SCREENING GENETIC CONDITIONS EARLY AND AFFORDABLY. EVERY LIFE DESERVES A BETTER START

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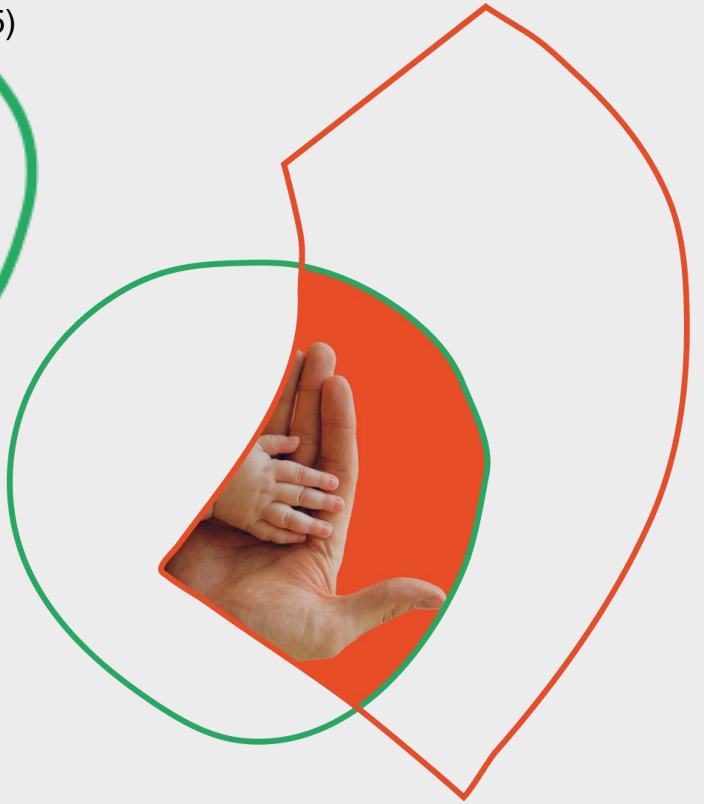
Genetic Conditions – Economic Burden of €887B(1)

7M of 140M newborns (2),(3)
annually have a genetic disorder

400K false positives (4)
reported in Global North

350M families (2),(3)
suffer from genetic disorders

€500K per patient (5)
Early diagnosis could save up to



95M newborns (6)
lack screening access in Global South

infant mortality ~15x higher (7)
in Global South vs. Global North

~50% of all births (8)
worldwide are expected to occur in Africa by 2050

€30B market (9)
of genetic testing; to double by 2030

(1) The US National Economic Study on Rare Diseases by EveryLife Foundation (Sept 2021); Worldwide estimate: >€2 Trillion
(2) Nguengang Wakap, *et al*. Estimating cumulative point prevalence of rare diseases: analysis of Orphanet database. Eur. J Hum Genet 28, 165 (2020)
(3) https://www.statnews.com/2023/02/07/2022-was-a-breakthrough-year-for-understanding-rare-diseases-2023-needs-to-be-better/
(4) Hannon WH, et al. "State newborn screening in the tandem mass spectrometry era: more tests, more false positive results" Pediatrics 118(2):e309 (2006)
(5) The Cost of Delayed Diagnosis in Rare Disease by EveryLife Foundation (Sept 2023), https://everylifefoundation.org/delayed-diagnosis-study/
(6) https://pmc.ncbi.nlm.nih.gov/articles/PMC11144574/ and https://www.aphlblog.org/advocates-work-to-expand-newborn-screening-worldwide/
(7) https://pmc.ncbi.nlm.nih.gov/articles/PMC6527519/
(8) https://www.unicef.cn/en/press-releases/africa-will-be-home-2-5-children-2050-unicef-report and https://en.wikipedia.org/wiki/Baby_boom
(9) https://www.fortunebusinessinsights.com/genetic-testing-service-market-105590

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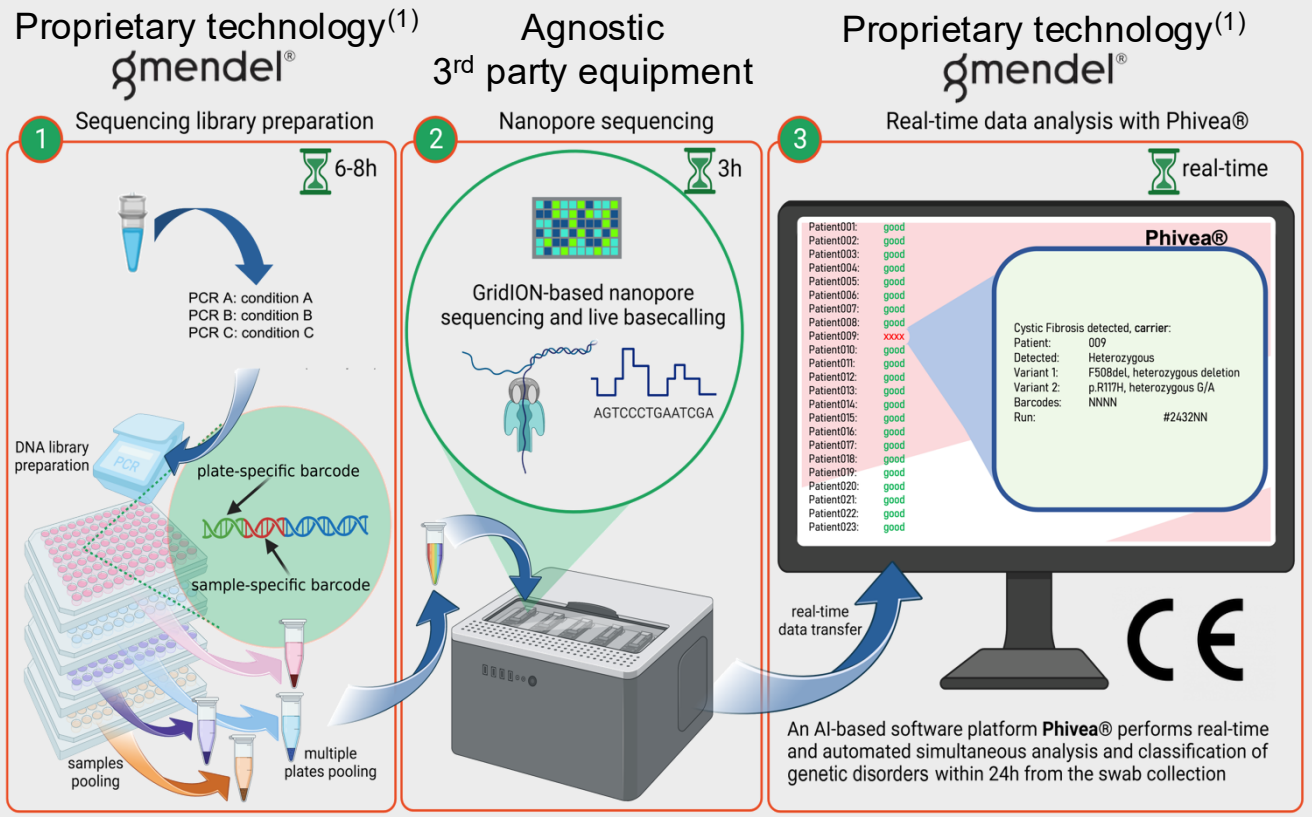
AI-powered, Vertically-integrated IVD Certified Technology for Accurate, Fast & Affordable Screening of Genetic Conditions



Performance Evaluation(2)

KPIs	gMendel®	Competition(3)
Cost per Test (€)	100	500(4)
Time to Results (hrs)	24	168
Tests per Run	384	48
Reads per second	1520	138
Accuracy(5) (%)	98	63 / 98
Unclassified Reads (%)	6	24
Need of skilled personnel(6)	NO	YES

(1) Patent No: WO2023/232940 A1; PCT/ EP2023/064684
(2) Filed with Danish Medicines Agency resulted in CE marking
(3) Sophia Genetics, Fabric Genomics, Natera, Roche, Revvity
(4) Schwarze, K. et al. Genet Med 22, 85–94 (2020)
(5) 98% accuracy compared to 63% with conventional techniques; on par with other sequencing technologies.
- Aarhus University Hospital: Sensitivity 95%, Specificity 98%
- Paraguay NBS MoH: Sensitivity 98%, Specificity 100%
(6) Bioinformaticians for analysis and Geneticists for interpretation

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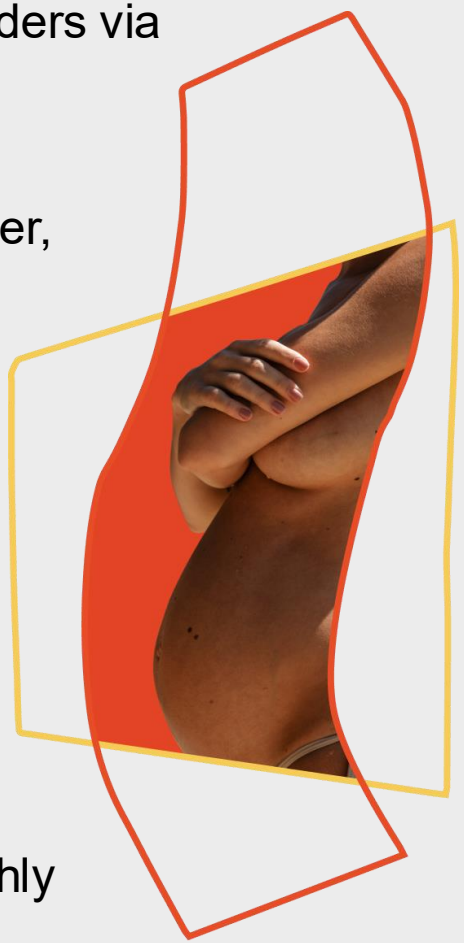
Patent – Invention Summary & Core Technical Contribution

- Our patent covers a computer-implemented method for detecting preselected genetic disorders via
  1. Multilevel multiplexed molecular barcoding
  2. Real-time demultiplexing and analysis, optimized for long-read sequencing.
- We have bridged molecular barcoding and real-time computational analysis, creating a faster, lighter, and more scalable genomic workflow that enables real-time newborn screening anywhere in the world.
- This represents a significant improvement over prior art, which typically relies on batch-based analysis and lacks both the structure and speed offered here.
- The same core method extends beyond structural variants to high-resolution detection of point mutations, using long-read sequencing and AI-based interpretation pipelines.
- This enables expansion into broader genomic screening applications, including cancer-risk profiling and cardiovascular genetic diagnostics.
- Even in these complex use cases, the approach remains cost-efficient, automated, and highly scalable, preserving the core benefits of real-time analysis and reduced computational load.



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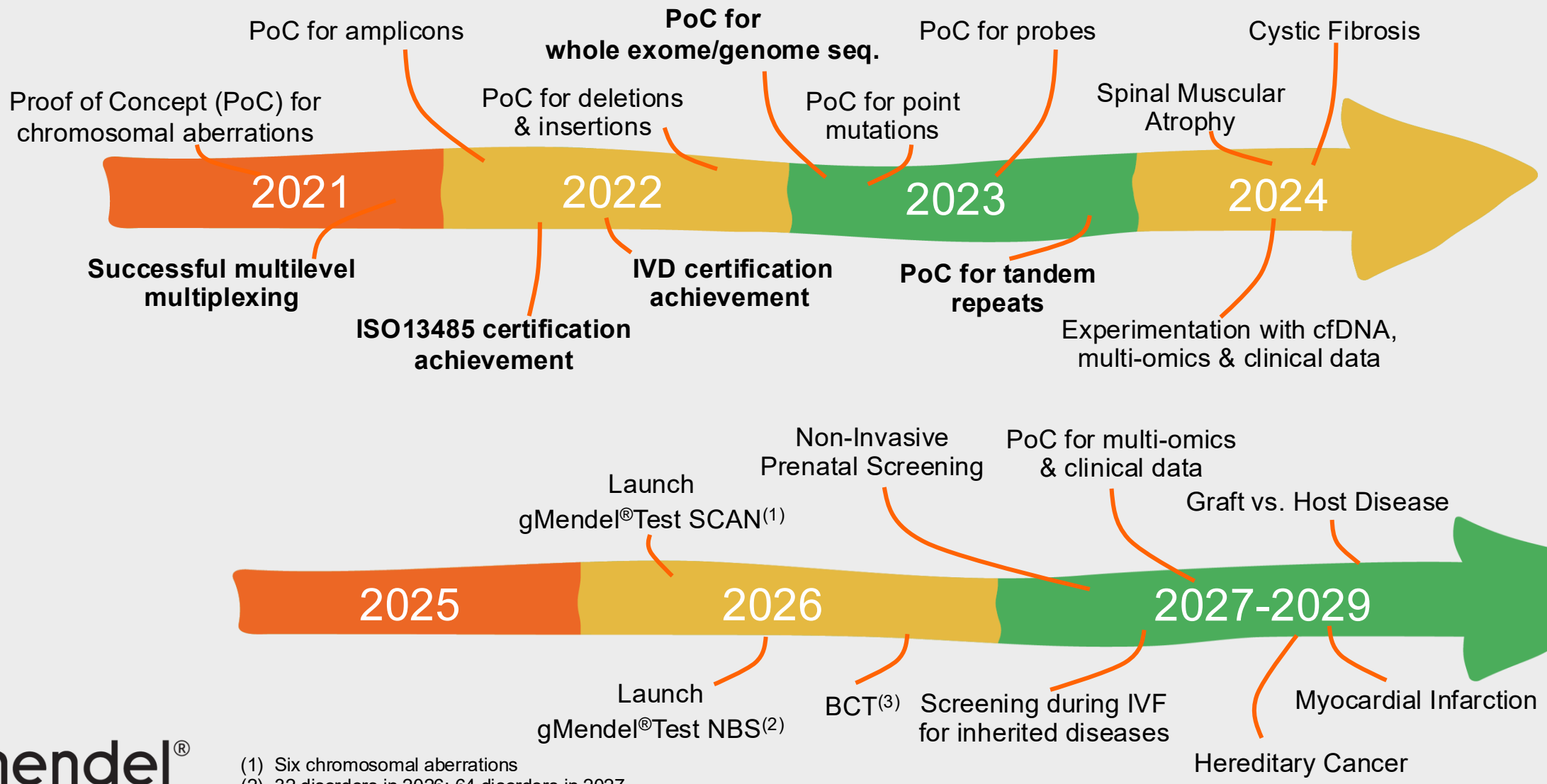
Key Research & Technology Milestones and Roadmap



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(1) Six chromosomal aberrations
(2) 32 disorders in 2026; 64 disorders in 2027
(3) BCT: CF, SMA Fragile X

Validation Studies – Why Global South

- Aarhus University Hospital (#18 in world; #1 in sex dev. disorders): 356 samples, Sensitivity 95%, Specificity 98%
- Paraguay NBS MoH: 92 samples, Sensitivity 98%, Specificity 100%

Feature	Current Standards	gMendel® Test SCAN
Screening Capability	❌ No	✅ Yes
Automation	⚠️ Semi-automated	✅ Fully
Time to Results (days)	⏳ 7-21	⚡ 1-2
Mosaicism Detection (LoD)	🔬 20%-40%	Below 25%
Cost per Test (€)	💰 70 - 350	💡 19
Personnel Requirement	🏥 Expert cytogeneticist	🛠️ Technician

- Initial pilots in the EU and US revealed slow adoption due to legacy systems
- Global South countries, are rapidly launching NBS programs but lack infrastructure and expertise
- These countries offer low-barrier entry & faster adoption, enabling near-term impact & revenue for gMendel®
- Infant mortality is ~15x higher than in the Global North, highlighting the urgent need for early genetic diagnosis
- ~50% of all births worldwide are expected to occur in Africa by 2050

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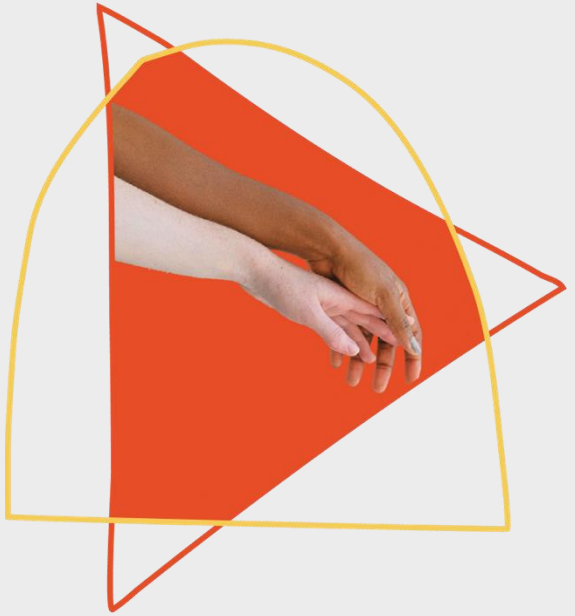
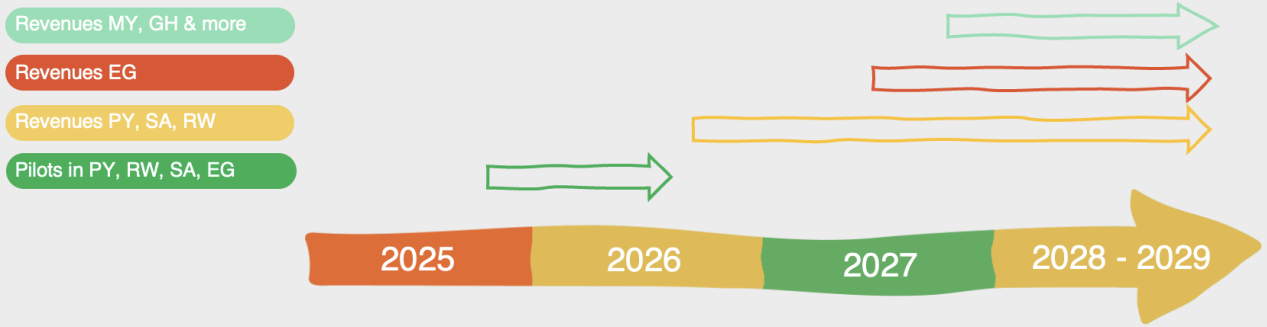
Business Model, Traction & Commercialisation Strategy

- Recognised: through 4 grants, awards and the European Commission's Seal of Excellence
- Traction: 6 contracts &14 LOIs with Ministries of Health, hospitals, diagnostic labs & pharma
- B2B & B2G SaaS model: runs on annual subscriptions, priced per patient & disease screened

Customer Type	Library Preparation	Sequencing	Data Processing, Analysis Interpretation & Reporting
Advanced Analytics (with in-house capabilities)	Customer use our SOPs for independent library prep.	Customer lab	gMendel® AI SaaS platform
Full-Service (need additional support)	Partner lab use our SOPs to handle library prep.	Partner lab	gMendel® AI SaaS platform



- Initial Focus on the Global South: Saudi Arabia, Paraguay, Rwanda (1st Tier); Ghana, Malaysia, Egypt (2nd Tier); Greece, Denmark, US/New England (3rd Tier)



- Q4 2025: Technical & Operational Validation
- Q1-Q4 2026: Regulatory Validation & Verification
- Q3-Q4 2026: Commercial agreements & Execution
- 2027: Full-Scale Deployment & Expansion

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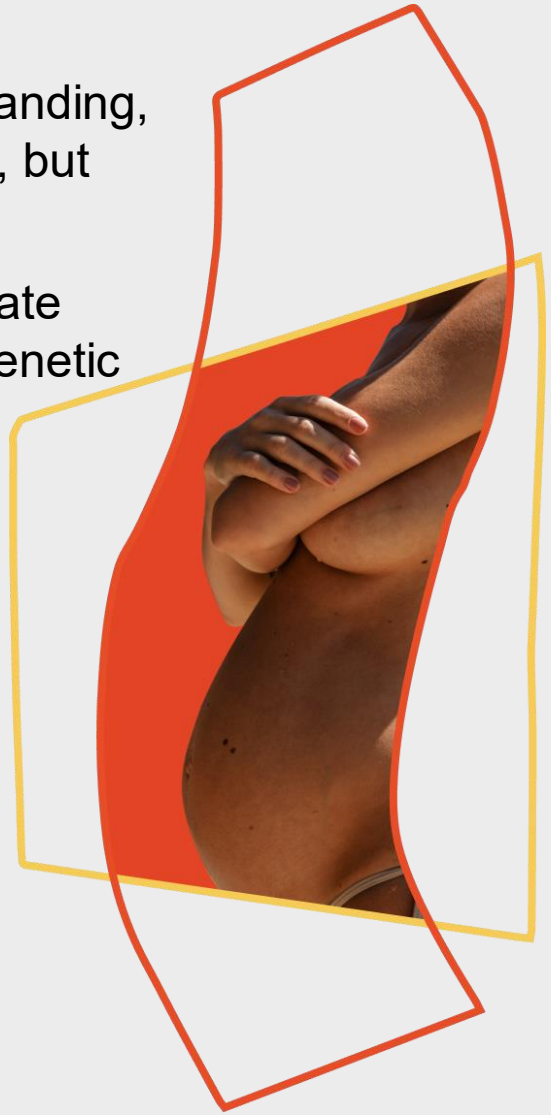
Early Detection of Treatable/Actionable Genetic Disorders

- In genetic disorders and rare diseases, poor diagnosis leads to poor disease understanding, and therefore poor intervention and treatment. Genetics offers unprecedented insight, but only if data is accurately measured, correctly interpreted, and effectively scaled.
- gMendel® leverages genomics & AI with long-read sequencing to deliver rapid, accurate genetic screening while safeguarding data privacy and ensuring responsible use of genetic information in compliance with local & international regulations
- The fully automated and vertically-integrated solution significantly reduces the need for specialized skills.
- Our protocol explicitly excludes whole-genome sequencing (WGS), focusing only on essential genetic markers to mitigate ethical concerns associated with WGS.
- Privacy-by-design & blockchain proof of existence
- Certified product development track record: ISO13485 / IVD-compliant design, validated in hospital & MoH
- Proven ability to design, validate, and deploy regulated genetic screening products in diverse regulatory environments



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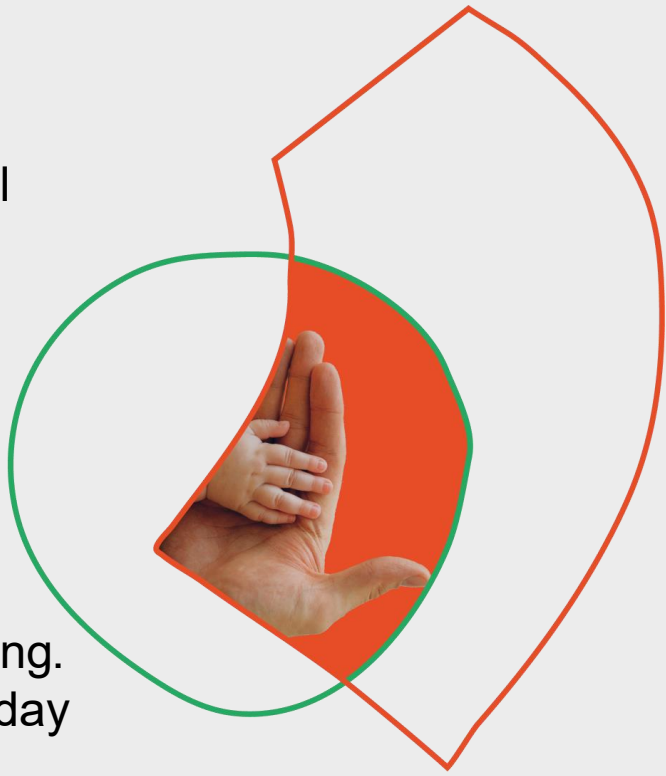
Platform Scalability, Regulatory Leverage & Capital Efficiency

- gMendel® is architected as a regulatory-grade screening platform rather than a single-use test.
- The system cleanly separates laboratory automation, bioinformatics, and clinical decision layers, enabling new disease panels to be designed, validated, and deployed in months rather than years, without revalidating the core platform.
- As the portfolio expands, marginal development and regulatory costs decrease while clinical and commercial reuse increases, creating compounding technical and regulatory advantages over point solutions and positioning gMendel® as scalable infrastructure for population-scale genetic screening.
- At gMendel®, our long-term goal is better treatment through deeper understanding. But to get there, we must first screen better, earlier, and at scale. That is why today we focus on newborn screening (NBS)—where impact, data, and sustainability meet.



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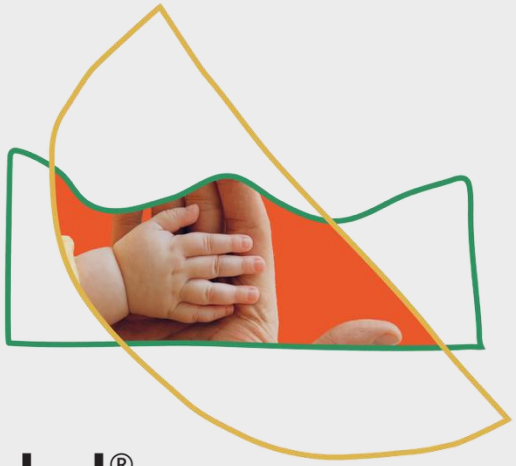
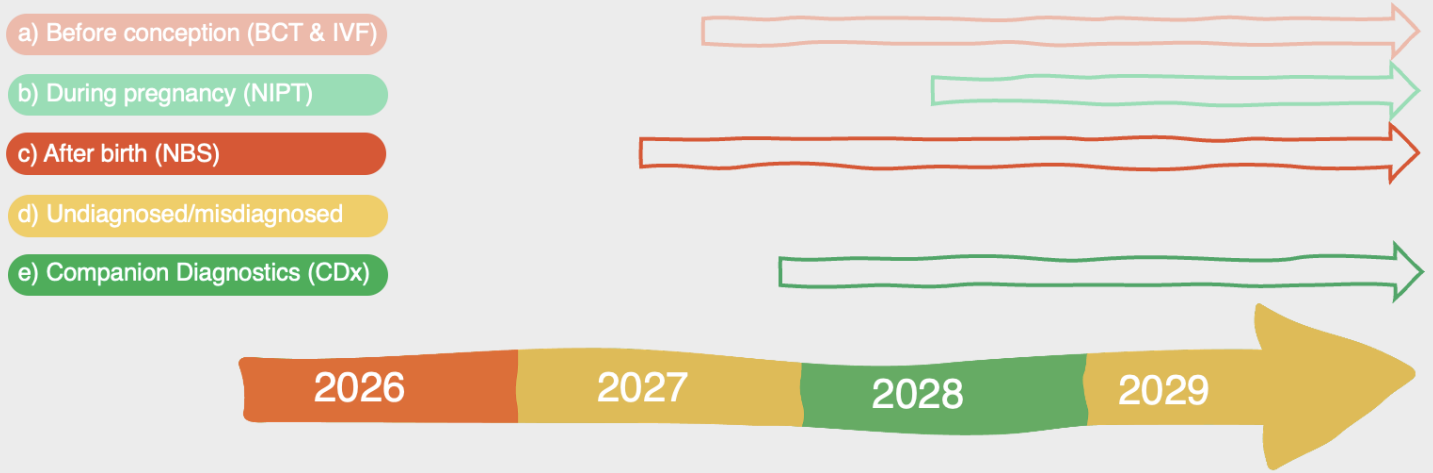
Projections in one of the Tier 1 countries: Saudi Arabia Joint Venture

5-years forecast(1)	2027	2028	2029	2030	2031
Price per test (€)	110	120	135	145	150
Number of tests (‘000 units)	27	133	270	351	405
Revenues (‘000 €)	2,970	16,005	36,450	50,895	60,750
Cost of Goods Sold(‘000 €)	2,673	12,804	23,692	27,992	30,375
Gross Profit (‘000 €)	297	3,201	12,757	22,903	30,375
Operating Expenses (‘000 €)	279	557	557	557	557
Net Income (‘000 €)	18	2,644	12,200	22,346	29,818

(1) Only for NBS (based on 500K investment from Al Dawaa); With additional investment of €600K we could have revenues from BCT/ICF and Companion Diagnostics (clinical trials)



Commercialisation per Market Category



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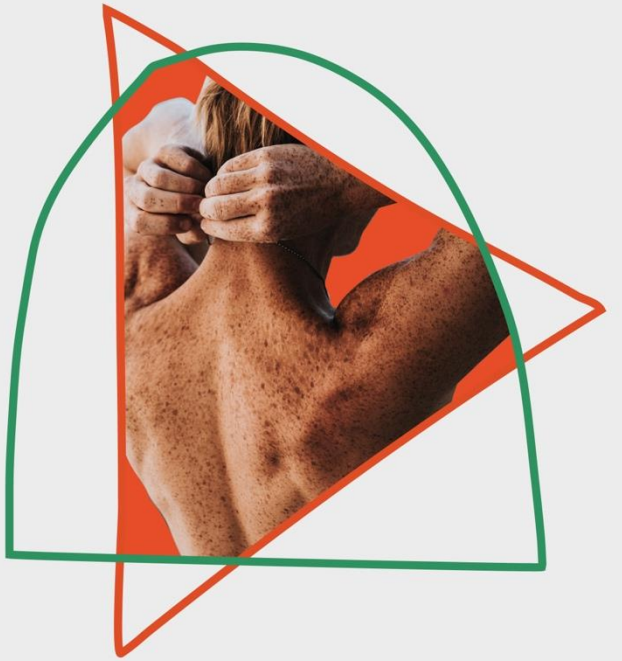
Why now, and why in Saudi, Paraguay & Rwanda?

- Lead globally in the ethical, responsible adoption of genomic medicine
- Set a benchmark in privacy, data sovereignty, and citizen trust
- Drive innovation while safeguarding the public interest
- Enable substantial cost savings: With ~1 million births annually (in Saudi, Paraguay & Rwanda), a national rollout reaches breakeven by Year 2, six years ahead of any whole genome sequencing (WGS) alternative
- Cut storage costs: 50× smaller data footprint saves €2.3M over five years
- Slash energy use: 0.4 kWh per test—98% lower than WGS—advancing ESG and sustainability commitments



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Highly Skilled, Diverse Team & Strong Ecosystem

CEO: Dr. Chris Kyriakidis, PhD Chemistry, MSc Physics, MBA. Ran a €130M business & founded 2 start-ups; Lived in 9 countries & done business in 70 countries for 25 years (Novo Nordisk, GN)

CTO: Zoran Velkoski, MSc Embedded Sys., MBA. 30 years as an entrepreneur; 2 successful exits; developed & launched 150 products in Deep Tech.

CSO: Dr. Carmen Garrido Navas, PhD Genetics. Extensive research experience; supervising PhDs & teaching at the University of Jaen

CAIO: Prof. Gjorgji Madjarov, PhD. Expertise in advanced AI/ML & state-of-the-art algorithms. Professor at Ss. Cyril & Methodius University

CCO: Dimitrios Kyriakidis, MSc Sales & Marketing. 15 years experience in sales of medical devices (Stryker, Johnson & Johnson)

TEAM: 10+ professionals

Agilent

University of Copenhagen

Region H Rigshospitalet

Oxford Nanopore Technologies

Aarhus University Hospital

Universidad de Jaén

Netcetera

GENXONE SEQUENCING

Demokritos

Coriell Institute for Medical Research

University of Rwanda

al-dawaa

Πανεπιστήμιο Κρήτης University of Crete

Niños de Acosta Ñu Hospital General Pediátrico

Universiti Kebangsaan Malaysia National University of Malaysia

Star

Laboratorio Curie

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Thank you!

We invite you to join us to build something massive together, because every life deserves a better start.

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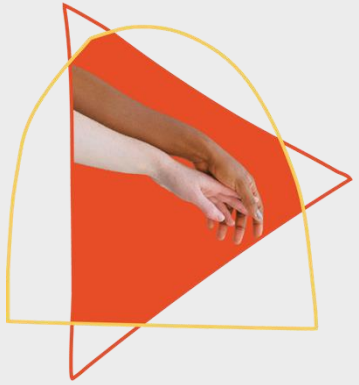
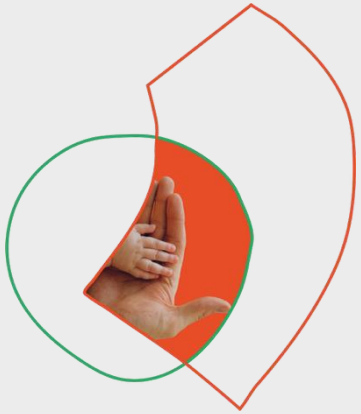
Appendix





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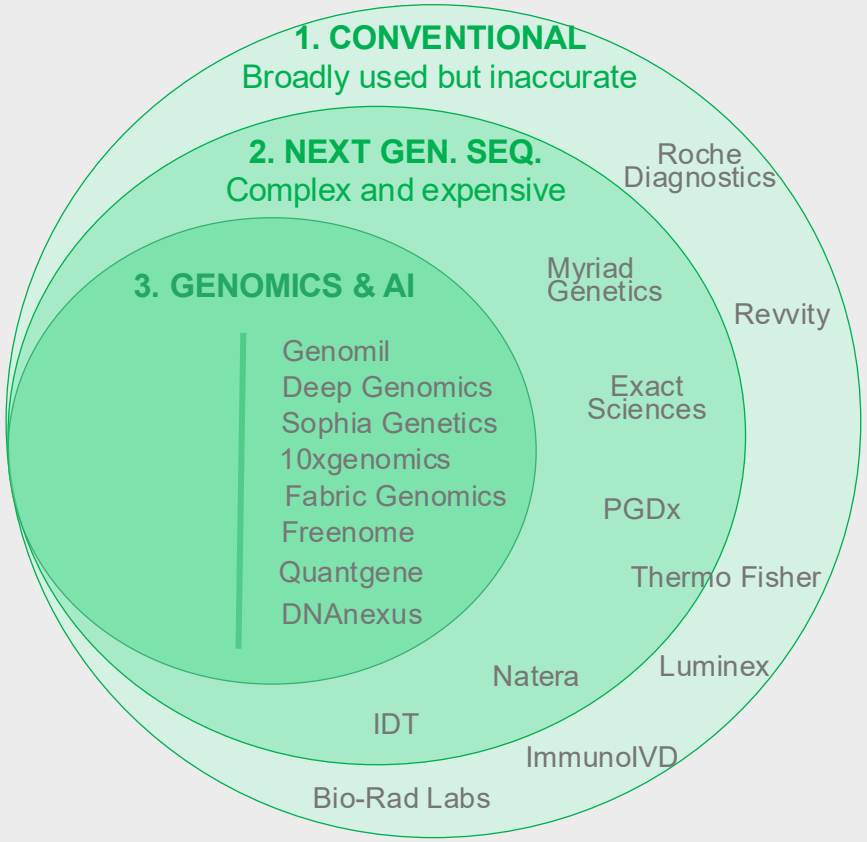
Genetic Disorders Diagnostics Market



- Conventional techniques[(1)] (inaccurate)
- Sequencing technologies (complex & expensive[(2)])
- Combination of genomics & AI[(3)]

Market size[(4)]: €30B in 2024, expected to reach €60B in 2030, made up by five categories:

a) Carrier Test for future parents & donors (before conception)

b) Non-Invasive Prenatal Test (during pregnancy)

c) Newborn Screening Test (NBS; after birth)

d) Diagnosis of previously undiagnosed/misdiagnosed patients

e) Companion Diagnostics (CDx)

- While our technology can detect a wide range of diseases across all five categories, our primary focus is on mass screening rather than individual diagnostics
- Currently, the only mass screening category is NBS, working with NHS to detect 64 genetic disorders—comprising all conditions screened across global NBS programs

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(1) Mass spectrometry, Karyotyping/FISH, chromosomal microarrays, Sanger seq., CGH arrays, MLPA- & PCR-based techniques
(2) Schwarze, K. et al. The complete costs of genome sequencing: a microcosting Genet Med 22, 85–94 (2020)
(3) Schack, A. et al, SCAN: a nanopore-based, cost effective decision-supporting tool for mass screening of aneuploidies, Nature Group, (accepted, 2024)
(4) https://www.statista.com/statistics/1295812/rare-disease-diagnostics-market-size-worldwide/ and various other reports

Our contribution to Sustainable Development Goals

WE CARE

- Enable early diagnosis for **7 M** newborns annually who are born with genetic disorders
- Eliminate access gaps for **95 M babies in the Global South** who receive no genetic screening
- Reduce the **400,000 false positives in the Global North**
- Support equitable access to life-saving interventions across underserved regions.
- Achieve lifetime healthcare savings of up to **€500,000 per patient**

WE INNOVATE

- Launch a reliable, safe, rapid & scalable technology for screening genetic conditions
- Outstand conventional sequencing tech at multiple levels, such as detection & sensitivity, complexity, cost & support environment
- Reduce healthcare costs for patients & national health systems
- Reduce energy consumption by **40,000 KWh/year** per lab
- Reduce plastic consumption by **1,050 kg/year** per lab

WE COLLABORATE

- Establish & **scale up effective partnerships** with stakeholders at all levels in the health community to maximise impact
- Maintain **open innovation** mindset, exchange knowledge & build on the experience, capacity & resourcing strategies of partnerships for progress in the field
- Support industry, states & societies to design & implement health strategies for **equal access to screening**, diagnosis, treatment & management of genetic conditions

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