

Investment Memo: RetinaLogik

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Subject: Investment Recommendation for RetinaLogik

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1. Executive Summary

RetinaLogik is a Calgary-based healthtech startup developing and commercializing a portable, VR/AI-powered visual field testing device [2, 3, 6]. The company aims to improve accessibility and efficiency in eye care by offering a more comfortable and streamlined testing experience compared to traditional methods [1]. Recent funding rounds totaling over \$2 million CAD, coupled with Health Canada Class II medical device license approval [4, 6], suggest promising early traction. However, the competitive landscape in medical diagnostics and the inherent challenges of scaling a hardware-based medical device company warrant careful consideration.

SWOT Analysis:

Strengths	Weaknesses
Innovative VR/AI-powered technology [2, 3]	Relatively new company (founded 2019) [16]
Improved patient comfort and clinic efficiency [1, 14]	Unproven long-term reliability and durability of hardware
Health Canada Class II approval [4, 6]	Limited market data and user adoption metrics beyond surveys
Strong early funding from reputable investors [2, 3, 4]	Dependence on third-party VR hardware
Opportunities	Threats
Growing vision care market and VR headset adoption [21]	Competition from established players (e.g., Humphrey) [12, 13]
Expansion into new applications (e.g., remote monitoring) [18]	Regulatory hurdles and potential changes in medical device regulations
Partnerships with ophthalmology and optometry clinics	Reimbursement challenges from insurance providers
International market expansion	Technological obsolescence

Key Verdict:

While RetinaLogik presents an intriguing investment opportunity due to its innovative technology and potential to disrupt the traditional visual field testing market, significant risks remain. The company's success hinges on demonstrating sustained clinical credibility, securing favorable reimbursement policies, and effectively scaling its manufacturing and distribution capabilities.

Recommendation: Wait. Further due diligence is required to assess the long-term viability and market penetration of RetinaLogik. Monitor key performance indicators (KPIs) such as sales growth, customer acquisition cost, and clinical trial results. Re-evaluate the investment decision in 12-18 months, contingent on demonstrable progress in these areas.

2. Product Deep Dive

RetinaLogik's core product is the RVF200, a portable visual field testing headset that leverages VR and AI technologies [1]. It aims to provide a patient-friendly and efficient alternative to traditional perimetry devices like the Humphrey Field Analyzer [12, 13].

Features:

- VR-Based Testing:** Utilizes a VR headset to present visual stimuli and track patient responses, creating an immersive and engaging testing experience [1, 2].
- AI-Powered Analysis:** Employs AI algorithms to analyze visual field data, identify potential abnormalities, and track changes over time [2, 6].
- Portability:** Compact and lightweight design allows for easy transportation and use in various clinical settings [1].
- Patient Comfort:** Designed for improved patient comfort compared to traditional methods, potentially reducing anxiety and improving test compliance [1, 14].
- Streamlined Workflow:** Self-led testing and automated data capture aim to improve clinic efficiency and reduce technician time [1, 15].
- Multiple Language Support:** Offers guidance in over 35 languages [15, 19], improving accessibility for diverse patient populations.
- EMR Integration:** Seamless integration with existing Electronic Medical Records (EMR) systems [19].
- Reliability Indices:** Tracks key reliability metrics including fixation loss, false positive, and false negative rates [14].
- Embedded Eye Tracking:** Live eye tracking detects loss of focus and provides on-screen reminders [14].
- Color Vision Exams:** Includes colour vision exams such as Farnsworth D-15 [14].

Tech Stack:

Information about the specific tech stack is not provided in the sources. However, based on the product description, we can infer the following:

- VR Hardware:** Likely utilizes a commercially available VR headset (e.g., Oculus, HTC Vive) due to cost effectiveness. [21] indicates a rise in adoption of VR headsets making the platform accessible. This is a potential dependency risk if RetinaLogik

has no control over the development of this component.

- **AI/ML Software:** Custom-developed AI algorithms for visual field analysis and data processing. This is potentially the main IP of the company.
- **Software Platform:** A software platform to manage tests, analyze data, and generate reports.
- **Cloud Infrastructure:** Likely utilizes cloud services (e.g., AWS, Azure) for data storage, processing, and remote access.

UX (User Experience):

RetinaLogik emphasizes a user-friendly experience for both patients and clinicians [1]. Patient testimonials suggest improved comfort and ease of use compared to traditional methods [14, 15]. For clinicians, the platform aims to streamline workflow and improve efficiency [1].

- **Patient Experience:** Immersive VR environment, reduced anxiety, self-led testing [1, 15].
- **Clinician Experience:** Automated data capture, simplified test administration, integrated reporting [1, 19].

Critical Analysis:

The RVF200 presents a compelling alternative to traditional visual field testing methods. The use of VR technology has the potential to improve patient comfort and engagement, while AI-powered analysis can enhance diagnostic accuracy and efficiency. However, several factors need to be considered:

- **Hardware Dependency:** Reliance on third-party VR hardware introduces potential supply chain risks and technological obsolescence.
- **Clinical Validation:** While initial studies show promising results [12, 13], further research is needed to validate the long-term clinical efficacy and reliability of the RVF200 across diverse patient populations.
- **Reimbursement:** Securing favorable reimbursement policies from insurance providers is crucial for widespread adoption.
- **Data Privacy and Security:** Compliance with HIPAA and other data privacy regulations is essential.

3. Market Landscape

The vision care market is a large and growing industry, driven by an aging population, increasing prevalence of eye diseases, and growing awareness of eye health [21]. The North American vision care market is projected to reach \$33.5 billion by 2028 [21].

RetinaLogik competes in the visual field testing segment, which is dominated by established players like Carl Zeiss Meditec (Humphrey Field Analyzer) [12, 13]. However, the company differentiates itself through its innovative VR/AI-powered technology, portability, and patient-friendly design [1].

Competitor Table:

Feature	RetinaLogik (RVF200)	Carl Zeiss Meditec (Humphrey Field Analyzer)	Other VR/AI Competitors (Hypothetical)
Technology	VR/AI-powered perimetry	Traditional automated perimetry	VR/AI-powered perimetry
Portability	Portable	Stationary	Portable/Potentially
Patient Comfort	Improved comfort, immersive experience [1, 14, 15]	Standard comfort	Variable
Workflow	Streamlined, self-led testing [1, 15]	Traditional workflow	Potentially streamlined
AI Integration	AI-powered analysis and tracking [2, 6]	Limited AI integration	Potentially strong AI integration
Pricing	Not publicly available	High capital expenditure	Variable
Regulatory	Health Canada Class II [4, 6]	FDA approved	Variable
Market Share	Early stage, limited market share	Dominant market share	Limited

Critical Analysis:

RetinaLogik's competitive advantage lies in its innovative technology and patient-centric design. The VR/AI-powered approach has the potential to disrupt the traditional visual field testing market by offering a more efficient, comfortable, and accessible solution. However, the company faces significant challenges in competing with established players like Carl Zeiss Meditec, which have strong brand recognition, extensive distribution networks, and established relationships with healthcare providers. The emergence of other VR/AI competitors could also intensify competition.

4. Business Model

RetinaLogik's business model is based on selling or leasing the RVF200 hardware and associated software platform to ophthalmology and optometry clinics [1].

Revenue Streams:

- **Hardware Sales/Leases:** Revenue from the sale or lease of RVF200 headsets.
- **Software Subscriptions:** Recurring revenue from software subscriptions for data analysis, reporting, and AI-powered features.
- **Service and Maintenance:** Revenue from service contracts, maintenance agreements, and technical support.
- **Consumables:** Revenue from consumables, such as disposable VR headset covers. (Hypothetical)

- **Data Licensing:** Potential future revenue from licensing anonymized patient data for research purposes (subject to ethical and regulatory considerations). (Hypothetical)

Pricing Strategy:

Pricing information is not publicly available. However, RetinaLogik's pricing strategy will need to balance affordability, value proposition, and competitive pressures. Possible pricing models include:

- **Premium Pricing:** Position the RVF200 as a premium product with a higher price point to reflect its innovative technology and superior patient experience.
- **Value-Based Pricing:** Price the RVF200 based on the value it provides to clinics in terms of improved efficiency, patient satisfaction, and diagnostic accuracy.
- **Competitive Pricing:** Price the RVF200 competitively with traditional perimetry devices to gain market share.
- **Subscription-Based Pricing:** Offer a lower upfront cost for the hardware with a recurring subscription fee for software and services.

Critical Analysis:

The success of RetinaLogik's business model depends on several factors:

- **Sales and Marketing Effectiveness:** The company needs to effectively market and sell the RVF200 to ophthalmology and optometry clinics.
- **Customer Acquisition Cost:** Minimizing customer acquisition cost is crucial for profitability.
- **Customer Retention:** Retaining customers through high-quality service and ongoing product innovation is essential for long-term growth.
- **Scalability:** The business model needs to be scalable to accommodate increasing demand and geographic expansion.

5. Traction & Risks

RetinaLogik has achieved several milestones since its founding in 2019 [16]:

- **Funding:** Raised over \$2 million CAD in dilutive financing and nearly \$1.6 million in non-dilutive capital [4, 6]. This includes pre-seed funding led by HaloHealth and participation from Spring Impact Capital, UCeed, York Angels, and other investors [3, 4].
- **Regulatory Approval:** Secured a Class II medical device license from Health Canada [4, 6].
- **Partnerships:** Established partnerships with ophthalmology and optometry clinics (unconfirmed).
- **Early Adoption:** 97% of eye care technicians say RetinaLogik improves clinic space usage, enhances patient comfort, and reduces time-to-test [1, 14]. 95% of patients prefer being tested with RetinaLogik over traditional methods [1, 14]. 30%+ Faster clinic workflow using RetinaLogik when properly integrated [1, 14].

Traffic:

Website traffic data is not available in the provided sources. However, website traffic is a critical indicator of brand awareness and customer engagement.

Risks:

- **Competition:** Intense competition from established players and emerging VR/AI competitors.
- **Regulatory:** Changes in medical device regulations could impact product development and commercialization.
- **Reimbursement:** Failure to secure favorable reimbursement policies from insurance providers could hinder adoption.
- **Technological Obsolescence:** Rapid advancements in VR and AI technologies could render the RVF200 obsolete.
- **Data Privacy and Security:** Data breaches or privacy violations could damage the company's reputation and result in legal liabilities.
- **Manufacturing and Supply Chain:** Disruptions in manufacturing or supply chain could impact product availability and increase costs.
- **Hardware Dependency:** Reliant on third party VR equipment, with no apparent control of the evolution of this equipment.

Legal/Regulatory Risks:

- **Medical Device Regulations:** Compliance with Health Canada regulations for Class II medical devices.
- **HIPAA Compliance:** Compliance with HIPAA regulations for protecting patient data privacy and security.
- **Product Liability:** Potential liability for product defects or malfunctions.
- **Intellectual Property:** Protecting proprietary technology and trade secrets.

Critical Analysis:

RetinaLogik has demonstrated promising early traction in terms of funding, regulatory approval, and customer feedback. However, the company faces significant risks related to competition, regulatory compliance, reimbursement, and technological obsolescence. The long-term success of RetinaLogik depends on its ability to effectively manage these risks and execute its business plan.

6. Founding Team

RetinaLogik was founded in 2021 by Abdullah Sarhan (CEO) and Julia St.Amand (COO) [6].

- **Abdullah Sarhan (CEO):** Specific background information is not available in the provided sources. [4] alludes to an exclusive interview with BetaKit with Sarhan, but the details are not available.
- **Julia St.Amand (COO):** Specific background information is not available in the provided sources.

Track Record:

The founding team's track record in the medical device industry is unclear based on the available information. However, their ability to secure funding, obtain regulatory approval, and develop a commercially viable product suggests strong entrepreneurial and technical skills.

Critical Analysis:

The strength and experience of the founding team are critical factors in the success of any startup. Further due diligence is needed to assess the team's expertise in medical device development, commercialization, and regulatory compliance. It is also important to evaluate the team's ability to attract and retain top talent.

7. Strategic Conclusion

RetinaLogik presents an intriguing investment opportunity due to its innovative VR/AI-powered visual field testing technology and potential to disrupt the traditional market. The company has achieved several milestones, including securing funding, obtaining regulatory approval, and demonstrating early customer traction.

However, significant risks remain, including competition from established players, regulatory hurdles, reimbursement challenges, and technological obsolescence. The company's success hinges on demonstrating sustained clinical credibility, securing favorable reimbursement policies, and effectively scaling its manufacturing and distribution capabilities.

Recommendation: Wait.

Further due diligence is required to assess the long-term viability and market penetration of RetinaLogik. Monitor key performance indicators (KPIs) such as sales growth, customer acquisition cost, clinical trial results, and website traffic. Re-evaluate the investment decision in 12-18 months, contingent on demonstrable progress in these areas.

Specifically, the following areas require further investigation:

- **Detailed Financial Projections:** A comprehensive financial model outlining revenue forecasts, cost of goods sold, operating expenses, and profitability projections.
- **Customer Acquisition Strategy:** A detailed plan for acquiring new customers, including target market segmentation, sales and marketing tactics, and customer acquisition cost analysis.
- **Clinical Validation Plan:** A roadmap for conducting further clinical trials to validate the long-term efficacy and reliability of the RVF200 across diverse patient populations.
- **Reimbursement Strategy:** A plan for securing favorable reimbursement policies from insurance providers, including engaging with payers and conducting cost-effectiveness analyses.
- **Manufacturing and Supply Chain Management:** An assessment of the company's manufacturing capabilities and supply chain management processes to ensure product availability and cost efficiency.
- **VR Hardware Dependency Risk:** A full evaluation of the dependency on third party VR equipment, and a plan to mitigate any potential impact on the business.

Only after addressing these key areas can a fully informed investment decision be made.

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