Partenit: DeepContext – Ontological Memory for NeoIntelligent

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Problem

📌 Robots Can't Learn Continuously

AI retraining is expensive, slow, and inefficient.

📌 Heavy Cloud Dependency

Current robots rely on constant internet; lag and disconnects disrupt autonomy.

📌 Rigid, Non-Adaptive Behavior

Robots can’t adapt to new situations without manual intervention.

📌 Unreliable & Opaque Decisions

AI models are black-boxes prone to unpredictable errors.

Problems & Solutions

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Solution

✅ Real-Time Continuous Learning

Robots learn instantly—**no retraining** needed.

✅ Local Ontological Memory

Embedded **knowledge graphs** eliminate cloud dependency.

✅ Dynamic Adaptability

Robots adjust instantly to new scenarios—**no manual updates**.

✅ Transparent Decisions (Glass-box AI)

Every decision explained clearly, building **user trust**.

🚀 **Already Built and Tested at Architecture Level**
Ready for integration into real-world robotic systems.

Market Share Goals

$64.3B

TAM

Total addressable market for AI in robotics, including all sectors: industrial, logistics, service, healthcare, consumer, and humanoid robots.

(*Source: CAGR 23.3%, projected from $22.5B in 2023*)

$9.6B

SAM

Segment focused on **AI-powered cognition**:

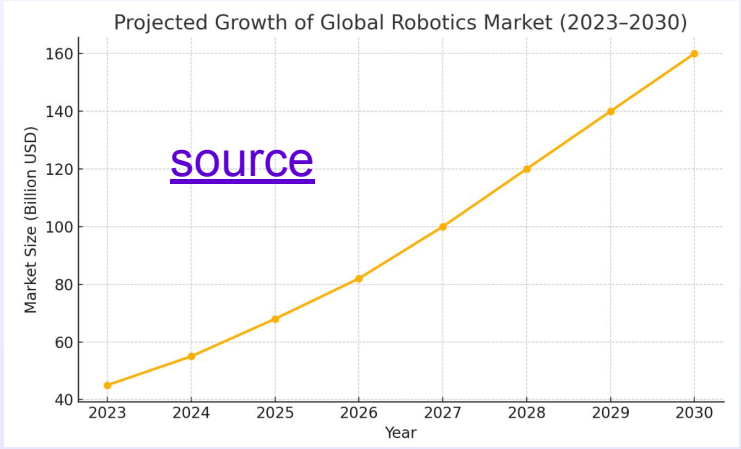
- Reasoning, learning, memory, and interaction software for robots
- Includes service, home assistant, healthcare, and industrial cobots
  (*15% of TAM*)

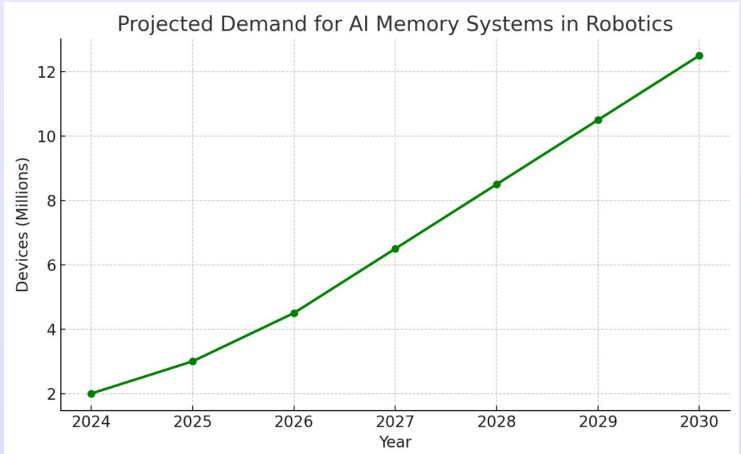
$482M

SOM

Target share we aim to capture:

- **~5% of SAM**, driven by deep-tech integrations
- Achievable through direct partnerships, SDK licensing, and on-premise deployments





Primary Target Market

Robotics Companies & Integrators
Focusing on manufacturers and integrators of autonomous robotic systems seeking greater adaptability, faster deployment, and improved reliability without constant internet dependence.

Key segments:

- **Industrial & Manufacturing Robotics**
  (Adaptive factory robots capable of real-time learning)
- **Service & Domestic Robotics**
  (Autonomous home or office assistants adapting to dynamic environments)
- **Robotics for Extreme Environments**
  (Operations where reliable cloud connectivity isn't guaranteed: rescue missions, mining, space exploration)
- **Healthcare & Assistive Robotics**
  (Intelligent companions requiring transparent, safe, and explainable decisions)

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Competitive Advantage

Competitive Landscape in Ontological Robotics: A Deep Dive

Cogitai (USA) – A startup (now part of Sony AI) focused on *continual learning* for robots. Its platform enables machines to learn *autonomously from real-world interactions*, so they become smarter and more knowledgeable with each experience sony.com. This cognitive approach serves as a long-term memory, allowing robots to adapt their behavior over time without explicit reprogramming.

Neurala (USA) – A Boston-based company behind the "Neurala Brain," an AI software that gives robots on-board *processing and memory*. Inspired by neuromorphic principles, it stores and uses past observations locally, enabling real-time learning and adaptation (even without cloud access) spinoff.nasa.gov. Neurala's edge-friendly design allows autonomous drones and robots to continuously **learn new objects and environments**, improving their navigation and task performance on the fly.

Rapyuta Robotics (Japan) – A global startup born from the RoboEarth project (the "Internet for Robots"). Rapyuta offers a cloud robotics platform that serves as a **collective memory** and knowledge base for robots rapyuta-robotics.com. Robots can offload computation and share information about objects, environments, and tasks in real time, via this platform. By leveraging a cloud knowledge graph of the world roboearth.ethz.ch, Rapyuta's system enables autonomous machines to rapidly access learned information and **adapt to dynamic scenarios** with up-to-date, shared intelligence.

Key Differentiators

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Dynamic Ontological Memory

- Real-time knowledge updates, **no retraining** needed.

Focused on Humanoid Autonomy

- Specifically optimized for humanoid robots, unlike general-purpose standards or industrial-only systems.

Fully Localized Intelligence

- Embedded graph-based knowledge eliminates cloud dependency, ensuring **autonomy anywhere**.

Explainable 'Glass-box' AI

- Transparent reasoning pathways that build user trust and ensure compliance.

Architecture-Level Implementation

- Proven, architecture-ready technology, already tested and operational—not just theoretical research.

Business Model

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📌 Subscription-Based Licensing (SaaS)

- **Monthly/annual licenses** for our ontological memory platform.
- Tiered plans based on usage volume, number of robots, and feature access.
- Ensures stable recurring revenue with high scalability.

📌 Enterprise Integration & Customization

- High-margin professional services:
  - Custom ontology design & implementation.
  - Integration into existing robotic systems.
  - Specialized support and training packages.

📌 On-Premise Deployment Option

- Premium pricing model for sensitive sectors (healthcare, defense, aerospace).
- Addresses data security and regulatory compliance needs.
- Generates additional high-value revenue streams.

📌 Strategic Partnerships

- Collaborations with major robotics manufacturers and integrators.
- Joint offerings to penetrate new markets rapidly.
- Access to broader client bases, amplifying growth and visibility.

Team

CEO,
CO-FOUNDER

Iuliia Gorshkova

LinkedIn

10+ years in IT, software developer and product builder.

Designs and develops **AI-powered applications** using ontological memory and knowledge graph architecture.

Leads product development, UI/UX, and systems integration across AI and robotics use cases.

Previously managed **QA automation teams**, improving delivery quality for high-load AI platforms.

Advocate for **Women in Tech**, promoting diversity in deep tech and AI sectors.

AI LEAD,
CO-FOUNDER

Pavel Salovskii

LinkedIn

17 years in software engineering and consulting, including **5+ years leading AI-first products**.

Expert in **AI architectures**, Machine Learning, and **graph-based knowledge systems**.

Leads a team building **ontological memory systems** and **self-learning agents** since 2020.

Deeply focused on **robot reasoning, semantic graphs**, and adaptive AI models for real-world environments.

Co-designed multiple **LLM-integrated knowledge systems** deployed in edge and embedded environments.

CIO,
CO-FOUNDER

Roman Uglov

LinkedIn

A tech visionary with 10+ years of experience in DevOps, scalable architecture, and infrastructure for autonomous AI. Expert in high-load, fault-tolerant systems and neuro-symbolic AI.

Key expertise:

- **Big Data:** Hadoop, Spark, Kafka
- **Languages:** Python, Java
- **Databases:** SQL, NoSQL
- **Clouds:** AWS, Azure
- **DevOps:** ELK Stack, Git

Plays a core role in developing the technological backbone of Partenit's ontological memory engine and AI-in-a-box systems.

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Financial

Our goal is to finalize and test our **ontological memory architecture** in real-world robotic systems. Over the next 6 months, we will focus on refining our AI memory engine, deploying pilot integrations with robotics partners, and preparing for scalable commercialization. Funds will support **deep tech development**, knowledge graph optimization, and expansion of our team to accelerate toward product-market fit.

- Development – €230,400
- Marketing – €40,000
- Infrastructure – €40,000
- Sales & Partnerships – €20,000
- Administrative Expenses – €30,000

We are looking for

For 6 months

Funding Request Document

Contacts

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Project data room

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