AI IN HEALTHCARE AND SOCIAL SERVICES

Combining Finnish AI expertise and services

24.4.2026

Ministry of Social Affairs and Health
FINLAND

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AI in Finnish social and healthcare

Finland: trusted health and social care, powered by ethical AI and exceptional collaboration.

National context and vision

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Finland's social and healthcare system is facing several major challenges simultaneously: an aging population, workforce shortages, increasing service demand, and pressure on public finances. Addressing these issues requires a significant renewal of both operational models and technologies.

AI plays a key role in this—not as a single solution, but as a broad enabler.

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National vision of Finland's social and health services AI ecosystem

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The shared vision of Finland's SOTE AI ecosystem is that *artificial intelligence is used* in social and healthcare services *ethically, safely, and impactfully*—in a way that supports clients, professionals, and the entire service system.

The goal is not to replace people, but to strengthen their work and decision-making. AI can free up time for human interaction, improve the quality and equity of care, and generate insights to support better leadership and planning.

The social and healthcare AI ecosystem brings together frontrunners who develop AI solutions ethically, responsibly, and in accordance with national regulation.

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AI in healthcare and social services
Finnish applications in practice

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Finland is building a nationally coordinated AI ecosystem in health and social care, moving beyond isolated pilots toward impactful, scalable use.
The Ministry of Social Affairs and Health positions AI as a key part of its digital roadmap, driving integrated, proactive, and citizen-focused services.

Finland's digitalisation strategy not only enables interoperable, citizen-centric systems, but is bolstered in strategic investment–strengthening AI readiness and delivering global health tech exports

- EU Recovery and Resilience Facility provided €100 M public investment dedicated to digital innovation in social and health care for period 2021 - 2026
- 2.57 B in health technology exports (2024)–evidence of proven scalability and international competitiveness

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Why Finland's AI flagship themes matter

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Exceptional collaboration – from vision to implementation. Each theme represents a domain where Finland already delivers measurable results not isolated pilots, but part of an integrated national ecosystem.

- **System-level coordination**: The spearheads align with Finland's national health data architecture (Kanta, Findata, EHDS readiness) and the Ministry's digital health strategy – ensuring solutions are interoperable and regulation-ready
- **Real-world impact**: Each theme is grounded in proven use cases across wellbeing service counties, demonstrating measurable benefits in prevention, professional efficiency, and patient safety
- **Export and cooperation potential**: The themes provide a structured entry point for international collaboration and market access, making it easy to connect foreign interest areas with Finnish expertise
- **Trust and ethics by design**: All spearheads operate within Finland's AI governance framework – combining transparent data use, safety evaluation and EU AI Act compliance
- **Continuum of innovation**: Together, the spearheads cover the entire care pathway – from prevention and diagnostics to daily professional tools and data infrastructure – illustrating how AI adds value at every level of the Finnish system

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Collaboration as the engine

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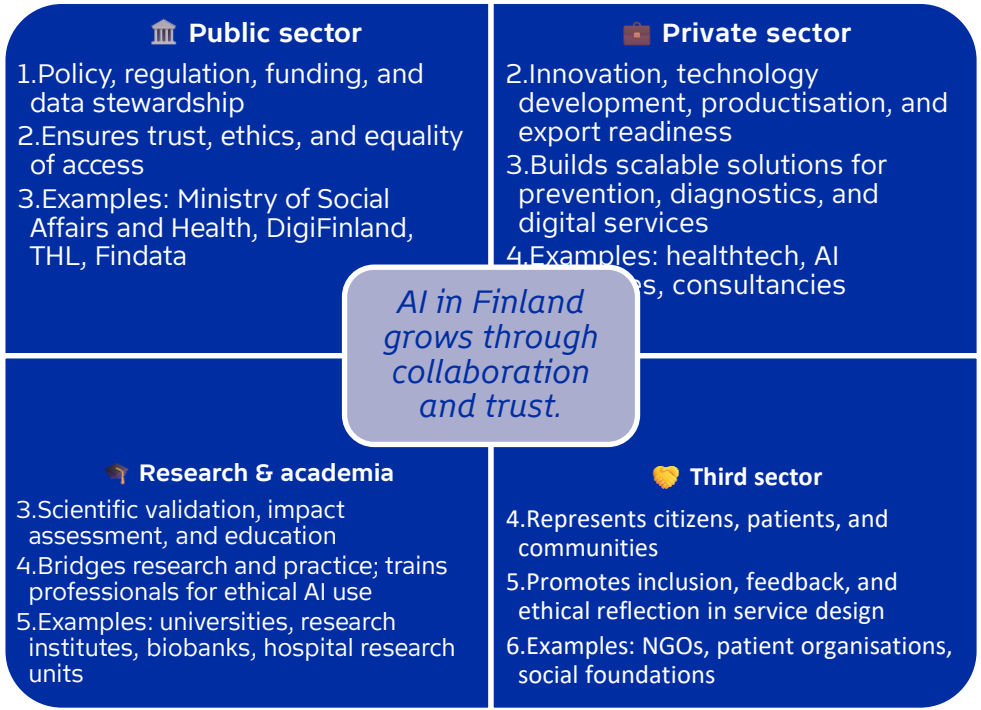

Finland's AI success in health and social care is driven by this four-sector collaboration model.

The public sector ensures ethical governance and funding; the private sector turns ideas into scalable innovations;
research and academia validate impact and build competence; and the third sector keeps people's voices and values at the center.

Together, these four actors make AI not just technologically advanced, but socially sustainable and internationally credible.

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1. Prevention and coaching

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In Finland, prevention begins with data. AI models built on national RAI and ICF datasets predict changes in citizens' functional ability long before service needs escalate. This proactive approach helps people live at home longer while guiding resources where they create the greatest impact.

Sub-category	Core idea / problem solved	Examples / pilots / organizations	Collaboration	Impact / outcome
1.1 Predictive analytics for functional ability changes	Fragmented data makes it hard to anticipate decline in functional capacity	AI models built on Finland's national health data infrastructure (RAI/ICF), developed by public health agencies and technology partners to predict service needs before crisis	🏛 💼 🎓	Enables earlier interventions and resource targeting; supports citizens living at home 3–4 years longer
1.2 AgeTech – independent living and elderly care	Growing elderly population and care-staff shortage	Scalable digital homecare tools such as automated medication dispensing, fall sensors and AI-supported remote visits – developed jointly by Nordic care providers and software companies	🏛 💼 🤝 🎓	30–50 % reduction in documentation time; improved safety and medication adherence
1.3 Wellbeing data & predictions	Lack of unified analytics for preventive work	Regional predictive analytics platforms combining healthcare, social and demographic data into shared dashboards for policymakers and providers	🏛 🎓 💼	Enables population-level forecasting of service demand; supports equal resource allocation

1.1 Predictive analytics for functional ability changes

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Predict risks of declining functional ability before crisis

AI models learn from Finland's RAI & ICF data, built by national organizations + partners under strict data ethics

Earlier support keeps people at home longer and helps professionals focus on care

AI turns national data into foresight for better care

1.2 AgeTech – Independent living and elderly care

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Enable seniors to live safely and independently at home

AI-driven AgeTech combines sensors, safety wearables, and medication devices with care data

Fewer emergency calls and institutional-care needs – greater wellbeing and autonomy

Smart technology supporting safe and independent living

1.3 Wellbeing data & predictions

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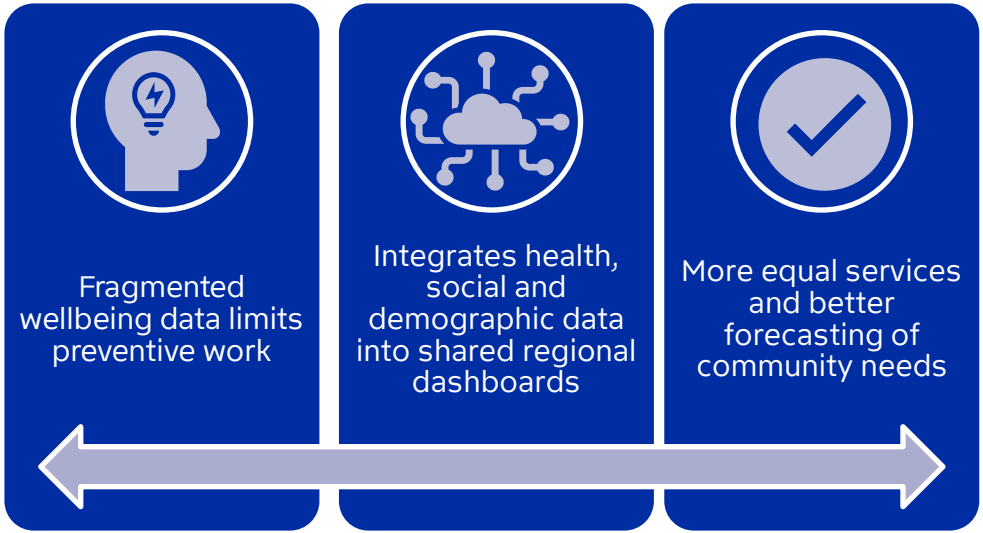

Data-driven insights for fair and proactive services

2. Interaction between professional and citizen

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Finnish AI is designed to make everyday care work smoother and more human. From automated documentation to real-time translation, these tools remove repetitive tasks and language barriers. They give professionals back time for what truly matters—care, empathy, and connection. For patients, these solutions simplify and streamline care processes.

Sub-category	Core idea / problem solved	Examples / pilots / organizations	Collaboration	Impact / outcome
2.1 AI-Assisted documentation & speech recognition	Excessive manual documentation workload for staff	AI documentation assistants co-created by Finnish healthcare organizations with Microsoft and Nordic software innovators – embedded in everyday clinical work		15–35 % faster documentation; improved data quality; reduced cognitive load
2.2 Real-time translation & language support	Language barriers reduce service equality and safety	Multilingual AI communication tools (70+ languages) enabling care professionals to interact with clients directly – tested in maternity, dental, and emergency services		Translation cost –80 %; improved patient safety and equality for 70 languages
2.3 Training and competence development	Professionals need scalable continuous training	MDR-certified AI training and simulation modules for continuing professional education, developed by Finnish health tech companies and universities		Strengthened professional skills; supports regulatory compliance (MDR/AI Act training)

2.1 AI-Assisted documentation & speech recognition

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Manual documentation overload reduces time for care

AI assistants transcribe, summarize and structure notes directly in the EHR

15–35% faster documentation, better data quality and less cognitive load

Give professionals time back for patients

2.2 Real-time translation & language support

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Communication barriers slow care and reduce equity

AI interpretation enables clear real-time interaction in 70+ languages

Encounters become faster, clearer and less costly

Give every citizen an equal voice in care

2.3 Training & competence development

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Professionals need scalable, continuous AI training

MDR-certified AI training & simulation modules by Finnish tech + universities

Stronger professional skills, safer AI use, supports MDR & AI Act compliance

Scalable AI competence for a safe and skilled workforce

3. Diagnostics and clinical decision support

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In hospitals across Finland, AI shortens the path from data to diagnosis. It detects disease patterns, analyses medical images, and flags medication risks with precision once possible only in research labs. By integrating these tools into clinical workflows, Finland turns innovation into safer and faster care.

Sub-Category	Core Idea / Problem Solved	Examples / Pilots / Organizations	Collaboration	Impact / Outcome
3.1 Imaging and diagnostic	Manual image analysis limits speed and consistency	AI-enabled medical imaging solutions co-developed by university hospitals and Nordic tech firms under European MDR standards, including cancer PET analysis automation		Reduces PET analysis time from 30–120 min → seconds; earlier detection of non-responders
3.2 Medication risk & treatment response prediction	Adverse drug events costly and dangerous	AI algorithms identifying medication risks and non-responders, integrated into clinical workflows and pharmacy reviews		Prevents serious medication errors; saves ≈ €15 M annually; enhances patient safety
3.3 Clinical decision and documentation support	Clinicians lack structured decision support	AI-based decision support tools embedded in patient portals and digital triage systems, guiding both citizens and clinicians		Faster triage; improved continuity of care; scalable to other regions

3.1 Imaging & diagnostics

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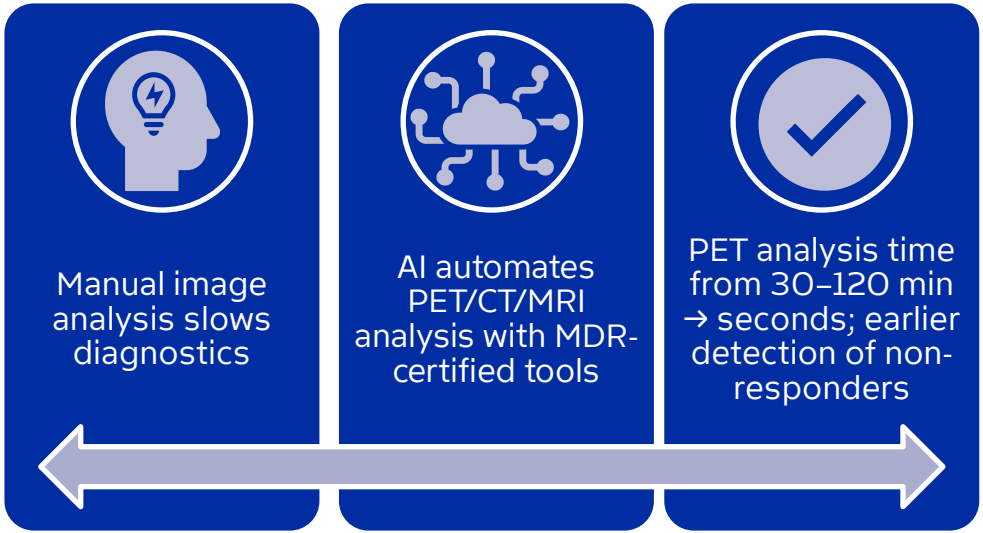

AI imaging accelerates diagnostics and supports earlier treatment decisions

3.2 Medication risk & treatment response prediction

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Adverse drug events are costly and dangerous

Algorithms identify medication risks & non-responders directly in workflows

Prevents serious errors; saves ≈ €15M annually; improves patient safety

Smarter medication decisions — safer care

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3.3 Clinical decision and documentation support

Clinicians need structured, consistent decision support

Tools embedded in triage systems and portals guide both citizens and clinicians

Faster triage, better continuity of care, scalable across regions

Structured digital guidance for safer and faster care

4. Care pathways

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AI in social care helps professionals see the full picture of each client's life. It summarizes complex case data and guides citizens to the right support without delay. The result is more equal, timely, and trusted welfare services across the country.

Sub-Category	Core Idea / Problem Solved	Examples / Pilots / Organizations	Collaboration	Impact / Outcome
4.1 Process automation & risk assessment	Heavy caseload and delayed child-welfare assessments	AI solutions that generate case summaries and risk insights, enabling social workers to meet legal processing times	🏛️ 💼 🎓	Up to 50 % less manual text work; better legal compliance; faster case handling
4.2 Client guidance and pathway recommendation	Difficult to match clients to right services	AI-driven service navigation tools connecting national e-health portals with local care options	🏛️ 💼 🤝	Improves access; citizens guided to right service at first contact
4.3 Ethical AI and trust frameworks	Need for transparent and explainable AI in welfare	Finland's national AI governance and registry tools ensuring algorithmic transparency and compliance with the EU AI Act	🏛️ 🎓 💼	Increases institutional trust; aligns with EU AI Act and public accountability

4.1 Process automation & risk assessment

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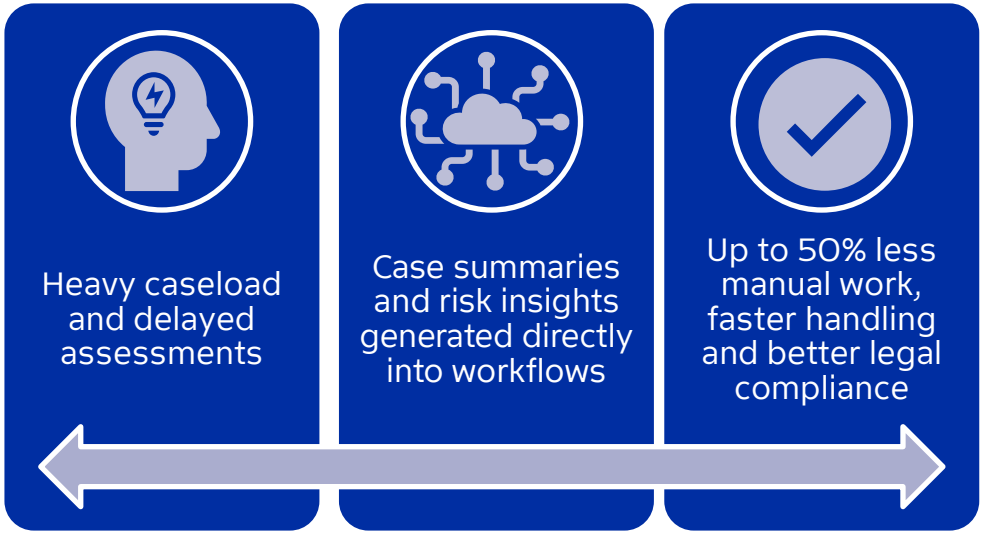

Automation that strengthens safety and supports child-welfare workers

4.2 Client guidance and pathway recommendation

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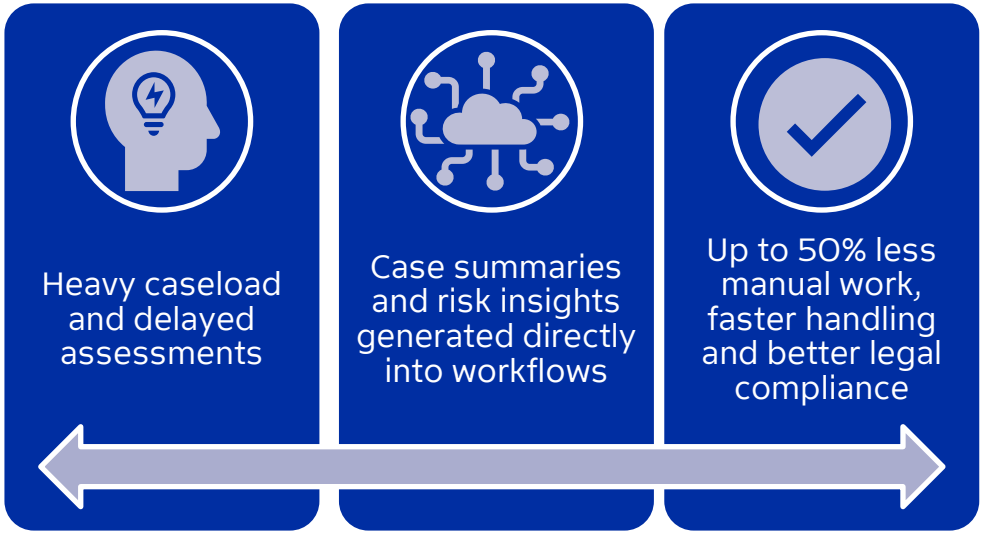

Automation that helps to match clients to right services

4.3 Ethical AI and trust frameworks

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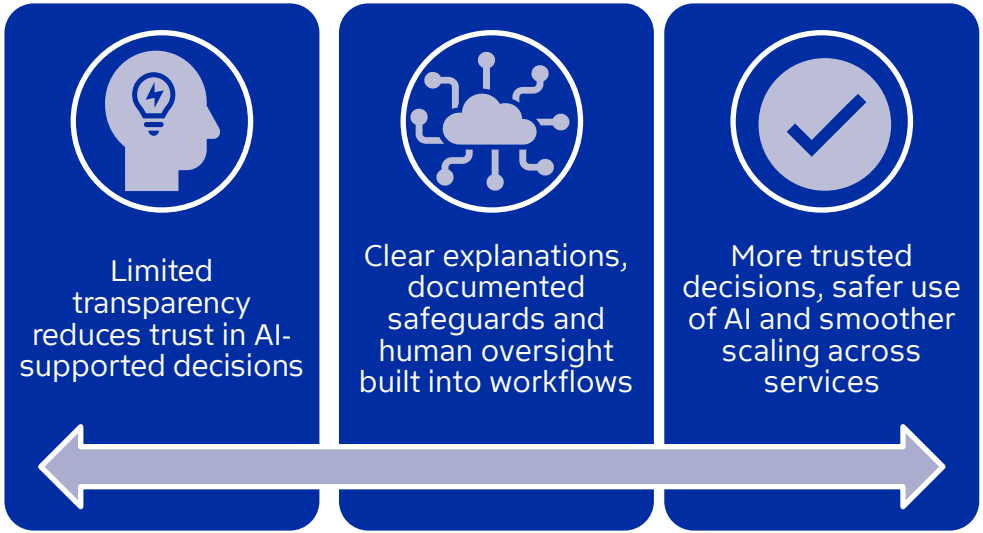

Trusted and transparent AI for welfare services

5. Data and regulatory infrastructure

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Behind every Finnish AI success lies a foundation of trust and secure data use. National infrastructures like Findata, CSC, and SPESiOR enable innovation within strict EU and national frameworks. This governance backbone makes Finland's digital health ecosystem both reliable at home and credible abroad.

Sub-Category	Core Idea / Problem Solved	Examples / Pilots / Organizations	Collaboration	Impact / Outcome
5.1 Secondary use of health & social data (EHDS)	Limited reuse of high-value national data	National secure data environments for research and innovation – operated under Findata and private SPEs such as SPESiOR®, aligned with European Health Data Space (EHDS) standards	🏛 🎓 💼	Provides secure R&D environment; accelerates evidence generation by > 60 %
5.2 AI Act and Data Act compliance (RegTech)	Complex regulation slows innovation	Regulatory technology platforms simplifying AI Act, GDPR, and MDR compliance for innovators and authorities	🏛 💼 🎓	Simplifies compliance; cuts validation effort by 30–40 %; ensures auditability
5.3 Cloud & platform infrastructure	Need for scalable, secure deployment environments	National cloud and platform foundations providing secure, interoperable environments for data and AI	🏛 💼 🎓	Reduces time-to-deployment; ensures data sovereignty within EU cloud regions
5.4 MDR readiness & compliance	MDR classification and CE-marking create uncertainty for AI solutions entering clinical use.	Imaging-analysis AI, medication-risk models and clinical summary generators increasingly require MDR validation.	🏛 💼 🎓 🤝	Enables safe deployment, reduces regulatory uncertainty, accelerates CE-marking and strengthens international market acceptance.

5.1 Secondary use of health & social data

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Limited reuse of high-value national data

Secure data environments for research and innovation, aligned with EHDS

Faster evidence generation and safer data access

Trusted access to data that accelerates innovation

5.2 AI Act and Data Act compliance

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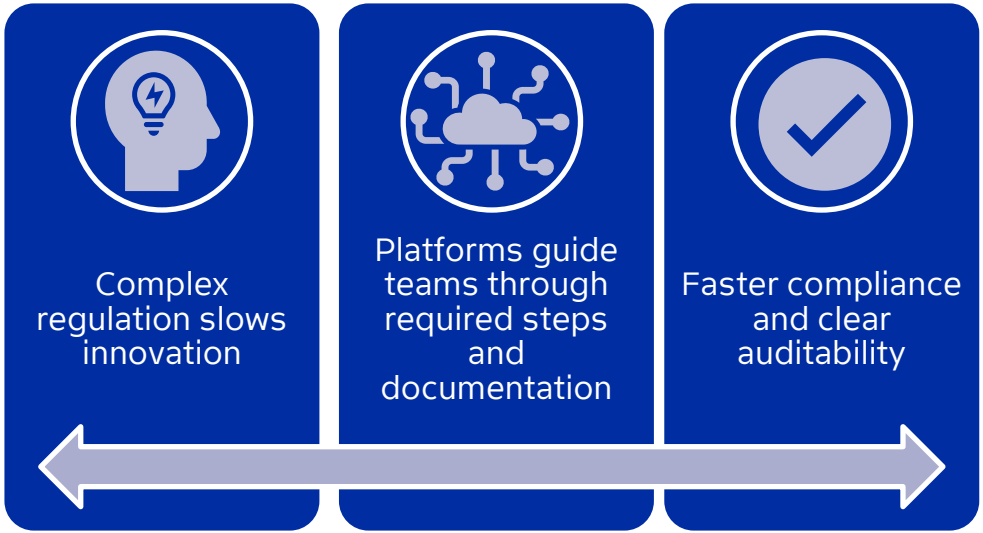

Smarter tools that make compliance easy

5.3 Cloud & platform Infrastructure

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Secure and scalable environments

Shared cloud platforms host health and social care data safely in EU regions

Faster deployment and consistent security across wellbeing areas

Reliable cloud foundations for scaling social and healthcare AI

5.4 MDR readiness & compliance

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Clinical AI must meet MDR safety and certification rules

MDR ensures validated, traceable and safe AI performance

Clear compliance speeds CE-marking and safe adoption

Trusted regulatory certified safety and performance for clinical AI

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AI solutions and solutions providers

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Efficient eye screenings anywhere – handheld fundus imaging powered by AI.

Our offering

Optomed provides handheld fundus cameras combined with AI-assisted image analysis, enabling efficient eye screenings in virtually any setting. The solution is particularly well suited for diabetic retinopathy screening and can be delivered as a complete service package, supported by screening workflow systems and ophthalmic IT solutions.

Benefits and references

The solution improves access to eye screenings by enabling flexible workflows, including screenings performed closer to the patient and in some cases at home, reducing the need for clinic visits.

Optomed's camera–AI combination is CE-, FDA- and Health Canada–approved and is in use both in Finland and internationally. More than 20,000 cameras have been sold globally, and Optomed's Aurora AEYE is the only handheld fundus camera with autonomous AI approved by the FDA for diabetic retinopathy screening.

Company

Optomed Plc is an international medical technology company with subsidiaries in the United States and China and a distributor network covering approximately 60 countries. Its solutions are available in multiple languages and are designed for global deployment, with a strong focus on integrating AI-enabled eye screening into primary healthcare systems.

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Transparent AI for trustworthy healthcare data.

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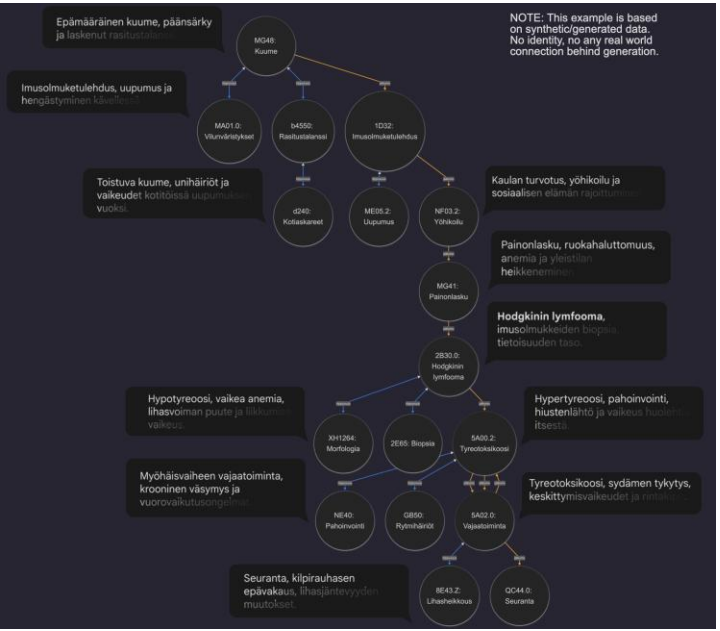

Our offering

Headai provides an AI-driven Decision Intelligence infrastructure that automatically transforms unstructured healthcare text into standard clinical code sets such as ICD, ICF, MeSH and medication codes. The technology is built on focused language models and self-supervised algorithms, offering a transparent, traceable and AI Act–compliant way to process text data securely.

Company

Headai is a deep-tech company developing secure and scalable AI solutions for demanding, highly regulated environments. The company operates internationally and focuses on enabling health data analytics, secondary use of data, and decision-making support through responsible AI.

Benefits and references

The solution improves the secondary use of data and delivers significant savings in expert working time, enabling more efficient research and analytics.

References include Pirha (ICF coding of patient data for research use) and McMaster University (Canada), and the methodology has been validated through peer-reviewed publications.

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AI solutions in Finnish wellbeing services counties

AI solutions are in use across Finland’s wellbeing service counties, improving diagnostics, decision-making, automation, and citizen services

AI development in finnish wellbeing services counties

Overview

A total of **208** AI initiatives identified across **22** wellbeing services counties, covering diagnostics, decision support, automation, and citizen-facing services.[1]

Key Trends

Since 2023, the adoption of generative AI has accelerated, transforming workflows in both healthcare and social services. AI is increasingly used to support professionals, optimize care pathways, and enhance preventive services. [1]

National Coordination

DigiFinland's national report highlights over 50 use cases, including:

- AI assistants for clinicians
- Automated triage and service guidance
- Predictive analytics for population health[2]

Vision 2035

Finland aims for AI-supported, equitable, and preventive health and social services, with AI acting as a virtual colleague and health coach[2]

[1] *UNA Oy, AI Development Snapshot in Wellbeing Services Counties, 2025:* Tekoälykehittämisen tilannekuva hyvinvointialueilla - UNA Oy
[2] *DigiFinland Oy, Final Report on AI in Health and Social Services, 2024:* DigiFinland_tekoaly_loppuraportti_210324.pdf

Focusing AI development on wellbeing services counties: use case categories

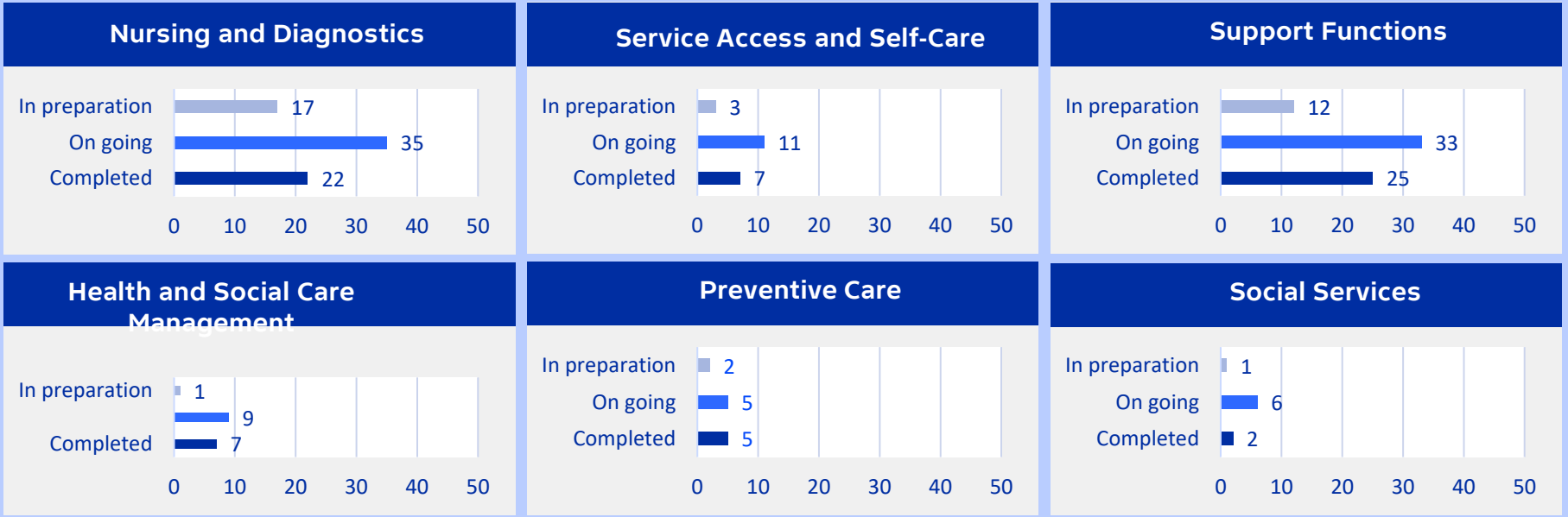

Figure 2.

[2] *DigiFinland Oy, Current status of artificial intelligence development in welfare areas*

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Research excellence in Finnish health AI

Scientific evidence, trusted validation and world-class research for safe clinical AI.

Finnish universities & research institutes in health and AI

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Scientific evidence, validation and research excellence

Finland’s universities and research institutes form the scientific backbone of the country’s health-AI ecosystem. They provide clinical validation environments, trusted research infrastructures, high-performance computing, and multidisciplinary expertise that ensure AI solutions meet the highest standards of safety, performance and ethical use. Together, they bridge fundamental research and real-world deployment by generating impact evidence, evaluating clinical workflows, and supporting safe scaling of AI across health and social care.

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Key roles in Finland's AI research landscape

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Clinical validation & impact evidence

Finnish university hospitals and medical faculties lead rigorous evaluation of diagnostic AI, decision-support models and predictive systems. They generate clinical performance data, safety evidence, workflow-impact studies and real-world validation needed for MDR and AI Act compliance

Methodological excellence in AI & data science

Universities provide cutting-edge expertise in machine learning, deep learning, multimodal AI, privacy-preserving data analysis, human-centric design and explainability—core requirements for trustworthy healthcare AI

Secure research environments

Research institutions operate high-security computing environments, trusted research platforms and EU-aligned infrastructures that allow safe analysis of sensitive medical data and support large-scale AI development

High-performance computing & simulation

Finland's academic HPC capabilities, including one of Europe's leading supercomputers, enable large AI models, genomics-driven analytics, imaging algorithms and simulation-based training

Ethics, governance & societal impact

Interdisciplinary research groups examine fairness, transparency, safety, and the societal impact of AI in welfare and healthcare systems, contributing to responsible adoption and public trust

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