robust AI

[DRAFT] Proposal for Mercaso

Company Overview

Company Overview

- Founded in 2019 by an experienced leadership team, including Rodney Brooks (founder of iRobot)
- World class experts in robotics, AI and user centered design
- Hundreds of years of aggregate domain and industry experience
- Experience shipping dozens of products

Industry Experience

bossanova iRobot Willow Garage amazon

ROBO GLOBAL Sapient KNIGHTSCOPE Google

Our Investors

JAZZ VENTURE PARTNERS FONTINALIS PARTNERS

playground

Some things we've built

Team Highlights

Henrik Christensen
Co-Founder

Qualcomm Chancellor's Chair of Robot Systems and a Professor of Computer Science at UCSD. Director of Contextual Robotics Institute. Co-Founder of ROBO-Global ETF with $3.5B in investments in robotics

Anthony Jules
CEO

Veteran leader with deep expertise in business transformation, Software, Robotics and AI. Founding team of Sapient Corporation ($3.7B public market cap acquired by Publicis). Founding team of Redwood Robotics (acquired by Google)

Leila Takayama
VP, HRI & Design

Human-Computer Interaction (HCI) and Human-Robot Interaction (HRI) researcher with expertise in experimental social science approaches to studying how people interact through and with robots

Rodney Brooks
CTO

Co-invented the best selling robot of all time; Founder iRobot; $2.1B market cap; $1.3B Sales in 2019; Panasonic Professor of Robotics (emeritus), MIT

Kavitha Velusamy
SVP, Engineering

Shipped Amazon's Echo, Leia Inc.'s 3D Light Field Display products, Bossa Nova's Autonomous Robot, Cisco's (very first) Telepresence System, as well as some of NVIDIA's computer vision libraries.

"Favor robustness in complex environments over complexity of tasks!"
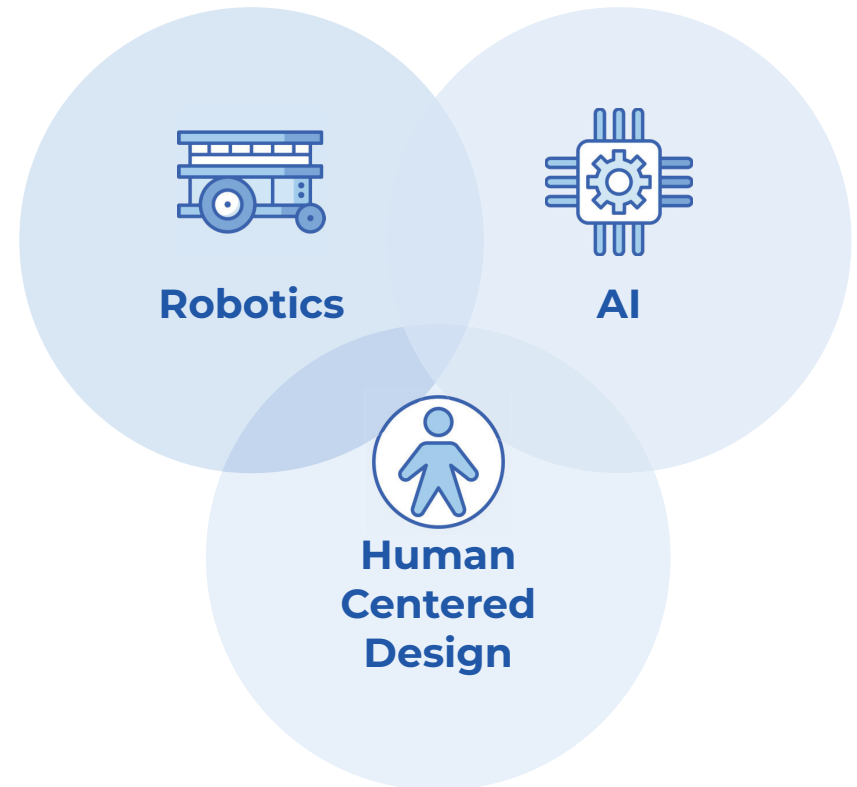
- Rodney Brooks

Our Mission:
Collaborative Mobility

Combining AI & robotics in human centered solutions

We see robots as tools that should empower hard working people. Our mission is to develop tools and products that enable people to work collaboratively and fluently with robots in places where people already move and work.

Robotics

AI

Human Centered Design

# Product Overview

Our approach: Consult & collaborate

Your success is our success

We work with you to figure out the right solution for your operations, your customers, and an even broader range of future customers.

Your pain points are our design challenges

We partner with you to work through your current pain points (e.g., warehouse congestion, workflow inefficiencies), engaging in a participatory design process.
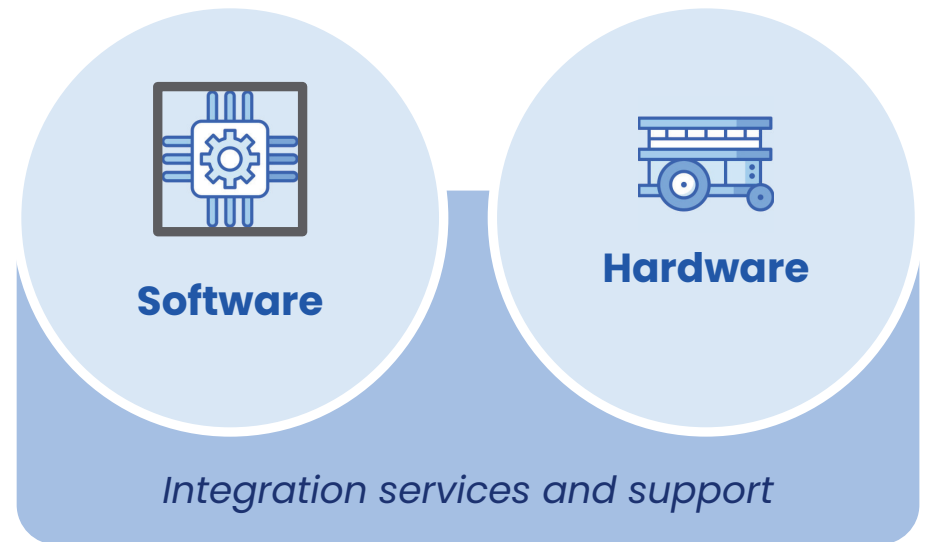
Software

Hardware

Integration services and support

Collaborative Automation Platform by robust^AI

Enable dynamic collaboration between people and robots in any warehouse with any workflow

Deep integration with best-in-class hardware

Situational awareness and behaviors for robots to make great AMRs even better

Fleet orchestration & continuous optimization

Automated batching, scheduling and route planning for material handling tasks based on real-time and historical data

Multi-modal UX

Real-time updates and connections bring transparency and control to everyone involved in the workflow
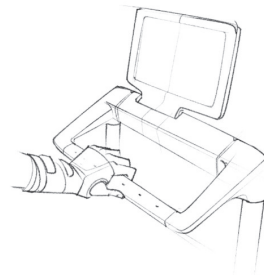
Flexible workflow tools

Handle a broad range of work processes and adapt to dynamic changes in the warehouse

Collaborative Automation Platform by robust^AI

Enable dynamic collaboration between people and robots in any warehouse with any workflow

A new category of industrial mobile robots that support these software features via **intuitive** and **interactive** hardware, giving users the ultimate control over their automation solution
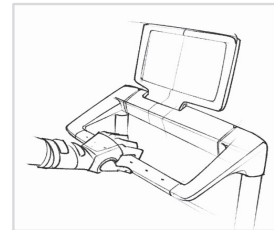
Introducing: **Carter**™

Reference prototype

Carter: Key benefits

Robust autonomy

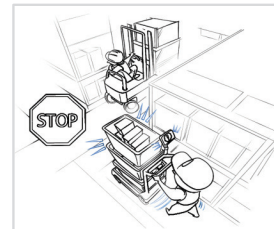Works in complex and crowded environments where people move and work

Self-charging

Physical control

Zero to minimal training required

Direct control when necessary
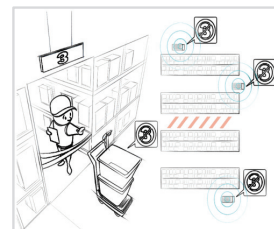
Easily address exceptions without disruption

Collaborative motion

Reduce chance of accidents

Improved workplace ergonomics

Staff multiplier

Fleet intelligence

Increased productivity

Scalable investment

Incremental adoption

Carter: Prototype specs

	V0 Prototype
Dimensions (WxLxH)	0.65m x 1.05m x 1.25m
Max Payload	100 kg (220 lbs)
Max speed	1.2 m/s
Modules	Bins, shelves, manipulators
Sensors	360 FOV around base 360 FOV on the mast Touch and force sensitive handles
Perception	vSLAM
Controls	Force sensors that allow you to push and move the robot in any direction
Interface	Touch screen

Proposal

Proposal for Mercaso-Robust partnership

A collaborative effort over 3 phases to create a dynamic and scalable automation solution for Mercaso's warehousing and distribution operations.

We will work together to adapt Robust.AI's Collaborative Automation Platform to work for fulfillment within Mercaso's facilities as you transition to operating your through distribution centers.

robust^AI

Phases in detail [DRAFT]

Phase 1: Collaborative design (March 2022 to ~Q3 2022)

- Mercaso collaborates with Robust.AI as fulfillment logistics subject matter experts and as design partners to identify and design key features in it's Collaborative Application Platform (CAP) applied to distribution centers
- We jointly identify an articulate the IT architecture required to support business operation (e.g., ERP, WMS, Broadband, etc.) within DCs
- Robust.AI iteratively adjusts its product roadmap to align with Mercaso's needs and timeline
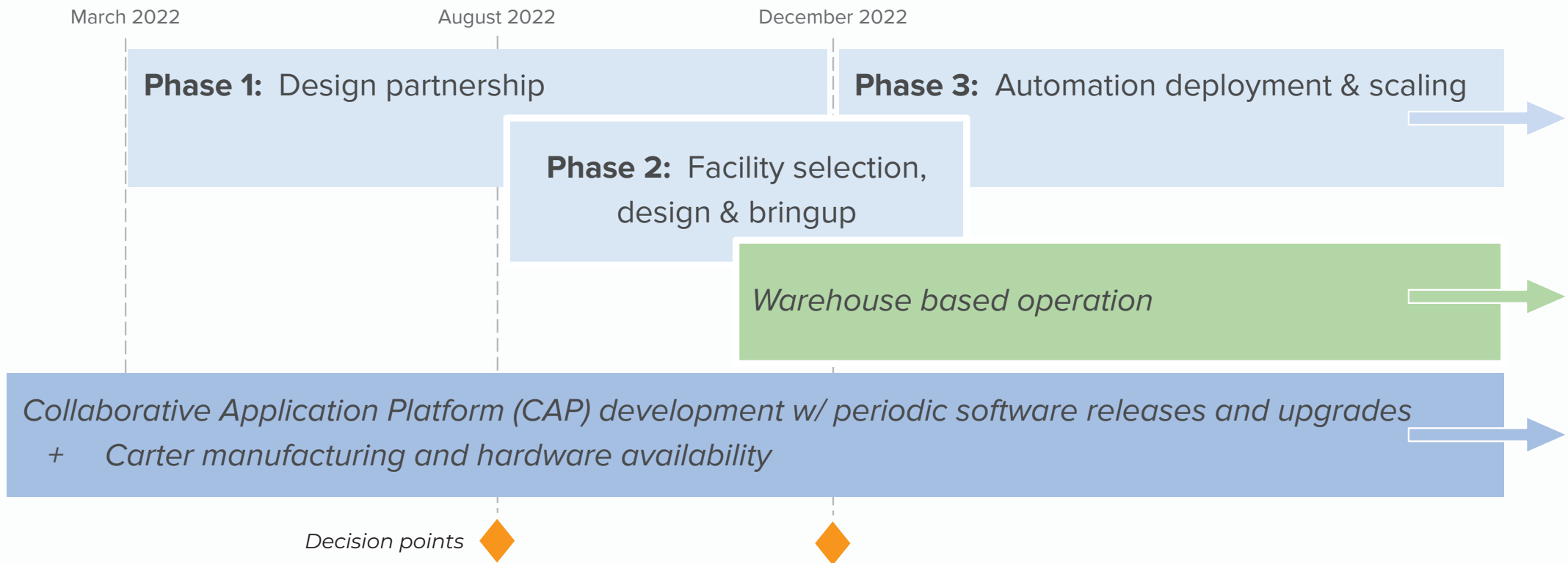
Phase 2: Facility selection, design and bring-up (August 2022 to ~Q4 2022)
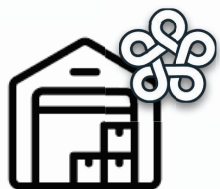
- Robust.AI provides consultation services during site selection and warehouse design to future-proof for intended automation. While the level of infrastructure change needed to support CAP and Carter should be minimal, we will work together to ensure there are no surprises.
- We co-develop our initial selection of performance metrics and design of business processes for warehouse operations

Phase 3: Automation deployment and scaling (December 2022 onward)

- We incrementally introduce human-friendly automation based on CAP and Carter to increase productivity and throughput without a commensurate increase in labor

robust^AI

Potential Timeline

March 2022   August 2022   December 2022

Phase 1: Design partnership

Phase 3: Automation deployment & scaling

Phase 2: Facility selection, design & bringup

Warehouse based operation

Collaborative Application Platform (CAP) development w/ periodic software releases and upgrades
+   Carter manufacturing and hardware availability

Decision points

Not to scale

robust

Collaborative Automation Platform

Software system to enable dynamic collaboration between people and robots in any warehouse with any workflow

Carter™

A _new category_ of mobile robot that truly collaborates with people. A novel go-to-market strategy that accelerates scale and adoption

END