

ENGINEERING FUTURE-READY INFRASTRUCTURE

Secure • Smart • Resilient

"Bringing technical coherence to mission-critical modernization."

CELENIUM® MISSION VALUE

- Established 2009 — Small Disadvantaged Business
- Modernizes mission-critical systems, communications networks, and digital infrastructure
- **Bring technical clarity, alignment, coherence, and precision** from requirements through transition to operations
- **De-risk technology modernization** from the outset
- **Improve decision confidence**
- **Accelerate implementation readiness**
- **Help leaders protect technical interests and investments**

SELECTED EXPERIENCE

Experience includes CELENIUM contracts and Ahmad Sultan's prior professional engagements. Logos identify organizations supported; no endorsement is implied.

- Led and supported major communications operators in modernizing mission-critical signaling infrastructure
- Technical lead for Sprint's 3G-to-4G / LTE multi-vendor network-services transformation
- Developed Meta / Facebook MAGMA regulatory-compliance & lawful-access readiness specification
- Contributed to Lucent / Bell Labs wireless platform & IMS architecture, engineering, and performance initiatives

SELECTED PERFORMANCE RESULTS

- **6-mon → ~ 6-wk** in T-Mobile legacy decommissioning
- **72 hr → < 30 min** in AT&T migration-exposure window
- **6/8-mon → ~ 2-wk** in AT&T site handover
- **Up to 50% TCO reduction** in HCI sourcing
- **Up to 60% vendor discounts** in SD-WAN sourcing
- **12-mon → 10-mon delivery** in Sprint 3G/4G transformation

PRIMARY NAICS CODES

541512 - Computer Systems Design
541519 - Other Computer Related Services
Other relevant: 541330, 541511, 541690, 541990

CORE COMPETENCIES

Solutions Architecture & Systems Engineering

- Requirements analysis, architecture/design, interface definition, security alignment, vendor-neutral evaluation, technical due diligence, and lifecycle documentation.

Systems Integration, Validation & Technical Closeout

- Prototype/PoC development and validation, interoperability testing, vendor coordination, migration/MOPs, acceptance readiness, commissioning, and technical closeout.

APPLICATION AREAS

- Communications networks, enterprise IT, industrial/IT-OT infrastructure, private LTE/5G, cloud/edge, and control systems.
- Legacy modernization, service transformation, test/measurement automation, and obsolescence/reverse-engineering support.

DIFFERENTIATORS

- **Mission-Aligned, Architecture-Led Delivery** — results-focused, standards-aware, scalable, and implementation-ready
- **Trusted Technical Leadership in Multi-Stakeholder Environments** — supporting OEM, operator, and prime-contractor initiatives involving Oracle, Nokia, Meta/Facebook Connectivity, and Tier-1 service provider environments (Sprint, T-Mobile, AT&T, Verizon, TELUS, UScellular)
- **Documentation Excellence** — clear, traceable deliverables that support implementation, commissioning, sustainment, compliance, and closeout
- **Agile with Enterprise-Grade Depth** — responsive small business with large-scale technical maturity

Let's discuss how CELENIUM® can support your next infrastructure or modernization program.

CONTACT

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Client Testimonial – Oracle

"Ahmad is a top-tier engineer and solution architect who brings clarity, precision, and professionalism to every engagement." — **Hanan Dadon, Oracle**

CELENIUM Government Services

Mission-Aligned Engineering & Solution Delivery



From Mission Objectives to Operational Capability

Engineering complex, interdependent systems into reliable, integrated, maintainable, and operationally ready capabilities.

CELENIUM is a customer-advocate and vendor-neutral engineering partner for federal, state and local government agencies and prime contractors. We translate mission objectives and operating constraints into clear requirements, coherent architectures, engineered designs, integrated solutions and verified outcomes—helping protect public investments, reduce modernization risk and sustain essential services from concept through handover.

Decision clarity • Technical coherence • Implementation readiness • Operational resilience

01 Common Government Challenges × CELENIUM Engineering Work Packages

Government challenge	Related work packages	Engineering result / Mission value
Unclear mission requirements and accountability	WP-01	Traceable requirements, defined responsibilities, and coherent architecture
Legacy technology and technical debt	WP-01 • WP-02	Modernization baseline, dependency clarity and phased transition
Disconnected platforms and vendor interfaces	WP-01 • WP-04	Coherent architecture, engineered interfaces, and verified interoperability
Disruption, availability and resilience risks	WP-02 • WP-05	Staged migration and continuity evidence
Uncertain technology selection and investment risk	WP-03 • WP-01	Defensible, requirements-based decisions
Pilot solutions not ready for operational use	WP-07 • WP-04	Production-ready integration and acceptance
Weak validation, records and knowledge transfer	WP-04 • WP-06	Technical acceptance and sustainable operations

Illustrative cross-government challenges; each opportunity is evaluated against its actual mission, scope and end use.

02 Our Engineering Services: From Design to Operational Handover

Engineering across the lifecycle: Each engagement is defined by agreed scope, deliverables, and acceptance criteria, with qualified specialists matched to mission needs.

DEFINE & DESIGN

Requirements • solution architecture • engineering design • technical tradeoffs

IMPLEMENT & INTEGRATE

Prototypes • configuration • multi-vendor integration • migration

VALIDATE & TRANSITION

Verification • acceptance • as-builts • operational handover • closeout

OUR DIFFERENCE **Customer advocacy • Vendor-neutral decisions • Disciplined engineering • Documentation excellence • Scalable delivery**

CELENIUM Government Services

Engineering Work Packages & Deliverables

CELENIUM®
SOLUTIONS ARCHITECTS AND SYSTEMS ENGINEERS



CELENIUM addresses mission challenges through focused engineering assignments or integrated delivery workstreams, with defined scope, tangible deliverables, and measurable acceptance criteria.

Modular assignments • Three core service areas • Traceable deliverables

01 Work Scope & Typical Deliverables

Engineering work package		What we do	Typical deliverables
WP-01	Mission Requirements & Architecture Baseline	Mission and stakeholder needs; current/target architecture; engineering design; interface and dependency mapping.	Requirements baseline; architecture/design package; interface and dependency register.
WP-02	Modernization & Migration Readiness	Legacy and technical-debt assessment; alternative options; phased migration, cutover and rollback design.	Modernization roadmap; transition plan; Methods of Procedure (MoPs); readiness/risk register.
WP-03	Independent Technology & Vendor Evaluation	Requirements-based trade studies; vendor-neutral comparisons; standards, interoperability and technical due diligence.	Evaluation matrix; options assessment; decision rationale; acceptance criteria.
WP-04	Integration & Interoperability Validation	Implementation and configuration support; multi-vendor integration; interface verification and test execution.	Integration/test plans; interface verification evidence; test results; defect and action log.
WP-05	Operational Resilience & Service Continuity	Reliability/performance engineering; dependency and failure analysis; continuity design and recovery validation.	Resilience requirements; failure scenarios; continuity test plan; prioritized mitigation roadmap.
WP-06	Technical Closeout & Operational Handover	Verification and acceptance; documentation control; as-builts, operator procedures and training.	Acceptance evidence; requirements traceability; as-built records; runbooks; handover package.
WP-07	Prototype-to-Production Engineering	Proof-of-concept and pilot engineering; production architecture; integration and scaling; operational-readiness reviews.	Prototype evaluation; transition plan; acceptance gates; sustainment requirements.

02 Engagement Paths

DIRECT ENGAGEMENT · when permitted

PRIME TEAMING · defined engineering workshare