



Tomorrow's control rooms

How cloud technologies could transform capabilities for blue-light and critical-response control centres.

- ✓ Rapid procurement and deployment
- ✓ Fully managed services to defined service levels
- ✓ Enterprise-grade security by design
- ✓ Scalability and flexibility through usage-based fees
- ✓ Operational agility to add or remove services.



Executive summary

Blue-light and critical utility response services are urgently looking for new ways to upgrade, enhance, and extend their control-room solutions. Operators know that there are significant potential benefits to be gained from infusing rich, real-time multimedia data into workflows. These include faster and better-informed decision-making, better situational awareness, enhanced service quality, and greater cost-efficiency.

However, on-premises control room can be complex, slow, and costly to extend. At the same time, budget-holders are seeking new capabilities at reduced operational cost, and often with minimal or zero capital investment.

How can smaller and mid-sized response organisations affordably access a highly available platform for communication and collaboration, capable of supporting diverse needs, and also able to adapt and extend to meet new demands?

The cloud-based LifeX solution from Frequentis, provisioned as a service, meets all of the criteria for modernised control-room operations. Available to be procured via the UK Government Digital Market Place (G-Cloud 13) and hosted in UK data centres with the highest levels of certification, the Frequentis solution offers ease of procurement combined with flexibility, scalability, resilience, security and capacity.

Challenge

In the face of accelerating digital change, how can blue-light and critical utility response services keep their control room systems up-to-date? With scarce capital to invest in large implementations, and with limited personnel available to manage lengthy procurement and deployment phases, systems often fall into technical debt. Service managers are faced with continuing pressure on budget, combined with high efficiency expectations and rigorous service level objectives.

Control rooms now handle multiple incoming information streams, many of which did not exist even a few short years ago. Citizens send multimedia input from personal devices, perhaps from WhatsApp or the latest viral app, even as control rooms must continue to support legacy radio for official channels.

On-premises control room systems tend to offer defined capabilities that can be difficult, slow, and costly to extend. Long development and deployment times, combined with high capital cost, mean that many solutions are not well-placed to respond quickly to the latest technical demands.

In addition, on-premises systems provide fixed capacity that is designed to provide sufficient headroom for periods of peak demand. When demand is low, those systems are comparatively idle — representing inefficient use of capital. For solutions where sunk costs are amortised over many years, this model makes sense — but the tumultuous changes of internet technology have reduced system lifecycles, and the economics of on-premises systems can be doubtful, particularly for smaller organisations.

Because control rooms interact with so many external systems, each of them also undergoing constant evolution, blue-light and critical utility response services are urgently looking for new ways to upgrade, enhance, and extend their response solutions. This may include preparation for next-generation 999 requirements, and the capability to engage with yet-unknown new standards and technologies.

With budget-holders seeking new capabilities at reduced operational cost, and typically at reduced or zero capital cost, the challenge for small and mid-sized response organisations is to find an affordable yet highly available platform for communication and collaboration, capable of supporting diverse needs.

Solution

As older on-premises systems are reaching end-of-life, at a stage where further investment would not be considered economically advantageous, many response organisations are switching to cloud-based solutions. These solutions are purchased on a subscription, software-as-a-service (SaaS) basis.

Essentially, choosing a complete SaaS offering avoids the cost, complexity, and delay of scoping, procuring, and deploying an on-premises solution. SaaS solutions offer very high degrees of configuration, to enable them to be tailored to precise operational requirements, while providing the benefits of shared best practices and common standards.

This SaaS approach provides a quick, known path to implementing next-generation control rooms. Deployment, set-up, and commissioning to operational use are all rapid, and organisations can flex the number of seats, capacity, and capability in lockstep with changing demand. Further, space previously committed to IT infrastructure such as server rooms can be made available for operational use, and capital budget released for other service investment.

Typical advantages of cloud-based SaaS solutions include:

Fast Implementation

Reduced procurement and deployment timelines; in many cases new solutions can be deployed for operational use within four months.

Full Managed Services

SaaS offerings include maintenance, service and support, where the focus is on delivering to defined service levels.

Security by Design

Cloud-based solutions benefit from enterprise-grade security that smaller organisations might struggle to achieve.

Flexibility, Scalability

Usage-based fee structures enable organisations to scale up response to operational conditions when necessary and ramp down during quieter periods, for optimum cost-efficiency.

Solution Agility

Modules such as multimedia integration, geolocation and future services can be added or removed as required, providing operational agility for almost any situation.

Solution agility resolves one of the most challenging problems presented by legacy systems: interaction with a volatile digital landscape. Operators know that there are significant potential benefits to be gained from infusing rich, real-time multimedia data into workflows, including faster and better-informed decision-making, better situational awareness, enhanced service quality, and greater cost-efficiency.

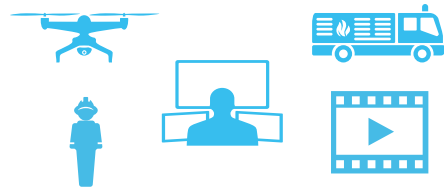
Control centres already receive information through SMS, direct message services, and social media feeds. In many cases the data is scraped manually from one screen to another, as legacy or on-premises systems struggle to keep up with the sheer pace of change.

For example, TikTok is six years old and has 1 billion users; WhatsApp is 12 years old and has 2 billion users; and, of course, nobody can predict the next viral video-location app.

The result is that control room organisations are pressed to find a solution that supports adoption of end-to-end omni-channel operations in a controlled way. And for the control room agents, this mass of inbound information must be presented in an intuitive, accessible manner that avoids information overload, while enabling optimised workflows and enhanced service quality.

Figure 1: Usage scenarios for digital control room capabilities

Live video of a fire or similar incident could provide emergency responders with critical information on both chemical risks and other hazards, and the real-time conditions, even as the teams are dispatched.



Integration with apps such as Google Maps and more provide detailed real-time location data that can be shared easily and communicated reliably to fire and rescue, paramedics, police and others.

High-resolution images of road traffic casualties could help paramedics prepare before arrival and to contact and forewarn emergency medical departments of likely patient arrival and condition.

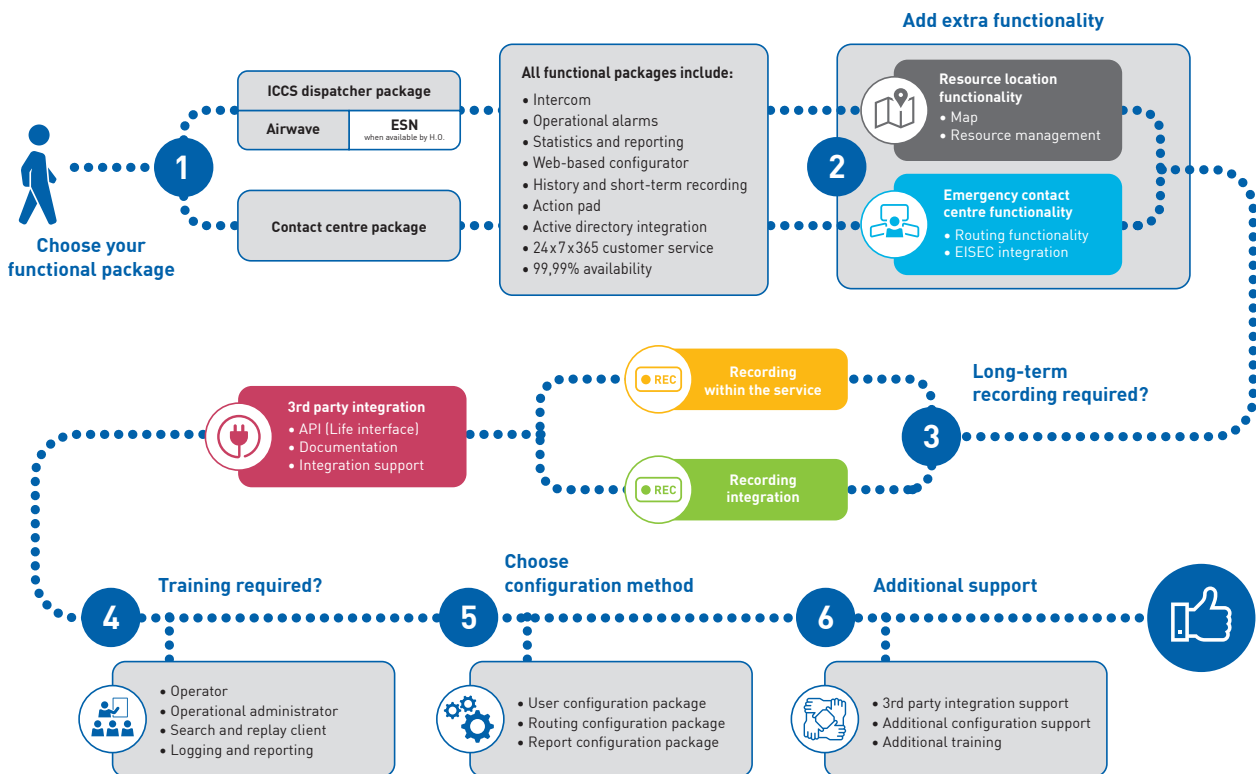


LifeX as a Service

The cloud-based LifeX solution from Frequentis, provisioned as a service, meets all of the criteria for modernised control-room operations. Available to be procured via the UK Government Digital Market Place (G-Cloud 13) and hosted in UK data centres providing the highest levels of certification, the Frequentis solution offers ease of procurement combined with flexibility, scalability, resilience, security and capacity.

Frequentis works in mission-critical industries including civil and military air traffic management, public safety and security, public transport, and maritime operations, with more than 75 years' experience serving these sectors. The LifeX as a Service solution enables control-room organisations to roll out highly effective solutions rapidly and flexibly, typically achieving full operations within four months. As a pure SaaS solution, with LifeX as a Service there is no infrastructure procurement or deployment process, and Frequentis offers a fully supported decision process to help organisations select the appropriate capabilities to match their operational demands.

Figure 2: LifeX as a Service specification process



Note: Customers need to provide access ports to Airwave and/or ESN network for the functionality to be available in the LXaaS service.

Benefits of LifeX as a Service

For control centre operators:

- Easy-to-use, intuitive interface that optimises information presentation
- Highly available and very responsive systems
- Incorporates the latest conversation routing and in-call collaboration tools to optimise control room multimedia emergency communication
- Enables members of the public to contribute multimedia information during incidents
- Provides integration existing communication standards such as TETRA, and with services such as EISEC for accurate geolocation.

For control centre managers:

- Flexible, affordable procurement options based on concurrent usage, not number of users
- Avoids long procurement and implementation cycles, and can be implemented rapidly on standard local PCs
- Able to scale up and fall back in step with peaks and troughs in demand
- Ability to add operational modules as required
- Offers fully managed maintenance, service, and support, reducing workload on local IT teams
- Provides location-independent access, allowing control centres to be relocated without service interruption
- Removes the need to maintain costly spare IT capacity, with effectively unlimited growth potential, on a pay-as-you-use basis, enabled by cloud hosting.

For control centre IT teams:

- Continuous updates and patching for an evergreen approach that stays aligned with a changing world
- Certified to the UK Home Office ESN requirements, procurable via G-Cloud, and hosted on Microsoft Azure in the UK
- Managed by a world-leading, Home-Office-approved organisation whose core business is mission-critical communications for mission-critical organisations
- Web front-end uses open source WebRTC (real-time communication) technology (<https://webrtc.org/>) to enable any device with a standard web browser to act as a control centre working position, reducing the need for specialist local hardware
- Pure software, IP-based communication and collaboration platform designed to support mission-critical operations
- Service level objective of better than 99.99% availability on a geo-redundant cloud architecture
- Integration with Airwave TETRA infrastructure and ESN-ready through the Frequentis Universal Radio Gateway
- Support for next-generation communications enables members of the public to engage with the emergency services via VoIP, SMS, social media, Webchat and video calls
- Enables secure integration with other applications via standards-based APIs, dissolving solution silos.



Conclusion

Cloud-based SaaS is now a mature approach to technology provision, and multiple industry sectors have embraced its positive benefits. For smaller mission-critical emergency, blue-light and utility control rooms, the pressures for modernisation can only be relieved by radical reform, and SaaS offers the opportunity to achieve the necessary transformation rapidly, and at low risk.

The LifeX as a Service solution from Frequentis meets key operational criteria and capability, with a strong track record of rapid, successful implementations. LifeX as a Service offers a positive strategic choice for mission-critical public blue-light and utility services.

Highly capable solution designed with flexibility in mind for tomorrow's control rooms

Cost-effective, rapid implementation with reduced future operational cost

Robust security and governance for mission-critical public blue-light and utility services

About Frequentis

Frequentis, headquartered in Vienna, is an international supplier of communication and information systems for control centres with safety-critical tasks. Such 'control centre solutions' are developed and marketed by Frequentis in the business sectors Air Traffic Management (civil and military air traffic control, air defence) and Public Safety & Transport (police, fire brigade, ambulance services, shipping, railways).

As a global player, Frequentis operates a worldwide network of branches, subsidiaries and local representatives in more than 50 countries. Products and solutions from Frequentis can be found in over 40,000 operator working positions and in approximately 150 countries.

Founded in 1947, Frequentis considers itself to be the global market leader in voice communication systems for air traffic control with a market share of around 30%. In addition, the Frequentis Group's AIM (aeronautical information management) and AMHS (aeronautical message handling) systems, as well as GSM-R systems for Public Transport are industry-leading global solutions. The shares of Frequentis AG are traded on the Vienna and Frankfurt Stock Exchange under the ticker symbol FQT (ISIN: ATFREQUENT09).

For more information, visit

<https://marketing.frequentis.com/LXaaS>

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