

SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



ITEM: 3.79
(ID # 22097)

MEETING DATE:
Tuesday, June 27, 2023

FROM : SHERIFF-CORONER-PA:

SUBJECT: SHERIFF-CORONER-PA: Approval of Change Order #2 for the Riverside County Microwave Network Replacement Project. All Districts. [\$43,754 - 100% PSEC Budget].

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approval of Change Order #2 for the Riverside County Microwave Network Replacement Project in the amount of \$43,754, and authorize the Chair of the Board to execute the agreement on behalf of the County;
2. Authorize the Purchasing Agent, in accordance with Ordinance No. 459, based on the availability of fiscal funding and as approved by County Counsel, to execute amendments that do not change the substantive terms of the CSSA.

ACTION: Policy



Matthew Jimenez 6/19/2023

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Perez, seconded by Supervisor Spiegel and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Jeffries, Spiegel, Washington, Perez and Gutierrez
Nays: None
Absent: None
Date: June 27, 2023
xc: Sheriff

Kimberly A. Rector
Clerk of the Board

By 
Deputy

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA**

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	\$ 43,754	\$ 0	\$ 43,754	\$ 0
NET COUNTY COST	\$ 0	\$ 0	\$ 0	\$ 0
SOURCE OF FUNDS: 100% PSEC Budget			Budget Adjustment:	No
			For Fiscal Year:	22/23

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

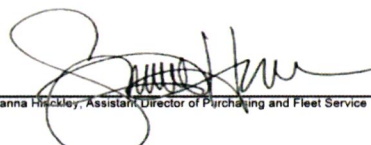
Summary

On December 11, 2018, the Riverside County Board of Supervisors approved the microwave network replacement proposal, including the Communications System and Services Agreement (CSSA) for the replacement of Public Safety Enterprise Communication (PSEC) microwave network equipment. The microwave backbone system was upgraded to support the PSEC radio system.

Motorola Solutions, Inc. in partnership with Nokia, support the microwave backbone of PSEC and are familiar with the implementation of equipment and how it ties into the network. The original agreement included \$775,000 of contingency and of that \$765,000 was used on Change Order #1. Change Order #1 supported design and implementation services for specific sites, tower analyses, and additional equipment for the Hollingsworth and Grape Hill sites. The remaining \$10,000 of contingency will be used towards Change Order #2, which totals \$53,754. The PSEC Budget will absorb \$43,754 to enable SmartConnect at the PSEC Core and some additional engineering and field installation services.

Impact on Residents and Businesses

Public safety agencies across Riverside County rely on the PSEC system to serve and protect the community. The radio system and microwave backbone are constantly maintained and upgraded to remain operational for the safety of the public and first responders alike.


Suzanna Hackley, Assistant Director of Purchasing and Fleet Service

6/19/2023


Rebecca S Cortez, Principal Management Analyst

6/19/2023


Kristine Bell-Valdez, Supervising Deputy County Counsel

6/19/2023



CHANGE ORDER 02

Change Order No. 2

Date: 04/28/2023

Project Name: Riverside County Microwave Network Replacement Project

Customer Name: Riverside County

Customer Project Mgr: Chuck Rushing

The purpose of this Change Order is to: (highlight the key reasons for this Change Order)

To enable SmartConnect at the PSEC Core using existing infrastructure. Additional engineering and field installation services. This includes engineering work to help PSEC perform some network changes.

Contract # 24483

Contract Date: 12/11/2018

In accordance with the terms and conditions of the contract identified above between Riverside County and Motorola Solutions, Inc., the following changes are approved:

Contract Price Adjustments

Original Contract Value:	\$ 15,334,004.00
Previous Change Order amounts for Change Order numbers <input type="text" value="0"/> through <input type="text" value="1"/>	\$ 0.00
This Change Order:	\$ 43,754.00
New Contract Value:	\$ 15,377,758.00

Original Completion Date:	1/19/22
Current Completion Date prior to this Change Order:	12/31/21
New Completion Date:	12/31/23

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Changes in Equipment: *(additions, deletions or modifications)*

QTY	NOMENCLATURE	DESCRIPTION
1	HKVN4797	LICENSE,SMARTCONNECT ENABLEMENT

Changes in Services: *(additions, deletions or modifications)*

Please see attached proposal "Riverside County Sheriff SmartConnect Enablement_27-APR-2023"

Schedule Changes: *(describe change or N/A)*

New completion date due to added services schedule.

Pricing Changes: *(describe change or N/A)*

- SmartConnect Enablement of \$ 0 for:
 - SmartConnect Enablement License
 - SmartConnect Enablement Services
 - Implementation Services of \$ 43,754 for:
 - Site Installation work, Structural analysis, cable tray installs, SAR engineering/config changes.
 - Five engineering days for Network support
- Total for this Change Order is \$ 43754.00 inclusive of the remaining \$ 10,000.00 contingency fund.

Customer Responsibilities: *(describe change or N/A)*

Approve Change Order

Payment Schedule for this Change Order:

(describe new payment terms applicable to this change order)

Payment will be due upon execution of this change order. Due Net 30.

Purchase Order Requirements for this Change Order (select only one).

- A Purchase Order is required - included with this change order and is attached.
- No Purchase Order is required - Customer affirms that this change order document is the only notice to proceed required, that funding has been encumbered for this change order in its entirety, and that no further purchase orders will be issued against this change order,
- No Purchase Order required - this is a \$0 Change Order, or a decrease in scope.

Unless amended above, all other terms and conditions of the Contract shall remain in full force. If there are any inconsistencies between the provisions of this Change Order and the provisions of the Contract, the provisions of this Change Order will prevail.

IN WITNESS WHEREOF the parties have executed this Change Order as of the last date signed below.

**Motorola Solutions,
Inc.**

By: 

Printed Name: Kent Martin

Title: Regional Services Manager

Date: June 19, 2023

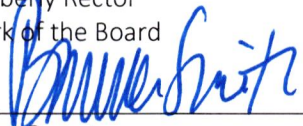
COUNTY OF RIVERSIDE,
a political subdivision of the State of California

By: 

Kevin Jefferies, Chair
Board of Supervisors

Dated: 6/27/23

ATTEST:
Kimberly Rector
Clerk of the Board

By: 
Deputy

APPROVED AS TO FORM:
Minh Tran
County Counsel

By: 
Deputy County Counsel

Reviewed by: Tet Sobingsobing
Motorola Solutions Project Manager

Date: April 27, 2023

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RIVERSIDE COUNTY SHERIFF

SMARTCONNECT ENABLEMENT

APRIL 27, 2023

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SECTION 1

SYSTEM DESCRIPTION

1.1 OVERVIEW

Motorola Solutions is pleased to offer Riverside County Sheriff with a proposal to enable SmartConnect at the PSEC Core. A SmartConnect Enablement license is proposed in order to enable the SmartConnect feature at the Core. Existing infrastructure will be used as part of the SmartConnect Enablement. Specifically, Riverside County Sheriff's existing G9 Core servers will be loaded with an LMP proxy and the existing Internetworking Firewall currently used for the Critical Connect service will connect the LMP Proxy to the Smart Connect Gateway in the cloud.

Note that subscribers (APX or APX NEXT) or Smart Application Services are not included in this proposal. While the SmartConnect feature is being enabled at the Core, it still requires subscribers to subscribe to the SmartConnect Application Service.

1.2 SMARTCONNECT

1.2.1 What is SmartConnect?

SmartConnect is a per-device subscription service that allows the device to maintain critical LMR features through a broadband connection when the device is outside of the coverage area of the LMR system. Switching between ASTRO 25 and broadband networks, SmartConnect ensures reliable PTT communications are extended beyond the coverage of an ASTRO 25 system without backend control center involvement. Authentication, status, talkgroups, and encryption are all preserved automatically, without interruptions or resets to ensure that end users continue to have access to the critical features they need in emergency situations.

1.2.2 How Does Smart Connect Work?

Riverside County Sheriff's P25 radio system is designed for excellent coverage, but there are times when field personnel need to go beyond the boundaries of the radio network, without losing their vital connection. This feature will connect users in the office and in the field with the critical information needed to safely and effectively handle any situation or environment. SmartConnect on APX NEXT enables maintaining Riverside County Sheriff's voice communications when outside of LMR coverage by automatically switching between the P25 LMR and the LTE cellular network within seconds. With no user intervention needed, the switchover is fast and automatic with audio remaining on the same talkgroup. P25 voice information is sent over broadband unchanged, so radio functionality and voice quality are maintained. The radio indicates SmartConnect is active by showing a blue bar on the display. Voice information is sent over the broadband network as P25 packets, complete with end-to-end encryption. Control signals between the radio and gateway are encrypted using TLS.

1.2.3 Benefits

SmartConnect benefits include:



- The ability for users to stay connected to the radio network even when they are outside radio coverage.
- Automatic switchover so there are no special actions or commands required by radio users.
- There is no requirement to manage a separate set of talkgroups and configurations.
- Voice information is sent over the broadband network as P25 packets, complete with end-to-end encryption.

SmartConnect allows users to retain most P25 radio features while connected via LTE, including the following:

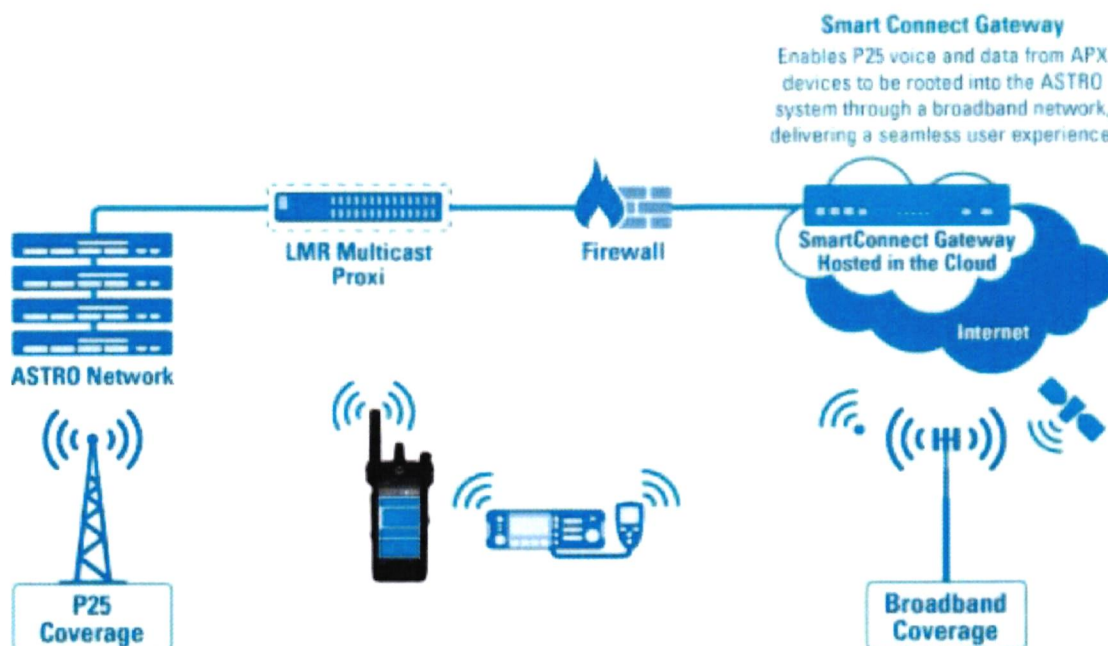
- Agency Groups
- Dynamic Regrouping
- Call Alert
- Emergency Call & Alarm
- FDMA/TDMA to/from LMR System
- Group Call Clear/Encrypted
- Group Regrouping
- Multigroup
- PTT ID
- Priority Monitor Scan
- Radio Authentication
- Radio Check
- Radio Inhibit/Uninhibit
- Radio Interrupt/Console Takeover
- Status Update

1.2.4 Required Elements

The following components are required for SmartConnect:

- Internetworking Firewall: The existing Internetworking Firewall will be used.
- SmartConnect Enablement License: Included in this proposal.
- G9 Servers and LMP Software: Included in this proposal.
- Internet Connectivity: The existing Riverside County Sheriff Internet Connectivity will be used. Please refer to Internet Connectivity section below for the details.





APX NEXT Network Elements of SmartConnect

1.2.5 Internet Connectivity for Smart Connect

The internet connection between ASTRO system (LMP) and the SmartConnect Gateway in the cloud requires a bandwidth of 5 Mbps symmetric.

If the SmartConnect Gateway is configured as “requested site” for a group in the ASTRO system, all calls on that group are routed to the SmartConnect Gateway independent whether radios have affiliated to the group or not in the broadband domain. The configuration as “requested site” ensures that the radio will be offered calls from scanned groups, but it also increases the load on the connection between the LMP and the SmartConnect Gateway.

Thus, cloud connectivity is a critical piece of the SmartConnect functionality. Riverside County Sheriff is responsible for providing this internet connection. The following guidelines are recommended for the service level agreement for the Internet connection used between the ASTRO system (LMP) and the SmartConnect Gateway in order to provide an acceptable audio quality.

- A 5/5 Mbps symmetric Internet connection is required for 200 simultaneous calls (for release 2019.2 and onwards).
- The Internet connection has high availability (99.99% or higher). A lower performance will decrease the reliability proportionality.
- Packet loss at the Internet connection is less than 0.5%. A higher packet loss will lower the reliability and the audio quality.
- The average delay introduced by the Internet Service Provider is less than 20 ms.
- The average jitter introduced on the Internet Service Provider is less than 10 ms.

SECTION 2

STATEMENT OF WORK

2.1 OVERVIEW

The Statement of Work (“SOW”) defines the principal activities and responsibilities of Motorola Solutions and the Riverside County Sheriff as part of the SmartConnect Enablement. The enablement process is a collaborative effort between Riverside County Sheriff’s system administrators, subject matter experts, and the Motorola Solutions’ deployment team.

Deployment involves the following steps:

Steps	Description
Domain and Device Setup	Provision test ASTRO® 25 subscribers on the cloud platform
SmartConnect Gateway Setup	Enable connection between ASTRO 25 system and Cloud
ASTRO 25 Preparation	Assure ASTRO 25 system has the correct version and components
ASTRO 25 System Configuration	Load and Configure software for SmartConnect
Demonstration and Project Finalization	Demonstrate SmartConnect operation

These project steps are logical groupings of related activities required to complete the project. Each step includes tasks and deliverables both Motorola Solutions and Riverside County Sheriff are responsible to complete. These are described in detail within the SOW.

Motorola Solutions Project Manager will use the SOW to guide the deployment process and coordinate the activities of all Motorola Solutions resources and teams. The Project Manager will also work closely with Riverside County Sheriff Project Manager to clearly communicate the required deployment activities and schedule tasks involving Customer resources.

2.2 PROJECT ROLES

Motorola Solutions Project Manager – Motorola Solutions’ Project Manager (“PM”) is the single point of contact with Customer’s Project Manager and is responsible for scheduling and coordinating Motorola Solutions resources and task completion. The Motorola Solutions PM assures the delivery of contracted components in accordance with the project schedule.

Motorola Solutions ASTRO 25 System Technologist – Installs and configures the ASTRO® 25 software components of the system. The System Technologist configures ASTRO 25 network components to provide connectivity to the cloud platform.

Riverside County Sheriff Project Manager – The Riverside County Sheriff PM is responsible for scheduling and coordinating agency resources and task completion. The Riverside County Sheriff PM



works collaboratively with the Motorola Solutions PM to assure completion of Riverside County Sheriff tasks in accordance with the project schedule.

Riverside County Sheriff Network Administrator – Responsible for network and firewall configuration. Works with the ASTRO 25 System Technologist to provide and verify network connectivity between the ASTRO 25 system and the cloud platform.

2.3 DATA COLLECTION AND PLANNING SESSION

Motorola Solutions will conduct a working session with the Riverside County Sheriff's system administrators and agency user representatives to provide an overview of SmartConnect operation and collect provisioning data. This activity is performed via teleconference.

Motorola Solutions Responsibilities

- Conduct a planning session with a Riverside County Sheriff representative.
- Gather radio and talk group IDs for testing and two site IDs for SmartConnect.
- Review SmartConnect functionality and configuration options.
- Document the test configuration and initial test subscribers.

Customer Responsibilities

- Provide required IDs and administrator information for provisioning.

Completion Criteria

Data collection and planning session completed.

2.4 SMARTCONNECT GATEWAY CONFIGURATION

The SmartConnect Gateway enables the connection between the Riverside County Sheriff's ASTRO 25 system and the SmartConnect cloud services and broadband service. The SmartConnect Gateway must be configured to accept a connection from the ASTRO 25 system's LMR Multicast Proxy ("LMP").

Motorola Solutions Responsibilities

- Enable SmartConnect Gateway service.
- Generate the passphrase for the LMPs using CommandCentral Admin.

Customer Responsibilities

- None

Completion Criteria

SmartConnect Gateway connection enabled.



2.5 ASTRO 25 INFRASTRUCTURE PREPARATION

Operation of SmartConnect requires a minimum ASTRO 25 infrastructure software version and specific hardware components. These elements are not included with SmartConnect and must be in place prior to SmartConnect deployment.

SmartConnect requires the following ASTRO 25 infrastructure version and equipment:

- ASTRO 25 version: 7.17 or later
- Internetworking Firewall hardware and software (shared component)
- Suitable Server: minimum of G9 Core server

Motorola Solutions Responsibilities

- Review the current ASTRO 25 system and document the availability and configuration of the components required for SmartConnect deployment.

Customer Responsibilities

- None

Completion Criteria

Riverside County Sheriff's ASTRO 25 infrastructure is operational with the required software version and equipment required for SmartConnect deployment.

2.6 ASTRO 25 SYSTEM CONFIGURATION

SmartConnect specific software components and network configurations must be added to the ASTRO 25 System. Motorola Solutions will install and configure these items during the SmartConnect deployment.

Motorola Solutions Responsibilities

- Install LMP VMs on the zone core servers. Enter CommandCentral Admin generated passphrase during the installation.
- Cable and configure the transport (core LAN switch, DMZ switch, DMZ firewall, internetworking firewall) using TNCT.
- Verify connectivity with SmartConnect Cloud Gateway via Internetworking Firewall.
- Configure NM with pseudo-site for Backup PTT using a UNC configlet for each Zone Controller and ATR in the target zone.

Customer Responsibilities

- Provide internet connection for testing the SmartConnect service.

Completion Criteria

Riverside County Sheriff's ASTRO 25 infrastructure is operational with the required software versions and configured to support SmartConnect operation.



2.7 TEST SUBSCRIBER PROVISIONING AND PROJECT FINALIZATION

Test APX NEXT subscribers must be provisioned on Riverside County Sheriff's ASTRO system prior to operation. Subscriber provisioning must include specific parameters to enable SmartConnect operation.

Motorola Solutions Responsibilities

- Provide SmartConnect provisioning parameters (FQDN for SmartConnect GW, ports)
- Provision one APX NEXT subscriber to validate the parameters.
- Demonstrate the provisioning process and required parameters to Riverside County Sheriff's System Administrator.

Customer Responsibilities

- Assure that APX NEXT subscriber firmware is updated to Release 20 or later.
- Assure that APX NEXT subscriber has been previously provisioned on the ASTRO system.
- Assure that APX NEXT subscriber has a current SmartProgramming application service subscription.
- Assure that APX NEXT subscribers' code plug configuration has been provisioned in RadioCentral and that the APX NEXT Subscriber has been programmed.
- Update the provisioning parameters of any existing subscribers that will utilize SmartConnect capability.

Completion Criteria

Test subscriber is provisioned with SmartConnect parameters. Project finalization is complete.

SECTION 3

EQUIPMENT LIST

This section lists the license necessary for the proposed SmartConnect Enablement.

QTY	NOMENCLATURE	DESCRIPTION
1	HKVN4797	LICENSE,SMARTCONNECT ENABLEMENT

SECTION 4

PRICING

Motorola is pleased to provide the following license and services to Riverside County Sheriff:

License and Services

Description	Price (\$)
SmartConnect License and Enablement Services	\$0
SmartConnect License and Enablement Services Total	\$0
Grand Total	\$0

SECTION 5

CONTRACTUAL DOCUMENTATION

The proposed solution is subject to the terms and conditions of the contract between the County of Riverside and Motorola, Contract #24483 ("Contract") dated 12/11/2018.

