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CENTER OF EXCELLENCE

Recognized as a technology resource with the national public safety community and locally with the state of Colorado.

One of a handful of state government groups dedicated to advancing operational technology for first responders.



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COLORADO
DEPARTMENT OF PUBLIC SAFETY



CBI

CSP

DFPC

DHSEM

DCJ



CENTER OF EXCELLENCE
FOR ADVANCED TECHNOLOGY AERIAL FIREFIGHTING



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TAK | Team Awareness Kit

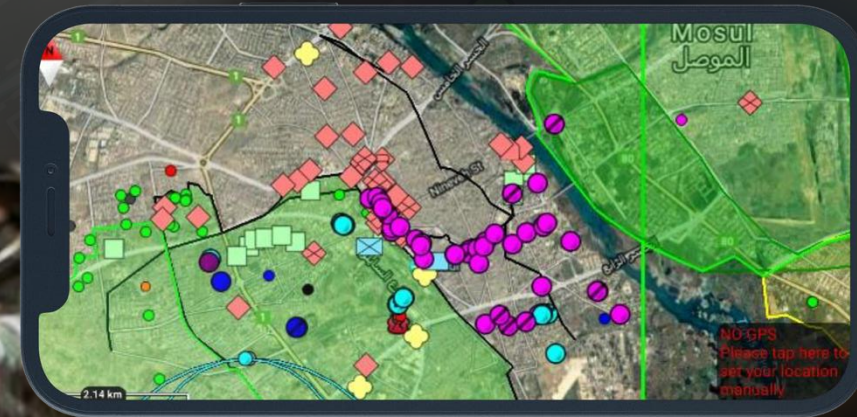


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TAK | Team Awareness Kit

Originally developed by the US Air Force Research Lab in 2010 to assist special operations with mapping, situational awareness, and close air support.

Currently over 250,000 military & federal law enforcement users.



THE COE & TAK

The CoE has conducted research & development into TAK since 2016, and identified the extreme value of TAK in providing real-time location services to first responders.

In 2022 CoE received funding from the General Assembly and by cost share agreement from the US Forest Service. This funding enables two projects to deploy TAK at scale for first responders and wildland firefighters, and to further develop TAK.



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WHEN **WHERE** MATTERS



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COTAK

The CoE saw a role for the State to develop the back-end infrastructure for TAK, to ensure that real-time location services data securely flows to first responders with a need to know.

The capability must scale for both daily operations among individual agencies using COTAK, as well as the entire Colorado public safety community when large disasters occur.

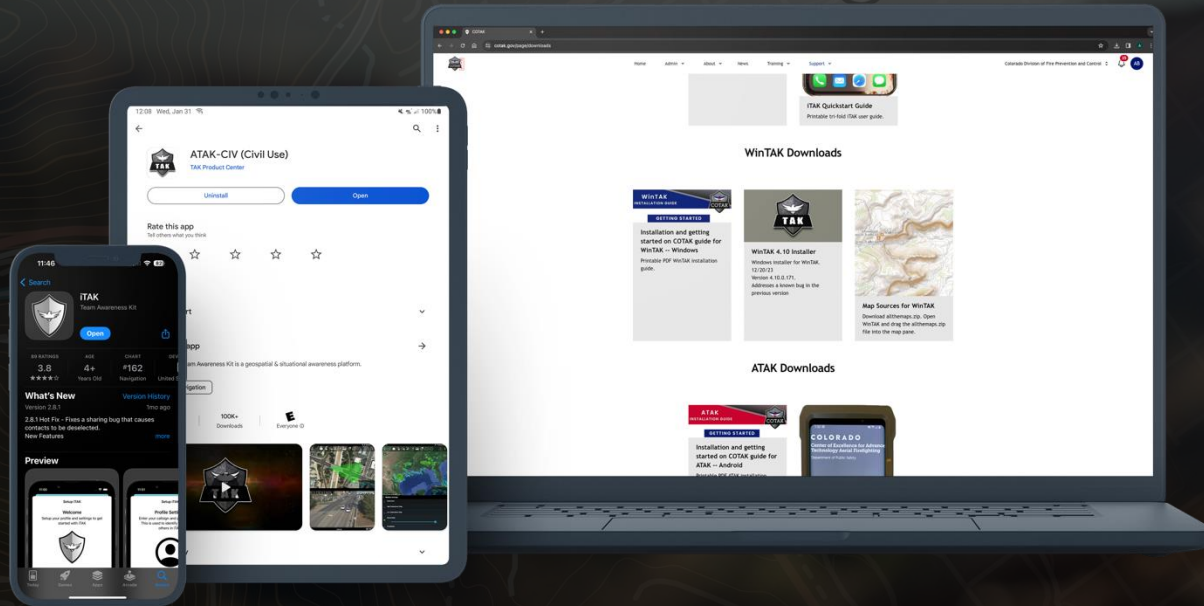




COTAK

COTAK is the server, other infrastructure, and training that enables CO first responders to use the TAK apps, which are provided free-of-charge by the Federal Government.

These apps include ATAK (Android), iTAK (iOS), WinTAK (Windows), and webTAK (website).



COTAK SERVER

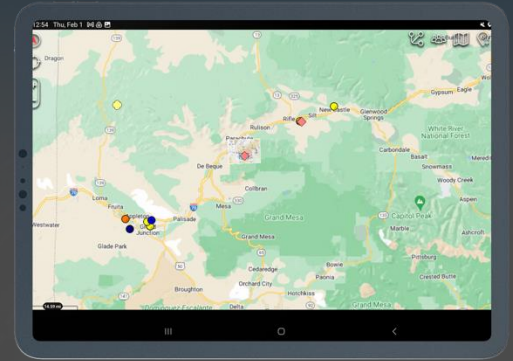


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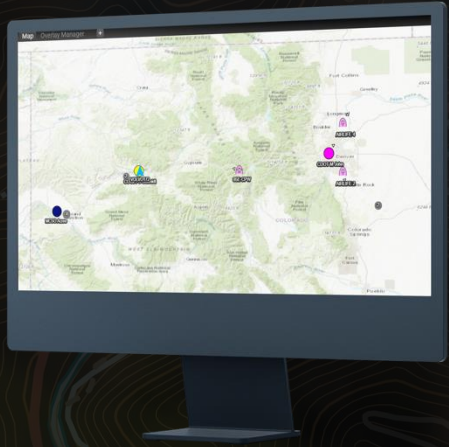
EMS



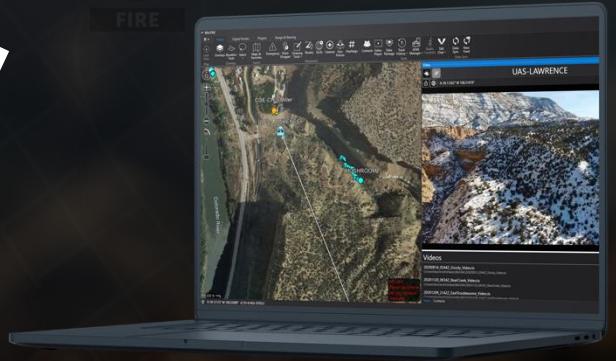
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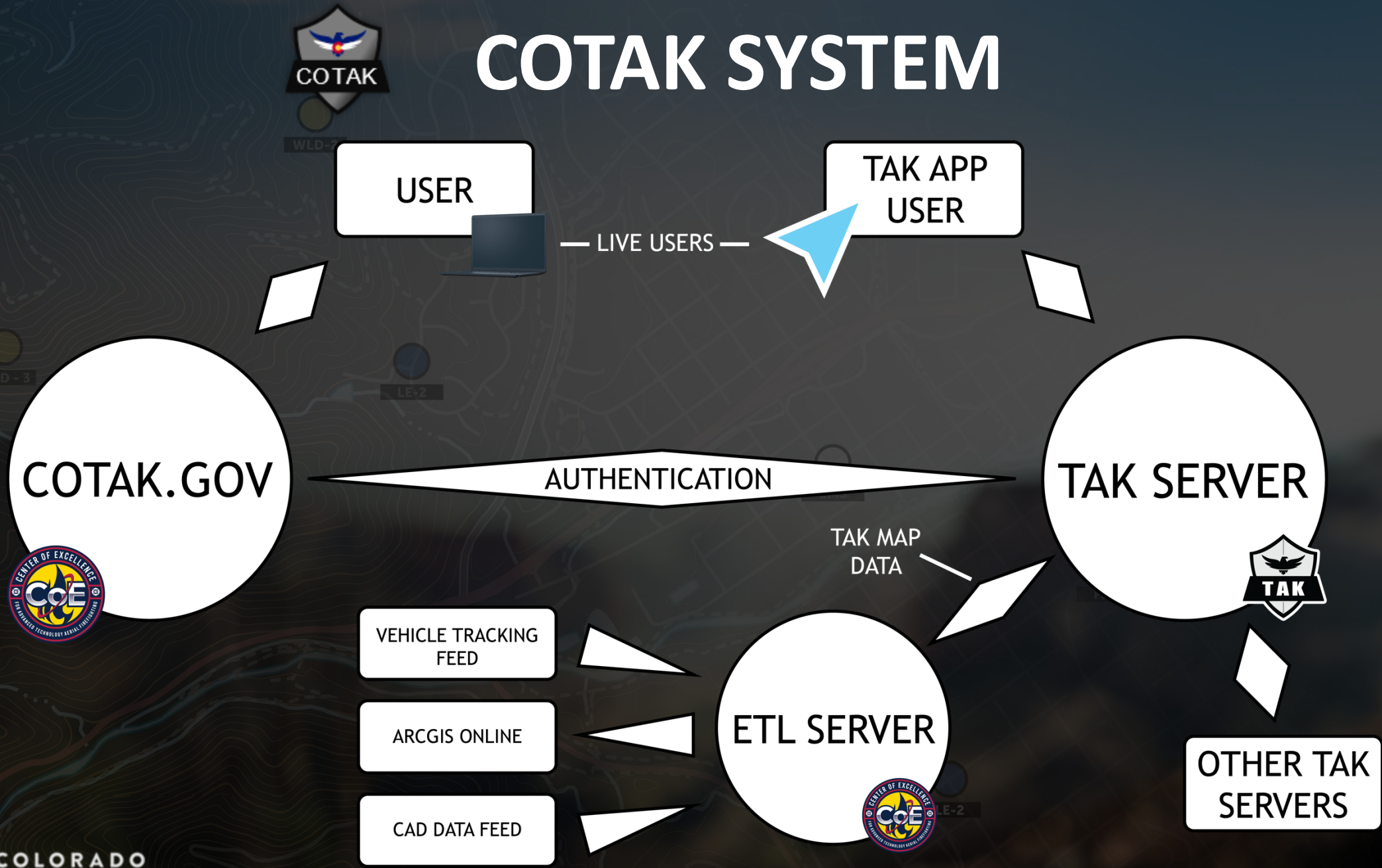
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COTAK SYSTEM



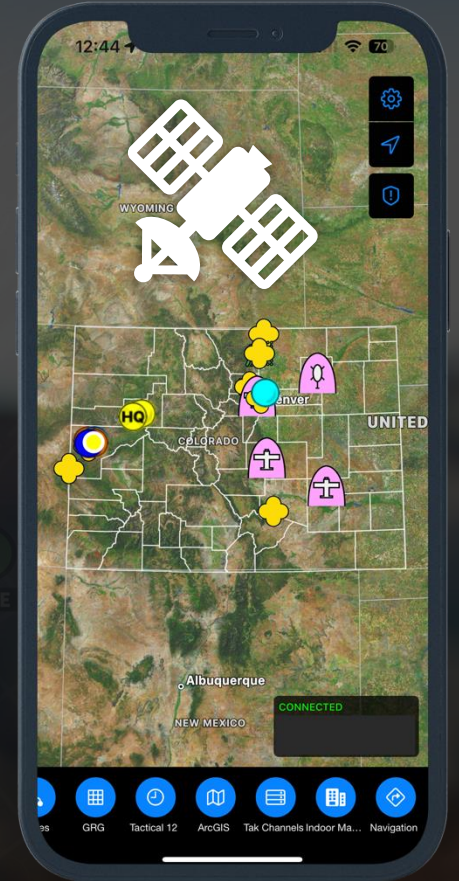


LOCATION SERVICES

TAK simply uses the phone or tablet's GPS chip to locate you.

If you rely on COTAK operationally, then the TAK app and the phone it runs on should be considered part of your responder's PPE package.

Like out-of-date body armor, old phones will give you substandard performance. Modern devices offer the most advanced location chips and batteries.



KEY COTAK CAPABILITIES FOR THE FIRE SERVICE



CUSTOM / INCIDENT MAPS

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Department of Public Safety

Grizzly Creek Fire, east of Glenwood Springs, CO
Night Operations August 14, 2020 from approximately 1945 to 2230



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MMA INTEGRATION



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MMA INTEGRATION

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The tablet screen displays a mobile application interface. On the left, a map shows a fire incident location marked 'WLDLND27-MMA' near Fort Lyon. The map includes various icons for fire, vehicles, and a distance indicator of 3.68 mi. On the right, a video player shows a large plume of smoke rising from a field, with the text 'VIAERO' in the top right corner. The video player includes a play button, a timestamp of 00:00:10, and a red recording indicator.

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MMA INTEGRATION

AMS:15,071ft TGT N039°16.4870' W108°25.0704' EL:6,239ft DIST:2.1M COFF (DD) 18:59:10 Fri Jul 02 2021

HAZE OFF SWITCH

VIDEO SPLIT TGT TOPO2 OFF STREET PARCEL

35.10 Rd

CO-MCSO-E126

REC SCR REC CAM

009S-R099W CO-MCSO-E126 Winter Flats

200 yd [no markers]

35.10 Rd / 35.20 Rd De Beque CO (Mesa County)

COWIMS New Layer Dyn Layers Obstacle SYNC Mrkr Chat





UAS INTEGRATIONS

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10:52 Sat, Jul 23 5G 98%

The screenshot displays a mobile application interface for UAS control. The top status bar shows the time (10:52), date (Sat, Jul 23), and connectivity (5G, 98% battery). The main interface is split into two panels. The left panel shows a topographic map with a red crosshair and a red location marker labeled "2022-07-23 lost girls". Below the map, coordinates are displayed: "N 39° 07.3566' W 108° 23.7794' 5,355 ft MSL DTED2". A red crosshair is also centered on the map with the label "R.23.135006". The right panel shows a video feed of the terrain. Above the video feed, there is a control bar with various icons: a globe, a layer icon, a map icon, a location pin, a group of people, and a hand icon. Below these icons, there is a battery indicator (43%), a Wi-Fi signal, and a scale bar showing 280, 300, and 320 meters. A speed indicator shows "13 MPH" and "12 min/10 min" with "0.24 mi". Below the video feed, there is a notification: "Manual GPS mode canceled". At the bottom of the interface, there are several icons: a speaker, a camera, a target, a magnifying glass, and a square icon.

2022-07-23 lost girls

R.23.135006

N 39° 07.3566' W 108° 23.7794' 5,355 ft MSL DTED2

Manual GPS mode canceled

Callsign: DFPC
N 39° 07.1264' W 108° 23.3168'
4,848 ft MSL 349°M
0 MPH +/- 4m

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CAD INTEGRATIONS

Subject: ATVs not needed for SAR Missi

Coordinate
N 39° 05.9017' W 108° 40.2353'
56 ft MSL
village shopping center on Broadway.

Original from dispatch - HUSBAND HAS DEMENTIA \ WALKED AWAY AND CANT FIND HIM
20 AGO

WM WH\GRY HAIR ..
TIME: 1/11/2024 20:07:14

Last Report Fri Jan 12 00:35:32 MST 2024

CDOT Heavy Plow

Wichita State University Football Team Plans

CDOT Heavy Plow

Safety Closure

Chain Law Code 18

CDOT Heavy Plow

Eisenhower

CDOT Bell 1E22

1.80 mi

Mt Sniktau



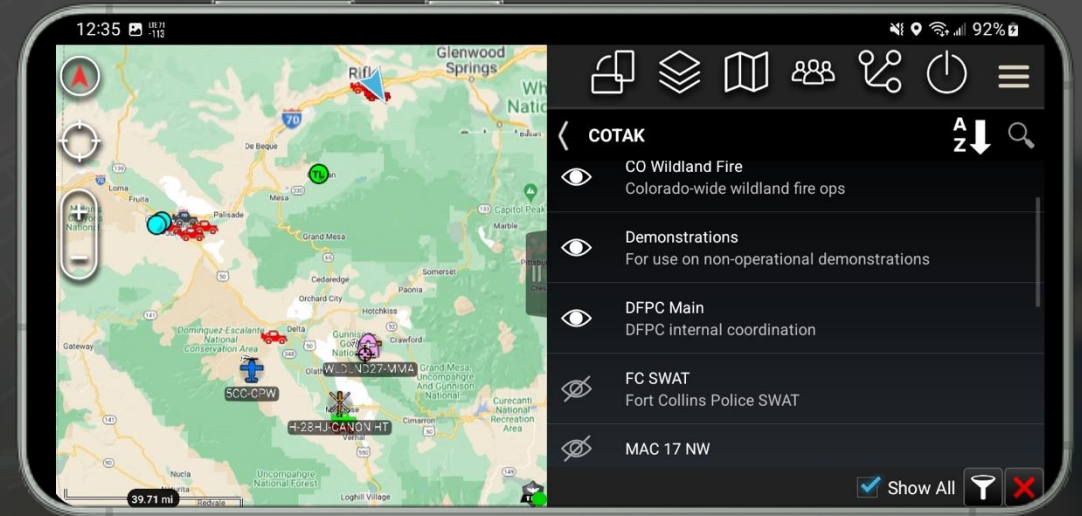


INTEROPERABILITY

Like a voice radio, the TAK apps have channels.

Joining a TAK channel automatically shares your location, and you receive the locations of all other responders on that channel.

This ultimately reduces radio chatter and promotes collaboration.





OUTREACH AND TRAINING

The CoE is dedicated to making a full suite of high-quality multimedia training materials available to all COTAK users.

This content enables responders to utilize a standardized basic feature set in the TAK apps without the need for intensive in person training.



MUTUAL AID

MAC channels are automatically available to all users.

County channels are automatically available in respective geographic areas.

Daily operations only available to agency members.



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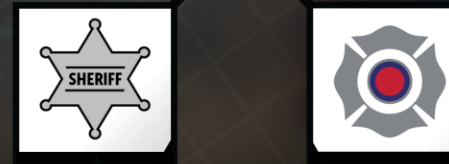
STATEWIDE OPERATIONS

Example channels include:
CO Wildland Fire MAC, CO SNOWMAC



COUNTY OPERATIONS

Example channels include:
MAC 1, County Fire MAC



AGENCY OPERATIONS

Example channels include:
Fire Ops, SO Dispatch



SUB AGENCY OPERATIONS

Example channels include:
SWAT, Drug Task Force

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COTAK

COTAK was founded on a philosophy of local control.

Each COTAK agency accesses a secure website to create as many password-protected users and channels as needed (similar to how agencies program voice radios).

Agencies also have access to state-created MAC channels (just like DTR radios), and can also manage and share channels among neighboring agencies for mutual aid.

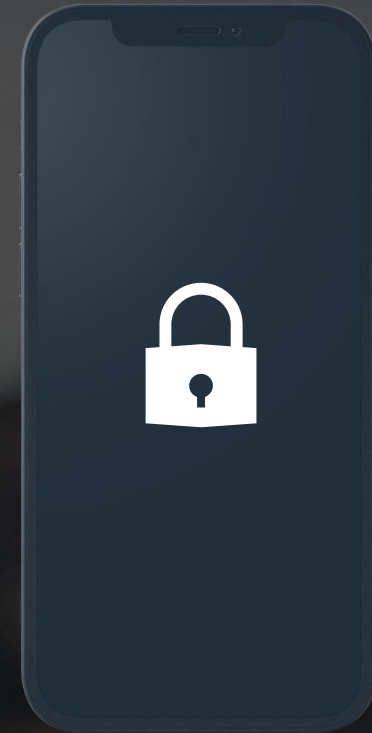




SECURITY

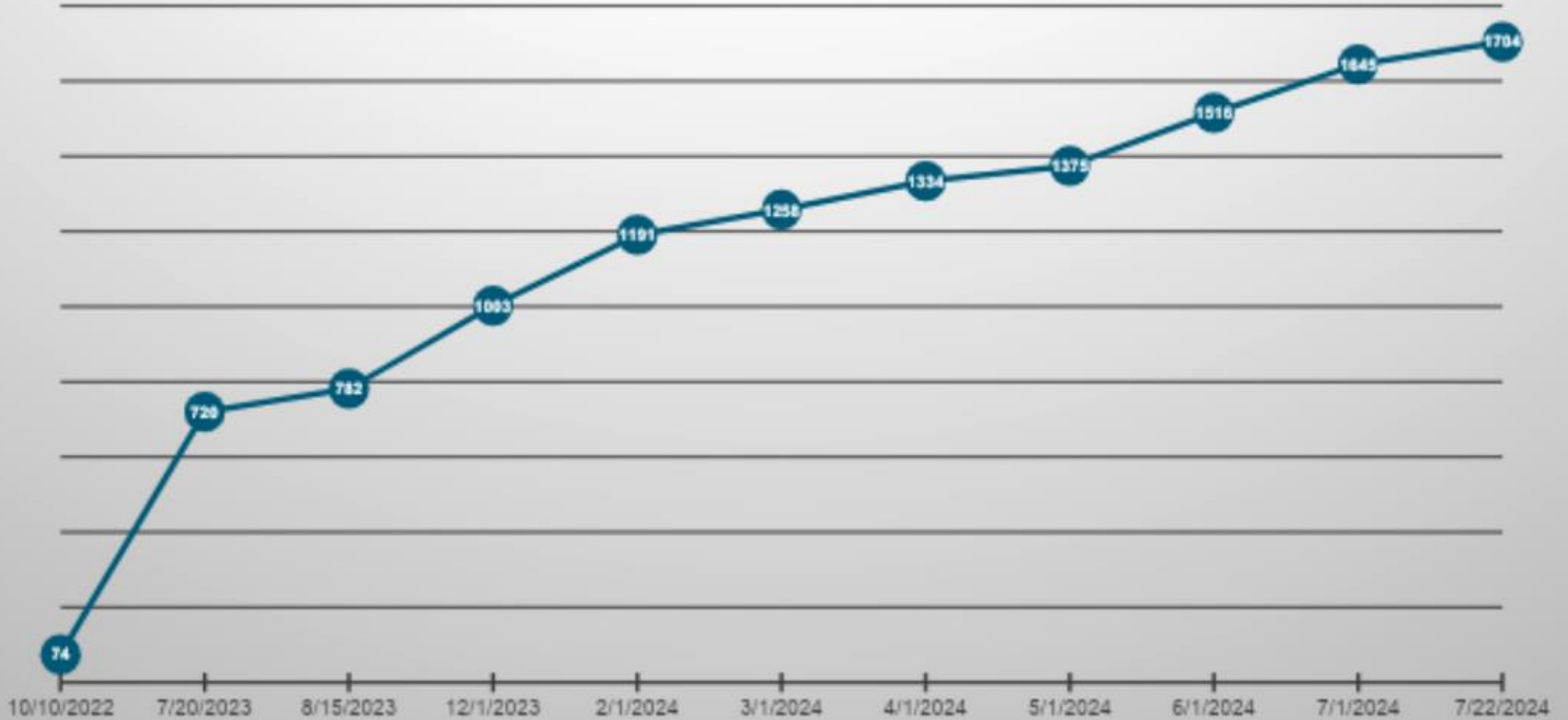
Location data is encrypted to industry standards “in transit” and “at rest.”

Agency administrators have full control to revoke channel permissions and COTAK access for your agency’s users.



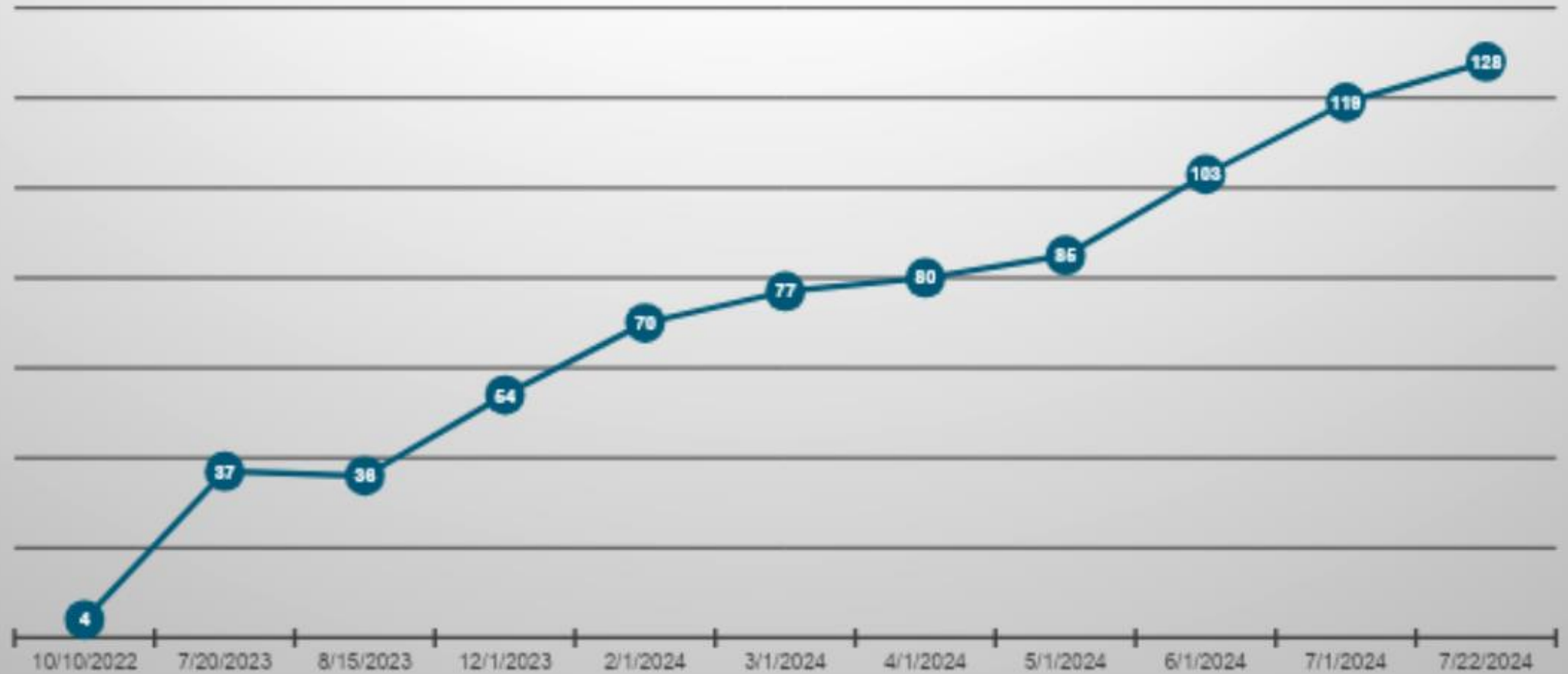
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Number of Verified COTAK Users



CO

Number of Active COTAK Agencies



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Questions?



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