Integrated Command and Control Center Solutions for Public Safety

PowerTrunk

TETRA - P25 - LTE - CAD
We live in a rapidly changing world, and the time has come for critical communications systems to either evolve to the next level or become obsolete. With modern cellular communications now as the most widely used means of delivering information, and changing the way we interact with others on a daily basis, our public safety command and control centers likewise need to adapt to a new way of thinking.

A new approach is needed in which first responders and other agencies receive the right information at the right time, without being overwhelmed by information overload. Dispatchers need integrated applications that process and efficiently present essential information to allow fast and simple decision making.

Interoperability is a key factor in enhancing the response from 911 call centers for the community. The ability to share information between agencies has proven to be vital in successfully managing major emergency situations, and interconnectivity between communications systems also provides for better coordination among organizations.

PowerTrunk has been dedicated to design and manufacture mission-critical solutions since 1974. We know the importance of system availability, and ensuring product reliability is one of our main goals. Our next-generation command and control centers are a vital link between first responders and the public in an emergency.
Designed according to public safety requirements, this suite leverages PowerTrunk’s experience over the past 30 years providing turnkey solutions for Law Enforcement, EMS, and Fire Brigade agencies throughout the world. The CeCoCo series offers an integrated end-to-end solution for NG911, combining call attendance, GIS, records management, and radio dispatch in a single application.

The powerful architecture of PowerTrunk’s CeCoCo series provides cost-effective scalability from small local dispatch offices to large regional call centers. The CeCoCo Series enables standards-based information sharing between different agencies and organizations, which is critical to provide quick and accurate response to emergency situations. First responders and support units can rely on high reliability and a fully fault-tolerant architecture designed to remain up and running even in the toughest situations.

A Truly Integrated End-To-End Solution

It’s all about integration. You could have a good NG911 solution, a powerful computer aided dispatch application, an attractive mapping solution; but if all those are not integrated together, efficiency is decreased, and so is the quality of response and service to the public.

The CeCoCo Series integrates everything into a single application, with optimized workflows to guide operation, including:

- NG911 call management
- Computer Aided Dispatch (CAD)
- Geographical Information System (GIS)
- Full-featured Radio Dispatch
- Records Management
- Mobile CAD solutions with vehicular consoles
- WAP integration for handheld devices
- Video supervisor (for vehicular consoles and fixed cameras)

Next Generation Command And Control Centres

Command and control centers are the connection between two different worlds: public safety agencies, and the general population that they serve. The systems put into place for each purpose need to be able to effectively communicate between one another as technology evolves.

Not long ago, most calls to Public Safety Answering Points (PSAPs) came in over fixed telephone lines. Today, the wide use of cellular phones results in increased traffic and multiple calls being received to report the same incident. In the near future, critical information will also reach PSAPs in the form of text messages, photos, video, or by social media. All of these new trends need to be taken into account and integrated into modern control centers.

Integration of radio dispatch operations into the command and control centers can significantly reduce the amount of time required to resolve incidents. PowerTrunk products provide full bi-directional communication capability between units in the field and the Computer Aided Dispatch module. Communications center staff can follow real-time video streams from an emergency vehicle while managing the incident, meanwhile field units can receive immediate and up-to-date notifications, and GIS software not only reports unit locations to the control center, but can also provide addresses and best route information to the vehicles themselves.

Coordination with other agencies is critical. PowerTrunk’s end-to-end IP-based platform ensures easy integration with other PSAPs, other organizations, or even legacy radio systems, while simplifying the deployment and scalability of the control centers. VoIP-connected operator positions, running on off-the-shelf PCs, are also an advantage in terms of capital and operating expenditure savings.
The CeCoCo centralizes various voice communication media and peripheral systems, thus enabling swift and effective communications and information management for every situation by means of one or several operator stations.

The CeCoCo possesses all the characteristics and professional-use functionality required for large call centers. Its main characteristics include:

- **MODULAR**: Adaptable to different users' needs, as well as providing a variety of management functions.
- **OPEN**: The CeCoCo has been designed using widely available elements and standardized architectures.
- **CONFIGURABLE**: System management and administration tools enable its configuration for different operating modes, depending on the needs of each customer.
- **EXPANDABLE**: The system can be expanded in accordance with the requirements of the center in question, both in terms of operability by way of adding new software modules, as well as in terms of capacity by increasing the number of operator stations and communications interfaces.
- **CONNECTIVITY**: Given the fact that the system is based on a client-server architecture using TCP/IP protocols, it can be perfectly integrated with the majority of operating platforms currently on the market.

Call assistance center objectives were taken into account in the design of the CeCoCo:

- Efficient incident processing and resolution, thus achieving speedy assistance and response times.
- Optimum use of resources employed to reduce operations costs.
- Integration of communications to assure reliable and versatile service.

**Engineered For Tomorrow’s Needs**

**Ready Today**

**A Tailor-Made Public Safety Call Center Solution**

**Intelligent Workflows**

Time is vital and every second counts. Quick action by communications center staff to dispatch responding units to an incident can be matter of life and death. Integration of radio dispatch functionality is an effective way to save valuable time, but it needs to be done correctly. Staff are not necessarily radio experts and they also shouldn’t be overloaded with several different applications to do their job. Intelligence in the command and control center can guide personnel through incident resolution workflow and minimize the number of actions required to be taken. That’s what we call Intelligent Workflows.
Public Safety has specific requirements that are key for providing efficient response to the public:

- Integrated communications system (radio, telephone, VoIP...)
- Data services to improve traditional voice-based operational tasks
- No reliance on public-based networks (avoid saturation during emergencies)
- Minimize TCO (Total Cost of Ownership) by enabling network sharing
- Interoperability between different Public Safety agencies: open standard
- Comprehensive Computed Aided Dispatch for coordination of resources
- Vehicle & personnel location services (GPS)
- High availability
- Scalability
- Integrated IP solution
- Advanced security mechanisms
- Fast and reliable voice services

We have over 30 years of experience designing, manufacturing, implementing and supporting the highest quality secure communications solutions.

PowerTrunk helps its customers by being at their side at every stage of their network lifecycle, from requirements analysis and specification, business planning, network design and optimization, deployment, network maintenance and end-to-end managed services.

A complete professional land mobile radio suite (infrastructure, mobiles, hand portables, control centers, applications, vehicular console, etc.) allows PowerTrunk to meet all public safety requirements.
A Global Solution For Interconnecting Different Radio Systems

Some of the most significant features of the solution include:

**Resource management and call handling:**
- Integration of multiple voice and data communication interfaces (TETRA, P25, MPT1327, ISDN telephone, GSM)
- Advanced telephone management (DTMF, call on hold, call-back, call forwarding, ...)
- Telephone Automatic Call Dispatching (ACD) with queue monitoring
- Automatic patching between telephone lines and analog radio
- Automatic patching between radio channels and/or talk groups
- Call logging and quick access for last call replay.
- Phonebook management
- Customizable quick access console

**Integrated GIS capabilities permitting:**
- Automatic Vehicle Location using optimized polling algorithms
- Unit routing and directions
- Detailed unit and incident status display
- User-configurable alarm display
- Indication of status of assigned resources

**Historical records management**
- Full access to incident records
- Advanced reports
- Web administration
- Redundancy options for data integrity

CeCo-Fleet: web-based AVL solution

When it comes to a system requiring a great number of unit location positions to be distributed to remotely-connected workstations, a web-based AVL solution can provide the most suitable operational solution.

The CeCo-Fleet web-based AVL manager from PowerTrunk works seamlessly with the rest of the company’s public safety product portfolio. CeCo-Fleet also includes the incident management and geo-fencing functionality.
Solutions On The Move

Multi-Bearer Vehicular Consoles

It could be more than just a vehicle. It could be an extension of the command & control center. A gateway providing richer data to the control center staff while at the same time boosting the efficiency of officers in the field.

The PowerTrunk range of vehicular consoles has been designed to provide a single man-machine interface (MMI) for all wireless communication technologies installed in the vehicle, such as 3G, P25, TETRA, WiFi, WiMAX and/or LTE, all fully integrated together and accessible from a single touch-screen panel. When sending or receiving voice calls, database inquiries, or even video, the MVC units themselves can select the most appropriate technology available to employ in each instance.

The MVC-2000 offers advanced radio management, web browser, mobile CAD functions, mobile office applications, and GPS navigation, all totally integrated with the CeCoCo Series.

The MVC-6000 complements the functionality offered by the MVC-2000 with the addition of a powerful video management platform, allowing mobile video transmission, reception, and on-board recording and storage.

In-Route Dispatching

All MVC Series versions include a powerful mobile Computer Aided Dispatch module, fully integrated with CeCoCo 911 and PSAP centers to enable faster and effective coordination between units in the field and the control room.

The MVC also includes a touch-screen front-end to control the radio equipment installed in the vehicle; a more friendly and intuitive user interface that complements the use traditional mobile radio control heads.

From The Control Center To The Police Vehicle

- Service assignment
- Information Transfer (Reports, images, ...)
- Multicast Transmission of images from the Control Center to the vehicles
- Real-time transmission of images from another vehicle

From The Police Car To The Control Center

- Service information
- Information Transfer (Reports, images, ...)
- Remote video monitoring and recording
- Access to centralized databases (licence plates, ID numbers, stolen goods, fingerprints, photographs, etc...)

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Preparing The Road To The Future

We live in a rich multimedia environment and easy access to high data bandwidth has become commonplace through the use of cellular technology. Narrowband LMR technologies are perfect for mission-critical voice and low data bandwidth applications, but are not adequate for handling the ever-increasing demand for broadband data services.

The integration of broadband and narrowband radio networks, therefore, offers the best of both worlds and opens the imagination to new ways of working for mobile office applications, sharing video between command centers and vehicles, sharing of detailed map information, automated dispatch of emergency response, etc.

LTE is a telecommunications standard envisaged for providing users with cutting-edge communication services, offering features such as high data rate, mobility at speeds up to 200 mph, and data Quality of Service (QoS). It is an evolution of the 3G standards, resulting in a more advanced 4G technology with greater functionality. Based on a modular and scalable architecture, expansion of the system as needed is a very simple task.

The MVC series transparently integrates this new broadband service with existing narrowband voice and data services, and can manage a variety of interfaces including 4G, 3G, WiFi, and LMR, according to the coverage available to the vehicle at any moment and the type of service required.