

*Questel*

**COVID 19**  
**Innovation & patents**  
*Netval*

# We serve 20,000 clients in 30 countries.

## Key metrics

- 1,500 Questel employees
- 300+ local agents
- 1,200+ local translators
- 1.5M users
- 20,000 patent foreign filing per year
- Petabytes of hosted data
- Daily update from 500+ sources
- 3 Questel Labs [AI & Big Data R&D]

### AMERICAS

Alexandria US  
New York US  
Provo US  
Rochester US  
San Francisco US  
Wilmington US  
Buffalo US  
Montréal CA  
Medellín CO  
São Paulo BR  
Arequipa PE

### EMEA

Paris FR  
Munich DE  
London UK  
Amsterdam NL  
Milan IT  
Geneva CH  
Copenhagen DK  
Tel Aviv IL  
Tunis TU  
Stockholm SW  
Ljubljana SL

### APAC

Tokyo JP  
Yokohama JP  
Osaka JP  
Shanghai CN  
Tianjin CN  
Taipei TW  
New Delhi IN  
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Seoul KR

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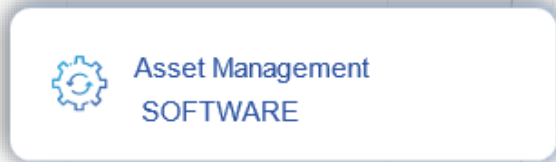
## Questel Life Cycle of Innovation



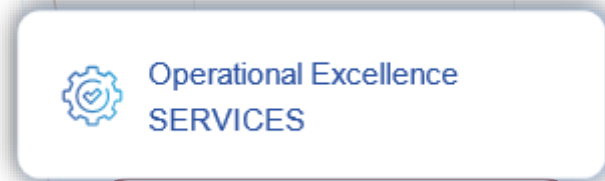
- *Orbit Intelligence*
  - Biosequence
  - Chemistry
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- *IP Searches*
- *Translation*
- *Renewals*
- *EP Validation*
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Beyond IP

# Orbit Asset: A success story from a leading Technology Transfer Office

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Published, 20 April 2022

## How Policlinico di Milano TTO uses the Orbit Asset IP management system to manage its patent portfolio and protect biomedical inventions and knowhow.



For our latest testimonial, we speak to technology transfer specialists Alessandro Cervi and Margherita Chierici in the Policlinico di Milano's Technology Transfer Office (TTO) about how the [Orbit Asset IP management system](#) supports them in their work.

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## Covid 19, Innovation and Patents

*After two years of the covid 19 crisis, what innovations have been achieved and in which technological areas?*



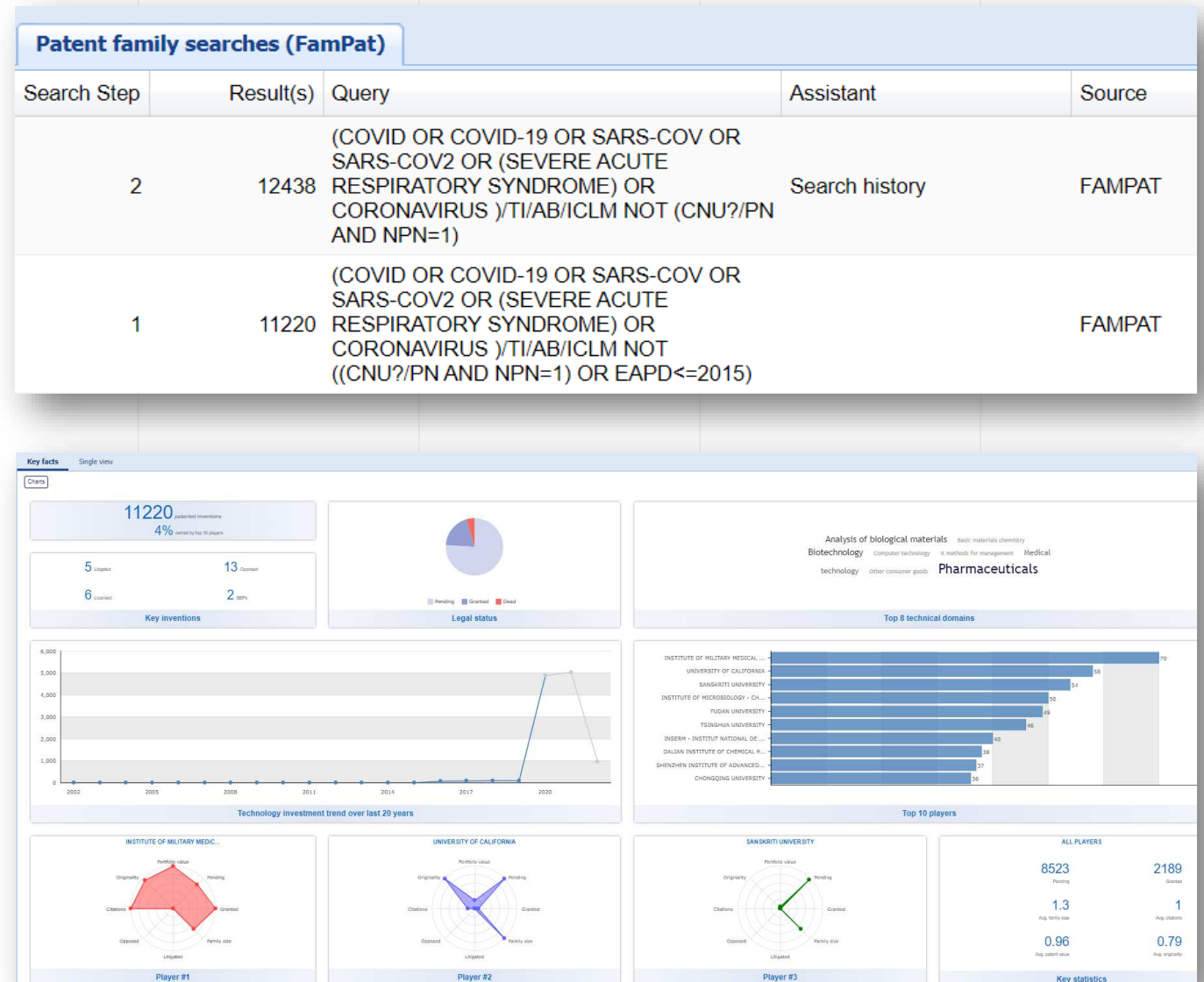
- Introduction
- Global trends
- Market location
- Key Players
- Technologies & applications
- Conclusion



# Introduction

The Covid-19 pandemic is an emerging infectious disease, known as **coronavirus 2019 or Covid-19**, caused by the **coronavirus SARS-CoV-2**. It appears on 16 November **2019** in Wuhan, Hubei province (in central China), before spreading around the world.

Since then, investment in the health sector has been very significant and has led to the **development of patents for detection and treatment** of this disease.



01

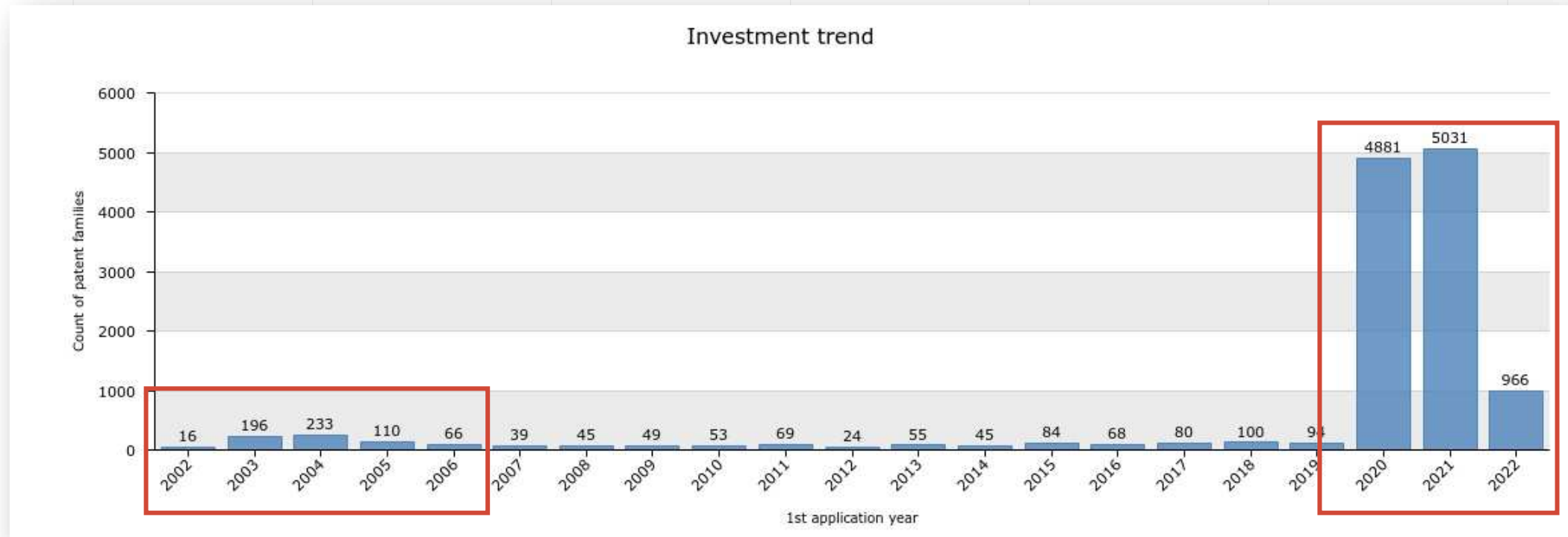
## Global trends

Investment trend and technology



Global trend

## Investment trend

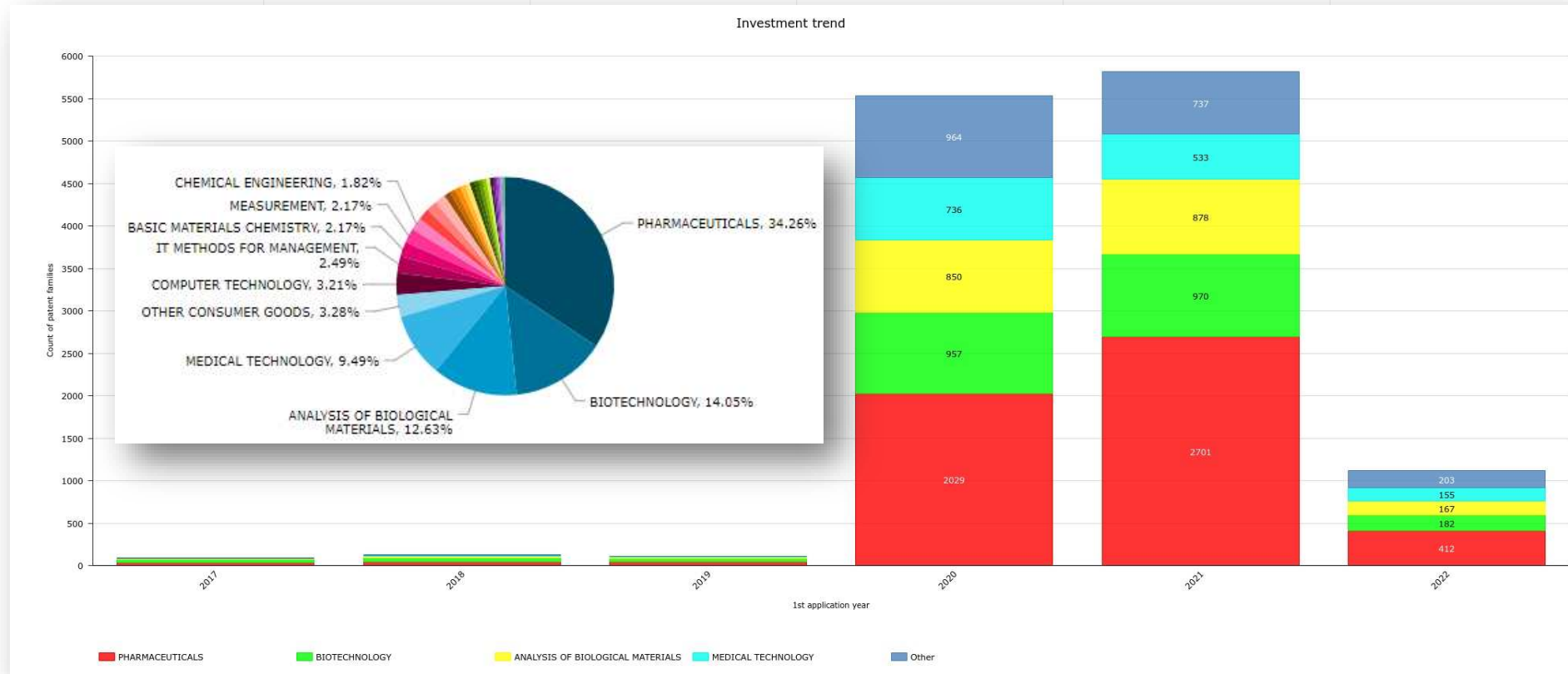


Looking at investment in Covid research, there was an **initial peak between 2002 and 2006**. This period corresponds to the first SARS outbreak, also caused by the SARS-CoV coronavirus, but research in this area stopped when the reported cases disappeared.



Global trend

## Investment trend / Technology



Patents against covid-19 have exploded since 2020. They mainly concern the **pharmaceutical industry** but also **biotechnologies**, the **analysis of biological materials** and even **computer technology**.

2

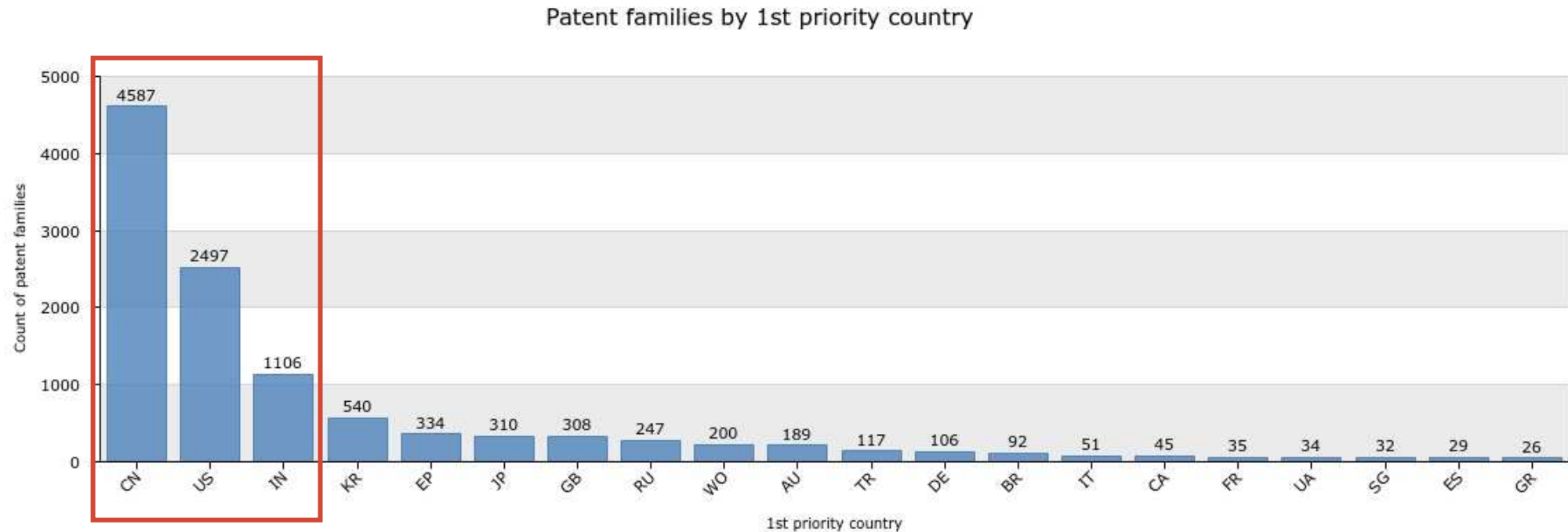
## Market location

Location of R&D and key market



Market location

## Identify the location of R&D on the basis of priorities

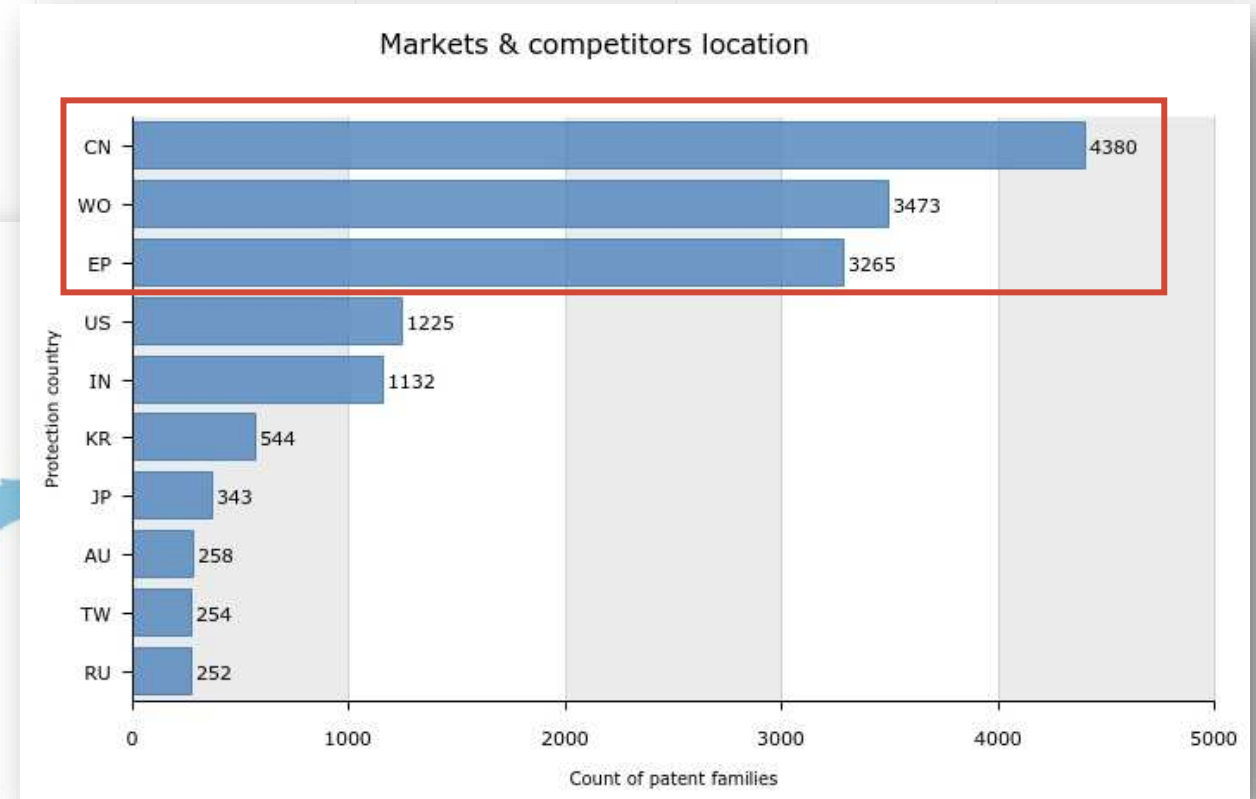


If we look at the countries where the 1st priority is located, we can see that R&D is concentrated in **China, the US and India.**



Market location

## Market location (top 10)



The market is mostly located un **China, US and Europe.**

3

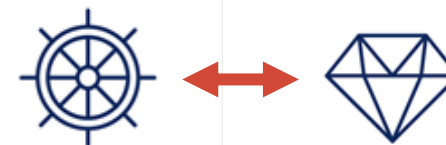
## Key Players

Geographical coverage of key players

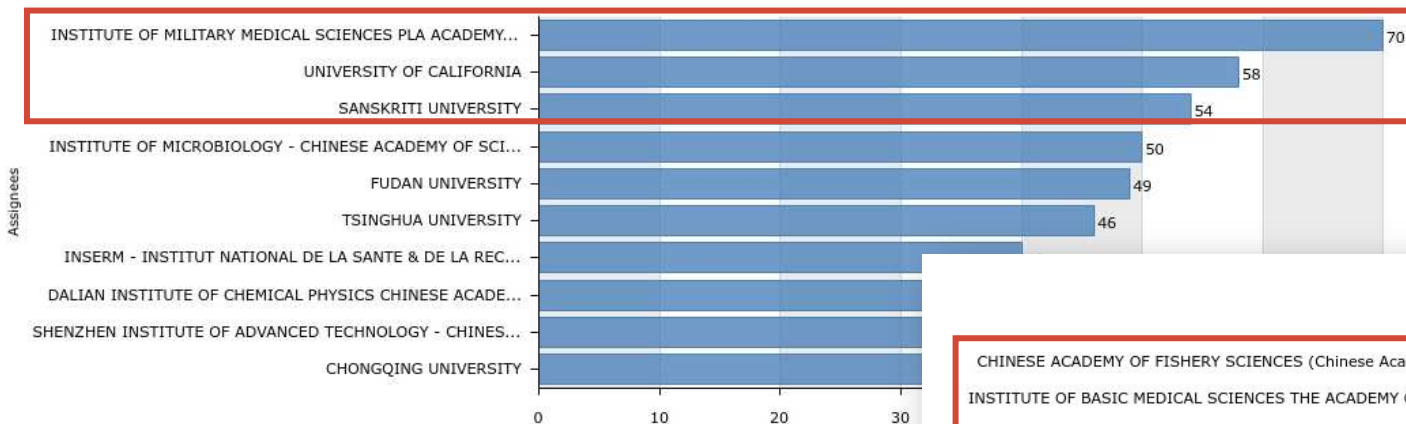


Key players

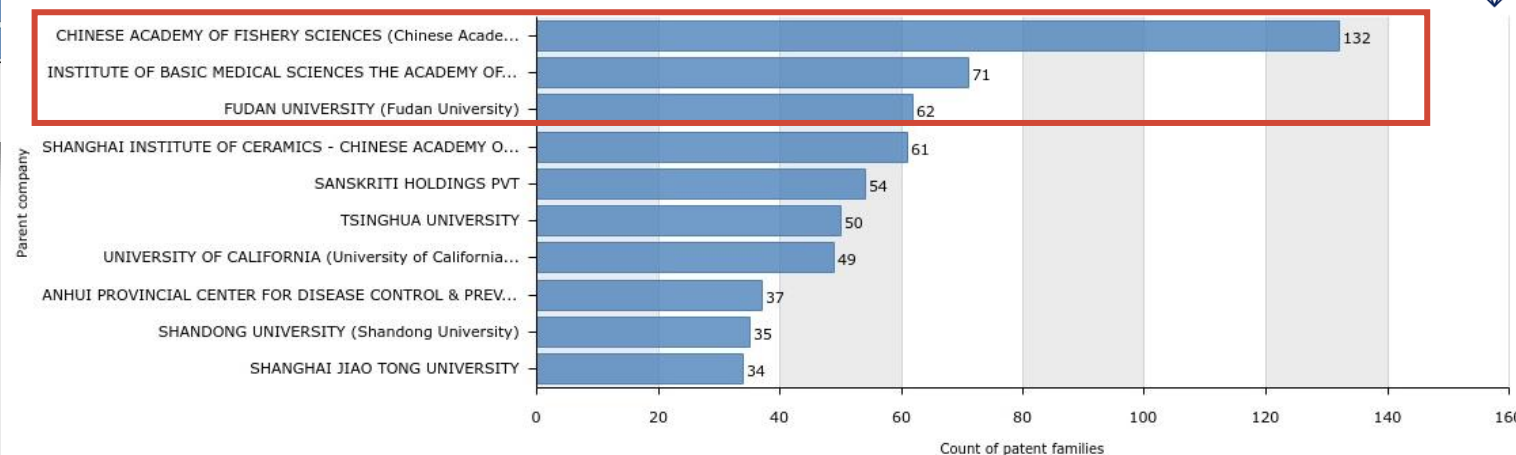
## Top 10 players



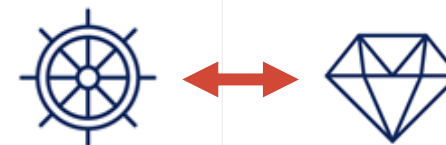
Patent families by Assignees



Patent families by Parent company



Looking at the parent companies can help to find the key player in the market. Here, the **Chinese Academy of Fishery Science** is a key player that does not appear in the first chart. Most of the players filing a large number of patents are **universities**.



Key players

## Geographical coverage of key players

Patent families by Parent company / Publication country

Parent company	Publication country									
	CN	WO	US	IN	KR	EP	GB	TW	JP	RU
CHINESE ACADEMY OF FISHERY SCIENCES	152	13	2			1				
INSTITUTE OF BASIC MEDICAL SCIENCES THE ACADEMY OF...	71									
SHANGHAI INSTITUTE OF CERAMICS - CHINESE ACADEMY O...	65	1								
FUDAN UNIVERSITY	57	12	2		1	1			1	
UNIVERSITY OF CALIFORNIA	2	55	10	1	1	2		1	1	
SANSKRITI HOLDINGS PVT				54						
TSINGHUA UNIVERSITY	47	6	1							
INSTITUT PASTEUR		26	3		14	7		1		
ANHUI PROVINCIAL CENTER FOR DISEASE CONTROL & PREV...	38	4								
INSERM - INSTITUT NATIONAL DE LA SANTE & DE LA REC...	1	37	1	1	1	8		2	1	1
SUN YAT SEN UNIVERSITY	35	10		2		2			1	
SHANDONG UNIVERSITY	36	2	1							
SHANGHAI JIAO TONG UNIVERSITY	32	6								
ZHEJIANG UNIVERSITY	34	1	1		1	1			1	
CHONGQING UNIVERSITY	30	7	1							
CNRS - CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQU...	1	26	1	1	1	9		1	1	1
KRICT KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOL...		9			28					
CELLTRION	1	8	1	1	28	1			1	
SHANGHAI INSTITUTE OF MATERIA MEDICA CAS	26	1								
ZAKI GEORGE ABDELMESSIH							26			

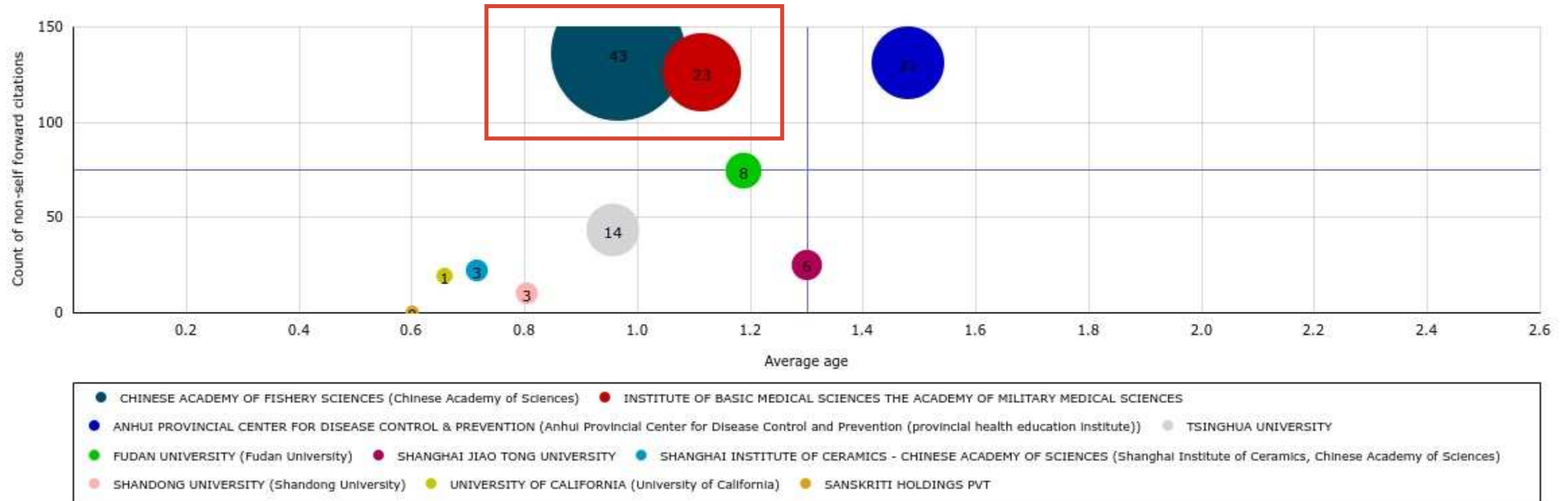
The key players mainly publish their patents in **China** and the **US**.



Key players

## Player indicators

Average age by Parent company with value indicators



**Chinese academy of Fishery Sciences and the Institute of Basic Medical Science** have patents that are considered **key players** in the covid market as they are cited even though the portfolio is young.



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## Technologies & applications

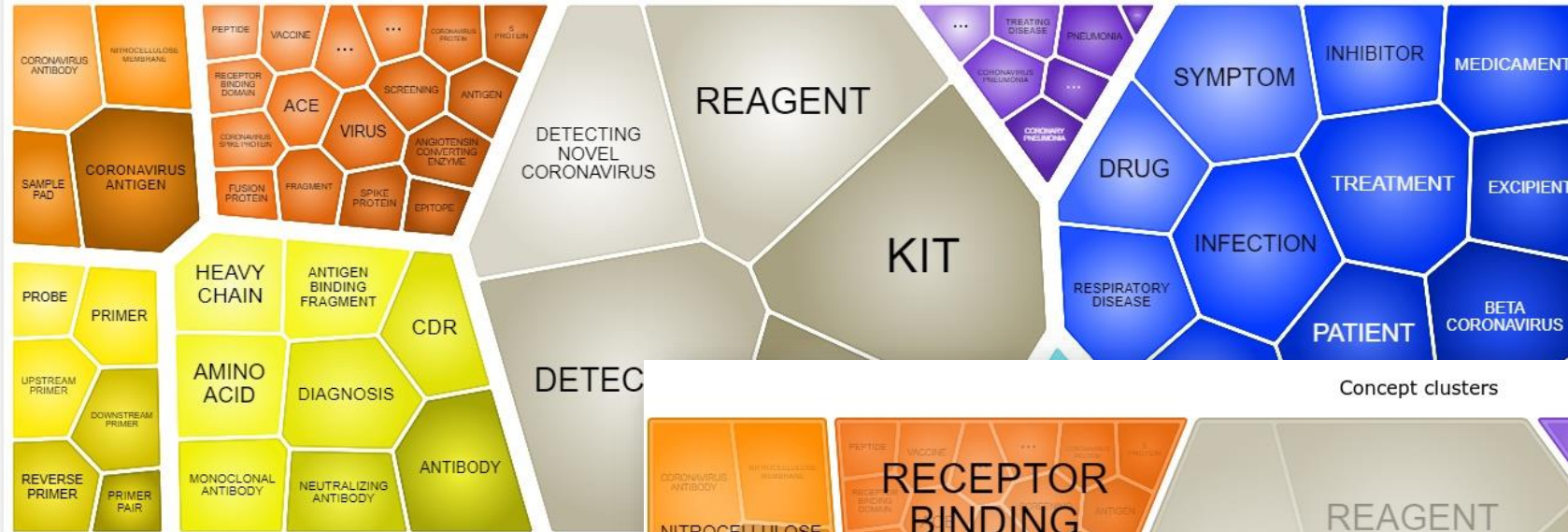
Concept clusters and landscape map



Technologies &  
applications

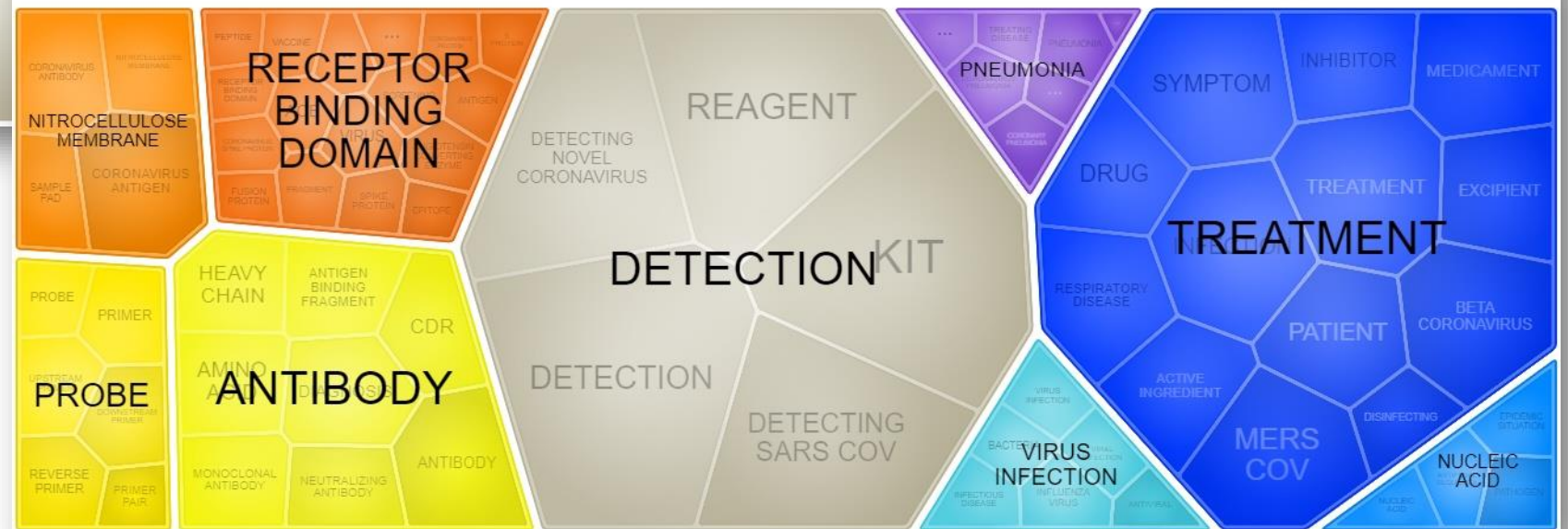
## Concept clusters

Concept clusters



Patents related to covid are mainly patents for **detection and treatment** of the virus.

Concept clusters

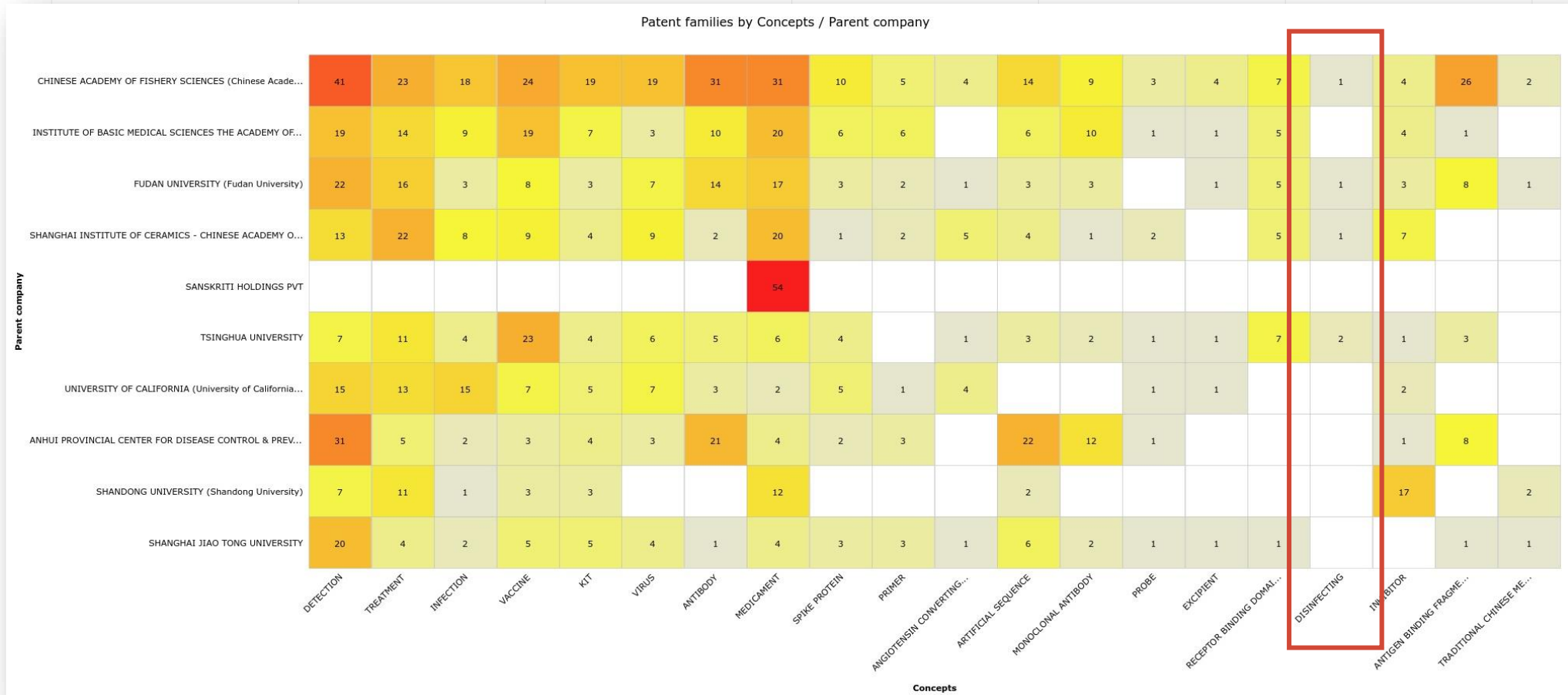






Technologies & applications

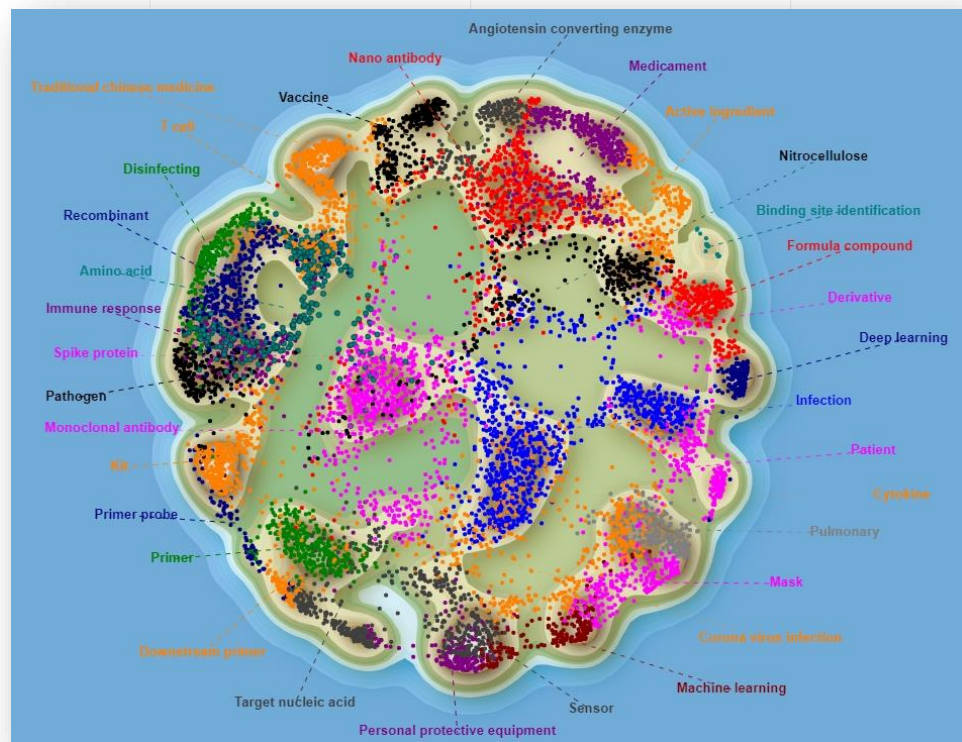
## Identification of white spaces



Questel The main market players are mainly active in the field of **detection and processing**. With this type of chart, one can also identify potential white spaces where it would be interesting to invest. This is the case here, for example, with the **disinfection concept**.

Technologies & applications

## Landscape by technology cluster



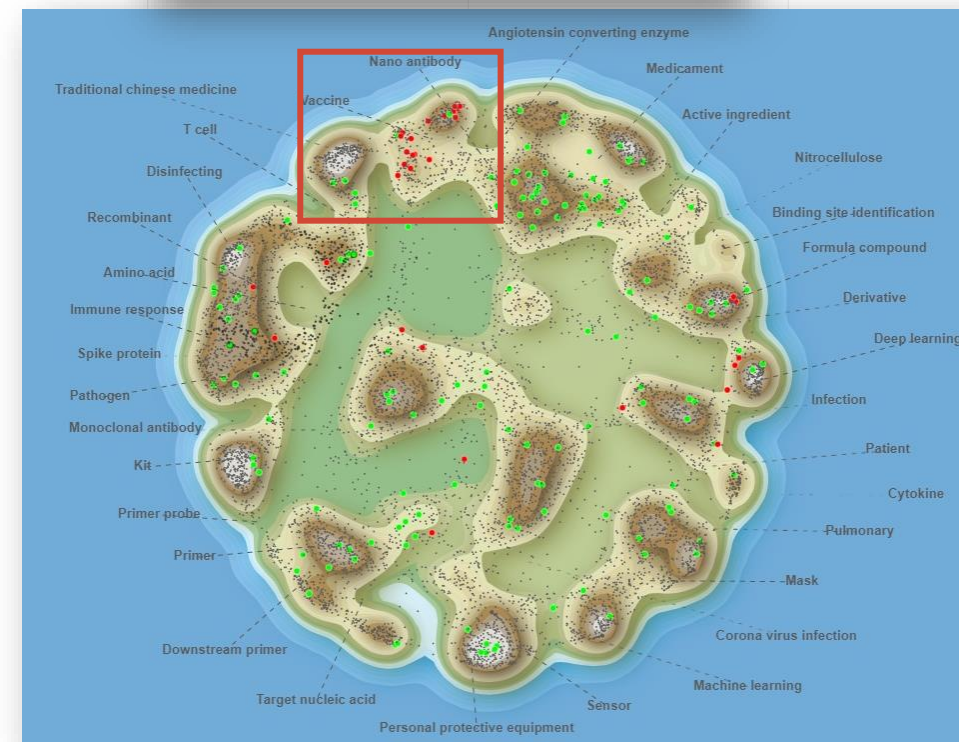
Split by

Color chart elements

Complete the form to color specific elements of the chart

My templates: Select or create a template.

Assignees	BIONTECH, MODERNATX	BIONTECH, MODERNATX	Red	X
Assignees	UNIVERSITY OF CALIFOR	UNIVERSITY OF CALIFOR	Green	X
Assignees	Click to select elements		Yellow	X



We have grouped the main universities and large pharmaceutical companies (BioNTech, Pfizer, Moderna) into two groups. We can thus see that the companies are grouped in clusters mainly in the vaccine sector, while the universities are found in all fields.

4

## Conclusion

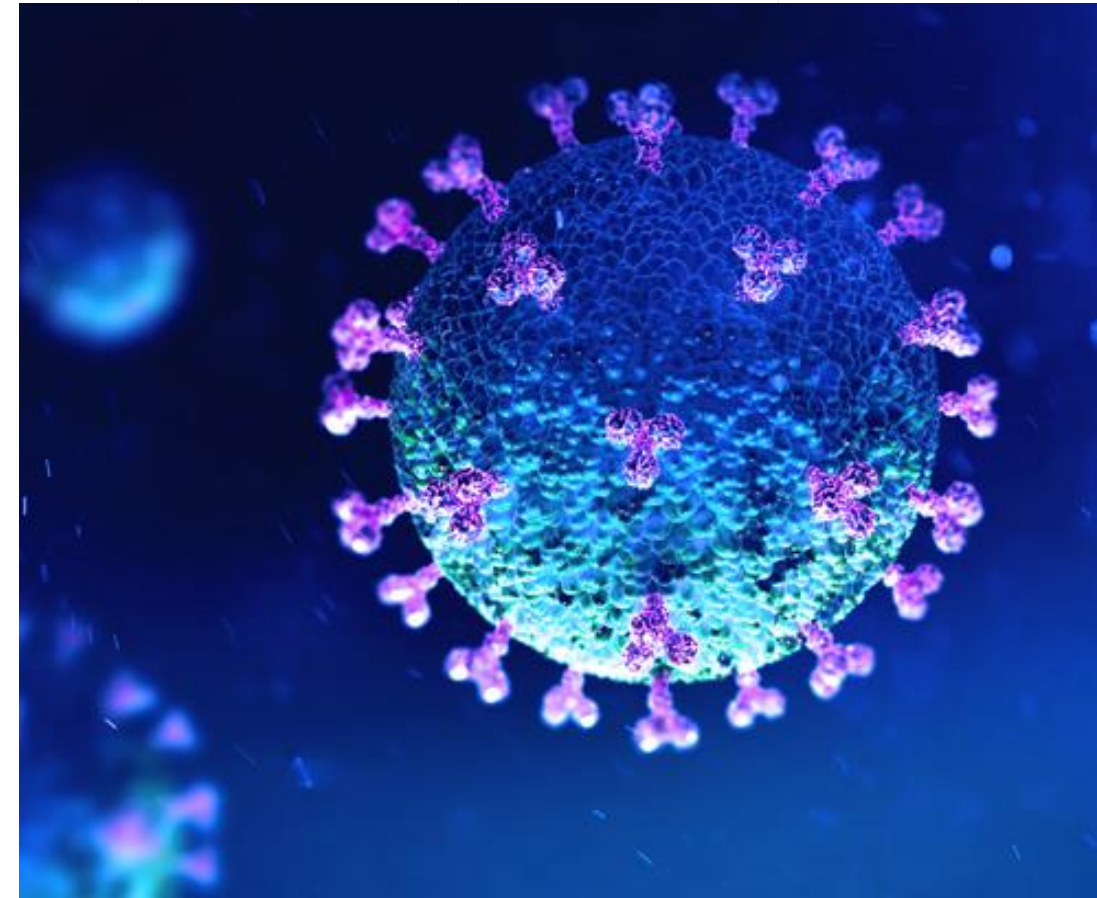


## Conclusion

After 3 years of global pandemic, the development of new technologies is **not only focused on pharmaceuticals** but also on biotechnologies and computer sciences.

The actors in this field are very diverse, such as **universities, large companies** and **institutes** and are filing numerous patents.

Although investment in innovation against covid-19 is very high, there is **still room for the development of new technologies** in this area.



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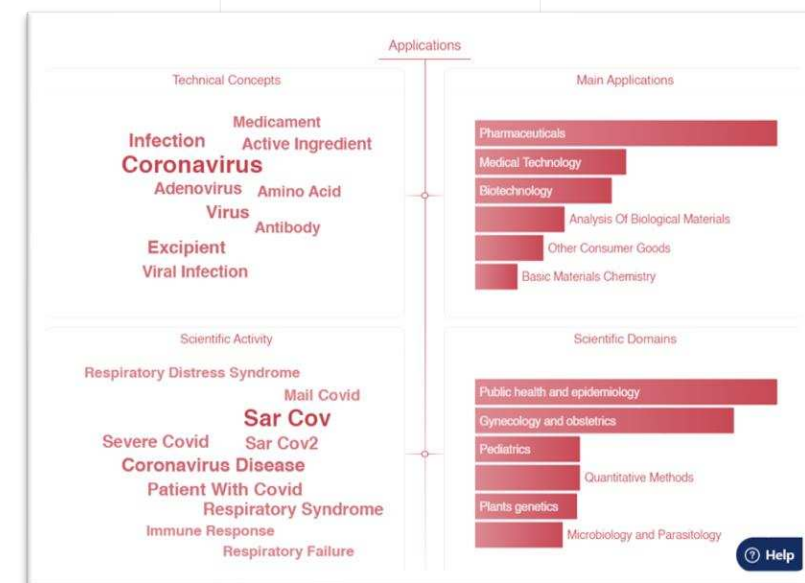
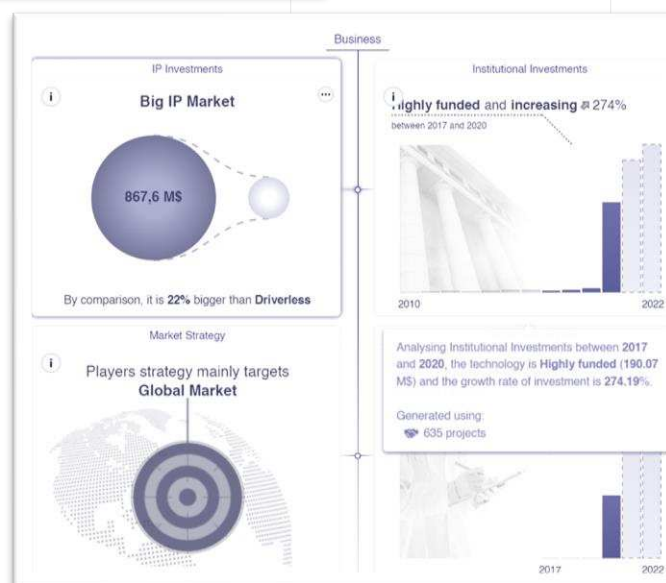
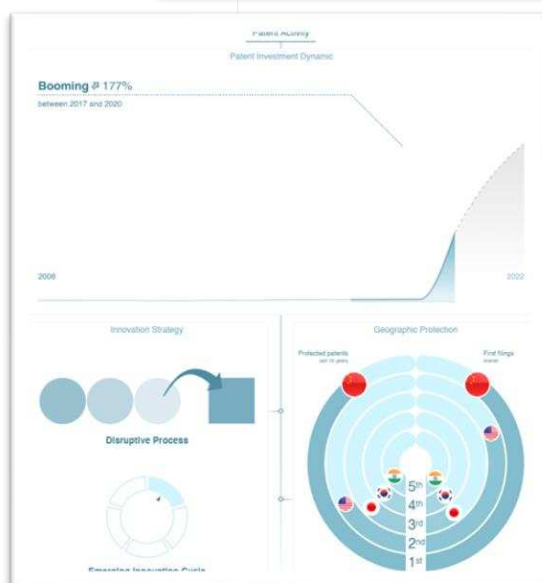
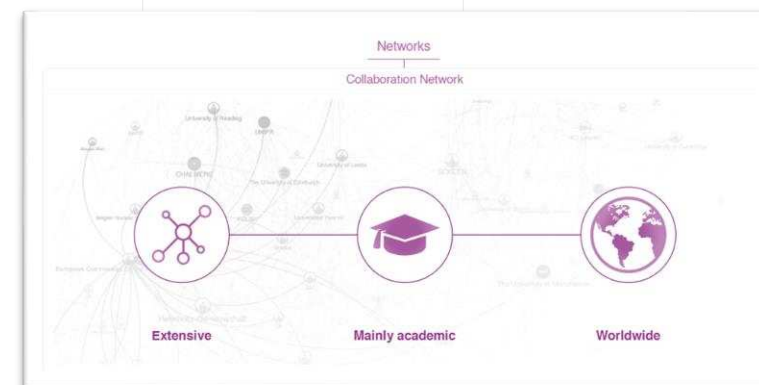
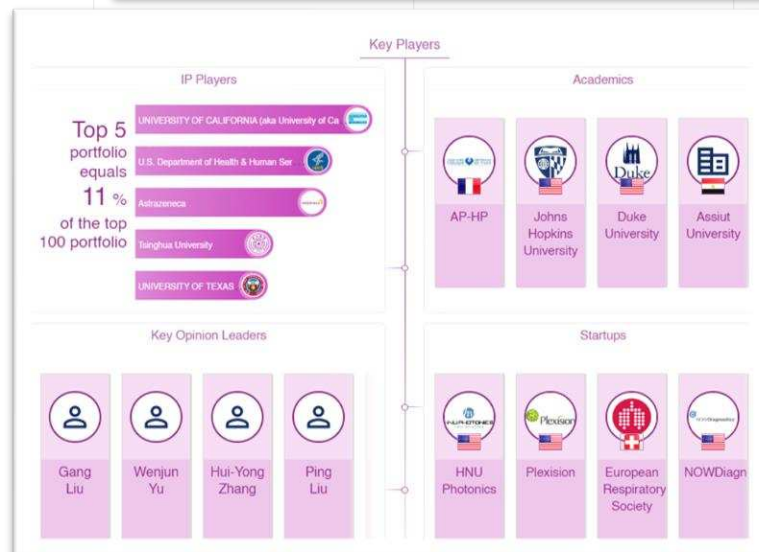
Innosabi Insight

**Insight**

I'm looking for insights on **covid-19** (or coronavirus, sarscov2) (both singular and plural forms are auto... **BOOST ON**)

**Technology Landscape** Data Screening Competitive Landscape

generated using: 43240 inventions 669036 scientific works 635 projects 9488 clinical studies 2709 organisations 19590 people 24022059 web contents



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Thank you

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