4	2	1	4	2	1	1	1	1	1	3	1	2	2	
of the second se	REPERT C	AROTEIN MED	SHEET .	JERSE	(RUE)	REGILE PREST	Quiton (HERET (ALLIENT SEE	Lifete And	ECINE NES	PACE OF THE PARCE	A THINES	_R MION	ART ANT	IN THE	ECTION IN	HEITOR	antit halif	ĘĘJŚĘ.
					MED	Cr.				cepts	•							MED	5	



Drugs and drug formulation concepts are preponderant, there is also a predilection for proteins

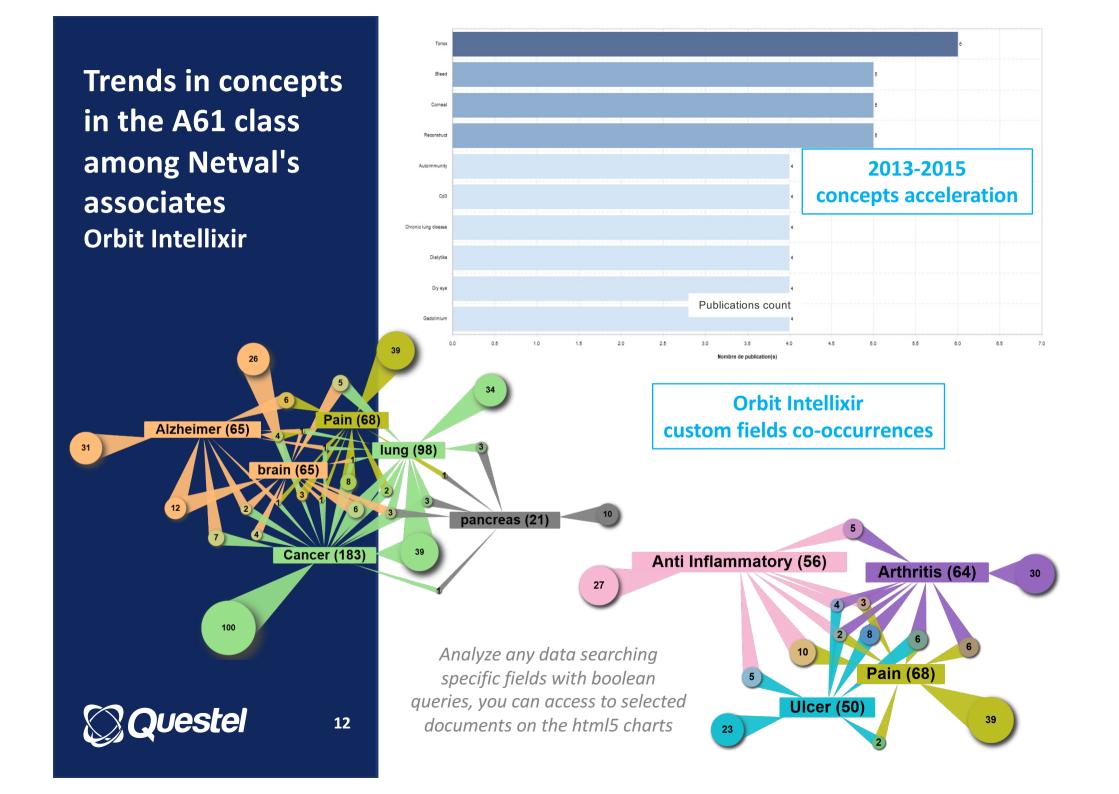
Netval's portfolio – Players analysis

collaborations included

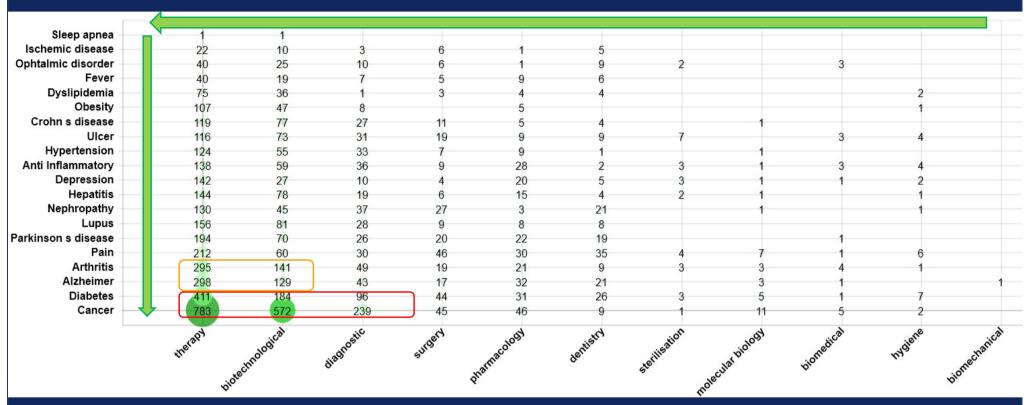
	5	5	8	9	9	1	5	6	15	10	1	7	11	12	9	15	6	13	5		
UNIVERSITA DEGLI STUDI DI MILANO	1		3	4	3	4	4	8	5	9	8	8	5	5	5	13	2	9	2		1
UNIVERSITA DEGLI STUDI DI PARMA					3	1	1	1	1	4	4	2		1	4	3	2	2	1		
SCUOLA SUPERIORE SANT ANNA			2	1	2		3		1	2	3	7	6	9	6	7	6	1	4		
UNIVERSITA DEGLI STUDI DI BOLOGNA	2	1			2	2	8	2	5	1	6	5	2	1	3	4	8	6	2		
UNIVERSITA DEGLI STUDI DI PADOVA	2			1	3	2	2	1	1	4	2	6	7	3	7	9	8	2	1		
ISTITUTO ITALIANO DI TECNOLOGIA												1	3	2	10	11	13	7	10	1	
POLITECNICO DI MILANO				5	1	5		3	1	4	1	6	4	8	4	3	2	1	7		
UNIVERSITA DEGLI STUDI DI SIENA		1	3	1	1	3	7	2	8	5	4	3	2	2		1	2	1		1	
UNIVERSITA DEGLI STUDI DI PISA							3	1	1	2	1	2	2	2	6	4	2	3	5	6	100
UNIVERSITA DEGLI STUDI DI GENOVA			4	1	1		3	6	5	1	3	1	2	1	3	1	4	3	4	2	
UNIVERSITA DEGLI STUDI DI TORINO			1		1	2			4	7	3	3	1	2	1	6	6		1		
UNIVERSITA DEGLI STUDI DI FIRENZE		2	2	3	2	1	1	1	1	3	2	2	2	3	2		4	2		1	
UNIVERSITA DEGLI STUDI DI CAGLIARI	1			4	2	4	3	1				1		1	3	1	2	1		1	
UNIVERSITA DEGLI STUDI DI BARI ALDO MORO	1	1						1	4	4	2	4		3	6		3	1	3		
POLITECNICO DI TORINO						1		2	1	1	4		3	5	4	4		1	2		
ISTITUTO ORTOPEDICO RIZZOLI	1	2	2	2		1	2				5		2	1		1		2			
UNIVERSITA DEGLI STUDI DI FERRARA		1		3	5	2			1	3	1	2	3	1	1	1			2		
UNIVERSITA DEGLI STUDI DI PAVIA				1	3	1	1	2	2	1		1	1	2			2	4	2		1
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA				1	1			2	3	3	1			4	1	3	1	1	1		1
UNIVERSITY OF CALIFORNIA			1			1					4			1	6	5	3	2			
UNIVERSITA DEGLI STUDI DI PALERMO								2		2	2	3	4	2	1	1	2		3		
ENEA		2	2	1	3		1	1				1	1		1						
IST SUPERIORE SANITA				1	1	1			1	2		1	1		3	1		1	1		1
UNIVERSITA DEGLI STUDI DI TRIESTE				1		2	3	2	1	2	1	3	1	1		2		1	1		
INNATE PHARMA			3	1	1		4	6	1	1						1			1		1
ISTITUTO NAZIONALE DEI TUMORI						1		1		1	2	1	4	3	1	1	1	1	1		
UNIVERSITA DEGLI STUDI DI PERUGIA				1		1	2				1	2	2	2		1	3		2		
CNRS						3	3	2		2			1				2		3		
UNIVERSITA DEGLI STUDI DI CAMERINO	3		1	1	1							1			4	2	1		1		
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017

1st priority year





Netval's A61 portfolio custom fields with Orbit Intellixir



Values retrieved by boolean queries into titles, abstracts, claims, concepts & descriptors



A	ctions	Ra	nk	Value	Contains
	≱ ×	1	-	biomedical	biomed*
	2 ×	2	▲ ▼	biomechanical	biomecha*
	≱ ×	3	▲ ▼	biotechnological	biotech* OR enzym* OR *genetic* OR antibod* OR monoclon* OR (gene NEAR:2 edit*)
	∦ X	4	<u> </u>	bioprint	bioprint*
	≱ X	5	▲ ▼	pharmacology	*pharmacolog*
	≱ ×	6	▲ ▼	therapy	drug* OR *therap* OR medicam*
	* ×	7	<u> </u>	molecular biology	(molecular NEAR:1 biology) OR biomolec*
	≱ ×	8	▲ ▼	diagnostic	diagnos*
	≱ ×	9	▲ ▼	hygiene	hygien* OR sanitar* OR toilet*
	* ×	10	<u> </u>	dentistry	tooth* OR teeth OR denti* OR gingiv* OR dental*
	≱ ×	11	▲ ▼	veterinary	veterin*
	2 ×	12	▲ ▼	surgery	surgeon* OR surger* OR surgical
	≱ X	13	_	sterilisation	sterili* OR disinfect*

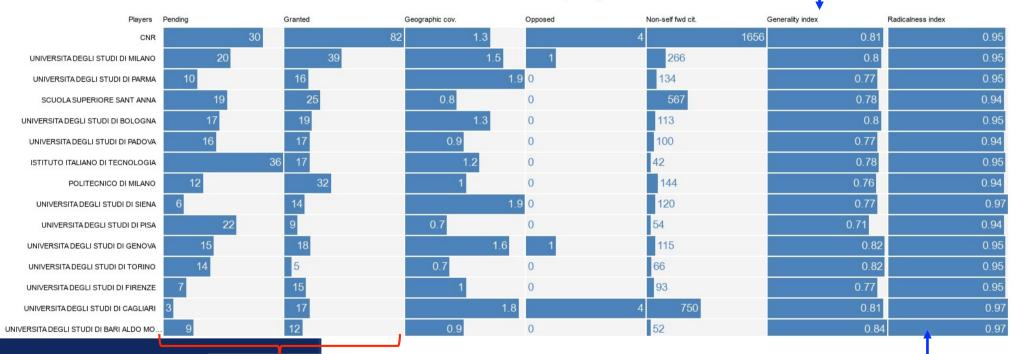
A61 Netval's portfolio

Tabular charts & metrics from Orbit Platinum

Top 15 publishing Netval's associates

Forward citations
IPC/CPC codes
dispersity

Distribution of search results by Assignees



Alive patent families



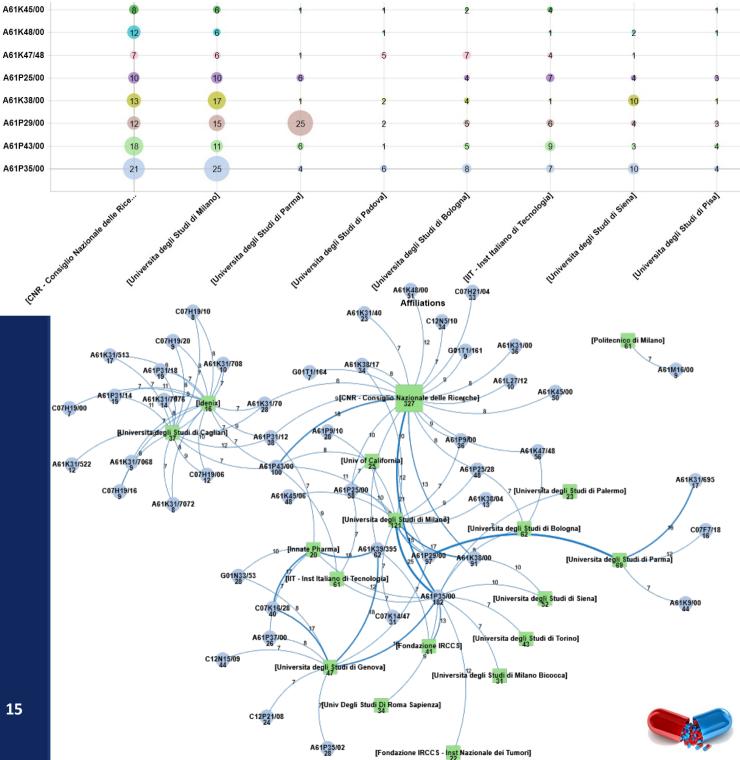
Backward citations IPC/CPC codes dispersity



A61 subclasses

A61 main subclasses by Netval's top actors

Netval's top actors and collaborators (notably Idénix (now Merck) and Innate Pharma French companies) shared IPC/CPC codes





Big Pharma comparable art

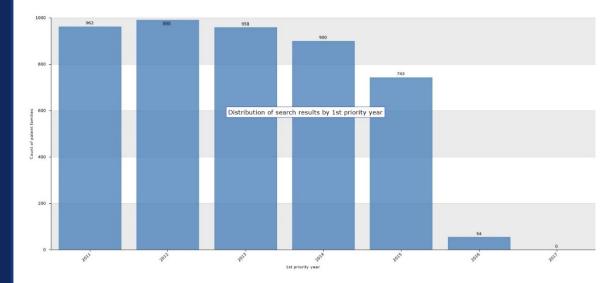


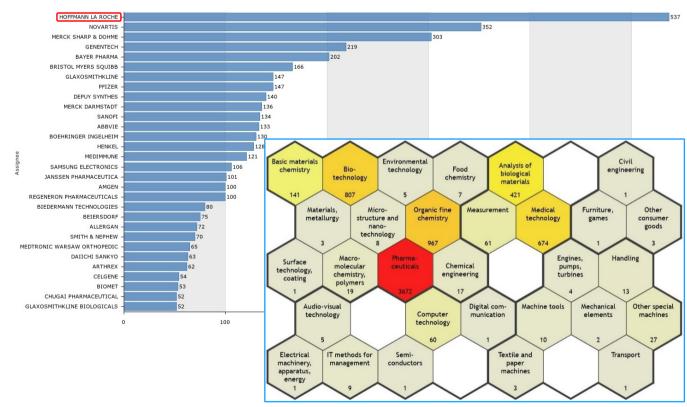


Big Pharma

A similarity search on Netval's portfolio has been conducted.

Based on patent classification codes, citations and concepts, the automated similarity search has been restricted on the top private actors, PRD≥2011 and their most relevant patent families (decreasing the initial corpus of 28k to 4,6k patent families).



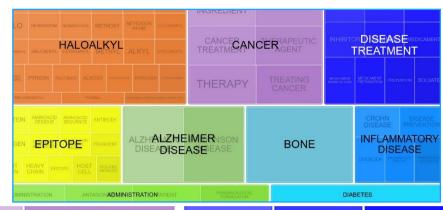






Big Pharma Recent/top concepts in the comparable art

Molecules and cancer related concepts are preponderant

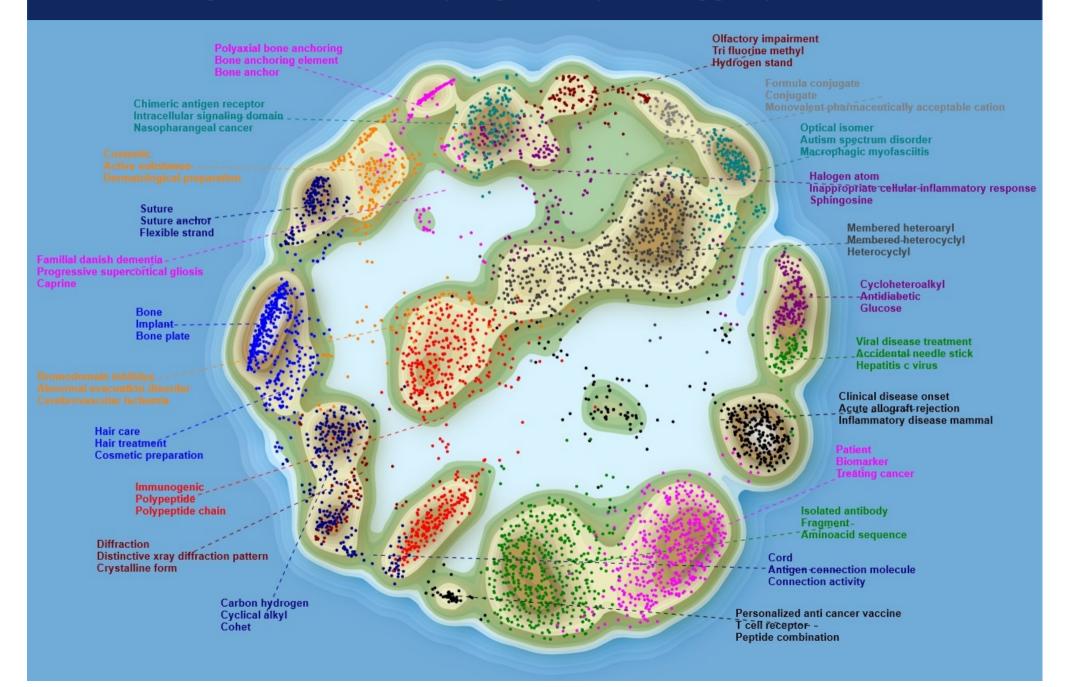


ALKENYL	ALKYLENE	ALKYNYL	ARYL	CYANO	DISORDER TREATMENT	IN	ACTIVE NGREDIENT	C	CANCER	CER DISEAS		DISEASE TREATMENT		PIENT
HALO	HETEROATOM	HETEROCYCLYL	METHOXY	NITROGEN ATOM	CYCLOPROPYL					INITUDITO	D MAI	ANAAL	MEDI	CAMENT
FLUOROPHENYL	HALOALKYL	HETEROARYL	METHYL	ALKYL	CYCLOALKYL	Т	CANCER REATMENT	TH	AGENT	INHIBITO	IVIA	MMAL T	MEDIOA	
MEMBERED HETEROARYL	PYRIDIN TA	AUTOMER ALK	OXY CARBOXAI	MIDE HYDROGEI	N STEREOISOMER	Т	HERAPY		TREATING CANCER	MEDICAMENT MANUFACTURE	MEDICAMENT PREPARATION	PREVEN	TION S	SOLVATE
TRIFLUO	ROMETHYL	PYRI	DINYL	BIOLOGICAL SAMPLE	E CHARACTERIZATION									
PROTEIN	AMINOACID RESIDUE	AMINOACID SEQUENCE	ANTIBODY								CRO DISE			EASE ENTION
ANTIGEN	CHIMERIC ANTIBODY	HEAVY CHAIN VARIABLE REGION	FRAGMENT	ALZHE DISE			RKINSON ISEASE		BONE					WELL MATERIA
	HEAVY CHAIN EPIT	TOPE HOST CELL	ISOLATED ANTIBODY								DISORDEF	INFLAMMA DISEAS	TORY R	RHEUMATOID ARTHRITIS
ADMINI	STRATION	ANT	AGONIST		PATIENT		PHARMACEUTICA FORMULATION	L		DIAE	BETES			





Big Pharma - Concepts golf map (3x bigger portfolio)



Roche portfolio EPRD≥2010





Roche portfolio EPRD≥2010 Orbit Intelligence Concepts extraction

Various diseases & therapeutics related concepts



ALZHEIME DISEASE	IJIARE	TES	MEDICA PREPAI	Control of the Contro	PARKINSON DISEASE	DISEASE	DISORDER	MAMMAL	MEDICAMENT	ANTIBODY	AMINOA RESIDI		PROTEIN
ARYL	HETEROARYL	HETER	OCYCLYL	FLUOROPHEN	NYL CYCLOPROPYL	RECEPTOR	ASTHMA	CARDIOVASCULAR	DISEASE	AMINOACII SEQUENC			
CYANO	CYCLOALKYL	ALK	OXY	STEREOISOM	IER TRIFLUOROMETHYL	RESERVOIR	ACTION C	DISEASE	TREATMENT	AMINOACID SEQUENCE IDENTITY	AMINOAG SEQUEN LENGTI	CE CLIA	
FLASH CHROMATOGRAPHY		LOW LKYL	THERAPEUT ACTIVI SUBSTAN	ICALLY E E ICE PYRI	DINYL ENANTIOMER	INFLAMMATORY DISEASE	INHIBITOR	RHEUMATOID ARTHRITIS	EXCIPIENT	HEAVY CHAIN VARIABLE DOMAIN	HOST CELL	BISPECIFIC ANTIBODY	NCODING ACCEPTOR NUCLEIC HUMAN ACID FRAMEWORK
CANCER	PATIEN		PATIE	NT	INFECT	ΓΙΟΝ	BIOLOGIC SAMPLE			PHYLAXIS		TATION	BLOOD GLUCOSE
THERAPEUTIC AGENT	ANTAGON	NIST C	HEMOTHERA AGENT	PEUTIC	THED	A DV			НА	LOALKYL	NII NII	ICLEIC	ANALYTE
MEDICAMENT MA	NUFACTURE (CANCER	TREATM	ENT	THER/	APY	RE	EAGENT		RAPEUTICALLY ERT CARRIER		JCLEIC ACID	ANALYTE CONCENTRATION

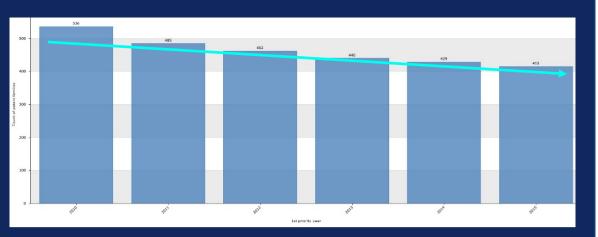


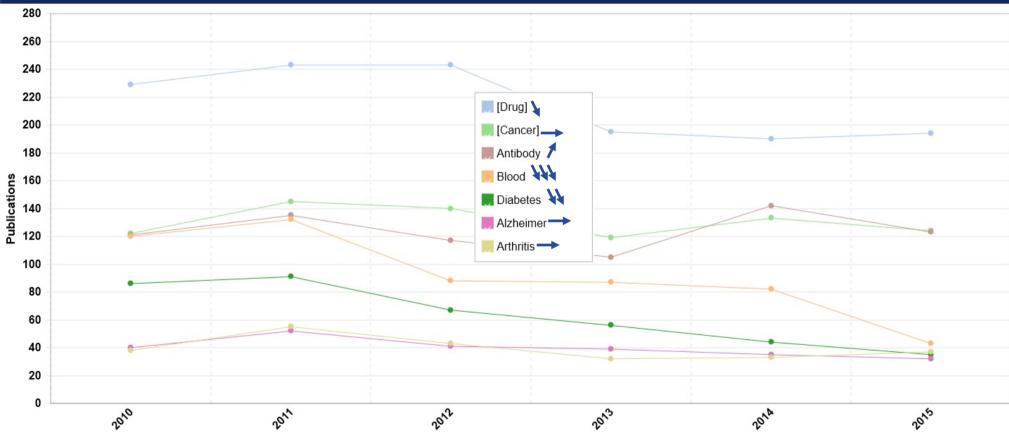


Roche portfolio **Priority countries** & custom fields analysis 1-10 11-50 for EPRD≥2010 51-200 201-400 Regional patents 401-600 >600 Sleep apnea Ischemic disease Ophtalmic disorder Dyslipidemia **Anti Inflammatory** Obesity Crohn s disease Hypertension Depression Hepatitis Parkinson s disease Lupus Nephropathy **Arthritis Alzheimer** Diabetes Cancer Parkinson s disease Very similar to Arthritis Alzheimer Netval's A61 portfolio Diabetes **Questel**

Concepts evolution inside Roche portfolio

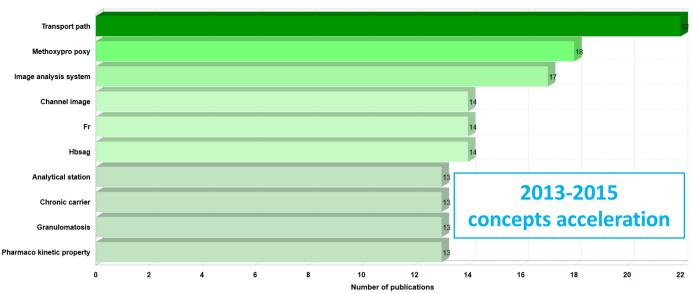
NB: slight decrease on new patent family creation in the A61 class

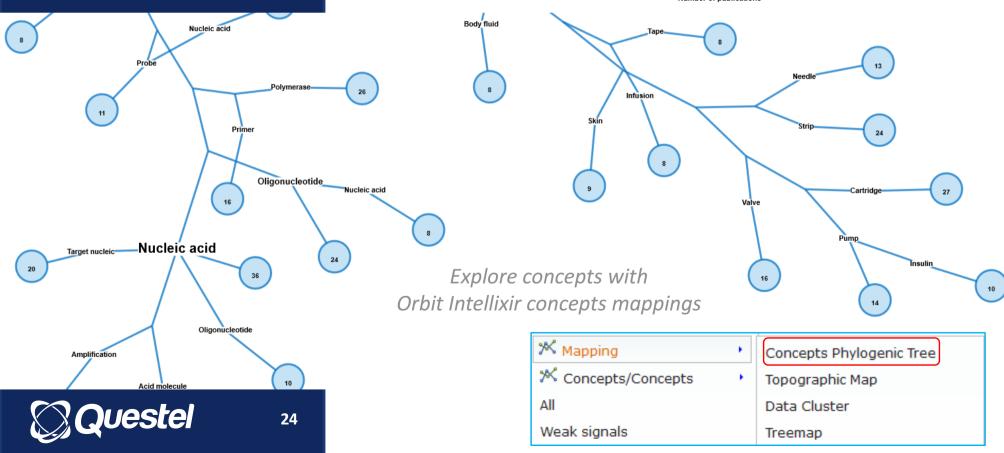






Trends in concepts for Roche 2010-2015 Orbit Intellixir



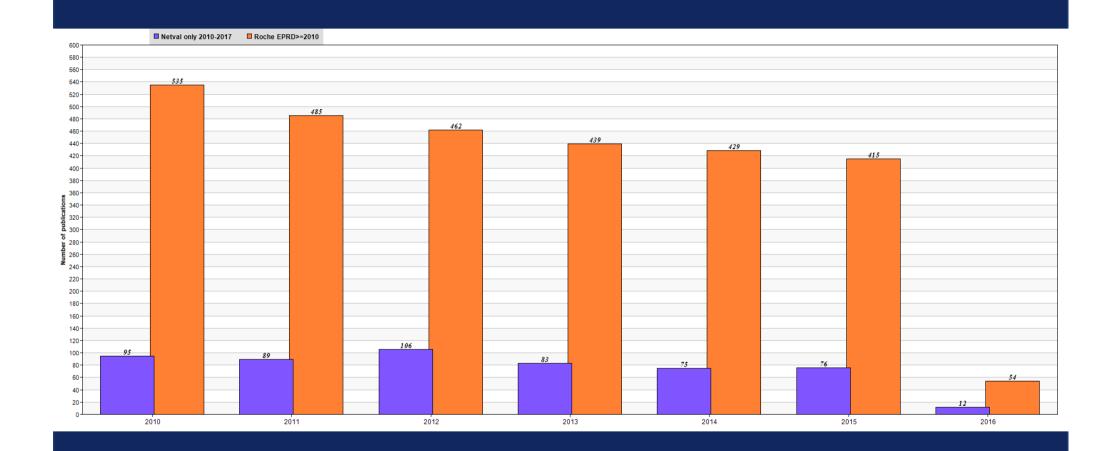


Portfolio comparison Netval's associates vs Roche



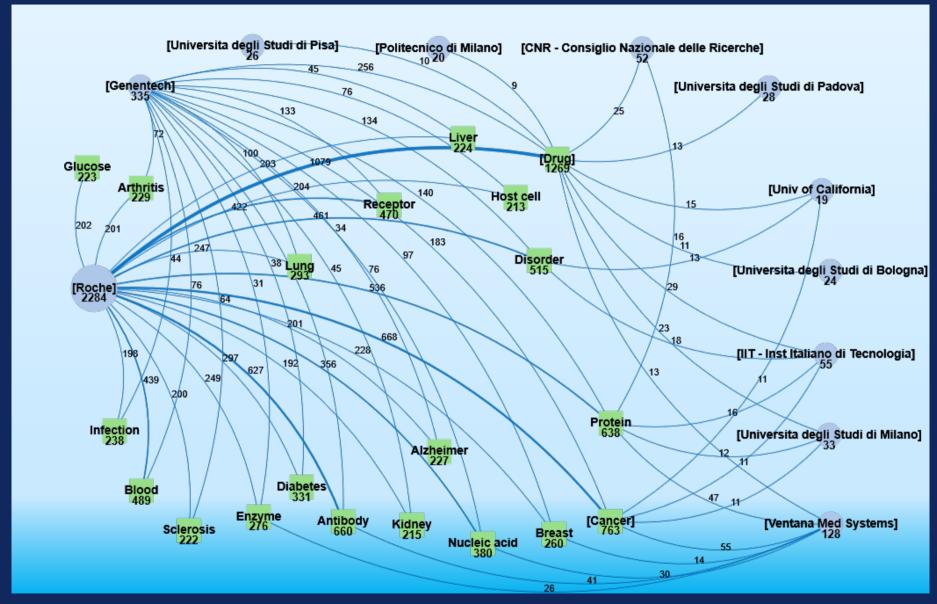


Time coverage





Concepts/affiliations network (2011-2017)





Specific & shared concepts or IPC codes Orbit Intellixir – subdatabase comparison

Netval only 2010-2017		Roche EPRD>=2010		Shared (Concept)	
Dispositivo	16	Hvr	160	[Drug]	1534
Articulation	13	Inert carrier	159	Medicament	972
Cream	12	Iggl	144	[Cancer]	972 905 789 774
Flexion	12	Spiro	137	Antibody	789
Bone tissue	- 11	Hvr h3	135	Protein	774
Wrist	- 11	Bispecific antibody	135	Cancer	768
Apt	10	Hvr h1	125	Therapy	717
Flexion extension	9	Acid sequence identity	120	Disorder	622
Nanostructure	9	Oxetan	119	Blood	620
Tissue engineering	9	Prophylactic treatment	118	Receptor	567
Biocompatible material	9	Oxetan 3	115	Drug	493
Synthesis process	8	Sequence b	112	Nucleic acid	487
Perceive	8	Methanesulfonyl	111	Tumor	429
Nanometric	8	Acid sequence b	111	Diabetes	423
Synthetic polymer	8	Analyzer	110	Lung	330
Orthopaedic	7	Igg4	106	Enzyme	318
Light radiation	7	Hybridization	106	Glucose	310
Pulley	7	Acid methyl	102	Breast	768 717 622 620 567 493 487 429 423 330 318 310 305 298
Spontaneous breath	7	Trifluoro ethoxy	98	Prophylaxis	298
Rotation axe	7	Chloro pyridin	97	Infection	280

Netval only 2010-2017		Roche EPRD>=2010		Shared (IPC)	
A61H1/02: Apparatus for passive exercising, Stretching or bending	12	G01N35/00: Automatic analysis not limited to methods or materials provided for in any	168	A61P35/00: Antineoplastic agents	527
apparatus for exercising		single one of groups		A61K39/395: Medicinal preparations containing antigens or antibodies, Antibodies	388
A61B6/00: Apparatus for radiation diagnosis, e.g. combined with radiation	7	C07K16/46: Immunoglobulins, e.g. monoclonal or polyclonal antibodies, Hybrid		A61P43/00: Drugs for specific purposes, not provided for in groups	372
therapy equipment		immunoglobulins		C12Q1/68: Measuring or testing processes involving enzymes or micro-organisms,	296
A61L27/12: Materials for prostheses or for coating prostheses, Inorganic	7	C12P21/08: Preparation of peptides or proteins, Monoclonal antibodies	115	involving nucleic acids	230
materials, Phosphorus-containing materials, e.g. apatite		C12N1/21: Micro-organisms, e.g. protozoa, Bacteria, modified by introduction of foreign	113	A61P25/00: Drugs for disorders of the nervous system	283
A61L27/54: Materials for prostheses or for coating prostheses, Materials	_	genetic material		C07K16/28: Immunoglobulins, e.g. monoclonal or polyclonal antibodies, against	
characterised by their function or physical properties, Biologically active materials, e.g. therapeutic substances	7	C12N1/19: Micro-organisms, e.g. protozoa, Fungi, Yeasts, modified by introduction of foreign genetic material		material from animals or humans, against receptors, cell surface antigens or cell surface determinants	282
A61L27/56: Materials for prostheses or for coating prostheses, Materials	_	G01N33/48: Investigating or analysing materials by specific methods not covered by		C12N15/09: Mutation or genetic engineering, Recombinant DNA-technology	276
characterised by their function or physical properties, Porous or cellular materials	/	groups , Biological material, e.g. blood, urine		A61P29/00: Non-central analgesic, antipyretic or antiinflammatory agents, e.g	253
		G01N35/04: Automatic analysis not limited to methods or materials provided for in any		antirheumatic agents	233
A61M16/04: Devices for influencing the respiratory system of patients by gas treatment, e.g. mouth-to-mouth respiration, Tracheal tubes	7	single one of groups , using a plurality of sample containers moved by a conveyor system		A61P25/28: Drugs for disorders of the nervous system, for treating	
A61B1/04: Instruments for performing medical examinations of the interior		past one or more treatment or analysis stations, Details of the conveyor system		neurodegenerative disorders of the central nervous system, e.g. nootropic agents,	228
of cavities or tubes of the body by visual or photographical inspection, e.g.	6	C12N1/15: Micro-organisms, e.g. protozoa, Fungi, modified by introduction of foreign	104	cognition enhancers, drugs for treating Alzheimers disease or other forms of	220
endoscopes, combined with photographic or television appliances	•	genetic material		dementia	
A61B17/00: Surgical instruments, devices or methods, e.g. tourniquets	6	B01L3/00: Containers or dishes for laboratory use, e.g. laboratory glassware		G01N33/68: Investigating or analysing materials by specific methods not covered by	
	0	G01N35/02: Automatic analysis not limited to methods or materials provided for in any		groups , Biological material, e.g. blood, urine, Chemical analysis of biological material,	200
A61B5/103: Measuring for diagnostic purposes, Measuring devices for		single one of groups , using a plurality of sample containers moved by a conveyor system		e.g. blood, urine, involving proteins, peptides or amino acids	
testing the shape, pattern, size or movement of the body or parts thereof, for diagnostic purposes	6	past one or more treatment or analysis stations			
A61H3/00: Appliances for aiding patients or disabled persons to walk about	6				



Netval portfolio Further analyses with Orbit Platinum Evaluation modules





Orbit Platinum Evaluation modules (guided activities)

Find Technology TECHNOLOGY SCOUTING M&A LICENSING-IN BUSINESS CASE BUSINESS CASE LEGAL RISK PORTFOLIO PRUNING LICENSABLE ART LICENSING-OUT

- 8 available Evaluation modules
- Provide unique tables and charts
- Use many original metrics
- Help you take key strategic decisions
- Completely guided, automated & customizable
- Working on 10k fampats portfolios



Orbit Platinum Evaluation modules



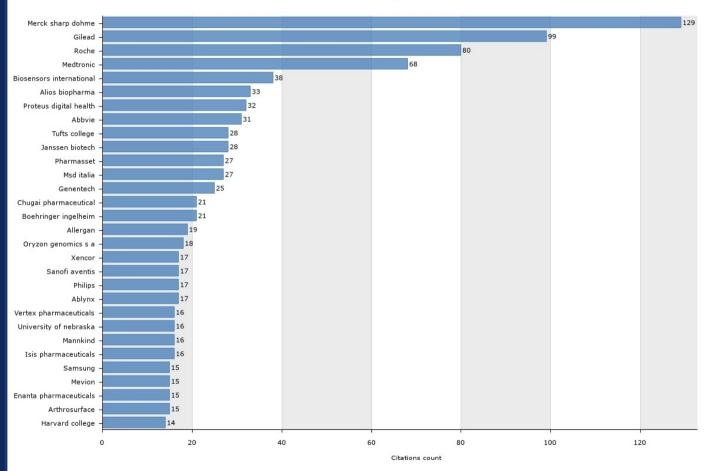


Netval Licensing out Orbit Platinum

This graph shows the entities that have most frequently cited your portfolio.

This list is typically used to identify other parties that might have an interest in licensing your patents.

Potential licensing entities







Ranked list of your most valuable patents to eventually license out

Title	Applicant/Assignee	Publication number	Publication	Family size	Fwd cites	Cites/yr	Predator	Generality	Originality	Validated	Rank
Methods and compositions for treating hepatitis c virus	UNIVERSITA DEGLI STUDI DI CAGLIARI	WO200190121	2001-06-29	61	250	15.63	PREDATOR	0.85	0.87	YES	22.23
1'-, 2'- and 3'- modified nucleoside derivatives for treating flaviviridae infections	CNRS* IDENIX* UNIVERSITA DEGLI STUDI DI CAGLIARI	WO2004003000	2003-12-31	72	182	14	PREDATOR	0.85	0.88	YES	21.39
Antibodies binding to receptors kir2dl1, -2, 3 but not kir2ds4 and their therapeutic use	INNATE PHARMA* UNIVERSITA DEGLI STUDI DI GENOVA*	WO2005003172	2005-01-03	116	48	4	NONE	0.84	0.88	YES	19.06
Monoclonal antibodies against nkg2a	INNATE PHARMA*	WO2006070286	2006-07-06	55	28	2.55	SHARK	0.83	0.88	YES	18.98
Methods and compositions for treating flaviviruses and pestiviruses	IDENIX* UNIVERSITA DEGLI STUDI DI CAGLIARI	WO200192282	2001-12-06	17	180	12	PREDATOR	0.85	0.87	YES	18.93
Methods and compositions for increasing the efficiency of therapeutic antibodies using nk cell potentiating compounds	INNATE PHARMA*	WO2005009465	2005-02-03	37	43	3.58	SHARK	0.83	0.88	YES	18.5
Method for the humanization of antibodies and humanized antibodies thereby obtained	ABBOTT*	WO2005061540	2005-06-25	87	41	3.42	PREDATOR	0.87	0.88	NO	17.82
Tranylcypromine derivatives as inhibitors of histone demethylase lsd1 and/or lsd2	FOUNDATION IEO* UNIVERSITA DEGLI STUDI DI MILANO* UNIVERSITA DEGLI STUDI DI PAVIA* UNIVERSITA DEGLI STUDI DI ROMA LA	WO2011131576	2011-10-27	18	32	6.4	SHARK	0.79	0.82	YES	16.97
Method to produce hyaluronic acid functionalized derivatives and formation of hydrogels thereof	UNIVERSITA DEGLI STUDI DI PALERMO	WO2010061005	2010-05-29	29	21	3	SHARK	0.92	0.86	NO	16.57
Modified 2' and 3' nucleoside prodrugs for treating flaviviridae infections	CNRS* IDENIX* UNIVERSITA DEGLI STUDI DI CAGLIARI UNIVERSITE DE MONTPELLIER 2*	US2007027104	2005-09-21	7	72	6.55	PREDATOR	0.84	0.87	YES	16.29
Interstitial microwave antenna with miniaturized choke for hyperthermia and surgery	CNR*	WO02061880	2002-07-31	26	62	4.13	SHARK	0.81	0.76	NO	16.21
Method to modulate the expression of genes inducing the parthenocarpic trait in plants	CUPRON CORPRTION*	WO200075415	1999-07-16	3	31	1.72	SHARK	0.97	0.92	NO	16.2
System for remote monitoring of physiological parameters of an individual, method and computer program product therefor	ISTITUTO SUPERIORE MARIO BOELLA POLITECNICO DI TORINO*	WO2006134041	2006-12-14	8	54	5.4	SHARK	0.94	0.81	NO	16.17
2'-branched nucleosides and flaviviridae mutation	IDENIX* UNIVERSITA DEGLI STUDI DI CAGLIARI	WO2004046331	2004-06-03	23	89	6.85	PREDATOR	0.86	0.87	NO	15.92
Anti-met monoclonal antibody, fragments and vectors thereof, for the treatment of tumors and corresponding products	METHERESIS TRANSLATIONAL RESEA	WO2007090807	2007-08-16	48	20	2	PREDATOR	0.85	0.9	NO	15.72
A plurisubstituted hydroxyapatite and the composite thereof with a natural and/or synthetic polymer, their preparation and use	FIN CERAM FAENZA*	WO2007045954	2007-04-19	23	8	8.0	SHARK	0.85	0.86	NO	15.7
Modified cytokines for use in cancer therapy	FONDAZIONE SAN RAFFAELE DEL MO	WO200161017	2000-02-15	48	18	1.06	PREDATOR	0.84	0.9	NO	15.63
Method of identifying a consensus sequence for intracellular antibodies	MEDICAL RESEARCH COUNCIL* SCUOLA SUPERIORE SANT ANNA*	WO03014960	2003-02-20	1	40	2.86	SHARK	0.86	0.89	NO	15.59
Targeted polymeric conjugates and uses thereof	RAMOT AT TEL AVIV UNIVERSITY* UNIVERSITA DEGLI STUDI DI PADOVA*	WO2012153297	2012-11-15	5	19	4.75	SHARK	0.87	0.92	NO	15.55
Process for the improvement of spermatozoa fertilization activity	APPLIED RESEARCH SYSTEMS*	WO200107021	1999-07-26	3	16	0.89	SHARK	0.91	0.91	NO	15.55
Use of cox-2 inhibitors for preventing immunodeficiency	LAURAS*	WO200196353	2001-12-20	28	61	4.07	PREDATOR	0.88	0.84	NO	15.53
Human anti-folate receptor alpha antibodies and antibody fragments for the radioimmunotherapy of ovarian carcinoma	ADVANCED ACCELERATOR APPLICAT ISTITUTO NAZIONALE DEI TUMORI*	WO2008031577	2008-03-19	14	13	1.44	SHARK	0.86	0.86	NO	15.46
Hydrogels of hyaluronic acid and alpha, beta-polyaspartylhydrazide and their biomedical and pharmaceutical uses	UNIVERSITA DEGLI STUDI DI PALERMO	WO2006001046	2004-09-28	2	10	0.83	SHARK	0.89	0.94	NO	15.44
Sirna-mediated silencing of genes for treating chemotherapeutic drug-resistant epithelial tumors	UNIVERSITA DEGLI STUDI DI MILANO*	WO2008110624	2008-09-18	41	19	2.38	PREDATOR	0.84	0.9	NO	15.35
Human mini-antibody cytotoxic for tumor cells which express the erbb2 receptor	BIOTECNOL S A* UNIVERSITA DEGLI STUDI DI NAPOLI FE	WO03006509	2001-07-10	8	18	1.13	SHARK	0.87	0.86	NO	15.35



Orbit Platinum Evaluation modules



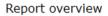


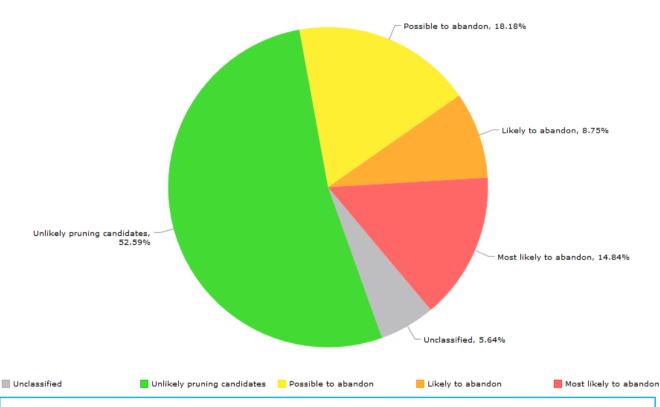
Netval Portfolio pruning Orbit Platinum

Most likely to abandon (129)
Likely to abandon (76)
Possible to abandon (158)
Unlikely pruning candidates (457)
Unclassified (49)



Regarding the IP cost management, this module will help you to select which patents to maintain or not, here is the analysis of Netval's associates portfolio





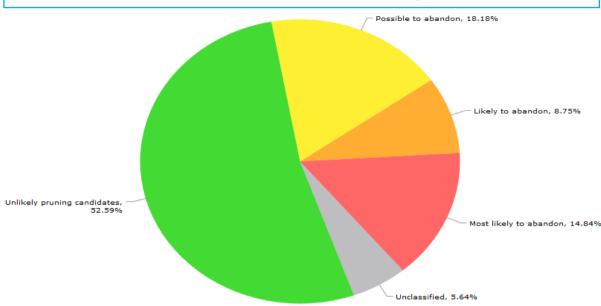
You can access to the patents ranked list and the classification criteria

You also can customize the categorization

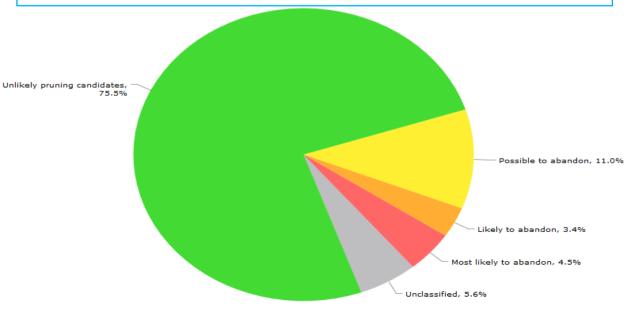
Comparison between Netval and Roche (big pharma)

Portfolio pruning Orbit Platinum

Netval Portfolio Pruning



Roche Portfolio Pruning





Here are detailed the metrics of the 1st patents most likely to abandon for NETVAL

- 44	C-4	T21-	A seliseat/A seisses	Dublication aumbon	Dublication	٨٠٠٠	Family size	Citantus	Found with a	December	Connectitu	Onininality	Malidated	Calfford	Calfibration	le d'alain
#	Cat		Applicant/Assignee		Publication	Age	Family size		Fwd cites	Predator	Generality		Validated		Self back	ind claim
1.		 Particelle attive per applicazioni bio-analif			2010-02-01	9 7	0 1	• 0	• 0	NONE	0	0	NO	0 0	0	^
2.	Щ	Derivati della c-ciclopentilglicina.	UNIVERSITA DEGLI:	TMI20002300	2002-04-24	1 5	0 1	• 0	• 0	NONE	0	• 0	NO	• 0	0	
3.		Nicardipine hydrochloride dihydrate and	CONSEJO SUPERIO UNIVERSITA DEGLI	WO2009133180	2009-11-05	• 7	• 1	• 0	• 0	NONE	0	0.75	NO	• 0	0	1
4.		Biomateriale composito e processo per la	UNIVERSITA DEGLI:	ITMI20090274	2010-08-27	7	1	• 0	• 0	NONE	0	0	NO	0	0	
5.		Humanized anti-NGF antibodies	LAY LINE GENOMIC SCUOLA INTERNAZ	CN101724070	2010-06-09	7	1	• 0	• 0	NONE	0	• 0	NO	• 0	0	1
6.		Derivati polinucleari di ti(v) con leganti 4-	CONSIGLIO NAZION UNIVERSITA DEGLI	TRM990633	1999-10-15	17	1	• 0	• 0	NONE	0	• 0	NO	• 0	0	
7.		Antiviral peptides	CONSIGLIO NAZION UNIVERSITA DEGLI: UNIVERSITA DEGLI: UNIVERSITY CATTO	W02012101617	2012-07-29	5	• 1	• 0	• 0	NONE	0	• 0	NO	• 0	0	4
8.		Methods and compositions for increasing	INNATE PHARMA* UNIVERSITA DEGLI	CN102772798	2012-11-14	• 4	1	• 0	• 0	NONE	0	• 0	NO	• 0	0	1
9.		Multifunctional nanostructures as trimode	UNIVERSIDAD DE C. UNIVERSIDAD DE G UNIVERSIDAD DE J. UNIVERSITA DEGLI	WO2011070212	2011-06-16	6	• 1	• 0	• 0	NONE	0	• 0	NO	• 0	0	1
10.		Particelle attive per applicazioni bio-analit	UNIVERSITA DEGLI	ITBO20080486	2010-02-01	7	1	0	0	NONE	0	0	NO	0	0	
11.		Process for the synthesis of funicone ar	CONSIGLIO NAZION	W02012042482	2012-03-29	5	1	0	0	NONE	0	0	NO	0	0	4
12.		Processo per preparare imidazo-piridino	UNIVERSITA DEGLI UNIVERSITA DEGLI	ПМ1972360	1999-04-18	1 8	1	• 0	• 0	NONE	0	• 0	NO	• 0	0	
13.		Nuovo impiego terapeutico o preventivo	UNIVERSITA DEGLI	ITBS20090042	2010-09-11	6	1	0	0	NONE	0	0	NO	0	0	
14.		Nuova tipologia di inibitori dell'enzima aldo	UNIVERSITA DEGLI	ITFI20120053	2013-09-14	3	1	0	0	NONE	0	0	NO	0	0	
15.		Sistema di iniezione pulsante cardio-sinc	UNIVERSITA DEGLI	ITPG20000013	2001-09-03	1 6	1	0	0	NONE	0	0	NO	0	0	
16.		Ferrimagnetic colloidal nanoclusters of m	UNIVERSITA DEGLI	GR1008081	2014-01-17	3	1	0	0	NONE	0	0	NO	0	0	
17.		Anatomical image processing method for	CONSIGLIO NAZION	ITPI990069	1999-10-29	17	0 1	0	0 0	NONE	0	0 0	NO	0	0	
18.		Target ottico, dispositivo e metodo per la	MEDITECH* UNIVERSITA DEGLI:	ITMI20112382	2013-06-24	• 4	0 1	• 0	• 0	NONE	0	0.75	NO	• 0	0	
19.		Dispositivo di acquisizione video a punti o	SCUOLA SUPERIOR	ITFI20120133	2013-12-26	3	1	0	0	NONE	0	0.74	NO	0	0	
20.		Elemento bioelastico per cardiomiopatia c	CONSIGLIO NAZION	ITFI20000167	2000-07-24	17	1	0	0	NONE	0	0	NO	0	0	
21.		Nanosfere polimeriche e relativo utilizzo,	UNIVERSITA DEGLI	ITBO970641	1997-10-28	1 9	0 1	0	0	NONE	0	0	NO	0	0	
22.		Ligando dei recettori melanocortinici cent	UNIVERSITY DEGLI	ITTO20110147	2012-08-22	5	0 1	0	0	NONE	0	0	NO	0	0	
23.		Anti-ssrp-1 monoclonal antibodies and h	CONSIGLIO NAZION	WO03011910	2001-07-31	1 6	0 1	0	0 0	NONE	0	0	NO	0	0	1
24.		Rumine artificiale computerizzato.	DIPARTIMENTO DI S	ITTO970848	1997-12-29	1 9	0 1	0	0	NONE	0	0	NO	0	0	
25.		Dispositivo robotico per la riabilitazione d	SCUOLA SUPERIOR	ITFI20110231	2013-04-22	0 4	0 1	0	0 0	NONE	0	0	NO	0	0	



Orbit IPBI solutions foster IP stakeholders in all their IP activities

Thank you for your interest!











