



# TELEVATE

Televate Response to:  
Central Vermont Public Safety  
Authority  
Proposal for a Regional  
System RFP Development

February 04, 2022

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Central Vermont Public Safety Authority  
963 N. Paine Tpk.  
Berlin, VT 05602

February 8, 2022

Attn: Dona Bate, Board Chair

Dear Dona,

The Central Vermont Public Safety Authority ("CVPSA") is seeking to develop a Request for Proposal (RFP) for a regional radio system to support all Fire and Emergency Medical Services (EMS) agencies within Central Vermont. An initial important purpose for the RFP is to demonstrate that Central Vermont is prepared to advance the regional radio initiative as CVPSA pursues state, federal, or alternative funding sources to procure and implement the essential regional radio network. Additionally, the RFP will support the procurement process regardless of what local jurisdiction manages the radio network solicitation. Televate, LLC, having recently completed a Telecommunications Needs Assessment for CVPSA and developed a concept for a regional system, is perfectly suited to assist CVPSA in this endeavor.

As a leading public safety communications solutions company, Televate offers unsurpassed expertise in voice and data interoperability, land mobile radio system (LMR) design, implementation and operations, public safety wireless broadband networks, and information technology networks and applications. Our expert skills in the fundamental aspects of public safety communications technologies, coupled with our extensive hands-on experience with the technical and operational needs of the public safety community enable us to deliver the right mission critical solutions on time and at the lowest possible cost. Our staff has demonstrable success supporting similar initiatives throughout the country, and our experience with emerging industry trends and initiatives, including FirstNet, Next Generation 9-1-1, and commercial LTE and 5G microcells, make us uniquely qualified to serve the as the CVPSA's trusted partner and consultant.

Televate understands that public safety agencies in Central Vermont are only as effective as the mission critical communications systems that support them. We believe that collaboration with the CVPSA project executives and stakeholders is fundamental to the success of this project. The CVPSA should look to a partner with direct applicable experience, a sound project approach, and a dedication to excellence, who will collaborate with the stakeholders to advance a successful program. We are confident that our qualifications and well-conceived project approach will fulfill the need to develop an effective and efficient strategy for public safety telecommunication services in Central Vermont.

Please do not hesitate to contact me via phone (703-639-4201) or email ([rburke@televate.com](mailto:rburke@televate.com)) if I can be of assistance to you. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "A. Richard Burke".

A. Richard Burke  
Managing Partner, Televate, LLC

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## Proposed Project Approach

### Project Background

The Central Vermont Public Safety Authority (CVPSA) is an independent union municipal chartered district that assists its member Cities (Montpelier and Barre City) and the Capital Fire Mutual Aid System, Inc. (CFMAS) with improvements to their respective public safety communications systems and capabilities. In response to reported issues with the legacy land mobile radio (LMR) networks, and the associated communications systems that support 9-1-1 incident dispatch and response in Central Vermont, CVPSA advanced a Telecommunications Needs Assessment to document the status of the existing public safety communications systems and solutions, to identify gaps in these systems and solutions, and to determine options to upgrade the systems to meet end user requirements.

CVPSA sought the expertise of a recognized public safety communications and information technology firm to conduct the needs assessment and end user requirements gathering, and to assess the functionality and performance status on the regional legacy public safety communications system, and retained Televate, LLC to perform the Needs Assessment.

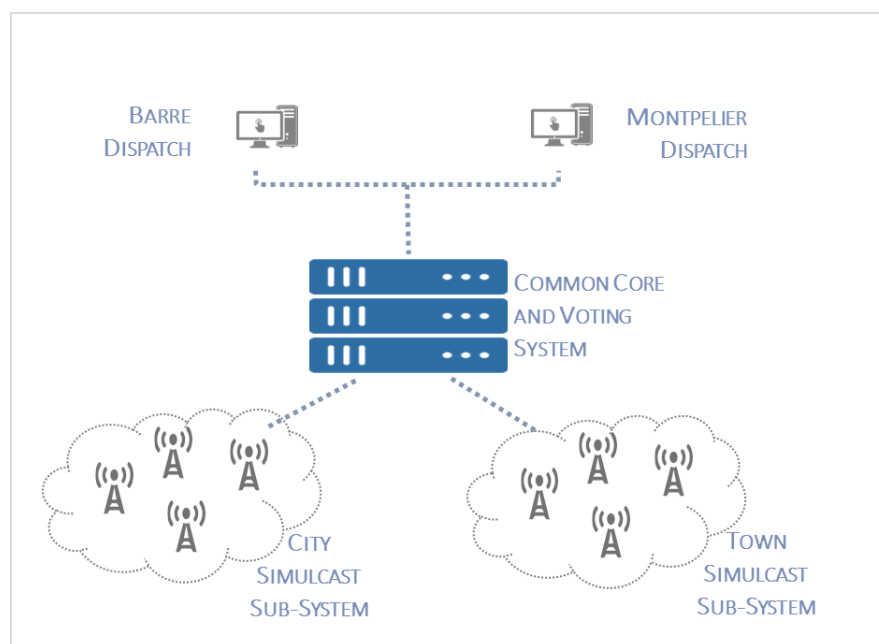
The Telecommunications Needs Assessment was designed to evaluate evolving regional plans to upgrade the existing regional LMR network. CVPSA logically designed the Needs Assessment program to engage CVPSA public safety stakeholders to define their respective requirements, and to assess Central Vermont regional communications systems and solutions to determine their operational status and quality. The delivery of timely and robust 9-1-1 emergency services to the citizens and communities of Central Vermont is anchored on the quality of the mission critical land mobile radio (LMR), 9-1-1 call taking and dispatching systems, and the ability of regional first responders to leverage these systems to support their mission. Reliable, high-quality communications systems are paramount for ensuring the safety of regional citizens and the public safety practitioners that deliver emergency response to their communities.

The legacy communications systems supporting mission critical public safety emergency dispatch and response are based on outdated technologies, most of which are no longer supported by the original equipment vendors, and they are at risk of failure. They do not provide sufficient coverage and need to be replaced and upgraded. In advancing the Central Vermont strategic plan to address these public safety communications limitations and to meet the key operational requirements detailed by the stakeholder community, Televate recommended Central Vermont pursue a regional public safety radio system to support the first responder community.

The regional system concept envisions two separate, but interconnected simulcasted radio sub-systems, as part of a larger regional system. It is recommended that the systems operate separate channels for the City fire departments (Montpelier and Barre City), and the surrounding towns that are served by CFMAS. This proposed radio network would be managed under a common system controller and function as a unified regional public safety radio network. The city sub-system will have infrastructure concentrated within the two cities to address the substantial in-building coverage requirement and a broader sub-system that focuses on the surrounding towns. It is further recommended that while channels should be separate in order to support multiple incidents simultaneously, the overall operations should be integrated to ensure coordination between the entities and to provide for redundancy and backup for each other.

In this recommended configuration, each dispatch facility would have the capability to dispatch for either the City areas or the surrounding Towns, depending on the location of the incident. Additionally, either dispatch center could serve as a backup to the other center in the event that one of the two regional dispatch centers failed. Therefore, both dispatch facilities would have access to the transmit/receive sites for each area and the channels for each.

The region envisions two simulcast and voted sub-systems, one for a proposed three-site City sub-system and one for a proposed nine-site Towns sub-system. Each of these would have separate frequencies to allow for simultaneous support of incidents within their respective areas, yet both dispatch facilities must have access to both sub-systems since they each service areas within the City and Towns areas. A concept for this system is shown in Figure 1 below.



**Figure 1: Concept for System with Dual Simulcast Cells and Dual Dispatch Facilities**

The RFP for the regional system will be developed around this approach and will offer suggested sites and frequencies to be used for the system based on previous research and investigation. The RFP would additionally include radio consoles, radio site backhaul, back-up power, radio site development and required improvements, radio tower enhancements where required, along with spare parts and system maintenance. We additionally anticipate including new portable and mobile radios into the RFP.

## Televate's High Level Approach

Televate has an established history of delivering outstanding project results on time and within budget and is very familiar with the issues entities such as the CVPSA face in maintaining an effective public safety communications system, which include but are not limited to:

- Coverage challenges due to terrain and need for in-building coverage,
- Crowded radio channels and limited available frequencies,

- Challenges with interoperability among local agencies, as well as with neighboring jurisdictions and state agencies,
- Challenges maintaining equipment due to repair, inventory, and obsolescence,
- Limited funding to maintain or upgrade these systems, and
- Complex technology decisions in the face of evolving wireless standards and solutions.

Televate will structure the regional system concept and the RFP to address these issues and place the CVPSA on a path toward a reliable and sustainable mission-critical communications system.

The RFP will be organized to support whatever Central Vermont jurisdiction leads the RFP procurement process. The RFP will also be designed in a modular structure to facilitate strategies to add or remove particular RFP elements and sub-systems if appropriate.

## Specifications and Procurement

### Specifications Development

Having established a conceptual plan and acquisition approach, this next phase focuses on developing a comprehensive specification/scope of work document and optionally assisting in vendor selection and contract negotiations. Our underlying objective is to advance a fair and competitive process that delivers reliable and sustainable solutions on time and on budget.

Standardization of public safety networks, features and interfaces has the potential to spur healthy competition and innovation as manufacturers are motivated to differentiate their products. Leveraging the competitive process can yield measurable cost savings. Over our 20+ years in business, Televate has saved our customers millions of dollars through competitive procurements, careful documentation of requirements, and leveraging our detailed knowledge of the overall market and costs. In supporting the region, the Televate team will carefully and clearly articulate the technical solutions, the contractual terms, and long-term maintenance implications.

The Televate team will develop a detailed system specification anchored on standards-based solutions wherever possible. System specifications will be closely aligned to user needs, while providing the vendors sufficient flexibility for creativity. While each system is unique, Televate has developed an extensive set of modular system specifications that will help expedite the overall radio specifications development (see figure to the right).

**SYSTEM SPECIFICATIONS**

NETWORK AND COMMUNICATION CENTER EQUIPMENT  
 SUBSCRIBER TYPES AND QUANTITIES  
 DISPATCH CENTER EQUIPMENT  
 SYSTEM FEATURES AND CAPABILITIES  
 SITE CONNECTIVITY AND RELIABILITY  
 COVERAGE AND SERVICE AREA RELIABILITY  
 ENVIRONMENT AND POWER SYSTEMS  
 SITE INSTALLATION AND EQUIPMENT  
 ANCILLARY SYSTEMS  
 FIRE STATION ALERTING, PAGING, CAD, 911 LOGGING RECORDERS

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**SERVICES SPECIFICATIONS**

IMPLEMENTATION SERVICES  
 PROJECT MANAGEMENT  
 ENGINEERING, OPTIMIZATION AND CUTOVER  
 SITE DEVELOPMENT AND INSTALLATION STANDARDS  
 IMPLEMENTATION SCHEDULE AND PLAN  
 TRANSITION SCHEDULE AND PLAN  
 ACCEPTANCE TESTING – COVERAGE AND FUNCTIONAL  
 TRAINING PROGRAMS

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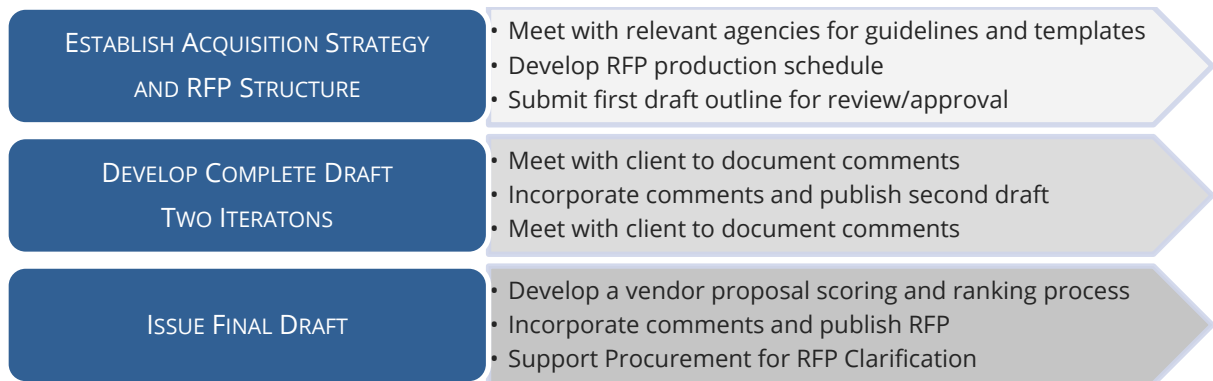
**MAINTENANCE AND SUPPORT SPECIFICATIONS**

WARRANTY AND SUSTAINMENT PLANS  
 RADIO NETWORK MAINTENANCE AND SUPPORT  
 SYSTEM OPERATIONS AND PERFORMANCE MONITORING

Our team will develop a sufficiently detailed, and clearly articulated technical scope of work and system specifications, that fosters complete and well-organized vendor proposals, which in turn, will ease review and evaluation. Vendors will be required to submit a uniform and structured response articulating their scope commitments, system designs and plans and long-term costs. The RFP will require vendors to:

- Identify from a comprehensive itemized requirements checklist where their proposal satisfies the requirements, does not meet the requirements, or where they propose a qualifying alternative to the requirements
- Clearly articulate their migration and cutover plans and how interoperability will be retained across systems
- Clearly propose licensing, maintenance, and support plans
- Guarantee long-term sustainability and evolution of the network components
- Clearly define customer and other staff roles and responsibilities
- Demonstrate their experience, project management approach and a schedule that defines the major milestones and critical paths
- Provide a pricing table indicating the various itemized components for use by vendors and for ease of direct evaluation

Our typical RFP development steps are summarized in the figure below.



**Figure 2: RFP Development Process**

Our team recognizes procurements of this scope engage various technical and non-technical stakeholders. The Televate team will work with the various stakeholders at the outset to understand their perspectives, regulations, and expectations. This helps ensure the solicitation adheres to local procurement regulations. Finally, Televate will provide guidance in developing vendor evaluation criteria within the procurement regulations that reflect the County requirements and priorities.

Our team members have developed statements of work and assisted in the contract negotiations for a range of communication initiatives including broadband systems, indoor amplification systems (distributed antenna systems or DAS), specialized communications vehicles, electronic patient care record applications, and of course, land mobile radio and backhaul systems. We are confident that we have the requisite expertise to develop a thorough scope of work that yields an enforceable contract and successfully delivers the desired functionality.

## Estimated Project Costs

Televate is pleased to submit our cost proposal to the CVPSA for consulting services in support of a regional system RFP process. The estimated pricing for services reflects the described scope of work (SOW), inclusive of labor and expenses, and corresponding assumptions as described in our proposal response. Our proposed pricing includes all travel, lodging and meals, along with all other miscellaneous expenses. Lodging and meals would be invoiced at stated GSA per diem rates if acceptable to CVPSA. One trip to Central Vermont is anticipated to complete the RFP project.

In developing the project cost proposal, Televate itemized the activities based on the project tasks defined in the SOW and estimated the number of hours per professional labor category for each task. We additionally projected the number of days required to perform the tasks onsite, and wherever possible, leveraged onsite trips to accomplish multiple activities to best manage and reduce travel costs.

Televate’s price proposal assumes that the CVPSA and its stakeholders will provide information to support various task activities and further assumes that the required stakeholders will be available to participate in the efforts outlined in the proposal. In addition, Televate assumes that the CVPSA will provide a point of contact and will support the coordination of meetings, help identify meeting facilities and review Televate deliverables in a timely manner to ensure the continuity of the project.

Project Scope	Estimated Cost
Central Vermont Regional Radio Network RFP Specifications Development (based on Priority 1 elements as detailed in the Telecommunications Needs Assessment report)	\$29,714

**Table 1: Proposed Pricing**

If the scope of work is modified over the course of the project, the cost estimate could potentially be adjusted based on Televate’s standard professional staff labor categories and hourly labor fees as detailed in Table 2. Any modifications to the project scope will be discussed in advance between the CVPSA and Televate’s project manager. If modified, Televate will provide a revised task proposal with associated cost for approval prior to initiating the work.

Labor Category	Hourly Rate with Overhead
Partner/Sponsor/Project Director	\$212
PM Rate Senior Project Manager	\$175
Senior Engineer/SME	\$159
Senior Engineer	\$136
Project Coordinator	\$99

**Table 2: Televate Professional Rate Table**



We value our commitment to the CVPSA and the region's public safety community and have priced our services in a manner that offers the best value. We have carefully relied on our previous experiences on similar projects regarding the duration of activities and the level of effort, based on the SOW described in our proposal. Our objective is to serve as the trusted consultant for the CVPSA on this critical public safety radio communications project, and we commit to deliver our support in the most effective and cost-efficient manner. We fully understand that the CVPSA seeks to manage project cost and will work closely with the CVPSA to ensure the success of the program at the best value to the CVPSA. Please contact Mr. A. Richard (Rick) Burke, Managing Partner (1934 Old Gallows Road., Suite 350, Vienna, VA 22182, Phone: 703-639-4201) with any questions.

## Project Schedule

Televate recognizes the challenges stemming from the need to update existing infrastructure and improve public safety communications capabilities and understands CVPSA’s desire to pursue a thorough, yet fast-paced RFP process. The projected schedule for the project I provided below, and Televate will work with the CVPSA to refine the schedule during project planning. The established schedule will be tracked and updated regularly to ensure realistic timelines and that the project proceeds smoothly. We have assumed a notice to proceed date of 03/04/2022 and have projected a completion data of 05/13/2022 based on this start date.

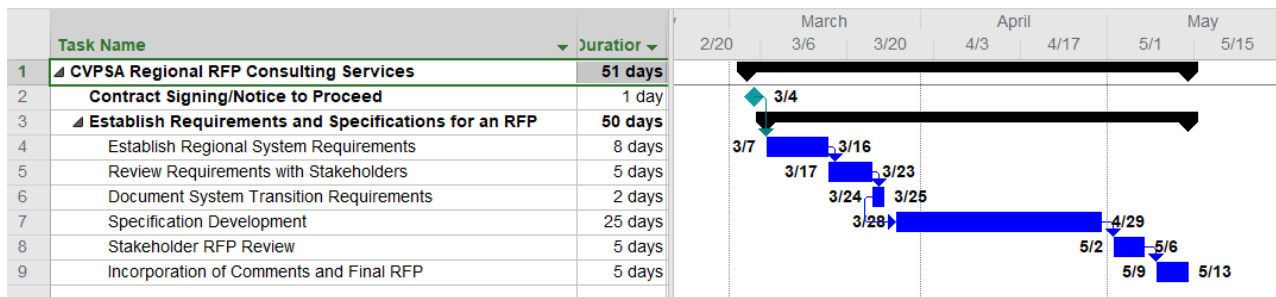


Figure 3: Proposed Timeline

## Proposal Evaluations (Optional)

Televate will optionally provide technical evaluation and administrative support during the vendor evaluation process. We will work with the region to engage the relevant legal, procurement, and executive stakeholder agencies providing summaries, updates and clarifications ensuring decision-makers are appropriately informed. Televate will provide summary reports and technical clarifications to all stakeholders, purchasing divisions and legal departments throughout this phase of the project. The activities for the contract procurement support are further described below.

Televate will review responses for completeness and compliance to the RFP specifications and the scope of work. Vendor responses to the itemized technical requirements matrix will be systematically evaluated to validate that their solution meets the prescribed requirements and standards. Vendors may assert compliance to specifications when in fact the detailed responses to their solutions indicate otherwise or offer alternative proprietary solutions to fulfill the requirements. Televate will assemble a set of questions for the vendors to provide clarification or resolve any ambiguity in their responses. Televate will also validate all third-party equipment proposed by the vendors such as microwave backhaul solutions and site UPS, paying careful attention if the bidding vendor had not used or integrated these solutions in previous deployments. A first set of recommendations and initial presentation will be provided based on each vendor's technical competence, completeness, and past experience. The proposal support process may include the following activities:

### PRE-BID ACTIVITIES

- Respond in writing to vendors' questions
- Participate in pre-bid conferences and site tours
- Support the region in issuing any addenda to the original RFP

### BID EVALUATION

- Ensure vendors' base price and response includes all required scope items
- Provide technical clarification and recommendations to support evaluation committee
- Verify adherence to P25 standards and RFP technical specifications
- Identify proprietary components, unmet or under-met requirements
- Perform independent verification of vendor designs
- Ensure vendors' solutions are scalable and can evolve with standards
- Support key personnel reference verification for prime vendors and subcontractors
- Conduct additional vendor due diligence research to vet proposed solutions
- Draft and assemble vendor questions for further clarification
- Research and validate third-party solutions, prior integration experience by the prime vendor
- Participate in vendor response clarification meetings/conference calls
- Establish agenda for and facilitate vendor orals and demonstrations
- Perform independent verification of vendor designs and risks
- Validate maintenance and support terms and cost
- Develop technical evaluation comparison matrix based on the RFP specifications
- Provide summary presentation to Client stakeholders and officials comparing the strengths and weakness of vendor responses, recommendations

## Negotiations Support (Optional)

Contracts should reflect the priorities of the client while appreciating the risks and objectives of a vendor and deliver a mutually beneficial agreement. Importantly, it should aim to reduce potential ambiguity by explicitly outlining vendor and client responsibility. Who will be responsible if a tower is found to be structurally unsound? Will the vendor at its sole scope and cost deploy additional sites if the coverage test demonstrates non-compliance? Was the coverage testing process, computation of results, accessibility of coverage grids and pass/fail rating sufficiently clear upon contract award? Are there any penalties for delays? Which vendor will be responsible for interfaces and APIs to ancillary applications like CAD and logging recorders? Our attention to detail in reviewing and identifying ambiguity on radio system contracts or terms and conditions has limited change orders and kept the vendors “honest” but minimizes their risks that may result in premiums paid by the county.

We are distinctly familiar with the LMR vendor space’s evolution in solutions, proposals, pricing, negotiations, and implementation strategies along with the concessions they are willing to make, and the hardlines they draw as this competition intensifies. We will draw upon these experiences to guide the region to a mutually beneficial, yet low cost and objectively enforceable LMR vendor contract. Contract negotiations activities may include:

- Develop and distribute negotiations strategies
- Baseline vendor solutions to ensure clearly aligned scope and pricing
- Develop and negotiate payment schedule commensurate with delivery of equipment and services
- Assess excessive or unnecessary network features and products to refine project cost
- Provide support to legal and procurement departments as necessary
- Fine-tune vendor SOW and technical specifications prior to contract ratification
- Ensure final contract captures all required deliverables
- Clearly define and ratify network and coverage acceptance test procedure and terms
- Solidify maintenance and support terms and requirements

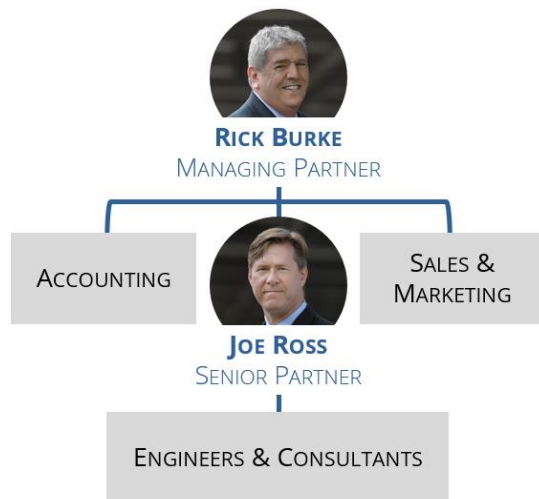
## Qualifications and Experience

### General Qualifications

Founded in 2001 in Virginia, Televate, LLC is a leading public safety technology and engineering consultancy delivering sustainable, interoperable land mobile radio, wireless broadband networks and applications, and information technology and communications solutions to power mission critical requirements.

As champions of public safety communications interoperability, Televate comprises engineers and program managers who are not just radio and IT technology experts—we are advocates for public safety who have dedicated much of our careers to enhancing interoperable voice and data networks for communities often underserved by technological advancement and budgetary funding. Headquartered in Vienna, VA, Televate continues to work as a liaison between the public safety community and the legislative bodies that govern them to ensure that the needs and concerns of public safety are voiced and addressed.

Televate understands the issues impacting our nation’s critical communications and data sharing systems, and successfully designs and manages programs targeting these issues. We manage solution implementations and assist in the assessment, design and development of sophisticated interoperable systems to ensure the operational continuity of these networks and systems.



**Figure 4: Televate Organization**

Televate has grown to include a diverse staff of public safety communications experts and has amassed tremendous experience supporting local, state and federal agencies; public authorities; and others on numerous diverse communications programs. We also provide a host of specialized technical and programmatic management consulting services, including communications planning, standard operating procedures (SOP), Concept of Operations (ConOps), and Continuity of Operations Planning (COOP) development to the public safety and critical infrastructure industry.

Televate is a limited liability company, with company partners overseeing a diverse set of projects. Depending on the size and duration of the project, technical staff can be fully dedicated to a single project or assigned to several projects concurrently.

In addition to our current staff of 20+ full-time employees, Televate employs a variety of experienced and qualified independent contractors and public safety practitioners to complement and supplement our project teams as may be appropriate. To support large short-term implementation projects, Televate has retained and managed a staff of over thirty professionals for the duration of projects, delivering a variety of system design, rebanding, radio programming, radio installation, and various additional engineering and project management services.

Since 2001, Televate's team of engineers, technologists and consultants has resolved many of our nation's mission critical communications challenges, providing a variety of technical and program management services for numerous land mobile radio (LMR) systems. We have also provided communications planning services to improve tactical and functional operational results from existing systems and developed comprehensive interoperability plans in the process. Having served customers ranging from large metropolitan areas to rural counties, we have built a wealth of knowledge regarding public safety communications requirements across jurisdictions with unique tactical needs and financial capabilities. Combined with our detailed technical understanding of wireless technologies, including Project 25 (P25) radio systems, Televate can distill user needs and quickly identify optimal solutions.

Our team has decades of experience in planning, designing, procuring, implementing and operating mission critical LMR and wireless broadband systems, and is extremely knowledgeable with modern standards-based communications systems and the many ways in which these technologies can be architected and deployed. We have been and continue to be active with national organizations such as the National Public Safety Telecommunications Council (NPSTC), the Public Safety Communications Research (PSCR) program, the Association of Public Safety Communications Officials (APCO), the National Emergency Number Association (NENA) and the Federal Communications Commission (FCC).

Some of our team's unique experience, strengths, and capabilities include:



#### Land Mobile Radio

- APCO P25 System Network Design and System Engineering
- LMR Expertise: Digital, Analog, Conventional, Trunked, Simulcast, Multicast, Mobile Data, Fire Station Alerting and Paging Systems
- Capabilities Assessment and Network Gap Analysis
- Traffic and Capacity Analysis
- System Performance Analysis, Troubleshooting and Resolution
- Interference and Site Noise Testing and Analysis System
- LMR System Transition and Operations
- RF Planning, Coverage Design and Field Measurements
- Microwave and Fiber Optic Backhaul Networks and Solutions Design
- Communications and Interoperability Planning
- Mobile Programming and Fleetmap Development
- Spectrum Management and Acquisition, Frequency Planning, FCC Licensing, and Regional Planning Committee (RPC) coordination
- Integration and Interface Development to Enterprise Networks - CAD, Station Alerting, 911 Systems and Interoperable LMR Systems
- Governance Structure and SOP Development



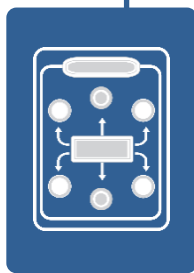
**Broadband Networks and Applications**

- 3GPP Standards and Network Design
- Public Safety Applications and Standards
- FirstNet Transition Analysis and Planning
- Interface Integration Planning and Implementation
- Enterprise architecture standards and information technology system
- CAD, NG911, Records Management Systems, Voice Recording
- Network Performance Assessment and Coverage Testing
- Microwave and Fiber Optic Backhaul Networks and Solutions Design
- Coverage Planning and Carrier Service Comparative Analysis
- Wi-Fi Networks, AVL and CCTV System Design and Implementation
- Multi-jurisdictional and multi-functional public safety voice and interoperability applications



**Project Management**

- PMI-Based Project Management and Quality Assurance Processes
- Full Lifecycle Support: Initiation to Closeout
- Information Technology and Communications Systems Implementation
- Independent Validation and Verification
- Budget Development and Analysis



**Communications Planning and SOP**

- Public Safety Communications Standard Operating Procedures
- Agency Training and Tabletop Exercises
- Multi-jurisdictional and Multi-Functional Information-Sharing Protocols
- Regional Interoperability Planning
- State and Local Emergency Management Agency Plan Development



**Strategic Plan and Business Process Development**

- Requirements Gathering and Agency Needs Assessment
- User Agency Outreach and Education
- Gap Analysis, Solution Design and Specifications Development
- Lifecycle Ownership Cost Modelling
- Network Sustainment and Staffing Plan Development
- Funding Strategy and Revenue Planning
- Grant Identification and Applications
- Capital Deployment and Operations Planning
- Shared System Management and Ownership Planning
- Inter-local Agreement and Governance Structures

## Key Personnel/Project Team

Televate proposes a highly experienced and multi-talented project team to support this solicitation in each of the required functional project areas, including LMR systems and needs assessment, coverage modeling, broadband planning and project management. Members of the proposed team have in-depth knowledge of the opportunities and challenges germane to a public safety radio system migration. All proposed personnel have direct experience in the design, implementation and optimization of public safety land mobile radio systems and are currently supporting various land mobile radio and broadband projects nationwide. Our team possesses the following experience and capabilities:

- Deep technical experience with legacy and standards-based LMR communications systems and interfaces,
- Extensive experience in the design, implementation and operations of public safety trunked and conventional systems across multiple frequency bands,
- Unique communications planning and hands-on public safety operations experience that provide us with an in-depth understanding of user needs and optimal methods to address them,
- Understand the potential integration of commercial broadband, including FirstNet solutions and other emerging technologies into the overall voice and data communications requirements
- Vendor independence but with a deep technical understanding of various vendor standardized and proprietary solutions, and
- A successful track record in completing projects in a timely and cost-efficient manner.

### A. RICHARD BURKE

Rick Burke is the co-founder and Managing Partner at Televate LLC, a Vienna, VA-based consultancy specializing in system engineering and program management for government and commercial communication systems and information technology solutions. With over 30 years of experience in wireless telecommunications and information technology, Rick has extensive system engineering and operational experience with land mobile radio, broadband wireless, commercial cellular, and other voice and data networks. Accomplished in all facets of network capital investment and operational cost modeling and assessment, and in facilitating network operational governance and cost sharing analysis.



#### SKILLS

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Fiber and wireless network design, deployment and operations and comprehensive information exchange via these secure transport networks</li> <li>• Implementing large scale, multi-jurisdictional and multi-agency programs providing public safety communications network governance</li> </ul> | <ul style="list-style-type: none"> <li>• Program planning, scheduling, requirements gathering, budgetary management, procurement, technology development oversight, operational governance and Concepts of Operations build-out</li> <li>• Public safety radio system planning and strategy development</li> </ul> | <ul style="list-style-type: none"> <li>• Federal and state grant application strategy and preparation</li> <li>• VHF, UHF, 700 MHz and 800 MHz</li> <li>• Broadband wireless (700 MHz, 2.4 GHz, 4.9 GHz)</li> <li>• Microwave system engineering (2-38 GHz)</li> </ul> |
|---|--|--|

#### EXPERIENCE



- Program managed network assessment and analysis projects to recommend the best solution for the configuration, operation and maintenance of trunked radio communications systems.
- Supported capital and operational cost analysis and modeling together with the development of a multi-county governance framework to facilitate cost sharing and functional governance.
- Consulting lead in various P25 and analog LMR networks for lifecycle assessments, system migrations, procurement strategies, RFP specifications development, and contract negotiation (targeting multiple network equipment vendors)
- Delivered “Regional P25 Networks presentation” at recent State APCO conferences on the merits and drawbacks of various architectures
- Project lead in various State and Local Implementation Grant Programs supporting the early activities in the deployment of the nationwide FirstNet 700 MHz LTE system
- Evaluated emergency communications and public safety agency structures; provided recommendations for streamlined operations
- Performed revenue analysis to seek additional and alternative sources of operational revenues.
- Managed P25 deployments and VHF-UHF narrowbanding programs
- Managed programs including budgeting, implementation, RFP development, proposal evaluation and procurement of multiple public safety radio systems, microwave and fiber networks, public safety broadband networks and applications
- Coordinated stakeholder needs assessments for interoperability events and systems
- Supported creation of regional governance frameworks for land mobile radio and broadband systems
- **Communication Planning**
  - Spearheaded a cross-agency effort to document current agency communications operations, capabilities and solutions including standard operating procedures for each system (Land Mobile Radio, Crisis Information Management Systems, Messaging Systems, Telephony, Data Applications and Information Technology Systems)
  - Provided event-specific support entailing proper voice and data communications solution selection to propagate incident warnings and information across agencies and jurisdictions as well as public notification processes and procedures; communications contingency plans for fail-over support
- **Statewide and Regional Interoperability planning**
  - Conducted needs assessment to perform a gap analysis of the current state of interoperable voice and data communications
  - Facilitated multiple joint agency meetings and workshops and documented a full scope of interoperable voice and data communications requirements to achieve the desired level of inter-agency interoperable communications
  - Directed and managed regional interoperability to achieve a common system for sharing critical incident management communication and information among member jurisdictions
- Drove federal grant writing and grant program management and successfully led grant awards worth hundreds of millions of dollars
- Delivered various technology, training, grant development, voice and data interoperable system design and operations, 800 MHz rebanding and other consulting services to a variety of local, state and federal customers
- Provided radio network and technology consulting and design services to various Federal Government operators including the Secret Service, ATF, the Treasury Department and other Federal agencies
- **Public safety broadband projects**
  - Assisted in developing BTOP grant applications that resulted in more than \$200 million in awards
  - Conducted needs assessment for public safety broadband networks and applications
  - Managed the design, operational and capital budgeting for sustainable broadband networks
  - Managed engineering staff for cellular system design, expansion and frequency planning, interconnection, real estate acquisition, and network optimization

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## CAREER TRACK

<b>2001 – Present</b>	<b>Televate, LLC, Vienna, VA, <i>Managing Partner</i></b>
<b>1999 – 2001</b>	<b>Lumenix, LLC, Annandale, VA, <i>Chief Executive Officer</i></b>
<b>1998 – 1999</b>	<b>MS Worldwide, Inc. and MLJ, Inc., Arlington, VA, <i>Executive Vice President</i></b>

<b>1992 – 1998</b>	<b>MLJ, Inc., Arlington, VA, <i>President &amp; Chief Operating Officer</i></b>
<b>1989 – 1992</b>	<b>LCC International, Inc., McLean, VA, <i>Director of Engineering</i></b>
<b>1985 – 1989</b>	<b>GTE Mobilnet Inc., Houston, TX, <i>Manager of Engineering, Southern Region</i></b>

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## EDUCATION

<b>1980</b>	<b>M.S., Geography, University of Tennessee, Knoxville, TN</b>
<b>1978</b>	<b>B.S., Geography, Rowan University, Glassboro, NJ</b>

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## PROFESSIONAL SOCIETIES

IEEE APCO Member  
P25 Interest Group (PTIG) Member

# DOMINICK ARCURI, PE, PMP, ENP



Dominick Arcuri, P.E., PMP, ENP, SMC is an experienced Public Safety Communications consultant who has been engaged in the management and oversight of communications projects over a 41-year period. Mr. Arcuri advises clients in areas related to two-way radio technology and standards; regional communications systems and interoperability; radio propagation; in-building coverage; broadband data planning and requirements; and other areas. He is a registered professional engineer in multiple states, a certified Project Management Professional and an Emergency Number Professional. Dominick is a recent member of the NENA NG9-1-1 PSAP Systems working group and previously served on the APCO Project 43 technical committee and APCO broadband committee as well as the APCO P25 committees and has previously chaired the committee responsible for P25 Phase II TDMA systems.

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## SKILLS

- P25 Network Design, Engineering and Implementation
- Public Safety Broadband Data Requirements and Planning
- Public safety interoperable and regional communications solutions
- Technical Specification and RFP Development
- Distributed Antenna Systems (DAS) and Bi-directional Amplifiers (BDA)
- Proposal Evaluation, Assessment and Negotiations
- Communications Spectrum Planning and Rebanding
- RF Site Infrastructure Acquisition, Licensing, Assessment and Evaluation
- Automatic Vehicle Location (AVL) solutions (narrowband/broadband)

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## EXPERIENCE

### Land Mobile Radio Projects

- **Antrim County, MI** – Performed an evaluation, coverage analysis, and needs assessment for a county-wide VHF paging and communications system and compared performance to the statewide network. Televate provided several next generation system recommendations along with a comparison and estimated budget for each and is currently supporting implementation of the preferred approach.
- **St. Louis, MO Regional Communications Plan** – Mr. Arcuri managed the project to develop the St. Louis Regional Land Mobile Radio Communications Plan for the St. Louis Urban Area and assisted with the management of integrated countywide LMR systems in St. Louis, St. Charles, and Jefferson Counties.
- **Lucas County, OH** - Lucas County, Ohio and the City of Toledo implemented a joint project to upgrade and expand the existing Toledo 800 MHz trunked radio system to provide complete county coverage and to serve all public safety entities within Lucas County. Mr. Arcuri served as the consultant project manager to direct the procurement and implementation of an integrated P25 City/County system.

- **Erie County, NY** – Managed the project to update the Tactical Interoperable Communications Plan (TICP) and develop standard operating guidelines (SOGs) for shared interoperability channels and the Mutualink interoperable communications system, as well as develop a field operations guide (FOG) for Erie County, NY, which is a member of the City of Buffalo, County of Erie, and County of Niagara (BEN) Urban Area Security Initiative (UASI) region, and the Western New York Interoperable Communication Consortium.

#### **Project Management Experience**

- **Kent County, MI** – Providing engineering and project management expertise to the Kent County Dispatch Authority in support of their 12-site P25 radio system implementation and integration into MPSCS.
- **Ingham County, MI** – Providing engineering and project management expertise to Ingham County Central Dispatch in support of their 9-site P25 radio system implementation and integration into MPSCS.
- **Clinton County, MI** – Providing engineering and project management expertise to Clinton County Central Dispatch in support of their 3-site P25 radio system implementation and integration into MPSCS.

#### **Strategic Planning Projects**

- **State of Ohio** – Reviewed the organizational structure and developed the future operating vision for the State’s Multi-Agency Radio Communications System (MARCS).
- **St. Louis, MO Regional Communications Plan** – Mr. Arcuri managed the project to develop the St. Louis Regional Land Mobile Radio Communications Plan for the St. Louis Urban Area.
- **Virginia Region 2000** – Mr. Arcuri managed the needs assessment, specification development, procurement and negotiations of multi-county P25 public safety radio system.
- **State of West Virginia** – Mr. Arcuri assisted with the development of a comprehensive plan for the long-term organization, maintenance and sustainability of the Statewide Radio Network and developed a high-level wireless broadband plan for the State.

#### **FirstNet/Long Term Evolution Projects**

- **Commonwealth of Kentucky** – Served as the public safety communications subject matter expert, provided expertise and assistance to the Commonwealth in support of their Public Safety Broadband planning activities.
- **State of Maryland** – Provided subject matter expertise related to the State’s data collection and Public Safety Broadband planning.
- **State of Indiana** – During the FirstNet data collection process, Mr. Arcuri performed an analysis and worked with the State to compile and analyze Public Safety Broadband requirements from nearly 100 agencies throughout the State.
- **City of Charlotte – Public Safety LTE requirements; RFP; negotiations** – The City of Charlotte and its regional partners in the Mecklenburg County engaged a consulting team, led by Mr. Arcuri, to assist in the development and definition of a comprehensive business plan for the Wireless Mobile Broadband Network and assist in its procurement and deployment.

#### **Test and Validation Projects**

- **State of Michigan 800 MHz Rebanding** – Provided comprehensive rebanding services for the Michigan Public Safety Communications System (MPSCS) throughout all planning, negotiations and testing phases.
- **Kent County, MI** – Provided engineering and project management expertise to the Kent County Dispatch Authority in support of their 12-site, 22-channel, P25 radio system implementation and integration into MPSCS. This included negotiation and oversight of an enhanced coverage testing procedure.
- **PTToC project** – As part of a large commercial Push-to-Talk (PTT) deployment for a global oil and gas company, Mr. Arcuri developed a detailed PTT test plan and evaluation matrix.

#### **Regulatory Planning and Compliance**

- **Antrim County, MI** – As part of the development and implementation of an enhanced hybrid paging system for Antrim County, pursued and acquired a “Determination of No Hazard” finding from the FAA for a new communications tower.
- **Erie County FCC** – As part of this radio upgrade and interoperability project, managed locating new frequencies and completing UHF licensing at multiple sites for the County.
- **800 MHz Rebanding Projects** – During several dozens of FCC-mandated 800 MHz rebanding projects, including some state-wide projects, performed all FCC required negotiations, filings and licensing tasks.
- Mr. Arcuri possesses an FCC Registration Number (FRN) and a **General Radio Operator’s License (GROL)**.

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## EDUCATION AND CERTIFICATIONS

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<b>2022</b>	<b>iBwave Public Safety Distributed Antenna Systems (DAS) Certification</b>
<b>2019</b>	<b>FCC General Radio Operator License (GROL)</b>
<b>2018</b>	<b>Scrum Master Certification (SMC)</b>
<b>2014</b>	<b>Six Sigma Green Belt</b>
<b>2011</b>	<b>Emergency Number Professional (ENP)</b>
<b>2009</b>	<b>Certified Project Management Professional (PMP - ID: 1293786)</b>
<b>2002-2021</b>	<b>Registered Professional Engineer (P.E.), Missouri (License # 2010012793), VA, KY, CA, MI, FL</b>
<b>2000</b>	<b>MBA, Duke University, Durham, NC</b>
<b>1983</b>	<b>MSEE, Syracuse University, Syracuse, NY</b>
<b>1980</b>	<b>B.S., Computer and System Engineering, Rensselaer Polytechnic Institute, Troy, NY</b>

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RECENT PUBLICATIONS

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- P25 Sharing - Cost Savings white paper: PTIG – Feb 2020
- P25 Trunking – Control Channel Options: MissionCritical Communications – Feb 2018