Strategic Partnership for Baltimore Smart City Initiative

A Comprehensive Solution Leveraging Visium Technologies, WWT, and Ubicquia

July 17, 2025

Executive Presentation

Executive Summary

Strategic Partnership

A transformative collaboration between Visium Technologies, World Wide Technology (WWT), and Ubicquia to deliver a comprehensive smart city solution for Baltimore.

Complementary Capabilities

Visium's advanced cybersecurity analytics, WWT's technology integration expertise, and Ubicquia's smart infrastructure solutions create a synergistic ecosystem.

Comprehensive Solution

Addressing Baltimore's digital equity goals and infrastructure needs through intelligent streetlights, real-time monitoring, and advanced cybersecurity protection.

Projected Return on Investment

$85M investment with $150M+ in returns over 10 years through energy savings, operational efficiencies, enhanced public safety, and economic development benefits.
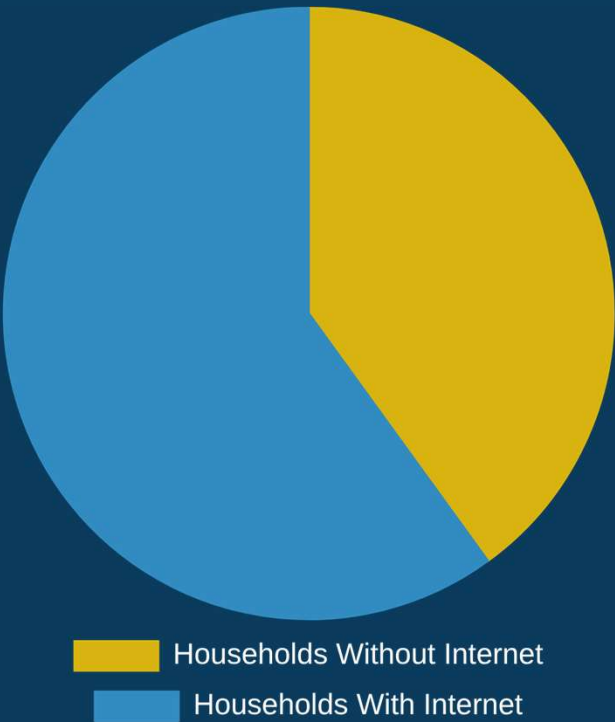
Baltimore's Smart City Vision & Needs

"Smarter Baltimore" Initiative

A comprehensive plan developed through collaboration between Maryland's leading universities and the city, with NSF funding to apply cutting-edge technologies to improve quality of life, with focus on West Baltimore as a pilot community.
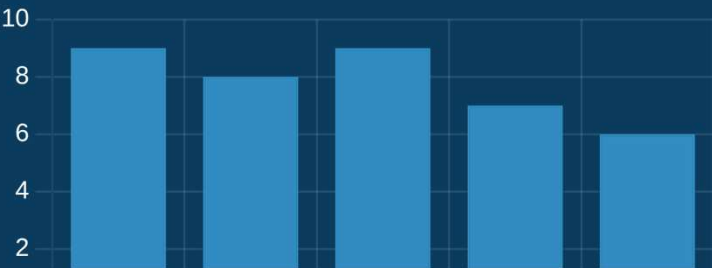
Key Infrastructure Needs

- **Digital Equity:** 40% of Baltimore households lack internet access, creating significant barriers to education, employment, and services.

- **Smart Infrastructure:** Existing fiber backhaul ready for smart city deployment with 15,000 streetlights as potential smart nodes.

- **Public Safety:** Enhanced monitoring and emergency response capabilities to improve safety across all communities.

- **Data Analytics:** Comprehensive platform for data-driven decision making and resource optimization.

Baltimore's Digital Divide

- Households Without Internet
- Households With Internet

Technology Focus Areas

Strategic Partnership Capabilities

Our strategic partnership brings together three industry leaders with complementary capabilities to create a comprehensive smart city solution for Baltimore.

Visium Technologies

Advanced cybersecurity analytics through the TruContext platform, providing AI-powered threat detection, real-time monitoring, and comprehensive visualization of security threats across smart city infrastructure.
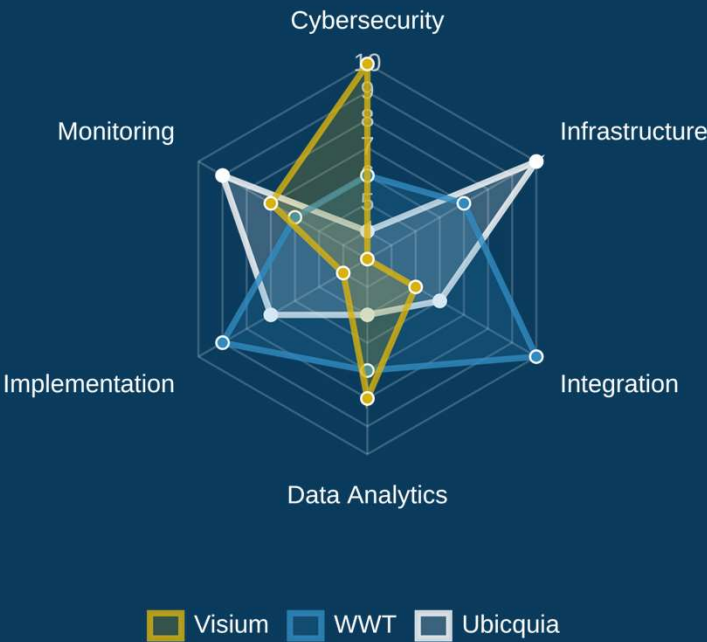
World Wide Technology (WWT)

Comprehensive technology integration and consulting services with proven experience in large-scale government deployments, ensuring seamless implementation and ongoing management of complex technology ecosystems.

Ubicquia

Smart infrastructure solutions deployed across 800+ cities, transforming streetlights and utility infrastructure into intelligent monitoring and communication nodes that generate real-time data for city operations.

Partnership Synergy Model

Cybersecurity · Infrastructure · Integration · Data Analytics · Implementation · Monitoring
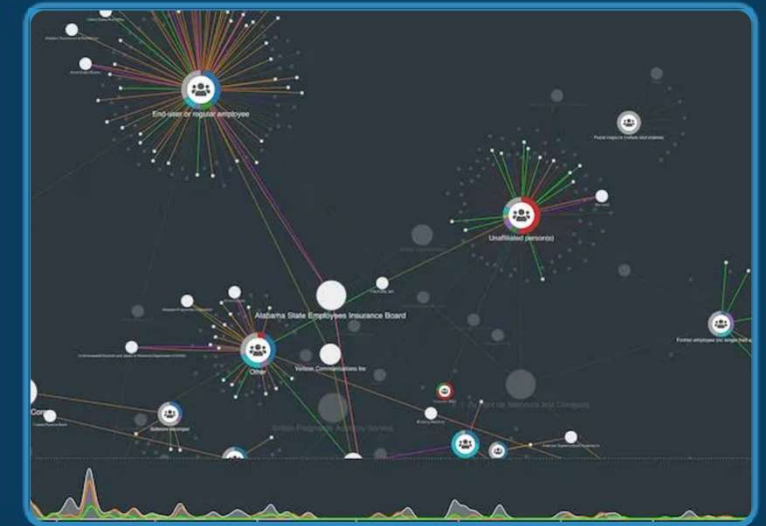
■ Visium ■ WWT ■ Ubicquia

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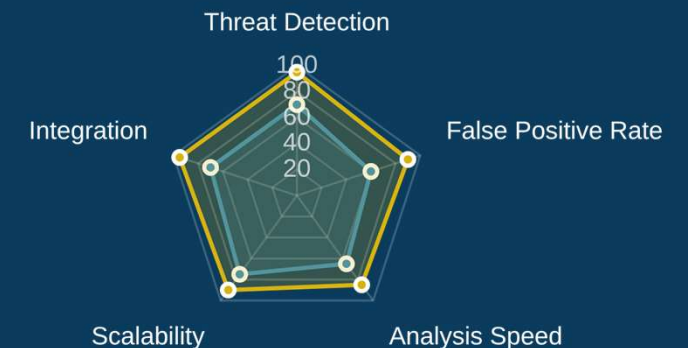# Visium Technologies: Advanced Cybersecurity

TruContext Platform

Enhanced commercialized version of MITRE's Cygraph cyber tool, representing the only patented scalable multi-layered graph database solution for cybersecurity. Originally designed for Department of Defense and Army Cyber Command.

Key Cybersecurity Capabilities

- **Advanced Threat Path Analysis** - AI-powered scenario creation automatically generates realistic threat paths simulating how attackers could move through network infrastructure.

- **Graph-Based Analytics** - Neo4j integration leverages graph database capabilities to calculate shortest paths between potential attack vectors and critical assets.

- **Real-Time Threat Monitoring** - Processes data from hundreds of event sources simultaneously, applying machine learning to identify anomalous behaviors and security threats.

- **High-Throughput Processing** - Kafka Ecosystem integration enables rapid processing of data with the power to connect to hundreds of event sources and billions of event sinks.

- **Compliance Mapping** - Automated mapping to NIST and MITRE ATT&CK

TruContext Threat Detection Efficiency

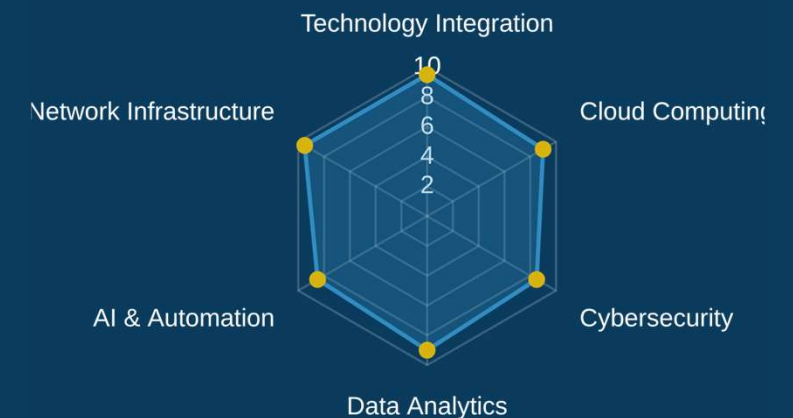# WWT: Comprehensive Technology Integration

Strategic Technology Integrator

World Wide Technology (WWT) is a $20B+ technology services provider with 30+ years of experience and 10,000+ employees. As a Minority-owned Business Enterprise (MBE), WWT brings proven expertise in complex technology integration and implementation for government and enterprise clients.

World Wide Technology

Key Capabilities for Baltimore

- **Technology Integration:** Seamless implementation of multi-vendor solutions with proven methodologies for complex deployments.

- **Advanced Technology Center (ATC):** Hands-on testing environment to validate solutions before deployment, reducing implementation risks.

- **Consulting Services:** Strategic guidance combining traditional expertise with innovative approaches for digital transformation.

- **Cloud & Infrastructure:** Design and implementation of scalable infrastructure to support growing smart city data needs.

- **Security Services:** Comprehensive security implementation and management to protect critical infrastructure.

WWT Service Areas for Smart Cities

Radar chart with axes: Technology Integration, Cloud Computing, Cybersecurity, Data Analytics, AI & Automation, Network Infrastructure (scale 2–10)

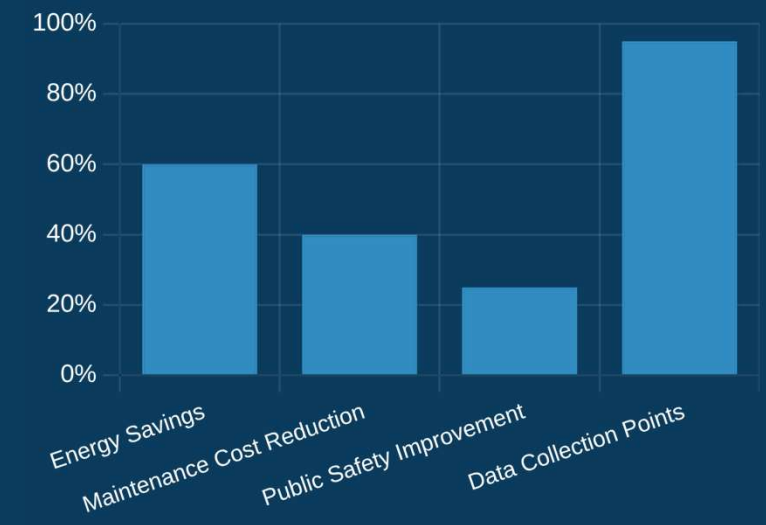# Ubicquia: Smart Infrastructure Solutions

Company Overview

Ubicquia specializes in making critical infrastructure intelligent, with solutions deployed across 800+ cities. The company transforms 450 million streetlights, 500 million distribution transformers, and 1 billion utility poles worldwide into smart, connected assets.

Core Capabilities

— **UbiCell UGU Platform:** Provides utility-grade performance and intelligence to reduce energy, operation, and maintenance costs for all luminaires.

— **UbiVu Analytics Platform:** Uses advanced AI and analytics to cut costs, boost efficiency, and improve grid resilience through real-time monitoring.

— **Real-time Monitoring:** Monitors up to 7,800 data points per second to prevent infrastructure failures and optimize performance.

— **Public Safety Enhancement:** Smart streetlight monitoring, public safety cameras, license plate recognition, and environmental monitoring.

— **Sustainability Impact:** Significant energy cost savings, greenhouse gas reduction, and improved grid reliability through intelligent infrastructure.

Smart Infrastructure Benefits

Integrated Solution Architecture
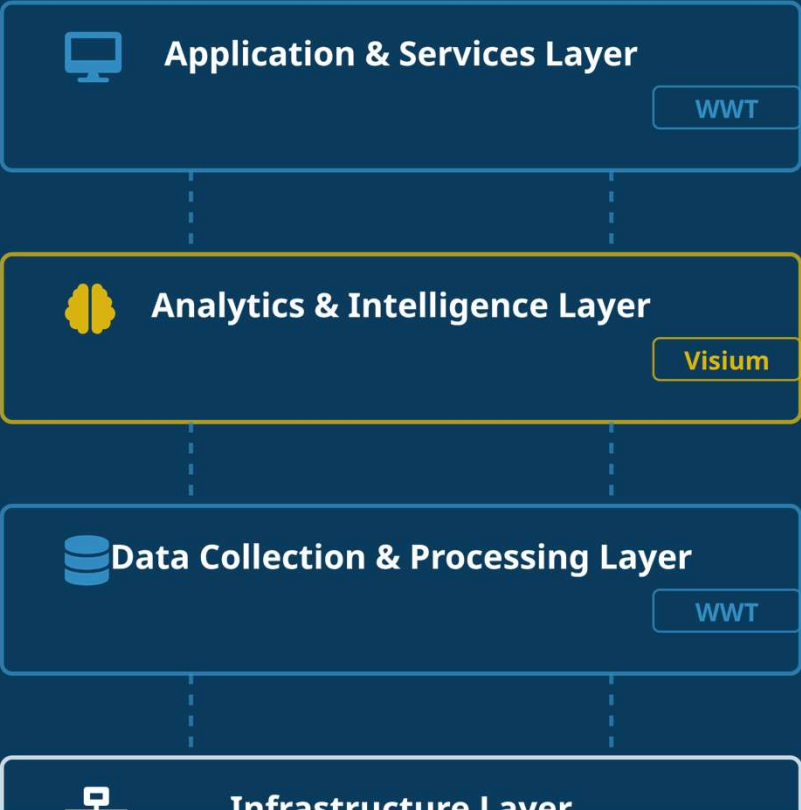
🔲 Infrastructure Layer `Ubicquia`

Smart streetlights, utility pole sensors, and environmental monitoring devices form the foundation of Baltimore's IoT network. Leverages existing fiber backhaul and planned 5G deployment to create a comprehensive data collection system across the city.

🗄 Data Collection & Processing Layer `WWT`

Robust data processing infrastructure handles massive data volumes from thousands of connected devices. Includes data normalization, quality assurance, and real-time processing capabilities that prepare information for advanced analytics.

🧠 Analytics & Intelligence Layer `Visium`

TruContext's graph database capabilities create comprehensive relationship maps between infrastructure components. AI-powered analytics transform raw data into actionable intelligence for predictive maintenance, security threat detection, and operational optimization.

🖥 **Application & Services Layer**
`WWT`

🧠 **Analytics & Intelligence Layer**
`Visium`

🗄 **Data Collection & Processing Layer**
`WWT`

🔲 **Infrastructure Layer**

Implementation Roadmap

Our comprehensive 48-month implementation plan is designed to deliver measurable results at each phase while ensuring minimal disruption to city operations and services.

1 **Foundation & Planning**

Months 1-6

Detailed assessment of existing infrastructure, stakeholder engagement, and comprehensive implementation planning. Initial deployment of TruContext security framework and establishment of the data integration platform.

2 **West Baltimore Pilot Deployment**

Months 7-18

Implementation of smart streetlights and infrastructure sensors in the West Baltimore pilot area. Deployment of initial monitoring capabilities, data collection systems, and community engagement programs to ensure adoption.
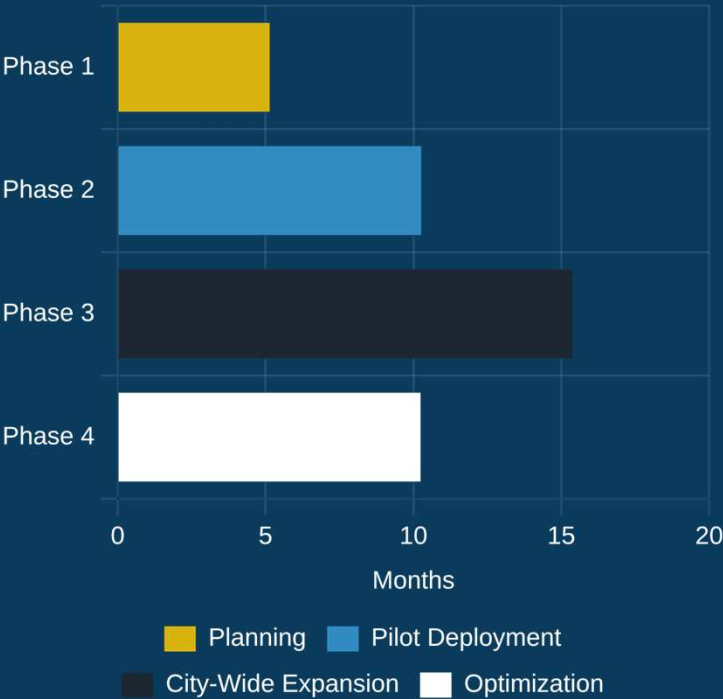
3 **City-Wide Expansion**

Months 19-36

Scaled deployment across Baltimore with phased implementation of smart infrastructure. Integration of advanced analytics capabilities, predictive maintenance systems, and expanded public safety features based on pilot learnings.

4 **Optimization & Innovation**

Months 37-48

Implementation Timeline

Phase	Months
Phase 1	0–5
Phase 2	0–10
Phase 3	0–15
Phase 4	0–10

Months

■ Planning ■ Pilot Deployment
■ City-Wide Expansion □ Optimization

ROI & Strategic Benefits

Financial Overview

Total investment of $85M over 48 months with projected returns exceeding $150M over 10 years through direct cost savings, operational efficiencies, and economic development benefits.

Key Strategic Benefits

— **Energy Efficiency:** 60% reduction in streetlight energy costs through smart lighting controls and LED technology, saving approximately $4.5M annually.

— **Predictive Maintenance:** 25% reduction in infrastructure maintenance costs through real-time monitoring and predictive analytics, preventing costly failures.

— **Enhanced Public Safety:** Improved emergency response times and crime reduction through intelligent monitoring and data-driven policing strategies.

— **Digital Equity:** Expanded public Wi-Fi access across all communities, reducing the digital divide and creating economic opportunities for underserved populations.

.... **Economic Development:** Increased property values and business growth in smart-enabled districts, creating new jobs and expanding the tax base.

10-Year ROI Projection

Cumulative Investment □ Cumulative Returns

Annual Cost Savings by Category

Energy ■ Maintenance ■ Public Safety