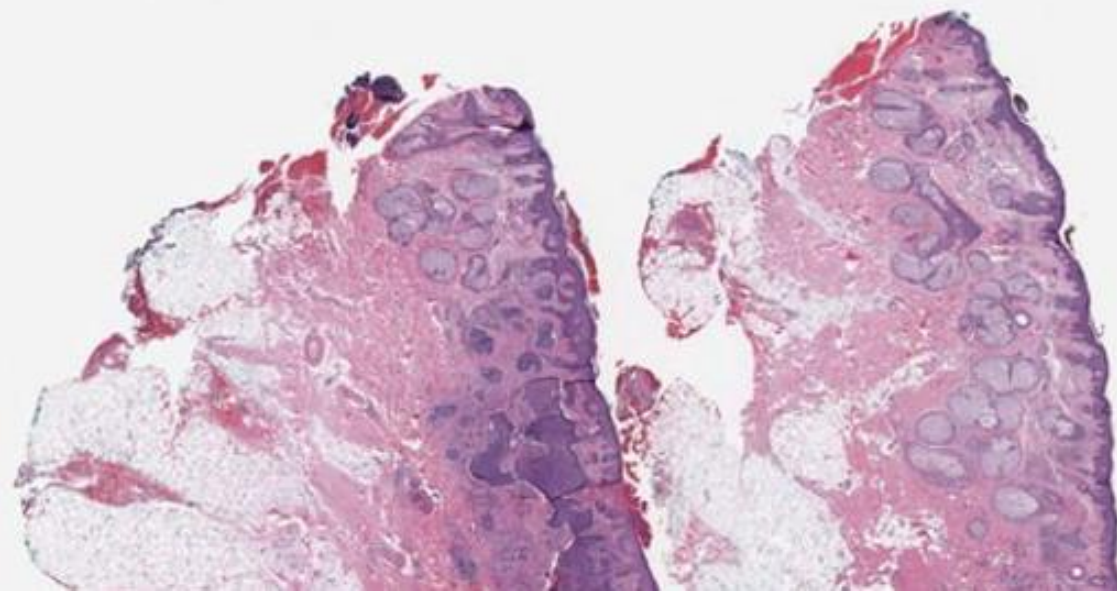




Collaborative  
Biomedical  
Imaging & Mining





# cytomine

**CMBDO**

**CTO**

**CEO**



Grégoire VINCKE

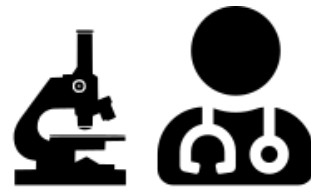
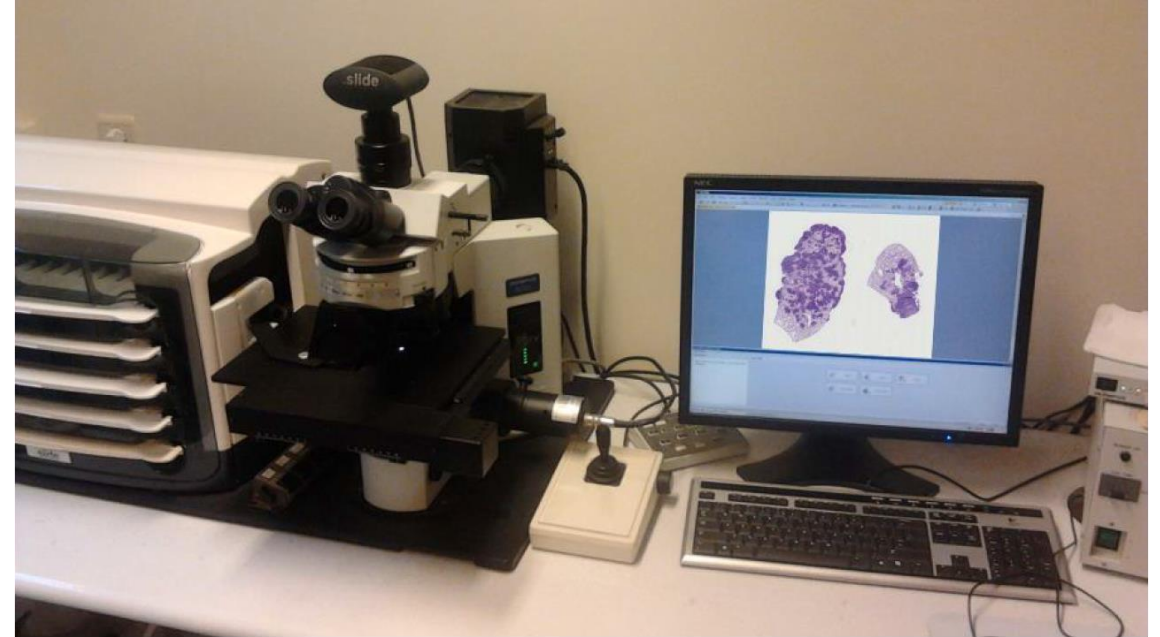


Renaud HOYOUX



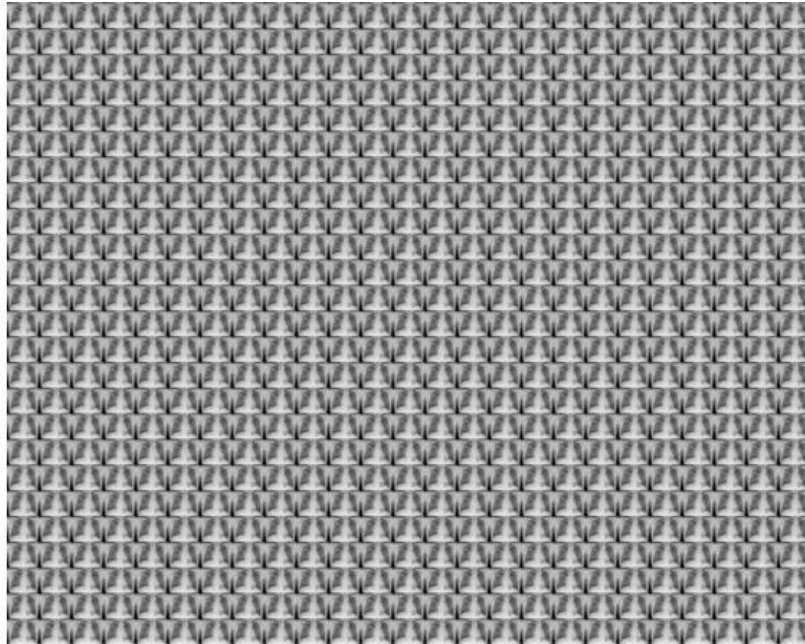
Jean BEKA

# The Pain: fragility and heavy weight

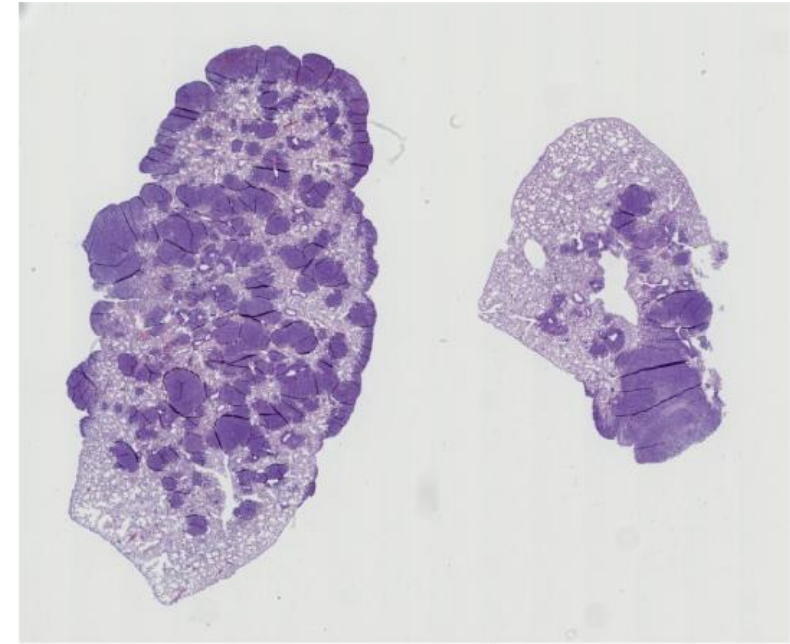




# Medical Imaging vs Digital Pathology



Almost 2000  
chest X-rays  
medical images  
are equivalent  
in size to one  
mouse lung  
biomedical  
image



In VIVO

X-Rays, Ultrasounds, Magnetic field, ...

Black & White

DICOM

Low resolution (mm/px)

512 x 512 > 4000 x 4000 pixels

5 - 20 MB

Digitalized 20 years ago

In VITRO

Photons

Colors

iSyntax, svs, ndpi, vsi, scn, czi, bif, tiff, ...

Very High Resolution (nm/px)

+100.000 x +100.000 pixels

100 MB – 100 GB

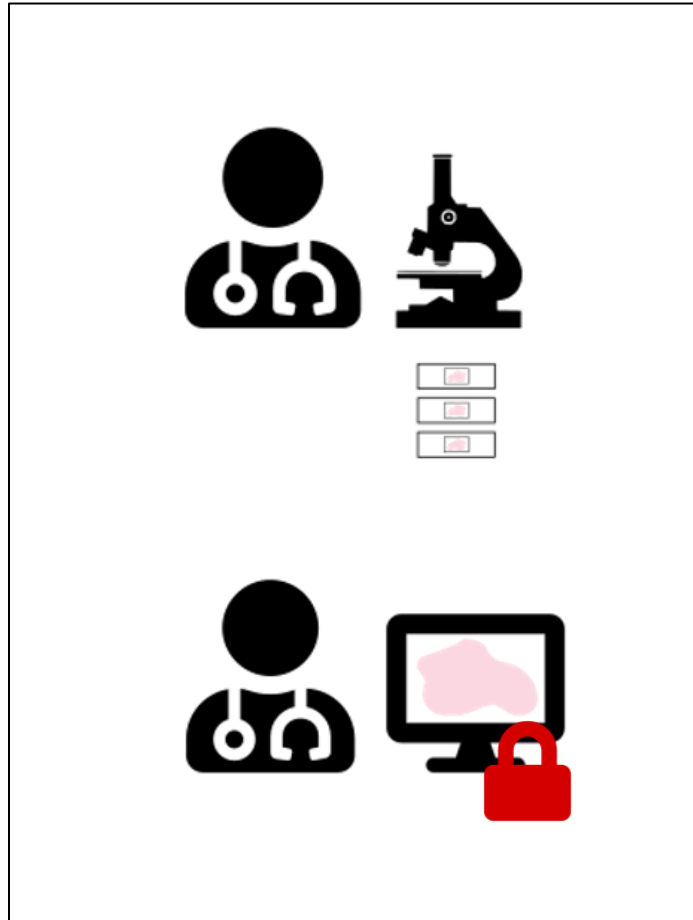
In digitalization phase



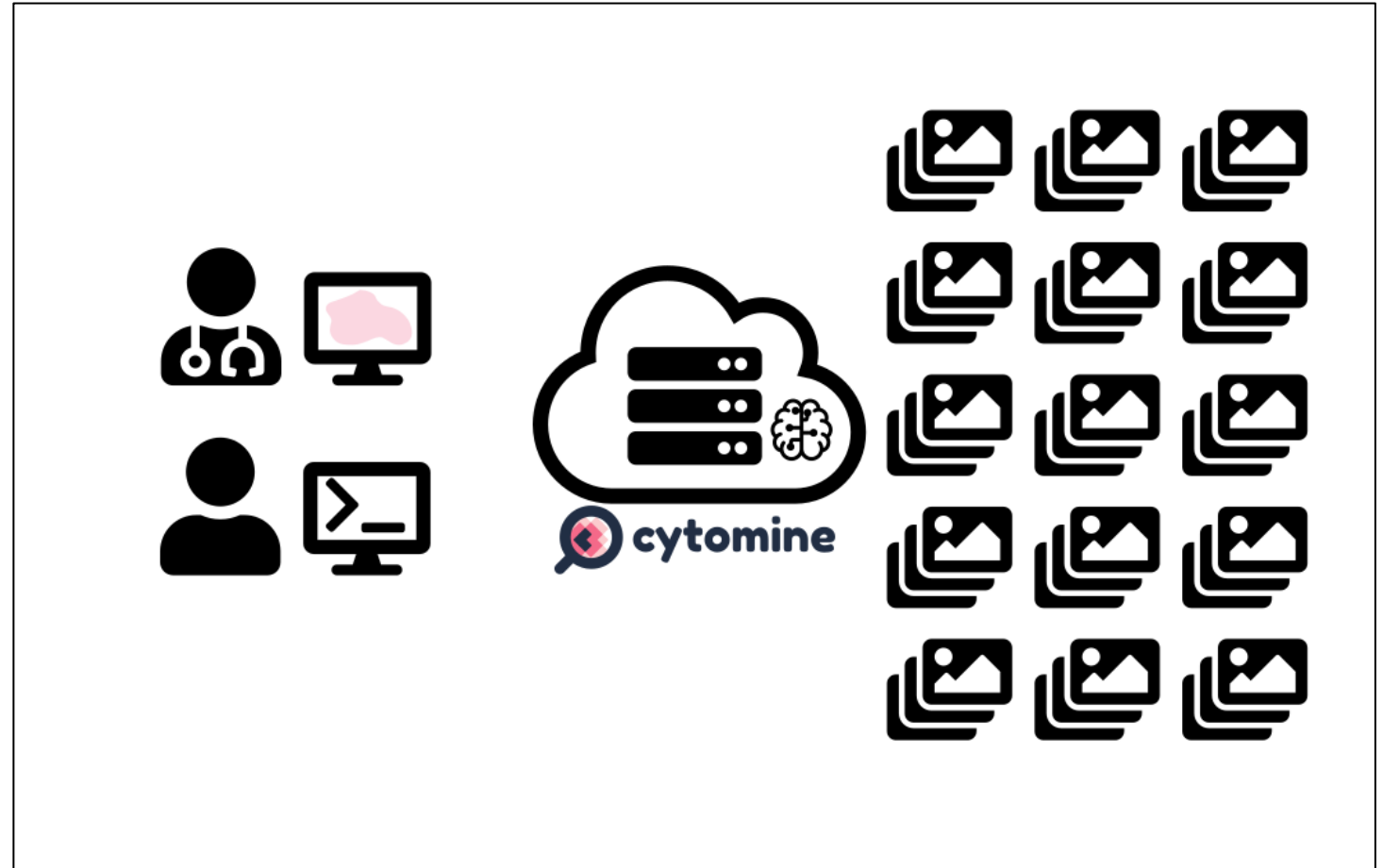
# The Solution:

## Make collaboration possible including AI

From



To



# The Value Proposition

Accessibility

User-Friendly

Security

Interoperability

Vendor-neutral

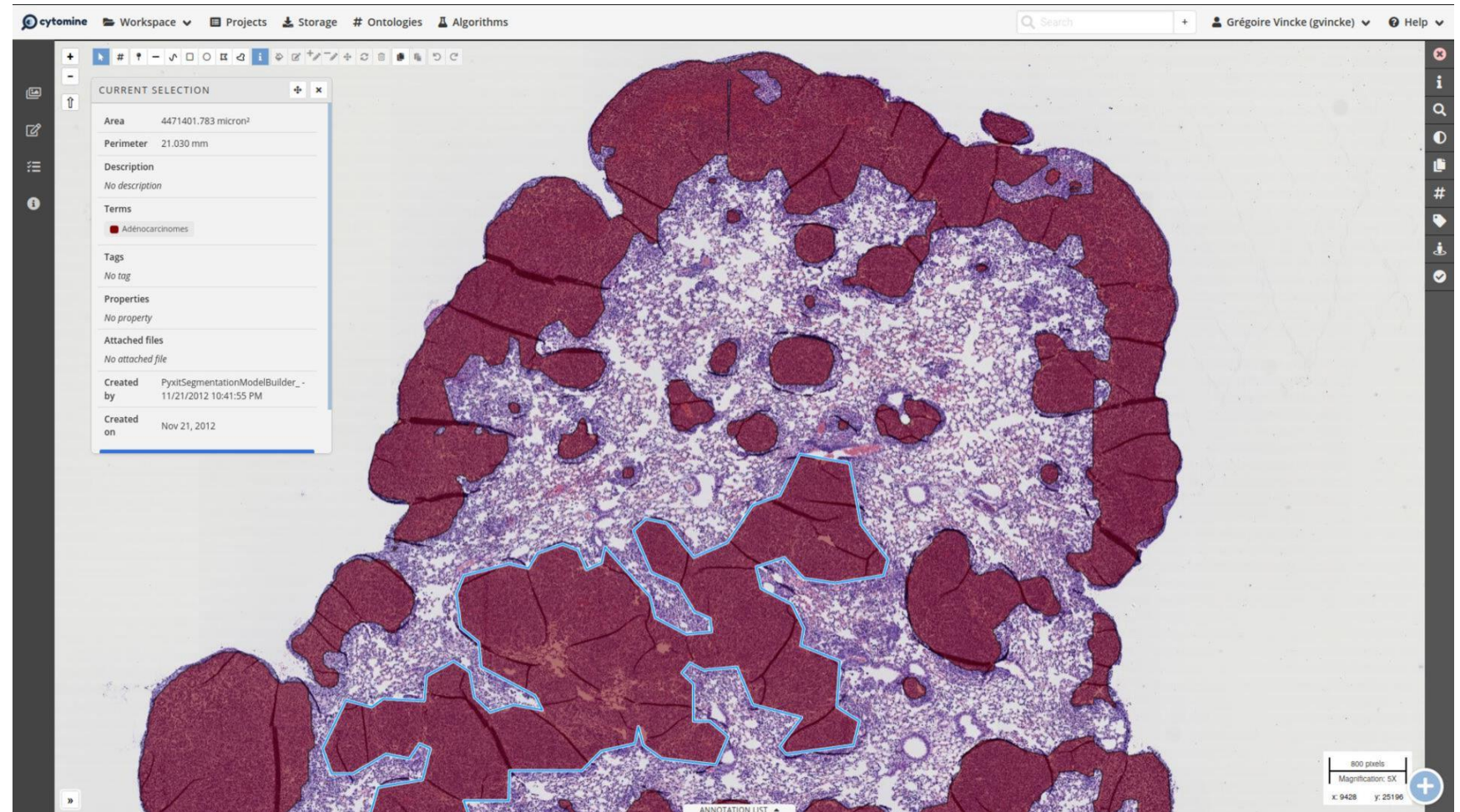
Collaboration-friendly

 AI-friendly

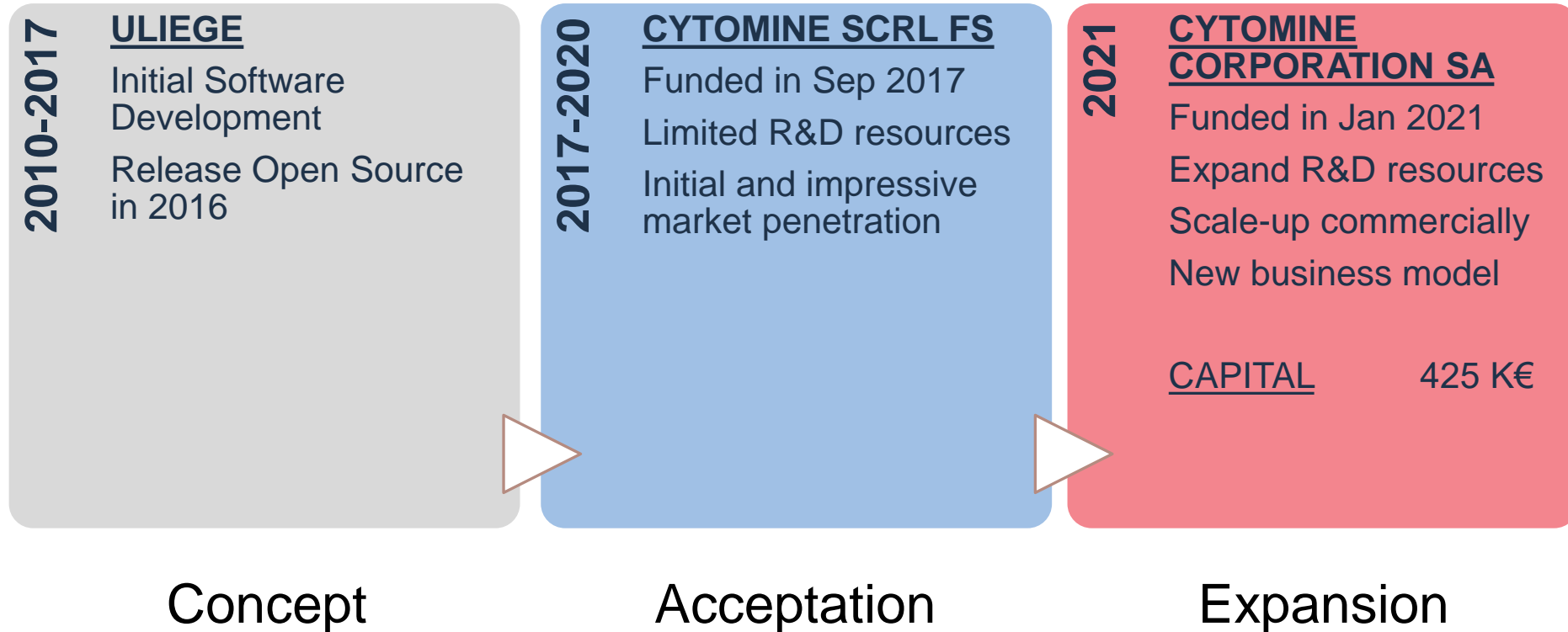
Scalability

Modularity

Open Source



# The Company





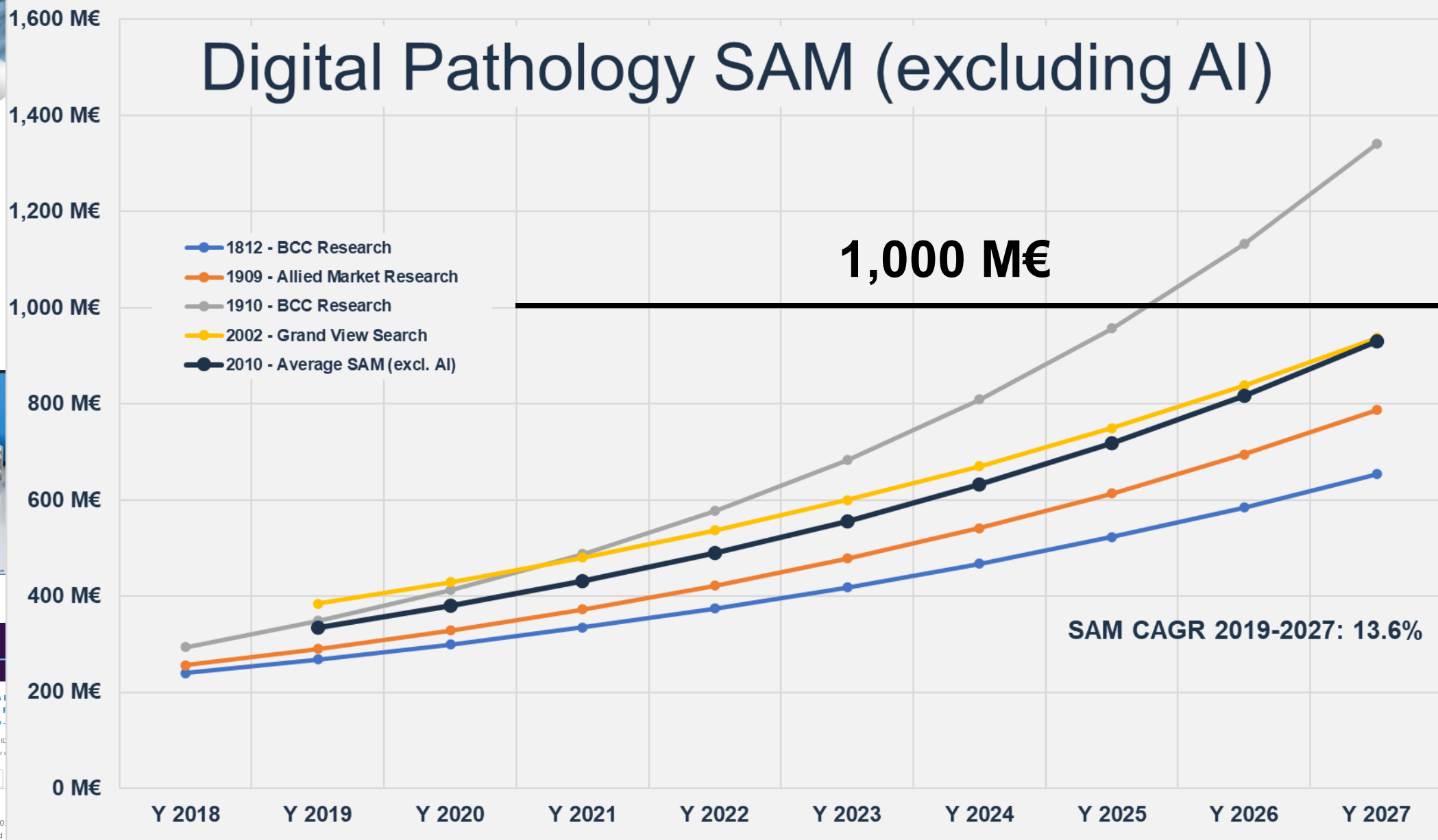


## DigitalPathology: Technologies and Global Markets

October 2019



Bhavna Joshi  
Report Code: HLC181C





# Market Penetration Strategy

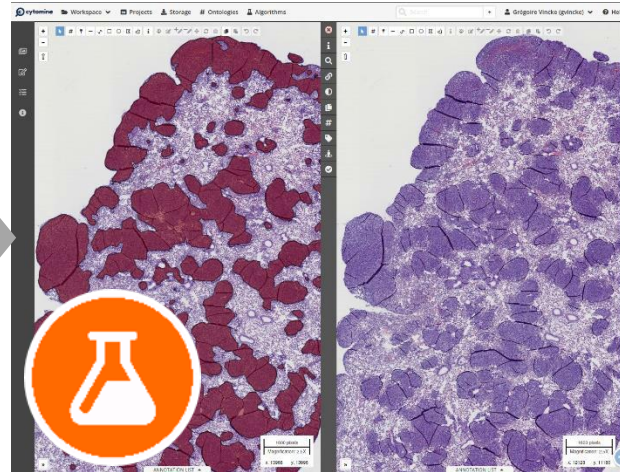
Teaching

Since 2017



Research

Since 2019



Diagnostic

Soon (From 2022)



LMS



LIS



HIS



# Current Business Models

## Community Edition

Manual



open source

## Enterprise Edition

Automation



closed source

### Licences :

- ◇ Open source version is free ;
- ◇ Closed source based on an annual fee generating recurring revenue ;

### Services :

- ◇ Installation, configuration, monitoring, preventive maintenance and troubleshooting ;
- ◇ On-demand development of specific features and new AI algorithms ;

### Software as a Service :

- ◇ Cloud instances.

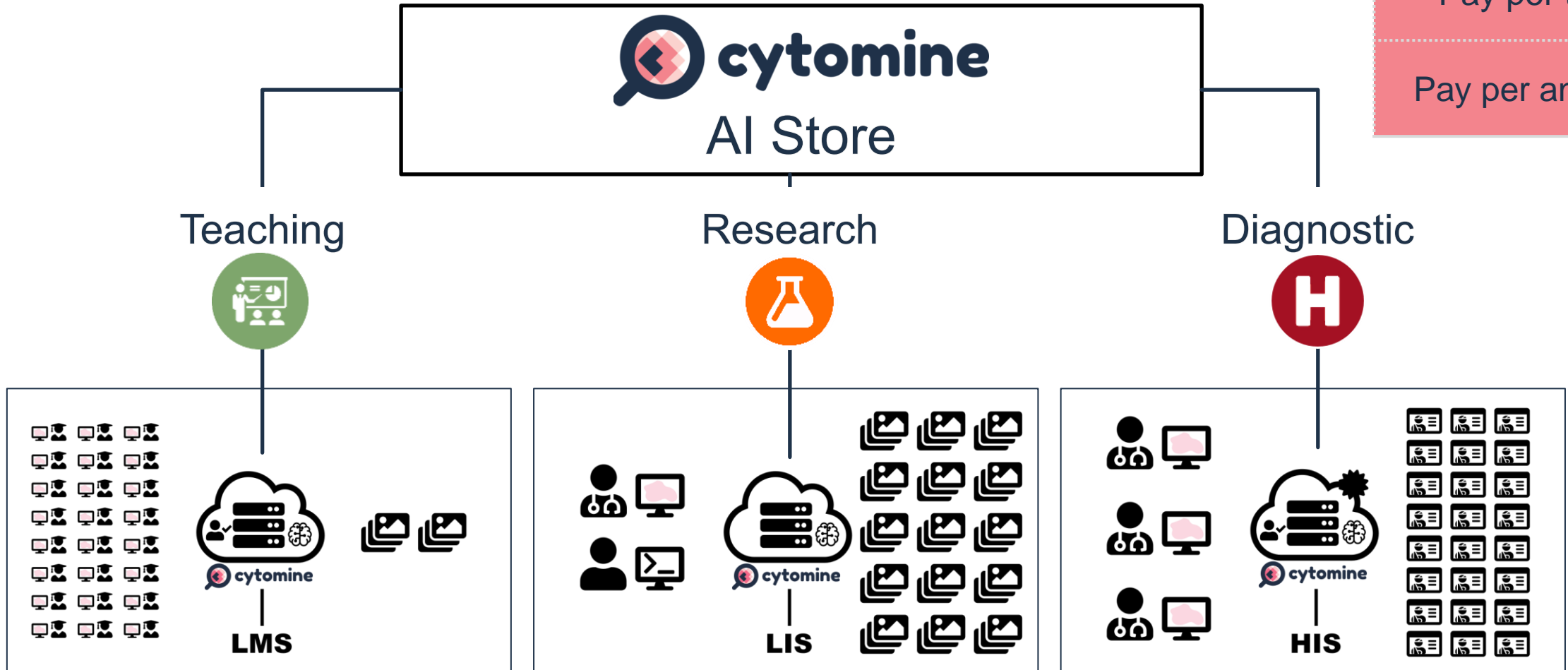


# Future Additional Business Model

AI as a Service

Pay per train

Pay per analyse



# Competition



Full Web

Mostly Desktop

Full Desktop



Scanner Vendors

Software Vendors

AI pure players





# Customer Experience

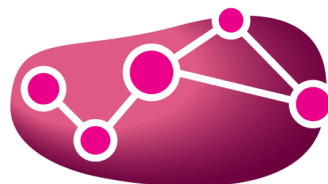
Customers

Prospects

 Teaching	 Research	 Diagnostic
         	          	 
        	       	 



# Market Feedback : Horizon 2020



# We are BIGPICTURE

## European Digital Pathology Platform



**BIGPICTURE**, a pathology-led consortium (46 participants), has the vision to become the catalyst in digital transformation in Pathology. The consortium will use Cytomine, an established open-source, cross-platform framework to develop unique tools for access to WSI, including annotations and visualisation of algorithm results, while we will develop new and generic models to facilitate AI development and mining of WSI data.

Participant	Total Project Cost	EU contribution	Effort
Project	69.64 M€	32.32 M€	3,393 man months
Cytomine	0.52 M€	0.52 M€	72 man months

# Market Feedback

Partnership		Discussions initiated by Philips Healthcare, based on a French customer “kind” request. Philips main target is hospitals.
Partnership		Discussions initiated by Zeiss, based on a Swedish customer “kind” request. Zeiss main target is research.
Norway National Health	 	National Digital Pathology platform based on Cytomine.
Customers & Prospects in France		<p>SFP / Société Française de Pathologie → AI competition</p> <p>FFCD / Fédération Francophone de Cancérologie Digestive</p> <p>Health Data Hub</p> <p>Uness / Université Numérique en Santé et Sport</p> <p>Université de Reims Champagne-Ardenne</p> <p>Institut Universitaire du Cancer de Toulouse Oncopole</p> <p>Ecole nationale vétérinaire de Toulouse</p> <p>Université de Paris</p> <p>Arcagy-Gineco</p> <p>CHU de Rennes</p> <p>Hôpital Foch</p> <p>...</p>

# Business Development Strategy

## ◆ **Ambassadors** : peers to peers

- ◆ Invite KLO to present success stories (teaching, research, and diagnostic) based on Cytomine at scientific or commercial congress
- ◆ Help KLO to publish scientific papers in AI using Cytomine
- ◆ Install a scientific committee @ board level

## ◆ **Synergy and Partnerships** :

- ◆ Scanners Vendors
- ◆ Pure AI players

## ◆ **Prospection** :





- ◆ Active growth hacking :
- ◆ Technical support :



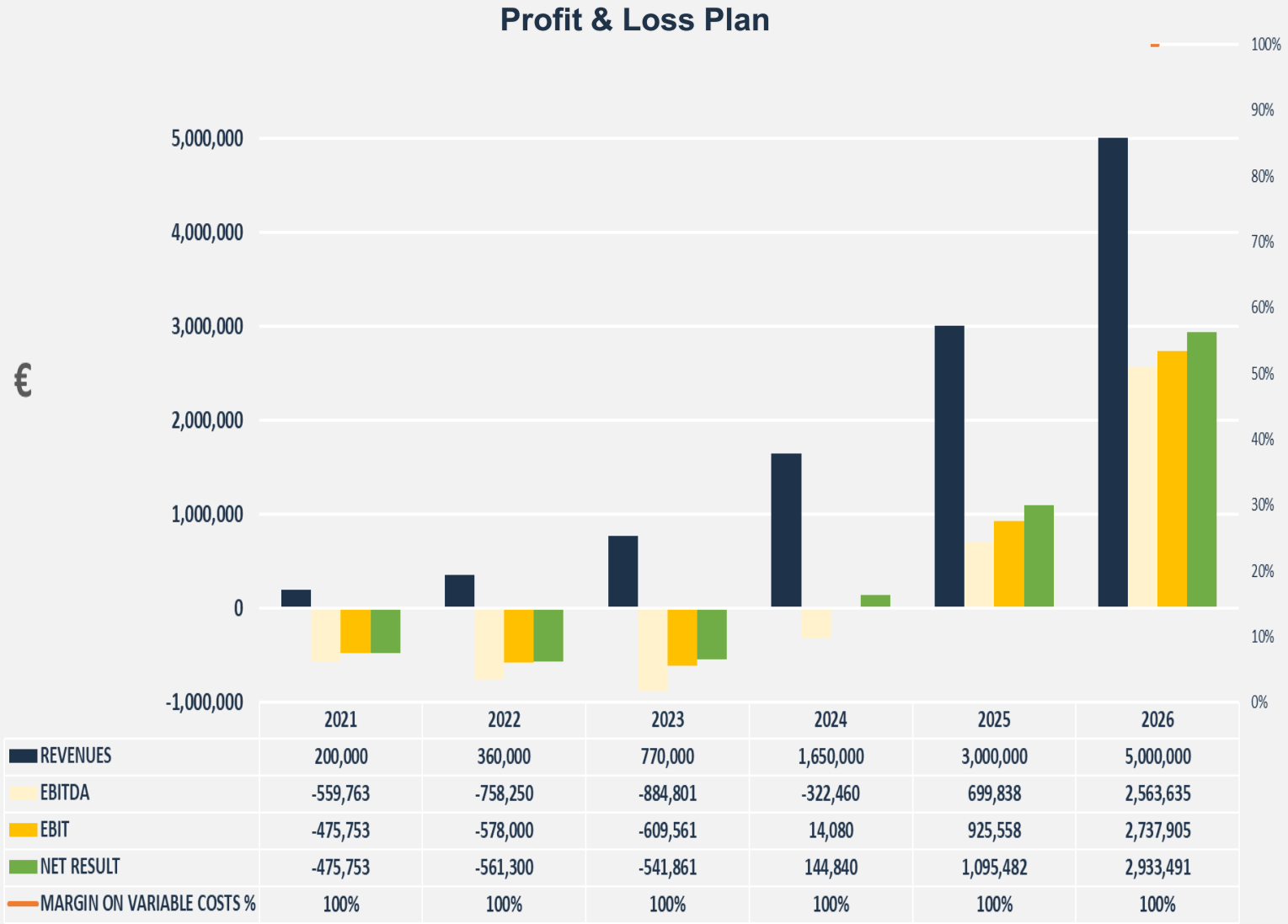
**Cytomine ambition is to become the leader solution when it comes to sharing, collaborating, and benefiting from Artificial Intelligence (AI) to allow digital pathology to participate in the war against complex diseases like the cancer.**



# Financial Plan

Year	Sales K€				
2020	200	68%	25%	7%	65%
2022	360	57%	26%	17%	75%
2026	5000	20%	34%	46%	85%
2030	25000	10%	40%	50%	85%

 = Recurrent Revenue



Employees & full time Contracted Headcount Year End Plan	2022	9.0	71% of total charges
	2026	17.0	73% of total charges

# Financial Requirements and Terms

## ◆ Financing Equity

◆ First round capital by Jun 2021	1.0 M€
◆ Private Funds	0.5 M€
◆ Public Fund – <i>waiting for private equity</i> ---	0.5 M€
◆ Second round capital by Dec 2022	2.0 M€



## ◆ Other Financing Sources

◆ Public loan --- <i>in final stage</i> ---	0.2 M€
◆ Subsidies & Subvention during 2021-2026	1.0 M€
◆ Horizon 2020 --- <i>booked</i> ---	0.50 M€
◆ DGO6 RPR --- <i>in final stage</i> ---	0.15 M€

# Use of Capital Funds



## ◆ Capital increase by Jun 2021 1.0 M€

To reach the following milestones:

<input checked="" type="checkbox"/> Release the first corporate versions	0.5 M€
<input checked="" type="checkbox"/> Develop R&D Team	
<input checked="" type="checkbox"/> Market  corporate technology in research  (via Ambassadors and Marketing Campaign)	0.5 M€
<input checked="" type="checkbox"/> Develop Sales Team	
<input checked="" type="checkbox"/> Consolidate the European market and expand into American market.	

## ◆ Capital increase by Dec 2022 2.0 M€

To reach EBIT break-even (2024) including the following milestones:

<input checked="" type="checkbox"/> Release AI store in production	1.0 M€
<input checked="" type="checkbox"/> Market  corporate technology in routine diagnostic 	1.0 M€
<input checked="" type="checkbox"/> Consolidate the European & American markets and expand into Asia market	



# Biomedical Imaging

## Summary Sheet

Pain	"Fighting the mass killers" cancer diseases
Vision	To become the leader solution in Biomedical Imaging
Market	Digital Pathology
Solution	Cytomine 3.0 including a new AI engine
Current Stage	Established worldwide commercial traction First deployments successful
Milestones	Market and R&D coverage expansion
Fund raising	3 M€ (in two steps)







# Thank You

Contact  
BEKA Jean  
[jean.beka@cytomine.com](mailto:jean.beka@cytomine.com)

