What We Do—In Simple Terms
The Veracity Forecasting Group (VFG) within Systems Planning and Analysis, Inc., provides enterprise-level Decision Support services for complex inventory management challenges.

For example
Large organizations can choose alternative paths for solving a complicated problem. Let’s say your operation needs to rotate 4,000 units of inventory to different locations, and not all units go to the same location at the same time, but the units are all part of a system that must synchronize perfectly. You must also keep costs for moving and maintaining this inventory as low as possible.

How do you arrive at an optimal solution, not just for next week or month but for the next 20 or 30 years as conditions change? Spreadsheets aren’t powerful enough, and neither is the human brain.

At Veracity we use our customers’ historical data and combine it with our scientific and analytical expertise to build software that models and solves the toughest problems. The software helps managers clearly distinguish among potential courses of action and optimal long-term outcomes.

But we don’t sell a shrink-wrapped solution that locks a client into a proprietary dead end. Instead, we write a custom program for each client based on their data, and we leave it at the prototype level. That way the software can be easily and affordably adapted to accommodate evolving customer needs. We also develop an ongoing analytical services relationship with our clients, who become highly involved with our process once they witness and benefit from its forecasting power.

Core Competencies
Our services include
• Operations Research
• Data Science
• Modeling and Simulation
• Descriptive, predictive, and prescriptive analytics, the latter being an area of special expertise
• Custom solutions for investigating exceptionally complex decisions

Areas of Expertise
• Optimization
• Inventory Management and Logistics
• Revenue Management
• Stochastic Models
• Data Visualization

Why Our Clients Choose Us
• We are trusted agents. We have no conflicts of interest and work solely for the customer’s benefit.
• We begin by constructively questioning assumptions. We help customers refine and validate the questions they want answered to ensure realistic results.

Why Our Services Stand Out
• We employ Ph.D.-level experts in multiple disciplines. We work on flexible teams created to match customer needs for different levels of analytics.
• We specialize in data-driven Decision Support, which makes a huge and often unprecedented difference to the enterprise.
• We provide ongoing services at the customer’s request to explore evolving areas of analytic interest.

Why Our Services Stand Out
• We are already experts in prescriptive analytics, today’s most advanced form of business intelligence.
• We are extremely sensitive to an organization’s culture. We do not “camp” or require undue time commitments from the customer. Our expertise in operations research allows us to learn a customer’s business quickly and effectively.
• Our analytical products dig deeper than packaged software programs. For example, we illustrate the effects of different decisions when multiple stakeholder positions are valid.

Mike Macedonia, SPA Vice President and VFG Technical Director
• Our analysis moves an organization away from turf protection into in-depth discussion about what is best for the organization.

Current and Past Performance
Since 2013 we have successfully provided unique forecasting and inventory management support to Department of Defense customers.
• Within DoD aviation we are fully embedded in the F/A-18 A-F, EA-18G, E-2C/D, CMV-22, and F-15 (USAF) communities. All communities benefit from improved ability to plan and execute aircraft maintenance, capability upgrades, and squadron transitions more efficiently, saving tens of millions of dollars.
• We support ALQ-99 asset inventory management and the Next Generation Jammer with unique and evolving analysis at the component level.
• We adapted Veracity’s flexible inventory management process to support human resource needs for the Navy’s Recruit Training Command. Our initial forecasting model improved the complex scheduling of sailor training from induction day to graduation.
• In separate but related work, we develop Rocket Motor Aging and Surveillance technology for the Air Force Research Lab, using physics-based modeling, Artificial Intelligence, and Machine Learning.

Now For Some Depth
We start the Decision Support process by helping customers refine their issues into statistically useful questions. Getting the questions right is critical for the analysis to be on target. We use historical data, pulled from as many customer sources as possible, to create the basis for robust statistical analysis. We distinguish between descriptive, predictive, and prescriptive analytics:

Descriptive Analytics
• Backward-looking insight into “what has happened” until now.
• Filters, sorts, and visualizes historical data.

Predictive Analytics
• Forward-looking insight into “what is likely to happen” if no intervention occurs.
• Not interactive. Shows historical data trends; uses statistical models.

Prescriptive Analytics
• Forward-looking and interactive.
• Compares competing courses of action to achieve optimal outcomes.
• Uses state-of-the-art modeling and simulation.

We do most of our work using prescriptive analytics. For example, aviation customers rely on our solution to forecast the location and status of each aircraft, by tail number, 30 years from now. Our model also allows the user to interact with the data to answer “what if” questions after we’ve established an accurate baseline.

Being able to see individual aircraft is a “bottom up” approach, very different from top-down organizational planning. The view our modeling provides—for any enterprise—is far more insightful and actionable than traditional planning allows.

The Value of Prototyping
When we build models, we keep them at the prototype level. Prototypes provide distinct advantages to the customer:
• They are more economical than continuing to build the model. We can answer the customer’s questions when we reach a certain point in the prototype. Development beyond that is usually overkill.
• We can easily modify a prototype to answer future questions rather than build another model.
• We can develop powerful new capabilities within a prototype, which customers prefer to starting over.

Names to Know
We originally developed our Decision Support process as the Naval Synchronaztion Toolset (NST), and that term remains well known among our Navy customers. As NST continued to succeed, we broadened the application for non-Navy customers, for whom we use the term Inventory Decision Support Process (IDSP). Same DNA, more precisely tailored.

Available Facilities
• The SPA headquarters office is convenient to Washington, D.C., the Mark Center, the Pentagon, and Tysons Corner. Classified spaces and large meeting rooms are available.
• SPA and Veracity Forecasting Group maintain an office in Utah, convenient to Hill AFB.

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