Software for Business Intelligence

BizInt Smart Charts

Integrating and Cleaning Data Before Creating Reports and Visualizations

John Willmore, Product Development

Matt Eberle, Customer Solutions and Analytics

PIUG RAVE - 15 October 2025

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On Integrating Results

- Workshop at 2025 Annual Conference

bizint.com/slides

Reasons to Integrate Results

- Results from different platforms
  - Value-added Indexing
  - Search technologies

Reasons to Integrate Results

- Value-added Indexing
  - Derwent titles, abstracts, manual codes
  - Legal status, expiration
  - Ultimate Owner, Patent Valuation
- Search technologies
  - Chemistry (CAS/STN)
  - Semantic, AI, …

Reasons to Integrate Results

- Results from different platforms
  - Value-added Indexing
  - Search technologies
- Publication level data

Reasons to Integrate Results

Minesoft Origin: Minesoft Origin Export (1)

	Title	Patent Number	Patent Family			Inventor(s)
			Patent	Kind	Date	
1	**Wide-field-of-view anti-shake high-dynamic bionic eye**	US 11614719 B2	US20220258337	A1	2022-08-18	Qiang Huang Xiaopeng Chen Yang Xu Zhangguo YU Xuechao Chen Weimin Zhang
			US11614719	B2	2023-03-28	
2	**Wide-Field-of-View Anti-Shake High-Dynamic Bionic Eye**	US 20220258337 A1	US20220258337	A1	2022-08-18	Qiang Huang Xiaopeng Chen Yang Xu Zhangguo YU Xuechao Chen Weimin Zhang
			US11614719	B2	2023-03-28	
3	**Compact bionic eye device based on two-degree-of-freedom electromagnetically-driven rotating mechanism**	US 118883246 B2	CN110434897	A	2019-11-12	Tong Wei Zhongwen Shan
			CN110434897	B	2021-01-01	
			US20220094254	A1	2022-03-24	
			US11888346	B2	2024-01-30	
			WO2020249061	A1	2020-12-17	
4	**COMPACT BIONIC EYE DEVICE BASED ON TWO-DEGREE-OF-FREEDOM ELECTROMAGNETICALLY-DRIVEN ROTATING MECHANISM**	US 20220094254 A1	CN110434897	A	2019-11-12	Tong Wei Zhongwen Shan
			CN110434897	B	2021-01-01	
			US20220094254	A1	2022-03-24	
			US11888346	B2	2024-01-30	
			WO2020249061	A1	2020-12-17	

Reasons to Integrate Results

- Results from different platforms
  - Value-added indexing
  - Search technologies
- Publication level data
- Gene sequence alignments

Reasons to Integrate Results

1.	**Title:**	**Monoclonal Antibody Against Canine Fibroblast Activation Protein that Cross-Reacts with Mouse and Human Fibroblast Activation Protein (FAP)**
	Common Family:	US 20210087294 A1
	Patent Assignee:	THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA
	Priority Date:	2019-09-23
	Database:	GQPAT Gold+ Proteins GQPAT Gold+ Proteins GQPAT Gold+ Proteins

Comments:

Alignment:

> US20210087294-0007

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Q:         61  SEKFEIKATLTVDSSSNTAFMQLSRLTSEDSAVYYCTRLDDSRFHWYFDVWGAGTTVTVS  120
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
S:         61  SEKFEIKATLTVDSSSNTAFMQLSRLTSEDSAVYYCTRLDDSRFHWYFDVWGAGTTVTVS  120

Q:        121  S  121
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S:        121  S  121
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> US20210087294-0011

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S:        123  QVQLQQPGAELVKPGASVKLSCKASGYTITSYSLHWVKQRPGQGLEWIGEINPANGDHNF  182

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S:        183  SEKFEIKATLTVDSSSNTAFMQLSRLTSEDSAVYYCTRLDDSRFHWYFDVWGAGTTVTVS  242

Q:        121  S  121
               |
S:        243  S  243
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> US20210087294-0013

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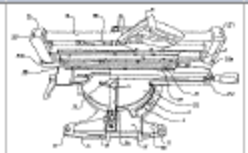
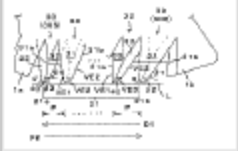
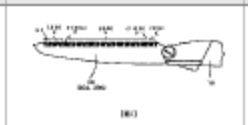
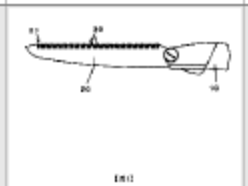
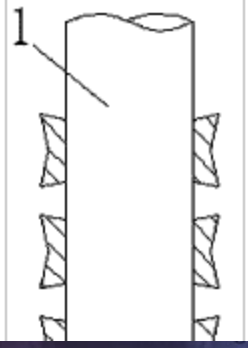
S:          1  QVQLQQPGAELVKPGASVKLSCKASGYTITSYSLHWVKQRPGQGLEWIGEINPANGDHNF  60
```

Reasons to Integrate Results

- Results from different platforms
  - Value-added indexing
  - Search technologies
- Publication level data
- Gene sequence alignments
- Updating results at a later time

Reasons to Integrate Results

PatBase: Feature A Search

	Patent Number	Patent Date	Title	Image	International Patent Class	Patent Assignee	Feature A
1	US10610939B	2020-04-07	**DUSTLESS ONE-STROKE CUT-THROUGH SAW**		B23D49/00 B23D49/10 B23D51/01 B23D51/04 B27G5/02	CLEAN CUTTERS LLC	
2	JP6598281B1	2019-10-30	**HAND SAW**		B23D49/10 B23D49/12 B23D49/14 B23D61/12 B27B21/00 B27B21/04 B27B33/10	U M KOGYO INC	
3	TWM566122Y	2018-09-01	**HAND SAW**		B23D49/12	U M KOGYO INC	Uses similar approach
4	TWM549122Y	2017-09-21	**HAND SAW**		B23D49/10	U M KOGYO INC	
5	CN106956036A	2017-07-18	**PORTABLE FIBER ROPE HAND SAW DEVICE**		B23D57/00	JIANGSU WENFENG CHEMICAL FIBER GROUP CO LTD	

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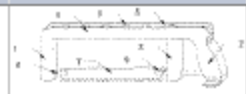
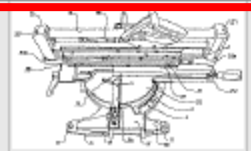
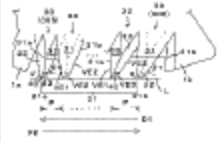
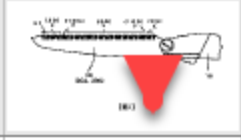
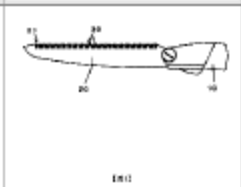
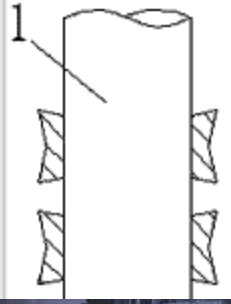
Reasons to Integrate Results

PatBase: Feature A Search

	Patent Number	Patent Date	Row Status	Title	Image	International Patent Class	Patent Assignee	Feature A	Feature B
1	CN112496450A	2021-03-16	Added	**A disassembly convenient hand saw blade (Machine translation)**		B23D49/12 B23D51/10 B23D51/12	ZHEJIANG LUCHENG TOO MACHINERY CO LTD	Not applied	
2	US10610939B	2020-04-07	Unchanged	**DUSTLESS ONE-STROKE CUT-THROUGH SAW**		B23D49/00 B23D49/10 B23D51/01 B23D51/04 B27G5/02	CLEAN CUTTERS LLC		
3	JP6598281B1	2019-10-30	Unchanged	**HAND SAW**		B23D49/10 B23D49/12 B23D49/14 B23D61/12 B27B21/00 B27B21/04 B27B33/10	U M KOGYO INC		
4	TWM566122Y	2018-09-01	Unchanged	**HAND SAW**		B23D49/12	U M KOGYO INC	Uses similar approach	
5	TWM549122Y	2017-09-21	Unchanged	**HAND SAW**		B23D49/10	U M KOGYO INC		
6	CN106956036A	2017-07-18	Unchanged	**PORTABLE FIBER ROPE HAND SAW DEVICE**		B23D57/00	JIANGSU WENFENG CHEMICAL FIBER GROUP CO LTD		

Our Preferred Tools

- BizInt Smart Charts for Patents
- BizInt Smart Data Integrator
- Vantage Point – Smart Charts Edition

Further integrate your data…

	Title	Database	Patent Family			Probable Assignee	FTO Family with Expiry						Sequence Locations			
			Patent	Kind	Date		Pub No.	Kind	Pub Date	State	Status	Est Expiry	Seq. ID #	% Identity	Length	Location
1 a	COMPOSITIONS AND METHODS FOR TARGETED GENE DISRUPTION IN PROKARYOTES	PatBase	WO 2015070193 US 2015132263 US 2015353901	A1 A A	2015-05-14 2015-05-14 2015-12-10	RADIANT GENOMICS IN										
1 b	Compositions and methods for targeted gene disruption in prokaryotes	FAMPAT	WO 201570193 US 20150132263 US 20150353901	A1 A1 A1	2015-05-14 2015-05-14 2015-12-10	ZYMERGEN	WO 201570193 US 20150132263 US 20150353901	A1 A1 A1	2015-05-14 2015-05-14 2015-12-10	DEAD DEAD DEAD	LAPSED LAPSED LAPSED	2017-05-11 2016-10-11 2016-10-03				
1 c	COMPOSITIONS AND METHODS FOR TARGETED GENE DISRUPTION IN PROKARYOTES	GQPAT Gold+ Proteins	US20150132263 US20150353901 WO2015070193		20150514								US20150132263-0002	100.00	1368	claim: 19; 20
1 d	Compositions and Methods for Targeted Gene Disruption in Prokaryotes	GQPAT Gold+ Proteins	US20150353901 US20150132263 WO2015070193		20151210								US20150353901-0002	100.00	1368	claim: 19; 20
1 e	New bacteriophage comprises polynucleotide expressing RNA-directed DNA-binding polypeptide comprising nuclease module, and targeting module comprising guide RNA, for restricting growth of host cell, and for preparing antiseptic composition	Derwent Innovation DWPI	US 20150353901	A1	2015-12-10											
1 f	New bacteriophage comprising polynucleotide that expresses RNA-directed DNA-binding polypeptide and targeting module comprising guide RNA, used e.g. for treating autoimmune and inflammatory disease, and disease caused by bacterial infection	Derwent Innovation DWPI	US 20150132263 WO 2015070193	A1 A1	2015-05-14 2015-05-14											

Use the Smart Data Integrator to select key data for each set of related records, based on your rules and selections.

And create a single integrated row…

	Title	Database	Patent Family: Patent	Kind	Date	Probable Assignee	FTO Family with Expiry: Pub No.	Kind	Pub Date	State	Status	Est Expiry	Sequence Locations: Seq. ID #	% Identity	Length	Location	
1	New bacteriophage comprises polynucleotide expressing RNA-directed DNA-binding polypeptide comprising nuclease module, and targeting module comprising guide RNA, for restricting growth of host cell, and for preparing antiseptic composition *1e Innov*	**1a Patbase** | *link* **1b FAM** | *link* **1c GQP** | *link* **1d GQP** | *link* **1e Innov** | *link* **1f Innov** | *link*	WO 2015070193 US 2015132263 US 2015353901	A1 A A	2015-05-14 2015-05-14 2015-12-10	RADIANT GENOMICS INC	WO 201570193 US 20150132263 US 20150353901	A1 A1 A1	2015-05-14 2015-05-14 2015-12-10	DEAD DEAD DEAD	LAPSED LAPSED LAPSED	2017-05-11 2016-10-11 2016-10-03	US20150132263-0002 US20150353901-0002	100.00 100.00	1368 1368	claim: 19; 20 claim: 19; 20	1c 1d
2	**RNA-GUIDED TRANSCRIPTIONAL REGULATION** New bacteriophage comprises polynucleotide expressing RNA-directed DNA-binding polypeptide comprising nuclease module, and targeting module comprising guide RNA, for restricting growth of host cell, and for preparing antiseptic composition *2 Patbase*	**2 Patbase** | *link* **2 FAM** | *link* **2 GQP** | *link*	US 9267135 US 20140356959 US 10640789 US 20160237456 US 10767194 US 20200024618 US 20140356956 US 20200299732	B2 A1 B2 A1 B2 A1 A1 A1	2016-02-23 2014-12-04 2020-05-05 2016-08-18 2020-09-08 2020-01-23 2014-12-04 2020-09-24	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	US 9267135 US 20140356959 US 10640789 US 20160237456 US 10767194 US 20200024618 US 20140356956 US 20200299732	B2 A1 B2 A1 B2 A1 A1 A1	2016-02-23 2014-12-04 2020-05-05 2016-08-18 2020-09-08 2020-01-23 2014-12-04 2020-09-24	ALIVE ALIVE ALIVE ALIVE ALIVE ALIVE	GRANTED GRANTED GRANTED GRANTED PENDING PENDING	2034-06-04 2034-06-04 2034-06-04 2034-06-04 2034-06-04 2034-06-04	US20140356959-0001 US9267135-0001 US20200024618-0001 US20160237456-0001 US20140356956-0001	100.00 100.00 100.00 100.00 100.00	1368 1368 1368 1368 1368	probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing)	2 2 2 2 2
3	**LARGE GENE EXCISION AND INSERTION**	**3a Patbase** | *link* **3b FAM** | *link* **3c GQP** | *link* **3d GQP** | *link* **3e GQP** | *link* **3f GQP** | *link* **3g GQP** | *link* **3h GQP** | *link* **3i GQP** | *link* **3j GQP** | *link* **3k Innov** | *link*	US 20150140664 WO 2015077290 WO 2015077290 CA 2930828 AU 2014353100 KR 2016078502 EP 3071698 JP 2016537982 EP 3071698 HK 1229380 EP 3071698 EP 3604543	A1 A2 A3 A1 A1 A A2 A A4 A B1 A1	2015-05-21 2015-05-28 2015-08-06 2015-05-28 2016-06-02 2016-07-04 2016-09-28 2016-12-08 2017-06-28 2017-11-17 2019-09-04 2020-02-05	PRESIDENT AND FELLOWS OF HARVARD COLLEGE	EP 3071698 EP 3071698 EP 3071698 EP 3604543 WO 201577290 WO 201577290 US 10787684 US 20150140664 JP 2016537982 JP 2020062033 DK 3071698T ES 2754498	B1 A2 A4 A1 A2 A3 B2 A1 A A T3 T3	2019-09-04 2016-09-28 2017-06-28 2020-02-05 2015-05-28 2015-08-06 2020-09-29 2015-05-21 2016-12-08 2020-04-23 2019-11-18 2020-04-17	ALIVE ALIVE DEAD ALIVE ALIVE ALIVE ALIVE	GRANTED PENDING LAPSED GRANTED PENDING PENDING GRANTED	2034-11-19 2034-11-19 2017-05-19 2034-06-30 2034-11-19 2034-11-19 2034-11-19	JP2016537982-0001 US20150140664-0001 WO2015077290-0001	100.00 100.00 100.00	1368 1368 1368	probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing) probable disclosure (not found by automated parsing)	3c 3d 3e

…for each family in your final

US20150132263-0002	100.00	1368	claim: 19; 20
US20150353901-0002	100.00	1368	claim: 19; 20

Challenges of RAVE

- Counting
- Normalization
- Categorization

Challenges - Counting

- REPORTING only show an entity once
- ANALYSIS know how you're counting
  - Documents? Applications? Families?
- VISUALIZATION avoid "double counting"

- Family structure in value-added sources can simplify this process

Challenges - Normalization

- Number / code formats
- Names
- Organizations
- Technologies

Patent Assignee	Count
BROAD INST INC [US], MASSACHUSETTS INST TECHNOLOGY [US], HARVARD COLLEGE [US]	10
HARVARD COLLEGE	331
HARVARD UNIVERSITY	58
PRESIDENT AND FELLOWS OF HARVARD COLLEGE	203

- Value-added indexing (standardized names) helps
- Tools are needed for other normalization

Challenges - Normalization

- REPORTING consistency with/between records
- ANALYSIS know what you're counting
- VISUALIZATION counting, labels

- Value-added indexing can directly solve the normalization problem

Challenges - Categorization

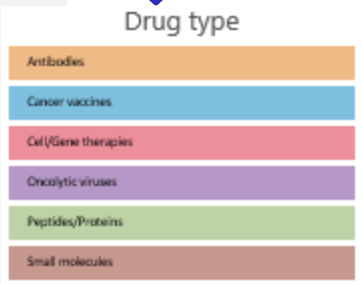
- Map data to business concepts
- Show concepts at the right level of detail
  - Leaf, subgroup, class, “other”
- Reduce complexity in reports and visualizations
- 5-7 categories if you expect users to understand

Challenges - Categorization

Challenges - Categorization

Phase 1	Phase 1/2	Phase 2	Phase 2	Phase 3	Launched
AEOL-10150	JTCR-016	aglatimagene	lurbinectedin	ipilimumab	pemetrexed
ARGX-110	pevonedistat	amatuximab	Minerval	NGR-hTNF	raltitrexed
BGB-A317		anti-mesothelin CAR	miR-15/16 mimics	nintedanib	
CB-839		atezolizumab	MTG-201	nivolumab	
CK-301		AZD-4547	napabucasin		
dasatinib		BNC-105P	ONCOS-102		
FP-1039		brentuximab vedotin	pegargiminase		
gene therapy		carfilzomib	pembrolizumab		
GL-ONC1		CAT-5001	porfimer sodium		
imatinib		CBP-501	sunitinib		
LMB-100		CRS-207	tazemetostat		
LY-3023414		defactinib	trabectedin		
MesoCART		durvalumab	TRC-102		
MesoPher		durvalumab +	tremelimumab		
MTG-202		galinpepimut-S	TroVax		
MV-NIS		gemcitabine prodrug	vinorelbine		
MV-NIS therapy		HSV-1716	WT1-targeted vaccine		
roniciclib		K562/GM-CSF	YSCMA		
trametinib			zoledronic acid		

People can understand about 5-7 categories on a visualization



Challenges - Categorization

- REPORTING speak in business concepts
- ANALYSIS translate to business concepts
- VISUALIZATION make it comprehensible

- Value-added indexing can offer clues or text to aid in categorization

Questions?

support@bizint.com

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