

mynd^{AI}
CONTEXT
MINING

CONTEXT MINING

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m[®]

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**Confirm the known.
Discover the unknown.**

”

mynd is the an advanced AI-enabled context mining platform,
enabling you to **discover reliable strategic insights**

About Mynd

Mynd is an advance AI enabled cloud-based context-mining platform, for unbiased text-mining research.

It is built by users, for users and shares 20+ years of proven research-based strategic consultancy by Creax.

It is the result of the vast expertise in intelligence gathering and the unmet need for a tool alike for fast, complex, multi-source and unbiased discovery.

With that, Mynd consolidates this expertise and experience of over 2 decades of research-based innovation consultancy in the creation of this state-of-the-art context mining platform for:

- Science and technology intelligence
- Market and customer intelligence
- Competitive intelligence
- Intellectual property
- Knowledge management

We believe that unbiased research is fundamental to trust groundbreaking insights and take strategic decisions.

Mynd combines both unsupervised context mining and human feedback; and empowers the human intelligence with artificial intelligence for that unbiased and unsupervised research. The platform is initially developed to boost the efficiency, completeness and quality of the cross-industry research activities of the Creax innovation experts.

Mynd applies an in-house developed topic modelling engine on textual data from any possible data source.

The **unsupervised** analysis of massive amounts of documents in a short time results in unbiased insights and discovery what is unknown.

The **smart metrics** and visualisations are designed to efficiently and effectively discover emerging topics, non-trivial correlations and to compare trends.

As data is abundant, accessible, but often unstructured, the challenge is to transform that data in quantifiable and ground-breaking insights. By doing that, Mynd takes advantage of existing knowledge to:

- avoid re-invention.
- gain strategic and ground-breaking insights; and discover unexpected correlations.
- build a solid ground for fact-based (research-based), strategic decision taking.
- confirm the know, discover the unknown.

Mynd transforms data into quantified and ground-breaking insights, and build the solid ground for fact-based, strategic decision taking.

The Challenge

Transform data in quantifiable and ground-breaking insights

Data is abundant, accessible, but often unstructured.

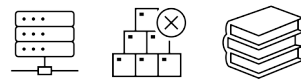
Mynd takes advantage of existing knowledge to:

- gain strategic and ground-breaking insights; and discover unexpected correlations.
- build a solid ground for fact-based (research-based), strategic decision taking.
- confirm the known, discover the unknown.



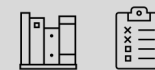
02

Build your data model ...



04

Analyse ...



UNBIASED !

01

Select your data ...



03

Build your ontology ...

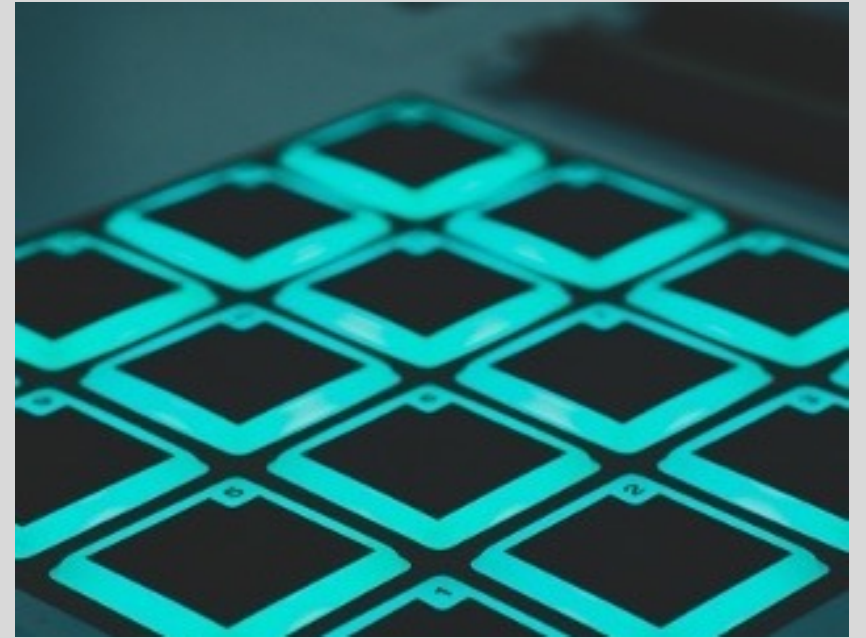


insights

Use Case

Immunotherapy and Oncology ...

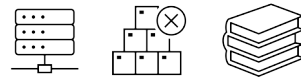
Understand and discover new insights in what are the major dynamics in the field of Immunotherapy and Oncology , in terms of scientific research ...



02

Get your topic model...

Get your first insights and develop your topic model: a first high-level analysis and overview off all the data processed

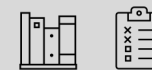


UNBIASED !

04

Analyse deeply ...

Analyse and quantify unknown concepts, unexpected correlations and emerging trends



01

Feed your Mynd ...

Define the scope of the various data sources you will use to build your topic model



03

Build your ontology ...

Discover the story behind your data and build your ontology



insights

1. Feed your mynd ...

scientific paper database search

Understand and discover new insights in terms of what are the major dynamics in the field of Immunotherapy and Oncology , when it comes to scientific research

- query in your scientific paper database of choice (e.g. scopus, pubmed, Web of Science,...) and export your abstract dataset with use of keywords related to the brief:

```
TITLE ( immunotherapy OR "immuno-therapy" OR "immuno therapy" OR "immuno oncology" OR "immunooncology" OR "immuno-oncology" ) AND TITLE-ABS ( cancer* OR carcinom* OR sarcom* OR lymphom* OR leukemi* OR tumor* OR blastom* ) from 2012 till 2022
```

- 16.008 scientific papers found
- No patent search performed



01

Feed your Mynd ...

Define the scope of the various data sources you will use to build your topic model



insights

2. Get your topic model ...

Get your **first insights** and develop your topic model:

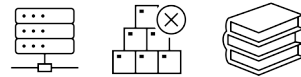
First high-level analysis and overview off all the data processed in order for you to understand what are the main fields that are playing within the community of 16.008 scientific papers

- what are big fields in terms of volume and what are trending fields in terms of recency
- what organizations are focussing on what fields
- set your focus and create dashboards

02

Get your topic model...

Get your first insights and develop your topic model: a first high-level analysis and overview off all the data processed



UNBIASED !

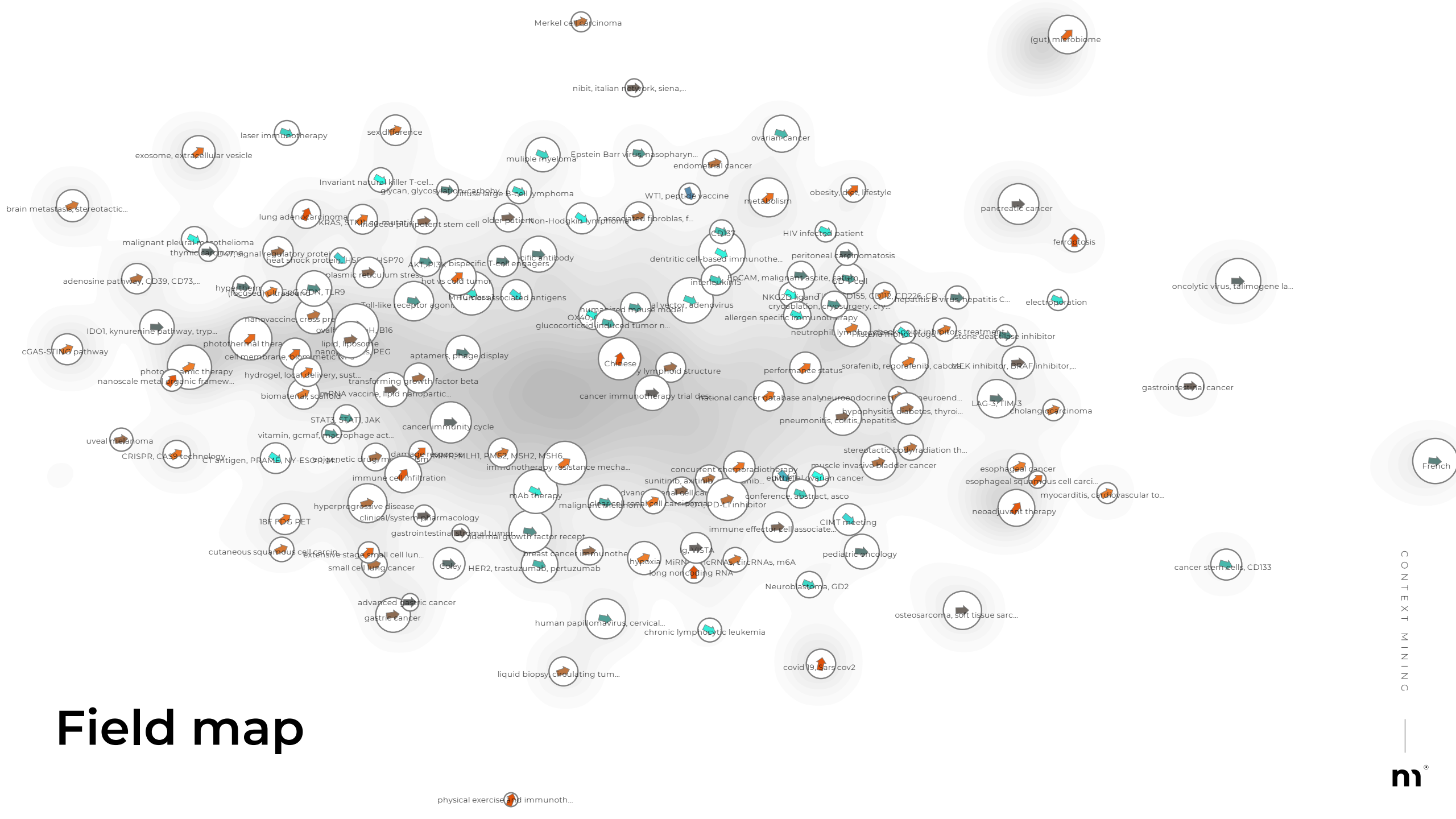
01

Feed your Mynd ...

Define the scope of the various data sources you will use to build your topic model



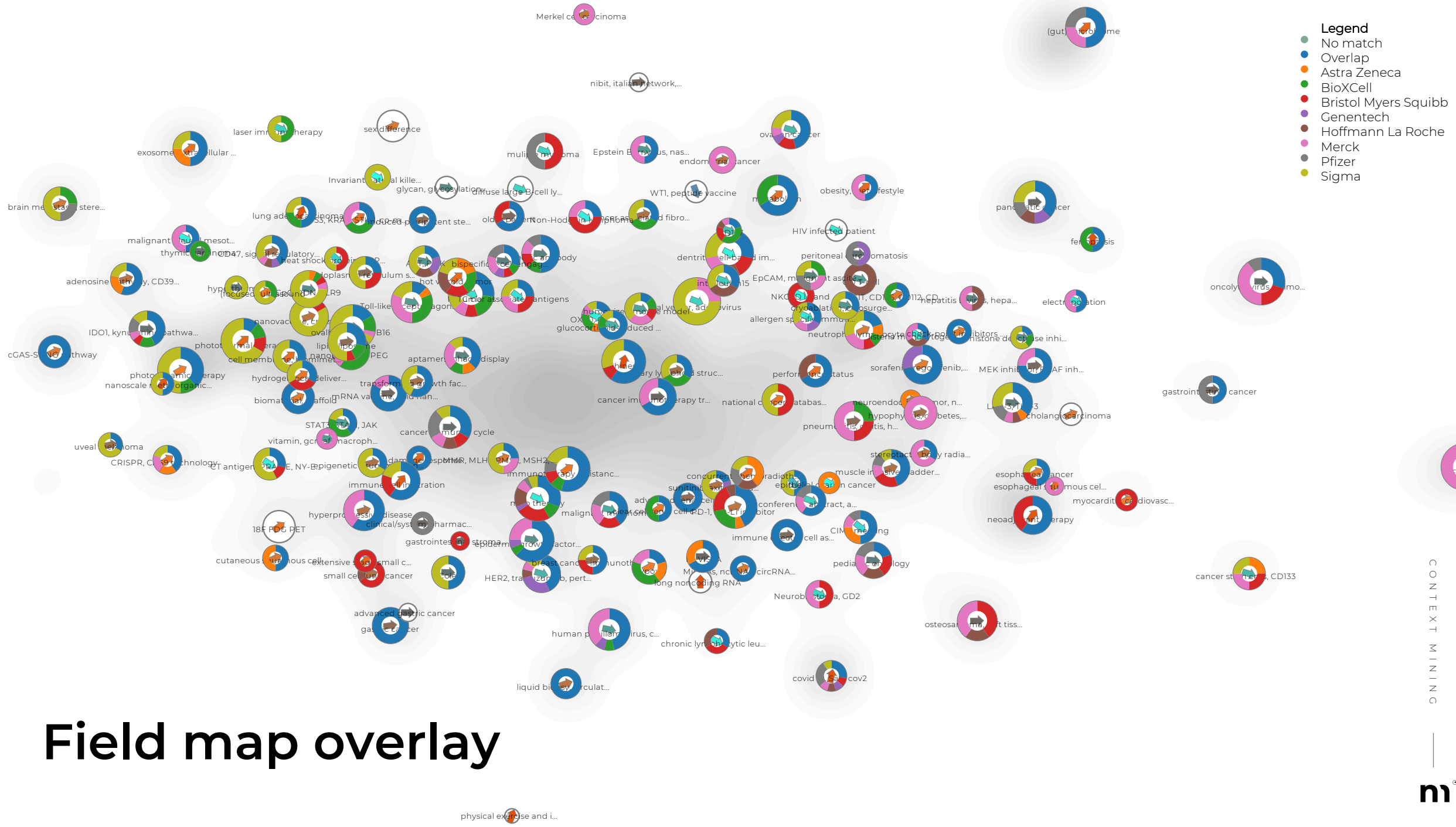
insights



Field map

CONTEXT MINING

physical exercise and immunoth...



- Legend**
- No match
 - Overlap
 - Astra Zeneca
 - BioXCell
 - Bristol Myers Squibb
 - Genentech
 - Hoffmann La Roche
 - Merck
 - Pfizer
 - Sigma

Field map overlay

CONTEXT MINING



3. Build your ontology ...

Read the story behind your dataset of 16.008 scientific papers and discover the topic model at its highest resolution.

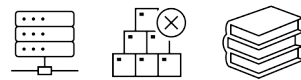
- Find concepts you know, discover new ones; see how they are linked as themes and how those themes are connected in a topic.
- Select those concepts, themes or topics of interest to you, group them, order them and build your own taxonomy and ontology.
- Re-use your taxonomy for further of new research and discovery in updated data sets or data sets from other sources.



02

Get your topic model...

Get your first insights and develop your topic model: a first high-level analysis and overview off all the data processed



UNBIASED !

01

Feed your Mynd ...

Define the scope of the various data sources you will use to build your topic model



03

Build your ontology ...

Discover the story behind your data and build your ontology



insights

Build your ontology ...

Go through your story of 16,008 scientific papers and discover the topic model at its highest resolution.

Find concepts you know, discover new ones; see how they are linked as themes and how those themes are connected in a topic.

Open the Filter panel ...

Select those concepts, themes or topics of interest to you, group them, order them and build your own taxonomy and ontology.

The screenshot shows a software interface for topic modeling. At the top, there are controls for 'Color on recency', 'Recency' (ranging from -3.00 to 3.00), 'Size' (set to 10), and '15901'. On the right, there are buttons for 'Clear Sorting', 'Reset Story', and 'Remove Bookmarks'. Below these is a search bar and a status bar indicating 'Showing 0 - 30 of 555 topics' and '(1) Bookmarks'. The main area is divided into columns: 'Topics', 'Themes', 'Concepts', 'Size', and 'Recency'. A list of topics is displayed, each with a set of associated concepts. The second topic is highlighted with a red box. A red arrow points from this box to a 'Filters' panel on the right side of the interface. The interface also includes a footer with '16008 documents filter: none, selection: none' and buttons for 'Export Docs', 'Select Collection', and 'Document panel'.

Build your ontology ...

Open the Filter pannel ...

Select those concepts, themes or topics of interest to you, group them, order them and build your own taxonomy and ontology.

Drag and drop the concepts of your interest in the filter bar and start building your ontology as you go through the story.

The screenshot shows a web application interface for building an ontology. The main area displays a list of concepts and themes. A 'Filter' panel on the right is open, showing a list of filters. A red box highlights a filter named 'TTC Concept' with the text 'cd4+cd25.treg.foxp3.tregs.treg c...'. A red arrow points from this filter to a red box in the main list of concepts, which contains 'cd4+cd25', 'treg', 'foxp3', 'tregs', 'treg cell', and 'regulatory t cell'.

Build your ontology ...

Drag and drop the concepts of your interest in the filter bar and start building your ontology as you go through the story.

Edit your filter, by adding concepts, themes or topics if needed.

The screenshot displays a web-based interface for building an ontology. At the top, there are controls for 'Color on recency', 'Recency' (ranging from -3.00 to 3.00), 'Size' (set to 10), and a page number '15901'. A search bar is located below these controls.

The main area is divided into 'Topics' and 'Concepts'. The 'Concepts' list includes various biological terms such as 'drug delivery system', 'cdn cdns cyclic dinucleotide', 'dds', 'cgas sting', 'immune sensing', 'vaccinated mouse', 'sting signaling', 'c di gmp', 'tnfr2', 'dc recruitment', 'myeloid mdscs tam pro macrophage myeloid cell phenotype m2 suppressor cell msc m1 tams immune suppression', 'm1 phenotype reprogramming polarization', 'm1 macrophage m2 macrophage', 'repolarization m1 type', 'macrophage polarization', 'csfr blz945 csfl', 'm2 tams m1 tams', 'cd4+cd25 treg foxp3 tregs treg cell regulatory t cell', 'scfv chain fragment', 'cd25', 'cd122 il2ra il2 receptor', 'il27', 'depletion of tregs', 'chemokine migration homing chemokines chemokine receptor', 'cxcl10 cxcl9', 'ccr2 ccl2', 'ccl5', 'cxcl c x c motif', 'angiogenesis bevacizumab vegf antiangiogenic therapy', 'vascular normalization abnormal tumor vasculature tumor vasculature', 'antiangiogenic agent', 'blood vessel', 'anti angiogenesis', and 'vessel normalization tumor vessel'. A cyan box highlights the 'cd122 il2ra il2 receptor', 'il27', and 'depletion of tregs' concepts.

On the right side, a 'Detail View' panel is open, showing a list of selected concepts: 'cd4+cd25 treg foxp3 tregs treg cell regulatory t cell', 'scfv chain fragment', 'cd25', 'cd122 il2ra il2 receptor', 'il27', and 'depletion of tregs'. Below this, there are tabs for 'Filters', 'Wikipedia', and 'Imported Filters'. The 'Filters' tab is active, showing a 'Select All' button and a 'Download Selected Filters' button. A list of 'Biomarkers' is displayed, including 'Cluster of differentiation' markers like 'cd103 (6/6)', 'cd112 (4/4)', 'cd122 (3/3)', 'cd123 (3/3)', 'cd123 (7/7)', 'cd133 (6/6)', 'cd134 (8/8)', 'cd137 (2/2)', 'cd141 (3/3)', 'cd155 (4/4)', 'cd16 (7/7)', 'cd163 (2/2)', 'cd19 (5/5)', 'cd1d (9/9)', 'cd20 (5/5)', 'cd200 (1/1)', 'cd22 (9/9)', 'cd226 (4/4)', 'cd25 (10/10)', 'cd27 (4/4)', 'cd274 (3/3)', 'cd276 (3/3)', 'cd28 (3/3)', 'cd3 (1/1)', 'cd30 (7/7)', 'cd33 (4/4)', 'cd34 (1/1)', 'cd38 (2/2)', 'cd39 (5/5)', 'cd4 (7/7)', and 'cd40 (2/2)'. Each marker has a dropdown arrow, a magnifying glass icon, and a trash icon.

Build your ontology ...

Save your filter for later use and analysis, give it a meaningful name and assign to a Category and Subcategory you define.

Build your own taxonomy or ontology using all concepts mynd discovered and be sure not to miss anything.

Re-use or export your taxonomy for other research.

The screenshot shows a web application interface for building an ontology. The main area displays a list of concepts, with a 'New filter' dialog box open. The dialog box has the following fields:

- Name: cd122
- Category: Biomarkers
- Subcategory: Cluster of differentiation
- Save button

On the right side, there is a 'Filters' panel. A filter named 'TTC Concept' is selected. Below it, a list of 'Cluster of differentiation' concepts is shown, with 'cd122 (3/3)' highlighted.

4. Analyse deeply ...

Analyse and quantify unknown and new concepts, find unexpected correlations and discover emerging trends.

- Build your scatterplot, using your taxonomy, and discover what is new and trending.
- Build your heatmap and find correlations between the different categories and subcategories of your taxonomy or by using the meta data of your scientific papers.

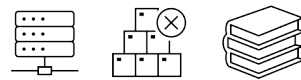
Have **access** at any time, at any scientific paper by a simple click through.



02

Get your topic model...

Get your first insights and develop your topic model: a first high-level analysis and overview of all the data processed

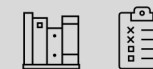


UNBIASED !

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Analyse deeply ...

Analyse and quantify unknown concepts, unexpected correlations and emerging trends



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Feed your Mynd ...

Define the scope of the various data sources you will use to build your topic model



03

Build your ontology ...

Discover the story behind your data and build your ontology



insights

Recency plot

- Discover what is new and trending (high recency and low volume).
- Find what is already established (still recent and high volume).
- Learn what topics are disappearing (low recency and decreasing volume).

See the **forefront of innovation**.



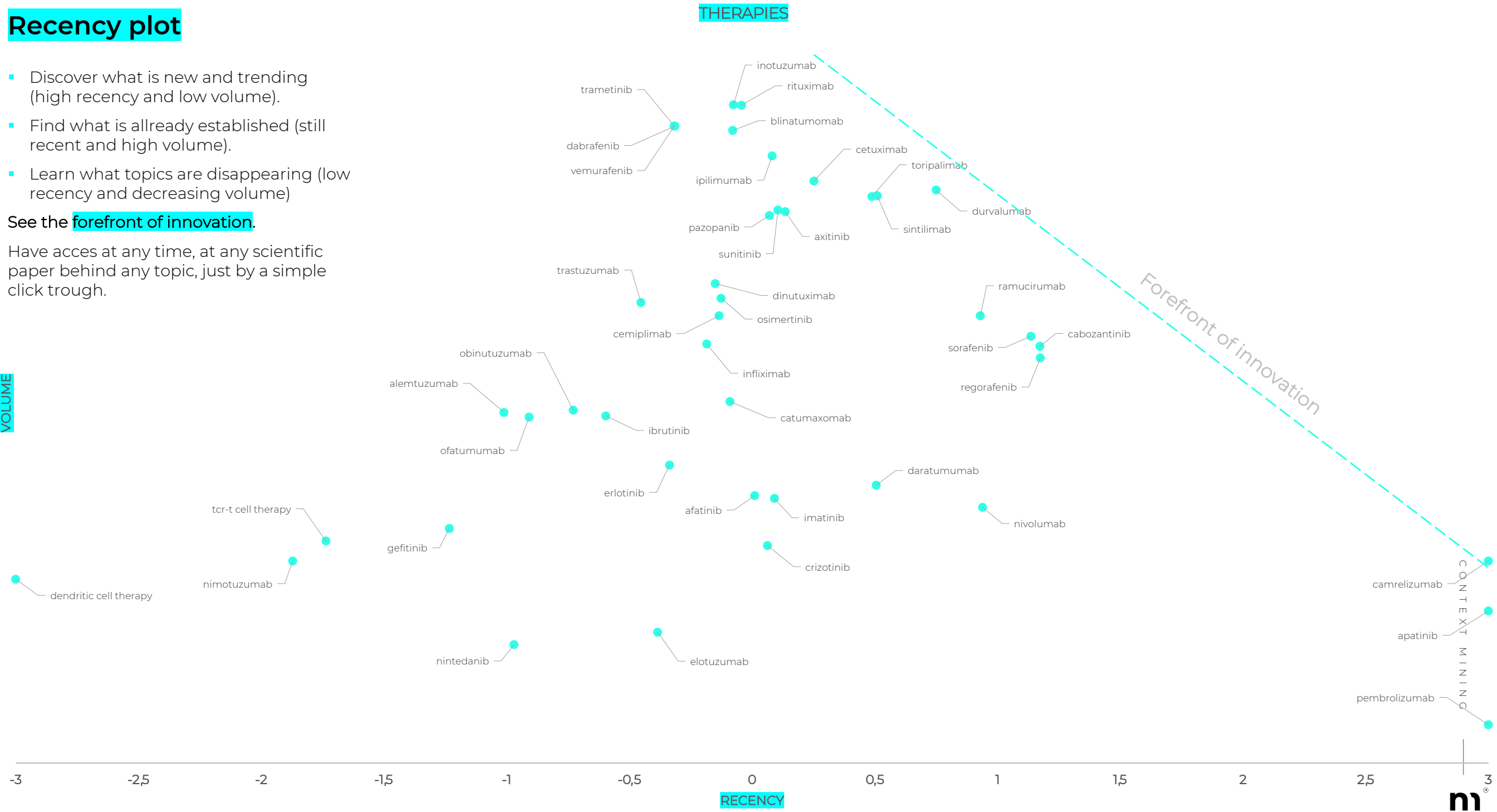
Recency plot

- Discover what is new and trending (high recency and low volume).
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- Learn what topics are disappearing (low recency and decreasing volume).

See the **forefront of innovation**.

Have access at any time, at any scientific paper behind any topic, just by a simple click through.

VOLUME



Heat map

Therapies vs. Diseases

volume

- Discover correlations between the element of your taxonomy (therapies vs. diseases).
- Cluster and reshuffle your heatmap based on pattern recognition and reveal hidden clusters of combination



Heat map

Therapies vs. Diseases

recency

- Discover correlations between the element of your taxonomy (therapies vs. diseases).
- Cluster and reshuffle your heatmap based on pattern recognition and reveal hidden clusters of combination

Have acces at any time, at any scientific paper behind any topic, just by a simple click trough.

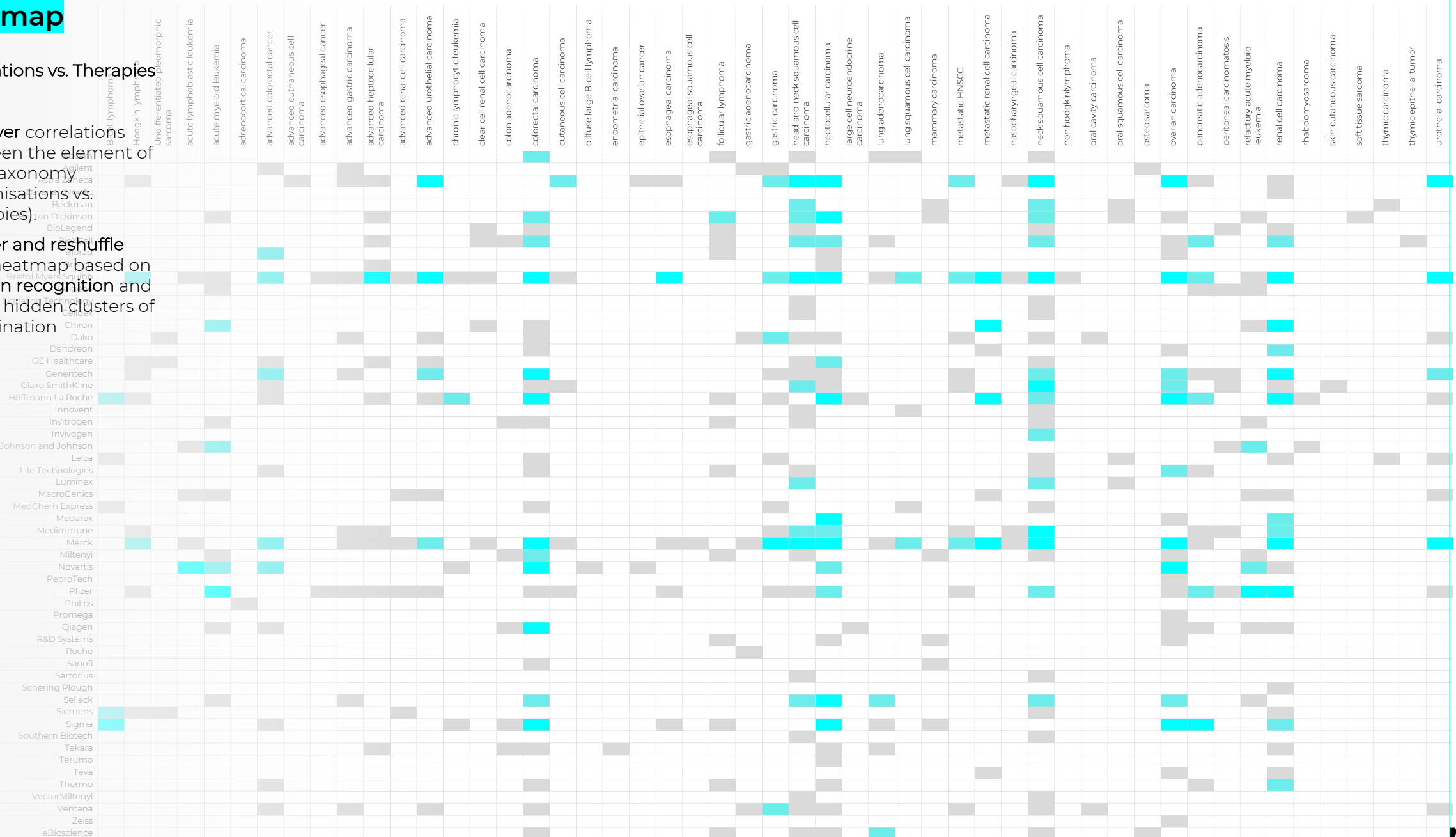
1 scientific paper out of 16.008



Heat map

Organisations vs. Therapies volume

- Discover correlations between the element of your taxonomy (organisations vs. therapies):
- Cluster and reshuffle your heatmap based on pattern recognition and reveal hidden clusters of combination



other use cases

de-risk and accelerate your research and innovation process

- Science and technology intelligence
- Market, customer and consumer insights
- Competitive intelligence and Intellectual property
- Knowledge management

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