

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<sup>[1]</sup>  
~190 000 women in reproductive age in Switzerland

# Current situation

## Diagnostic options:



Clinical symptoms and ultrasound

Difficult



MRI

Expensive

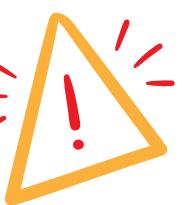


Laparoscopy

Invasive



Average delay in diagnosis: 6.7 years

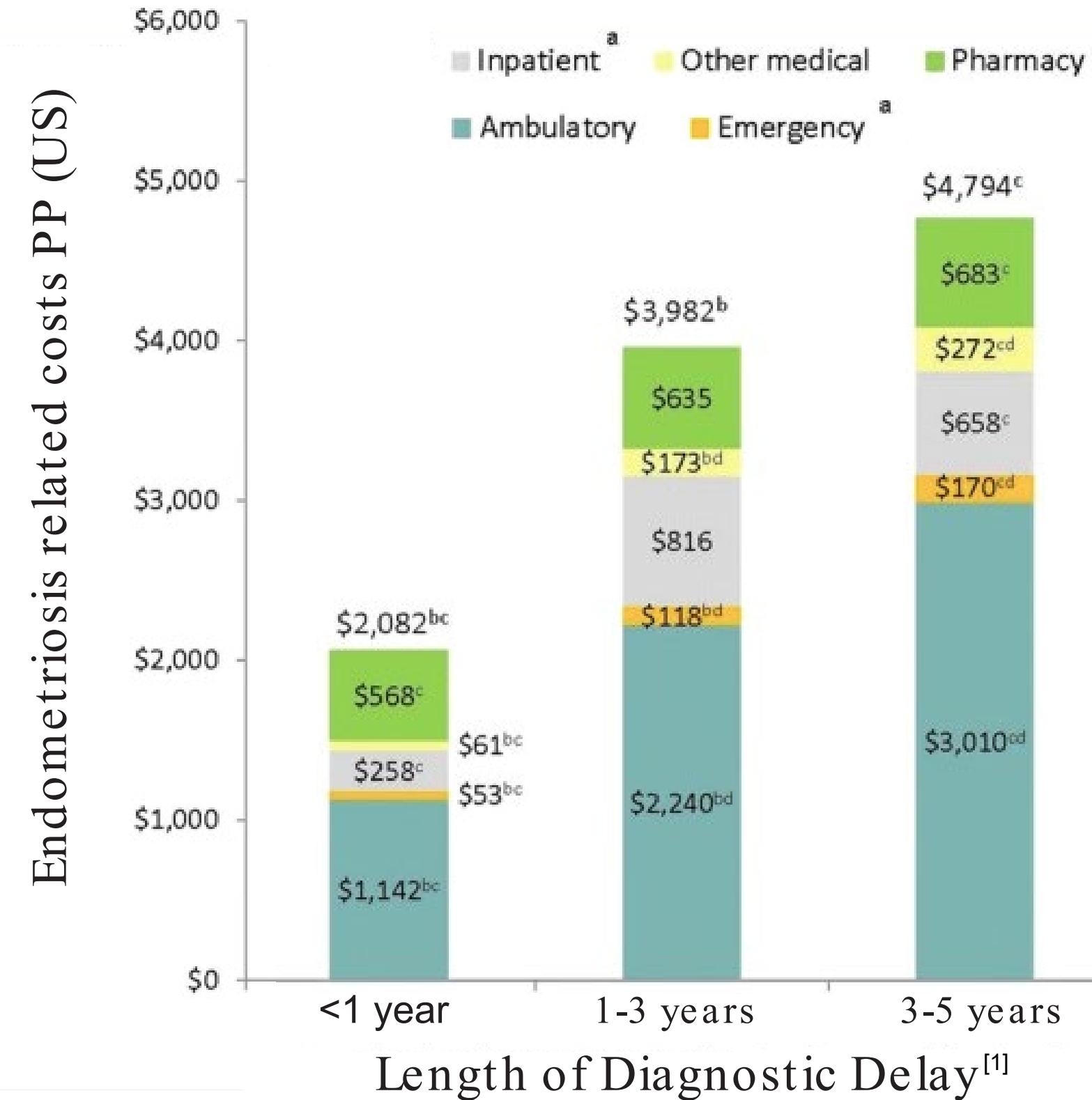


If not treated on time...<sup>[1]</sup>

- 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>

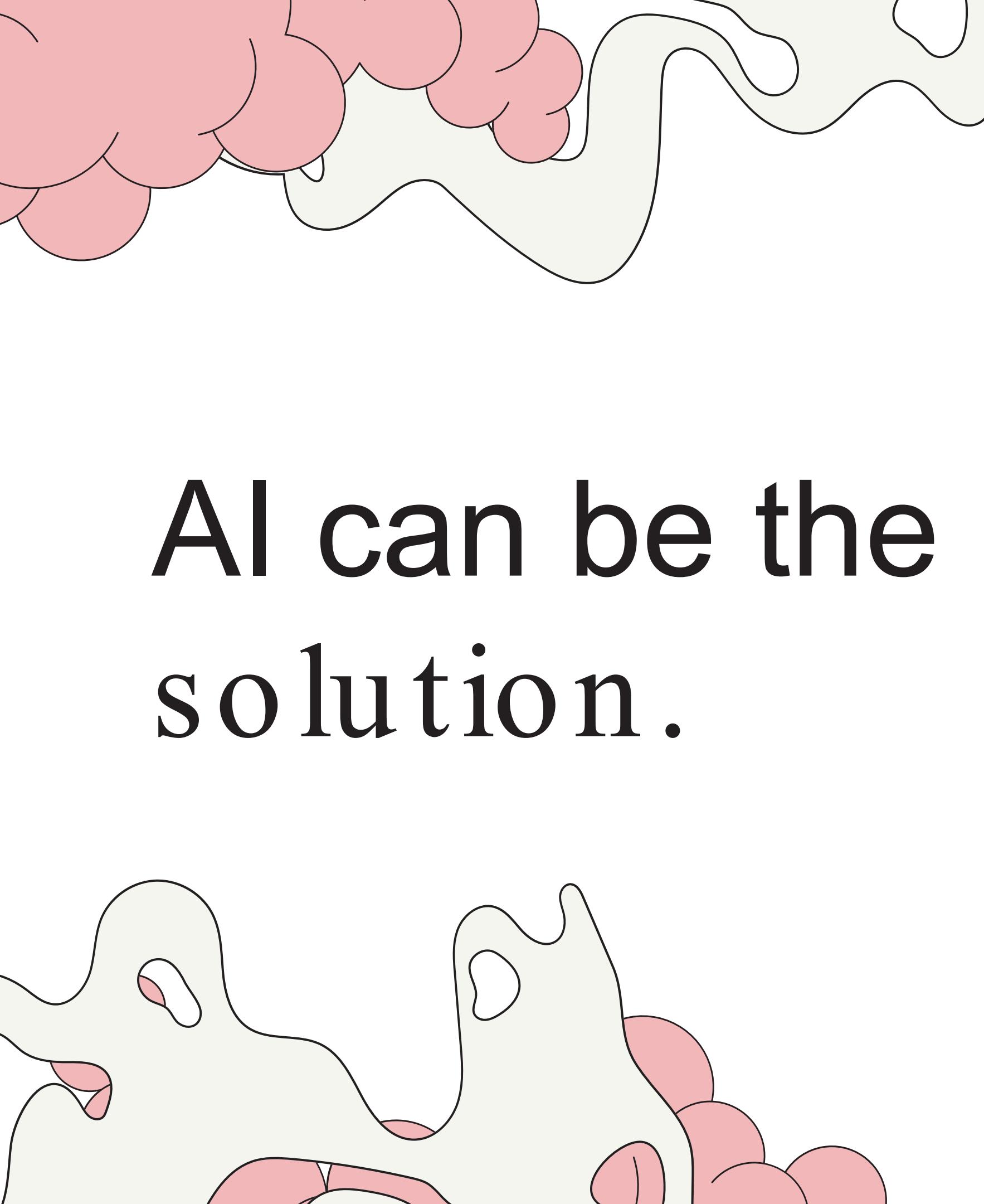
# Economic impact of a late diagnosis



## 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

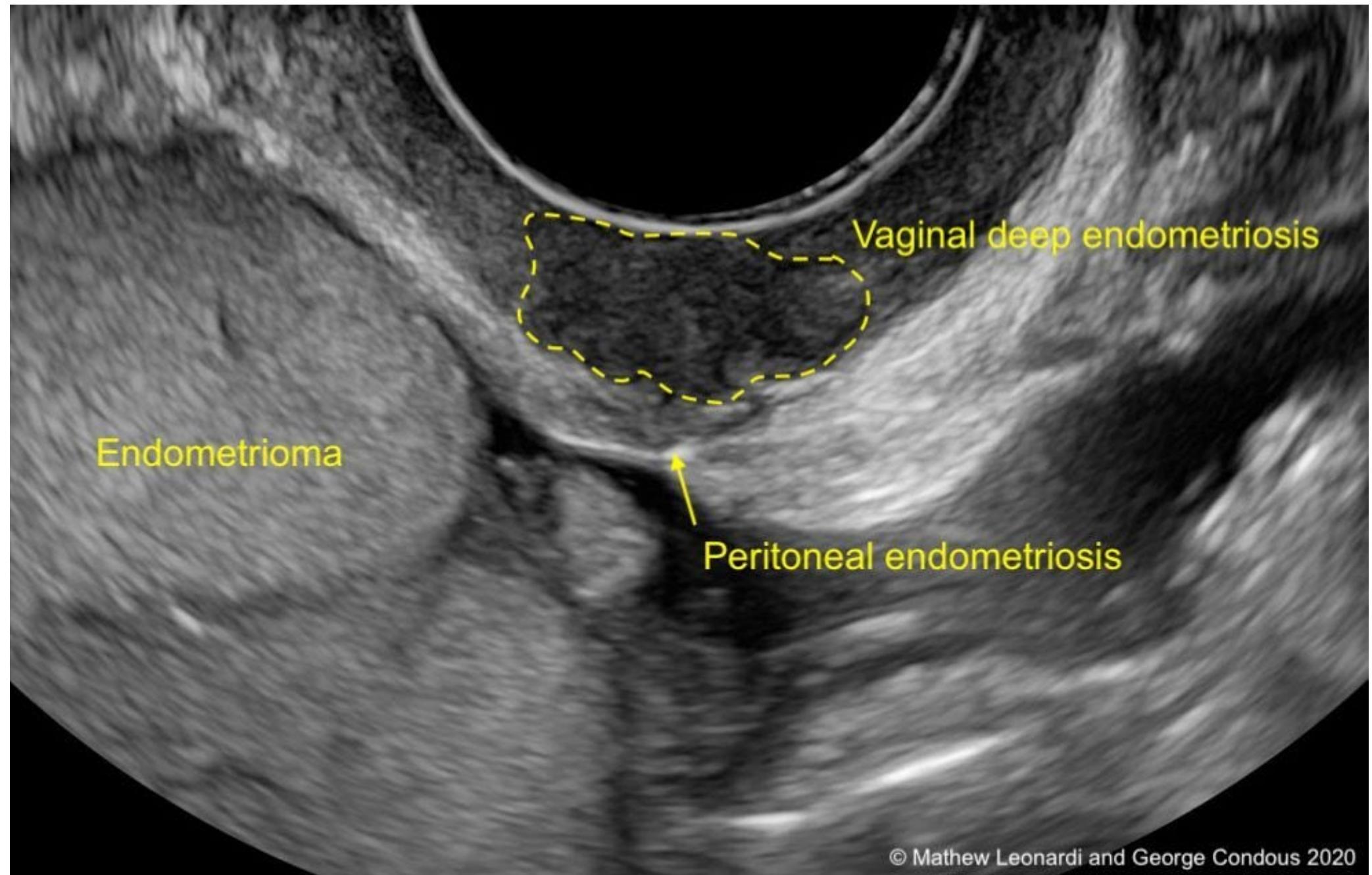
What we provide:

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

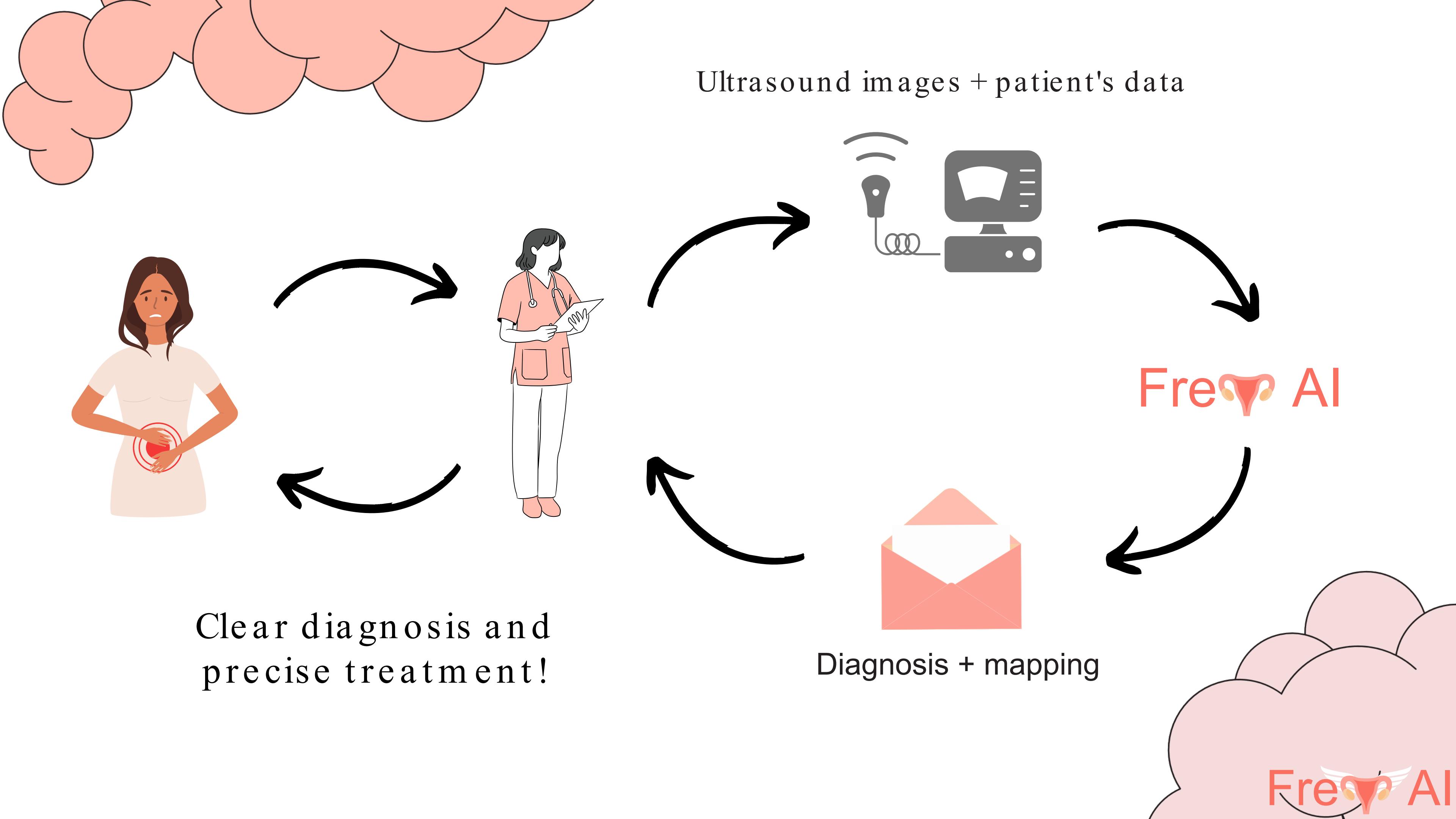
# Our solution

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

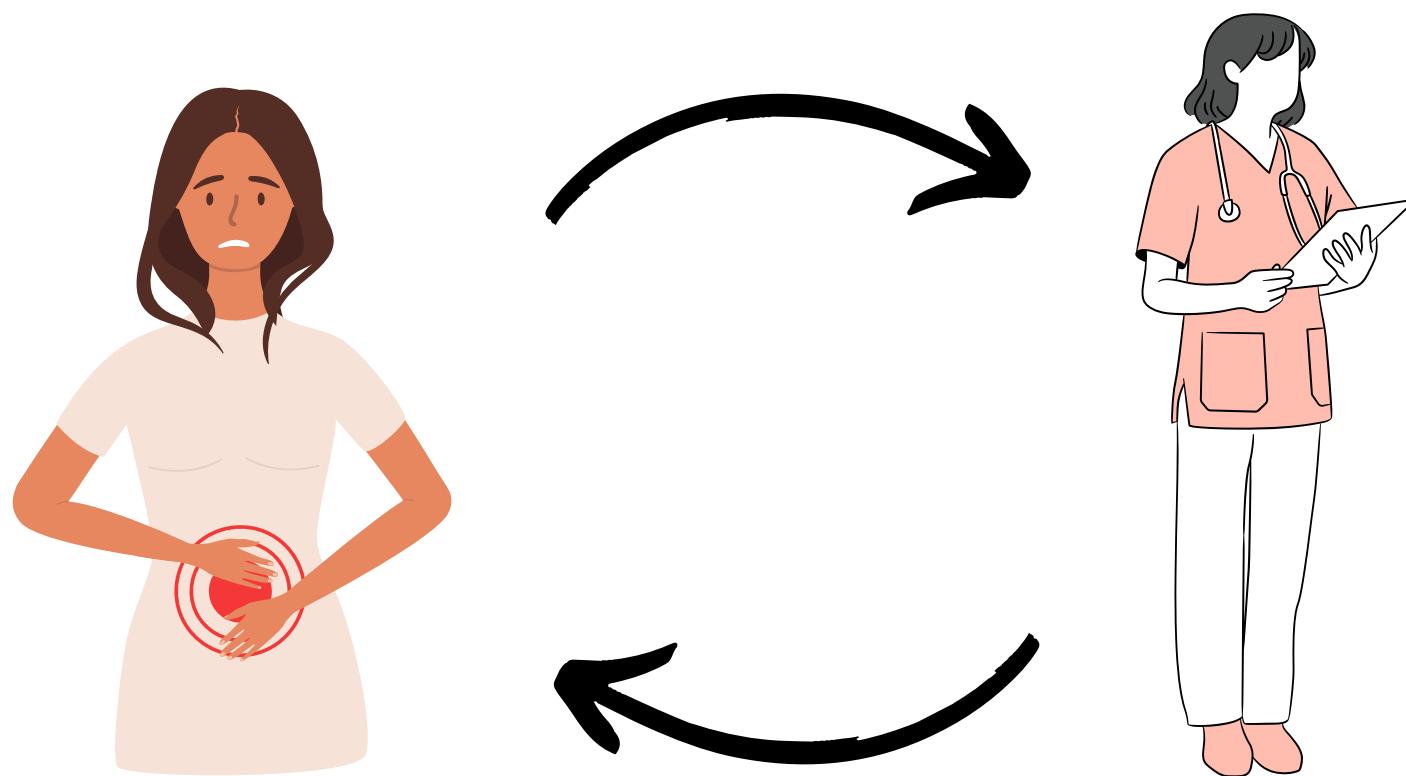
From stage 2 (mild) on



© Mathew Leonardi and George Condous 2020



Ultrasound images + patient's data



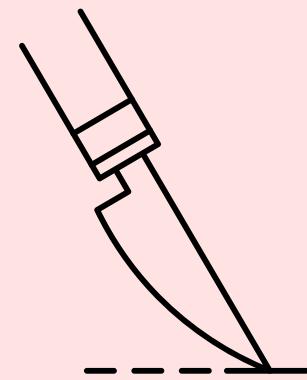
Clear diagnosis and  
precise treatment!

Diagnosis + mapping

Fres AI

Fres AI

# USPs



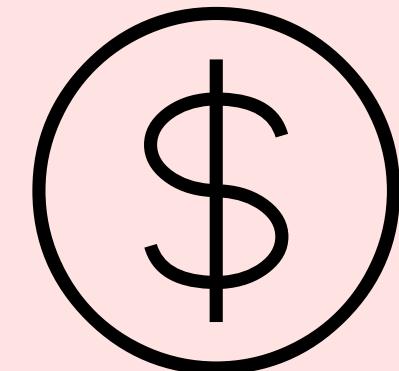
Non-Invasive



Monitoring



Reliable

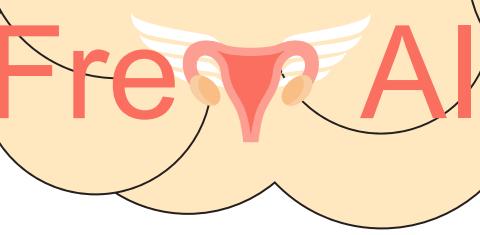


Low price

*Take  
IT  
Easy*

Non extra effort

# Competitors



	 <b>Ziwig</b>	 <b>MDNA Life Sciences™</b>	 <b>Freso AI</b>
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: 

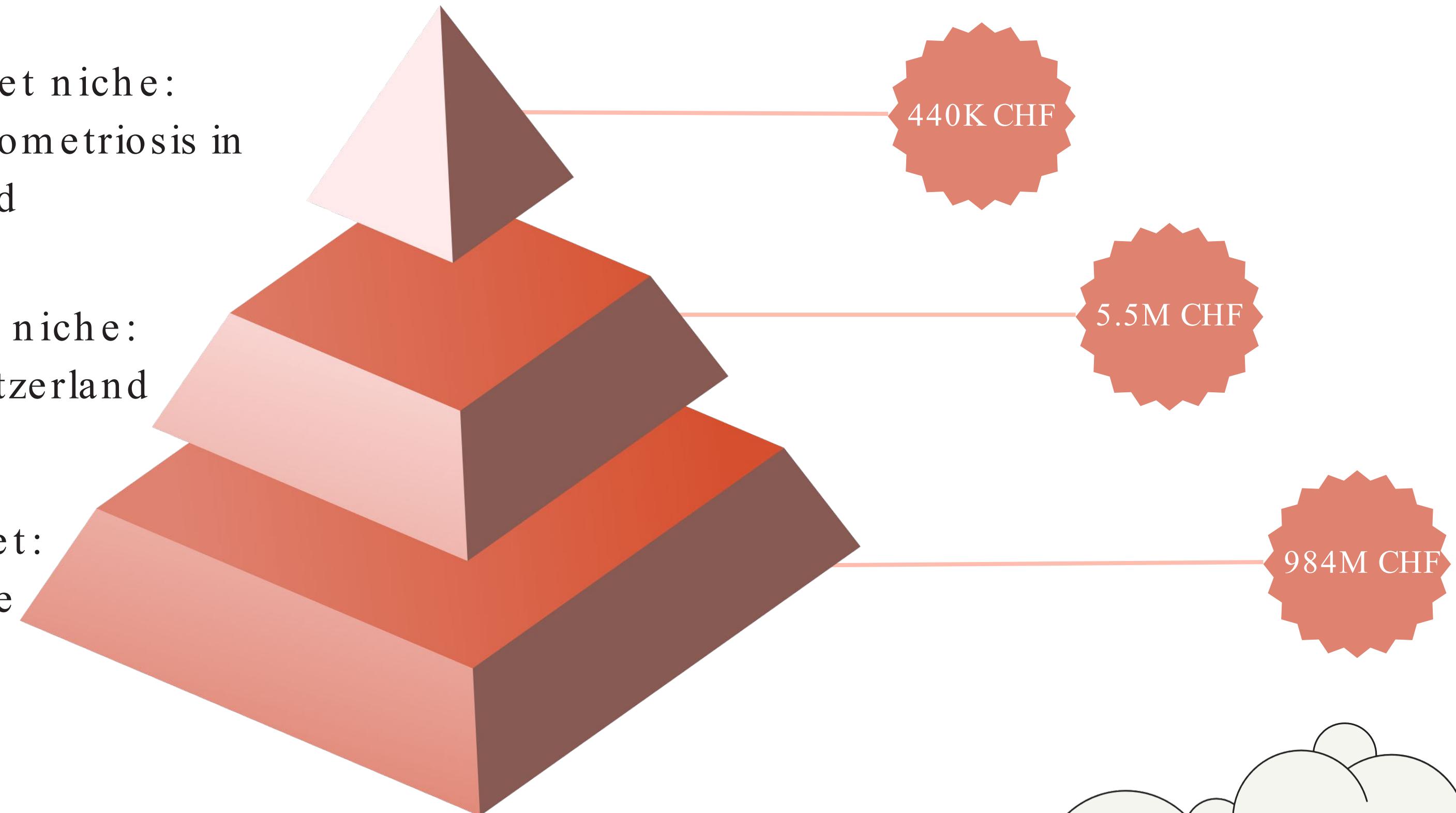
by P&TS LTD in Neuchâtel

# Market opportunity

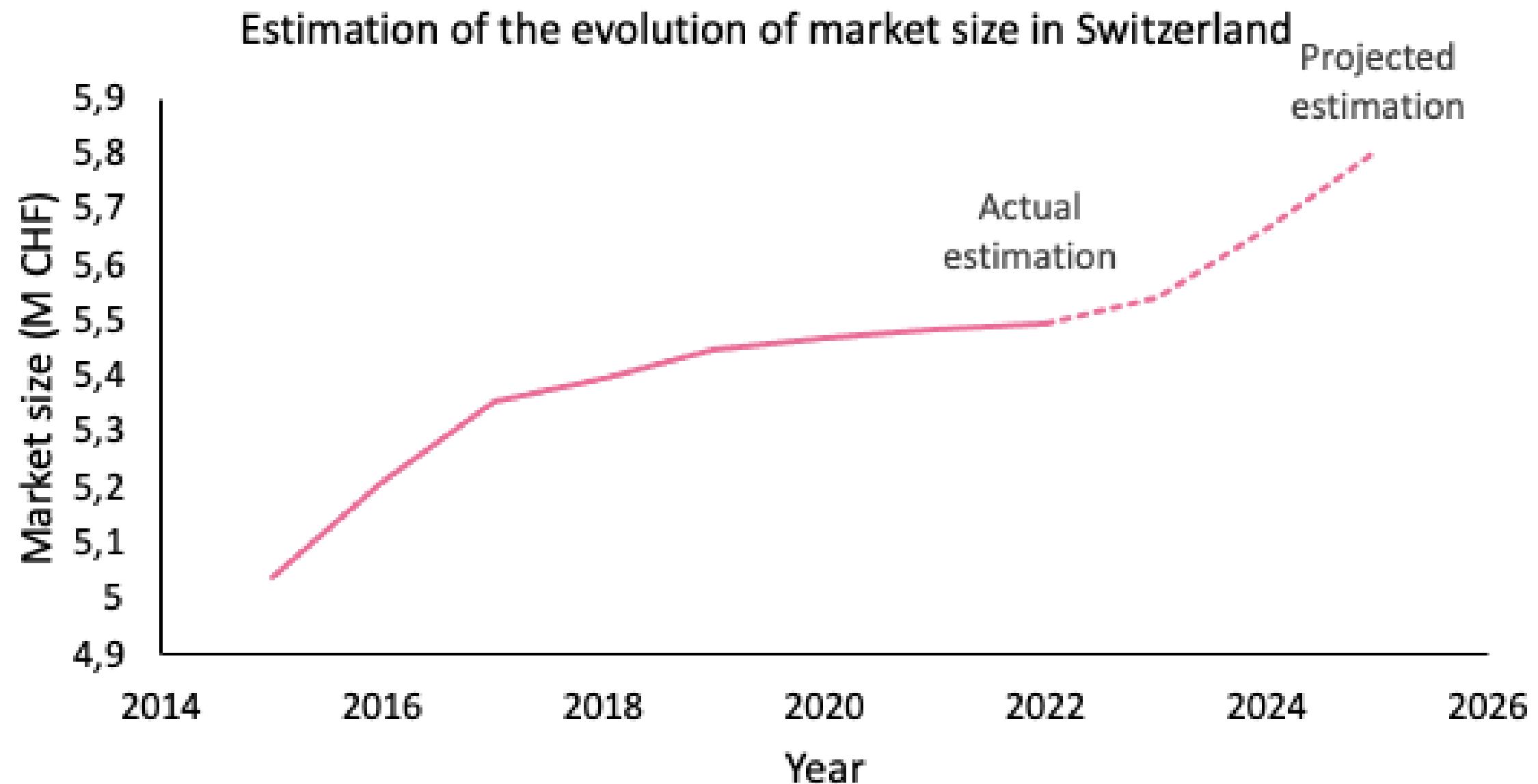
Serviceable market niche:  
Initial 8% reach of endometriosis in  
Switzerland

Obtainable market niche:  
Endometriosis in Switzerland

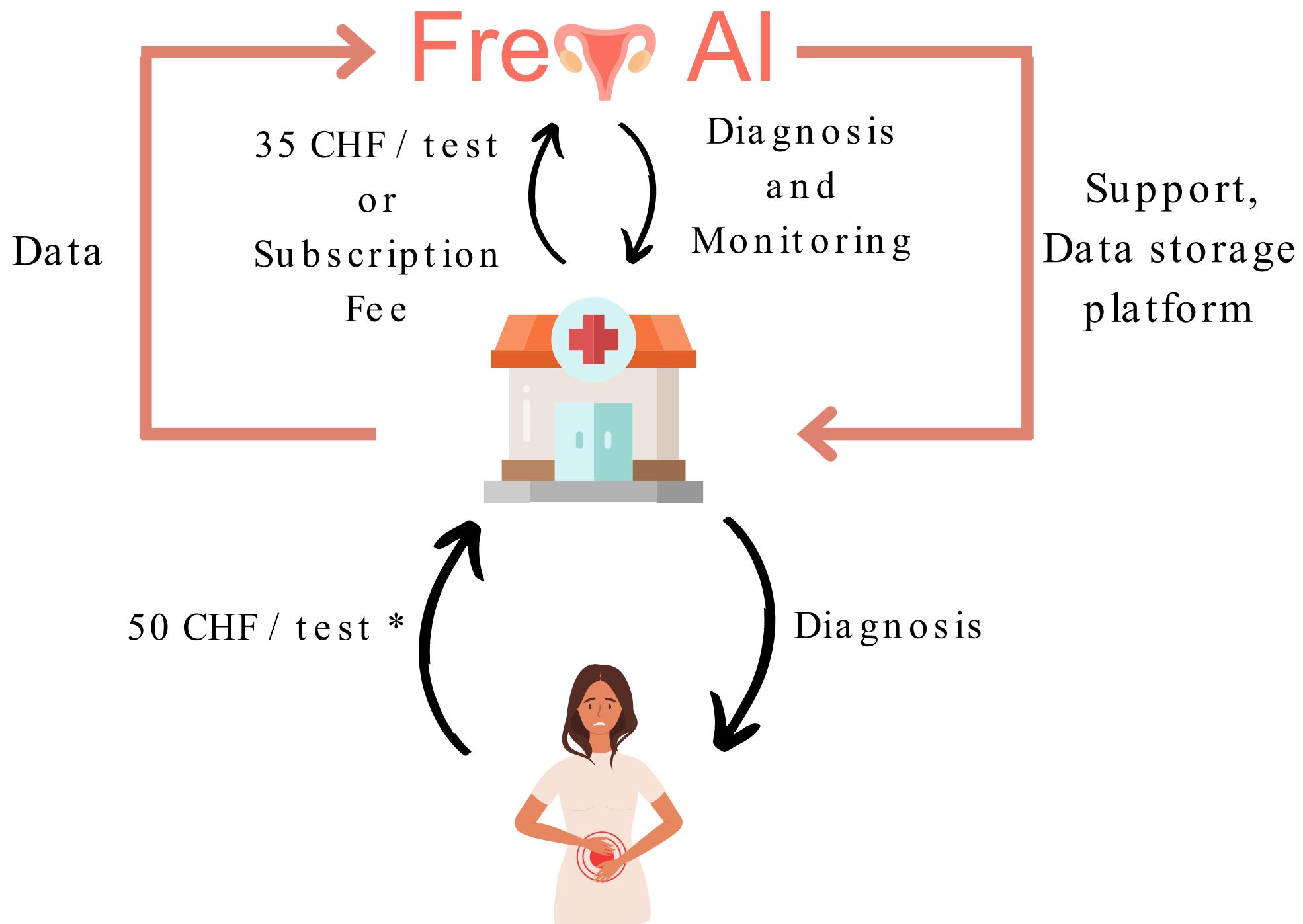
Total addressable market:  
Endometriosis worldwide



# Market size



# Business model (B2B)

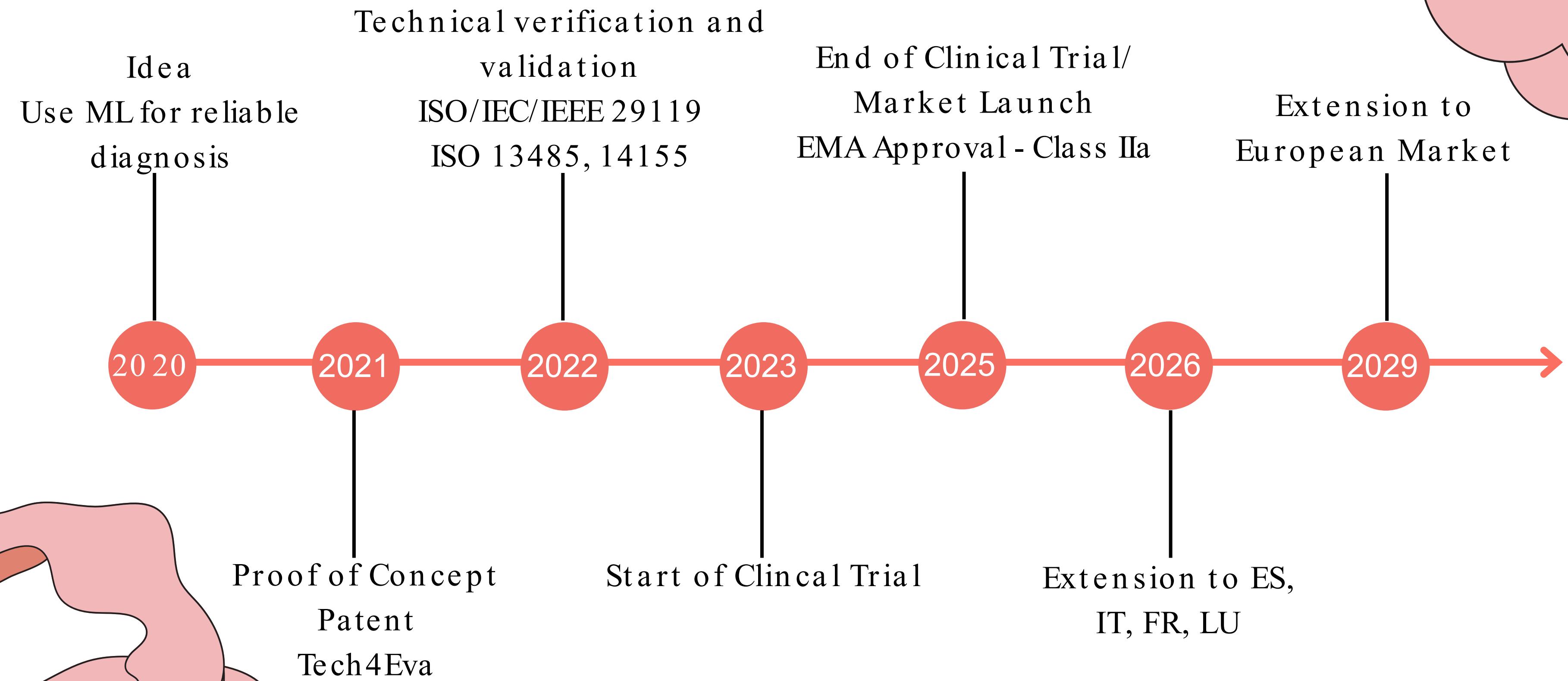


## Subscription models

	*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

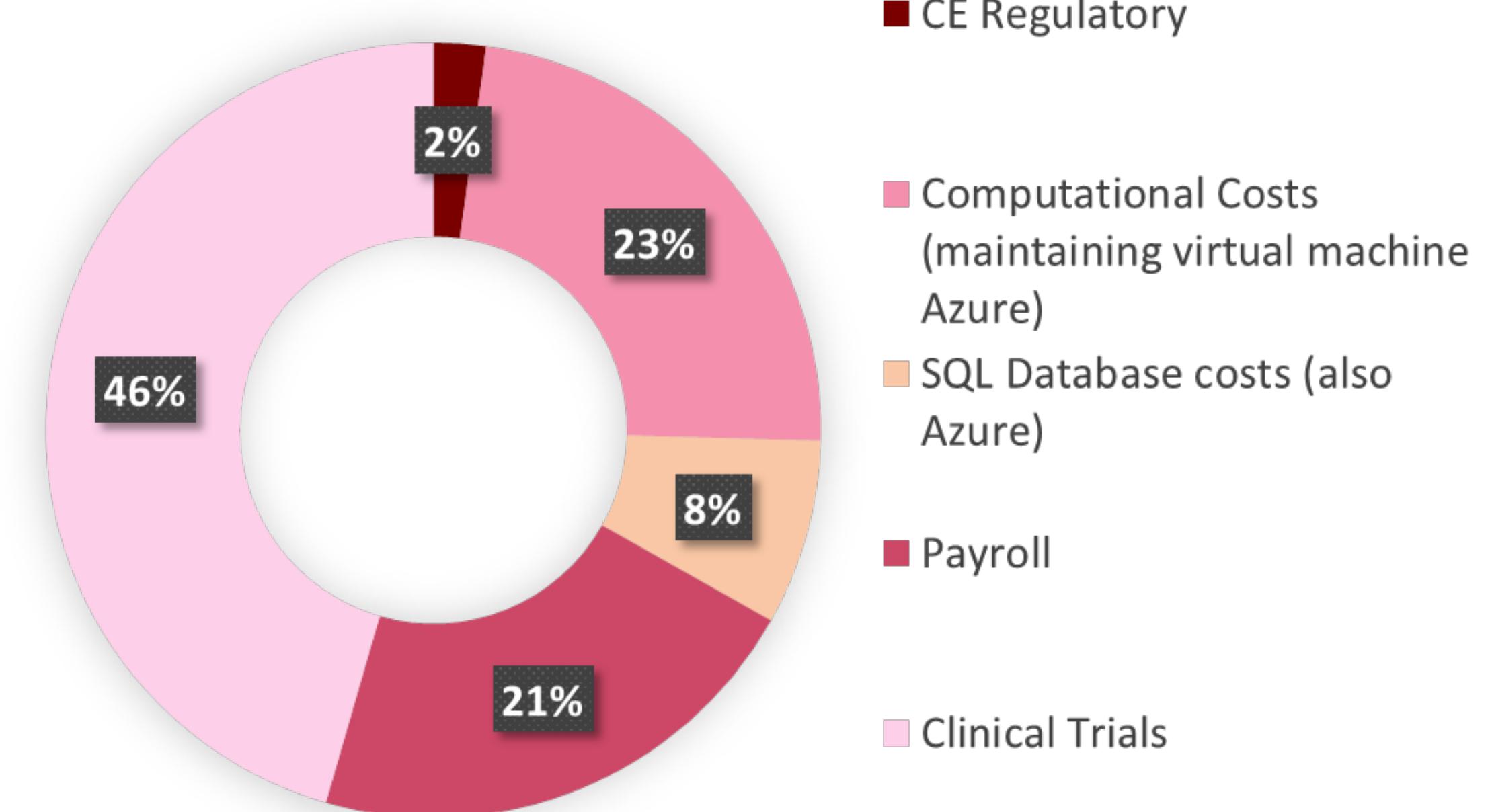
# Our road map



# Seeking Series A funding

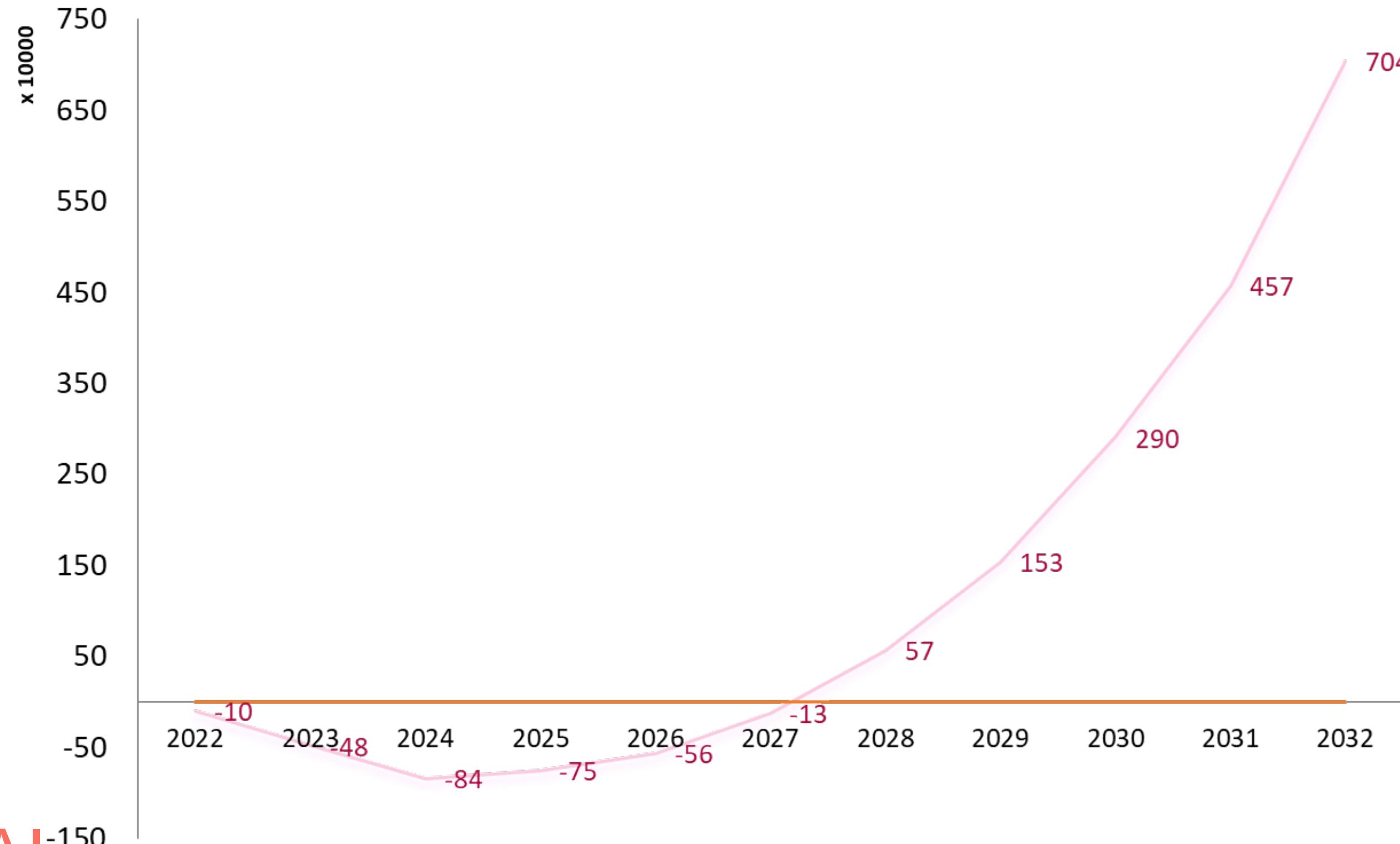
650K CHF  
target funds

## 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)



# Team

## External members



Dr. Manuel del  
Campo -  
Scientific advisor



Sara Sanz i  
Moncho -  
Legal advisor



Emma Farina  
CTO



Auriane Debache  
CMO



Nerea Carbonell  
CEO



Camille Pescatore  
COO

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

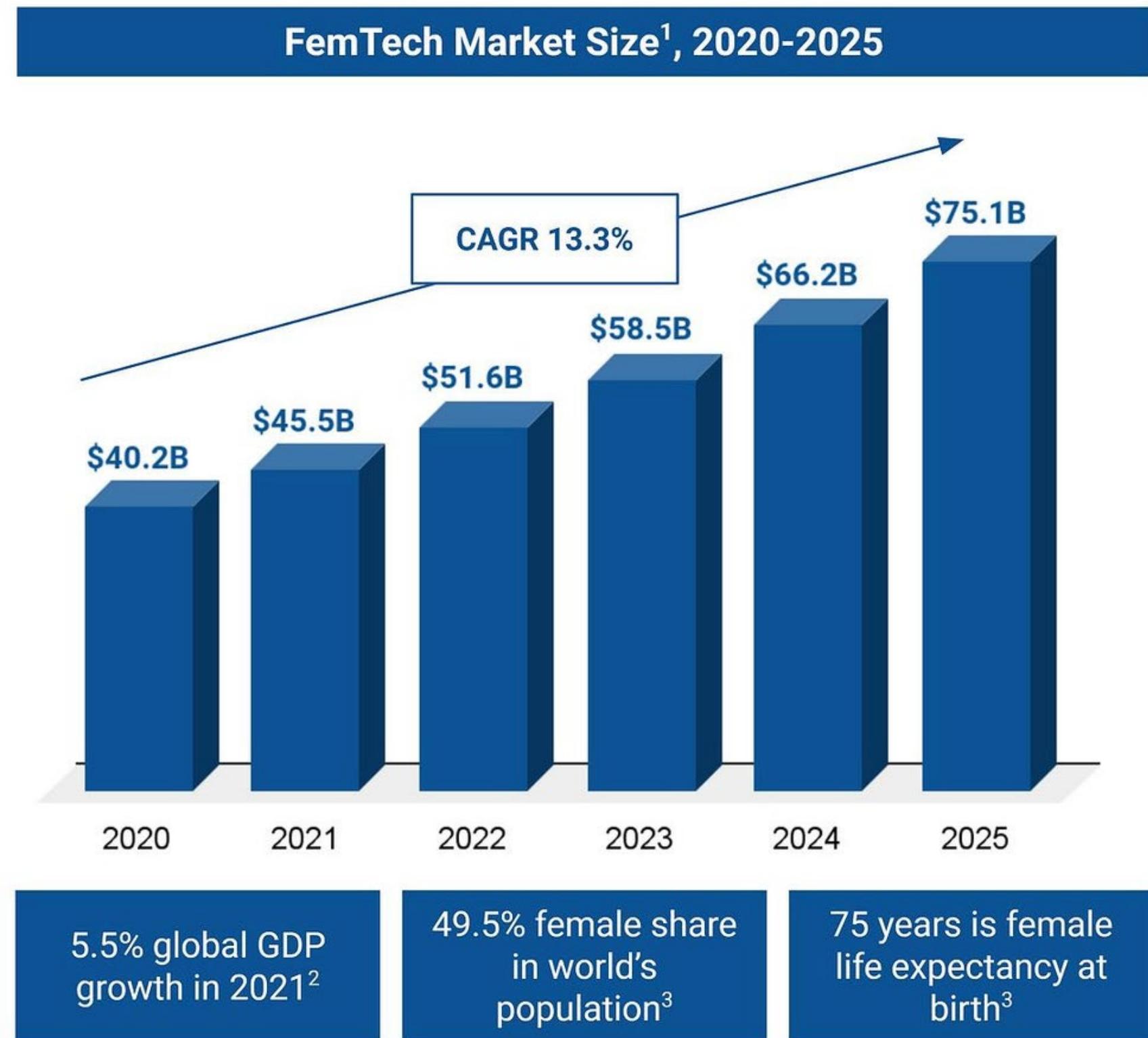
Oracle Healthcare Data Repository as relational database management system (RDBMS)

## Safety

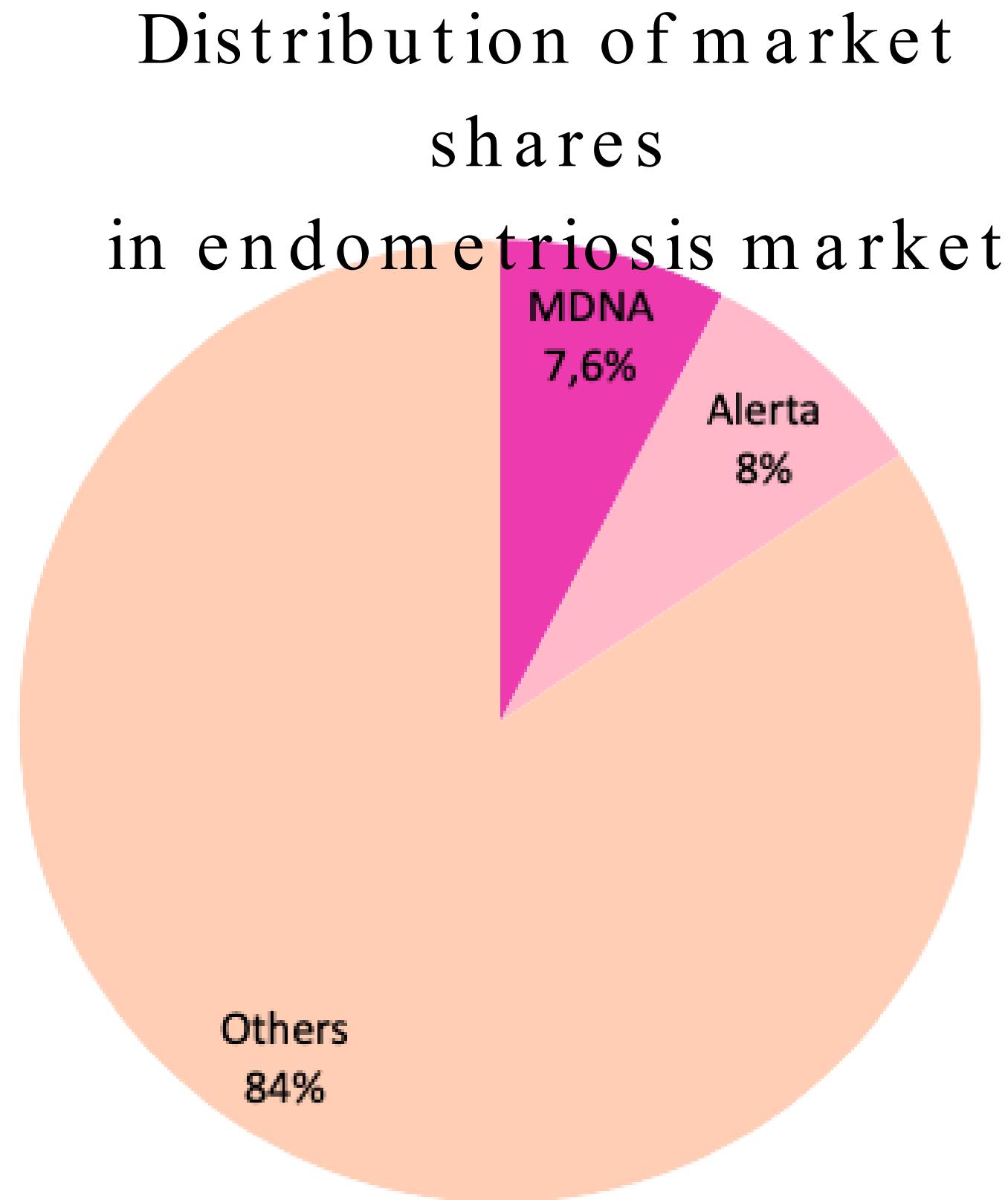
Training of team members using Collaborative Institutional Training Initiative (CITI Program)

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

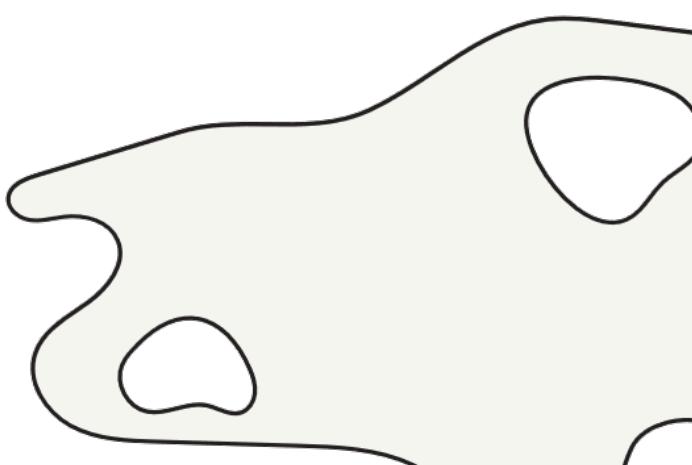
# Femtech market



# Initial market share and revenue



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/Post launch 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
Expenses (5% for uncertainty)	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
	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 (30\$/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	150,000	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 Innogrants	100,000	0	0	0	0	0	0	0	0	0	0
Venture Capitals	600,000	0	150,000	0	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
cumulative revenue 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 suscription 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 ~~model~~ basic level of suscription 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 suscription 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'Endométrie (LU)



# Start-up acceleration program

Acceleration program for FemTech:

- Tech4Eva



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 stakeholders 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

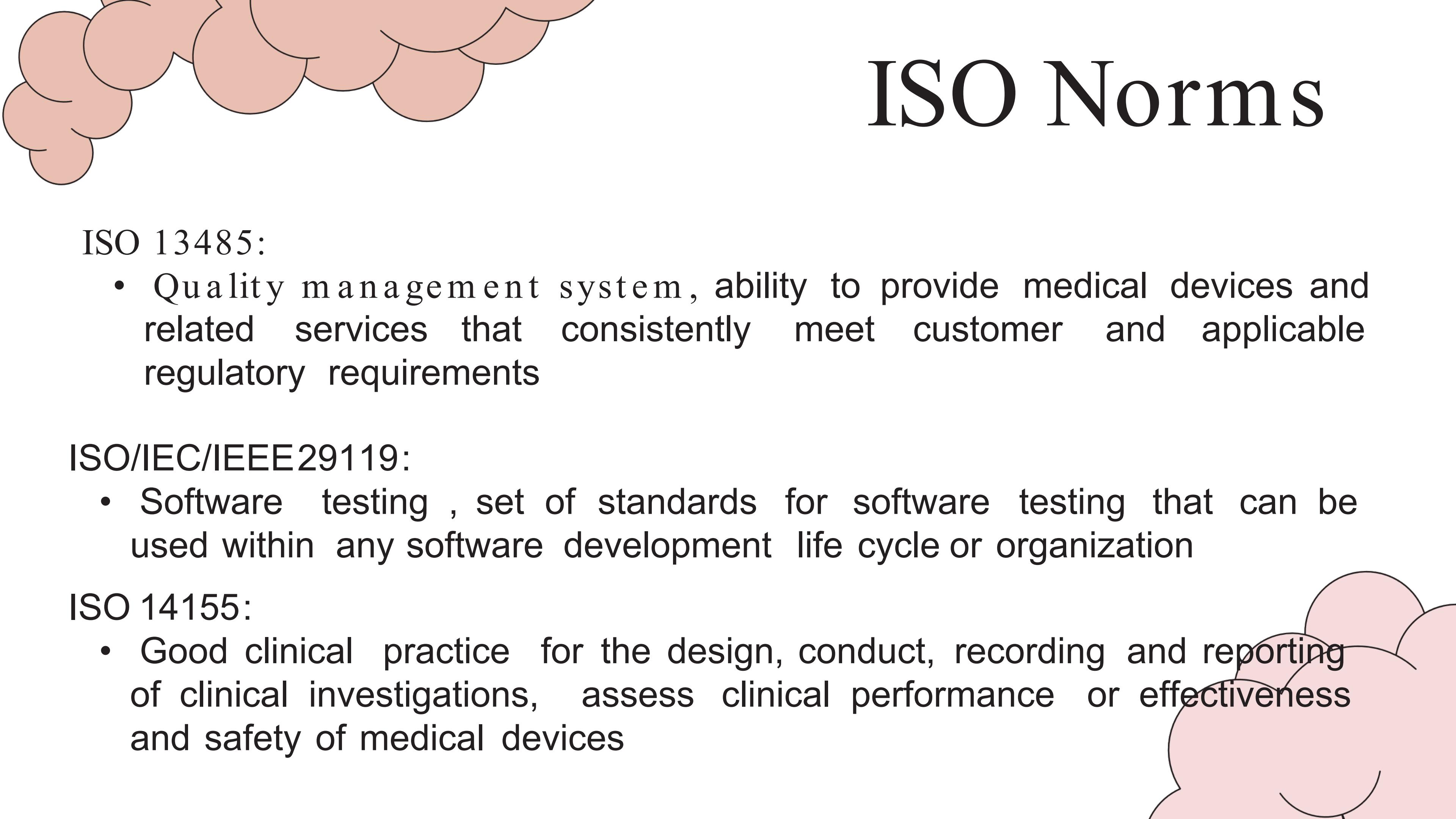
Type of study: observational

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