TSA

The voice of technology enabled care

# Commissioner/Buyer Guidance:

## Transitioning your Social Alarms Systems from Analogue to Digital

## The End of Analogue Purchasing

# Commissioner / Buyer Guidance – Analogue to Digital

## Contents






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## 1. Foreword

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**Our experience and knowledge of technology in care and health services have accelerated significantly during the pandemic. Since March 2020, we have seen a remarkable increase in the use of different forms of technology to support patients and service users.**

This change has led to the deployment of many digitally based technologies and platforms, and the concept of 'Digital Care Delivery' has firmly planted itself in the language of Social Care and Health.

In order to maximise on these positive developments, we need to ensure the infrastructure these platforms depend on and the connections to the networks they use are robust. As part of the modernisation of the telephony network, the government has instigated a programme of change from the long provided analogue communications network to more modern digital platforms. This change is being managed by our various network providers.

In most cases local authorities and other public bodies will either commission or provide telecare, care technology or TEC services to vulnerable people in their own homes; often to many thousands of people simultaneously. This switch from analogue to digital will impact on how those services are delivered; if not dealt with effectively could impact on whether a service is available or not.

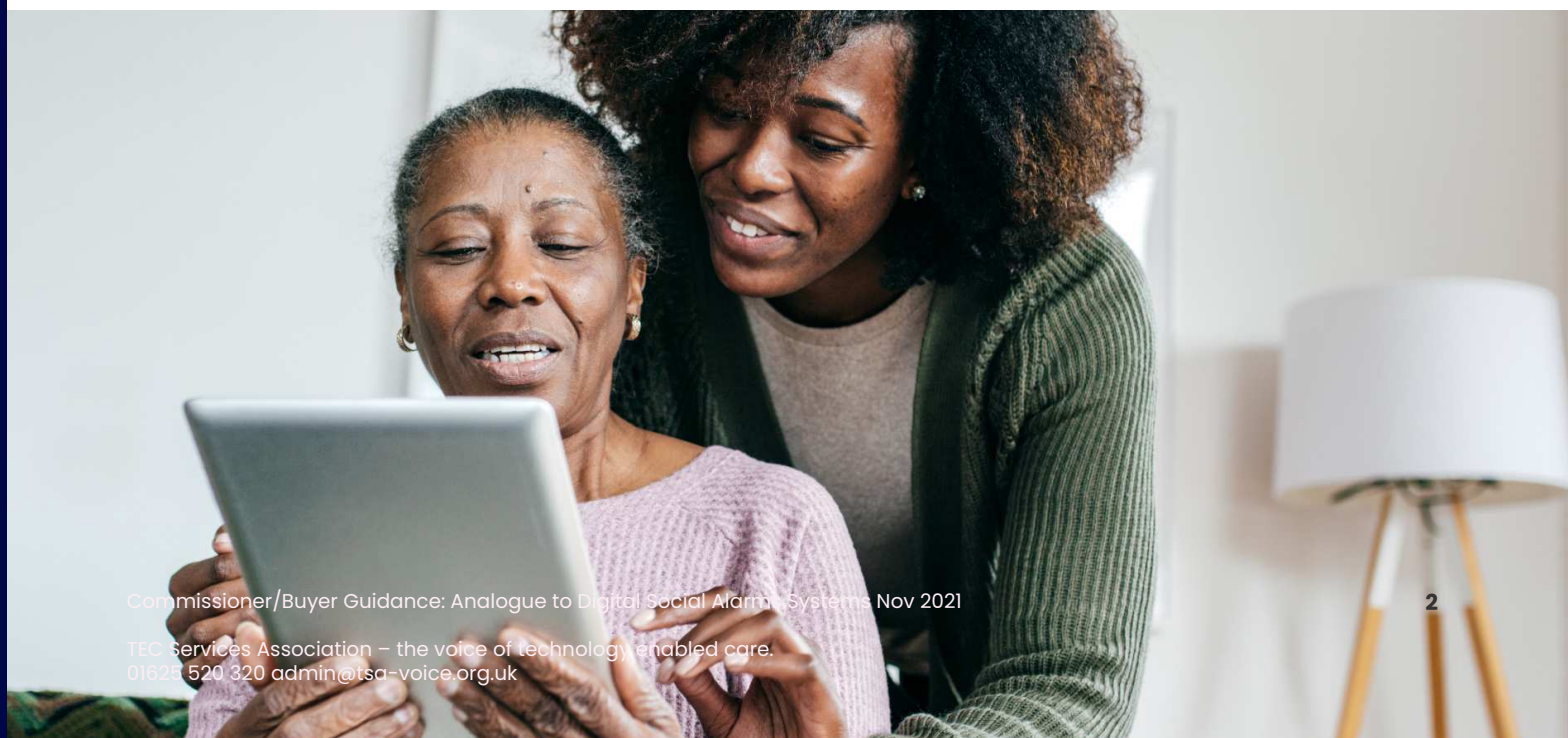
This guidance, developed by the TSA through engagement with service providers, telecom bodies and providers and commissioners of services is a comprehensive guide to those factors that commissioners and purchasers of services should be aware of.

## 2. Introduction

**Against the backdrop of a global pandemic, driving the need for more flexible deployment of resources as well as hundreds of UK telephone exchanges stopping the provision of new analogue services. This publication is intended to inform and guide Commissioners and wider stakeholders within the social alarm industry regarding appropriate steps that should be taken to transition those services from analogue to digital.**

A social alarm is an alarm device that is installed in an individual's home or communal area which makes it possible for that individual to call for assistance in both urgent and non-urgent situations. Those calls for assistance are answered by an operator in an Alarm Receiving Centre (ARC) and that operator will support that individual to resolve the issue over the telephone or call for additional on-site assistance (e.g., neighbour, next-of-kin, responder and/or blue light services). Whilst there are many technologies that individuals can use to summon support, social alarms are specific in their operation which is covered in both British & European standards to ensure that they operate reliably, not only when activated manually by the individual but also when activated automatically (e.g., fall detector or smoke alarm). These social alarms have been in operation for around 50 years and have predominately relied on the UK's analogue telecommunications infrastructure (e.g. traditional BT landlines) for connectivity between the individual and the ARC.

Recently, several social alarm Service Providers have conducted both formal and informal procedures to upgrade their analogue social alarms, analogue Alarm Receiving Centres (ARC) platforms or both to either partial or fully digital solutions. This guidance is intended as a reflection of lessons learned plus recommended steps to encourage smooth future commissioning of digital end-to-end social alarm solutions. The aim is also to give non-technical stakeholders a good overview of the challenges of analogue to digital without going into too specific technical detail, acknowledging that some of the topics covered in this guidance will require organisations to call on technical resources to clarify and document specific requirements.





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## 3. Analogue Social Alarm communication

### 3.1. Analogue telecare communication

Traditional analogue social alarm equipment relies on sending and receiving audible tones (similar sounds to the ones you hear when pressing numbers on a telephone keypad) to communicate effectively with an ARC. That is to say that both the device in the person's home and the ARC exchange tone-based messages prior to a voice call being connected with the individual raising the alarm. Typically the establishment of the connection and the exchange of analogue tones will take about 40 to 50 seconds and enables the ARC to understand the type of alarm raised in advance of speaking with the individual (e.g. door entry, fall detector or smoke alarm), to prioritise that alert accordingly. The benefit to the individual is, for example, if they have fallen and are unconscious that the operator knows, without needing to speak to the individual, that the person has fallen, may be unconscious and that appropriate next steps should be taken.

If there is any disruption to this exchange of audible tones, the alarm call will disconnect and try to connect again. It is not unusual for this process to occur 2 or 3 times for an alarm call to eventually connect – the negative effect on the individual is that it can take longer to connect to the operator (up to 50 seconds per connection attempt). Normally an alert would appear within the ARC to highlight that a device is trying to connect and, if the operator can tell which device is trying to connect, can attempt to make an outbound call to the individual or their next of kin.

### 3.2. Analogue call failure rates

- **A range of 2.3% to 3.6% failure rate for analogue alarms connecting to ARC's using analogue network technology (PSTN/ISDN).**
- **More than 90% of devices operate with no alarm call failures however those devices that do generate failures can generate large numbers of failures.**
- **In grouped scheme equipment failures rates are approx 8% to 9%.**
- **Failure rates due to the age and reliability of equipment; in some grouped schemes equipment and wiring can be in place for over 40 years.**

### 3.3. Analogue transition timescales

Unanimous feedback from Network Operators (Openreach & Virgin) and Communications Providers (BT, Talk Talk, Sky) that are members of the TSA Special Interest Group (SIG01) for Analogue over Digital communication has been that the failure rates for tone-based communication will continue to rise as the UK's network infrastructure transitions to digital.

Whilst the date of December 2025 is often quoted, it can be incorrectly interpreted as a target date for stakeholders to be ready for the transition when it is the date of the final switchover of all existing analogue network infrastructure to digital. UK telephone exchanges began to transition in December 2020 and the pressure on analogue communication will only increase as a result.

Visit TSA's digital shift resource page which includes the latest list of UK telephone exchange transition timescales

**www.tsa-voice.org.uk/campaigns/digital-shift/**



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### 3.4. Procurement of Analogue-only alarm devices

Whilst many social alarm device manufacturers have completed successful testing of their existing analogue social alarms on digital networks, this testing has been conducted in laboratory environments which have difficulty replicating the 'real world' end to end connection of a social alarm call. Given the ongoing transition to digital and the prospect of deteriorating reliability for analogue tone-based communication, a recommendation from SIG01 which has been ratified by the TSA's Quality Improvement Board is that:

**STATEMENT**

**Organisations must no longer procure social alarms that can only establish connections to Alarm Receiving Centres using analogue tone-based communication. It is mandated that those organisations that have an ongoing requirement to communicate in analogue protocols (e.g. ARC infrastructure has not been upgraded) must procure 'hybrid' social alarms that communicate in both analogue and digital protocols (and can be switched remotely without the need for an on-site reprogramming).**

These hybrid social alarms (many of which can be seen in the TSA's devices webinar available via the following link **www.tsa-voice.org.uk/events/webinars**) will allow organisations to use social alarms which, in the short to medium term, can continue to communicate in tone-based exchanges whilst a timescale for transition to digital protocol communication can be worked up, taking into account risk factors such as analysis of call failure rates, location of exchange upgrade and transition of ARC network infrastructure from analogue to digital.

Watch: All IP Webinar series

www.tsa-voice.org.uk/events/webinars



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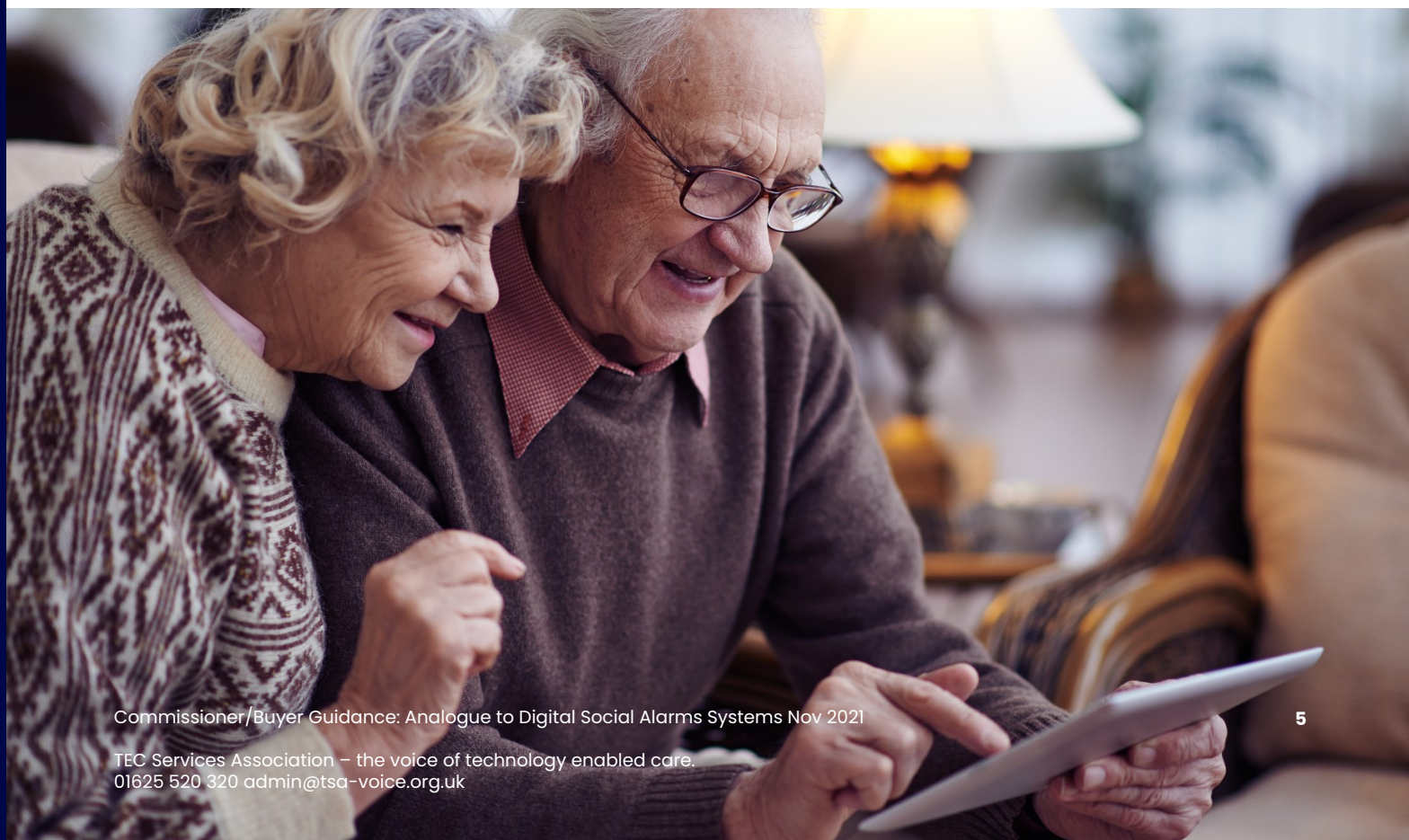
# 4. Recommended Steps to Digital Social Alarm Commissioning

## 4.1. Requirements Consensus

Regardless of the nature of the upgrade, it is important that stakeholders contribute both to the desired outcomes of the solution and the parameters that the solution must operate in to satisfy IT / Security / Health & Safety etc. constraints. An example of a basic stakeholder list with responsibilities is below:

| Stakeholder | Responsibilities |
|---|---|
| **Housing** | Feedback on supported housing requirements |
| **Operations** | Input and oversite into Design and Operation of the service |
| **Procurement** | Lead procurement and commercial activities |
| **Project Management** | Oversite and assurance of delivery |
| **ICT** | Oversite and assurance of solution design and integrity, cyber security and networks including 'Hosted v Enterprise' recommendations |
| **Subject Matter Expertise** | Specialist support for procurement and implementation |
| **Property Services** | Understanding of Health & Safety / Building requirements |
| **Health** | Understanding of requirements relating to admission avoidance / Telehealth |



## 4.2. Soft Market Testing

Organisations are encouraged to explore the market to understand the art of the possible. The TSA runs Innovation Showcases and 'All IP' webinars on a periodic basis to assist stakeholders understanding of market offerings. Two such examples of those webinars (Digital Alarm Devices & All IP ARC Platforms) are available to be replayed on the following link: www.tsa-voice.org.uk/events/webinars

**Digital Alarm Devices & All IP ARC Platforms**

**www.tsa-voice.org.uk/events/webinars**

Stakeholders are encouraged to conduct desktop research into the marketplace as well as virtual or face to face sessions with potential supply partners and as many of the relevant stakeholders as possible. Some of the key topics that should be covered in these sessions include, but are not limited to:

- **Experience of similar solution deployments elsewhere**
- **Commitment to interoperability**
- **The overall cost envelope**
- **Approach to innovation**
- **Reporting & integration with existing tools (e.g. Power BI)**
- **Expected timescales for deployment**

The answers to these questions alongside the overall look and feel of the proposed solutions can be invaluable to the commissioning organisation when finalising the business case and subsequent requirements.



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### 4.3. Procurement routes

Each organisation with budget responsibility will have its own contract value thresholds that dictate the acceptable route to market for the level of investment required. There are many static and dynamic procurement frameworks that exist within the TEC sector and organisations should consider making use of these frameworks where many pre-requisites have already been tendered against so the buying organisation can focus on the specific outcomes required against a shorter list of trusted bidders.

Some of the more popular routes to market are listed below:

- **Consortium Procurement** (https://consortiumprocurement.org.uk/)
- **Crown Commercial Services** (https://www.crowncommercial.gov.uk/)
- **ESPO** (https://www.espo.org/)
- **Fusion 21** (https://www.fusion21.co.uk/)
- **G-Cloud** (https://www.digitalmarketplace.service.gov.uk/)
- **NHS Shared Business Services** (https://www.sbs.nhs.uk/)
- **NHS Supply Chain** (https://www.supplychain.nhs.uk/)
- **Procontract** (https://procontract.due-north.com/Register)
- **Procurement for Housing** (https://procurementforhousing.co.uk/)
- **Scotland Excel** (https://home.scotland-excel.org.uk/)
- **Sell2Wales** (https://www.sell2wales.gov.wales/)
- **YORtender** (https://www.yortender.co.uk/)
- **YPO Care Technology DPS** (https://www.ypo.co.uk/)

### 4.4. RAG existing equipment & protocols

There have been multiple examples of delayed or failed implementation due to lack of communication or transparency with regards to existing analogue social alarms and protocols in operation. There are many examples within the UK of social alarm protocols through either age or design that are not fully interoperable across multiple platforms. Stakeholders must ensure that any existing social alarm equipment types and protocols are made clear in the specification with a clear response required from bidders as to whether their platform or device can communicate with the existing device or protocol. This exercise is important, not that it should preclude potential bidders, but so that it makes absolutely clear what the expectations are for reprogramming or changeout of devices and the need to include these in any cost and timescale calculations.

# Commissioner / Buyer Guidance – Analogue to Digital

Some of the most common analogue protocols are listed below with descriptions and considerations for migration / interoperability:

| Analogue Social Alarm Protocol | Description | Mitigation |
|---|---|---|
| **BS8521-1** | The industry standard for analogue social alarm communication, ratified by the British Standards Institute (BSI) | **None. All Alarm Receiving Centre platforms should be capable of receiving communications in this protocol** |
| **CPC** | Analogue protocol used as standard by some social alarms | **Check with the supply partner, some ARC platforms unable to receive CPC protocol and recommend a remote reprogramme to BS8521-1** |
| **TTOld** | A legacy protocol that continues to operate in many older grouped scheme settings | **Most manufacturers will recommend a reprogramme to TTNew where possible due to protocol reliability issues. Will require an on-site engineer to complete reprogramming of each scheme.** |
| **TTNew** | A more recently developed protocol used in many grouped scheme settings | **None. All Alarm Receiving Centre platforms should be capable of receiving communications in this protocol** |
| **TT21** | A dual tone (DTMF) protocol | **Most ARC platforms cannot receive this protocol and will recommend a remote or automatic reprogramme to TT92** |
| **TT21 – Single Tone** | A single tone (STMF) version of the TT21 protocol | **Can only be accepted by one ARC platform (Tunstall PNC). Will require remote or on-site reprogramming to TT92 to operate with other platforms.** |
| **TT92** | A dual tone (DTMF) protocol | **None. All Alarm Receiving Centre platforms should be capable of receiving communications in this protocol** |
| **TT92 – Single Tone** | A single tone (STMF) version of the TT92 protocol | **Can only be accepted by one ARC platform (Tunstall PNC). Will require remote or on-site reprogramming to TT92 to operate with other platforms.** |

Commissioners should ensure that the incumbent ARC platform provider runs a report which shows the call history from each social alarm, including the protocol used for each call, so that an assessment can be made as to the interoperability of each device and whether reprogramming or swap out of social alarm is required prior to migration.



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### 4.5. 'Hosted' versus 'Enterprise' deployment

There are increasing examples in the UK of ARC platforms being deployed in 'hosted' environments. A hosted deployment of a solution means that all of the infrastructure required to operate the platform (network, wiring, database, servers, telephony integration, security etc…) is located in a datacentre in a secure location within the UK. As opposed to an 'enterprise' deployment where most equipment to run the service is located within the organisation's existing buildings.

The benefit of a hosted deployment to the stakeholder's IT team is they do not have to house any specific equipment within their buildings, so there is no need to ensure adequate cooling of server rooms, 24/7 access to 3rd party engineers for faults, cyber and access security considerations etc… This type of approach can have more attractive financial considerations where commissioning organisations procure a service with ongoing licence costs as opposed to large upfront equipment installation and disposal costs associated with an enterprise deployment. A hosted deployment can also have benefits from a Business Continuity perspective should access to physical buildings be restricted, there are professional tools within a datacentre that allow for remote diagnostics and resolution.

Disaster Recovery for ARCs in enterprise environments have historically relied on two main approaches:

- Organisations install ARC equipment in another building occupied by the same organisation so that if there was an issue with the live equipment or the primary building, then Operators could physically move to another building to handle the alarm calls.
- Organisations have an agreement in place that, in the event of disruption to the primary service, then all alarm calls could be diverted to another organisation in another part of the UK that would take those calls until service was restored.

Both of these approaches worked reasonably well for many organisations for many years but there were limitations:

- The downtime whilst operators physically moved from the primary building to the secondary building.
- A reduced capacity to handle calls on the secondary site as the secondary site would not be a full replication of the primary.
- Differences in how different organisations prioritised and handled alarm calls for the same customers
- Reduced availability of KPI information as well as Voice Recordings.

Those limitations were managed and, as downtime for well-maintained ARC platforms was relatively minor, the limitations were managed. As ARCs have begun to move into the digital world, often taking advantage of the hosted approach, some of the above limitations have been lifted, allowing operators to log in from any internet-connected location, for example, rather than needing to locate to an alternative site.

## 4.6 A2D Alarm User Risk Matrix

Commissioners should ensure that there is a A2D Service User Risk Matrix in place for each of the individuals relying on Social Alarms. This matrix will assist Service Providers when planning which alarm users should be prioritised for A2D transition. The elements of the A2D risk matrix should include, but not be limited to:

| | |
|---|---|
| **Alarm User home status** | The highest risk category is living alone |
| **Alarm User access to alternate means of communication** | The highest risk factor is that the alarm user does not have access to other means of communication in the event of alarm failure |
| **Existing Social Alarm age** | The older the equipment, the higher the risk score |
| **Existing Social Alarm digital compatibility** | Analogue only equipment showing the most risk |
| **Existing Social Alarm fault history** | The greater the history of faults, the higher the risk |
| **Existing Social Alarm protocol compatibility** | Analogue tones carrying greatest risk |
| **Landline Communication Provider** | BT provides the most reliable landline connectivity |
| **Landline Exchange early migration programme** | Alarm user is within an exchange area earmarked for early migration to digital |
| **Signal Coverage** | Higher risk score for alarm users located in an area or building with poor cellular signal coverage |



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## 4.7. Digital Interoperability

All of the organisations that have recently undertaken a procurement exercise for either central or outfield equipment and network have cited the migration to digital as one of the key reasons for conducting the process. The desire for future interoperability within digital services has also featured strongly in a number of procurements. However, it is important to be as clear as possible to potential bidders about the level of interoperability desired – a lack of precision in the wording of this requirement can lead to ambiguity and ultimately a lack of interoperability.

Lack of interoperability in the analogue social alarm world is often cited by organisations that are frustrated by efforts to replace one ARC platform with another, deploy a new innovation or even to replace a social alarm unit in a person's home without having to replace all the peripherals linked to that unit.

The reality is that the lack of interoperability can be as much a commercial issue as a technical one. Manufacturers that have invested heavily in the development of specific alarm devices and peripherals, and how that specific equipment operates reliably with their own ARC platforms, or those of their commercial partners do not want to lose the value of that investment by allowing other manufacturers open access to device and peripheral protocols, as well as the full capability of the ARC platform. There is a wider recognition within the sector that it is too late in the day to put huge amounts of effort into analogue interoperability, given the timescales for the migration to digital so the emphasis has shifted onto ensuring that the interoperability challenges of analogue are not simply replicated in the digital social alarm world.

With that digital interoperability in mind, the most relevant development over the last 10 years has been that of a digital interoperable protocol that sets out the parameters for allowing devices and ARCs of all types to communicate in an open, consistent manner. This digital interoperable protocol was original developed in 2014 by the Swedish Institute for Standards and was named the Social Care Alarm Internet Protocol (SCAIP). Since that development, it was recognised that, in order to fit into the wider UK and European market, that there would need to be further development of that protocol (particularly around secure encryption of transmitted data) and in 2018, the European Committee for Electrotechnical Standardisation (CENELEC) published TS50134-9 which has become the current standard for digital interoperability between digital social alarms and ARCs.

| Digital Social Alarm Protocol | Description | Mitigation |
|---|---|---|
| **SCAIP** | The original digital interoperable protocol developed in Sweden, published in 2012 | **This protocol was designed for use primarily over mobile networks and does not have encryption embedded into the specification** |
| **TS50134-9** | Digital interoperable protocol developed by CENELEC from the original SCAIP protocol and published in 2018 | **Includes guidance for encryption which enables the protocol to be used safely without the need for a Virtual Private Network (VPN)** |
| **IPACS** | Developed by Tunstall for digital communication between Tunstall equipment and Tunstall ARC platforms | **Tunstall have agreed to support more than just the IPACS protocol on their devices and ARCs so customers have the choice of this protocol or TS50134-9 and can remotely switch between the two protocols** |
| **Contact ID** | Developed in Australasia as a security alarm protocol, used in some digital social alarm devices | **Contact ID is not configured or deployed in all social alarms and ARCs in the UK so Commissioners should ensure remote reconfiguration is available to TS50134-9 for wider interoperability if required** |
| **BS8521-2** | This is the only fully interoperable social alarm protocol for grouped living scheme equipment. The protocol is based on the original NOWIP protocol and is often referred to as NOWIP. | |

Whilst it is recommended that organisations wishing to maximise digital interoperability should specify that any devices and platforms should confirm to the requirements of TS50134-9 (for dispersed alarms) and BS8521-2 for grouped living schemes, it is recognised that whilst most manufacturers in the UK comply with SCAIP. Some device manufacturers have not developed enhanced SCAIP (TS50134-9) often stating that it is 'on their roadmap for development'. It is recommended, in these cases, that Commissioners state SCAIP as a minimum with a clear expectation of when TS50134-9 should be available for deployment with financial penalties to the manufacturer for failing to meet the agreed deadline.



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## 4.8. Alarm connectivity via Broadband

To date, most of the digital devices in the UK have been designed to either solely or primarily to communicate through a cellular based connection using either an embedded or customer-deployed SIM card. Should this prevalence for SIM-only continue, future digital alarm connectivity would rely almost entirely on the strength of cellular networks local to the individual as well as individual strategies for the closure of networks across the UK (e.g. 3G network sunset). The reason for the predominance of cellular connectivity originated in the European forerunner for the migration to digital – Sweden – where is that many devices were manufactured originally for the European market where telecare connectivity via Broadband was less reliable than the consistent cellular signal available in the country.

Within the UK, many Commissioners are coming to terms with the impact of a full digital alarm deployment over cellular networks – on top of the increased capital cost of digital units, the revenue cost increase alone is 75p to £1 per device SIM, which for a relatively small 5,000 customer service, could add between circa £200,000 to £250,000 per year in a fairly price inelastic marketplace with many public sector organisations already delivering a very lean service in the wake of years of funding reduction. There is a real interest therefore in the potential deployment of digital devices over customer's own broadband networks and this is an area that should be clearly specified, in conjunction with the deployment of the TS50134-9 protocol that devices and ARCs should be capable for broadband communication providing the option to commissioners of digital deployment without the need for SIMs.

It is important to recognise that cellular (SIM) connectivity is subject to network coverage and failure at certain times. While coverage and network reliability in the UK is strong, the risk of connectivity remains. Where mobile solutions are employed, roaming connectivity is essential and you need a connectivity solution that allows devices to roam multiple networks across different carriers. The cellular infrastructure that devices connect to must also contain a highly resilient architecture with no single point of failure, and we recommend that understanding and assessing of this cellular architecture for its resilience is carried out before choosing to connect devices to it.

Even with clear understanding and inspection of cellular infrastructure, it is important to recognise that no network is infallible, and the risk of connectivity loss will remain present. To minimise the risk of connectivity loss still further, it is advisable to connect devices that themselves contain dual connectivity functionality, either in the form of dual-SIM connectivity and/or direct Ethernet connection. This will provide devices with alternative methods of connection in the event of cellular connectivity loss and provide an extra layer of resilience for the chosen solution. The addition of this resilience layer may result in additional costs for the solution, and these should be verified during procurement.



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## 4.9. Digital Heartbeats and Periodic Calls

'Digital Heartbeats' is the term given to the function where digital social alarms are able to send data signals at set intervals to a Device Management Platform (DMP). The benefit of a digital heartbeat is that a Service Provider can be alerted if heartbeats are not received by the DMP after a set period of time – this lack of heartbeat can therefore inform a Service Provider that there is a problem with the connectivity of the device and that some further investigation should take place to resolve. The DMP can alert the Service Provider after a series of missed digital heartbeats.

In addition to the heartbeats are the periodic calls from a digital device. In the analogue world, a periodic (usually every 28 days) alarm call was set that informed the ARC that the unit was operating correctly – the digital periodic call can do the same alert Service Providers much more quickly if there is an issue than an analogue unit is capable of achieving.

Commissioners / Buyers should stipulate in any specification for hybrid or digital equipment that both the equipment and the ARC itself should be capable of sending and receiving periodic calls without compromising the effectiveness of the solution. There is currently no industry recommendation for the number of periodic calls that should be sent per day but the range is between 1 and 1,440 minutes per periodic call, so between 1 per minute and 1 per day.

In summary, the digital social alarm heartbeat can be configured every few seconds to the DMP to allow for the tracking of power outages etc… via the DMP, the digital periodic call should be set to at least one call per day to check that the unit can communicate successfully with the ARC (these calls can be set to low priority / auto answer) so that the Operator is not required to physically answer the periodic call.

## 4.10. Named Technical Design Owner

In the analogue world, end to end connectivity of telecare alarms to platforms has historically appeared much simpler. Often there has been one manufacturer responsible for both the analogue device and peripheral in the person's home. As the deployment of end-to-end digital social alarm solutions is more complex, it is recommended that the commissioning organisation stipulate that a specific Technical Design Owner be identified that is responsible to ensuring the operation of the end-to-end service.

There have been a number of instances where an element of the chain (e.g. devices, protocols, network etc…) can develop reliability issues and it is left to the commissioner, often with limited technical understanding, to get to manage a number of organisations responsible for that chain to resolve the issue. Whilst the ARC platform supplier will not wish to take responsibility for devices and networks that sit outside of their direct control. It is usually those Supply Partners that are best placed, both technically and commercially, to lead the resolution of such incidents.

## 4.11. Data transfer and testing

A common issue for many Commissioners when moving from one manufacturer's ARC platform to another has been that of moving customer data out of the old platform and into the new platform in a secure and reliable manner. There is currently no industry standard approach for this transfer of data but lessons learned have pointed to some key points for commissioners to note:

- The minimum number of data transfers required from the old ARC platform is 3:
    - The first to conduct a test of the data contained in the initial transfer and the fields in which that data appears to assist with mapping;
    - The second transfer once the testing of the original data transfer is complete and changes to the mapping process and any missing fields have been identified;
    - The third and final transfer is at the point of new platform go-live.
- Depending on the terms of the existing contract with the current ARC provider, there may be no obligation on that provider to produce at least 3 instances of data transfer
- That existing ARC provider may wish to charge time and materials cost for producing data transfers as well as any alterations they make to the transfer specification to allow for the new platform to accept the data
- If not specified in the contract then the losing ARC providers will sometimes choose to provide the data in a format which is not easily accepted by the gaining ARC provider
- Both losing and gaining ARC providers will often cite lengthy timescales for exporting and importing customer data which, unless contractually specified, can lead to deployment delays
- Gaining ARC providers will often refuse to upload calls history or voice recording data from the losing platform – the impact of this on Commissioners is having a place that historic data can be easily accessed after the transfer of the ARC platform

It is recommended that, going forward, any specifications and contracts make specific provision for the format, content, frequency, alterations, timescales and cost of customer data to be provided as part of contract exit clauses. The current recommendation, based on experience from around the sector, is:

- **Format:** SQL database
- **Content:** Entire contents of database
- **Frequency:** Minimum 3 extracts
- **Alterations:** Minimum of 2 rounds of required alterations
- **Timescales:** Maximum of 5 working days notice to complete each extract
- **Cost:** Included within the quoted contract price

It should also be noted that there are very few agreements in place between ARC platforms that are competitors, and it is often the Commissioner that is caught in between both losing and gaining platform provider trying to mediate a solution which suits all parties. Commissioners are encouraged to state within any new specifications that the onus is on the gaining ARC platform provider to, not only deal directly with the losing ARC platform on behalf of the commissioner, but also to work directly and equitably with any future gaining ARC platform as part of the exit management process.

Commissioners should also be clear that there is an onus on the gaining ARC platform to do a significant amount of testing of the data mapping before it is handed over to the Commissioner to verify the data. There have been recent occasions where data transfer has obviously not mapped correctly before being handed over for verification and it should be stipulated in the specification that verification of field mapping should be conducted by the gaining ARC provider.



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## 4.12. KPI Reporting

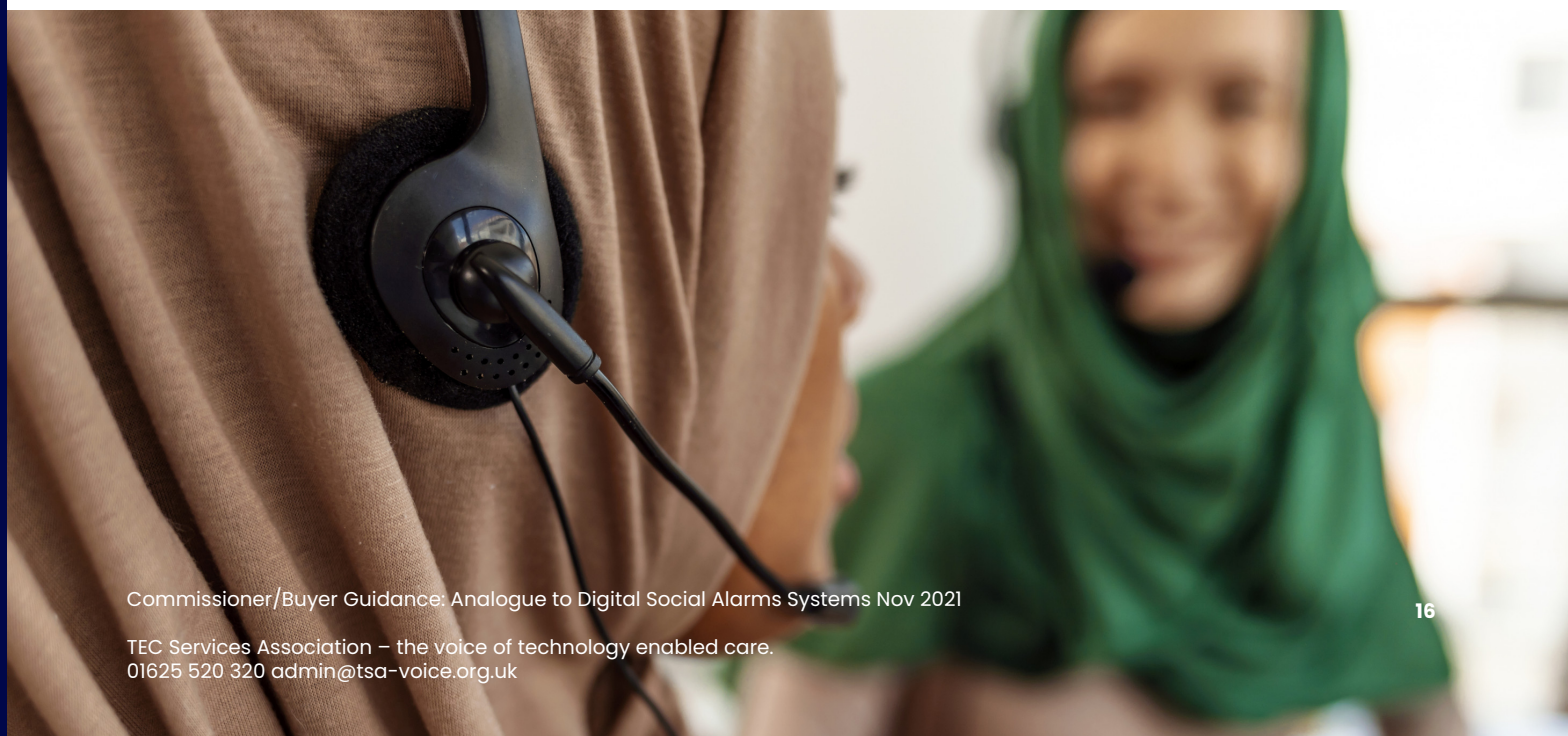
Clear KPI reporting is vital, particularly during and immediately after the transfer process for either digital devices or the central ARC network and platform. As well as the standard Quality Standards Framework (QSF) KPIs with regards to summary alarm call answering, line utilisation and mobile response, Commissioners should specify that they have access, if required, to the detail that sits behind these reports on a daily, weekly, monthly basis as the situation dictates.

Some services in recent months have seen an increase in alarm call failures as analogue and digital systems come together and it is important that all stakeholders have access to the detail to be able to build an effective mitigation plan to any situation that puts the reliability of individual connections at risk.

## 4.13. Delivery & Service Credits

For a number of reasons, some commercial, some technical, some organisational, the social alarm industry has struggled to keep pace with the pace of digital migration in the UK. As a result, many Commissioners feel under prepared for the transition – a TSA survey conducted in May 2021 revealed a number of areas where further support was needed and one of those areas was around the delays in the provision of clear digital solutions from many Supply Partners in the industry. The use of the phrase 'it's in our roadmap' was specifically critised as timescales for the development of specific solutions have been repeatedly deferred. In the last 18 months, the global pandemic has obviously had an impact on innovation, but this issue was cited long before Covid took hold.

It is with this in mind that Commissioners are encouraged to hold Supply Partners to account financially when it comes to the subject of deployment and product development timescales. Commissioners should understand the true cost of delay from a resourcing and reputational perspective and ensure that Supply Partners are held to account for any delay on their part of any delay of their sub-contractors.



## 5. Quality Standards Framework

TEC Quality | Quality Safety Innovation

TEC Services Association strongly supports the embedding of quality assurance in the TEC sector to drive continuous improvement and innovation within the industry as well as keeping the service user safe. The TSA recommends that Commissioners mandate that organisations involved in the end-to-end delivery of technology enabled care to their customers are certified by **TEC Quality (www.tecquality.org.uk)** according to the **Quality Standards Framework (QSF).**

The QSF is a set of outcome-based standards that supports organisations providing TEC products and services, based on the principles of Quality, Safety, Innovation and Continuous Improvement. Organisations that are QSF certified, from suppliers of the technology itself to the providers of life critical services to the vulnerable. The QSF also contains a focus on the correct application and provision of digital services and their infrastructure.

Certification to the QSF involves an audit of the organisation's processes and procedures relating to key TEC-specific areas such as user experience and safety, business continuity, ethics, performance management and innovation as well as specific focus on areas appropriate to the organisation's activities such as alarm monitoring, assessment and installation, telehealth, mobile response and solutions provision. Organisations involved in the delivery of these products and services tend to sit outside of the remit of the Care Quality Commission (CQC) and the QSF certification sits alongside the ISO accreditation as the QSF providers a deeper inspection of TEC specific activities.

The Quality Standards Framework (QSF) the only Technology Enabled Care (TEC) Scheme which is accredited to the United Kingdom Accreditation Service (UKAS)

**For further information, please contact admin@tecquality.org.uk**

## 6. Summary

This guidance is a reflection of feedback and lessons learned from Industry stakeholders over recent months. The intention is that it provides a guide to Commissioners but also to any stakeholder wishing to understand more about the processes and potential pitfalls of the transition from analogue to digital in the TEC industry. This document will be updated to reflect any further developments and understanding as the UK moves through this transition.

**The TSA strongly advises its members and stakeholders to seek TSA support with any transition of this nature as no two organisations are identical in terms of set-up, staffing, culture and management.**

## 7. Glossary of Terms

| Term | Description |
|---|---|
| **Alarm Receiving Centre (ARC)** | An ARC is predominately a contact centre staffed by individuals trained to handle inbound alerts triggered by a range of devices and peripherals in a vulnerable person's home |
| **Analogue Terminal Adaptor (ATA)** | This is a small connector which allows analogue telecare alarms to be plugged into a digital router. In some cases, the router will have an ATA built in. |
| **Alarm Failure** | these are the times when a social alarm is unable to connect to an ARC and has to attempt to reconnect, this reconnection can be continuously attempted until the socail alarm makes contact |
| **All IP** | The term given to the programme to migrate communicaitions networks and social alarms from analogue to digital |
| **Analogue Only Alarms** | These are social alarms that are capable of only analogue tone based communications with an ARC |
| **Communication Providers** | These are the organisations that operate on that infrastructure (e.g. BT / Talk Talk / Sky) |
| **Datacentre** | Term given to a secure remote location that hosts equipment and services designed to provide a solution |
| **Digital shift** | One of the terms given to the transformation of the telephone network from analogue to digital |
| **Dispersed alarms** | Social Alarms that are installed in individual's homes |
| **DMP** | The abbreviation for 'Device Management Platform' which is the web site or portal where the status / configuration / location of social alarms and peripherals is shown |
| **Enterprise** | Term used to describe a deployment of a service where most equipment to run the service is located within the Commissioners' or Service Providers' own buildings. |

## 7. Glossary of Terms cont.

| Term | Description |
|---|---|
| **Grouped scheme** | Social Alarms installed in individual homes within a grouped living property |
| **Hosted** | The term used to describe a deployment of a service where all of the infrastructure required to operate the service (e.g. network, wiring, database, servers, telephony integration, security etc…) is located in a secure datacentre |
| **Hybrid** | This term refers to the devices that are capable of communicating in both analogue tones and digital. These devices are intended to smooth the transition of analogue to digital by allowing organisations to remote transfer outfield devices from analogue to digital |
| **Integration** | The term for how platforms and systems can operate as a seamless process for a user |
| **Interoperability** | The term for the way that devices, platforms and systems from different suppliers are able to communicate consistently with one another |
| **ISDN** | This is the term given to a group of analogue telephone lines, primarily used by an ARC, to receive analogue alarm calls from social alarms – this analogue lines will ultimately be replaced by SIP trunks |
| **Network Operators** | These are the organisations that own the communications infrastructure (e.g. Openreach / Virgin) |
| **Procurement Frameworks** | These are the methods that commissioners/buyers can take advantage of to reduce the administrative burden of a TEC procurement |
| **PSTN** | Public Switched Telephone Network – this term is used to either describe the entire analogue telephony network in the UK or a specific analogue telephone line connected to a property. |
| **RAG** | The abbreviation for 'Red/Amber/Green' which indicates a separation of subjects into different priority or focus groups |
| **SIG01** | This is the appreviation for Special Interest Group 1 which is a group of stakeholders within the indudtry supporting the strategic transition of TEC from analogie to digital |
| **Social Alarm** | This is the term given to devices that are installed in individual homes or grouped dwellings that enable indivudals to call for help in urgent situations. Social Alarms must meet industry specifications approved by British Standards. |
| **Social Alarm** | The description given to an alarm unit which communicates in analogue and/or digital social alarm protocols |
| **Technology Enabled Care (TEC)** | Term given to a group of care technologies such as Telecare, Telehealth, Telemedicine |
| **Telephone Exchanges** | Buildings owned by Communications Network Providers to connect local properties to the UK telephone network |
| **Tones** | Audible sounds that enable an analogue social alarm to communicate a message to an Alarm Receiving Centre so that the Operator knows where the alarm is located and what the cause of the alarm is. |

**We welcome your feedback**
Please direct any questions or feedback on this document to:
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The voice of technology enabled care


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