



LOCI: AI-Driven Observability & Performance Intelligence for Data Centers

Helping data centers cut emissions and operate efficiently.

```
playRoshambo = function(clientGesture) {  
    //server always chooses rock  
    if (clientGesture=='rock') {  
        result = "tie";  
    }  
    if (clientGesture=='paper') {  
        result = "win";  
    }  
    document.getElementById('results').innerHTML =  
        result;  
}
```

Established in 2017, vast experience in mission-critical & safety systems' software



34+

Engagements
in US, EU, ASIA



100+

Granted Patents



Technology

AI Driven
Large Code Language Model



300

Development Years



\$100M

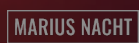
Capital Raised



Quality

ASPICE L2 and ASIL B
ISO 26262, 9001, 27001, 21434

Strong strategic investors



PORSCHE SE

TOYOTA TSUSHO

MOORE STRATEGIC VENTURES, LLC



Partners

TOYOTA TSUSHO

nvidia

Deloitte

arm

Synopsys

Infineon

T Systems

Microsoft
Partner



LG

FISITA

aws
partner
network

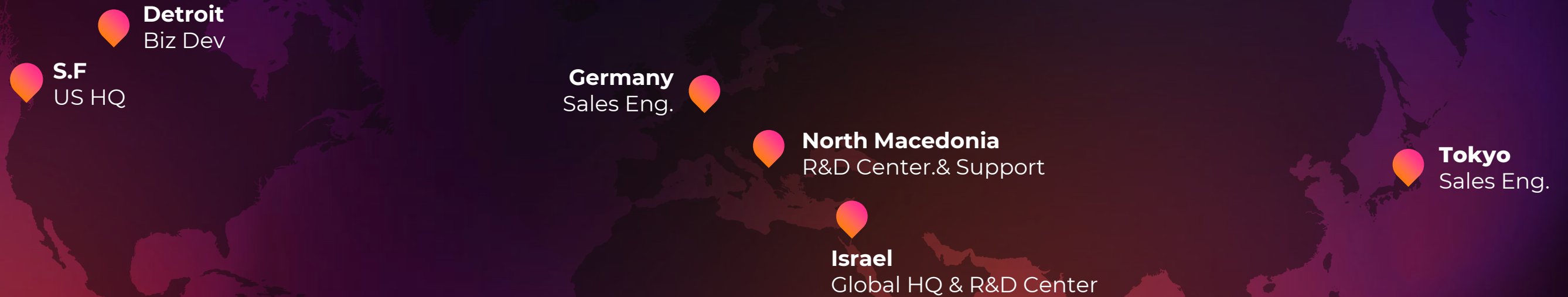
NTT DATA

Industry recognition



Global Presence

Engineering, Sales, Operations



Our Vertical LLM, Industry specific Vs. Generalist Giants

Our Domain-Specific Superiority

Proprietary Middleware-Vertical LLM,
named, LCLM is trained on Real Time
trace, low-level code, BIN files CPU/ GPU
architectures

Big Tech Giants

OpenAI, Google, and Anthropic dominate the
general-purpose LLM market. They are
building massive, one-size-fits-all models.

Lines Of Code Intelligence, **LOCI** for Observability

LOCI Observability full stack

Shift Observability **Left** after
Project BUILD

Data enrichment for
Observability tools

In field, Local Deep N.N,
Performance **degradation**
prediction

Shift Observability Left

Why Current tools Lack Shift Observability Left

Static analysis lacks execution context & hardware interaction

Observability tools can't predict power & performance inefficiencies early

Debugging post-deployment is costly and inefficient

Traditional static analysis and observability tools fail to detect performance issues due to missing execution context, hardware interactions, and real-time behavior modeling.

Bringing compiled binary files to life

Enablement

- Transforms observability and shift-left approach
- Performance Analysis like it was in the field
- Secured, No source code is needed

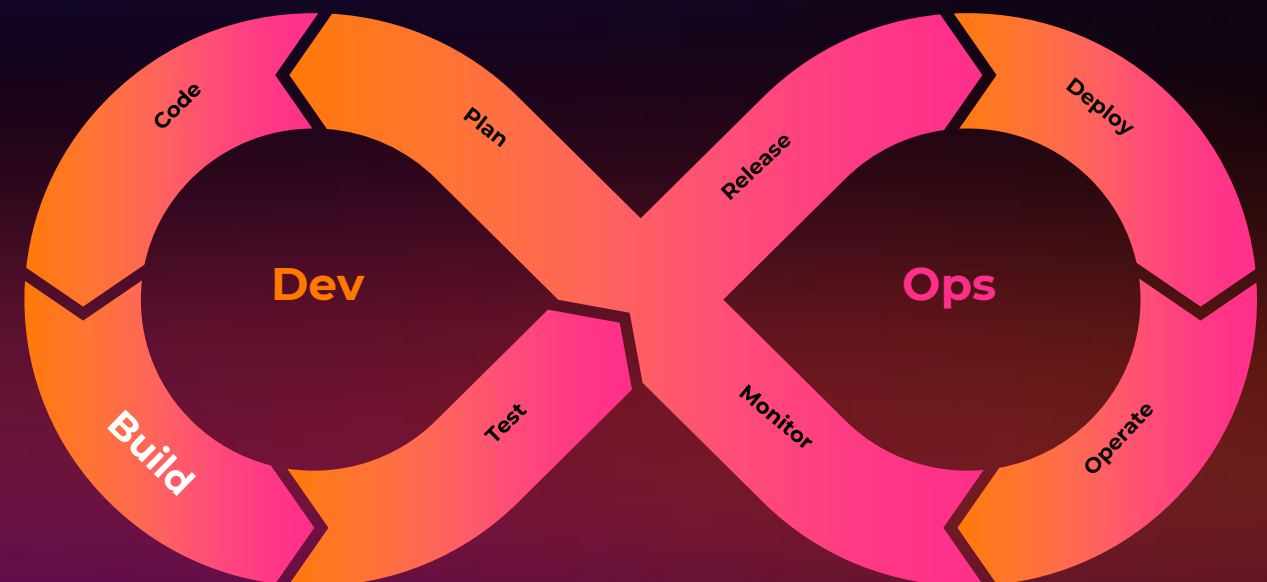
Value Proposition

Use after project build - shift left

- Performance degradations prediction
- Power inefficiencies indicator
- Test Scenario enrichment
- Branch Coverage reference
- Risky functions indicator

Philosophy, differentiation

- Modeling compiled binaries with real-world execution data and HW context



Unlock R&D Productivity & Reduce Time to Resolution With BIN scan

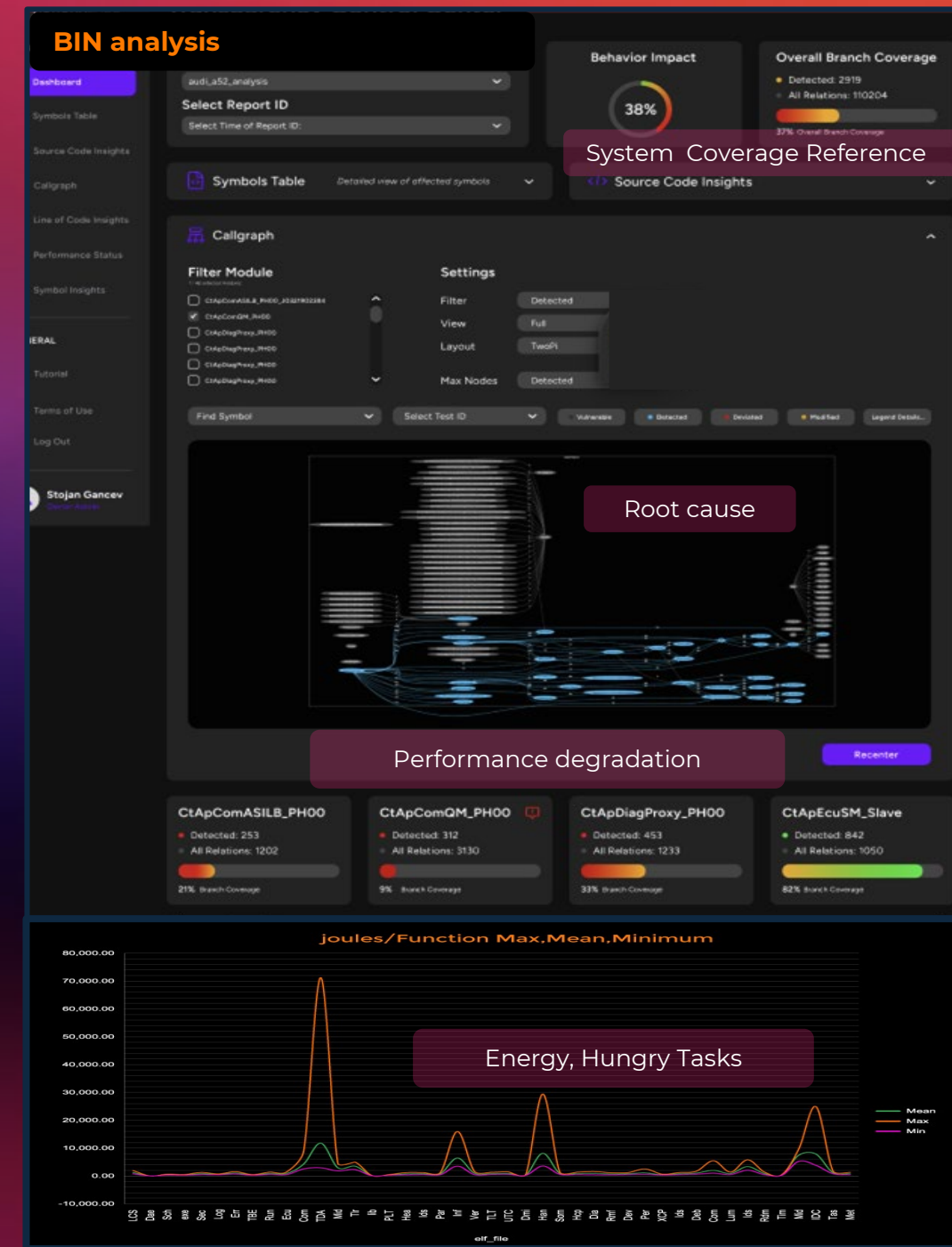
LOCI reduces Mean Time to Resolution (MTTR) and enhances key performance indicators (KPIs) by shifting performance analysis left in the development cycle.

Key Features, Performance degradation over time

- Slowing down functions
- Functions Response time
- Functions bottleneck
- Functions throughput
- Functions Energy trends

Key Benefits After Build

- Early issues detection
- Root cause analysis
- Reduce late costly issues
- Enhance testing optimization



Why Aurora Labs

- Trusted by Global Industry Leaders: LG, VW, AWS, ST Micro, Infineon, NTT Data, and Toyota TTC
- ML & LLM tuning expertise and data training since 2017
- Proven track record of SW & HW modeling to optimize embedded & HPC systems
- 100+ Granted patents in AI, Embedded Systems & Observability
- Quality is in our DNA. ISO 27001, ISO 21434, ASPICE L2, ASIL B, and ISO 26262 Certified



Synopsys



T Systems

Microsoft
Partner



FISITA

TOYOTA TSUSHO



Deloitte.

arm

NTT DATA

LOCI: Transforming Data Centers for a Greener Future

- Reducing environmental impact through intelligent software optimization
- AI-powered insights for sustainable computing
- Enhancing energy efficiency and reducing carbon emissions

The Environmental Challenge:

Why Data Centers Need a Sustainable Approach

- Data centers consume ~1% of global electricity
- Rising demand increases energy use and carbon footprint
- Software inefficiencies contribute to wasteful power consumption
- Need for intelligent, AI-driven solutions

Introducing LOCI for Data Centers

- AI-powered Line of Code Intelligence
- Optimizes software execution at the binary level
- Reduces energy waste by improving efficiency
- Provides real-time tracking, tracing, and anomaly detection

Reducing Energy Waste at the Software Level

- Identifies inefficient code execution
- Tracks power-hungry software functions
- Optimizes workload distribution for energy efficiency
- Reduces carbon footprint through smarter computing

Optimizing Storage & Hardware Efficiency

- Adaptive Storage Management
- Migrates infrequently accessed data to lower-energy storage
- Reduces power use for long-term data retention
- Hardware-Aware Optimization
- Identifies energy-efficient processors
- Fine-tunes software to maximize performance on low-power chips

Preventing Downtime & Avoiding Energy Spikes

- LOCI's AI-Powered Monitoring Ensures Stability
- Detects performance anomalies before failures occur
- Predicts downtime risks to prevent energy waste
- Reduces need for emergency power spikes
- Ensures consistent, efficient system operation

Enabling Edge Computing for Sustainability

- Reducing Energy-Intensive Data Transfers
- LOCI analyzes compiled binaries to optimize edge computing
- Places workloads closer to the data source
- Reduces latency and energy use associated with data transmission
- Supports distributed, energy-efficient architectures

The Future of Sustainable Computing with LOCI

- Making Green Data Centers a Reality
- AI-driven software insights lead to smarter, cleaner computing
- Improved energy efficiency = lower operational costs
- Carbon footprint reduction through intelligent optimizations
- Future-proofing data centers for environmental compliance

Conclusion & Call to Action

- LOCI: Powering Sustainable Data Centers
- Lower energy consumption, fewer emissions, greater efficiency
- Unlock AI-driven insights for a greener future
- Adopt LOCI today to lead in sustainable computing

AURORALABS

Get Started
Today!

info@auroralabs.com
www.loci-dev.com

Appendix

LOCI has accumulated extensive performance intelligence from real-world execution data allowing it to:

- Predict performance impacts
- Detect degradations across software versions
- Identify power-hungry functions
- Optimize resource efficiency
- Provide test coverage references
- Enhance testing & validation

Converge static and dynamic analysis for early-stage optimizations