Lifescale Analytics' Response to:

Information Technology Modernization Consulting Services

Proposal

E-RFP Number: 20240019

Prepared for:

City of Port Saint Lucie

Date:

March 1, 2024

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March 1, 2024

India Barr
Procurement Contracting Officer
121 SW Port St. Lucie Blvd
Port St. Lucie, Florida 34984

Dear India Barr:

Lifescale Analytics is pleased to offer the following proposal that meets the requirements provided by the City of Port Saint Lucie Information Technology Modernization Consulting Services Request for Proposal.

Project Title	Information Technology Modernization Consulting Services
Full Legal Name and Address of Company **Website**	Lifescale Analytics, Inc. 1915 Hwy 36 West Roseville, MN 55113 www.lifescaleanalytics.com
Principal Point of Contact **Title** **Phone** **Email**	Brian Carnell Chief Information Officer 919-333-9014 briancarnell@lifescaleanalytics.com

Lifescale Analytics welcomes the opportunity to provide additional information to the City of Port Saint Lucie regarding the services discussed within this document.

Our proposal is valid for 45 days from the date of submission and, if awarded, will remain valid throughout the contract term. Please contact Brian Carnell for any questions on this response or any other proposal communication matters.

Regards,

Patricia Geloso
Chief Executive Officer
Lifescale Analytics

I. EXECUTIVE SUMMARY

Lifescale Analytics, Inc. is a leading provider of data analytics, geospatial, and engineering solutions headquartered in Roseville, Minnesota, with an additional office in Melbourne, Florida. Since 2012, we have been committed to delivering customized consulting services and solutions to our clients. Our expertise includes ***Data Science and Visualization, Cloud and Infrastructure, Cybersecurity, Artificial Intelligence, Engineering, and Geospatial Solutions.*** Lifescale Analytics holds ISO 9001: Quality Management Systems and ISO/IEC 27001: Information Security Management Systems Certifications, exemplifying our commitment to excellence in quality management and information security. With an average annual revenue of $4.5 million over the last five years, Lifescale Analytics is dedicated to empowering businesses and government agencies by providing them with the tools and expertise to effectively manage and proactively make decisions based on their most significant asset - their data.

Lifescale Analytics' mission is to make it easier for more organizations to use the power of their data to make advised and actionable decisions. Lifescale Analytics provides consulting services expertise in:

- **Data Science, Business Intelligence, and Visualizations** – Analyzing and manipulating data into insightful and actionable information
- **Geospatial Solutions** - Leveraging data-driven results into innovative geospatial solutions
- **Artificial Intelligence** - Increase efficiency with automated decision-making and predictability with near real-time decisions and results
- **Cybersecurity** - Protection of data. Zero trust and improved business continuity on your organization's most valuable asset
- **Engineering Solutions** - Insightful and creative product and software solutions to increase proficiency and address unique challenges
- **Infrastructure and Cloud** - On-premise, hybrid, and cloud solutions that provide speed to scale and flexibility

The Value We Offer

- **Proven Expertise Across Sectors** - We have demonstrated success collaborating with municipalities, government agencies, non-profits, and corporations, delivering end-to-end data platforms, architecture solutions, and business intelligence.
- **Seasoned Professionals Driving Success** - Our team has over 25 years of experience spanning Data Strategy and Road Mapping, Data Management, Science, Analysis, Visualization, Architecture, Governance, Artificial Intelligence/Machine Learning, GIS, and more.
- **Strategic Data Leadership** – We have over two decades of proven excellence in developing and designing Data Strategies, Governance, Analytics, Information Technology, and industry-specific insights.
- **CJIS and HIPAA Certified Professionals**
- **Certified Partnerships –** We have certified partnerships with Snowflake, ESRI, Tableau, and SAS.
- **Certified Small Women-Owned Business** – We are proudly certified by WOSB, WBENC, and the State of Minnesota.

Lifescale Analytics is an industry expert with proven differentiators that include:

- Utilizing experience in government, financial institutions, pharmaceutical, environmental science, and utility organizations across the United States
- Aligning with companies to enhance their offerings so they can add value to their industry
- Providing full-time consultants who are Data Scientists, Enterprise and Solution Architects, Professional Engineers, Data and Integration Architects, Business and System Analysts, and Software Engineers
- Drawing from a pool of experienced team members with over 15 years of technical and consulting experience
- Dispensing expertise garnered from working with a variety of platforms across the entire data lifecycle
- Working together with Business and Information Technology stakeholders to help clients discover their needs and develop strategies to increase the value of their data

Company Ownership and Officers

At Lifescale Analytics, our leadership team embodies decades of collective experience and expertise and is committed to strengthening government agencies and businesses, empowering them through dedicated analytics solutions.

Trish Geloso - Chief Executive Officer

Trish Geloso is the Chief Executive Officer of Lifescale Analytics and has been a ***resident of Port Saint Lucie*** since 2017. She has ***over 25 years*** of experience in the Information Technology industry. Her background includes significant program and contract administration, development, and the oversight of multi-million-dollar engagements for large infrastructure environments. Trish began her career in the insurance industry before moving into progressing roles at the United States Postal Service, where she was heavily involved in the re-architecture and design of the entire distributing computing environment. Trish spent 18 years excelling in negotiating and administrating extensive infrastructure projects with major IT vendors such as Microsoft, Oracle, and AT&T.

After her time with the United States Postal Service, she became the Director of Acquisitions and Contracting for the Public Sector for BIAS Corporation. Most recently, she was the Senior Director of Strategic Initiatives for Alchemy Global Networks.

Brian Carnell - Chief Information Officer/Chief Financial Officer

Brian W. Carnell is the Chief Information Officer and Chief Financial Officer of Lifescale Analytics. He has been in the IT Industry for ***over 25 years*** and has worked for some of the top Technology companies in the World. He has held Management, Engineering, Architect, Sales, and Marketing roles at Dell, Oracle, Cisco Systems, WANG, USPS, and EchoStar during his career. Brian has also served as CEO of Dzeel Clinical and CTO of PracticeStream Media, providing leadership and technology strategies as one of the early pioneers in the medical digital media market.

During Brian's career, he has assisted several government agencies, which include DHS, FAA, DOE, NASA, Dept of Commerce, USPTO, NOAA, and many others. Brian is also a creator of one of the first AI-driven autonomous flight systems for pest management and holds several patents. His technical knowledge and experience in managing large technology organizations and setting the technology's strategic direction have given him a breadth of insight that is extremely valuable to IT industry leaders today.

Dan Berglove - Chief Technology Officer

Dan is a co-founder of Lifescale Analytics. As the Chief Technology Officer, he oversees all aspects of delivering services and results for clients. Dan began his career in application development and has managed and directed development efforts for organizations of up to 100 people. He has ***over 25 years*** of IT leadership and consulting experience and has implemented successful IT practices in data security, business intelligence, data architecture, Agile IT management, and enterprise architecture.

Dan's experience with implementing strategic technology spans a variety of vertical segments, including the life sciences, insurance, banking, database marketing, mortgage, and medical industries. Dan has served in technology leadership positions with UNUM Life, Carlson Companies, Wells Fargo, and GMAC-RFC, and he has provided strategic IT consulting services to many notable organizations, including The Federal Reserve Bank, Syngenta Seeds, National Marrow Donor Program - Be The Match, Bayer CropScience, and Duke Clinical Research Institute.

KEY PERSONNEL TEAM MEMBERS

Below are the proposed ***key personnel team members*** who will be engaged in the Information Technology Modernization Project.

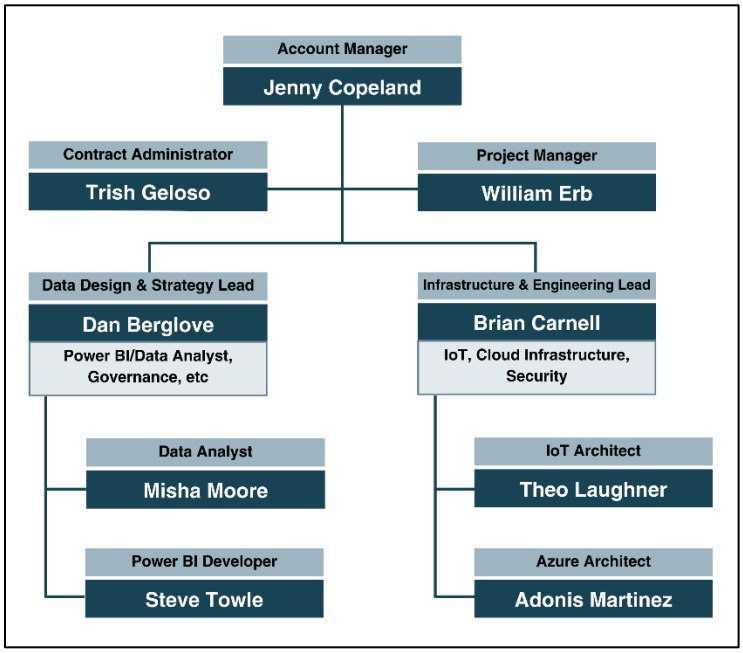


Figure 1 – Project Team Organizational Chart

Jenny Copeland – Account Manager

Jenny Copeland has ***over 30 years*** of strategic selling and account management experience proven track record in ***cultivating successful customer relationships and partnerships***. She excels in managing and growing existing accounts, fostering strong relationships with key executives, and overseeing client communication for ongoing and upcoming projects. Jenny's dedication to customer success is evident in her ability to ***align customer project goals, oversee implementations, and create multi-phased roadmaps***. Her client service experience extends across various sectors, including healthcare, technology, and government agencies, making her a valuable resource with ***exceptional client service and strategic account management skills.***

Trish Geloso – Contract Administrator

Trish Geloso, the Chief Executive Officer of Lifescale Analytics, brings ***25 years*** of experience in strategic leadership and contract management to the role of Contracts Administrator. With a background spanning Information Technology leadership and executive roles, Trish has honed her skills in ***procurement, negotiation, and policy improvement across various sectors***, including Federal, State, and Local Government as well as commercial business. Prior roles include serving as Senior Director of Strategic Initiatives at Alchemy Global Networks and Director of Public Sector, Contracts, and Acquisitions at BIAS Corporation, where she demonstrated expertise in ***contract management and acquisition strategies***. Trish's blend of ***strategic vision, operational acumen, and commitment to fostering collaborative relationships*** help her impactful results and drive organizational success. Trish has a Bachelor of Science in Information Systems with a Minor in Computer Security.

William Erb – Project Manager

William (Bill) Erb brings ***over 15 years*** of experience and excellence in resolving complex issues, refining business and technical processes, aligning teams to achieve business goals, and driving programs to successful completion in the banking, government, pharmaceutical, and commercial entrepreneurial industries. ***Bill is an experienced Project Manager skilled at managing the day-to-day operations of large projects with many moving parts***. He can expertly organize, direct, and coordinate the planning and production of all contract support activities and can easily adapt to any changes made during a project. Bill has a Master of Science in Information Science and a Master of Arts in History from The University of North Texas. He also holds a Bachelor of Arts in Humanities from Ohio State University.

Dan Berglove – Data Design and Strategy Lead

Dan Berglove is a co-founder of Lifescale Analytics. As the Chief Technology Officer, he oversees all aspects of delivering services and results for clients and will serve as the Program Manager for this engagement. ***Dan has over 25 years of IT leadership and consulting experience and has implemented successful IT practices in data security, business intelligence, data architecture, Agile IT management, and enterprise architecture***. He brings years of

experience working with ***municipalities, including law enforcement, designing strategies and governance with large datasets that can evolve into valuable insights***. Dan is ***a certified Business Architect, Scrum Master, CJIS Certified,*** and ***HIPAA Certified***, and he has a Master of Arts in Geographic Information Systems and a Minor in Transportation Management Systems from the University of Iowa. He also has a Bachelor of Arts in Geographic Information Systems from the University of Minnesota.

Brian Carnell – Infrastructure and Engineering Lead

Brian W. Carnell is the ***Chief Information Officer*** of Lifescale Analytics. He has been in the IT Industry for almost ***30 years*** and has worked for some of the top Technology companies in the world. He has worked with numerous government agencies to help create ***long-term strategic technology roadmaps and budget plans*** for innovation that focus on ***Digital Transformation*** and overcoming the technical debt dilemma. His ***technical knowledge of logistics and industrial systems***, combined with his experience in managing very large technology organizations and setting the technology's strategic direction, have given him a breadth of insight that is extremely valuable to IT industry leaders today. Brian holds a Bachelor of Science in Management Information Systems and holds many information technology industry certifications in networking, data center, cloud design, information systems, and disaster recovery planning.

Misha Moore – Data Analyst

Misha is a Data Analyst with over ***ten years of professional experience***. She possesses a strong work ethic and has an excellent reputation for problem-solving, improving processes and product documentation, and onboarding and training new clients. Misha is skilled at creating dashboards and has over three years of Qlik Analytics experience using Qlik Sense Desktop and Qlik Cloud. Misha is also ***experienced with Qlik Sense Desktop, Qlik Cloud, Power BI, Upgrading Dashboards, and creating Dashboards for Senior Managers***. She is an ***ICAgile Certified Professional (ICP***) and has created and maintained ***data visualizations for key management*** using Qlik Sense Desktop to analyze daily, weekly, and monthly TPV by partner. Misha earned her Master of Business Administration from the University of Phoenix and held numerous professional certifications.

Steve Towle - Power BI Developer

Steve is an innovative and conscientious Information Technology professional with ***over 15 years*** of experience. He excels at adapting to improve high-performance teams, aligning processes, applications, and data to business requirements, and creating mutual understanding between technical and business-function employees. Steve's broad background provides experience in working with all functional areas of an organization, with a strong focus on problem-solving, data analytics, and solution development. ***He has provided services spanning Data Architecture, Data Modeling, reporting, ETL (including a data purge process), and views for use in Power BI. Steve has extensive experience with Power BI reports using Power Query, DAX, and Dashboards***. He holds both a ***CJIS Certification and HIPAA Certification.*** Steve has ***a Bachelor of Science in Management of Data Systems*** from Syracuse University and holds numerous certifications beneficial to data architecture and analysis.

Brian Carnell – Infrastructure and Engineering Lead

Brian W. Carnell is the ***Chief Information Officer*** of Lifescale Analytics. He has been in the IT Industry for almost ***30 years*** and has worked for some of the top Technology companies in the world. He has worked with numerous government agencies to help create ***long-term strategic technology roadmaps and budget plans*** for innovation that focus on ***Digital Transformation*** and overcoming the technical debt dilemma. His ***technical knowledge of logistics and industrial systems***, combined with his experience in managing very large technology organizations and setting the technology's strategic direction, have given him a breadth of insight that is extremely valuable to IT industry leaders today. Brian holds a Bachelor of Science in Management Information Systems and holds many information technology industry certifications in networking, data center, cloud design, information systems, and disaster recovery planning.

Theo Laughner – IoT Architect

Theo Laughner is the ***Director of Engineering and Geospatial Solutions*** at Lifescale Analytics and has over 15 years of experience working in the public sector. He has a long track record of ***developing creative solutions to difficult problems*** through collaboration and industry engagement. Theo's experience includes ***GIS design, implementation, and support of diverse data sets into long-term solutions***. Theo's experience ***consists of the development of the Fault Trace Tool that visualizes Lightning Strikes on power grids utilizing GIS technology*** for the energy industry. He is a Certified Professional Engineer, has published over 30 papers in his career, and serves as a chair to numerous organizations. He has ***led large-scale projects*** for both the United States Postal Service and Tennessee Valley Authority and has proven experience in ***Data Analytics, GIS, Cybersecurity, and Networking***. Theo holds a Bachelor of Science in Engineering from the University of Tennessee.

Adonis Martinez– Azure Architect

Adonis Martinez has ***over 20 years of IT experience in Enterprise Data Engineering, Data Integration, and Data Modeling***. He has designed and implemented several ***large data warehouse projects*** utilizing a variety of methodologies and technology design approaches, providing a full range of enterprise services and solutions for both relational and multi-dimensional platforms. Adonis has in-depth knowledge and expertise in Information Management in the areas of ***Enterprise Engineer Planning, Data Governance, Master Data Management, and Data Warehousing*** and has ***designed several large terabyte projects for various industries,*** including financial services, manufacturing, retail, pharmaceuticals, telecommunications, education sector. Adonis earned his Programming and Software Engineering degree from EDP College in Puerto Rico and a Bachelor of Arts in Computer Science from Inter-American University.

II. Methodology/Approach

Management Approach

The City of Port Saint Lucie needs an outstanding team with diverse skills backed by a proven management approach and effective communication plan to accomplish all Information Technology Modernization requirements. The City also needs a stable, highly qualified project staff dedicated to remaining current with new technologies and whose activities are tracked to meet budget constraints and contract requirements. Lifescale Analytics offers insight-based program management, innovative cost management strategies, and integrity-driven service delivery.

The following are salient features of our ***Management Approach***:

- **Understanding of complex environment** - Our support on large, complex projects at clients such as Washington County, Minnesota and the United States Space Force has given us skilled resources that have intimate familiarity with the projects with extremely similar scale and complexity to that of the City's environment and can offer insights and opportunities for meaningful innovations that have positive business impacts.
- **Full transparency -** Maintain open and honest communications with the City's leadership and respond to all incidents through our deep commitment to deliver service visibility.
- **Seamless cadence** - Implement a proven, reliable, tailored approach that guarantees the continuity of the strategy and minimizes disruption.
- **Single point of contact for the City** - Our Account Manager, Jenny Copeland, has full decision-making authority and is empowered to effectively support the City's Information Technology Modernization from Day One.
- **Focus on partnership** - Collaborate openly with the City to find creative solutions to both business and technical challenges and identify innovations to enhance the City's Information Technology Modernization in the future.

The Project Manager, Bill Erb, will conduct project status meetings to review and discuss key project elements with the City's stakeholders. Responsible for organizing and managing the work effort in alignment with the Project Management Plan, they will ensure compliance with standards for proactive decision-making. Lifescale Analytics, guided by established disciplines and industry best practices, has a proven track record of successfully completing client projects and will support the City's efforts outlined in this RFP.

To ensure complete transparency, Lifescale Analytics will employ a ***Project Management Plan (PMP)*** to guarantee timely and budget-conscious task completion while meeting expectations. Weekly ***status reports*** will be generated throughout the engagement, serving as a tool to manage tasks, provide visibility to project progression, and include key status indicators, success metrics, actual expenses (if applicable), baselines, milestones, and any risks or issues encountered. The PMP is a dynamic document that will be continuously updated throughout the contract's lifespan and presented as a deliverable at the Kickoff meeting.

The table below shows a proposed ***list of artifacts*** the PMP will provide.

Plan	Description
Quality Management Plan	• Documents project quality standards, procedures, and activities • Helps verify that quality is built in and continually added to project processes and deliverables • Serves as the framework through which quality processes are established and maintained
Resource Utilization Plan	• Monitored and adjusted based on need throughout the project • Compared using Lifescale Analytics ERP software solution, Deltek Vantagepoint
Change Management Plan	• Outlines the systematic approach to transforming organizational goals, processes, and technologies • Allows the successful implementation of strategies and methods for effecting change • Helps people not only accept and adapt to change, but actually thrive in the environment
Project Communication Plan	• Ensures we provide stakeholders with up-to-date information on project progress • Regular (weekly or bi-weekly) stakeholder review meetings • Risks and Issues Log - reviewed at stakeholder review meetings, more frequently if needed • Project Budget outlining actual and forecasted project costs
Project Performance Plan	• Develops a schedule in Smartsheet's format, and a version will be provided in Adobe and Excel version on a monthly basis at a minimum
Risk, Issue, and Action Management	• **Risk Identification and Management -** Risks will be identified, prioritized, and tracked in a Risk Log located in the project repository and updated on an as-needed basis • **Issue Identification and Management -** Issues will be identified, prioritized, and tracked in an Issue Log located in the project repository and updated on an as-needed basis • **Action Item Identification and Management -** Action Items will be identified, prioritized, and tracked in an Action Item Log located in the project repository and updated on a monthly basis at a minimum
Work Breakdown Structure	• Maps directly to the project schedule • Aligns with the Project Performance Plan
Security Requirements for Team	• Ensure team members take the IT Security Awareness Training at entry on duty and annually thereafter • Primary interface for Security Clearances of team members based on agency requirements, if applicable

1.3.1 Data-Driven Strategy and Implementation to Support City Initiatives.

Requirements for Data-Driven Strategy and Implementation to support the City Initiatives include:

- Enterprise Data Architecture
- Database Solution Modeling and Design
- Data warehouse, advanced reporting, and analytics
- Cloud data migration
- Data management best practices
- Advanced application and data integration

ACHIEVING IMPACT

Lifescale Analytics delivered a data architecture design to the National Marrow Donor Program/ Be The Match that resulted in a five-day reduction in transplant time and a profound improvement in transplant survival rates.

Lifescale Analytics understands that the City of Port St. Lucie requires a strong partner with robust data knowledge and extensive management experience and is also well-versed in best practices for data. The City seeks to modernize its data and application portfolio and leverage its most important digital asset, ***data***.

The City is in the process of migrating its technology infrastructure to the MS Azure cloud. A key to the success of the migration is a ***modern data architecture*** to support current needs and with the flexibility to meet strategic needs for the city. This would include leveraging data management services of Azure that are not available on the current on-premises platform (e.g., blob storage, Databricks, and Analytics Services).

There is a compounding volume of data in both ***historically valuable*** and ***immediately actionable*** digital assets. The historically valuable data is contained in numerous internal stores with varying consistency and governance levels, while the immediately actionable data is mainly from new sources such as Internet of Things (IoT) devices. Much of the immediately actionable data is allowed to become stale or stored in bulk without proper data hygiene.

Data Management Best Practices and Recommendations

Lifescale Analytics has extensive experience with all aspects of ***Data Management and Support***. We have assisted organizations with designing and implementing greenfield solutions and redesigning and remediating legacy warehouses. Having the Lifescale Analytics subject matter experts involved with end-to-end solution architecture and design keeps consistency throughout the process and often results in a cohesive solution through ETL and database design, reporting, and fulfillment stages. Lifescale Analytics has Data Architects, ETL developers, Database developers, and Dashboard development expertise to develop a comprehensive solution design and other aspects that may occur throughout this engagement.

For our clients who are very early in the data journey, we offer the ***Lifescale Analytics Digital Data Advancement Program,*** which is a series of four data-focused end-to-end offerings that can help explore, analyze, capture, and recommend approaches to address data and analytics challenges. The Program's Methodology consists of the following:

- **Data Evolution Strategy** – discovering and planning what must be done to uncover actionable and historical data to achieve an end-to-end strategy and recommendations that will set a path toward data organization and transformation.
- **Data Organization and Transformation** – facilitating the Data Evolution strategy by implementing the process of data migration, solution modernization, and enhanced governance.
- **Data Science and Analysis** - focusing on the delivery of actionable and historical data to solve analytically complex business problems with algorithms, data inference, predictive modeling, and artificial intelligence.
- **Data Exploration and Explanation** – creating visualizations and statistical techniques to uncover data characteristics and display them in a useful way.

Lifescale Analytics offers an end-to-end program called the ***Lifescale Analytics Digital Data Advancement Program.*** This program consists of systematic, repeatable processes, best practices, and techniques to assist organizations in ***harnessing the full power of their data and analytics capacities.***

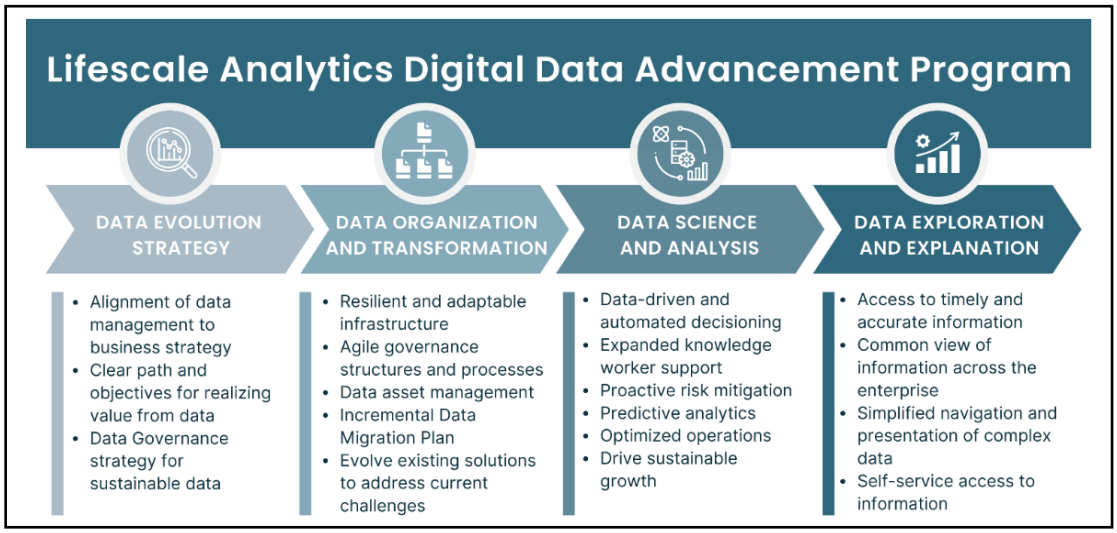


Figure 2 - Lifescale Analytics Digital Data Advancement Program

Considering the City has invested time in the ***What Works Program*** through Bloomberg, they are much further along in the data journey. We can leverage the best practices and existing findings from the What Works Program and align them with any gaps and recommendations based on Lifescale Analytics' experience to provide an all-encompassing ***Data Management Best Practices and Recommendations,*** which often includes Data Governance, Data Quality Management, Data Security and Privacy, Data Architecture and Modeling, Data Integration and Interoperability, Master Data Management (MDM), Data Lifecycle Management, Metadata Management, Data Quality Monitoring and Measurement, Data Culture and Training, and Audits and Compliance.

Data Modeling and Data Source Strategy

The Lifescale Analytics team tailors a modeling approach to the requirements and solution architecture, but we generally consider the following approach on projects:

- **Enterprise Data Model** – The Enterprise Data Model logically represents the overall data landscape. The enterprise model incorporates entity-relationship (ER) and data flow diagrams (DFD). Note that the scope of the Enterprise Model is usually broader than the enterprise data warehouse (EDW); however, this is a critical view of data for data governance.
- **Data Warehouse Model** – The Data Warehouse Model is a logical ER representation of content in the data warehouse. The model describes conformed dimensions and facts that are under management in the warehouse. The warehouse model is used extensively by Data Stewards for their governance responsibilities.
- **Physical Warehouse Model** – The Physical Warehouse Model is a set of models that describe the physical implementation of the data warehouse. The overall warehouse model describes the components of the warehouse and how they are related. Schemas of landing/staging, data warehouse, and data mart databases are also modeled. Source/target mapping metadata between the tables should also be maintained. If a star schema design is used for the EDW, the facts and dimensions are described in the model. Likewise, if data marts are provisioned as Online Analytical Processing (OLAP) cubes, they are modeled at a physical level.

Regarding star schema warehouse design and modeling, our team has noticed that, increasingly, customers are moving toward ***loosely coupled data mesh*** designs. Data subjects are stored under management as integration-ready individual schemas. Data is integrated into either star schema, OLAP, or report-specific format at the data mart layer. The design has similarities to a data lake. The downside of this approach is that extra care is needed to manage shared dimensions (and master data). But the upside is that the design is much more resilient to change. Additional data sources can be added, and historical data can shift without disrupting the integrity of the overall warehouse.

A summary of artifacts that are maintained include:

- Enterprise Data Model ER diagram
- Enterprise Data Model DFD diagram
- Kimball or Inmon Design Principles
- Data Warehouse Component Model described physical database components in the EDW
- Data Warehouse Logical Model is a logical ER diagram describing data entities in the warehouse
- Data Warehouse Physical Model describes the physical design of the warehouse (may be star schema)
- Data Mart Models describe the logical and physical designs of data marts
- Source/target mappings of data across warehouse components

Practices and Tools

A critical element of data modeling is ensuring that the entire team has access to modeling artifacts metadata. This includes visibility to both as-is and to-be models. Tools such as Toad, SQL Server Management Studio, and (Azure) Data Studio allow the entire team to establish a common operating picture of data. Assessing and understanding concerns with data quality, database performance, or inconsistent master data across systems is nearly impossible without the ability to profile and observe data implementation.

In addition to apprehending the as-is state of data, it is also critical that the team has a common understanding of the to-be or true state of data. True state models present how data should or could be implemented without the data models outlined in the current-state constraints. The models outlined in the previous section provide a common understanding of gaps between current and optimized implementation. They also are valuable diagnostic tools for understanding issues with database performance and data quality.

The data management and modeling tools that Lifescale Analytics typically leverages in planning, designing, implementing, and managing data include:

SQL Server Management Studio	• Database Administration • Database Maintenance • Database Change Management • Troubleshooting and testing • Security Administration • Server-level Administration
Azure Data Studio	• Database administration - non-complex • Query development and testing • Database change – non-complex
Azure Analysis Services	• Business Intelligence database design • BI Design optimization • Visualization design and preview • Data Integration design and test
Toad	• Database Administration • Database Maintenance • Database Change Management

	• Troubleshooting and testing
ER Builder	• Database Modeling – semantic (ER and DFD development) • Database Modeling – physical • Metadata Management • DDL generation
Idera SQL	• Performance Monitoring • Performance Analysis • Scenario performance testing

GOVERNANCE AND ROLLOUT

Establishing ***data governance structures and processes*** is crucial for any business intelligence program. Governance frameworks entail the organizational structure designed to achieve data governance goals. We recommend aligning with these objectives, which include:

- Establishing and/or complying with data management objectives that align with state agency policies
- Ensuring data solutions are aligned with strategic agency objectives
- Confirming data is managed and used in accordance with policies and standards
- Supporting day-to-day data consumers in understanding where to find data and its proper use

ACHIEVING IMPACT

Lifescale Analytics successfully orchestrated the migration of 35 years' worth of law enforcement data from an outdated system for Washington County, Minnesota, collaborating closely with County IT, the Sherriff's office, and Municipal Agencies to ensure compliance with county retention policies and establish and enhanced data governance program.

Lifescale Analytics recommends that it is best practice for the City to implement the following ***layered governance structure*** that represents a cross-section of perspectives:

- **Data Governance Council –** This is cross-sectional and initiated by designated City representatives. The Council's charter involves developing data management policies and overseeing data improvement programs. Comprising business owners and leaders, they define data access and utilization policies and often serve as the organization's steering committee for data-sharing solutions.
- **Data Architecture Committee** – The committee's charter ensures that technology solutions align with data management and architecture objectives, supporting overall governance. It develops a technology strategy for consistent data sharing across systems and ensures the technical data infrastructure is in place.
- **Data Stewardship Working Group** - The role of data stewards is to provide expertise on how data supports operations, particularly in their designated area. They understand how data is generated and utilized in processes and systems. ***Data Stewards*** are often the first point of contact for data consumers seeking information. They curate metadata in their area's dictionary and assist consumers in finding the required information while providing guidance on data usage.

Data Governance Process	Data Governance Council	Data Architecture Committee	Data Stewardship Working Group
Data Policy & Standards	Responsible for policies	Responsible for standards	Accountable for adhering to standards
Project & Data Use Reviews	Consulted for escalation	Responsible	Involved
Data Access Requests	Consulted for escalation	Responsible	Accountable
Data Addition Requests	Consulted	Accountable	Involved
Data Operations Review	Informed	Responsible	Involved
Data Catalog, Classification & Curation	Informed	Responsible	Involved

Figure 3 – Data Governance Responsibilities

Our recommended governance process is necessary to ensure that committees and stewards focus on the most important things and convey a consistent set of priorities for the enterprise. *Figure 3* outlines standard processes and who is responsible for executing them.

We also understand that it is critical for ***data to be secured*** in accordance with Federal and State policies. This starts with us assisting the City with the documentation of security classifications, which is addressed as part of the City's overall data classification scheme. In addition to HIPAA and CJIS classifications, the classification of personally identifiable data is also critical, along with the definition of sensitive, internal, and public data classifications.

ACHIEVING IMPACT

At USPS, Lifescale Analytics monitors applications via help desk tickets, network data, and other metrics to identify areas for process and performance improvement and then offers recommendations for enhancing operations.

Solution Data Modeling and Source System mapping

Solution Data Modeling is the process of creating a visual representation of the data structures and relationships within a system. It helps in understanding, designing, and communicating how data is organized and accessed within an organization. We have experience in the end-to-end process of solution data modeling, which includes ***requirement gathering, modeling, normalization and denormalization,*** and the last step of ***validation and iteration***. Depending on the client's needs, Lifescale Analytics consultants are experienced in providing several different models, which include:

- **Conceptual Modeling** - Create a ***high-level conceptual model*** that represents the essential business concepts and their relationships. This model is independent of any specific technology or implementation details.
- **Logical Modeling -** Develop a ***detailed logical model*** based on the conceptual model, translating business requirements into data structures such as entities, attributes, and relationships. This model is technology-independent but provides more detail about data types, keys, and constraints.
- **Physical Modeling -** Design the ***physical data model*** that represents how the logical model will be implemented in a specific Database Management System (DBMS). This includes defining tables, columns, indexes, and other database objects.

Our consultants have experience in ***Source System Mapping***, which involves identifying and understanding the various systems and sources from which data is collected or generated. As part of the Data Evolution Strategy, our approach includes an ***inventory of Source Systems, Data Profiling, Mapping Data Flows, Schema Mapping***, and ***determining integration Requirements***, which may include data extraction methods, frequency of data updates, data transformation rules, and data loading mechanisms.

Effectively performing data modeling and source system mapping will provide an intricate step for the City to establish a solid foundation for data management, integration, and analytics initiatives, enabling the City to derive valuable insights and make informed decisions.

Application and Service Strategy Evaluations

Application and service strategy evaluations are critical processes for businesses to assess the effectiveness, efficiency, and relevance of their software applications and services. Lifescale Analytics consultants have experience in conducting and providing evaluations to help clients make informed decisions about their technology investments, aligning them with their overall business objectives. Our framework for conducting such evaluations and assessments includes:

- Determining an Evaluation Criteria that aligns with both technical and business goals,
- Determine the interface with the user experience in mind,
- Evaluate the current applications that the City has to make sure that acquiring is the correct decision from both a functionality and cost perspective
- Identify what is required for performance, scalability, integration, and adaptability.

- Maintenace and support requirements for the continuous operations of the application after implementation.

We have offered our clients end-to-end offerings that include Analyzing System Metrics, Performance Assessments, Business Process Mapping, Continuous Monitoring, and other services. Some of our Application and Service Strategy Evaluations include:

- **Inventory and Documentation** - Create an inventory of all existing applications and services within the organization. Document their purpose, functionalities, stakeholders, dependencies, and any associated costs. A sample recommendation that Lifescale Analytics has provided to our clients is a Custom Application Information Repository, shown in *Figure 4*. This web-based application is a sample drill-down into an application-level layout providing relevant information regarding each custom application that a client can leverage to confirm portfolio business and IT contacts, cybersecurity requirements, compliance, infrastructure, and other required relevant items. This solution will assist with the process of determining the impact when a piece of COTS reaches end-of-life or retirement, as well as providing a complete inventory of applications.

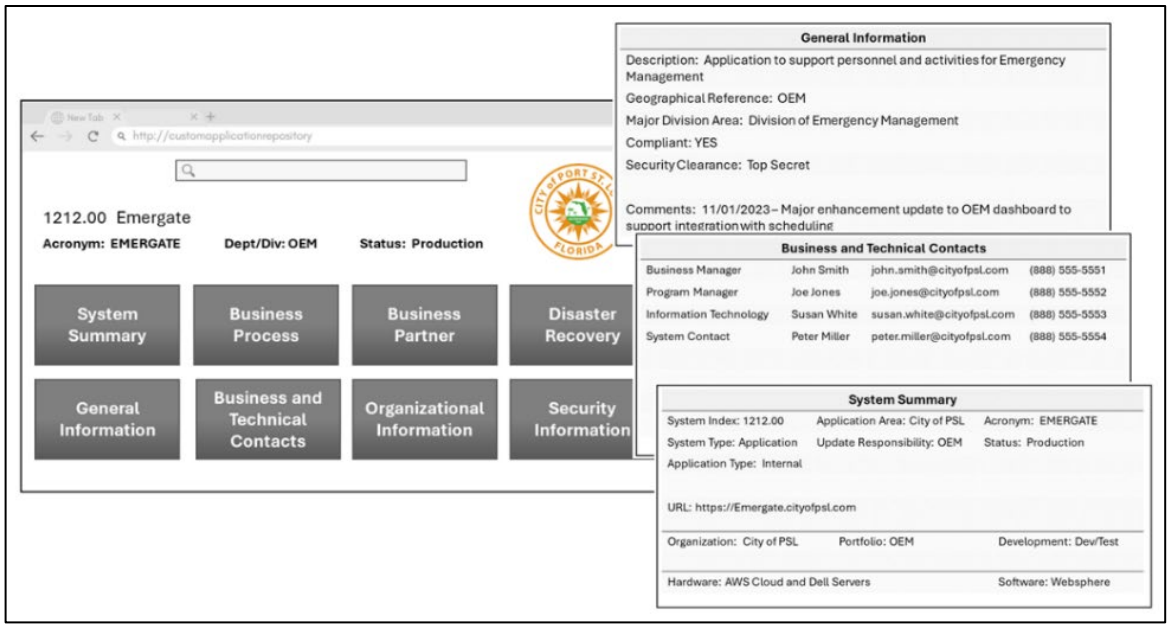


Figure 4 -Sample Custom Application Repository

- **Stakeholder Engagement** - Involve key stakeholders from various departments (e.g., IT, finance, operations, marketing) in the evaluation process. Gather their input on the performance and usability of current applications and services, as well as their requirements and preferences for future solutions.
- **Performance Assessment** - Evaluate the performance of each application and service based on the defined criteria. This may involve:
  - Analyzing system metrics such as response times, uptime, and error rates.
  - Assessing the impact of applications and services on business processes and outcomes.
- **Technology Landscape Analysis** - Conduct a thorough analysis of the current technology landscape, including emerging trends and innovations in the industry. Identify potential opportunities for optimization or enhancement through the adoption of new technologies or methodologies.
- **Risk Assessment -** Evaluate the security risks associated with each application and service, as well as their compliance with relevant regulations and standards. Identify any potential vulnerabilities or weaknesses that may pose a threat to the organization.

- **Alignment with Business Strategy** - Determine the extent to which each application and service aligns with the organization's overall business strategy and objectives. Consider factors such as scalability, agility, and innovation capabilities.
- **Prioritization and Roadmap Development** - Based on the evaluation results, prioritize applications and services for optimization, replacement, or retirement. Develop a roadmap outlining the timeline and action plan for implementing recommended changes.
- **Continuous Monitoring and Improvement** - Establish mechanisms for ongoing monitoring and evaluation of applications and services to ensure they continue to meet the organization's evolving needs. Regularly revisit the evaluation criteria and adjust them as necessary to reflect changing priorities and objectives.

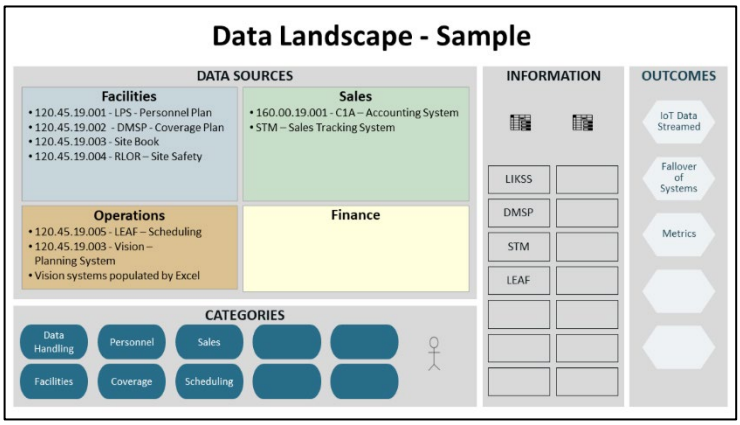


Figure 5 – Sample Data Landscape

Inventory and Landscaping of Data Sources

Lifescale Analytics has experts who focus on data governance, inventory, and data landscaping. To achieve a full picture of what data sources, types of data, and other relevant information are in a client environment, we recommend our Lifescale Analytics Data Evolution Strategy.

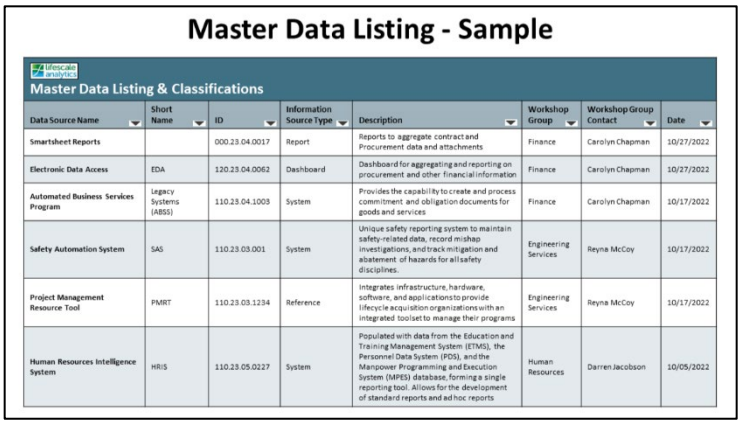


Figure 6 - Sample Master Data Listing

This is a 12–15-week engagement that offers both a Business Deep Dive and a Technical Deep Dive that will conduct a ***Gap Analysis*** for both the Technical and Business perspectives, as well as provide the City with a draft version of detailed ***Data Context Diagrams*** and ***Data Landscapes*** (*Figure 5*), which includes a diagram image of existing data sources, outcomes, owners, users, and systems for each Department. We will also provide a working model of the ***Master Data Listing*** (*Figure 6*). The ***Functional Area Context Models (FACM)*** (*Figure 7*) will also be provided, which illustrate users' perspective of the data needed to complete day-to-day operations, addressing Personas.

These models can be used as a starting point for technical analysis of the business use case automation. That analysis would further define the business and system use cases and the association of each to a particular system and/or data source. The collection of the FACMs as a simple visual representation of the business domains also assists in the prioritization of further analyzing operational and/or analytical automation. The prioritization process is based on specific capabilities and important needs of the stakeholders.

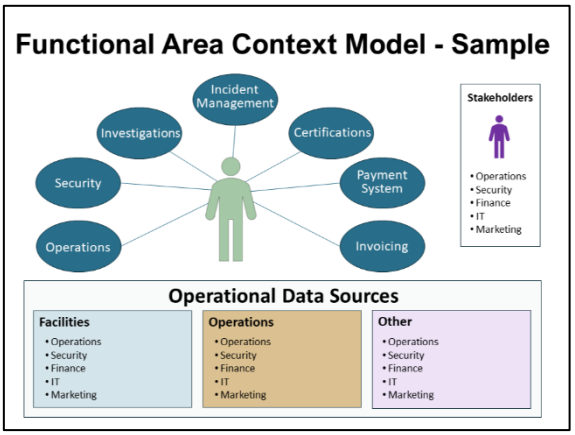


Figure 7 - Sample Functional Area Context Model

Methodology

We feel that a ***core focus of Data Strategy is operational efficiency and agility to better address broad organizational access to digital assets.*** This method requires a thorough assessment and strategy with a Roadmap to ensure the City's continued data store growth and ability to address business challenges with digital assets. The goal is to overcome perceived challenges of data access, quality, governance, and management, and to eliminate data silos, ultimately having a single location collect and access data.

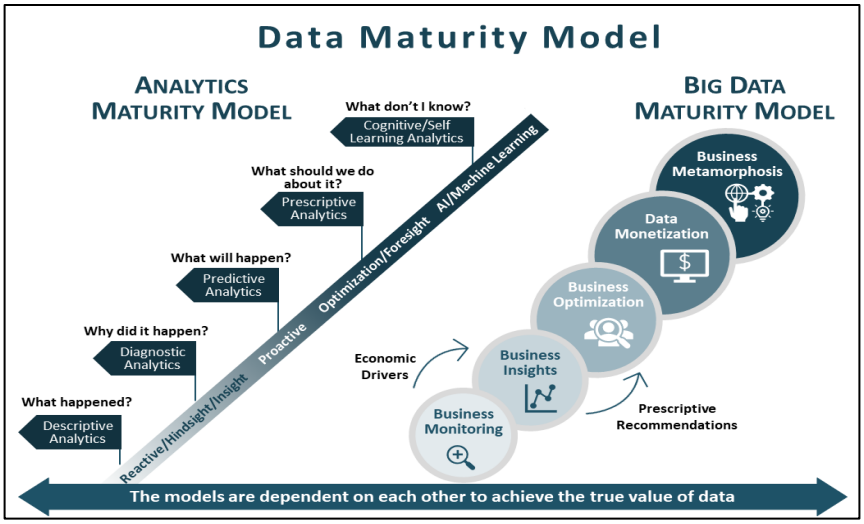


Figure 8- Data Maturity Model

Major transformation initiatives and priorities are important in determining business needs while data compounds within an organization. The need to ***maximize investments in infrastructure improvements and analytics capabilities***, ***improve data agility***, and ***better support the broader organization through digital asset availability*** is paramount. Therefore, our recommended approach to addressing the City's requirements to achieve Information Technology Modernization to achieve the City's Smart Initiatives would be through the Lifescale Analytics ***Data Evolution Strategy.***

Lifescale Analytics Data Evolution Strategy

The ***Data Evolution Strategy*** will address the City's core components to achieve a proposed ***Information Technology Modernization*** plan. Lifescale Analytics believes that organizations aren't going far enough to realize the power of ***Data Transformation***. To address this gap, Lifescale Analytics has defined a Hybrid Strategy that architects and plans the transition to a data-driven operation and creates the maturity model and framework for achieving a successful Data Transformation.

In delivering an ***end-to-end Roadmap***, we consider the Analytics and Big Data Maturity Models as they depend on each other when creating the big-picture strategy. Our approach understands the inter-dependencies of these models, which drive the most value out of the City's data and build the basis for the successful testing of new scenarios against historical outcomes.

Phases of Lifescale Analytics Data Evolution Strategy

Lifescale Analytics' Data Evolution Strategy consists of four phases to achieve the transformation.

- **Discovery Phase** – explores and illustrates the foundation of where the organization is today, as most clients cannot move forward without understanding their current environment
- **Technical Deep Dive Phase -** builds the vision of the technical environment and infrastructure in place and what gaps exist
- **Business Deep Dive Phase** - focuses on the business drivers, opportunities, and use cases that will make the plan important to the City's needs
- **Design and Roadmap Phase -** build a path forward, proposing the roadmap and final design of the plan, along with a recommended Proof of Value

The Data Evolution Strategy's first three phases focus on assessing and determining the current state, including a comprehensive analysis of people, processes, and technology.

The **Discovery Phase** includes:

- **Project and Strategic Planning** – stakeholder workshops, roadmaps, milestones definition gap assessment, and project plan creation
- **Discovery and Requirements Analysis** – develop the Data Transformation mission alignment mapping to determine how historical data can be implemented and realized to deliver greater value to the mission: Source System Mapping, Requirements Documentation and Analysis, and Solution Data Modeling

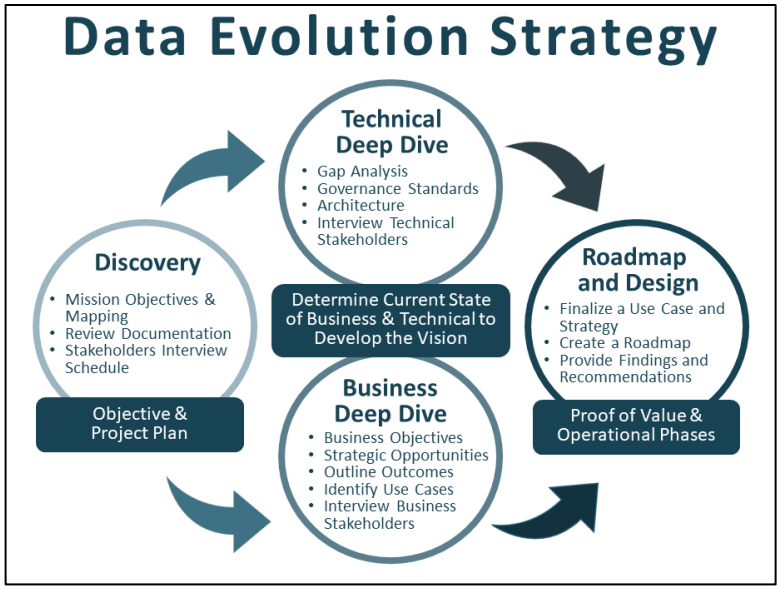


Figure 9 - Data Evolution Strategy

The **Technical Deep Dive Phase** and **Business Deep Dive Phase** typically operate in parallel and include the following:

Technical Deep Dive

- **Evaluation of DevOps Analysis** – identifies impact on tools, processes, and interaction between Development and Operation teams as a result of a shift to rapid Data Transformation adoption
- **Architecture - Data Access and Storage Analysis** – architect hybrid design, if required by the City, so that it intelligently and seamlessly utilizes public and private cloud-based infrastructure as an integral part of data delivery and accessibility requirements
- **Governance** – advisory on best practices to ensure secure usage of data and adherence to Governance, Risk, and Compliance requirements

Business Deep Dive

- **Service Strategy Evaluation**– what are the data assets offered by the organization to the mission, and what should be its role in delivering governed data assets
- **Application Analysis** – examines the readiness of existing data and business applications with respect to the target data platform and creates the plan to achieve the transition where there is value; addresses time-sensitive data through the vision of immediately actionable data compared to historically valuable data

The first three phases work toward the development of the final Phase, ***Roadmap and Design***, which includes the following:

Roadmap and Design

- **Roadmap** – comprehensive end-to-end roadmap evaluation of the current and future technology design, the existing technology environment (technical debt assessment), and the transition that sets the path toward transformation and implementation to support the City's Initiative
- **Proposed Use Cases**– Recommendations on use cases

ACHIEVING IMPACT

For Space Force, as part of the Data Evolution Strategy, Lifescale Analytics created over 49 data landscapes in 12 weeks, providing a broader picture of their data sources and a clearer direction toward a digital data strategy.

Discovery Phase

The recommended approach for the Data Strategy's first three phases focuses on assessing and determining the current state, including a comprehensive analysis of people, processes, and technology. The ***Discovery Phase***, the Strategy's first phase, will explore and illustrate the foundation of the City's current environment.

The ***Discovery Phase objectives*** include:

- Outline and document a draft data landscape for each City department and division
- Document common terminology and day-to-day data usage toward identifying the correct data to include in a data catalog
- Identify the sources of the data as internal or external to the unit
- Identify the origination of the data as human-generated, machine-generated, or software-generated (derived)
- Identify the critical factors for future architectural design, including:
  - Data Size
  - Business Applications and Systems
  - Data Frequency
  - Data Source Location
  - Data Type
  - Data Sensitivity Level
  - Urgency of Solution

The ***Discovery Phase*** starts off with a ***Kickoff Meeting and Preliminary Fact Finding***. Then, we will host ***Discovery Workshop 1 – Business and Strategic Objectives***, a workshop designed to ask the hard questions that will help discover and define the business drivers and strategic goals better to understand the data and governance needs of the City. This workshop will also help determine what overall success would look like to accomplish with data.

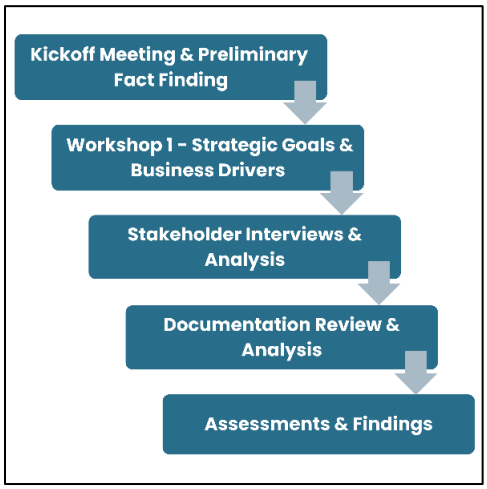


Figure 10 - Discovery Phase Workstream

In the Discovery Phase, we will hold ***Stakeholder Interviews***, which will be critical in setting the foundation for what the City wants to achieve from this effort. During the Discovery Workshop, we look beyond the original scope of systems and sources, as it is our experience that there are typically more areas that are tied to the original scope. Once the interview stakeholders are identified, they are included in the project plan, and an ***Interview Plan*** diagram depicting a summary of stakeholder interviews is created (see Section V for a sample diagram). This Interview Plan will be included as part of the weekly status report. The purpose of this Interview Plan is to provide an overview of perspectives currently being served by multiple systems requiring data and analytics.

Along with the Workshop and Interviews, our team performs a thorough ***Documentation Review and Analysis*** where Data Management Documentation, Artifacts, and Reporting are also evaluated, which will identify a variety of efforts, tools, and processes used toward information consolidation and representation. Also, any compliance, regulatory, or legally mandated artifacts will also be reviewed and assessed as part of this phase, including existing security protocols and requirements, both internal to the City and externally mandated. The Discovery Phase wraps up with a presentation of the ***Preliminary Assessment and Findings.***

Technical and Business Deep Dive

To fully address ***Gap Analysis*** and ***Concept of Operations***, a ***Business and Technical Deep Dive*** is required, as it is important to understand the current environment before you determine the Future State. These Phases run concurrently through the Data Evolution Strategy.

The ***Technical Deep Dive*** phase focuses on data use and sources that are part of the day-to-day activities. It then presents a cursory Gap Analysis of existing Data Governance Standards and concludes by offering a high-level architectural vision for the future. This Phase demonstrates the use to ensure the roadmap addresses existing

technology and provides a clear starting point for the organization's data transformation. This Phase focuses on three components:

- **Evaluation Analysis** – Identifies impact on tools, processes, and interaction between teams as a result of a shift to rapid Data Transformation adoption
- **Preliminary Architecture** - Architect hybrid design, if requested, so that it intelligently and seamlessly utilizes public and/or private cloud-based infrastructure as an integral part of data delivery and accessibility requirements
- **Governance** – Advisory on best practices to ensure secure usage of data and adherence

This Phase looks at the technical objectives for the City from an overall architecture and design perspective. The knowledge gathered in this Phase determines the ***master data listing***, ***landscape analysis***, and ***preliminary architecture.***

Finally, the last step is to provide a detailed ***Assessment and Findings of the Technical Deep Dive*** to highlight technical gaps, functionality, and recommendations.

During the Technical Deep Dive, the specific objectives are targeted to have a better understanding of the current environment of the City in place today.

The ***Technical Deep Dive objectives*** include:

- **Gap Assessment** - outlining underperforming capabilities, operational areas not supported by current reporting systems, and potential operating constraints (e.g., people, process, and technology gaps to be addressed)
- **Gap Inventory** - summarizing gaps across Systems and Areas
- **Solution Characteristics** - describing features and operations from a stakeholder (user) perspective
- **Data Context Models** - describing functional areas and stakeholder data dependencies

The ***Business Deep Dive*** is also conducted after the Discovery Phase is complete. This Phase focuses on two components:

- **Service Strategy Evaluation**– What are the data assets offered by the organization, and what should be their role in delivering governed data assets?
- **Application Analysis** – Examines the readiness of existing data and business applications with respect to the target data platform and creates the strategy to achieve the transition where there is value. This Phase addresses time-sensitive data through the vision of 'immediately actionable' data compared to 'historically valuable' data. This analysis is the foundation for Artificial intelligence (AI) /Machine Learning (ML) efforts in the future.

This Phase includes a ***Workshop*** that looks at the Business objectives for the City from a leadership perspective. The knowledge gathered in this Phase determines the potential ***Use Cases*** and ***Proof of Value*** in the later phases. Finally, the last step is to provide a detailed ***Assessment and Findings of the Business Deep Dive*** to highlight business gaps, objectives, and functionality.

During the ***Business Deep Dive***, the specific objectives are targeted to have a better understanding of the current environment of the City in place today.

The ***Business Deep Dive objectives*** include:

- **Stakeholder Workshops and Interviews** - determining gaps to be addressed and the characteristics of the future solution
- **Stakeholder Survey** (and model) - describing needs and high-level requirements

- **Gap Assessment** - outlining underperforming capabilities, operational areas not supported by current reporting systems, and potential operating constraints (e.g., issues with data quality, lack of analytic acumen in the organization)
- **Solution Characteristics** - describing features and operations from a stakeholder (user) perspective
- **Business Data Asset Assessment –** describing available data, data collection, frequency, and volume
- **Business Context Model -** describing functional areas and stakeholder dependencies

In the Technical and Business Phase, we'll conduct a comprehensive Gap Analysis and provide the City with draft versions of detailed Data Context Diagrams, Data Landscapes, and Master Data Listings (*Figures 5* and 6*, located* on page 18). These deliverables will be refined and finalized during the Roadmap and Design phase. Additionally, Functional Area Context Models (*Figure 7, located* on page 18).will be developed, aiding in the prioritization of operational and analytical automation based on stakeholder needs and capabilities.

Finally, a detailed report of the ***Preliminary Assessment and Findings*** will be presented to the City. This provides a full picture of the current data sources, key stakeholders, preliminary opportunities for potential use cases, preliminary assessment of improvements or deficiencies of design and implementation, and where enhancements can be achieved.

Roadmap and Design

The final phase of the Data Evolution Strategy is the ***Roadmap and Design***. This addresses the path forward regarding Governance, Transition, Technical Vision, Transition Architecture, and Implementation of a Solution.

In the Roadmap and Design phase, we also initiate the final Workshop, ***Workshop 4 – The Roadmap Strategy Touchpoint***. In this phase, we will provide an overview of what we have learned from the Discovery Phase and Technical and Business Deep Dive Phases. The next step in our process is the turnover of the Roadmap and Design, which will be conducted through several documents noted below, in addition to a turnover meeting and presentation, ***Roadmap and Design Review***.

1.3.2 Functional and Technical Business Analysis for Ideation, planning, and implementation of technology

Coordinate software requirements for data modeling and data source strategy

The City of Port St Lucie has traditionally demonstrated informal approaches to defining software and data requirements. This has enabled The City to be responsive to customer needs. But has also resulted in brittle and difficult-to-maintain systems. The City is looking to raise the bar with the ***sophistication, integration of technology, and functionality of systems***. This requires greater rigor around how requirements are captured and realized. For example, the Panda system for the Buildings Department needs a rewrite to modernize the operation of the system. A modern approach to defining requirements, design, and engineering is needed to ensure a solution that best meets the needs of the Buildings Department and enables buildings data to support broader analytics needs for the City overall.

Note that the enterprise data models noted in *Section 1.3.1* are an important reference to leverage for the data sourcing strategy. A ***Data Source Strategy*** is integral to determining functional and non-functional requirements during the analysis and design phases. Data models developed as part of the design include a logical data model that focuses on data requirements and a ***physical data model*** that focuses on data implementation.

Lifescale Analytics advocates the development of user stories and use cases as effective techniques for identifying and documenting software requirements. However, stories by themselves can overlook details for accurately identifying data requirements. In addition to use cases and stories, we recommend the following activities within the software process.

- Development of **wireframes** that visually illustrate story functionality and, more importantly, identify information requirements for screens and reports.
- Information mapping where wireframe details are mapped to the **logical data models** and outline data requirements and design for the system and reports.
- **Source to target mapping** where the system data model is physically mapped (at the field level) to source databases.
- **Sequence or data flow diagrams** that describe database-level rules and interaction between the system and data sources. Sequence diagrams frequently are used as functional requirements for application programming interface (API) development.

In the broader context, data sourcing is an aspect of Lifescale Analytics' ***Software Development Lifecycle*** for defining software requirements. The lifecycle outlines the following steps toward implementation:

- **Architectural Considerations** – provides milestone goals, dependencies, risks, and constraints of moving to the proposed architecture. The proposed architecture design for each Milestone phase is provided in this part of the approach.
- **Operational Transition** – provides the roles and responsibilities and transition plan. This milestone includes program and project management, governance, operational support, communication management, and risk and issue management.
- **Solution Concepts** – proposed path toward implementation of enhanced toolsets outside the current tools sets or services in place and any associated costs.
- **Technology Solutions** - provides strategy toward transition data, technology, and application architecture for this phased approach of this implementation.

Lifescale Analytics uses industry best practices like the ***Software Development Lifecycle*** that consists of the six following phases:

- **Planning Phase** - Identify the scope of work and success criteria.
- **Analysis Phase** - Interview stakeholders to identify functional requirements (i.e., business, data, reporting, process, regulatory/compliance, and security requirements), non-functional requirements (i.e., performance, availability, reliability, localization, and portability), and technical specifications (i.e., hardware, software, and architectural requirements and assumptions or risks).
- **Design Phase** - Develop data models and wireframes for both API and user interfaces.
- **Implementation Phase** - Ensure that the product meets our rigorous quality requirements through a variety of testing approaches.
- **Testing and Integration Phase - S**ystematically evaluating the software to identify and fix defects or issues . Various types of testing, such as unit testing, integration testing , and user acceptance testing, are conducted.

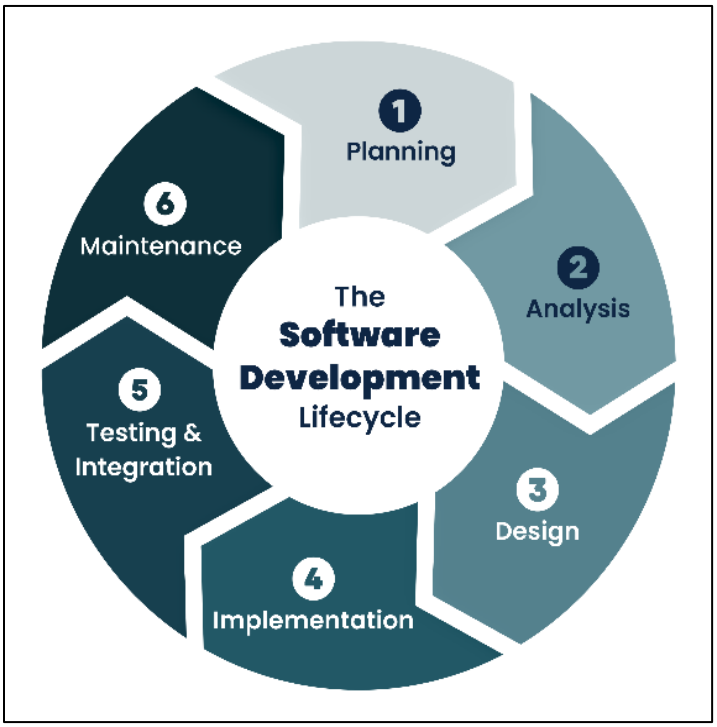


Figure 11 - Software Development Lifecycle

- **Maintenance Phase** - Utilize defect tracking and work management systems to prioritize and address any defects or enhancements effectively.

Lifescale Analytics has embraced ***DevOps*** practices for developing and supporting software. We have employed DevOps practices, utilizing R on most engagements, and we encourage consistency of processes across applications and projects. The table below includes some of the broad set of tools the Lifescale Analytics team uses to add efficiency to DevOps practices.

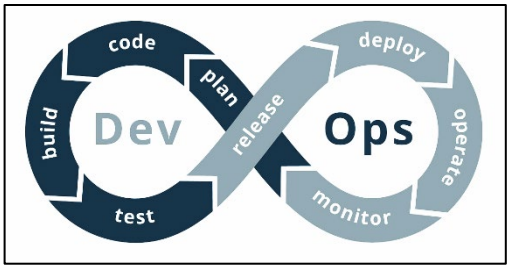


Figure 12 – DevOps Stages

DevOps Activity	Code	Build	Test	Release	Deploy	Operate	Monitor	Plan
Technologies	• Jira • Git • Visual Studio	• Visual Studio	• Junit • Selenium	• Jenkins • Visual Studio	• Docker • Kubernetes	• Chef • Kubernetes	• Splunk • Google Analytics	• Aha • Jira • Smartsheet

At Bayer Environmental Science, Lifescale Analytics provided a ***SaaS Digital Transformation solution*** that Bayer customers use to identify various environmental risks, develop risk mitigation protocols, and track results. The digital portfolio roadmap (backlog) is maintained in ***Aha***, from which the quarterly release plan is established; a ***Kanban*** approach is used to iteratively develop, test, and release product features to product managers for review. After user review and acceptance is completed, feature sets are deployed for access by customers. The application is implemented in the cloud on ***Microsoft Azure***, and ***Azure Monitor*** is used to monitor the use and health of applications.

Execute within Budget, Timeline, and Develop Program-Level Project Plans

Once a technology solution is determined by the City, as the next step, we will work with the City's Technical and Business stakeholders to provide a comprehensive plan to facilitate this solution. Lifescale Analytics provides ***PMI-certified Project Management Professionals (PMP)*** to all of our customers to support the planning, design, development, and implementation of various system development and infrastructure projects, including the City of Port Saint Lucie's. As outlined in the approach below, projects are executed in alignment with the functional areas of the City. This approach allows for proper collaboration with the ***City's Project Management Leads (PML)*** to support projects that will promote ***best practices*** to support the execution of projects within the ***allocated budget*** and ***timeline***. Lifescale Analytics will provide:

- Provide experienced PMP that support both Agile and Waterfall methodologies
- Comply with the City's SDLC processes and procedures for developing, altering, maintaining, and replacing a software system
- Coordinate with the City's offices to gather required tasks
- Established a regular cadence of meetings to track/assign actionitems
- Follow up proactively to confirm assignment completions and help remove any roadblocks
- Leverage knowledge of complex interdependencies of the City's products and components to assist IT Director(s) with leading productive discussions with business owners, team leads, system owners, development, and operations teams
- Develop an effective communication plan to promote consistent interaction and collaboration between all project teams and help with connecting the dots
- Document change management in the City's approved centralized project library
- Use standard templates, project status reports, and dashboards toreview project cost and schedule variances
- Apply best practices for project schedule management in the scheduling system

- Develop a RACI chart to ensure clear lines of "Responsible, Accountable, Consulted, and Informed" personnel are established
- Report proactively on the health of the project on essential metrics (e.g., project cost and variance, severity of risks and issues) by utilizing project artifact tools
- Track team velocity using burn-down charts and progress to help track and resolve complex issues
- Provide timely reporting by using Smartsheet project plans and providing visualization and dashboards toprovide a big-picture overview for effective decision-making
- Ensure consistent reporting to internal, external, and outside agency clients and constituents, if required
- Develop comprehensive reports/presentations from multiple sources in the enterprise reporting tools, with the ability to add insights that may not be explicit in reports for a holistic interpretation

Issue Resolution Related to Software Deployment, Reclamation, and Implementation

Lifescale Analytics has worked with many function areas and business owners to assist with issues, problems, and other concerns when deploying, implementing, and operating existing or new technology in an environment. Our consultants typically have ***over 25 years of experience*** in Information Technology in many different industries and environments and often provide assistance when issues arise. For existing technology leveraged by the City, Lifescale Analytics will ***leverage the current issue resolution processes and policies*** in place to support any software deployment, reclamation, and implementation issues.

As mentioned above, Lifescale Analytics leverages the ***Software Development Lifecycle*** for our clients. As part of our normal practices when going through an ideation process for new technology, we incorporate issue resolution related to software deployment in our ***Planning and Analysis Phase*** when determining Functional, Non-Functional, and Technical Specifications. We capture ***Assumptions and Potential System Issues and Risks, Test Environment Requirements, Process and Performance Requirements*** and other requirements to be able to develop a systemic process in testing and integrating the solution into the environment. As part of our normal process when exploring new technology in an environment, using the ***Lifescale Software Development Lifecycle***. Lifescale Analytics, in coordination with the City, will conduct a ***Functional Requirements*** meeting with the required stakeholders. The premise of this meeting is to review the scope of the new software solutions proposed, which will be outlined in the ***Project Overview Document***. The Project Overview Document will also discuss details around the proposed plan of gathering ***Functional, Non-Functional, Technical Specifications, and Solution Architecture*** for the software solution and provide a path on the orchestration of the solution process. We will work with the proposed stakeholders outlined in the Project Overview Document on conducting a detailed ***Requirements Analysis***. This Analysis is the process of ***identifying, documenting, and validating the needs and expectations of stakeholders*** for the project to ensure that the software and hardware meet the needs of the stakeholders and deliver value to the organization. For Lifescale Analytics' projects, a ***Functional Requirements Analysis*** and ***Technical Specification Document (Software Architecture Document)*** should be produced for each MVP project. The outlines and topics to be covered are enumerated in the following subsections.

The ***Functional Requirements*** focus on what needs to be delivered. ***Non-functional Requirements*** describe the characteristics of the system, operational characteristics, and constraints. A ***Solution Architecture Document (SAD)*** focuses on how the Functional Requirements are delivered. The Technical Specifications should provide measurable success criteria. Typically, in the SAD, we also address ***data layer, consumption, and graphical architecture***. Examples of these requirements and specifications are listed in *Figure 13* below.

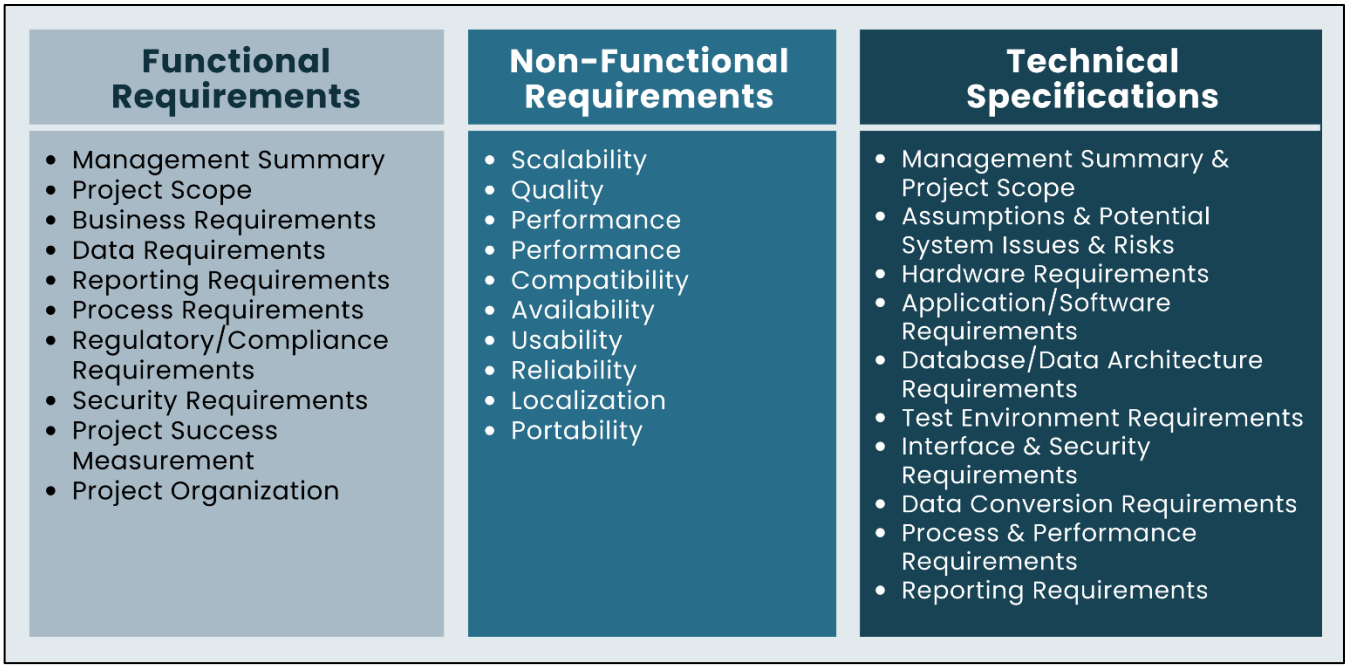


Figure 13 – Functional Requirements, Non-Function Requirements, and Technical Specifications Examples

After the ***Design Phase*** and the ***Implementation Phase*** are complete, to support quality assurance and testing, Lifescale Analytics will move toward the ***Testing and Integration Phase*** to confirm that a software solution meets the required quality standards. This procedure focuses on three broad-brush areas: ***functional, performance, and regression testing,*** described below***.***

- **Functional testing** is a type of testing that seeks to establish whether each application feature works as per the software requirements. Each function is compared to the corresponding requirement to ascertain whether its output is consistent with the end user's expectations. Functional testing includes: Unit Testing, Integration Testing, and User Acceptance Testing. If a defect is identified during any of the tests, then the issue will be managed through the issue resolution process covered in a later chapter.
    - ***Unit Testing*** is a type of software testing where individual units or components of a software are tested. The purpose is to validate that each unit of the software code performs as expected. Unit Testing is done during the development (coding phase) of an application by the developers. Unit Tests isolate a section of code and verify its correctness. A unit may be an individual function, method, procedure, module, or object.
    - ***Integration Testing*** is defined as a type of testing where software modules are integrated logically and tested as a group. A typical software project consists of multiple software modules coded by different programmers. The purpose of this level of testing is to expose defects in the interaction between these software modules when they are integrated.
    - ***User Acceptance Testing (UAT***), also called application testing or end-user testing, is a phase of software development in which the software is tested in the real world by its intended audience.
- **Performance testing** is a non-functional software testing technique that determines how the stability, speed, scalability, and responsiveness of an application holds up under a given workload.
- **Regression testing** is a software testing practice that ensures an application still functions as expected after any code changes, updates, or improvements. Regression testing is responsible for the overall stability and functionality of the existing features.

All testing will be fully detailed in the ***Test Environments*** and incorporated into a detailed test plan. Issues that arise from testing will be investigated to identify the root cause, followed by the development and implementation of a solution. The issues will undergo retesting through the aforementioned means, and all issues should be tracked using a Defect Backlog. The PM will be responsible for assigning and managing activities to track that issues are resolved. As part of the management of the backlog, the PM may assign priority to a defect and manage any escalation process that is needed to ensure that the defect is resolved in a timely manner.

Technology Project Research to Reduce Cost of Ownership

Standardizing technology products across an organization can lead to several benefits, including ***reduced complexity, improved interoperability, easier management, and lower total cost of ownership (TCO)***. Our consultants have experience in identifying opportunities to ***leverage existing technologies*** that are often in place today at organizations to their full potential.

Lifescale Analytics understands that many organizations have too many tools, so our position is to evaluate current technology in place and make recommendations on downsizing to a smaller footprint of best-of-class technology tools, often leveraging existing technology instead of acquiring more tools in an environment.

This is included as part of our deliverables when conducting the Lifescale Analytics Data Evolution Strategy; regardless, it is a common practice that is in place when leveraging Lifescale Analytics consultants. Some of the things we evaluate are:

- Current Technology Landscapes
- Identification of Redundancies and Duplications
- Vendor and Application Rationalization
- Technology that will address User and Stakeholder needs

We typically provide our clients recommendations on enhanced functionality we see in ***leveraging the tools in place, the cost-benefit to the organization, migration approach, as well as any other information required*** to put our clients in the best position to get the most out of their existing technology footprint as well as determine any gaps that a client may have.

Cloud First Initiative Planning and Implementation

Lifescale Analytics has worked with many clients to determine the right Cloud environment for them. We have expertise and partnerships in ***AWS, Azure, Google Cloud, Snowflake, Data Bricks, ESRI,*** and many other ***Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS)*** providers. When evaluating the best path for a ***Cloud-First*** initiative, many organizations adopt to prioritize cloud-based solutions over traditional on-premises infrastructure when procuring new IT services or when considering technology refresh cycles. While some of this would already be established by the Lifescale Analytics Data Evolution Strategy above, below are some key highlights on what Lifescale Analytics proposes in planning a Cloud-First approach for any upcoming transitions and implementation of solutions and infrastructure the City is pursuing:

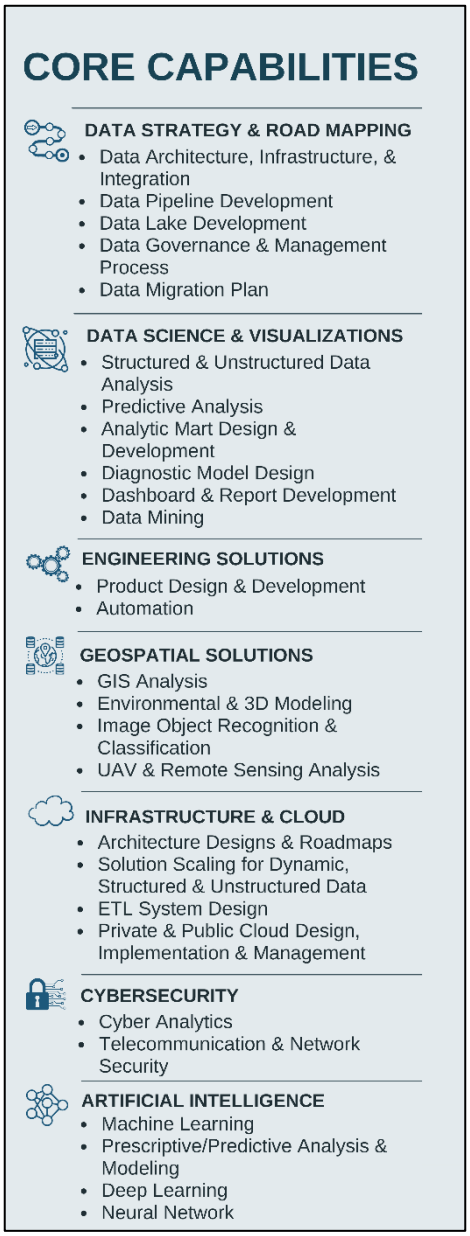
- Assessment and Strategy Development that would include both the current IT infrastructure and applications that would be the best candidates to move to the cloud.
- Business goals and objectives of supporting a Cloud-First approach.
- Develop a Cloud Adoption Strategy that aligns with organizational objectives, considering factors such as security, compliance, cost, and scalability.
- Identify key stakeholders and form a cross-functional Cloud Adoption Team.
- Determination of Cloud Service Providers (CSP) that would be best suited for the City.

- Governance Policies and Procedures supporting both Florida, the City, and other compliance regulations, security standards, and internal policies.
- Communication Plan and Training Strategy to support skills within the organization and identify gaps for cloud adoption.
- Proposed Migration Plan prioritizing workload requirements and desired outcomes.
- Execute the Migration Plan in phases or waves, starting with less critical workloads to gain experience and confidence.
- Monitor migration progress closely, addressing any issues or challenges as they arise.
- Conduct thorough testing post-migration to ensure that migrated workloads function as expected in the cloud environment.
- Implement Cost Optimization Strategies such as rightsizing instances, leveraging reserved instances, and utilizing cost management tools provided by the cloud provider.
- Continuously monitor and analyze cloud usage and spending to identify areas for optimization and cost savings.
- Implement Security Best Practices recommended by the CSP and industry standards.
- Configure Security Controls such as identity and access management, encryption, network security, and logging.
- Conduct regular Security Assessments and Audits to ensure ongoing compliance and risk mitigation.
- Establish Operational Processes and Procedures for managing cloud resources, monitoring performance, and responding to incidents.
- Leverage cloud-native tools and services for automation, orchestration, and DevOps practices to improve efficiency and agility.
- Continuously evaluate and adopt new cloud services, features, and best practices to optimize performance, enhance security, and drive innovation.
- Document cloud architecture, configurations, and procedures to facilitate knowledge sharing and ensure continuity.
- Provide training and documentation for end-users to utilize cloud services and applications effectively.
- Implement robust monitoring and alerting systems to identify and address performance issues proactively.
- Develop and test disaster recovery and business continuity plans (during natural disasters such as hurricanes) to ensure resilience and data protection in the cloud environment.
- Iterate on the cloud adoption strategy based on changing business needs, technology advancements, and feedback from stakeholders.

Assist Various Teams in Current and Proposed Technologies

Lifescale Analytics has historically worked with cross-functional teams in both large and small organizations. Two of the principal owners have several years of working at the United States Postal Service and were both members of the team that implemented the largest implementation of ***ForeScout***, which is a Cybersecurity Network Access Control environment. Our consultants typically work with various technologies, and some of our Personnel Accreditations include:

- Institute of Electrical and Electronics Engineers (IEEE) Senior Member, serving as Chair for multiple subcommittees
- International Council on Large Electric Systems (CIGRE) Member, serving as the United States National Committee's representative to Study Committee C4 (System Technical Performance)
- National Society of Professional Engineers (NSPE) Member
- ESRI Electric and Gas User Group, Member and Former Chair
- Former Utility Chair - EPRI Program 1 (Power Quality)
- Association of American Geographers Member
- Tableau Trainer Certified
- Business Architect Certified
- Scrum Master Certified
- Project Management Institute (PMI)
- ICAgile Certified Professional (ICP)
- Innovation Games CCA Certified Collaboration Architect White Belt
- Six Sigma White and Yellow Belt Certifications
- Advance SAS Certified
- Neural Network Certifications
- Certified Data Architect
- Cloud Architect Design Decisions Certified
- Data Science on Google Cloud Platform – Design Data Warehouses
- Informatica Cloud App Integration
- Oracle certified Master Database Administrator, Expert Administrator for Exadata, Implementation Specialist for Exadata
- Certified International Information System Security Professional (CISSP)
- Juniper Networks Certified Internet Specialist (JNCIS)
- AWS Cloud Certifications
- SAS Viya Certification
- Azure Cloud Certifications
- Certified Associate in Project Management (CAPM)
- Transitioning to Splunk Cloud 9.0 Certificate
- ITAM Certification



Most recently, we have provided our services to the City to assist with developing ***Power BI Dashboards*** for Building and Permits. Our consultants worked with both Information Technology and the Building and Permits Department business owners to develop a dashboard solution that is currently being leveraged today.

Methodology

We recognize there are many moving parts in designing and implementing new technology that meets your current environment and can grow. We desire to help you get to the next step in accomplishing this for your organization and community.

To achieve the full benefit of evaluating, analyzing, and pursuing new technology solutions, we will be leveraging the ***Lifescale Analytics Proven Method***. This method brings a thought to life with our five key steps:

- ***Discovery*** – This step sets the foundation of the current landscape as we conduct a Discovery Assessment of the current environment. This step is critical in understanding the nuances that are not always clearly identified when determining and evaluating new technology solutions in a vast environment.
- ***Analysis*** – The Analysis step provides a complete picture of the landscape and identifies the true pain points and preliminary strategy for proceeding.

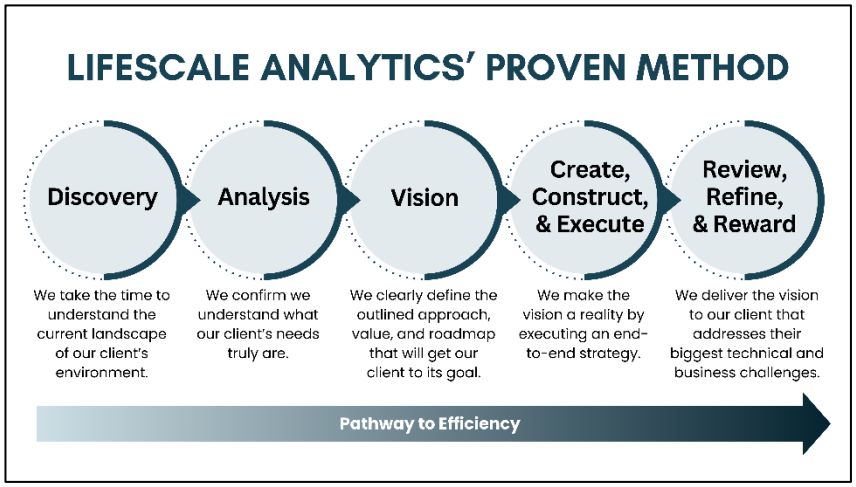


Figure 14 - Lifescale Analytics Proven Method

- ***Vision*** – By capturing and reviewing the two previous steps, we are able to start building an approach on how to achieve your strategy. This step defines the high-level roadmap of your goal.
- ***Create, Construct, and Execute*** – There are many outliers and stakeholders to consider when developing a large-scale strategy. To make your vision a reality, our team will construct the steps to execute your solutions so that they align and integrate with the existing investment by the City of Port Saint Lucie and support the National Data Standards Framework (NODS).
- ***Review, Refine, and Reward*** – Stakeholder 'buy-in' is essential when moving forward with a solution. We will effectively work with you and your team to make sure we can transition an efficient and effective end-to-end solution.

The Lifescale Analytics team's established solution development and design disciplines and industry best practices have resulted in a track record of successful completion of client projects. We know that we will successfully assist the City of Port Saint Lucie with leveraging an effective strategy and roadmap to support the requirements outlined in the Information Technology Modernization Consulting Services RFP and ultimately achieve end-to-end solutions that will benefit the City.

1.3.3 Dashboarding and Visualization development efforts to support Business Intelligence initiatives.

Integrate Technology Tools in Cloud Environments

Lifescale Analytics has integrated numerous technology tools within cloud environments, including ***AWS*** (Amazon Web Services) and ***Azure*** (Microsoft Azure), among others. Migrating to the cloud is a complex endeavor, as the major cloud platforms have a large inventory of (often duplicate) services. Identifying the combination of services needed is not always obvious. Lifescale Analytics will work with the city to develop a reference architecture that clearly outlines required cloud services, their responsibilities, and their role in the deployment of the City's applications and data. Areas where service reference models are needed include:

ACHIEVING IMPACT

Lifescale Analytics created the RangeView GIS application for Bayer CropScience to aid ranchers in detecting invasive grasses and recommend treatment plans. RangeView uses machine learning on Microsoft Azure to enhance accuracy and adoption.

- Applications Deployment and DevOps Reference Model
- Data Lifecycle Reference Model
- Services Provisioning Model
- Cost Reporting and Management Reference Model
- Operations Management Reference Model

Lifescale Analytics has implemented this approach for both Azure and AWS deployments. It is common that external tools are required to support specific business applications and to assist with Hybrid Cloud implementations. Our Lifescale Analytics team is experienced in both simple and complex architectures where external tools are employed. Our team has deployed platforms such as ***Talend, Informatica, MS SSIS, Azure Data Factory, and AWS Glue***, along with specialized ETL processing using ***Python/Spark*** to support integration, transformation, validation, provisioning, and presentation of data.

Lifescale Analytics worked with the City of Port Saint Lucie to outline an ***Azure*** application migration strategy. This entailed profiling and classification of the City's application portfolio and defining architectures for each of the classifications. The portfolio members were then mapped with architecture models. The City tested migrating a handful of applications to ***Azure***.

The next step in the process would involve implementing and validating the reference models outlined above and developing a detailed plan for migrating and validating applications, taking into account user and technical dependencies between systems. Some work may need to be done with individual applications for them to fit the service models.

Configuration and Optimization to Produce Visualizations and

Lifescale Analytics data analysts and scientists have experience in ***Qlik, Splunk, Tableau, Power BI, SAS***, and ***other data visualization and business intelligence tools***. Leveraging analysis tools allows the end users to benefit from the power of insights to make data-driven decisions. As part of ***Data Visualization and Analytics***, Lifescale Analytics has expertise with data integration and transformation techniques essential for optimizing data visualization and dashboard development. Including data warehouse and data mart design and development.

ACHIEVING IMPACT

Lifescale Analytics developed a Power BI application (LRMS) for Washington County, Minnesota to access data mart information deployed as Power BI Datasets, necessitating data migration from AS400 to a SQL data structure.

Many existing reports at the City of Port Saint Lucie are produced directly from source system databases where data is created and updated. While this approach allows reports to be created quickly, source system transaction databases are typically not optimized for reporting, resulting in degraded performance for report generation along with resource contention and performance impact

on the source systems as well. Lifescale Analytics has expertise in designing and implementing data stores optimized for reporting and data exploration. Common approaches include replication and ETL processing to populate data lakes, marts, and data warehouses, which offload reporting operations and visualization from source systems and optimize design to support reporting and analytic requirements.

An added benefit of this approach is more effective data visualizations and analytics. Visualizations frequently require the integration of data from multiple data sources and systems to add dimensions for data exploration (e.g., correlation of revenue data with census data). This correlation is difficult when generating reports from source systems but is commonplace from data lake and warehouse solutions.

Lifescale Analytics has extensive experience with data lake/warehouse design and ETL processing. As part of the migration to Azure, Lifescale Analytics will assist the City with a ***Data Strategy and Warehouse Design*** that enables efficient implementation of ELT services and tools (e.g., Data Factory and Synapse) for populating data marts and warehouses.

ACHIEVING IMPACT

Lifescale Analytics provided Tableau dashboard solutions to Bayer CropScience that showed the impact and progression of sales, marketing, finance, supply chain, and product management, facilitating positive operational changes.

Maintenance of Ongoing Analytics Visualizations and Reports

Our team of experts understands the importance of effective communication and will work closely with the City staff at all levels to meet project goals within defined timelines. We have extensive experience in data visualizations and understand the importance of ***reliable, informative, and accessible dashboards*** in creating more effective stakeholder communication. With a comprehensive understanding of the City's unique needs and a commitment to delivering high-quality solutions, we will empower the City to leverage data for informed decision-making. We understand that assessing and maintaining ongoing analytical reports and visualizations is crucial for confirming their relevance, accuracy, and effectiveness in supporting decision-making processes. When maintaining ongoing visualizations and reports in ***Power BI***, and other environments that the City may gravitate to in the future, Lifescale Analytics can provide the following support:

Support Area	Description
Evaluate Report and Visualization Effectiveness	• Review existing reports and visualizations against the defined KPIs. • Assess the clarity, relevance, and usefulness of the information presented. • Solicit feedback from stakeholders to identify areas for improvement
Monitor Data Quality	• Regularly assess the quality and accuracy of the underlying data sources. • Implement data validation checks to identify discrepancies or anomalies. • Address any data quality issues promptly to maintain the integrity of reports and visualizations.
Track Usage and Adoption	• Monitor usage metrics to understand how frequently reports and visualizations are accessed. • Analyze user interactions and behaviors to identify popular features and areas for enhancement. • Promote adoption by providing training and support to users as needed
Update and Refresh Content	• Regularly update reports and visualizations to reflect the latest data and insights. • Incorporate feedback and suggestions from stakeholders to enhance relevance and usefulness. • Ensure that reports remain aligned with evolving business priorities and requirements

Optimize Performance	• Optimize the performance of reports and visualizations to ensure fast loading times and responsiveness. • Evaluate and optimize data queries, data processing pipelines, and visualization rendering. • Consider implementing caching mechanisms and performance-tuning techniques as needed
Enhance Visualization Design	• Continuously improve the design and layout of visualizations to enhance clarity and usability. • Use appropriate chart types, colors, and labeling to effectively convey information. • Ensure accessibility and inclusivity by adhering to best practices for visual design
Ensure Data Security and Compliance	• Implement appropriate data security measures to protect sensitive information. • Ensure compliance with data privacy regulations and internal policies. • Restrict access to sensitive data and implement role-based access controls as needed. • Recommend and implement upgrades and hotfixes to current platform
Integrate with Workflow and Collaboration Tools	• Integrate reports and visualizations with workflow and collaboration tools used by stakeholders. • Enable seamless sharing and collaboration on insights and analysis. • Foster a culture of data-driven decision-making by making information readily accessible to users
Document Changes and Versioning	• Maintain documentation of changes made to reports and visualizations over time. • Implement version control mechanisms to track revisions and facilitate rollback if necessary. • Ensure transparency and accountability in the maintenance process
Governance Review	• Conduct periodic reviews of analytical reports and visualizations to ensure they continue to meet business needs. • Establish governance processes to oversee the creation, maintenance, and retirement of reports and visualizations. • Monitor industry trends and emerging technologies to identify opportunities for innovation and improvement.

By following these practices, organizations can effectively assess and maintain ongoing analytical reports and visualizations, ensuring that they provide actionable insights and drive informed decision-making across the organization.

Roadmap Adoption

Lifescale Analytics has expertise in supporting and implementing ***Business Intelligence*** capabilities. Understanding the key drivers in an organization is essential in developing a ***Microsoft Power BI*** roadmap. Some drivers can include:

- Consolidate and retire legacy reporting tools and use Microsoft Excel for data management
- Empower departments to develop area and department visualization analytics solutions
- Elevate decision-making through the use of data visualization and analytics
- Establishing a common view of operations across the City

While Microsoft Power BI is both a data management and visualization tool, it may not be suitable for complex data operations. To overcome this, a manageable and sustainable model entails using ***Power BI in conjunction with a data warehouse or departmental data marts*** where the heavy lifting for extracting, cleansing, integrating, and transforming data is handled using ETL tools such as ***SSIS or Data Factory*** (in the Azure environment). Power BI's role is managing access, provisioning, and presenting information to meet specific business requirements. Developing a Power BI adoption roadmap should be done in conjunction with and in alignment with the organization's overall roadmap and data architecture strategy. Rolling out Power BI without access to data will starve the initiative.

ACHIEVING IMPACT

Lifescale Analytics designed an Azure Data Warehouse and reporting environment that leverages SAS and Power BI, allowing Duke Clinical Research Institute to retire legacy systems and achieve a 60% year-over-year cost savings.

An initial step in developing a roadmap for the City of Port Saint Lucie would be departmental workshops to assess departments and users and understand their demand, need, and readiness for adopting Power BI in individual departments. We would also identify which drivers are present in departments and how this translates to data needs and readiness as a foundation for the initial assessment.

Lifescale Analytics collaborated with the City of Port Saint Lucie on developing an approach for migrating legacy ***SQL Server Report Services (SSRS)*** reports to Power BI. As part of the engagement, Lifescale Analytics provided the following services:

- Analyzed the City of Port Saint Lucie's SSRS report inventory and underlying database structures.
- Proposed approaches for migrating reports to Power BI.
- Analyzed Buildings Department's SSRS Reports and databases in detail. Developed a methodology and plan for report migration for Permits, Inspections, and Contractors reports.
- Proposed database changes to address performance concerns with Panda database.
- Developed a Power BI application that demonstrates the presentation of Permits and Inspections reports using Dashboards.
- Due to user change management concerns, shifted away from presenting buildings data in dashboards and shifted to migrating SSRS reports to Power BI ReportBuilder.
- Migrated reports to Power BI ReportBuilder.
- Refactored Panda database views to improve database performance for ReportBuilder reports.
- Developed an approach for selecting parameterized ReportBuilder reports from Power BI or the City portal.
- Provided consultation and training for administering Power BI reports.

As part of the City of Port St Lucie's strategy to migrate from on-premises infrastructure to the cloud, Lifescale Analytics:

- Assessed the City application portfolio classified applications, and developed profiles for migration
- Developed Azure Cloud reference architecture models
- Mapped the City app portfolio to Cloud models
- Consulted with the City in conducting a POC application migration
- Developed final migration recommendations

While some departments may be ready to embrace the opportunity to leverage Data Visualization, such as Community Services and Public Health, other departments should be assessed to determine if they have the processes, people, and data in place to transition successfully and if an incremental change management strategy may be needed.

Compiling the results of the working sessions along with assessing data and infrastructure that needs to be in place would go into developing the roadmap. In Lifescale Analytics' roadmap approach, interrelationships between people, process, and technology swim lanes reveal options for sequencing Power BI adoption.

As noted, an outcome of working sessions would be ***to discover data sources*** that are candidates for analytics. The next step would be to ***conduct an analysis*** of these data sources to understand their fit for supporting analytics. Generally, there are two approaches to data discovery, which we refer to as ***top-down*** and ***bottom-up***.

Top-down refers to using existing reports and analysis of underlying data sources to understand and document how data is mapped to satisfy the requirements for the report. Usually, the associated data sources are profiled to document the overall scope of the dataset, as well as to assess and document key/foreign key relationships and evaluate the accuracy, consistency, completeness, and currency of the data.

Bottom-up discovery is where a system is evaluated as a potential data source for reporting or analytics. As with top-down discovery, data profiling is used to assess data context, content, quality, and key relationships within the data. Bottom-up discovery is conducted from the source system's perspective rather than from the viewpoint of specific report requirements.

For data profiling, it is very common to use ***SQL*** analysis and simple tools such as ***Excel Power Query*** to profile data. However, Power BI can be effectively used as a data profiling tool, assuming no restrictions or sensitivities exist to ingest the data into Power BI.

Our approach to defining requirements and designing reports varies based on whether a dashboard is targeted at replacing an existing report or spreadsheet or if it is a new report/dashboard. Whether starting with an existing report or from whiteboard working sessions, we have found it effective to develop ***mock reports and dashboards*** to enable business users to visualize their reporting requirements interactively. From mock reports, we develop ***information maps*** (i.e., source-to-target maps) describing source data needed to satisfy the data requirements of the report, as well as any required filters, calculations, and transformation rules needed to satisfy visualization requirements. In the case of dashboards, it is common to provide users with the ability to filter and drill down on dashboards. We work with users to determine and document their needs for filtering and drill down. It is the responsibility of the data analyst to spot opportunities for filters and drill-downs as part of profiling databases and studying existing reports. This often occurs when organizations are using multiple separate reports covering time, organization, and geographical dimensions, in which case we provide recommendations for multiple reports being consolidated into a single dashboard.

Center of Excellence

When creating a ***Center of Excellence (CoE***), it is important to consider what is required beyond a single tool or application. Therefore, we recommend an ***Advanced Analytics Center of Excellence***, which would include best practices for Power BI as well as practices for sourcing and wrangling data for Power BI solutions and other potential analytics tools, such as SSPS for statistical and predictive modeling. This CoE would consist of a team within the organization that drives the development, deployment, and use of advanced analytics to support business decisions.

Our recommendation would aim to create a centralized hub of expertise that can support business functions by providing insights and predictions based on data-driven analysis. This can help to achieve more accurate forecasting, better risk management, improved customer engagement, or any other strategic goal set for the City of Port Saint Lucie. In our experience, establishing a successful CoE would require the City to do the following:

- Define Charter and Plan
  - Develop Program Governance and Meeting Cadence
  - Confirm and Communicate Use Case
- Establish Program Objectives and Metrics
  - Define and Implement a Communication Plan
- Conduct Environment Review
  - Develop Data Architecture and Standards
- Define Data Use and Access Standards

- Leverage collaboration tools (Teams)
- Establish community engagement (lunch and learns and chalk talks)

Once the requirements have been established, the expected benefit and activity the City will see from the CoE include:

- Progress and results from Use Case activities
- Planning and scheduling for future analytics Use Cases and Initiatives
- Provide knowledge sharing by encouraging collaboration and communication
- Grooming data structure and data competencies
- Encouraging consistency in structure and tools used
- Promoting efficiency and effectiveness in analytics

An advanced analytics CoE requires technical skills, domain expertise, and business acumen to run effectively. We recommend technical and business expertise to create a successful mix in organizing the CoE. While business expertise determines what the teams should focus on, technical expertise focuses on how it will be accomplished.

Power BI System and Administration

Power BI provides flexibility for delivering a range of solutions, from individual visualizations and data exploration to enterprise data visualizations. In addition to the typical use of Power BI for data visualization, ***Power BI report Builder*** can be implemented for developing simple tabular/transactional reports. This enables Power BI to provide a migration path away from legacy SSRS reporting, enabling infrastructure simplification by eliminating physical SSRS report services. The scope of Power BI applications can range from creating departmental visualizations using spreadsheets for small teams to much larger efforts and enterprise visualizations and dashboards used by dozens of users and sourcing integrated data from a data warehouse. Team and departmental solutions are often best fulfilled as ***end-user-developed applications***. While enterprise solutions require data management sophistication, that is best handled by professional IT staff.

Power BI is typically leveraged for report and dashboard development. However, it is also a sophisticated ***data management platform*** that can be leveraged for ***data distribution and access control***. Lifescale Analytics advocates an architectural approach to implementing and managing Power BI solutions. ***Power BI Architecture*** considerations include the following:

- **Workspace Design/Configuration** – Workspaces are the primary mechanism for administering access to Datasets and Power BI applications. Unfortunately, they lack capabilities such as folders and hierarchies to make navigating them intuitive. The content and access to workspaces should be carefully thought out to avoid overloading on one extreme as opposed to not providing the scope of content required for a workgroup on the other.
- **Data Sourcing and Access** – There are two dimensions to consider when configuring data access.
  - **How data is provisioned**
    - **Locally Maintained -** Data such as spreadsheets and flat files; best for department and team solutions
    - **Direct** – Going through the Power BI Data Gateway to access SQL Server databases. A good alternative for enabling access to an enterprise data warehouse or departmental data mart information sourced from operational systems
    - **Replicated** – Replicating data as datasets in a PBI Workspace – A good option for provisioning enterprise and departmental data when gateway access is not a viable option due to performance or security reasons
  - **Access permissions**
    - **Admin** – Full complement of permissions required to manage a workspace, including workspace creation/deletion, adding workspace users at all levels

- **Member** – Permissions enabling the member to administer PBI solutions and datasets on a workspace, including adding users, publishing PBI applications, managing permissions of lower-level users
- **Contributor** – Ability to deploy, copy reports, and contribute to shared dashboards.
- **Viewer** – Ability to read data and view and interact with a published dashboard

- **Application Scope** – Application scope entails both the breadth of data content and the extent of users that require access to the Power BI application and Data. Small-focused Power BI applications may be deployed to a general-purpose departmental workspace, while applications used by a large/broad number of users with complex source data and datasets may be better deployed in a specialized workspace.

It's important to note that ***Power BI licensing*** will affect architecture options. Features such as paginated reporting are only available with Premium editions of Power BI (user and capacity). Administering a mixed licensing Power BI environment (Premium and Pro) can be challenging, particularly since workspaces must be explicitly administered for the Power BI licensing level of users accessing datasets. It is Lifescale Analytics experience that supporting anything other than departmentally developed Power BI dashboards warrants consideration of ***Power BI Premium Capacity licensing***. The additional upfront licensing cost is quickly offset by reduced administrative time and expense. Tools for administering and managing Power BI applications, gateways, and datasets are more capable with Premium capacity licensing and minimize operational risks associated with a mixed licensing environment. Plus, individual licensing is often a barrier to adopting Power BI across the business.

User Enablement and/or Restrictions

We have assisted many organizations with establishing analytics capabilities. Each organization has its unique challenges. However, to sum things up, ***the key to User Enablement involves having the right information and knowledge at the right time (the time of need).*** Not having information and knowledge at the time of need often results in a missed opportunity. People find another way to address their requirements. Being proactive with training and information availability are essential enablers, but they don't cover every situation. Helping users by ***coaching and addressing specific use cases with Power BI and available data sources*** at the time of need is a major differentiator.

A ***Center of Excellence*** model is an effective long-term strategy to address this. However, it takes time to establish a fully functional CoE, as outlined above in this document. ***Data Governance*** is important and integral to an effective CoE. An effective ***data catalog*** (emphasis on catalog versus governance tool) and access to ***Data SMEs*** (i.e., Data Stewards) are as important as Power BI skills. ***Data Knowledge is key to scaling analytics***.

Ongoing Support

Power BI Issues Resolution

The City of Port Saint Lucie is responsible for maintaining the Power BI platform and data infrastructure and oversees system availability and maintenance windows for Power BI and Power BI applications. Lifescale Analytics support will be initiated through Level 3 notification, and SLAs are aimed at resolving issues outlined in the support request.

Measure	SLA's	Comment
Critical Issue Response	• 4 hours from the notification	• Response SLA begins at the start of business hours. Example: for an issue notification submitted at 6 am, the response SLA would begin at 8 am. The response deadline would be noon.
Critical Response	• TBD	• The goal is same-day resolution. But depends on the

Remediation		nature and severity of the issue.
General Issue Response	• Level 3 response within one business day	• The desired response is during business hours
Issue Remediation	• 24 to 48 hours, depending on the issue's severity and complexity	• High-priority issues resolved within 24 hours of notification • Medium-priority issues resolved within 48 hours of notification • Low-priority issue resolution negotiated with the City

Power BI Enhancement Requests

Lifescale Analytics recommends submitting enhancement requests using the City of Port Saint Lucie's ticketing system or our Zendesk portal. Requests should contain the following:

- Business objective and scope of the request
- Clearly defined requirements (requires a signed requirements document for enhancements over 20 hours). Please provide examples and screenshots where possible.
- Expected delivery timeline
- City resources (SMEs) available to assist with the enhancement
- Budget constraints
- Success and Acceptance criteria

For complex requests, a Lifescale Analytics Designee may request to review the request with the City of Port Saint Lucie personnel to allow for clarification of requirements. Lifescale Analytics will have ***five business days*** to review the request and provide a written document that outlines the following:

- Description of solution deliverables
- Approach used to engineer and deliver the solution
- High-level project plan with expected timeframes
- Estimated cost and delivery schedule to complete the request
- Feasibility, Risks, Assumptions, and Issues

The City can review and accept the change or decline the request. No work or changes will occur without written approval from the City. Once a recommendation is approved:

- Lifescale Analytics will develop the enhancement and test it in the dev/test environments
- The City of Port Saint Lucie will perform acceptance testing in the dev/test environment and is responsible for migrating all dev/test changes to its production environment
- Lifescale Analytics will, under no circumstances, migrate any code or data to production. Lifescale Analytics may migrate code to production in rare circumstances, only with written authorization and acceptance of risks by the City of Port Saint Lucie

Mentoring and Training

As noted, Lifescale Analytics has introduced visual analytics to several organizations. This has involved training and mentoring both technical and business users. Training details and depth of training vary based on the audience; however, regardless of audience, there are typically three areas of training:

- Visualization and Analytical skills with Power BI
- Understanding the data to be used for analytics (data sources and data relationships)
- Delivered application training – training for IT-developed dashboards

ACHIEVING IMPACT

Lifescale Analytics implemented the Rapid Delivery approach at the United States Postal Service resulting in increased visibility and reaction time for near real-time analytics on security and network behavior, directly benefiting the Security Operations Centers.

Our training typically encompasses training ***three key audiences***:

- **Technical Staff** – Those who will be supporting the system. Training for technical staff goes into more detail on the underpinnings of Power BI. For example, Power BI features and the structure and lineage of the data. We usually recommend formal online or classroom general Power BI training. Data training focuses on a detailed understanding of datasets presented in visualizations, including lineage and data sourcing. Finally, application training explains how the specific Power BI application is constructed and connected to source data.
- **Key Business Users** – Those who will ultimately become expert users of the solution. In this training, the emphasis is on how the application relates to business operations. Lifescale Analytics highly recommends a train-the-trainer (T3) approach; this particular audience often becomes the trainers and mentors for the rest of the organization. The focus of Power BI training goes into detail on navigating Power BI features and using standard Power BI controls. Considerable time is spent on underlying data, including data lineage, sources, and transformations. Since this audience has a high degree of business operations expertise, application function training is mapped to business processes.
- **Everyday Users** – Those who will be regular users of the Power BI tool or solution. Training for this audience is often delivered by T3 resources. However, it's common practice to provide "cheat sheets" that outline basic Power BI functionality and a navigation tree of the solution, so users know where to find information and content.

Assessments noting Performance Improvements, Process Improvements, and Security Vulnerability

Lifescale Analytics will, on request, assess the configuration and operation of the Power BI environment and specific solutions. This will include the assessment of the following:

- Overall licensing and deployment of Power BI at the City
- Data processing and provisioning
- Workspaces and datasets
- Power BI applications
- User configurations

Given that the City is using individual licensing, performance improvements will, in most cases, need to be assessed at the design level. Unlike with Premium Capacity licensing, there are limited controls for improving individual licensing performance as resources are fixed.

Security exposures are primarily addressed with dataset and user permissions at the workspace level. Lifescale Analytics will evaluate data management policies and assess if workspace access controls are sufficient.

METHODOLOGY

Lifescale Analytics leverages our proven ***Data Visualization and Analytics methodology***, which aims to achieve ***Rapid Delivery***, providing the City with the quickest ROI while aligning with data governance policies, processes, and methodologies that are in place. Our Rapid Delivery approach is the fastest path toward a ***Proof of Concept*** and supports ***ad hoc requests*** requiring a quick turnaround. This approach produces repeatable value by answering questions and showcasing opportunities in the current data sets. Once Lifescale Analytics knows an initial question,

our team will produce follow-up questions from preferences, equipping the City with the tools to understand the problem set more completely.

The ***Data Visualization and Analytics*** method is characterized by an agile development process that prioritizes speed and collaboration. Here are some key aspects of our method:

- **Focus on Value -** generating value for the organization as quickly as possible by ensuring data analytics projects are scoped to address specific mission or business problems and deliver tangible results with repeatable processes.
- **Agile Development** - working in short sprints, collaborating closely with stakeholders, regularly testing and iterating solutions.
- **Iterative Modeling** - building simple models quickly, followed by iterative enhancements based on feedback and performance, as opposed to building complex models upfront.
- **Automation and Tooling** - leverages automation and tooling to speed up development and reduce errors. This includes using tools for data wrangling, model building, and deployment.
- **Collaboration –** emphasizing collaboration between data scientists, business stakeholders, and IT teams, fostering alignment on project goals, and ensuring that solutions are built with the organization's broader needs in mind.

The key advantages of our Lifescale Analytics methodology are ***speed, agility***, ***and flexibility***. It enables businesses to quickly identify and address problems, optimize operations, and stay ahead of the competition. Our focus under the Data Visualization and Analytics method consists of three focus areas:

- **Data Collection and Preparation -** Data is gathered from various sources and prepared for analysis. This includes cleaning, formatting, and transforming data for analysis.
- **Data Analysis** - Data is analyzed using statistical methods and algorithms to identify patterns, trends, and insights. This helps to develop predictive models and identify opportunities for improvement.
- **Delivery -** Insights and solutions are formalized in a report, visualization, or dashboard in an understandable format, presenting the results and providing recommendations for action to help stakeholders make data-driven decisions.

To achieve rapid delivery, Lifescale Analytics conducts the following ***repeatable method*** for ***Data Visualization and Analytics:***

1. **Identify** – determine the audience, decision, or problem to address and generate follow-up questions based on the City preferences.
2. **Collect** – collect contextually relevant data sets to specifically answer the questions.
3. **Transform** – clean and transform data, addressing limits, units of measure, and frequency for specific models.
4. **Explore** – ensure the data analysis will be presented in an intuitive and user-friendly way.
5. **Model** – pull the data together, create the views, and design the initial solution, then develop the math to deliver statistical models that showcase normal behavior, outliers, predictive analysis, and

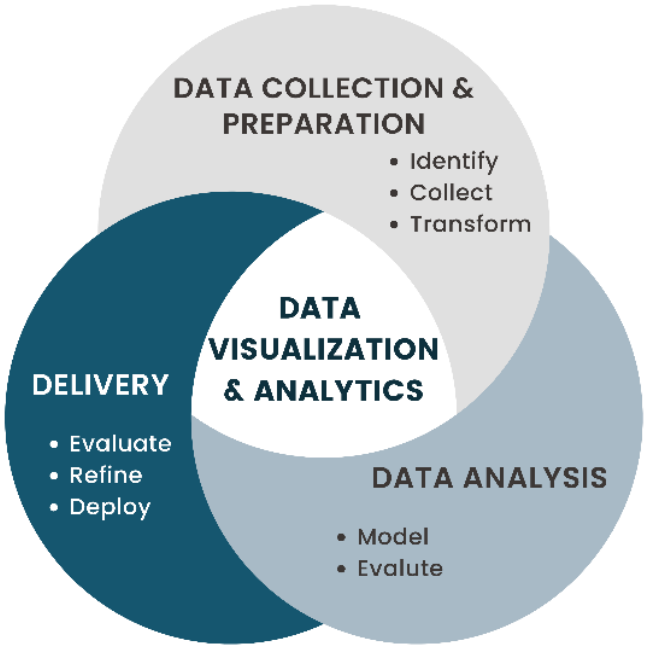


Figure 15 - Data Visualization and Analytics

deep learning to help optimize performance, find issues at early non-critical stages, and develop recovery options.

6. **Evaluate** – conduct a performance test of the solution for accuracy and usability, allowing end users to test the first iteration and then continue to roll out in an ongoing manner.
7. **Refine** – make necessary changes based on feedback to help ensure there is no missing data or functionality, all the data definitions are clear, and the results compare to what is currently being used to answer questions.
8. **Deploy** – deploy and allow users to utilize the tool or visualization with a level of hyper-care that ensures any issues are captured quickly and handled efficiently, further refining the visualization or solution.

Lifescale Analytics ***Data Visualization and Analytics methodology*** is a powerful approach for quickly generating value. Organizations can rapidly deliver solutions that meet evolving needs and drive sustainable growth by focusing on speed, collaboration, and value.

1.3.4 Smart City Initiative

A successful smart city initiative requires a comprehensive approach that integrates technology, governance, and community involvement. Port St. Lucie has invested heavily in the infrastructure to support the growing city and is in a position, with a robust technological infrastructure (Ex - Extensive Fiber Optic Networking), where the capacity to create sustainable and scalable solutions exists.

ACHIEVING IMPACT

At Curtiss-Wright, Lifescale Analytics developed a Prototype computer vision-based system employing AI and ML for QA, ensuring comprehensive shot peening coverage during the manufacturing process. The system alerts QA engineers for deeper inspection when necessary before advancing to the next manufacturing stage.

Prototype Recommendations

Lifescale Analytics has expertise in building ***Prototypes*** and ***Minimal Viable Solutions*** for our clients. Because of our experience understanding the City's environment and the benefit of leveraging IoT and Smart City solutions, we have proposed to the city a few recommendations in the past that include ***Monitoring the Outdoor Fitness Stations for Usage, Monitoring Park Usage, Monitoring the Stormwater, and Monitoring of the Gravity Septic Systems***.

Based on our experience collaborating with other municipalities, Lifescale Analytics has identified additional recommendations that could benefit the citizens of Port St. Lucie. These are summarized below:

Smart Energy Grids

Smart energy grids use digital technology to manage and distribute energy more efficiently. These grids can balance demand and supply in real-time and integrate renewable energy sources more effectively. Smart grids can also monitor Faults on the grid and supply the city with valuable information on areas of outages and ways to quickly zero in on the issues before they become a problem. Smart grids are essential for reducing energy waste, decreasing carbon emissions, and enhancing the reliability of the energy supply. Technologies such as advanced metering infrastructure (AMI), grid automation, and energy storage solutions are key components of smart energy grids.

Monitoring Gravity Sewage Sytems

In Port Saint Lucie, every home is equipped with a gravity septic system that connects to a communal sewage network. These systems are equipped with alarms to notify occupants of malfunctions, such as septic backups. Sometimes the alarms alert due to flooding in the area.

BENEFITS

- Adjusting staffing levels preemptively to address potential issues before they arise.
- Enabling staff to monitor consistently problematic areas.
- Increasing preventative maintenance in identified problem areas to mitigate future occurrences.
- Optimizing staff deployment with efficient routing capabilities.

- By providing sensor technology that sends an alert to the City on a dashboard solution can be used as monitoring mechanism to Public Works to help with dispatch and address problem areas

Figure 16 - Monitoring Gravity Sewage Systems Overview

Smart Environmental Monitoring and Maintenance

A good use case for public parks within the context of smart city initiatives involves leveraging technology to enhance the experience, safety, and sustainability of these green spaces. To maintain the park's ecosystem efficiently, ensure the safety and comfort of its visitors, and promote environmental sustainability IoT sensors can be deployed throughout the park to monitor environmental conditions such as air and soil quality, temperature, humidity, and water levels in ponds or lakes. These sensors can also track the health of trees and plants, identifying areas that may need attention or watering. Technology such as Smart irrigation systems can be leveraged with the IoT sensors data from soil moisture sensors to automate irrigation, ensuring plants receive the right amount of water at the optimal time, reducing water waste and promoting healthier vegetation.

Monitoring of Outdoor Fitness Stations

Port Saint Lucie has approximately eight outdoor fitness stations distributed across more than 30 parks throughout the city. These stations are typically situated on concrete pads, with some grouped together on a single pad while others are spread across multiple pads.

BENEFITS

- Determining equipment usage patterns to guide maintenance efforts, as certain stations may experience higher usage.
- Tracking usage times to understand when the equipment is in use.
- Justifying staffing needs, potentially requiring more park employees or police presence in areas with higher usage or safety concerns.

- Providing sensor technology on the outskirts of each concrete pad and creating a monitoring dashboard allows tracking of equipment usage.
- Adding battery-powered sensors to each piece of fitness equipment in a park provides real-time accelerometer data by recording usage duration and timing.

Figure 17 - Monitoring of Outdoor Fitness Stations

Smart Public Safety and Security Systems

Enhancing public safety and security is a critical focus of smart city initiatives. This includes the deployment of extensive networks of surveillance cameras equipped with facial recognition technology, predictive policing tools that analyze data to anticipate and prevent crime hotspots, and emergency response systems that provide real-time information to first responders for more efficient action. These systems utilize advanced technologies like AI, big data analytics, and IoT to create a safer urban environment. Additionally, smart public safety initiatives often incorporate community engagement platforms that allow citizens to report issues and receive alerts about emergencies or public safety concerns.

While there are many use cases of the benefits of smart city technology, these initiatives highlight the role of cutting-edge technology in transforming urban environments and making cities smarter, safer, and more sustainable. They represent a cross-section of the broad spectrum of smart city technologies that are being implemented globally to address the complex challenges of urbanization.

Lifescale Analytics has also created its own Environmental Monitoring solution called ***PropFIT.*** This technology oversees the fitness of residential or commercial buildings by providing continuous coverage and notifications if a property is affected by pollutants or environmental concerns.

PropFIT

PropFIT dashboards provide drill-down capabilities, so you can see not only what is going on at a specific location but also where exactly the issue is located. This allows enhanced visibility to assist with:

- Monitoring for unwanted pests and environmental conditions conducive to mold growth.
- Managing energy consumption and providing notifications for multiple property locations.
- Monitoring building occupancy and traffic patterns to inform back-to-work strategies.

The City would benefit from using PropFIT to monitor places that could be subjected to environmental impact, including humidity, mold, smoke, and other issues that may occur in locations like the Florida Hall of Fame and Art Exhibit at the Mid-Florida Civic Center.

Figure 18 - Monitoring of Park Usage Overview

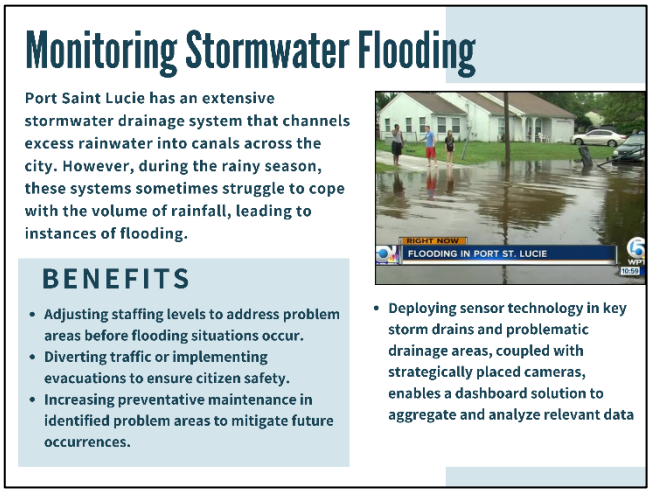


Figure 19 – Monitoring Stormwater Flooding Overview

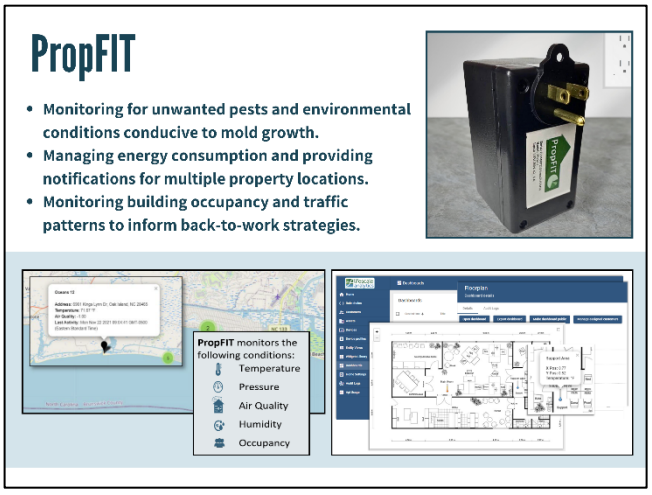


Figure 20 - ProFIT Overview

Smart City Technology Identification and Advancement

The advancement strategy for smart cities encompasses a multifaceted approach focused on integrating cutting-edge technologies with urban infrastructure and services to improve the quality of life for residents, enhance sustainability, and streamline city operations. This strategy involves deploying IoT devices, AI, and big data analytics to collect and analyze data from various urban domains, such as transportation, energy, public safety, and environmental monitoring, enabling informed decision-making and predictive management. Collaboration across sectors, including public-private partnerships, is essential to leverage expertise, innovation, and investment. Engaging citizens in the development process ensures that solutions are inclusive and address real needs. Additionally, a strong emphasis on cybersecurity and data privacy is crucial to protect sensitive information and maintain public trust. Continuous learning and adaptation, supported by research and development, are key to evolving with technological advancements and emerging challenges, ensuring that smart cities remain resilient, efficient, and responsive to the dynamic needs of their populations.

IoT and Solution Inventory

Working with the City, Lifescale Analytics would begin with the Identification of infrastructure and technology in use today to build out very specific use cases that support the current data environment, wireless, and network connectivity. We would also evaluate current IoT devices and other sensor technology currently in place today, and we would then work with the city to provide options for technological advancement where the right mix of capability and infrastructure exist to provide value for implementation and creation of solutions.

Citizen Centric

A citizen-centric approach in smart cities prioritizes the needs, preferences, and well-being of its residents at the core of urban development and technological initiatives, such as the Smart and Sustainable City strategic initiative. This strategy involves active engagement and participation of citizens in the planning, development, and implementation processes of smart city projects, using data from the City to determine where opportunities may occur for initiatives, ensuring that solutions are tailored to the community's diverse needs. Working with the City Lifescale Analytics will help to develop an implementation plan that meets the needs of the city's citizens and help develop an accessible, user-friendly platforms for feedback and dialogue, ensuring transparency in how data is used, and making inclusivity a cornerstone—so that the smart city technology benefits the citizenry.

Technology Advancements, Analysis, and Services

Lifescale Analytics has years of experience in analyzing technology to support development and smart city of innovation. In a citizen-centric smart city, technology advancements, analysis, and services are conducted through a collaborative, data-driven process that involves collecting real-time feedback from residents through digital platforms and IoT devices, ensuring solutions are finely tuned to meet community needs. Advanced analytics and AI are leveraged to process vast amounts of data from various urban systems and citizen inputs, enabling predictive insights and personalized services that enhance daily life and urban management. These processes are integrated into an agile, responsive governance framework that prioritizes transparency, efficiency, and inclusivity, ensuring that technological advancements are aligned with the city's social, economic, and environmental goals.

Methodology

In developing a Smart City Strategy, adaptability and implementation are one of the biggest challenges. Often, once you have support from the business owners to move forward with Smart City Initiatives, determining what is achievable during a reasonable timeline is the biggest obstacle. As we have mentioned above, we recommend a ***Crawl, Walk, Run*** approach.

- **Crawl (Planning)** is establishing a roadmap of Smart City Initiatives and determining what is considered most achievable to show short-term success. Move forward with identifying 1 or 2 of these initiatives as your target for immediate success.

- Walk (Development) is the implementation of the most achievable initiatives, considered the "low handing fruit." Which are the 1 or 2 identified in the roadmap.
- Run (Implementation) provides a full implementation of the roadmap, based on the project plan and infrastructure requirements, to start moving forward with the other supported initiatives.
    - Part of this milestone would include a Communication, Training, Best Practices, and Adoption Plan that supports training, best practices, messaging, and adoption to the end users and stakeholders. This plan will provide a timeline and schedule for communications to support awareness of Smart City Initiatives and a roadmap to minimize risk and encourage acceptance.

In developing a roadmap that would be supported by the users and community, we often talk to the business owners, users, and key community members and ask them "***if you had one thing that would make your job easier. give you hours in your day or improve your experience, what would that be?***" It is our experience that once you show success through the initial initiatives in the Walk Phase, through the benefit to the community, return on investment, and/or efficiency to the employees, the additional initiatives become more supported, and a Smart City Program will become fully operational within a community.

Lifescale Analytics Smart City Initiative Strategy fosters the reliability, efficiency, and safety of Smart City systems. Below is a detailed outline of the steps we take with each Smart City initiative project:

1. **Project Overview and Requirements Gathering**
    - Provide an overview of the smart city mobility project, including its objectives, stakeholders, and target users.
    - Define the scope of the project, specifying the areas of focus within mobility development and develop a Project Requirements Document.
    - Conduct thorough requirements-gathering sessions with stakeholders to identify and prioritize key features and functionalities for the mobility solutions.
    - Define user stories and use cases to guide the development process.
2. **Technology and Development Approach**
    - Evaluate available technologies for mobility solutions, including vehicle technologies (e.g., electric vehicles, autonomous vehicles), communication protocols, navigation systems, and infrastructure requirements.
    - Select appropriate technologies based on project requirements, scalability, and compatibility with existing systems.
    - Choose an iterative and agile development approach to facilitate continuous feedback and adaptation to changing requirements.
    - Break down development tasks into sprints, each focused on delivering specific features or components.
3. **Integration Planning**
    - Develop a plan for integrating mobility solutions with existing smart city infrastructure, such as traffic management systems, public transportation networks, and IoT sensors.
    - Define data exchange protocols and APIs to enable seamless communication between different systems and devices.
4. **Data Management**
    - Establish data management practices to collect, store, and analyze transportation data generated by mobility solutions.
    - Implement mechanisms for data privacy, security, and compliance with relevant regulations.
5. **Simulation and Modeling**
    - Utilize simulation and modeling tools to evaluate the performance and scalability of mobility solutions in virtual environments.

- Conduct simulations to analyze areas such as traffic flow, attendance in parks or urban areas, monitoring of stormwater, and the impact of mobility interventions on the urban environment.

6. **Prototype Development**
   - Develop prototypes or minimum viable products (MVPs) to demonstrate key functionalities and gather user feedback early in the development process.
   - Iterate on prototypes based on user feedback and testing results.
7. **Testing Strategy and Environment**
   - Define a testing strategy that encompasses various types of testing, including functional testing, performance testing, usability testing, and security testing.
   - Develop test cases and scenarios to validate different aspects of mobility solutions, such as vehicle navigation, route optimization, passenger safety, and user experience.
   - Set up a dedicated testing environment that closely resembles real-world conditions, including simulated traffic scenarios and diverse user profiles.
   - Ensure access to relevant hardware (e.g., vehicles, sensors) and software components for testing purposes.
   - Implement test automation frameworks and tools to streamline the testing process and improve efficiency.
   - Automate regression testing to ensure the stability of mobility solutions across software updates and configuration changes.
   - Perform performance testing to evaluate the responsiveness, scalability, and reliability of mobility solutions under different load conditions.
   - Measure factors such as response times, throughput, and resource utilization.
8. **Security Testing**
   - Conduct security assessments to identify vulnerabilities in mobility solutions and mitigate potential risks, such as cyberattacks, data breaches, and unauthorized access.
   - Test authentication mechanisms, encryption protocols, and data integrity measures.
9. **User Acceptance Testing (UAT)**
   - Engage stakeholders and end-users in UAT to validate that mobility solutions meet their requirements and expectations.
   - Gather feedback on usability, functionality, and overall user satisfaction.
10. **Deployment and Monitoring**
    - Plan for the deployment of mobility solutions in real-world environments, ensuring proper installation, configuration, and testing.
    - Implement monitoring and analytics tools to continuously monitor the performance and usage of mobility solutions post-deployment.
    - Establish protocols for incident management and rapid response to any issues or disruptions.
11. **Documentation and Reporting**
    - Maintain comprehensive documentation of development activities, test plans, test results, and user feedback.
    - Generate reports summarizing the development and testing process, including lessons learned and recommendations for future improvements.

By following Lifescale Analytics Smart City Initiative Strategy, the City can embrace the successful development, testing, and deployment of smart city solutions that enhance the efficiency, safety, and sustainability of the City and its citizens.

1.3.5 Other Requirements

Lifescale Analytics has been a ***CJIS vendor***; Lifescale Analytics consultants for the City will go through the CJIS background check, training, and certification process. We will oversee the certification process for any new team members on assignment at the City to attain their CJIS certification.

As we know, the City of Port Saint Lucie has HIPAA-sensitive information in personnel systems and public safety. In addition, the State of Florida and St Lucie County require individual HIPAA certification to access some public health data sources. Lifescale Analytics will certify consultants through the IT Security Vendor Questionnaire or any other required process for HIPAA certification for proof of compliance for the City of Port Saint. Lucie.

In addition to individual training and certification, it is common practice to implement a Business Associate Agreement (BAA), which (similar to the City's authorized use policy) specifies policies for working with HIPAA-sensitive data at an organizational level. Lifescale Analytics has exercised BAA documents with past clients and understands the responsibilities of working under BAAs. We will operate in compliance with future BAA documents, if requested or required by the City.

III. References

Below are four references for Lifescale Analytic for which the work performed in the ten years and is relevant to the work required in the Information Technology Modernization Consulting Services RFP.

Reference 1

Client	Washington County, MN
POC	Eric Abraham, IT Manager
POC email	eric.abraham@co.washington.mn.us
POC phone	651-430-6426
Dates of Service	June 2019 – Present

Reference 2

Client	Port Saint Lucie, Florida
POC	Hannah Melton, Assistant Director of Information Technology
POC email	hmelton@cityofpsl.com
POC phone	772-215-8710
Dates of Service	July 2021 - December 2023

Reference 3

Client	Space Force
POC	Eric Graham, Operations Research Analyst
POC email	eric.graham.20@spaceforce.mil
POC phone	210-347-1132
Dates of Service	August 2022 – Present

Reference 4

Client	United States Postal Service
POC	Kristin Soloman-Fish, Sr Director, Network and Computer Engineering
POC email	kristin.m.solomon-fish@usps.gov
POC phone	919-501-9250
Dates of Service	March 2020 - Present

IV. COST

Lifescale Analytics is offering the below vendor rate card detailing the billing rate per role for the City of Port Saint Lucie Information Technology Modernization Consulting Services for the Duration of the Contract.

Attachment B
E-Bid # 20240019
Technology Modernization Consulting Services
Cost Work Sheet - Schedule A

Deliverable		Hourly Cost
1	Project Manager	$128.00
2	Azure Solution Architect	$175.00
3	AWS Solution Architect	$175.00
4	Cloud Security Engineer	$170.00
5	Data Security Engineer	$140.00
6	Data Architect	$145.00
7	BI Developer	$130.00
8	Data Analyst	$130.00
9	Database Administrator	$120.00
10	Data Engineer	$150.00
11	Data Governance Specialist	$140.00
12	IoT Architect	$175.00
13	IoT Developer	$150.00
14	IoT Solutions Engineer	$120.00

Note: Unit prices are limited to 2 decimals
Example : $5.2555 is not acceptable - $5.25 is acceptable

Contractor Signature:
Contractor Name :Lifescale Analytics
Contractor Phone Number : 919-815-2831
Contractor Email Address: trishgeloso@lifescaleanalytics.com

V. ADDITIONAL REQUIRED PROPOSAL SUBMITTAL FORMS

CONSULTANT'S GENERAL INFORMATION WORK SHEET

CONTRACTOR'S GENERAL INFORMATION WORK SHEET
E-RFP #20240019

It is understood and agreed that the following information is to be used by the City to determine the qualifications of prospective Contractor to perform the work required. The Contractor waives any claim against the City that might arise with respect to any decision concerning the qualifications of the Contractor.

The undersigned attests to the truth and accuracy of all statements made on this questionnaire. Also, the undersigned hereby authorizes any public official, Engineer, Surety, bank, material or equipment manufacturer, or distributor, or any person, firm or corporation to furnish the City any pertinent information requested by the City deemed necessary to verify the information on this questionnaire.

Dated at Saint Lucie County, Florida (Location), this 29 day of February, 2024

Name of Organization/Contractor: Lifescale Analytics, Inc

By: Patricia Geloso, Chief Executive Officer
Name and Title

1. Corporation, Partnership, Joint Venture, Individual or other? Corporation
2. Firm's name and main office address, telephone, and fax numbers
   Name: Lifescale Analytics, Inc
   Address: 1915 Hwy 36 West, Roseville, MN 55113
   Telephone Number: 763-561-4990
   Fax Number:
3. Contact person: Brian Carnell Email: briancarnell@lifescaleanalytics.com
4. Firm's previous names (if any). _____
5. How many years has your organization been in business? 12 years
6. Is the firm claiming Local Preference under City Ordinance 35.14 ? YES / (NO)
7. **ADDENDUM ACKNOWLEDGMENT** - Bidder acknowledges that the following addenda have been received and are included in its proposal/bid:

Addendum Number	Date Issued	Addendum Number	Date Issued
Addendum 1	January 25, 2024		
Addendum 2	February 20, 2024		
Addendum 3	February 21, 2024		

Attachment B Page 1 of 9 RFP #20240019

8. Has the Contractor or any of its principals ever been declared bankrupt or reorganized under Chapter 11 or put into receivership?

Yes ( ) No (X)

If yes, please explain:

9. List any lawsuits pending or completed within the past five (5) years involving the corporation, partnership or individuals with more than ten percent (10 %) interest:

There have been no lawsuits pending or completed within the past five (5) years involving Lifescale Analytics or Individuals with more than ten percent (10%) interest.

(N/A is not an acceptable answer - insert lines if needed)

10. List any judgments from lawsuits in the last five (5) years:

There have been no lawsuits, and therefore no judgements, for Lifescale Analytics in the last five (5) years.

(N/A is not an acceptable answer - insert lines if needed)

11. List any criminal violations and/or convictions of the Proposer and/or any of its principals:

There have been no criminal violations and/or convictions of Lifescale Analytics or any of its principals.

(N/A is not an acceptable answer - insert lines if needed)

Signature

Chief Executive Officer
Title

CONE OF SILENCE FORM

PORT ST. LUCIE
HEART OF THE TREASURE COAST

NOTICE TO ALL PROPOSERS:

To ensure fair consideration is given for all Proposers, it must be clearly understood that upon release of the proposal and during the proposal process, firms, and their employees of related companies as well as paid or unpaid personnel acting on their behalf shall not contact or participate in any type of contact with City employees, department heads or elected officials, up to and including the Mayor and City Council. The "Cone of Silence" is in effect for this solicitation from the date the solicitation is advertised on DemandStar, until the time an award decision has been approved by City Council and fully executed by all parties. Information about the Cone of Silence can be found under the City of Port St. Lucie Ordinance 20-15, Section 35.13. Contact with anyone other than the Issuing Officer may result in the vendor being disqualified. All contact must be coordinated through India Barr, Issuing Officer, for the procurement of these services.

All questions regarding this Solicitation are to be submitted in writing to Nadia Tourjee, Procurement Agent I with the Procurement Management Department via e-mail ibarr@cityofpsl.com, or by phone 772-344-4055 Please reference the Solicitation number on all correspondence to the City.

All questions, comments and requests for clarification must reference the Solicitation number on all correspondence to the City. Any oral communications shall be considered unofficial and non-binding.

Only written responses to written communication shall be considered official and binding upon the City. The City reserves the right, at its sole discretion, to determine appropriate and adequate responses to the written comments, questions, and requests for clarification.

**NOTE: All addendums and/or any other correspondence before bid close date (general information, question and responses) to this solicitation will be made available exclusively through the DemandStar's Website for retrieval. All notice of intent to award documentation will be published on the City Clerk's Website. Proposers are solely responsible for frequently checking these websites for updates to this solicitation.*

I understand and shall fully comply with all requirements of City of Port. St. Lucie Ordinance .

Typed Name: Patricia Geloso
Signed: _____
Company and Job Title: Lifescale Analytics, Inc, Chief Executive Officer
Date: February 29, 2024

Attachment B Page 3 of 9 RFP #20240019

CONSULTANT'S CODE OF ETHICS

"A City for All Ages"

E-RFP #20240019
CONTRACTOR'S CODE OF ETHICS

The City of Port St Lucie ("City), through its Procurement Management Department ("Procurement Management Department") is committed to a procurement process that fosters fair and open competition, is conducted under the highest ethical standards, and enjoys the complete confidence of the public. To achieve these purposes, Procurement Management Department requires each vendor who seeks to do business with the City to subscribe to this Contractor's Code of Ethics.

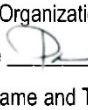
- A Contractor's bid or proposal will be competitive, consistent, and appropriate to the bid documents.
- A Contractor will not discuss or consult with other Vendors intending to bid on the same contract or similar City contract for the purpose of limiting competition. A Vendor will not make any attempt to induce any individual or entity to submit or not submit a bid or proposal.
- Contractor will not disclose the terms of its bids or proposal, directly or indirectly, to any other competing Vendor prior to the bid or proposal closing date.
- Contractor will completely perform any contract awarded to it at the contracted price pursuant to the terms set forth in the contract.
- Contractor will submit timely, accurate and appropriate invoices for goods and/or services actually performed under the contract.
- Contractor will not offer or give any gift, item, or service of value, directly or indirectly, to a City employee, City official, employee family member or other vendor contracted by the City.
- Contractor will not cause, influence, or attempt to cause or influence, any City employee or City Official, which might tend to impair his/her objectivity or independence of judgment; or to use, or attempt to use, his/her official position to secure any unwarranted privileges or advantages for that Vendor or for any other person.
- Contractor will disclose to the City any direct or indirect personal interests a City employee or City official holds as it relates to a Vendor contracted by the City.
- Contractor must comply with all applicable laws, codes or regulations of the countries, states and localities in which they operate. This includes, but is not limited to, laws and regulations relating to environmental, occupational health and safety, and labor practices. In addition, Contractor must require their suppliers

Attachment B Page 4 of 9 RFP #20240019

(including temporary labor agencies) to do the same. Contractor must conform their practices to any published standards for their industry. Compliance with laws, regulations and practices include, but are not limited to the following:

- Obtaining and maintaining all required environmental permits. Further, Contractor will endeavor to minimize natural resource consumption through conservation, recycling, and substitution methods.
- Providing workers with a safe working environment, which includes identifying and evaluating workplace risks and establishing processes for which employee can report health and safety incidents, as well as providing adequate safety training.
- Providing workers with an environment free of discrimination, harassment, and abuse, which includes establishing a written antidiscrimination and anti-bullying/harassment policy, as well as clearly noticed policies pertaining to forced labor, child labor, wage and hours, and freedom of association.

Name of Organization/Proposer Lifescale Analytics, Inc

Signature 

Printed Name and Title Patricia Geloso/Chief Executive Officer

Date February 29, 2024

DISCLAIMER: This Code of Ethics is intended as a reference and procedural guide to contractors. The information it contains should not be interpreted to supersede any law or regulation, nor does it supersede the applicable contractor contract. In the case of any discrepancies between it and the law, regulation(s) and/or contractor contract, the law, regulatory provision(s) and/or vendor contract shall prevail.

E-VERIFY FORM

PORT ST. LUCIE

Supplier/Consultant acknowledges and agrees to the following:

1. Shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Supplier/Consultant during the term of the contract; and
2. Shall expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.
3. The Contractor hereby represents that it is in compliance with the requirements of Sections 448.09 and 448.095, Florida Statutes. The Contractor further represents that it will remain in compliance with the requirements of Sections 448.09 and 448.095 Florida Statutes, during the term of this contract and all attributed renewals.
4. The Contractor hereby warrants that it has not had a contract terminated by a public employer for violating Section 448.095, Florida Statutes, within the year preceding the effective date of this contract. If the Contractor has a contract terminated by a public employer for any such violation during the term of this contract, it must provide immediate notice thereof to the City.

E-Verify Company Identification Number	1052378
Date of Authorization	June 20, 2016
Name of Contractor	Lifescale Analytics, Inc
Name of Project	Information Technology Modernization Consulting Services
Solicitation Number (If Applicable)	20240019

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on Feb 27, 20 24 in Jensen Beach (city), FL (state).

Signature of Authorized Officer

PATRICIA GROSS
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE 27th DAY OF February, 20 24.

NOTARY PUBLIC Mary Lee Mattis

My Commission Expires: March 6, 2025

NOTARY PUBLIC STATE OF FLORIDA
MARY LEE MATTIS
Commission # HH 089498
Expires March 6, 2025
Bonded Thru Budget Notary Services

Attachment B Page 6 of 9 RFP #20240019

NON-COLLUSION AFFIDAVIT

PORT ST. LUCIE

E-RFP #20240019

State of Florida)

County of Martin)

Patricia Geloso, being first duly sworn, disposes and says that:
(Name/s)

1. They are Chief Executive Officer of Lifescale Analytics, Inc the Proposer that
(Title) (Name of Company)

has submitted the attached PROPOSAL;

2. He is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such PROPOSAL;

3. Such Proposal is genuine and is not a collusive or sham Proposal;

4. Neither the said Proposer nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Proposer, firm or person to submit a collusive or sham Proposal in connection with the contract for which the attached proposal has been submitted or to refrain from proposing in connection with such Contract or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Proposer, firm or person to fix the price or prices in the attached Proposal or of any other Proposer, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Port St. Lucie or any person interested in the proposed Contract; and

5. The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Proposer or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

(Title) Chief Executive Officer

Attachment B Page 7 of 9 RFP #20240019

PORT ST. LUCIE

STATE OF FLORIDA }
COUNTY OF ~~ST. LUCIE~~ } SS: Martin

The foregoing instrument was acknowledged before me this *(Date)* Feb. 27, 2024

by: Patricia Geloso who is personally known to me or who has produced

Florida Driver License as identification and who did (did not) take an oath.

Commission No. HH089498

Notary Print: Mary Lee Mattis

Notary Signature: Mary Lee Mattis

NOTARY PUBLIC STATE OF FLORIDA

MARY LEE MATTIS
Commission # HH 089498
Expires March 6, 2025
Bonded Thru Budget Notary Services

DRUG-FREE WORKPLACE FORM

PORT ST. LUCIE
HEART OF THE TREASURE COAST

"A City for All Ages"

DRUG-FREE WORKPLACE FORM
E-RFP #20240019

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

Lifescale Analytics, Inc does:
(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under proposal a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 Florida Statutes or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Contractor's Signature

February 29, 2024
Date

Attachment B Page 9 of 9 RFP #20240019

VENDOR CERTIFICATION REGARDING SCRUTINIZED COMPANIES FORM

VENDOR CERTIFICATION REGARDING SCRUTINIZED COMPANIES' LISTS

Vendor Name:	Lifescale Analytics, Inc
Vendor FEIN:	46-1890580
Authorized Representative's Name:	Patricia Geloso
Authorized Representative's Title:	Chief Executive Officer
Address:	1915 Highway 36 W
City, State and Zip Code:	Roseville, MN 55113-2709
Phone Number:	919-815-2831
Email Address:	trishgeloso@lifescaleanalytics.com

Sections 287.135 and 215.473, Florida Statutes, prohibit Florida municipalities from contracting with companies, for goods or services over $1,000,000 that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or to engage in any Business operations with Cuba or Syria. Sections 287.135 and 215.4725 also prohibit Florida municipalities from contracting with companies, for goods or services in any amount that are on the list of Scrutinized Companies that Boycott Israel.

The list of "Scrutinized Companies" is created pursuant to Section 215.473, Florida Statutes. A copy of the current list of "Scrutinized Companies" can be found at the following link: https://www.sbafla.com/fsb/FundsWeManage/FRSPensionPlan/GlobalGovernanceMandates/QuarterlyReports.aspx

As the person authorized to sign on behalf of the Respondent Vendor, I hereby certify that the company identified above in the section entitled "Respondent Vendor Name" is not listed on either the Scrutinized Companies with Activities in Sudan List; or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; is not participating in a boycott of Israel; and does not have any business operations with Cuba or Syria. I understand that pursuant to Sections 287.135 and 215.473, Florida Statutes, the submission of a false certification may subject the Respondent Vendor to civil penalties, attorney's fees, and/or costs.

I understand and agree that the City may immediately terminate any contract resulting from this solicitation upon written notice if the company referenced above are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) for any contract for goods or services in any amount of monies, it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars ($1,000,000) or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Authorized Signature

Patricia Geloso
Print Name

Signature

TRUTH IN NEGOTIATION FORM

"A City for All Ages"

TRUTH-IN-NEGOTIATION CERTIFICATE

RFP- # 20240019

Pursuant to Section 287.055(5)(a), Florida Statutes, for any lump-sum or cost-plus-a-fixed fee professional services contract over the threshold amount provided in Section 287.017, Florida Statutes for CATEGORY FOUR, the City of Port St. Lucie, Florida requires the Consultant to execute this certificate and include it with the submittal of the Technical Proposal, or as prescribed in the contract advertisement.

The Consultant hereby certifies, covenants, and warrants that wage rates and other factual unit costs supporting the compensation for this project's agreement are accurate, complete, and current at the time of contracting.

The Consultant further agrees that the original agreement price and any additions thereto shall be adjusted to exclude any significant sums by which the City determines the agreement price was increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs. All such agreement adjustments shall be made within (1) year following the end of the contract. For purposes of this certificate, the end of the agreement shall be deemed to be the date of final billing or acceptance of the work by the City, whichever is later.

Lifescale Analytics, Inc
Name of Firm

Patricia Geloso
President or Designee (Printed)

President or Designee (Signed)

The foregoing instrument was acknowledged before me by Patricia Geloso who is personally known to me. WITNESS my hand and official seal in the Miami-Dade (Name of County), FL (State) last aforesaid this 21 day of Feb, 2024

(SEAL)

MARY LEE MATTIS
Commission # HH 089493
Expires March 6, 2025
Bonded Thru Budget Notary Services

Signature

Notary Name (typed or printed)
Mary Lee Mattis

Notary Name (signed)

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