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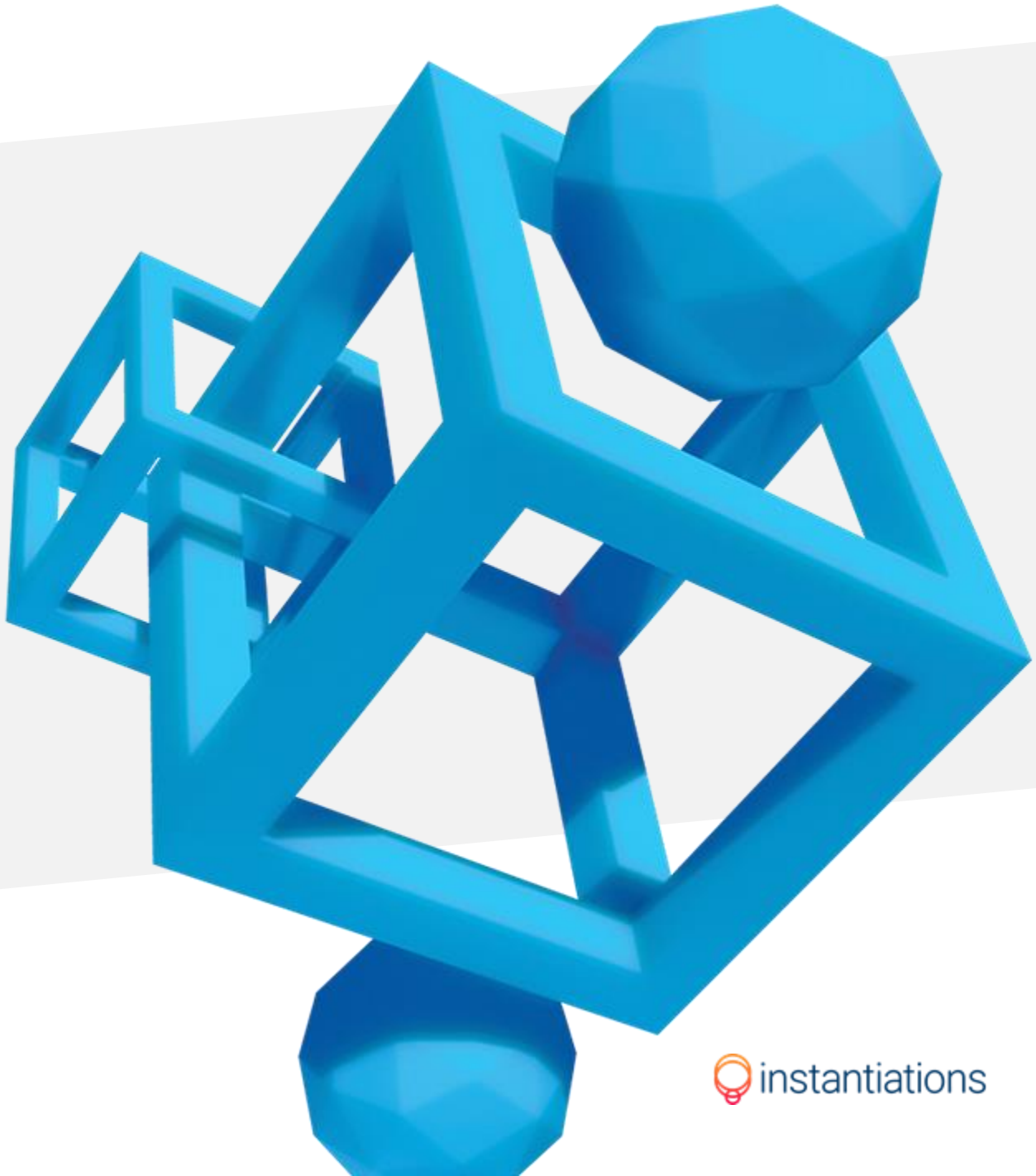
Enhancing Security in VAST

Towards Static Vulnerability Scanning



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Josh Wyatt

CISO / VP

Mariano Martinez Peck

Senior Software Engineer

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Thank you to the venue, the organizers, the sponsors, and the attendees.

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What is SAST?

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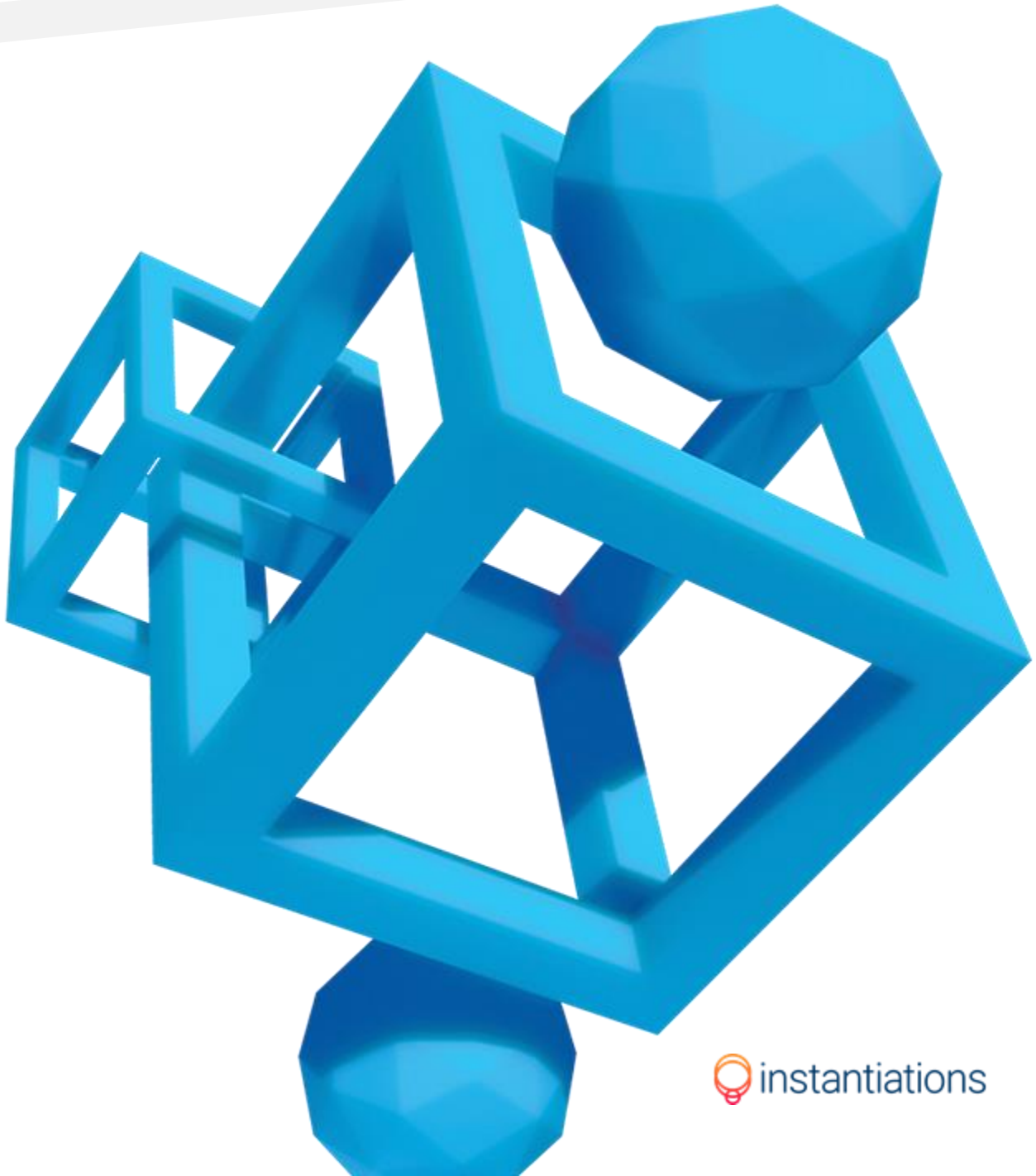
SAST is Static Analysis - for Security

S Static
A Analysis for
S Security
T Testing

What is Static Analysis?

- Analysis of code without running it
- Mostly a semantic strategy (similar to “linting”)
- Perfect companion for IDE
- Can be automated
- Different types focused on structure



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What is Static Analysis?

Focus on structure like:

- call tree, nodes, functions
- flow
- invocation
- pattern matching

What is Static Analysis?

- Mostly a semantic strategy (similar to “linting”)
- Pattern matching
- Rules definition and testing
- Structure, again

What is Static Analysis?

Perfect companion for IDE

- Intimate relationship with:
  - keyword matching (like ‘Password123’)
  - method invocations
  - some data and object instantiations
- Leverages existing power of VAST components

What is Static Analysis?

Different types focused on structure

- Pattern-based analysis
- Flow-based analysis
- Metric-based analysis
- Semantic analysis

Example: SQL Injection

Static Analysis can…

- Catch poor practices like unsafe query manipulation
- Identify good practices like FFI

Static Analysis cannot…

- pre-suppose injectable content

What Static Analysis is NOT?

- **Dynamic analysis**

- **Cannot identify ephemeral items such as:**
  - dynamic memory allocation
  - external system invocations
  - external variations on input

- **Cannot identify external influence like:**
  - system environment
  - fuzzing
  - performance issues (like race conditions)

Why build a SAST?

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Why build a SAST for VAST?

- Customer needs for improved compliance and security
- Improvement of Operational Maturity
- Instantiations' ever-growing commitment to R&D

Roadmap and Release Strategy

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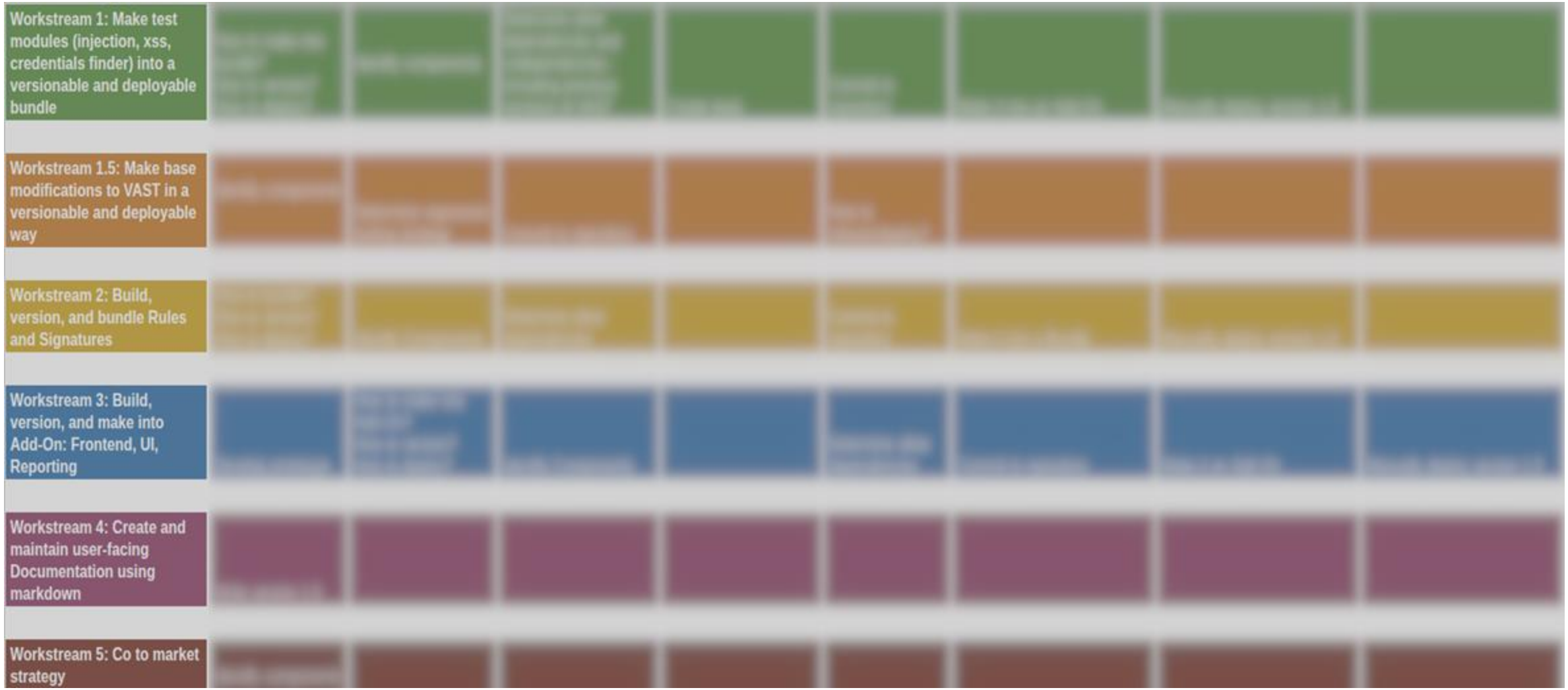
SAST Security Scanner Product Vision

To build a Security Scanning Suite in VAST to include:

- An initial set of scanning tools that use rules and signatures to detect Injection, XSS, and embedded Credentials, with whitelisting, hinting, and annotation capability
- An initial set of customizable rules and signatures to be consumed by the scanning tool modules, separately packaged, versioned, and maintained
- A frontend configuration and reporting tool to empower the user to best use the scanning tools and generate actionable reports

Roadmap Workstreams

- Develop Testing Engine and Strategy
- Considering Modifications to VAST
- Separately Develop Rules and Signatures
- Front-end, User Interface, and Reporting
- Create and Maintain Documentation
- Execute *Go to Market* Strategy


Workstream 1: Make test modules (injection, xss, credentials finder) into a versionable and deployable bundle
Workstream 1.5: Make base modifications to VAST in a versionable and deployable way
Workstream 2: Build, version, and bundle Rules and Signatures
Workstream 3: Build, version, and make into Add-On: Frontend, UI, Reporting
Workstream 4: Create and maintain user-facing Documentation using markdown
Workstream 5: Co to market strategy

Strategy and Implementation

- Evaluate Industry needs and Customer requests
- Leverage Instantiations' expert knowledge of Smalltalk and VAST platform strengths
- Engage Security Industry Experts to help build
- Discovery and prototype phase for feasibility and lessons learned
- Apply lessons learned to build and polish something we can release

Alpha and Beta testing

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Demonstration and Q&A

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Thank you!

Questions?

Josh Wyatt
CISO / VP

jwyatt@instantiations.com

/in/dragonwyatt/

Mariano Martinez Peck
Senior Software Engineer

mpeck@instantiations.com

@MartinezPeck

/in/mariano-martinez-peck/

Contact

General Inquiry
info@instantiations.com

Sales
sales@instantiations.com

VAST Support Portal
vast-support.instantiations.com

North America, Toll Free
855 476 2558

International
+1 503 263 0058

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