

Capabilities Statement: Matellio, Inc.

*This document is intended to support formation of potential teaming partnerships and response to a potential future Broad Agency Announcement (BAA) for the **Rapid Explanation Analysis and Sourcing Online (REASON)** Research Program sponsored by IARPA.*

About Us

Company Overview

Founded in 2014, Matellio is a US-based software engineering and data science studio partnering with private, public, and philanthropic leaders to turn vision into value through human-centered product and services development. Our expertise and accomplishments have been recognized by global leaders including **Clutch, App Future and DesignRush**. We hold trusted partnerships with **Siemens MindSphere, Arizona Technology Council, GE Digital Alliance, Microsoft, Amazon Web Services** and **HPE**.

Matellio has a team of **250+ highly experienced and skilled professionals** - business solution architects, UI/UX designers, software engineers, data scientists, project managers & quality assurance experts - delivering projects in integrated and Agile-oriented teams. With corporate headquarters in **San Jose, California**, solution architecture and program management offices in **Denver, Colorado** and two engineering labs in **India (Jaipur and Jodhpur)**, Matellio delivers a unique, hybrid model that ensures alignment with the customer, enables rapid iteration & improvement cycles, and optimizes delivery costs.

Our Approach

Leveraging our experience delivering **500+ software development projects over the last eight years**, we help our customers to navigate the often ambiguous and complex journey from concept development to solution deployment and adoption. Our approach to building sustainable and successful partnerships with customers includes:

1. **Pursuing Agile development to optimize our team's talents and focus on value creation for customers.** Our team – from Solution Architects to Software Engineers – leads with winning value propositions and use cases, not technologies and tools. Our consistent and rigorous implementation of SCRUM methodology keeps us focused on customer and user goals throughout the development lifecycle. Our Technical Project Managers are SCRUM-certified (Scrum Alliance).
2. **Continuously assessing and improving our people, processes, and technologies to achieve superior solution quality while optimizing speed and cost of delivery.** We are a CMMI-certified, metrics-driven organization. Our independent Solution Architecture group provides both technical guidance and oversight to experienced project teams, providing an internal software validation and verification function. We have built strong quality assurance and testing methods and protocols across the organization and recommend QA automation for large and / or complex projects.
3. **Designing solutions in an open and modular manner to promote transparency, knowledge transfer, and reuse by our customers and their partners.** Our solutions are composed of functional components with well-specified interfaces, and we strive to use open-source licenses for underlying technologies and tools. We document, share, and review our requirements,

design specifications and test plans with customers throughout the project lifecycle to promote awareness, understanding and alignment on scope and design decisions with project stakeholders. Furthermore, customers own IP resulting from our services, which provides several advantages including control of future DevOps efforts, protection of valuable assets, and commercialization of products.

Relevant Capabilities

Full-Stack Software Development

Matellio has delivered hundreds of interactive user experiences through **application development services optimized for both web and mobile platforms**. Our process begins with discovery efforts aimed at understanding business context, problem areas, and opportunities for optimizing existing technology solutions or prototyping and launching new products. We form holistic, integrated project teams who advance rapid and iterative design and development activities via Agile (SCRUM) methodology to ensure alignment with project goals and customer & user feedback. Our quality assurance approach – including functional, performance and security testing - is fit for purpose to ensure that breadth and depth of testing is well-matched to product maturity, complexity, and investment.

Our team members have expertise across a broad range of advanced technologies across the development stack (client and server software). Below is a non-exhaustive list of technologies leveraged to deliver software solutions to our clients:

- **Web Technology:** Java, Node JS, React JS, Python, Microsoft ASP.NET, PHP, Ruby
- **Web Frameworks:** Spring, CodeIgniter, Django, CakePHP, Laravel, yiiframework, Symfony
- **Content Management Systems:** WordPress, Drupal, Joomla!
- **Databases:** MySQL, PostgreSQL, SQLite, mongoDB, Oracle
- **Platforms:** Amazon Web Services, Microsoft Azure, Rackspace, Heroku, IBM Bluemix, App Engine
- **User Experience / Interface:** Balsamiq, Invision, marvel, Sketch, Adobe Photoshop & Illustrator

Some of our recent enterprise application development projects include:

- **Large, Enterprise Compliance-Driven Solution:** Supporting a leading global payroll consulting firm to build and automate financial, HR and payroll function for multi-national corporations. Building this platform not only required building complex rules based on local governing laws for payroll, taxation and more, but also required integration with HR and financial platforms. This platform is used for global brands like GE, FedEx, WellFargo, UNICEF and more.
- **AI & ML-Driven Research Data Compilation Tool:** Enabling a large private philanthropy based in the SF Bay area to help automate assessment of grant applications for high impact healthcare research. Developing a process to collect and consolidate research data, patent information, and survey data from public databases and populate into the customer's CRM platform to link with grant application content. Availability and linkage of rich data accelerates the grant application assessment process by removing assessors' individual, manual efforts to search for, locate, and synthesize information.
- **Automated Platform Monitoring Solution:** Working with a public company to help build a monitoring layer for a large, complex SaaS product. The layer is responsible for monitoring,

flagging, and reporting on each individual software service ranging from login to analytics capabilities, response time and more. We will be building recommendation engine to prescribe possible resolution plans and steps based on developer documentation, past ticket information and additional context for near-full automation (operation center self-sufficiency).

Artificial Intelligence and Machine Learning Expertise

Matellio has a diverse set of experience in **building, deploying, and optimizing AI and ML solutions for customers across industries**. Our team of data engineers & analysts, data scientists, and machine learning engineers partner with customers (often domain experts) to collect and clean data, perform exploratory data analysis, validate and improve key modeling assumptions, and build and deploy appropriate models to achieve project goals.

Some of our recent projects in the AI / ML space include:

- **Computer Vision:** We leveraged computer vision technology to analyze a large volume of wind turbine images and detect & classify defects / faults in infrastructure to inform actionable next steps, thereby avoiding costly and hazardous inspection by humans.
- **Prescriptive Analytics:** We led a reseller of network management software to shift from descriptive statistical analysis to ML-driven prescriptive analytics, thereby enabling telecom and cable network operators to prevent or detect and resolve issues before more significant and costly failures.
- **Natural Language Processing:** We applied AI/ML-based classification systems to detect advertisements within various audio streaming channels and redirect users to preferred content, thereby increasing accuracy of our customer's key algorithm to improve personalized listening experiences for their users.

Cloud Integration Services

Matellio provides **technical advisory and implementation services to customers transitioning to the cloud, advancing hybrid or multi-cloud strategies, and seeking to integrate multiple applications within and across cloud platforms** to increase solution accessibility, scalability, security, and financial sustainability. Our team has deep expertise utilizing **Amazon Web Services and Microsoft Azure public cloud computing services**, designing solutions based upon **microservices architectural patterns**, and developing and utilizing **public application programming interfaces (API)**.

Our team members have expertise leveraging the following technologies and tools to support systems integration and deployment of algorithms and related software deliverables within cloud platforms:

- **Cloud-Based Application Integration Services (Amazon Web Services):** Amazon EventBridge, Amazon Simple Notification Service, Amazon Simple Queue Service, Amazon API Gateway, AWS App Sync, Amazon IoT Services, Serverless Lambda Functions, Amazon Identity & Access Management, AWS Elastic Load Balancer
- **Cloud-Based Application Integration Services (Microsoft Azure):** Logic Apps, Service Bus, API Management, Event Grid, Azure Functions, Azure Data Factory, Azure Identity Management
- **API Development:** Postman, SoapUI, SwaggerHub

- **Software Containerization:** Docker & Docker Swarm, Amazon Web Services (Fargate, Amazon Elastic Container Service), Microsoft Azure (Kubernetes Service, App Service, Container Instances, Batch, Service Fabric, Container Registry)

Some of our recent projects enabling cloud integration include:

- **Microservices Architecture to Manage Data from IoT Devices:** We contributed to the development of a SaaS cloud solution focused on data collection and management from IoT devices using a multitude of cloud services including SSO, data processing, and IoT. Information from the devices can be analyzed through analytics tools to better operationalize a customer's business and allow them to focus financial and personnel resources in the best possible way.
- **API Development for Partners (Edge Computing):** We contributed to the development of an edge computing solution that allows cloud solutions based on Azure and AWS IoT services to interact with IoT devices at the edge via common APIs. We developed APIs to enable our customer's partners integrate with the edge computing platform.
- **One-to-Many Application Integration Layer:** We built a technology-agnostic platform to enable a systems integrator to connect data quickly and easily from customers' current and future applications to Salesforce using batch flow and webhooks and leveraging AWS Elastic Load Balancer to distribute traffic between instances to manage data loads.