

Complete control room solutions

Reducing cognitive load for faster,
clearer, safer and more efficient
decision-making

Executive summary

The speed of technological change is raising the pressure on public safety organisations. Already struggling with multiple disconnected systems for communications and dispatching, control room staff face the added challenge of working with ever richer sets of data and more complex workflows. This growing complexity is putting lives at risk by reducing situational awareness, driving up stress levels and slowing decision-making.

This white paper examines the key challenges facing public safety organisations, explores strategies for managing technological change, and proposes a way to drive better outcomes through a modular yet fully integrated control room solution.

By adopting complete control room solutions – with a unified user interface and seamless workflows – public safety organisations can promote fast, accurate and efficient decision-making that enables swifter and more effective emergency response. What's more, by choosing a modular, standards-based approach, organisations can maximise their flexibility, reduce total cost of ownership and simplify the integration of future technologies.

Growing challenges in the control room

Public safety organisations must ensure that operators have the right information to be able to make the optimal decisions in high-pressure scenarios. However, as new sources of real-time data come into play, control rooms are at increasing risk of information overload, fragmented workflows and delayed decisions. Working with multiple siloed legacy systems places the integration burden on control room staff, who must execute complex workflows by switching between interfaces.

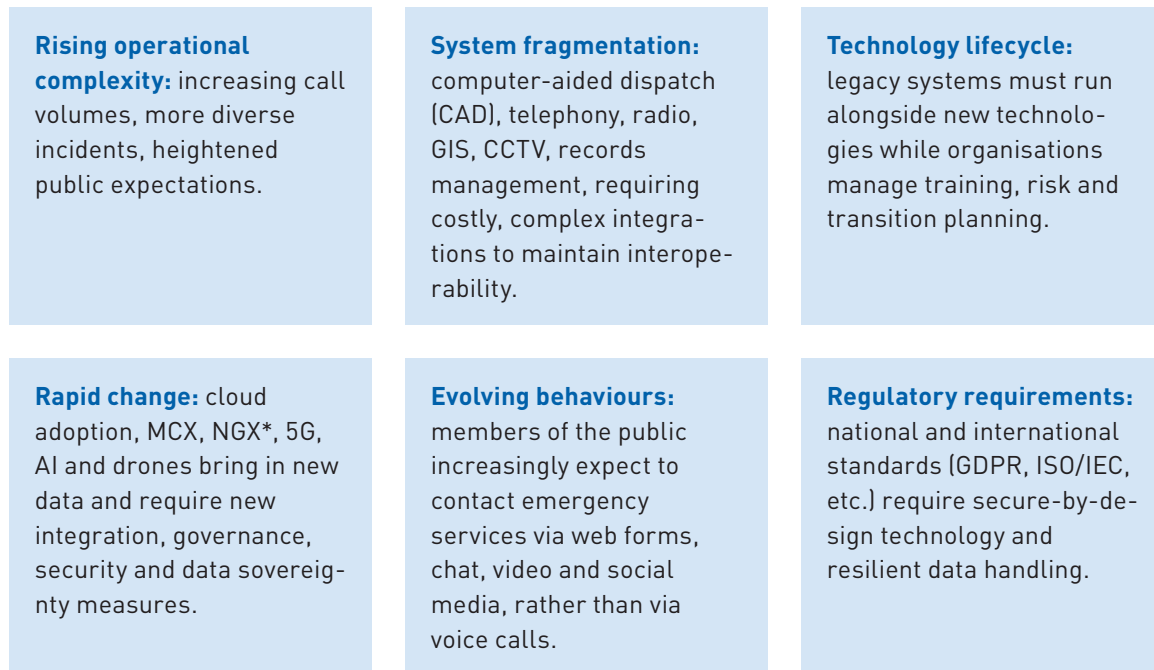
The situation is only going to become more challenging. Thanks to SaaS and cloud deployments, new systems can be deployed far faster than before, potentially adding to the cognitive load in control rooms. Meanwhile, the introduction of mission-critical broadband services (MCX), next-generation emergency services (NGX*), 5G and drones will further increase the flood of real-time data. Adopting these techno-

logies will also require significant integration effort and create new demands around governance and security.

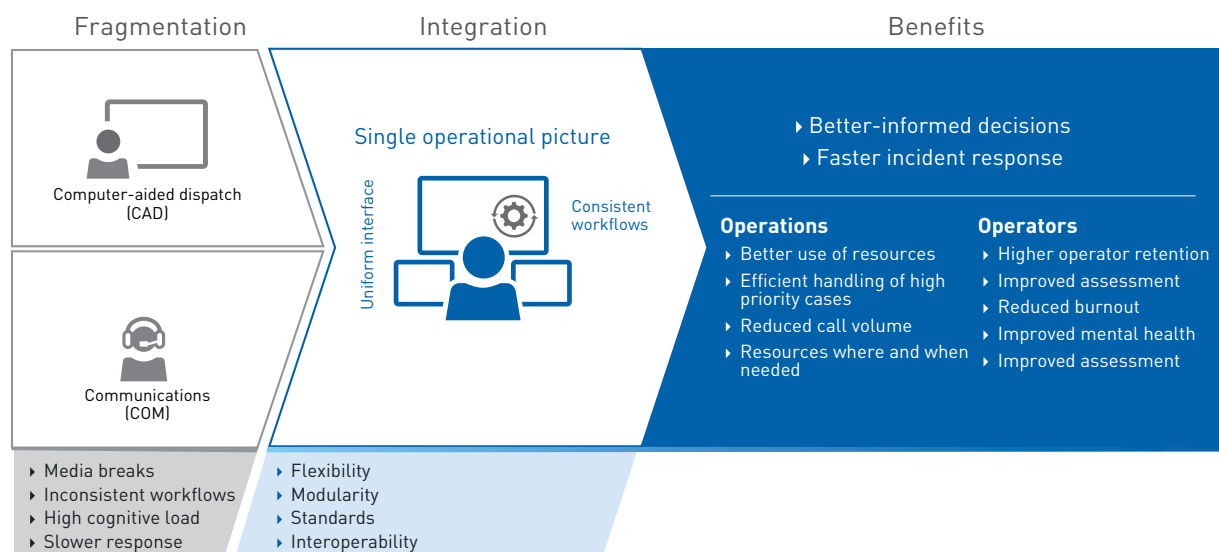
From the operational perspective, external incidents are growing in complexity, making cooperation with other public safety services more important. This puts organisations under greater pressure to deploy their resources more intelligently, collaborate more efficiently across organisational boundaries and jurisdictions, and ensure seamless communications, all while managing tight budgets and the challenges of retaining skilled staff.

True greenfield deployments in public safety are extremely rare; in most cases, organisations layer new technologies on top of existing ones. This implies that organisations also need robust long-term plans and organisational capabilities around change management and interoperability.

Key challenges in public safety control rooms



Complete control room solutions: clarity instead of complexity



Strategies for managing technological change

As public safety organisations plan their response to the challenges discussed previously, they can benefit from a forward-looking transformation strategy built on several core principles:

Leverage collective expertise: engage with industry bodies (such as EENA, TCCA, ETSI, PSC Europe and the International Critical Control Rooms Alliance (ICCRA)) and learn from peers to stay aligned with best practices and emerging standards.

Build trusted partnerships: work with suppliers who understand both technology and operations and can support agencies from design through deployment to ongoing optimisation.

Adopt open, modular architectures: reduce complexity, improve interoperability and modernise on a stepwise basis without high-risk “big-bang” transitions.

Focus on people and processes: prioritise intuitive design, user training, operator involvement and clear procedures to ensure that new technology capabilities translate into operational improvements.

Be ready for new technologies: ensure flexibility and open support for AI tools, multimedia communication, 5G, and next-generation standards such as MCX and NGX*.

Address lifecycle and compliance needs: plan for the interoperation of legacy systems with modern tools while meeting strict security, resilience and data protection requirements.

Key considerations for control room systems

Public safety organisations are judged on the effectiveness and efficiency of their operational responses. To maximise effectiveness, organisations must ensure that control room staff can access the right information to support fast, accurate decision-making in high-pressure situations. To maximise efficiency, organisations must ensure that control room systems are reliable, sustainable and ready to adapt non-disruptively to whatever the future may hold.

To achieve these goals, organisations should target the following features and qualities when planning and implementing their control room systems:

Mission-critical reliability: enable comprehensive, intuitive and uninterrupted 24/7 operations that support the organisation in saving lives and protecting infrastructure.

Evergreen resilience and security: choose technologies that offer non-disruptive updates and upgrades throughout a clear and sustainable lifecycle.

Full integration: provide advanced omnichannel communication, collaboration and incident management in a single solution that empowers operators to deliver the highest service levels.

Flexible modularity: deploy at any pace; interoperate legacy technology alongside new standards; select and combine tools freely within the same unified framework.

Future-ready architecture: run on- or off-premises, use off-the-shelf hardware, stay open for integration, and ensure scalability to any organisational size or complexity.

People-first innovation: offer intuitive, role-based interfaces and customisable workflow automation to reduce cognitive load, support optimal decision-making and boost operator satisfaction.

User-centric flexibility: dissolve operational boundaries, boost situational awareness, raise the speed and quality of decision-making, and support seamless collaboration with external partners.

Effectiveness and efficiency in the control room

By uniting omnichannel communications, computer-aided dispatch (CAD), incident coordination, data analytics, alerting and regulatory recording systems in one flexible, modular platform, public safety organisations can reduce complexity, minimise ongoing integration risk and improve response times.

With consistent workflows and all data presented in a single environment, users benefit from enhanced situational awareness, reduced stress and clearer decision-making. Accurate data flows automatically throughout the solution, providing a single source of the truth for faster and more accurate decision-making.

The Frequentis flexible and modular approach

In Frequentis complete control room solutions, the interfaces and workflows are customisable by role, enabling full adaptation to any user requirements while providing standardised supervisor views. Integrated regulatory recording of all relevant data - including speech, ambient sound, video, screen and control inputs - simplifies training, incident analysis, reporting and audits. Featuring carrier-grade communications and full lifecycle cybersecurity, Frequentis solutions are fit for continuous operation in high-pressure environments.

By allowing legacy and next-generation technologies - for example, legacy radio, legacy telephony and MCX - to coexist and interoperate, Frequentis solutions support the low-risk, non-disruptive adoption of open future standards. The openness and flexibility of the solution enable smooth information exchange with partners across agencies and, in the future, national borders.

For optimal integration and procurement efficiency, they provide all standard control room functionality within a single portfolio. Equally, the open architecture enables organisations to integrate their own preferred technologies alongside their chosen Frequentis modules. Modularity also enables step-by-step deployments at each organisation's preferred pace.

Complete control room solutions can be deployed on-prem on off-the-shelf hardware, on any standard cloud platform, or in a hybrid of the two, enabling organisations to optimise their deployments based on their own requirements around performance, CAPEX, OPEX, security and data sovereignty.

Take the next step

Technological change in public safety control rooms is inevitable. By tapping into existing industry expertise, taking a human-first approach, and adopting open, modular solutions, public safety organisations can navigate change more smoothly while enhancing their operational effectiveness.

For operations, Frequentis solutions provide intuitive interfaces and integrated workflows that cut through complexity to support faster and better decisions. Seamless communications enable better collaboration with first responders and the public, enhancing emergency responses and outcomes. And from the organisational perspective, the integration of voice, data and multimedia boosts operational efficiency while reducing cost and complexity. Open standards and a flexible deployment model simplify implementation, ongoing maintenance and the adoption of future technology.



For more information on Frequentis' complete control room solutions, contact us today.

FREQUENTIS AG
Innovationsstraße 1
1100 Vienna, Austria
Tel: +43-1-811 50-0
www.frequentis.com

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