

## Expert Consulting for Data Analysis Solutions

ORGANIZATIONS  
REQUIRING COMPLEX DATA  
ANALYSIS RELY ON VISUAL  
NUMERICS. VISUAL NUMERICS  
HAS PROVIDED EXPERT  
CONSULTING TO LARGE  
AND SMALL BUSINESSES,  
GOVERNMENT AGENCIES AND  
LEADING SCIENTIFIC AND  
RESEARCH ORGANIZATIONS  
FOR CLOSE TO 40 YEARS.

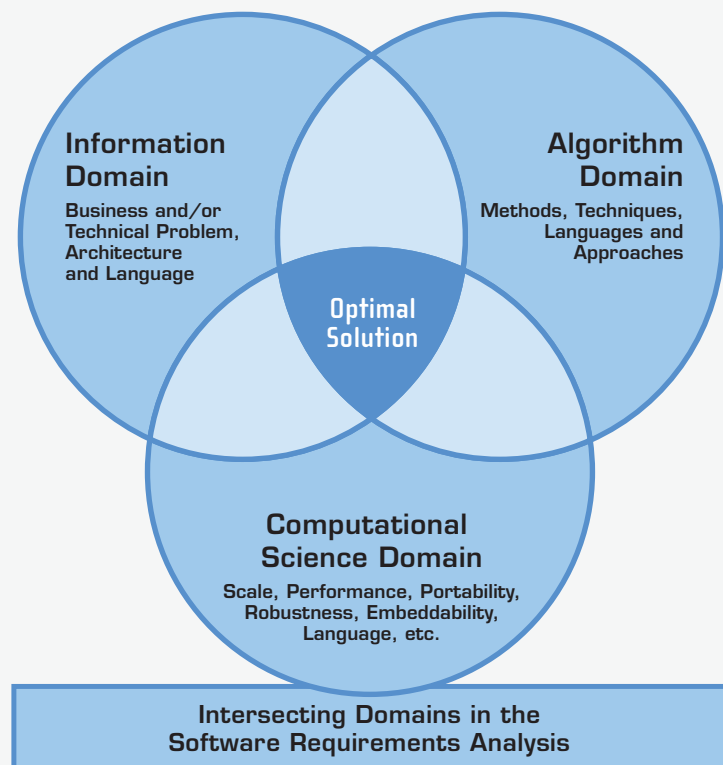
*"When we developed the concept of Customer Intelligence Management, we were confident that we had an insight into what operators wanted, and chose Visual Numerics because it could deliver the world-class visualization of extremely complex data that we required."*

ADRIAN KELLY  
HEAD OF CUSTOMER INTELLIGENCE  
MANAGEMENT  
LOGICACMG TELECOMS PRODUCTS

Visual Numerics Consulting Services combines technical expertise, more than three decades of hands-on experience and a combination of world renowned tools to satisfy the most complex needs for data analysis. Visual Numerics' ability to understand client business problems and provide optimal solutions is unsurpassed. This expertise results from four decades of working across a broad range of industries – banking, retail, aerospace, health care, telecommunications and others – where organizations have turned to Visual Numerics for timely, trusted and reliable help in solving their business and engineering problems.

### Visual Numerics Develops Optimal Solutions From Balanced Domains of Knowledge

The best data analysis solutions arise from interaction among three critical domains of knowledge: Information, Computational Science, and Algorithm.



- In the Information Domain, stakeholders from client business and IT groups work with Visual Numerics experts and define the business goals, problem to be solved, the data to be analyzed and the result to be achieved. Defining the information domain builds the foundation for an optimal solution.
- In the Computational Science Domain, Visual Numerics ensures that solutions perform as needed, that they can scale up from desktop computers to supercomputers to carry any volume of data required and that each is as portable and robust as necessary.
- The Algorithm domain focuses on the method, the design and the deployment of the solution's analytical components to ensure requirements are met.

Based on the need, either customized development or packaged data analysis solutions can be deployed in virtually all computing environments and in all major programming languages.

*“Visual Numerics has been a true partner with Humana to make our application successful. The dedicated technical services team has been on hand since the beginning suggesting implementation strategies to get the performance we needed.”*

**MITZI SILLIMAN**  
**VICE PRESIDENT OF**  
**INFORMATION TECHNOLOGY**  
**HUMANA**



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## Visual Numerics Solves Client Problems From a Broad Range of Knowledge

Visual Numerics’ consultants are software developers who are also engineers, Ph.D. mathematicians and statisticians, and visualization experts who have dedicated their careers to the development of algorithms in various programming languages in environments ranging from desktop systems to supercomputers.

With this depth of expertise, Visual Numerics can provide virtually any industry whatever technical expertise may be necessary, including:

- Analysis and design
- New algorithm development
- Rich visualizations
- Advanced math and statistics, including the use of the IMSL® Numerical Libraries
- Interactivity with large amounts of data
- Scaling, parallelization and optimization
- Porting from language to language or system to system

Consultants consider future as well as current platform requirements. They research and explore various algorithms for the best fit, and build applications on proven and stable technology. Visual Numerics uses whatever tools and languages it takes to provide clients with the results they expect.

## Customer-Centered Development Methodology

Visual Numerics has developed a powerful methodology for translating business needs into specific requirements. Consultants begin by working closely with the client’s Information Domain experts to develop, transform and refine their business requirements into analytical solutions. From there they set objectives and determine the best analysis methods for the available data.

From start to finish, Visual Numerics devotes the time needed to fully understand the client’s goals and deliver the best solution. This process starts with initial meetings to fully grasp needs and it continues throughout the project with regular status meetings, feedback sessions and progress demonstrations. This constant communication between consultants and client ensures the final result will exceed the client’s expectations.

## Success Stories

### LOGICACMG

#### Telecom Application

**Need:** Analyze existing subscriber data to understand customer dynamics, reduce customer churn, and up-sell existing customers to new products and services.

**Solution:** Visualization of extremely complex mobile messaging subscriber data for predictive analytics.

### HUMANA

#### Healthcare Insurance Application

**Need:** Query and visualization of sophisticated metrics for clinical-health environment.

**Solution:** A new application that enables faster, more interactive analytics to assess insurance program effectiveness and participation and to determine cost drivers. Identifies relationships among member populations to anticipate costs and patient requirements.

### GLOBAL ADVISORS

#### Finance Application

**Need:** Improve the performance of this hedge fund’s trading application.

**Solution:** Optimized the application for use on a sixteen CPU machine running Linux. Streamlined the application by collapsing hundreds of files into a tighter algorithm, cutting computation time from three hours to a few minutes.