Holonic Overview

Slide Deck

Thank you for downloading this Holonic Slide Deck. Carahsoft is the distributor for Holonic AI solutions available via ITES-SW2.

To learn how to take the next step toward acquiring Holonic's solutions, please check out the following resources and information:

For additional resources:
carah.io/holonicresources

For upcoming events:
carah.io/holonicevents

For additional Holonic solutions:
carah.io/holonic

For additional AI solutions:
carah.io/holonic

To set up a meeting:
holonic@carahsoft.com
888-6VMWARE

To purchase, check out the contract vehicles available for procurement:
carah.io/holoniccontracts

KNOW YOUR CODE. OWN YOUR CODE.

Modernizing software from a compounding liability to a secure, scalable & efficient asset.

Holonic Technologies, Inc.
Sanjiv S. Desai, CEO, sanjiv.desai@holonictechnologies.com
www.holonic.com
(305) 215-6928

Overview

Holonic's AI platform, CodeIntent®, was developed over more than two decades of R&D. The platform employs a proprietary algorithm which offers three core capabilities:

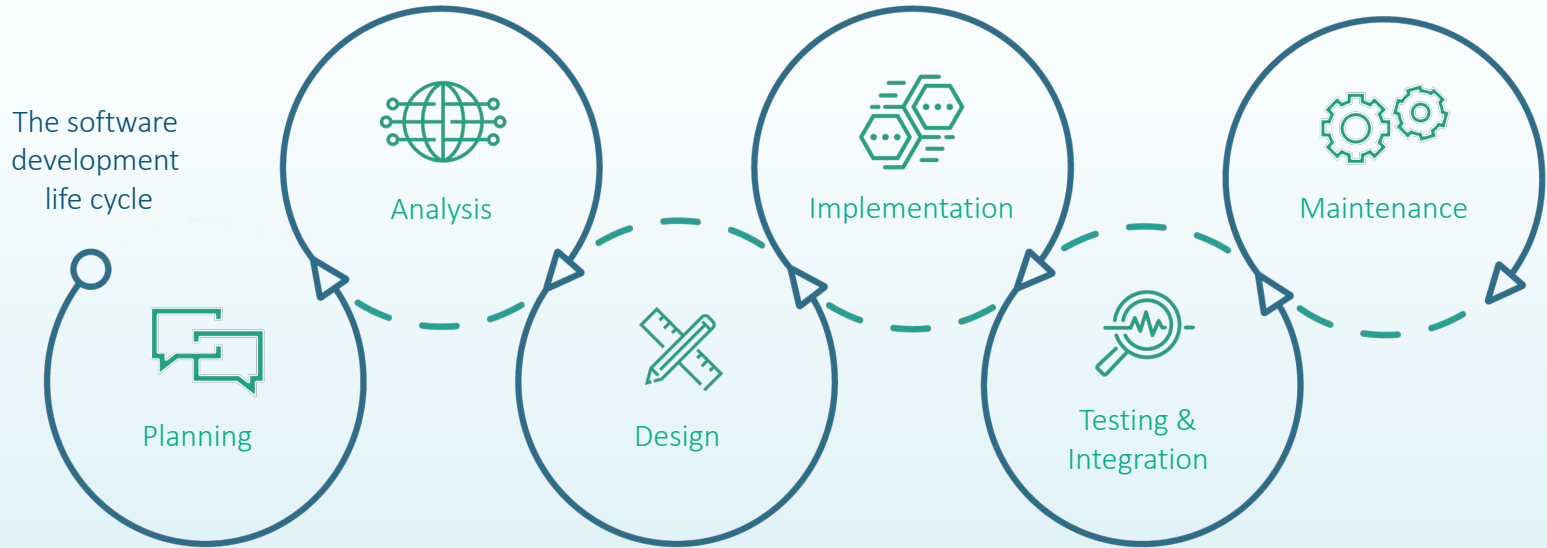**Code Optimization:** Identify and repair flaws in intent and implementation

Language Agnostic Conversion: Convert any software stack to any language, architecture or platform

Code Security: Identify and correct security issues

Holonic's disruptive AI drives a solution that radically changes the cost, scale, speed, and quality of software development – creating a capability which is otherwise unavailable on the market.

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A traditional approach leads to technical debt

The software development life cycle

Planning · Analysis · Design · Implementation · Testing & Integration · Maintenance

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Sources and consequences of technical debt

SOURCE

- Bad architecture
- Overly complex code
- Lack of documentation
- Inadequate testing
- Obsolete technology
- Insufficient test automation
- Too many dependencies
- Code duplication
- Poor deployment practices
- Obsolete code
- Inefficient configuration or infrastructure

TECHNICAL DEBT

Design or construction approach that is expedient in the short term, but creates a system which will cost more to correct over time. In other words – a strategic challenge to the organization in the longer term.

CONSEQUENCE

- Extra hours
- More FTEs, junior coders
- Crashes, errors and bugs
- Increased time to market
- Complexity of code
- Decreased customer satisfaction
- Higher indirect costs: CPU, memory, networking, HVAC, data center, cloud
- Decreased competitiveness
- Security flaws/breaches

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What is the cost?

- Studies have shown the cost of technical debt is in the range of $3-$5/LOC depending on the language (CAST Software Study).

  o An application with 1 million LOC, depending on the language, means that an organization is carrying $3-5M in technical debt.

  o With Global IT budgets projected to increase at 2.7% per year (Gartner) – there is little to no opportunity to ever optimize software.

- Security is a key issue for every board of directors and, according to IBM, will cost companies $3.6B.

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What is the cost? *(continued)*

- Key drivers suggest technical debt is here to stay

- Strain is being caused by users demanding additional functionality in shorter release cycles, and a shift of software stacks to the cloud.

- Current tools which are focused on static analysis are grossly inadequate – vendors are happy to sell multiple solutions to correct each problem. A "divide and conquer methodology" that comes at the expense of the client.

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CodeIntent® AI process is changing the current paradigm

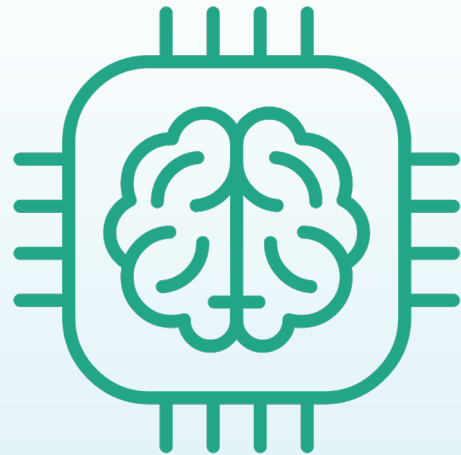**Holonic can radically cut both Opex and Capex thus increasing margins**

- o Case studies have show a decrease of 50-90% in IT costs

Holonic offers ONE platform to optimize, convert and secure code

- o One vendor, one platform, allows client to consolidate and track progress with full visibility

Organizations run leaner

- o Fewer FTEs, lower hardware, networking and data center/cloud costs

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CodeIntent® AI process is changing the current paradigm

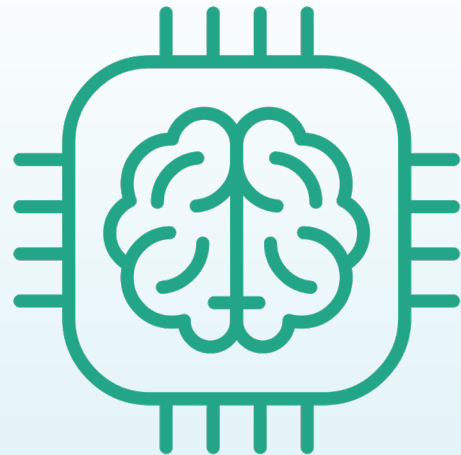**Code exponentially more efficient through our optimization process**

- Development resources minimized, QA process simplified, development cycle reduced

Significantly faster time to market with rapid deployment of new features

- Lean code and independent feature capability increases competitiveness

Code is secure

- Platform identifies and repairs vulnerabilities decreasing the potential for cyber security issues which can lead to loss of clients/trust, and open the company to potential lawsuits.

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Solution – Proprietary Process Leveraging AI to Modernize Code

Parse and decompose legacy code stack to a proprietary form

Report code's intent, optimization opportunities, security flaws, architecture concerns, design issues

Recompose code's intent delivering technical documentation and modernized code on client's desired software stack

Holonic's value proposition is to minimize cost, time & resources

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Methodology: Setup

- Works with any software stack and development environment.

- Secure access to client source code (onsite or offsite):

  o No documentation required (code documents itself)

  o No client developer/architect time needed (minimally disruptive to your current development schedule)

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Methodology: AI Driven Process Generates Code

Parse: Convert client-provided code into our proprietary form.

Intent: Identify the code's intent and compare it with client stakeholder's understanding.
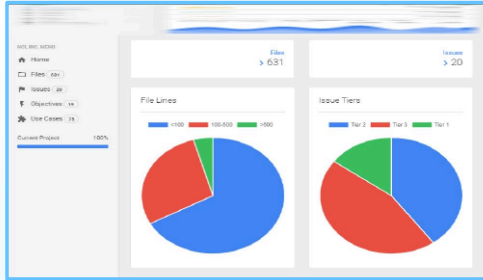
Validate: Analyze code to identify optimization opportunities, security flaws, architecture concerns, design issues.

Code: Analyze code to identify optimization opportunities, security flaws, architecture concerns, design issues.
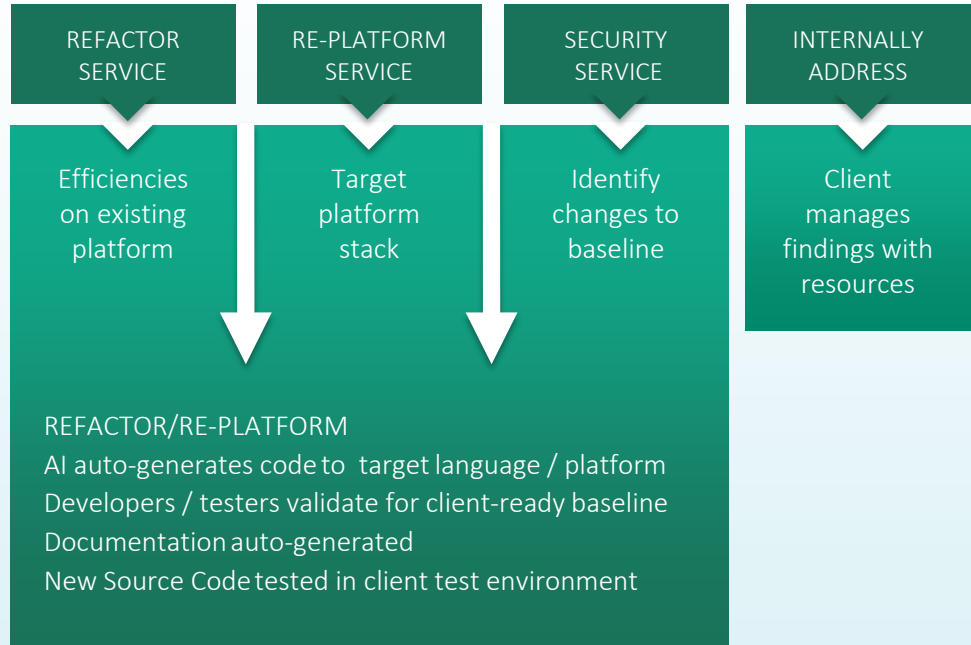
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Methodology: Client options

The dashboard report plus detailed SME level walk-through provides client understanding of value and service offerings

COMPLETE CODE SPECIFICATION

- Every code fault categorized, tiered and detailed (security, performance, bloat, errors)
- Recommended options to rectify
- Binding "initial estimate" of client gains; code line reduction (dead, cloned, redundant code); complexity reduction; security
- Proposal, price, and schedule of solution

REFACTOR SERVICE

Efficiencies on existing platform

RE-PLATFORM SERVICE

Target platform stack

SECURITY SERVICE

Identify changes to baseline

INTERNALLY ADDRESS

Client manages findings with resources

REFACTOR/RE-PLATFORM
AI auto-generates code to target language / platform
Developers / testers validate for client-ready baseline
Documentation auto-generated
New Source Code tested in client test environment

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Engagement

STEP 1

Discuss CodeIntent®
and potential client
application opportunities
in introductory call

STEP 2

Execute NDA to enable
greater technical discussion
and determine code
transfer process

STEP 3

Coordinate and transfer
source code in accordance
with agreed-to procedure

STEP 4

Create description of
the code including any
bugs, security issues,
bloat as applicable

STEP 5

Confirm understanding
of the code with Client
and agree on objectives
and outcomes

OUTPUT

Deliver agreed-to Statement
of Work including detailed
deliverable, timing, testing,
and metrics

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Impact Summary

- Increase software performance across an enterprise

- Increase speed to market and speed of operations

- Eradicate code debt

- Consistently release only best-practice code (specific to each stack)

- Minimize Total Cost of Ownership (hardware, resources, time, and opportunity)

- Minimize time to market with new features and functionality

- Scales in renewable value as the platform learns the business and automates learning

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Case Study – Federal Government Agency Through NCI Partnership

Problem

- Ruby on Rails with heavy use of complex Drools engine
- Code intractable due to developer using one-off techniques for solving problems, developer retired and unreachable
- Client unable to use manual techniques to extract the business logic from the code
- Non-standard, denormalized implementation of a relational database where much of the semantic information was stored
- Callouts to poorly documented third-party libraries
- Manual conversion was not possible due to code intractability and budgetary and time constraints

Requirement

- Convert code to Java Spring Boot with Angular front end

Process

- Leveraging our AI, we took two months to generate Java code

Outcome

- Holonic successfully modernized code from Ruby on Rails to Java, including full technical documentation, exceeding client expectations
- Holonic completed 18 month project in three months
- Holonic's solution cost <$500,000 for a project estimated at $1.5mn
- Created eight additional modernization opportunities within this organization

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Case Study – Top 20 Systems Integrator

Problem
- Company was experiencing decreased ability to compete with modern solutions
- 2,000,000 lines of COBOL with 150 discrete processes controlling complex accounting functionality
- Over 25 years of COBOL development with multiple team turnovers

Requirement
- Convert code to Java as their client-base was no longer comfortable on a COBOL platform because competitors offered more modern solutions.

Process
- Our AI-driven process was able to parse and decompose the entire COBOL project in one month
- Client required two intermediate validation phases before final recomposition
- Line-for-line syntactic and semantic recompositions for client required additional QA

Outcome
- Holonic completed four year project in 18 months
- Holonic solution cost <$1m for a project estimated at $3.5m
- Final client-defined deliverable: optimized Java on modern stack

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Executive leadership team

John Joganic

Co-Founder & CAIO, Technology Leadership Service & Platform Architect

- Designed and implemented first language acquisition software actively licensed to universities.

- Designed and implemented economic modeling applications for Vernon Smith, 2002 Nobel Prize Winner.

- Designed and implemented Real-Time Universal Risk Manager for the world's largest banks and financial institutions

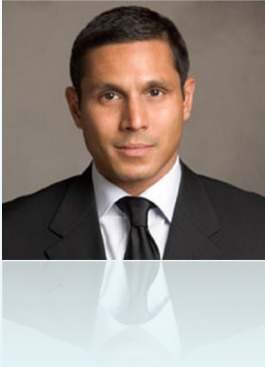HOLONIC

Executive leadership team *(continued)*

Eric B. Schorvitz, Ph.D.

Co-Founder & COO, Organization Leadership Service & Platform Strategy

- Game Theory and Experimental Economics Ph.D. under Vernon Smith

- Founded iSold.com in 1998. With John Joganic was first opportunity to implement what became CodeIntent®

- Founded PM Technologies in 2000, joined with Joganic, rolled into Holonic in 2018.

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Executive leadership team *(continued)*

Sanjiv Desai

CEO & President

- Nearly 15 years of expertise in corporate and complex commercial transactions, regulatory compliance and litigation.

- Successfully grew electronic company from less than $10 million in sales to $75 million in 3 years.

- Joined Holonic Technologies in 2018.

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Executive leadership team *(continued)*

Rohit Chopra

Chief Financial Officer

- Nearly 20 years of Wall Street experience as an award winning research analyst recognized by Starmine/Financial Times and Institutional Investor.

- Key Financial roles at private companies including CFO of a telecom company instrumental in raising capital.

- Joined Holonic Technologies in 2018.

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