

AI by and for women

Your endometriosis diagnosis is only a click away

What is endometriosis?

“Endometriosis is a disease where tissue similar to the lining of the uterus grows outside the uterus, causing pain and/or infertility”, WHO 2018

Main symptoms:

- painful periods
- chronic pelvic pain
- pain during and/or after sexual intercourse
- painful bowel movements

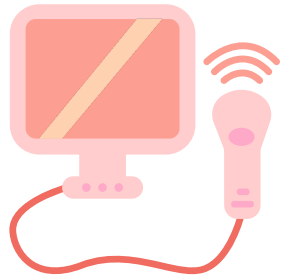


➡ Endometriosis affects 6-10% of the general female population^[1]
~190 000 women in reproductive age in Switzerland

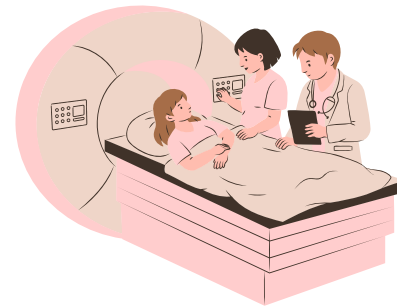
[1] Giudice, L. C., & Kao, L. C. (2004). Endometriosis. Lancet (London, England), 364(9447), 1789–1799. [https://doi.org/10.1016/S0140-6736\(04\)17403-5](https://doi.org/10.1016/S0140-6736(04)17403-5)

Current situation

Diagnostic options:



Clinical symptoms and ultrasound
Difficult



MRI
Expensive



Laparoscopy
Invasive



Average delay in diagnosis: 6.7 years

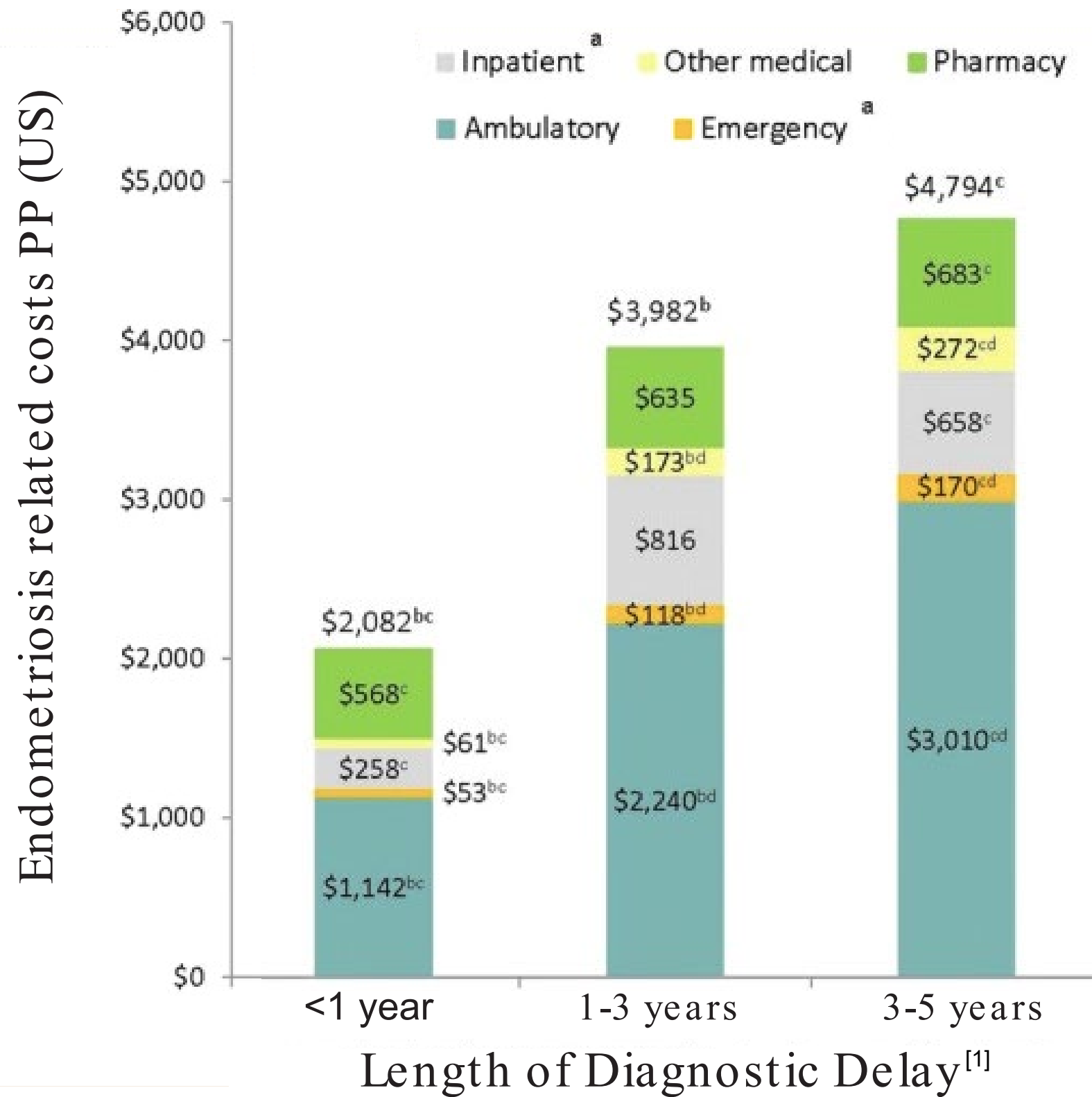


If not treated on time...^[1]

- Intense pain and decrease in quality of life
- Higher risk of ovarian cancer
- High risk of infertility

[1] Bulletti, C., Coccia, M. E., Battistoni, S., & Borini, A. (2010). Endometriosis and infertility. Journal of assisted reproduction and genetics, 27(8), 441–447.
<https://doi.org/10.1007/s10815-010-9436-1>

Economic impact of a late diagnosis



Additional costs:

- Fertility treatment
- Hormone treatment

[1] Surrey, Eric, et al. "Impact of endometriosis diagnostic delays on healthcare resource utilization and costs." Advances in therapy 37.3 (2020): 1087-1099.



AI can be the solution.



What we need:

- Patient information
- Clinical history
- Symptoms
- Transvaginal ultrasound images

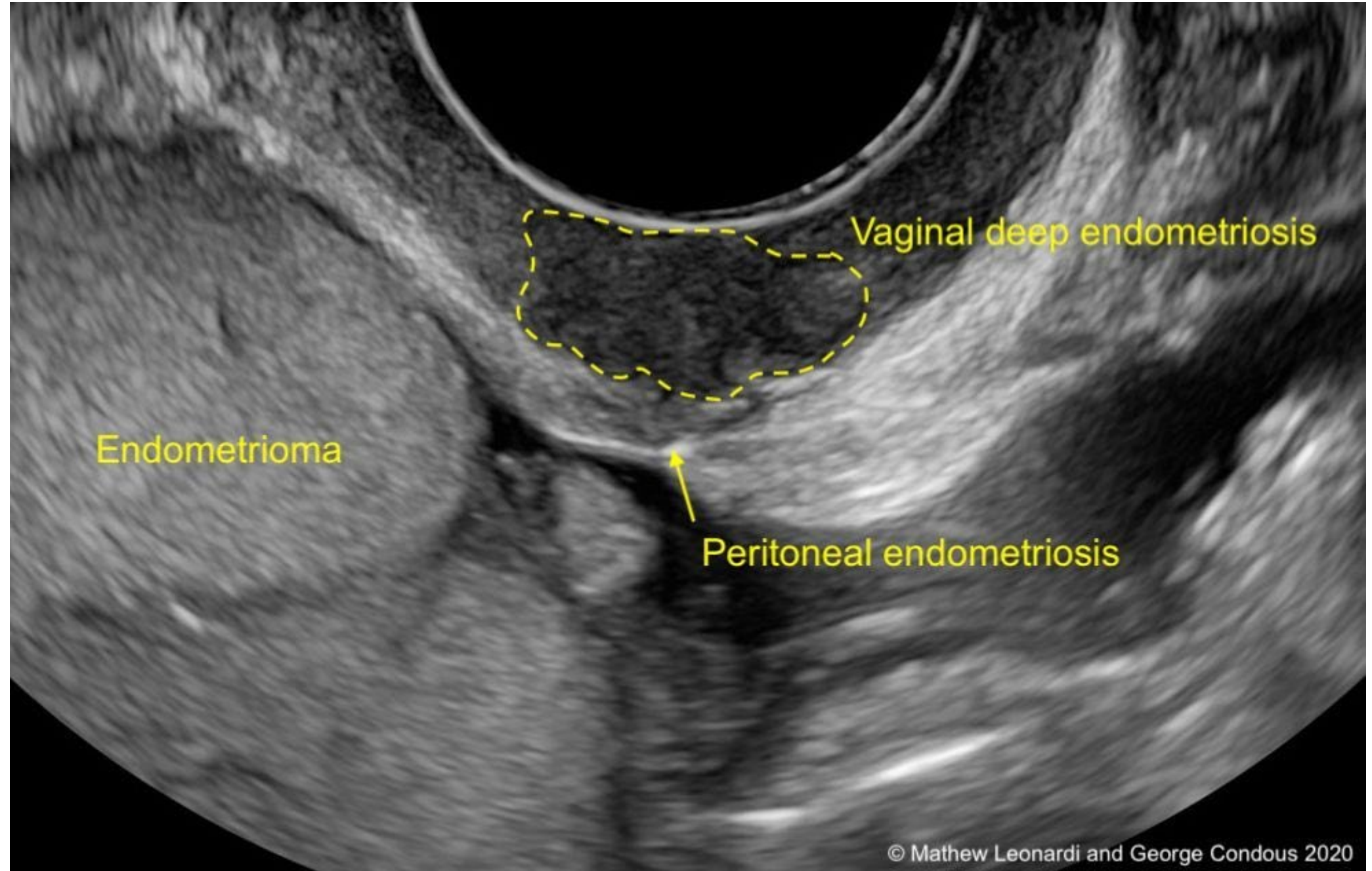
What we provide:

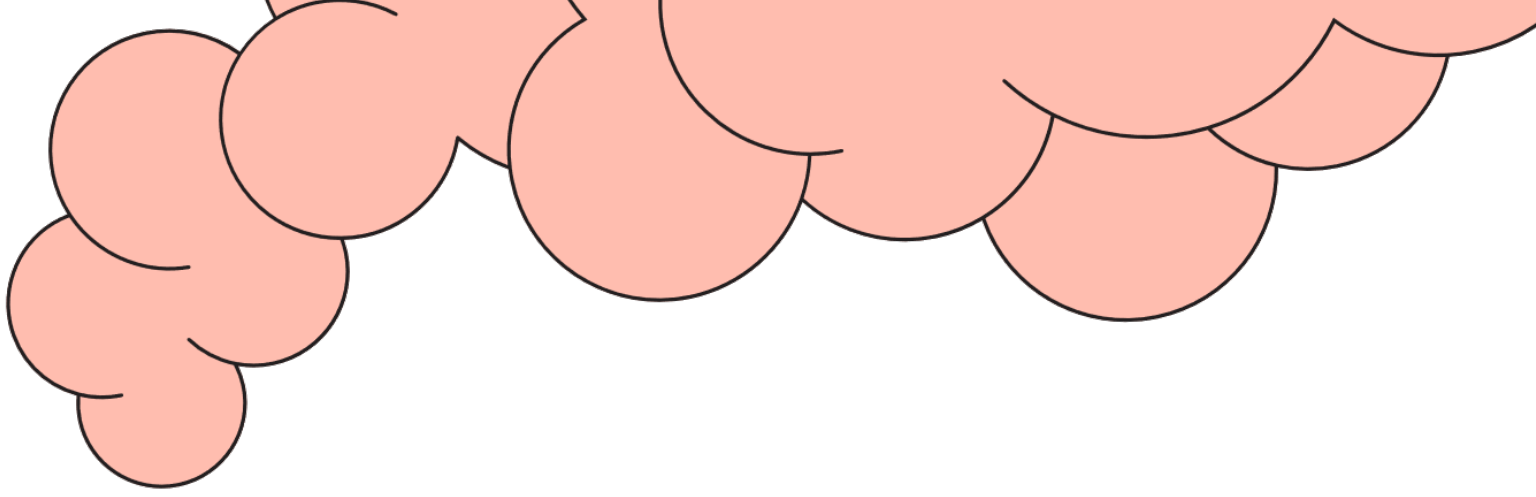
- Diagnosis support with 93% sensitivity and 99% specificity
- Mapping of endometrial tissue
- Easy monitoring

Our solution

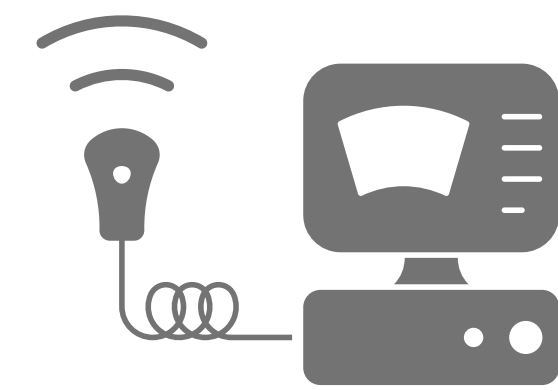
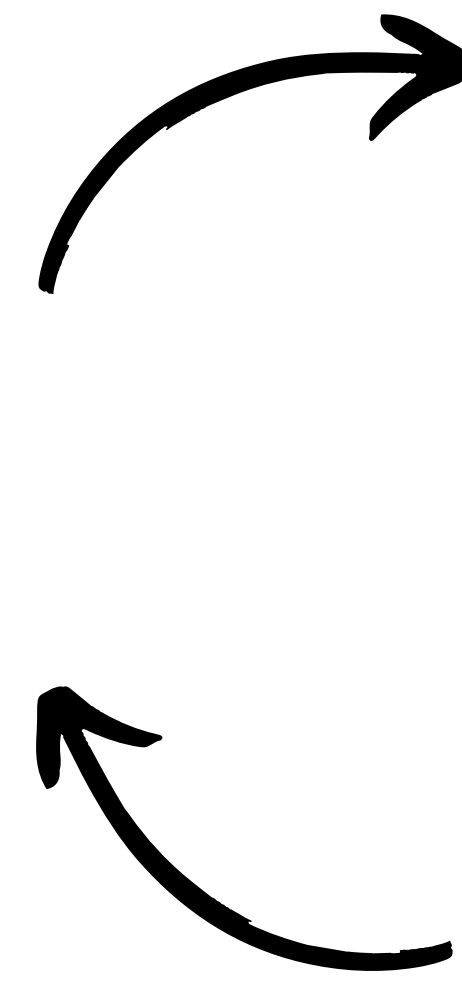
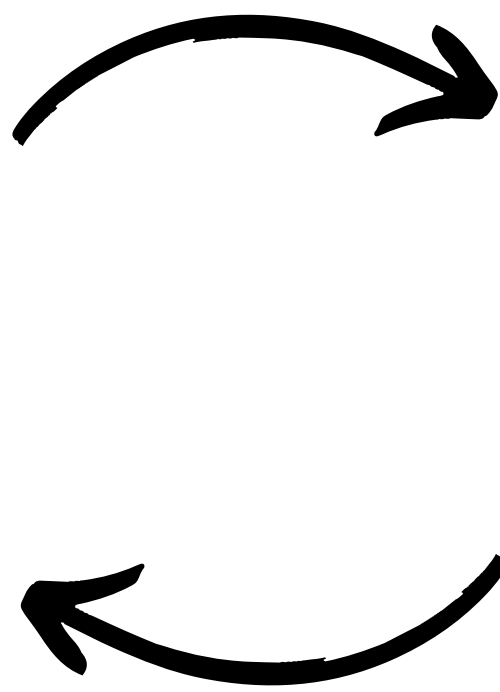
- ✓ Peritoneal endometriosis
- ✓ Endometriomas
- ✓ Deeply infiltrating endometriosis
- ✓ Abdominal wall endometriosis

From stage 2 (mild) on



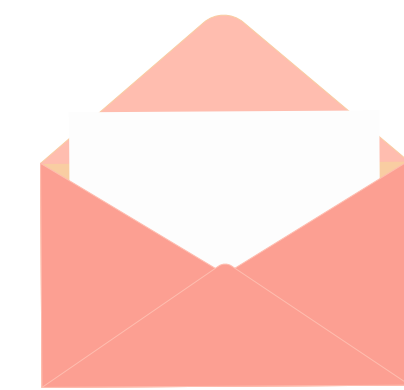


Ultrasound images + patient's data



Freya AI

Clear diagnosis and
precise treatment!

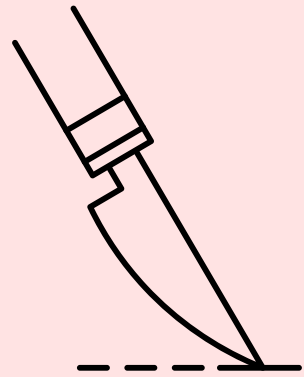


Diagnosis + mapping



Freya AI

USPs



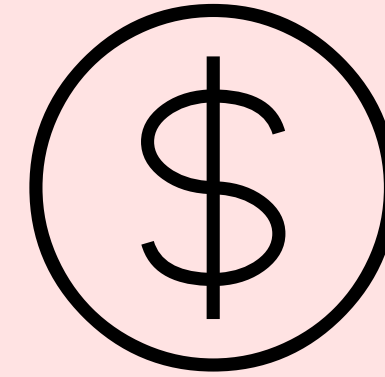
Non-Invasive



Monitoring



Reliable

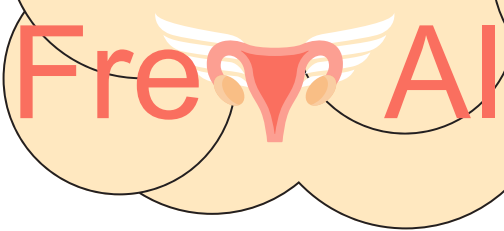




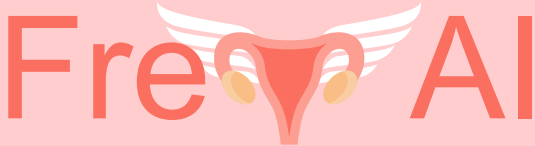
Low price

Take
IT
Easy

Non extra effort

Competitors



			
Diagnosis	✓	✓	✓
Monitoring	✗	✗	✓
Mapping	✗	✗	✓
Invasiveness	Minimal	Minimal	Minimal
Stage of diagnosis	Early	Early	Early
Price	781.20 CHF	286.00 CHF	50 CHF

Intellectual Property

Leased:

- US10426442B1 Adaptive image processing in assisted reproductive imaging modalities
- US11443424B2 Artificial intelligence methods and systems for analyzing imagery

Owned patents:

- EP981513A1 Machine-learning based ultrasound image processing for endometriosis diagnosis and data storage platform

FTO: ✓

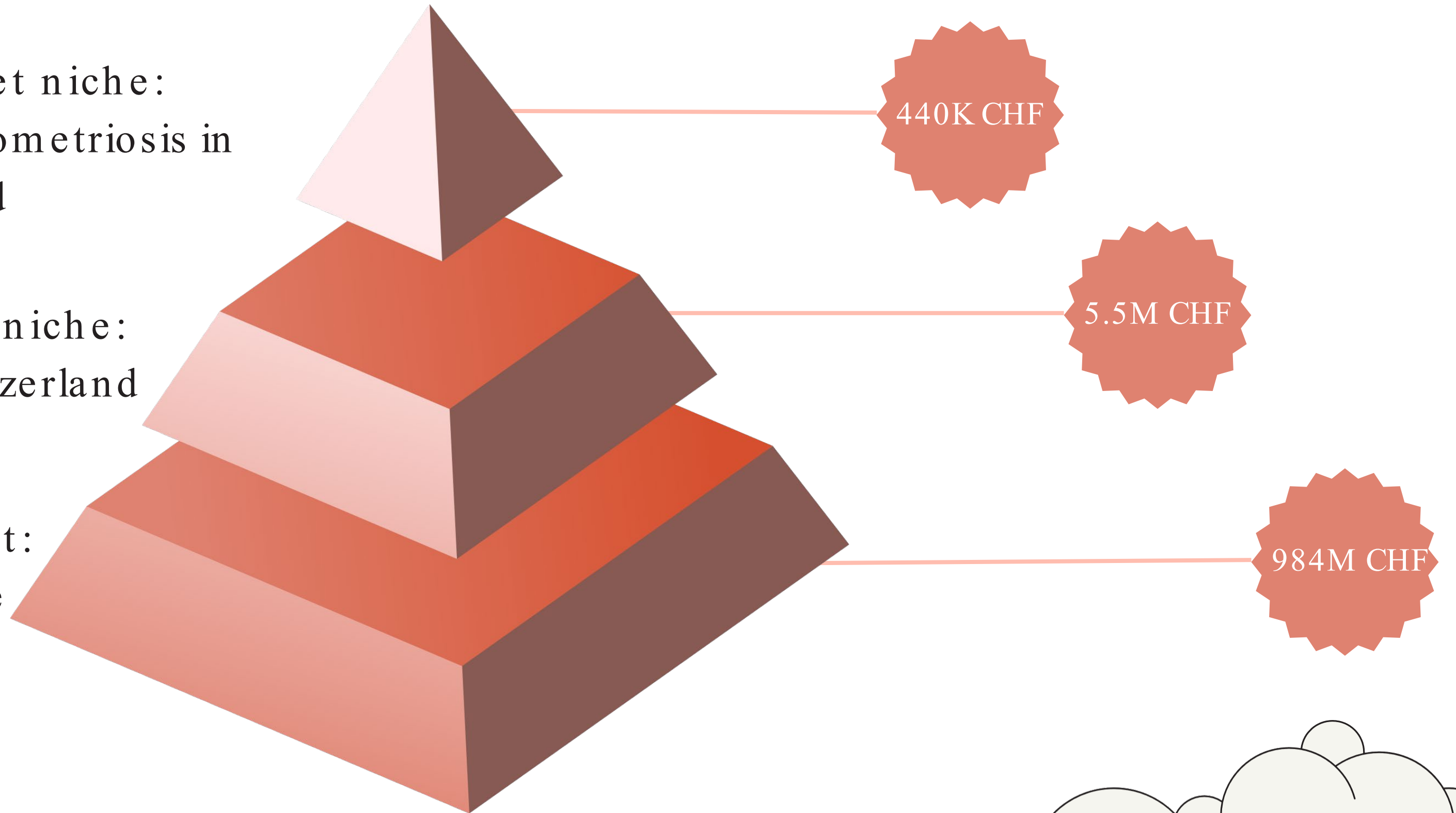
by P&TS LTD in Neuchâtel

Market opportunity

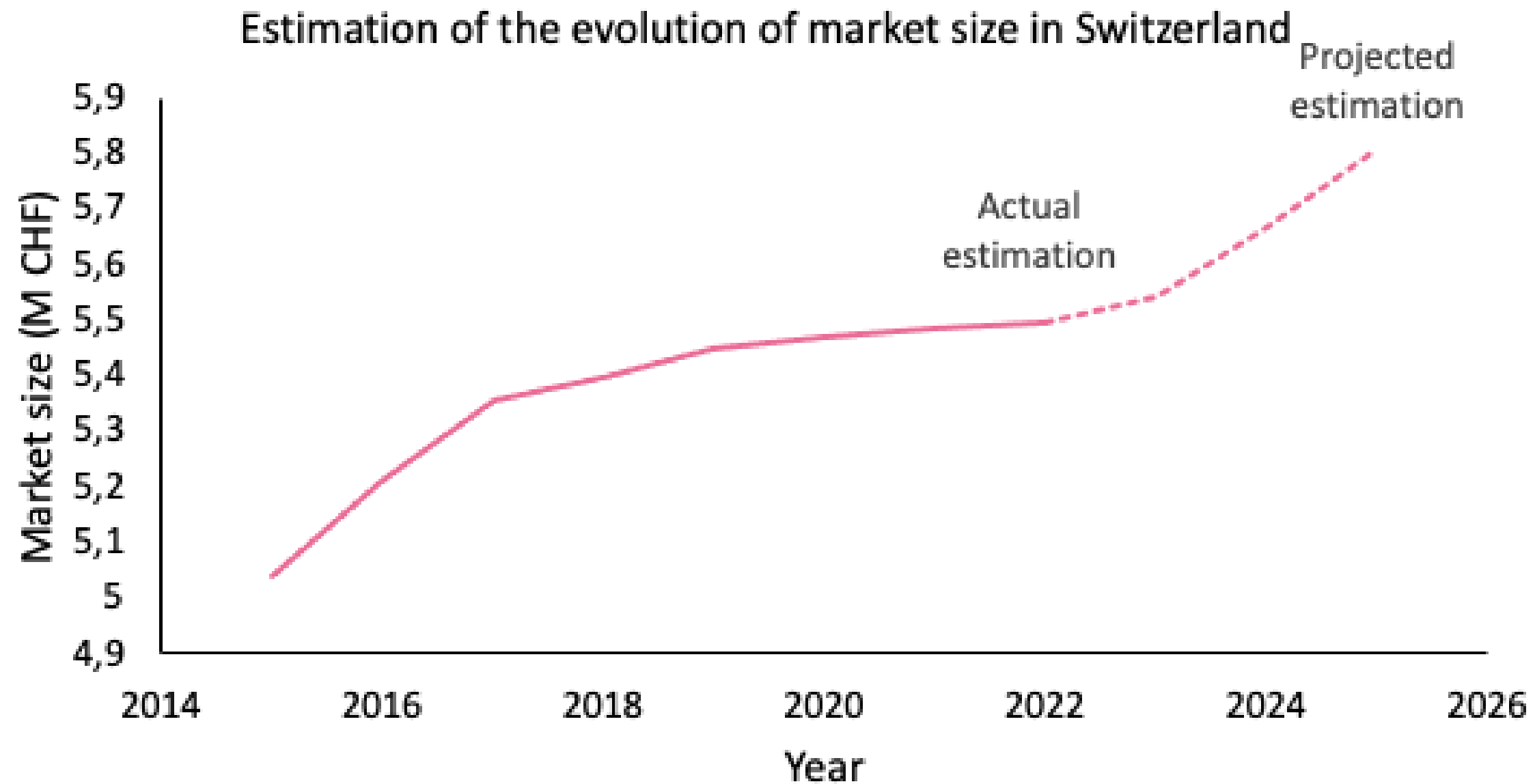
Serviceable market niche:
Initial 8% reach of endometriosis in
Switzerland

Obtainable market niche:
Endometriosis in Switzerland

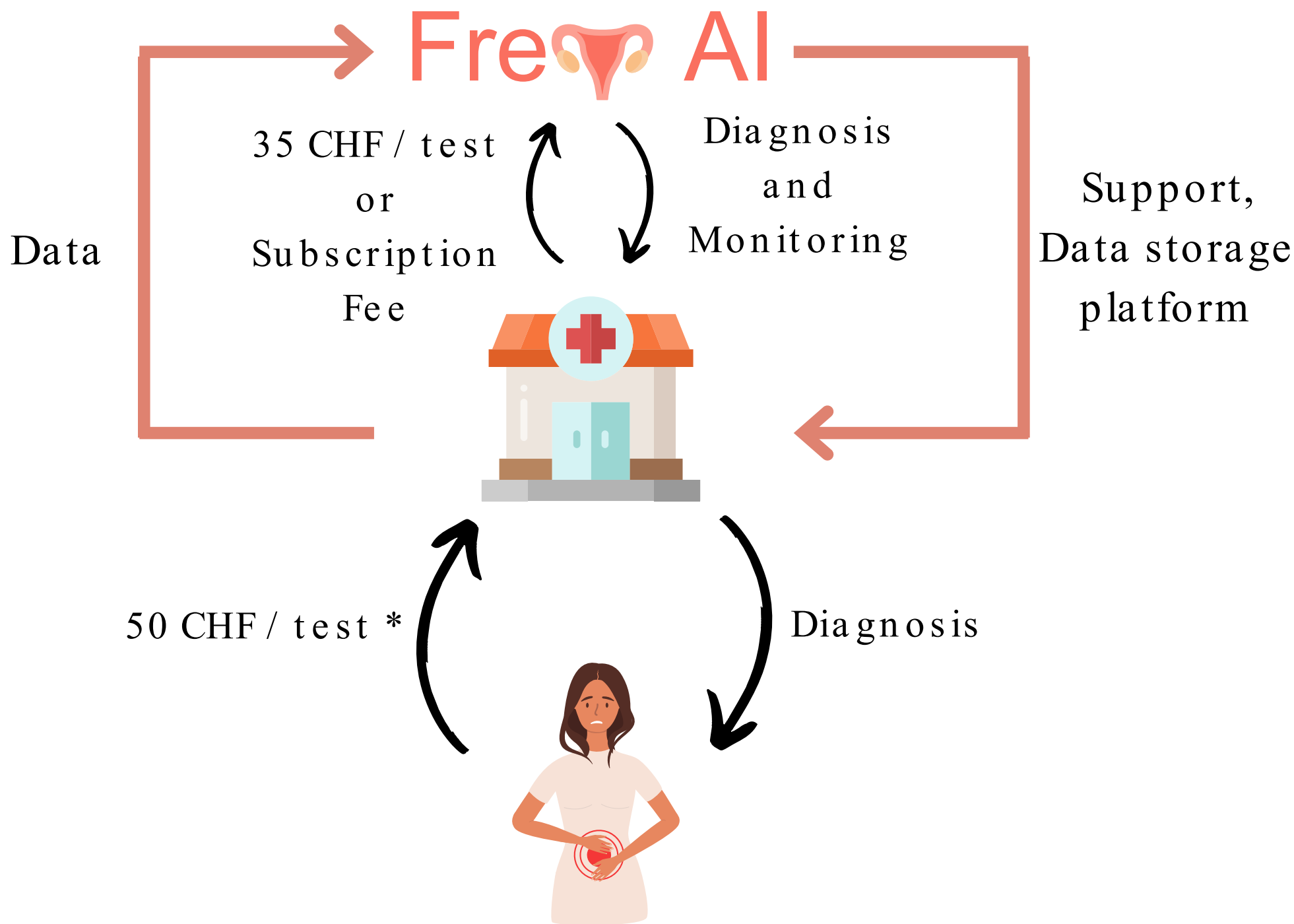
Total addressable market:
Endometriosis worldwide



Market size



Business model (B2B)

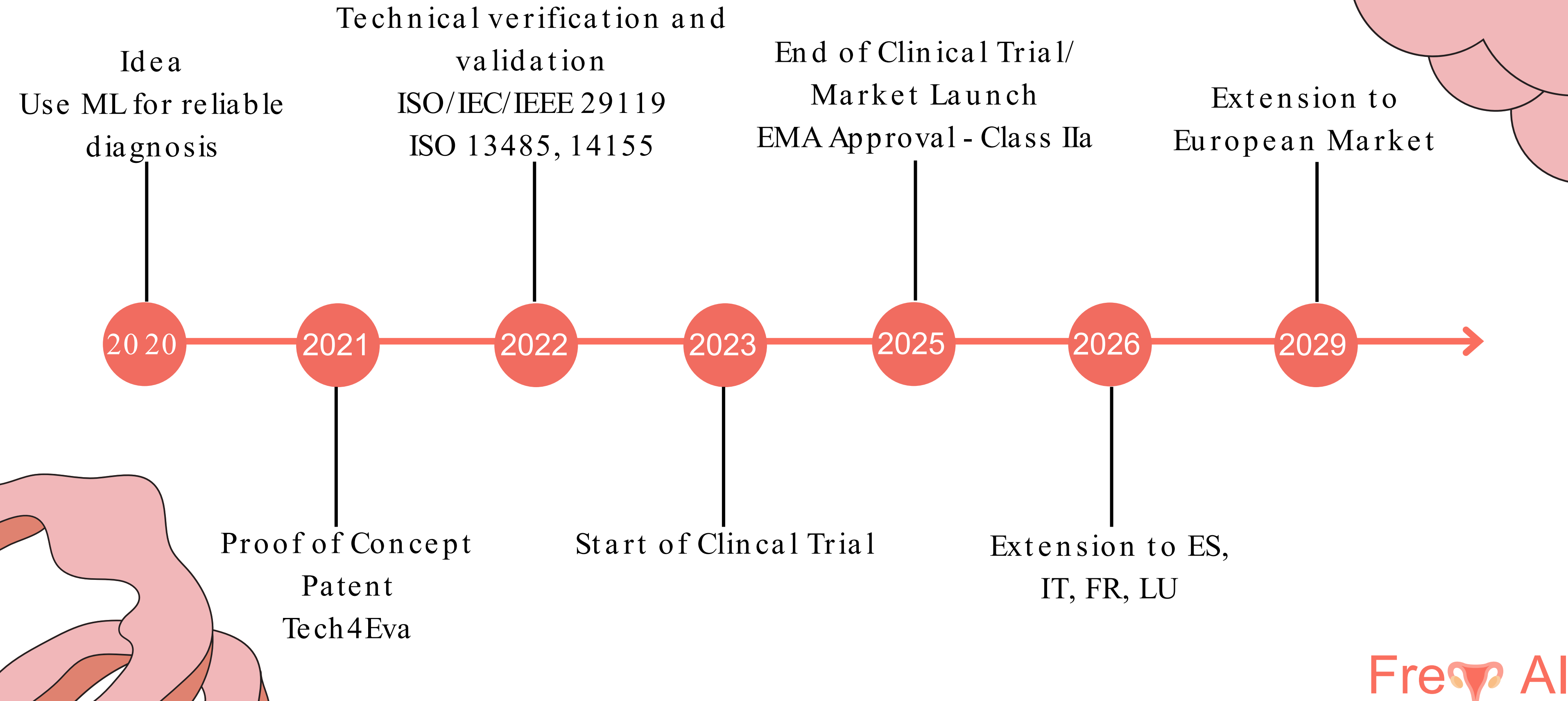


Subscription models

	*Price	Number of tests	Data storage
One-time charge	35 CHF	1	6 months
Basic	700 CHF/month	Up to 25	Subscription duration
Premium	1300 CHF/month	Up to 50	Subscription duration

* reimbursed by insurance if patient shows symptoms

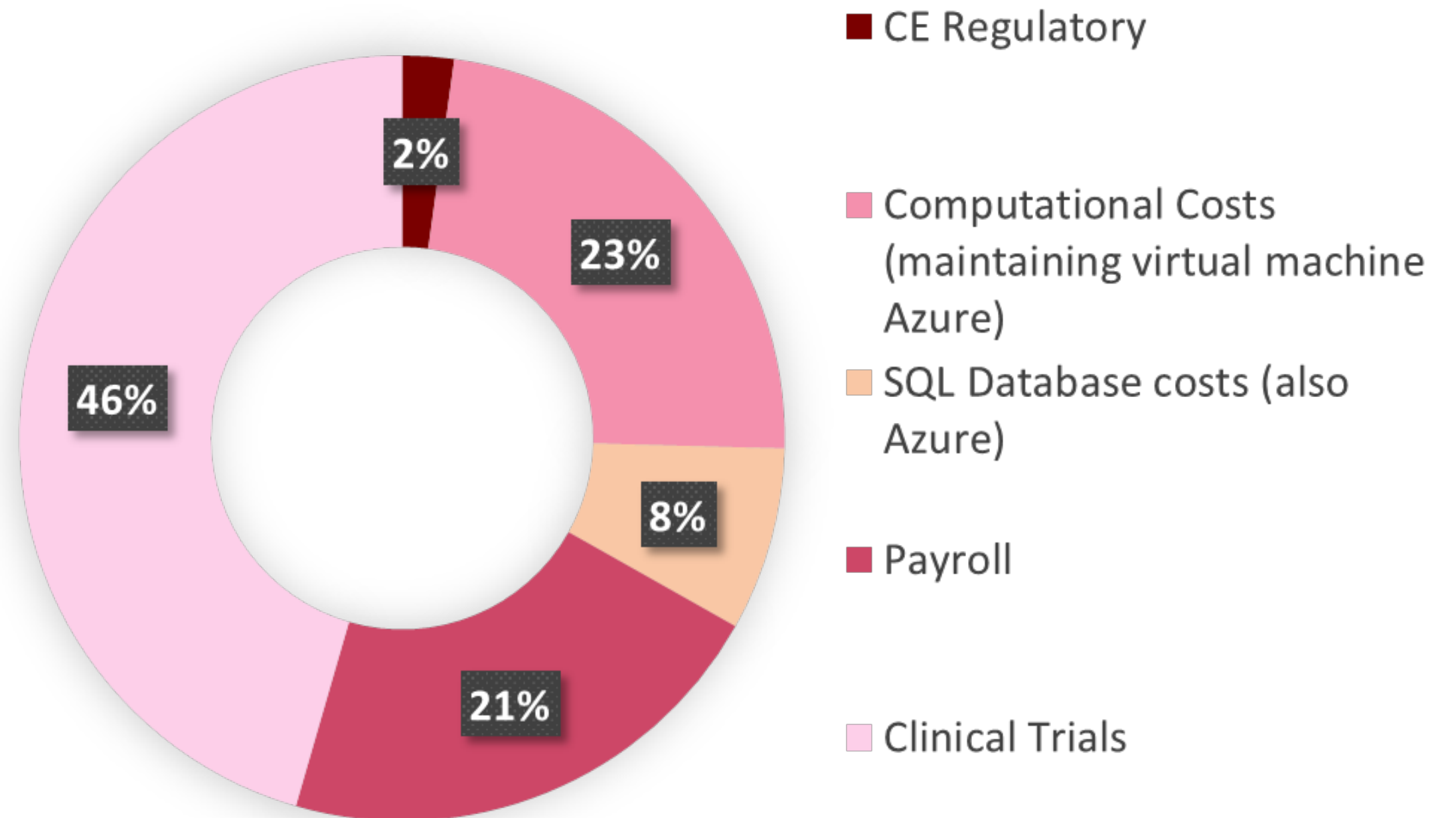
Our road map



Seeking Series A funding

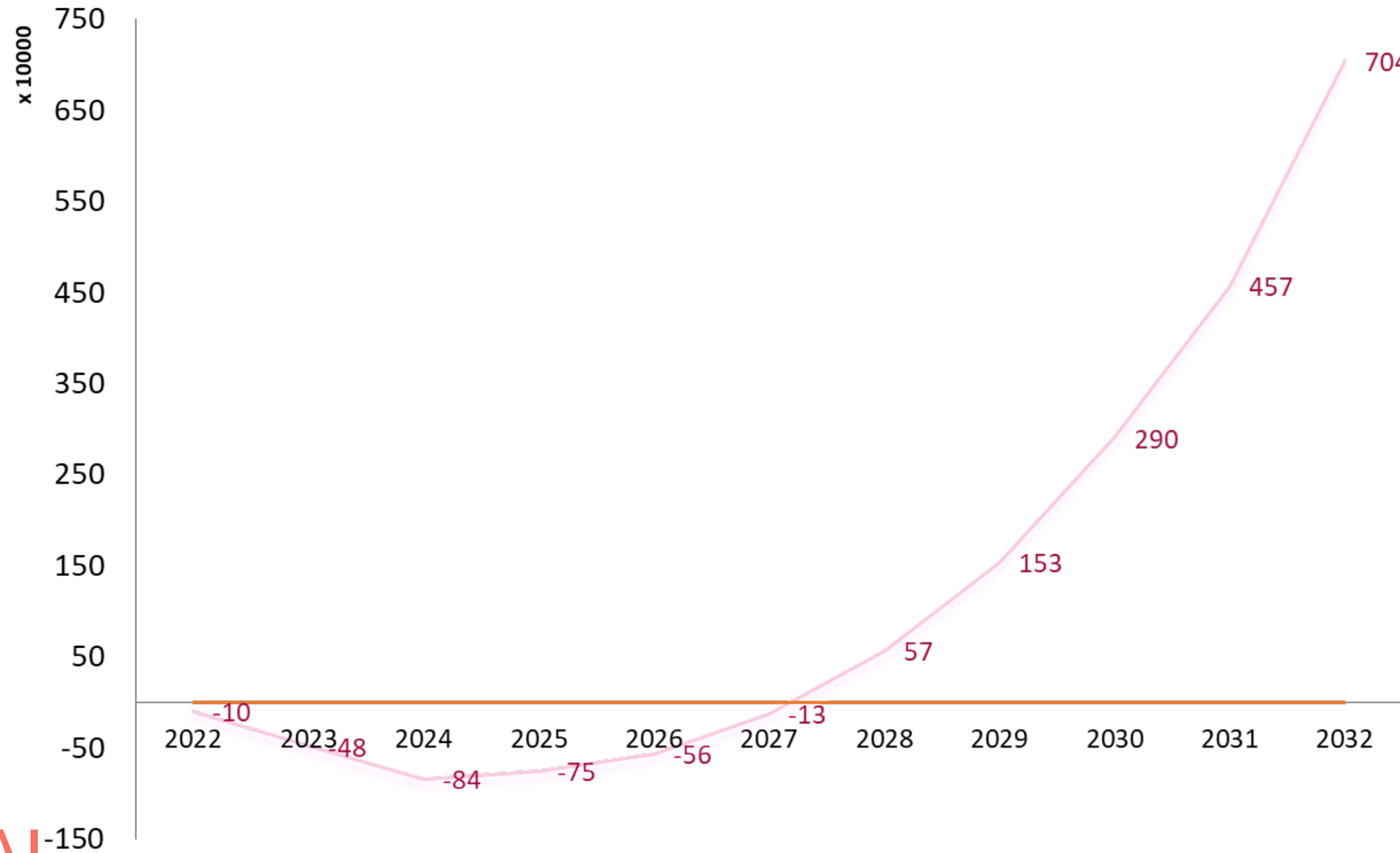
650K CHF
target funds

Pre-launch Costs



Financial Forecast

P&L Net Balance (in 10'000 CHF)



Collaborations

- Leading medical centers :
 - University Hospital Lausanne (CHUV)
 - Geneva University Hospitals Endometriosis Center (HUG)
- Patient support organizations:
 - Alliance for Endometriosis
 - S-Endo & Endo-Help (CH)



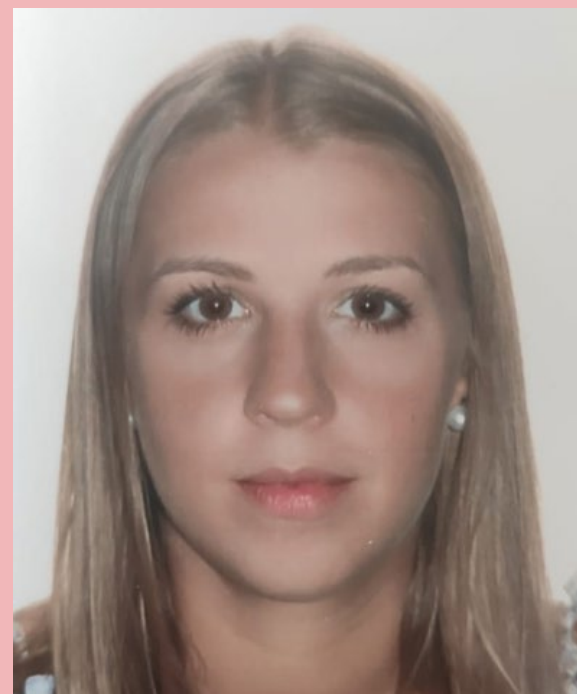
**THE ALLIANCE FOR
ENDOMETRIOSIS**

Team

External members



Dr. Manuel del
Campo -
Scientific advisor



Sara Sanz i
Moncho -
Legal advisor



Nerea Carbonell
CEO



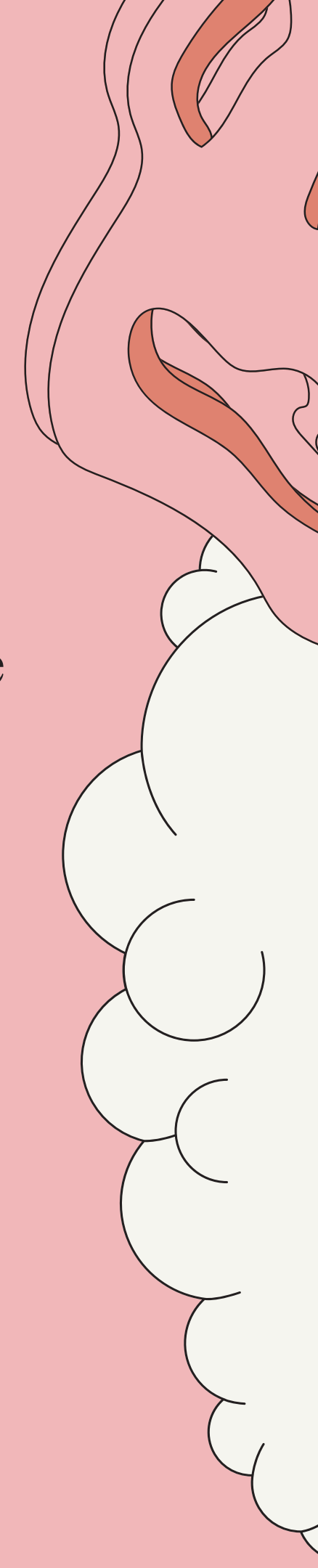
Camille Pescatore
COO



Emma Farina
CTO



Auriane Debache
CMO



Check out our website
to get to know more!



Our algorithm

Machine learning approach

Algorithm: logistic regression

Features: age, past diseases, familiarity, dysmenorrhea, pelvic pain, transvaginal ultrasound images

Performance: sensitivity 93%, specificity 99%, accuracy 96% for stages 2-4

Time for one prediction: 0.7 s

Platform features

Diagnosis: percentage of probability that the ultrasound shows lesions

Mapping: comparison of identified lesions with template ultrasound image

Easy monitoring: possibility to input clinical history and past ultrasound images automatically in the algorithm from our platform

Data storage

Technical details

Relational database

Oracle Healthcare Data Repository as relational database management system (RDBMS)

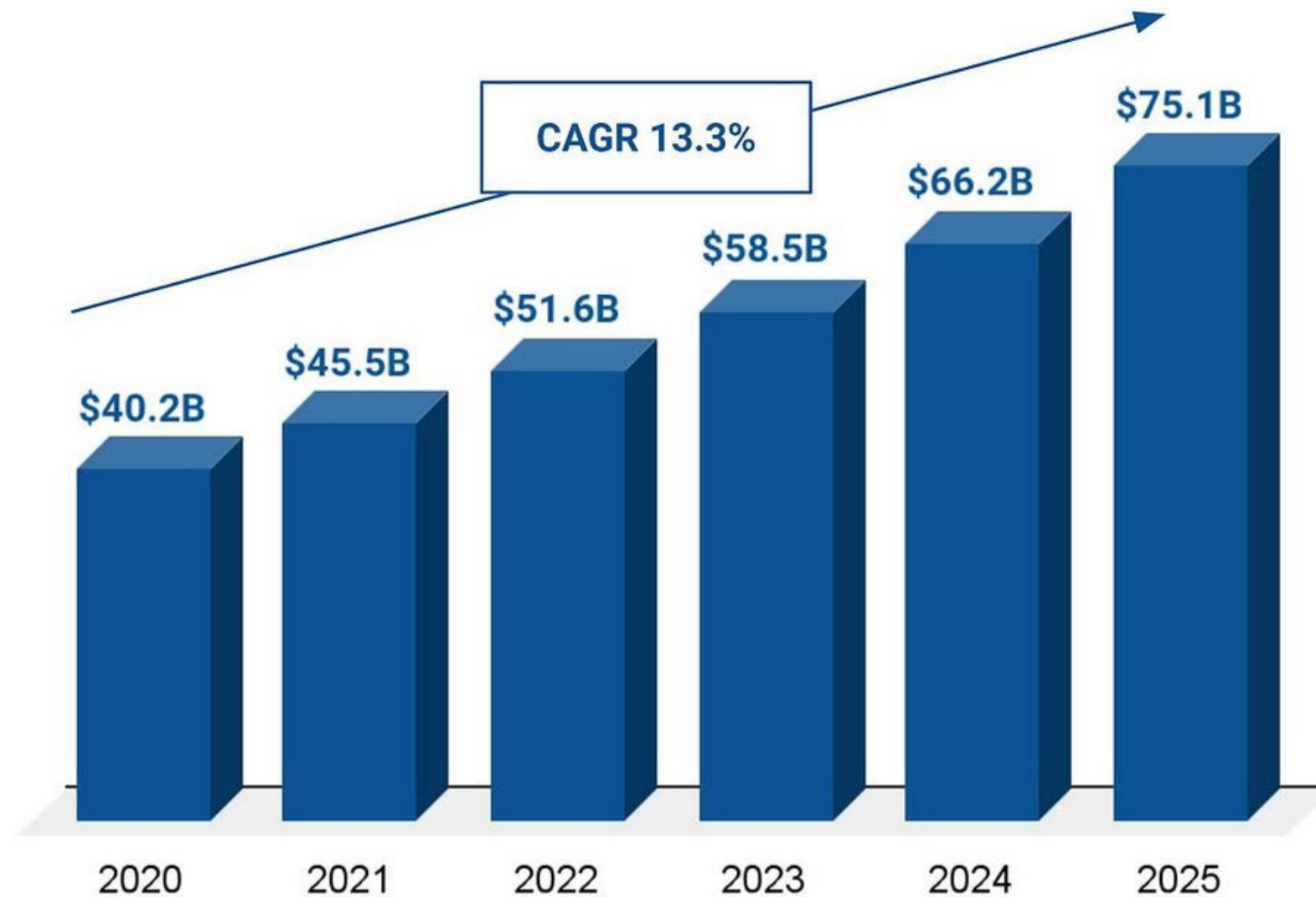
Safety

Training of team members using database through Collaborative Institutional Training Initiative (CITI Program)

In accordance with Regulation (EU) 2016/679 (personal data protection law)

Femtech market

FemTech Market Size¹, 2020-2025



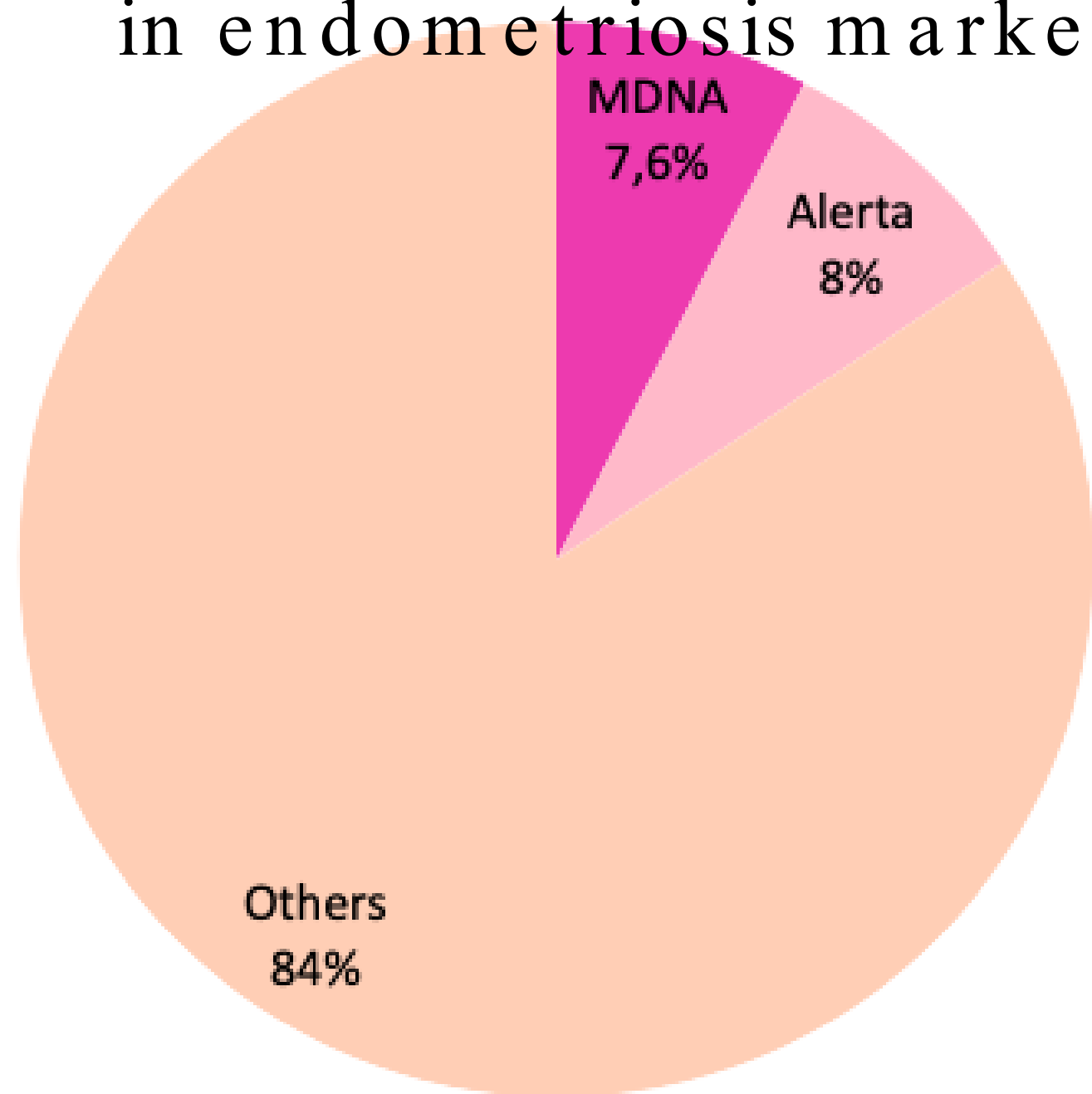
5.5% global GDP
growth in 2021²

49.5% female share
in world's
population³

75 years is female
life expectancy at
birth³

Initial market share and revenue

Distribution of market
shares
in endometriosis market

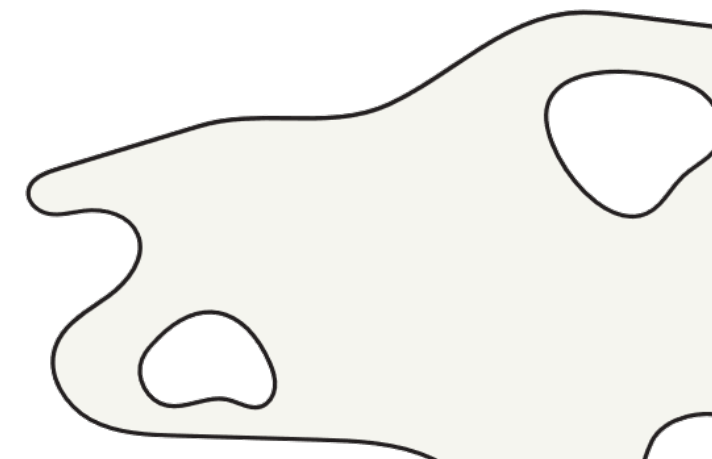


Benchmarking company:

MDNA Life Sciences

Accounts for 470740 USD

initial revenue



Numbers from Global Data,
MUSD

France	6,089385777	6,329504	6,572365	6,514737	6,487295	6,465342	6,452993	6,415946	6,458481	6,610784	6,785041
Italy	4,744726457	4,875076	4,946425	5,095984	5,227706	5,303172	5,342963	5,403335	5,46508	5,573476	5,703825
Switzerland (estimated by taking the average)	5,417056117	5,60229	5,759395	5,805361	5,857501	5,884257	5,897978	5,909641	5,96178	6,09213	6,244433

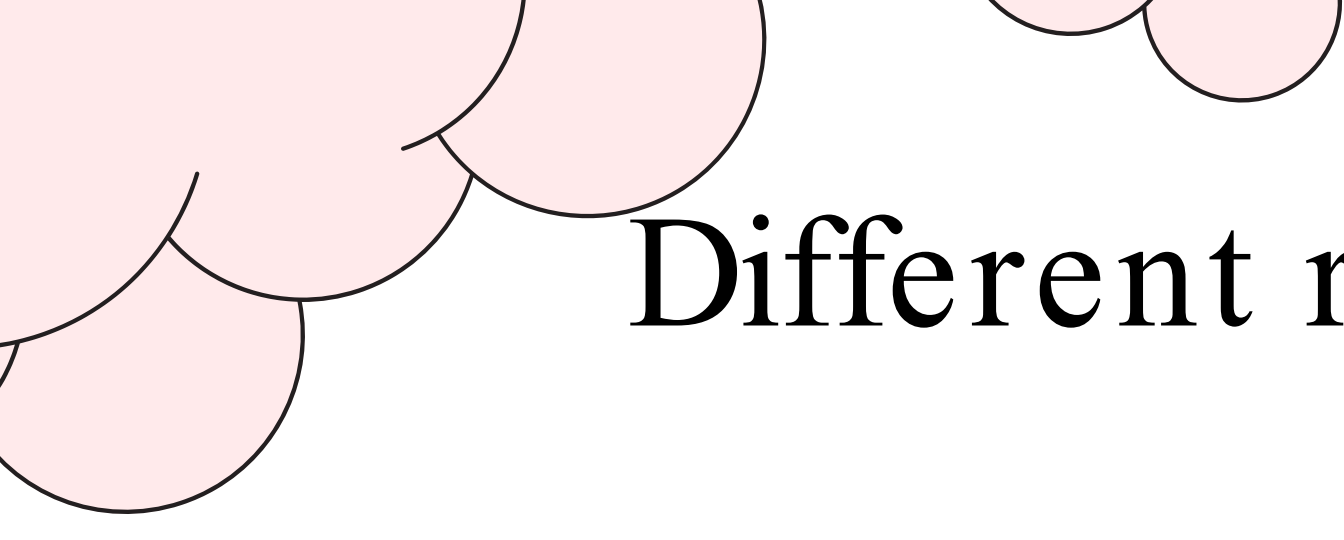
Numbers from Global Data, converted to CHF

France	5,663128772	5,886438	6,1123	6,058706	6,033185	6,012768	6,001283	5,96683	6,006387	6,148029	6,310088
Italy	4,412595605	4,533821	4,600176	4,739265	4,861767	4,93195	4,968955	5,025102	5,082524	5,183332	5,304558
Switzerland (estimated by taking the average)	5,037862188	5,21013	5,356238	5,398986	5,447476	5,472359	5,485119	5,495966	5,544456	5,665681	5,807323

CAGR over current period: 1.3%
CAGR over projected period:
1.9%
MDNA Life Sciences: 3MUSD revenues in 2020. Assuming 15% of this revenue comes from endometriosis diagnosis test:
Market share of MDNA Life Sciences: 3M/ 5.9M * 0.15=7.6%

Pre/Postlaunch costs table

Profit and Loss (P&L) Statement		Proof of Concept			Switzerland	Other cities participating in clinical trials		Other hospitals and fertility clinics in Europe				
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
		95,750	365,265	340,265	349,830	457,260	614,090	774,990	976,960	1,215,120	1,542,005	1,954,030
Expenses (5% for uncertainty)		100,538	383,528	357,278	367,322	480,123	644,795	813,740	1,025,808	1,275,876	1,619,105	2,051,732
CAPEX (Capital Expenses)		10,750	5,625	5,625	64,190	91,620	144,790	200,690	264,000	348,500	433,065	592,770
	IP rights licensing EPFL (3%)	0	0	0	13,740	20,070	32,340	45,240	59,850	79,350	98,640	135,495
	Other patents licencing	0	0	0	45,800	66,900	107,800	150,800	199,500	264,500	328,800	451,650
	IP rights - patent	6,100	0	0	0	0	0	0	0	0	0	0
	CE Regulatory	4,650	5,625	5,625	4,650	4,650	4,650	4,650	4,650	4,650	5,625	5,625
OPEX (Operating Expenses)		85,000	359,640	334,640	285,640	365,640	469,300	574,300	712,960	866,620	1,108,940	1,361,260
	Computational Costs (maintaining virtual machine Azure)	0	60,000	60,000	60,000	80,000	80,000	120,000	120,000	120,000	120,000	120,000
	SQL Database costs (also Azure)	0	20,000	20,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
	Payroll	80,000	100,000	120,000	160,000	200,000	300,000	350,000	480,000	630,000	855,000	1,100,000
	Marketing (website, exhibitions, ...)	5,000	5,000	10,000	10,000	30,000	30,000	30,000	50,000	50,000	60,000	60,000
	Number of employees	4	4	4	4	4	5	5	6	7	9	11
	Coworking space Work'n'Share (305/month/person)	0	14,640	14,640	14,640	14,640	18,300	18,300	21,960	25,620	32,940	40,260
	Consultancy	0	5,000	0	0	0	0	15,000	0	0	0	0
	Clinical Trials	0	130,000	105,000	0	0	0	0	0	0	0	0
	Online platform design	0	20,000	0	0	0	0	0	0	0	0	0
	Online platform hosting and maintenance	0	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Profits		730,000	0	150,000	458,000	669,000	1,078,000	1,508,000	1,995,000	2,645,000	3,288,000	4,516,500
Investors		730,000	0	150000	0	0	0	0	0	0	0	0
	EPFL Tech Launchpad Ignition	30,000	0	0	0	0	0	0	0	0	0	0
	EPFL Innograts	100,000	0	0	0	0	0	0	0	0	0	0
	Venture Capitals	600,000	0	150000	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0
Revenues		0	0	0	458000	669000	1078000	1508000	1995000	2645000	3288000	4516500
	# of 1y-subscription premium	0	0	0	15	20	35	50	70	100	130	200
	yearly fee premium	15600	15600	15600	15600	15600	15600	15600	15600	15600	15600	15600
	cumulative revenue premium customers	0	0	0	234000	312000	546000	780000	1092000	1560000	2028000	3120000
	# of 1y-subscription medium	0	0	0	25	40	60	80	100	120	140	160
	yearly fee medium	8400	8400	8400	8400	8400	8400	8400	8400	8400	8400	8400
	cumulative revenue medium customers	0	0	0	210000	336000	504000	672000	840000	1008000	1176000	1344000
	# average individual tests/month	10	10	10	10	10	10	10	10	10	10	10
	# clinics with individual tests	0	0	0	40	60	80	160	180	220	240	150
	price individual test	35	35	35	35	35	35	35	35	35	35	35
	cumulativerevenue individual tests	0	0	0	14000	21000	28000	56000	63000	77000	84000	52500
NET PROFIT (CHF)		629462.50	-383528.250	-207278.250	90678.50	188877.0	433205.50	694260.50	969192.0	1369124.0	1668894.750	2464768.50
Breakeven		0	0	0	0	0	0	0	0	0	0	0
	Cumulative no funding	-100538	-484066	-841344	-750666	-561789	-128583	565678	1534870	2903994	4572888	7037657
	Per year without funding	-100538	-383528	-357278	90679	188877	433206	694261	969192	1369124	1668895	2464769
	Cumulative with funding	629463	245934	38656	129335	318212	751417	1445678	2414870	3783994	5452888	7917657



Different revenue models (prices are for the clinic)

1- Premium subscription

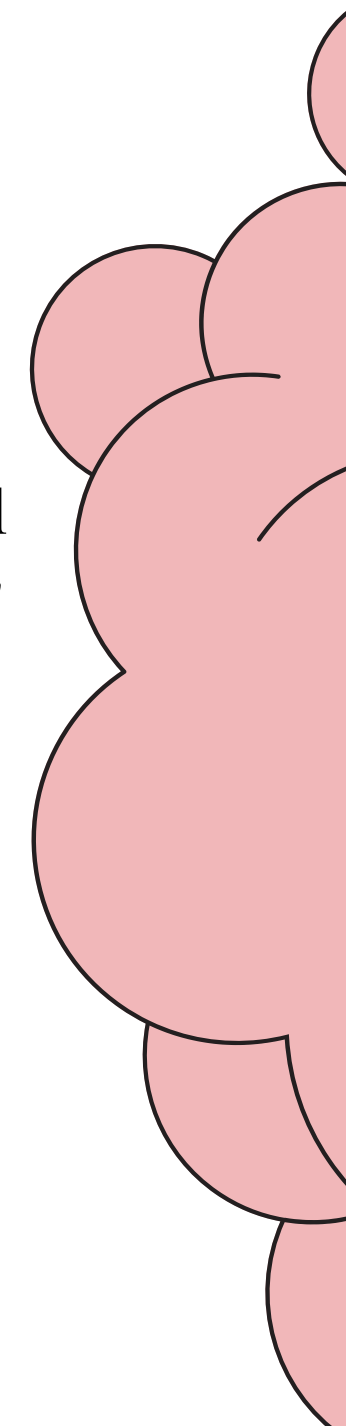
Our premium subscription model is perfect for hospitals expecting more than 1 test per day. With a total cost of 1300 CHF, it includes up to 50 tests, as well as an account in our platform to access the patients' data and to get continuous communication and prioritized assistance from our team. The data will be stored as long as the subscription holds, so it allows for a long-term monitoring of the patients.

2- Basic subscription

For clinics and hospitals expecting to carry out up to 25 transvaginal ultrasounds per month, we offer the basic level of subscription for 700CHF/month. This includes up to 25 tests per month, as well as access to the platform and technical assistance. The data will be stored as long as the subscription holds, so it allows for a long-term monitoring of the patients.

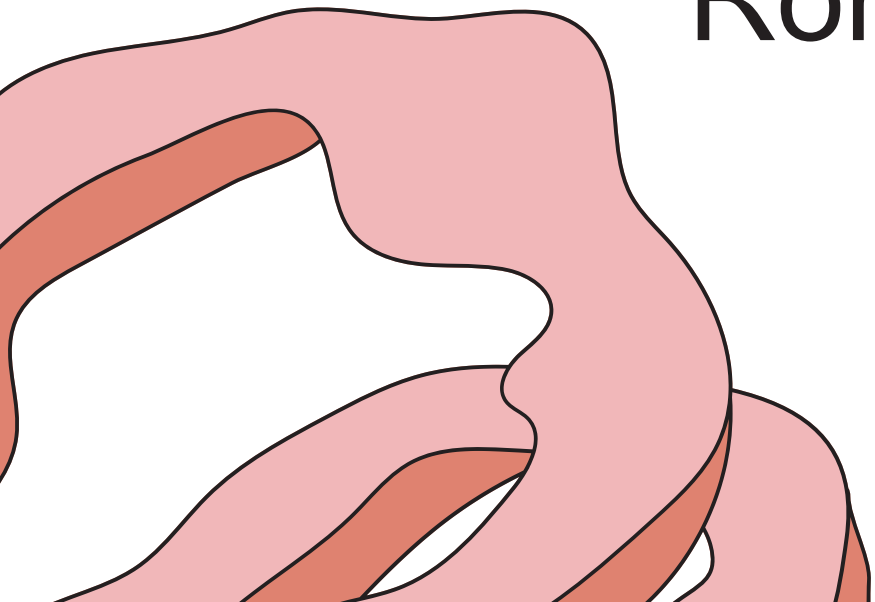
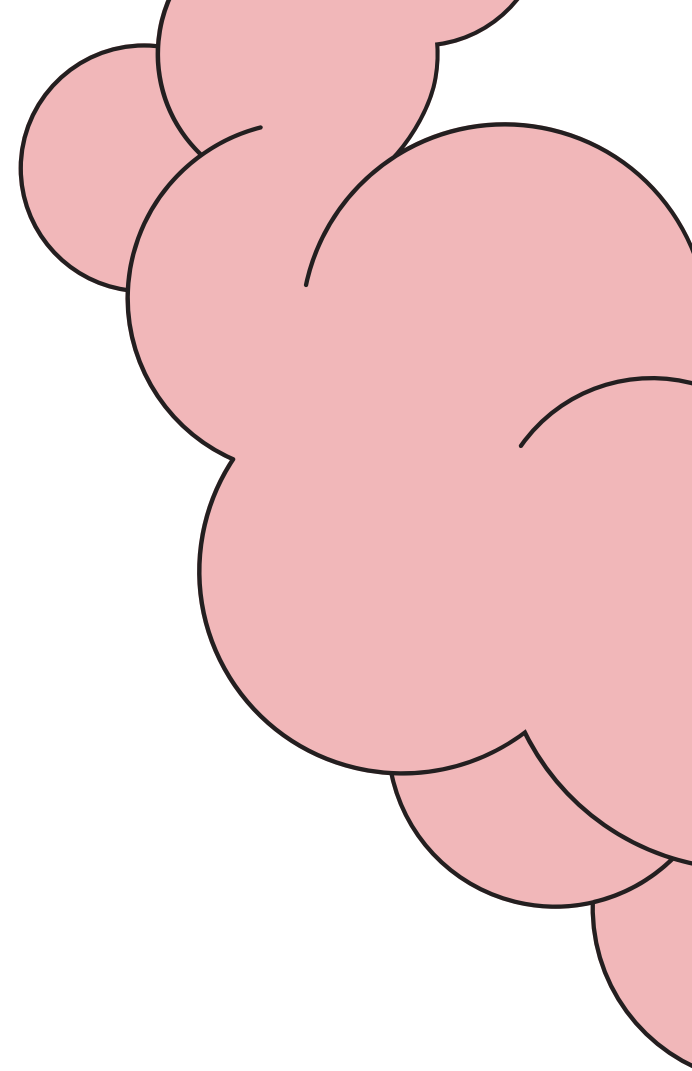
3- One-time charge model

We also offer the possibility of paying for individual tests, with a cost of 35 CHF/ test. In this case the data will be lost after 6 months, but the customer will still have an account in our platform to send and receive data.



Conferences

- 15th World Congress on Endometriosis (WCE)
Edinburgh, May 3 -6 2023
- Swiss Gynecology Annual Congress
Geneva, June 29 -July 1 2023
- GYNITALY/18th AAGL International Meeting on Minimally Invasive Gynecological Surgery
Rome, May 7-10 2023
 - XXIV FIGO World Congress of Gynecology and Obstetrics
Paris, October 9 -12 2023



Collaborations (extensive)

- Leading medical centers :
 - University Hospital Lausanne (CHUV)
 - Geneva University Hospitals Endometriosis Center (HUG)
- Patient support organizations:
 - Alliance for Endometriosis
 - S-Endo & Endo -Help (CH)
 - Endo&Cat (ES), ENDOmind (FR), Fortes Ensemble face à l'Endométriose (LU)



**THE ALLIANCE FOR
ENDOMETRIOSIS**

Start-up acceleration program

Acceleration program for FemTech:

- Tech4Eva

TECH4
EVA

Program ▾

We accelerate women's health innovations

A global FemTech community and a 9 month equity free FemTech start-up acceleration program for companies developing innovative solutions to improve technologies relating to women's health with international reach.

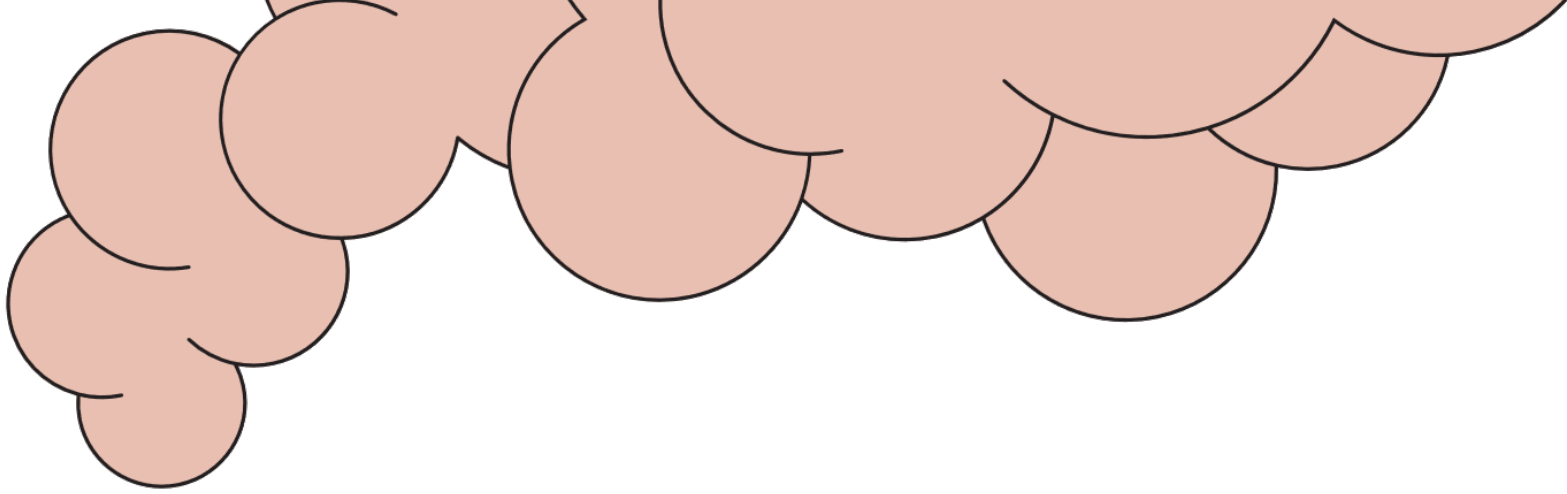
Platform

endometriosis.org
global forum for news and information

[News](#) [Resources](#) [About endometriosis](#) [Treatments](#) [Support](#) [Glossary](#) [FAQs](#)

Endometriosis.org is the global platform which links all stake holders in endometriosis - one of the most common causes of pelvic pain and infertility in women.

We provide current information and news about endometriosis. This knowledge empowers those with endometriosis to make informed decisions about their treatment options.



Clinical trial

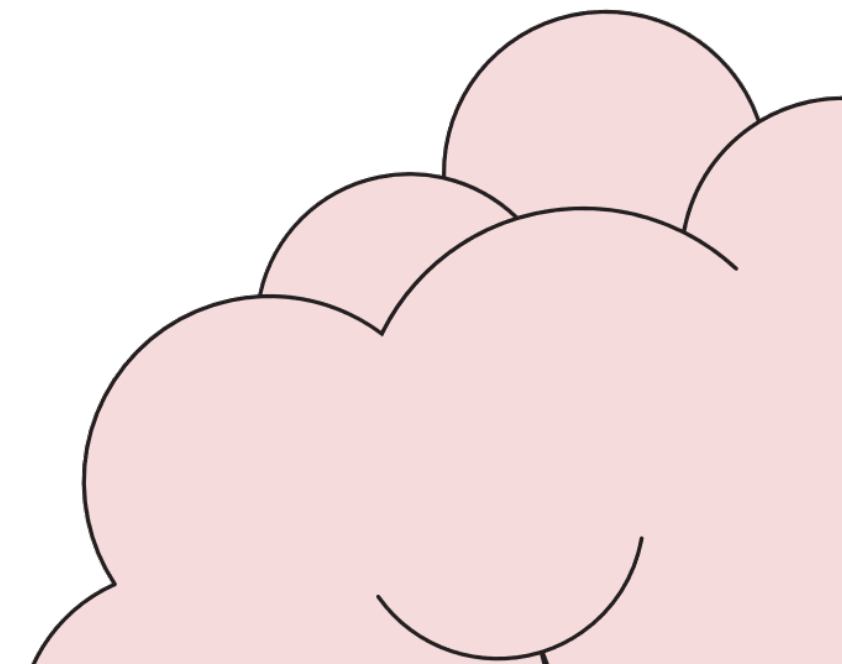
Type of study: observational

Participants: 600, 14+ years old females assisted by partner clinics and scheduled for gynecologic surgery in the next 2 years

Duration: 2 years (06/ 2023 - 06/ 2025)

Goal: assess the clinical performance of Alerta when compared to laparoscopic surgical assessment

Outcome measures sensitivity, specificity





ISO Norms

ISO 13485:

- Quality management system, ability to provide medical devices and related services that consistently meet customer and applicable regulatory requirements

ISO/IEC/IEEE29119:

- Software testing , set of standards for software testing that can be used within any software development life cycle or organization

ISO 14155:

- Good clinical practice for the design, conduct, recording and reporting of clinical investigations, assess clinical performance or effectiveness and safety of medical devices
- 