



William “Skip” Heise, PMP

Geospatial Information Technology Consultant

PROFILE

Seasoned professional with over 19 years of information technology and business management consulting experience. Expert in the planning, design, and implementation of Enterprise Geographic Information Systems (GIS) for government and utility organizations. Specialize in integrating GIS with Enterprise Asset Management (EAM) systems, Customer Information Systems (CIS), and mobile technology. Proven experience with integrating ESRI ArcGIS technology and EAM software including Maximo, Datastream, Hansen, Cityworks, Oracle WAM, and E-Business Suite. Core competencies include:

- Project Management (Certified PMP)
- Strategic IT/GIS Planning
- Business Process Optimization and Modeling
- Business and System Use Case Development
- Implementation and Integration Requirements and Specifications
- IT/GIS Architecture Design
- Software Development Lifecycle Management
- Hands-on Experience with ESRI ArcGIS Product Suite
- Mobile Technology and Applications
- Data Conversion Requirements and Specification Development
- Spatial Database Modeling and Design
- Training / Coaching
- Vendor Contract Management

EDUCATION

Bachelor of Science • Natural Resources • GIS/Remote Sensing • Landscape Architecture
University of Wisconsin – Madison, 1991

PROFESSIONAL EXPERIENCE

President of GeoNexus Technologies LLC (October 2009 – Present). GeoNexus Technologies is a Management and Information Technology consulting firm with a specialty in helping organizations operate more efficiently and solve complex business problems using Geographic Information System (GIS) and Enterprise Asset Management (EAM) technologies. We help business and government organizations leverage their investment in geospatial information and technology to enhance their operations and optimize work performance. We provide expert knowledge in combining spatial information with enterprise business systems to support advanced business intelligence and decision making.

Director, Geospatial Technology Solutions at Technology Associates (2008 – 2009). The Geospatial Technology Solutions Group partners with organizations across North America to enhance their business operations using geospatial information and technology to provide expert knowledge in specific business domains, and to deliver proven geospatial products and solutions built on best-of-breed technologies providing real business benefits to our clients. As Director,

responsible for directing staff, business development, client relationship management, project quality control and oversight, and consulting.

Program Manager at EMA, Inc. (2000 – 2008). Responsible for management and oversight of large, complex enterprise technology implementation programs for government and utility organizations. Those programs typically included integrating multiple business systems in an enterprise environment. Responsibilities included managing multiple implementation teams across multiple departments within the enterprise. Teams were responsible for implementing a specific system, such as customer information system, tax accounting/billing, property appraisal, geographic information system, work and asset management, and enterprise resource planning systems. Responsibilities also included managing subcontractors, hardware and software vendors, and development staff. Experienced in modeling “as is” and “to be” business processes, defining functional requirements, developing enterprise architecture designs, and creating system-use case specifications.

Utility Solutions Manager at ESRI, Inc. (1994 – 2000). Responsible for selling ESRI's Facility Management solution, and working with major industry consulting firms to provide enterprise GIS solutions to large utility organizations. Experienced designing strategies for the integration of AM/FM/GIS within an enterprise environment and guiding clients in the future direction of GIS technology. Knowledgeable in the integration of GIS with customer information, work management, and hydraulic modeling systems. Managed the integration of ArcFM with SAP in a 500,000-customer water utility enterprise. Experienced with the implementation of ArcInfo 8, ArcFM 8, ArcSDE 8, ArcIMS, ArcView 3.2, and MapObjects 2.

CLIENT / PROJECT EXPERIENCE

Project Manager and Lead Technology Architect, ArcGIS and Oracle Utilities Work and Asset Management Integration, Veolia Water.

Responsible for the management and delivery of a solution that integrates ESRI ArcGIS and Oracle Utilities Work and Asset Management (WAM) software for Veolia Water Indianapolis (VWI). Work includes defining the system requirements, designing the solution architecture, and overseeing the development and testing activities. The solution is built using ESRI's ArcGIS Server Application Programming Interface (API) for Adobe Flex which enables the development of easy-to-use applications that are rich in functionality and efficiently delivered to users in a web browser. The solution includes three core modules; View, WAM, and Sync. View is a web-based GIS viewer that provides map visualization, spatial query, and geoprocessing capabilities through an easy to use interface. WAM extends the viewer with capabilities to support specific work and asset management activities through a real-time interface to WAM. Using the WAM extension, users have seamless access to data visualization and spatial analysis capabilities from ArcGIS. For example, users can view the location of existing work orders on a map and select assets from the map to assign to new work orders. Sync provides data synchronization between WAM and the Geodatabase ensuring the databases are always aligned providing a single consistent asset registry. Sync creates new asset records in WAM automatically when new features representing assets are created in the Geodatabase. Sync also updates the asset databases when specifications or attributes are modified in either system.

Program Manager, Enterprise GIS Development Project, Providence Water Supply Board.

Responsible for managing an enterprise GIS development program for Providence Water Supply Board (PWSB). Work included overseeing multiple projects phases, planning and scheduling work tasks, and managing the project team that included internal resources and subcontractors. Lead role in defining system requirements for GIS that included business process modeling,

functional requirements definition, Geodatabase design, and designing the system integration architecture. Responsible for defining the data conversion specifications and overseeing the conversion activities performed by the data vendors under a subcontract. Managed a team of GIS application programmers that were responsible for designing and configuring priority applications based on the system requirements and business needs, including developing test plans and workflow training programs to ensure the applications meet the business objectives. Initial project objective was to streamline work management and customer information processes by integrating a new GIS with the organization's existing Hansen work management system and Customer Star customer information and billing system.

Project Manager, Enterprise GIS System Design Project, Charlotte Mecklenburg Utilities.

Responsible for overall project management of a multi-year project comprised of several phases, including project definition, system design, pilot application and data development, and full system implementation. Responsible for managing a team of highly skilled GIS, engineering, and mapping professionals. CMU has used GIS technology on a limited basis since 1992 to support basic map production and analysis. CMU has not been able to fully leverage the technology due to the absence of a comprehensive data management strategy and because business processes have not been integrated into CMU's business to support GIS data maintenance. CMU has initiated the GIS Foundation Project to address these issues and to develop GIS as a core information system. Project involved the conversion of water and wastewater system data into a GIS format, and the development and implementation of standards, processes, and procedures to support the maintenance and use of the data. The GIS Foundation Project will lay the ground work that opens the door to a new generation of business tools that facilitate improved customer service, operational efficiency, planning, communications, and encourage proactive asset management that will allow CMU to meet future demands in a competitive environment.

Project Manager, Mobile-based GIS Implementation Project, Honolulu Board of Water Supply.

Responsible for leading a team of GIS consultants and application developers in the development of a mobile-based GIS application to support Honolulu Board of Water Supply (HBWS) field operations and maintenance activities. Project began by facilitating a weeklong workshop with project sponsors, managers, and field staff to define the vision, including business drivers and user needs for mobile GIS, along with technical requirements, including hardware and software options, for the deployment of a mobile-based GIS environment. Emphasis was placed on identifying the proper form factor for hardware to be deployed in the field, as well as the usability of the software application for field personnel. Next a functional requirements specification was developed outlining the GIS capabilities to be deployed in the field, which included alternatives for the software development platform, as well as options for mobile computing devices, such as rugged slate and convertible tablet PCs. Subsequent phase of work will include developing a prototype application for field testing with HBWS operations and maintenance staff.

Project Manager, GIS Implementation and Support Services, Honolulu Board of Water Supply.

Responsible for developing a strategic plan for Enterprise GIS at the Board. The plan provides the strategy and tactics for implementing a GIS supporting the Board business processes and work activities. Also responsible for leading a team of technical consultants in database development and application implementation.

Project Manager and Technical Lead, Enterprise Web-based GIS and Mobile Facility Viewer Implementation Project, Jacksonville Electric Authority.

The six-month project included the design, development, and implementation of an enterprise web-based GIS portal-based on ArcIMS 4.0 and a mobile facility viewer application developed using MapObject and Visual Basic. Responsible for planning and coordinating project activities among technical staff. Developed

application vision, user and technical requirements, and implementation plan documents. Tracked weekly work activities and managed the project schedule, deliverables, and costs. Supported JEA with application deployment including testing and training activities.

Technical Project Manager, GIS Implementation Project, Ocean County Utilities Authority.

Assisted with the initial strategic planning activities for the implementation of GIS at OCUA. Performed a needs analysis outlining potential applications that can be implemented to support the organization. Facilitated business and system modeling workshops with OCUA management and technical staff to define current business processes that could be optimized through the use of geospatial information and applications. Developed a vision and requirements for the development of a web-enabled mapping application that interfaces with the organization's SAP Enterprise Resource Planning (ERP) system for work order management. Led and managed a team of programmers, including two subconsultants, in the application development process.

Project Manager and Lead Technical Consultant, Water and Wastewater GIS Data Migration Project, Jacksonville Electric Authority.

Responsibilities included managing the processes and project phases for migrating JEA's GIS data environment from Intergraph FRAMME to ESRI ArcInfo 8.2 and ArcFM. Developed a data migration plan, which included activities for data preparation and clean up, migration from FRAMME (DGN/Oracle) to SHAPE, and Quality Assurance and Quality Control (QA/QC). Also responsible for supporting JEA with defining new data management processes and activities for maintaining the GIS in ArcFM.

Project Manager and Business Analyst, Data and Application Migration Project, Grand Valley Metropolitan Council (GVMC), Grand Rapids, Michigan, Regional Geographic Information System (REGIS).

REGIS, an agency of GVMC made up of 20 cities, townships, and quasi-governmental organizations in western Michigan, provides a common database and suite of applications and interfaces to satisfy the spatial data management needs of all participant member departments. Project responsibilities included overall program management for the migration of the REGIS GIS applications and data to the new ESRI ArcGIS 9.0 technology architecture. Led a team of highly skilled GIS application programmers and database administrators. Provided project status reports and managed the budget during the project lifecycle. Developed a strategic migration plan, technical design, and tactical implementation plan for migrating the data and applications from ESRI's ArcInfo 7.x environment to ArcGIS 9.0.

Project Manager and Technical Track Lead, MAXIMO EAM to ESRI ArcGIS Integration and Implementation Project, City of Albuquerque Water Utility Division.

Responsible for managing a team of software developers in the definition, development, and implementation of a GIS interface to MAXIMO Enterprise Asset Management System (EAM). Included the development of technical requirements and system specifications for the integration of the ArcGIS Geodatabase environment with MAXIMO data repository in Oracle, as well as an easy-to-use, web-based client side application built on ESRI's ArcIMS software technology. Automated routines and procedures were established to maintain the synchronization of data between the ArcGIS Geodatabase and MAXIMO data environments, which was accomplished through stored procedures and database triggers written in Oracle. The client side application was written using Java, Java Script, and HTML programming based on ESRI's ArcIMS software. Responsible for managing the scope of work, technical and user requirements, development staff, and expectations of the project sponsors. Also involved in writing project documentation, including design documents, technical specifications, user manuals, and technical guides.

Project Manager and Lead Technical Consultant, Geographic Information System (GIS) and Work Management System (WMS) Implementation Program, City of Kissimmee Department of Water Resources.

Responsible for leading project team in 4-phase, 18-month

project. Phase 1 included defining the business requirements for the need to implement an integrated GIS and WMS solution, defining the WMS functional requirements that meet the business needs, and supporting the selection of a software package. Phase 2 included upgrading the existing ESRI-based GIS to support integration with the selected WMS. Responsible for identifying required data elements, defining a new database environment based on ESRI's ArcGIS 8.1 geodatabase, and supporting the migration of existing GIS features into the new GIS database. Phase 3 included data collection and conversion to capture the data required to support the GIS/WMS solution. Responsible for developing a data collection and conversion plan, and assisting the City with the establishment and management of a data conversion contract. Phase 4 included WMS implementation management. Responsible for supporting the City with the management of the WMS implementation effort, which included providing acceptance and QA/QC procedures and developing a training plan.

Project Team Member and Lead Technical Consultant, Work Order Management Project, City of Albuquerque Water Utility Division. Responsible for leading a segment of the project to upgrade the City's existing GIS to provide seamless integration with MAXIMO Computerized Maintenance Management System (CMMS). Responsibilities included upgrading the City's existing ArcInfo 7.2 GIS to ArcGIS 8.2 by designing a new database and supporting data migration. The new database was designed to provide integration with MAXIMO CMMS. Activities included facilitating data modeling workshops with the GIS/CMMS integration team, developing a physical geodatabase in Oracle using ArcSDE, developing automated routines to prepare the existing GIS data for migration, supporting City GIS staff with performing the migration, and planning process and procedures required to keep the GIS and CMMS databases synchronized.

PROFESSIONAL CERTIFICATIONS / REGISTRATIONS

- Certified Project Management Professional (PMP), Project Management Institute

TECHNOLOGY PROFICIENCIES

- **Systems/Platforms:** Windows versions (XP, NT), UNIX
- **Software:** MS Office, Maximo, SAP, Oracle e-Business Suite, Colorado Customware (CCI), Realware
- **GIS Software:** ESRI ArcGIS Suite: ArcGIS, ArcGIS desktop, ArcGIS Server, ArcSDE, ArcIMS, ArcFM, ArcInfo, ArcView, ArcEngine
- **Languages:** AML, Avenue, Javascript, XML, HTML
- **Databases:** Oracle, SQL/Server
- **Hardware:** PC, Server

ASSOCIATIONS / MEMBERSHIPS

- Geospatial Information and Technology Association (GITA)
- GITA Conference Planning Committee
- ESRI Water and Wastewater User Group
- Project Management Institute (PMI)
- Industry Trends Analysis Group (GITA)

PUBLICATIONS

Heise, Skip. "Proven and Powerful Maximo and GIS Integration – HBWS Case Study" IBM Maximo World, Orlando, Florida, July 2007.

Heise, Skip, Hirayama, Ellen. "ArcGIS and Maximo Integration Provides Complete Solution for Managing Distributed Work and Assets" ESRI User Conference, San Diego, California, June 2007.

Heise, Skip. "GIS/CMMS Integration Provides Complete Solution for Managing Distributed Work and Assets" GITA Annual Conference and Exhibition, San Antonio, Texas, March 2007.

Heise, Skip, Ekmark, Melissa. "Facing the Challenges of Managing Distributed Assets: Integrated Mobile Toolsets for Field Crews" DistribuTECH 2007, San Diego, California, February 2007.

Heise, Skip, Hirayama, Ellen. "Mobile Asset Notebook (MANO) Empowers HBWS Operations and Maintenance Crews with GIS Capabilities in the Field" GITA Annual Conference and Exhibition, Denver, Colorado, March 2005.

Heise, Skip, Nuñez, Robert. "Business - Driven Integration of Computerized Maintenance Management System and Geospatial Information Technologies" Information Management & Technology Conference and Exhibition, Baltimore, MD, April 2004.

Heise, Skip, Nuñez, Robert. "Integrating Geospatial Information and Computerized Maintenance Management Systems (CMMS) Technologies" GITA Annual Conference and Exhibition, Seattle, Washington, March 2004.

Heise, Skip, Takara, Holly. "How to Streamline Water Main Failure and Condition Assessment Using Geospatial Technology." GITA Annual Conference and Exhibition, San Antonio, Texas, March 2003.

Heise, Skip. "GIS Implementation Drives up Productivity Improvements and Guarantees Return on Investment" AWWA Annual Conference, Washington DC, June 2001.

Young, John A., Heise, William A., Aubry, Keith B., Lehmkuhl, John F. "Development and analysis of a landscape-level GIS database to assess wildlife use of managed forests." GIS'93 Symposium, Vancouver British Columbia, February 1993.