

<b>Meeting</b>	<b>SPA Resources Committee</b>
<b>Date</b>	<b>18 December 2020</b>
<b>Location</b>	<b>Video Conference</b>
<b>Title of Paper</b>	<b>Mobile Working – Academic Evaluation of Project Benefits</b>
<b>Presented By</b>	<b>Andrew Hendry, Chief Digital Information Officer</b>
<b>Recommendation to Members</b>	<b>For Discussion</b>
<b>Appendix Attached</b>	<b>Yes Appendix A – Final Report</b>

**PURPOSE**

The purpose of this paper is to provide an overview of the Academic Evaluation Report covering Mobile Working benefits.

Members are invited to discuss the content of this report.

## **1. BACKGROUND**

- 1.1 The scope of Mobile Working Project – Phase 1 includes the deployment of 10,809 mobile devices and a suite of associated policing applications to community and response officers including Border command, plus 150 Forensics staff.
- 1.2 Prior to project implementation it was determined that due to the scale of investment and projected positive return an independent evaluation of the project was warranted both for internal assurance and external reassurance.
- 1.3 Following due process which included internal and external communication (including with SIPR) an academic evaluation was approved at DEPP Programme Board, Portfolio Management Group and Change Board, with £40,000 allocated from the Mobile Working Project budget and a £10,000 contribution from Motorola Solutions was accepted.
- 1.4 The successful applicants were a team consisting of Prof. Lesley Diack (Robert Gordon University), Dr. Bill Graham (Abertay University) and Dr. Midj Falconer (Robert Gordon University).
- 1.5 The outcome of the report is overwhelmingly positive as evidenced below and of note, the Gateway Review carried out in September 2019 of the Mobile Working Project described this approach to ongoing open project evaluation as having the potential to be “sector leading”.

## **2. FURTHER DETAIL ON THE REPORT TOPIC**

- 2.1 The Academic Evaluation Team have provided the following summary of their objectives and findings:

### **2.2 Objectives**

Objectives were to identify long-term potential benefits and efficiencies to the officers, senior staff, and the public.

The questions upon which the researched focused were

1. How has the implementation of new mobile technology affected the business practices and behaviours of the officers and staff of Police Scotland?

2. What has the impact of mobile technology been for the policing of Scotland?
3. What has the impact of mobile technology been for the Scottish public?
4. What has the impact of mobile technology been for Police Scotland's partners?

## 2.2 Methods

2.2.1 The research utilised a combined prospective and retrospective qualitative approach, triangulated with online feedback from officers and quantitative data, this included members of the research team attending operational training courses. However, the main data collection phase of the project had to be revised because of the current pandemic.

2.2.2 The report comments favourably upon the transparency afforded to the Academic team by Police Scotland:

*"Police Scotland allowed the research team access to all 'asked for' documents and reports even those deemed confidential to the organisation. This unfettered access was very helpful to the team and allowed us to triangulate the qualitative data collected with the paucity of published sources and the wealth of unpublished operational data from Police Scotland."*

## 2.3 Results

The team identified long-term potential benefits in five main areas with a number of sub-themes as highlighted below:

### Productivity

- Efficiency - Less delay with control room checks, access to systems, e.g., PNC and CHS, and non-duplication of tasks
- Increased capacity - Doing more checks than previously, both person and vehicle
- Proactive policing - Being out more and the functionality of the device enables officers to be more proactive
- Time management - Utilising downtime to do other tasks, e.g. accompanying custodies to hospital
- Time saving - Ability to access files, do other tasks and update more whilst out

### Information

- Access to information - Access to search systems, PNC, CHS and SCO; facility to hold details on the device
- Information accuracy - Availability of more detailed information than through the control room, e.g., markers and warrants
- Immediacy of information - Availability of up-to-date information, particular in relation to missing persons
- Additional information sources - Ability to access photographs across range of incidents, camera facility
- Information sharing - Dissemination of information, much quicker and not having to return to the office
- Security of information - Comment that the device is more secure than the notebook

### Connectivity and Communication

- Connectivity - A sense of connectivity when away from police premises; particularly those officers who are not based at police premises.
- Real time communication - Frequently mentioned by supervisors: access to statements and up-to-date information
- Team communication - Linked to information sharing, especially for supervisors and incidents such as missing persons
- External communication - Email and phone function for contact with public and other agencies
- Increased visibility - Increased presence on the street; proactive policing; Generally, a positive attitude from the public

### Officer wellbeing and safety

- Officer wellbeing - Less office based; makes the job easier; less delay at the end of shift; anonymous access to welfare information
- Officer morale - A feeling of being invested in by Police Scotland, providing up-to-date technology
- Officer safety - Facility to access background information so have better awareness of what they may be walking into when attending incidents, identification checks, warnings on the system
- Autonomy - A sense of greater control over their workload
- Covid-19 - Social distancing, Covid-19 related tickets, access to briefings and up-to-date relevant inform

### Technology and Culture Change

- Police officers' attitudes to technology - The device has a defining role in current policing and standard practice

- Members of public attitude to technology - The device was expected and helped create a modern and professional image
- Culture change - Positive attitude towards adoption of technology; more flexible working arrangements
- Logistics - Less reliance on control room, access to stations and computer facilities
- New working practices - Less office based, more visible, crime prevention focus, more autonomy, more efficient
- Collaboration - Departments working together to deliver the product; development of trust
- Improved relationships - Across Police Scotland; e.g., officers with IT, business functions with IT

### Recommendations

- Training - Generally positive comments about practical training session, less positive about Moodle training: a blended approach
- Engagement with officers in device development - Officers are interested in identifying ways to improve the device, and have been using the 'feedback function' to do so
- Timeline for requested additional functions communicated – User suggestions for a number of functions that would be helpful, e.g. VPD. Keeping officers informed of developments may encourage continued engagement

## **2.4 Conclusion**

2.4.1 Whilst Police Scotland's own analysis of the benefits provided by Mobile Working Phase 1 have been overwhelming positive, with business benefits exceeding those predicted, this independent evaluation provides assurance to this methodology and finding. This significant investment by Police Scotland and the successful project management implementation has provided evidence that the strategic direction provided by Serving and Changing Scotland and DDICT are enhancing capability and capacity whilst supporting welfare and wellbeing considerations for mobile working device users.

2.4.2 The contribution of Chief Inspector Gallagher and the DEPP Benefits Team in supporting the work carried out is of particular note.

2.4.3 A communications strategy has been devised to:

- Demonstrate the benefits identified by the research into mobile working to officers and staff across Police Scotland in a way that chimes with officers' own experiences working with the devices.

- Demonstrate that these benefits are having a positive impact across a number of areas of strategic importance
- Demonstrate the strength of Police Scotland change planning and implementation processes to our officers and staff, the Scottish public and Scottish Government, showing the impact we can have when supplied with investment.

2.4.4 Members of the SPA Resources Committee are asked to note the contents of this paper and the Academic Evaluation listed at Appendix A.

### **3. FINANCIAL IMPLICATIONS**

3.1 Not Applicable

### **4. PERSONNEL IMPLICATIONS**

4.1 Not applicable

### **5. LEGAL IMPLICATIONS**

5.1 Not Applicable

### **6. REPUTATIONAL IMPLICATIONS**

6.1 Not Applicable.

### **7. SOCIAL IMPLICATIONS**

7.1 Not Applicable.

### **8. COMMUNITY IMPACT**

8.1 Not Applicable.

### **9. EQUALITIES IMPLICATIONS**

9.1 Not Applicable.

### **10. ENVIRONMENT IMPLICATIONS**

10.1 Not Applicable.

**RECOMMENDATIONS**

Members are invited to discuss the content of this report.

**Final report – November 2020**

**Benefits of implementation of mobile  
devices with frontline officers in Police  
Scotland in 2019-2020**

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**Executive Summary - Benefits of implementation of mobile devices with frontline officers in Police Scotland, 2019-2020**

**Introduction**

This project is an evaluation of part of the 'Digitally Enabled Policing Programme' (DEPP), the 'Police Scotland Mobile Working Project (MWP)' which is an on-going project as part of the Police Scotland 'Serving a Changing Scotland Strategy'. The MWP project equipped operational officers with a digital mobile policing solution to replace the traditional paper notebook system, to provide remote, live access to key policing information systems.

**Objectives**

Objectives were to identify long-term potential benefits and efficiencies to the officers, senior staff, and the public.

**Methods**

A research team from Robert Gordon University (RGU) and Abertay University were appointed to evaluate the implementation and impact of the national roll-out, and to inform the final stages of roll-out to 10000 police officers across Scotland. The research utilised a combined prospective and retrospective qualitative approach, triangulated with online feedback from officers and quantitative data. However, the main data collection phase of the project had to be transformed because of the pandemic.

**Results**

From the initial observation stage of the project it was noted that preparation for the rollout had been comprehensive and that choice of device, software and network was important. The implementation phase of the rollout was led by the divisions themselves and this further added to the success. From the implementation stage the research team identified long-term potential benefits in five main areas with sub-themes as highlighted below:

**Productivity**

- **Efficiency** - Less delay with control room checks, access to systems, e.g., PNC and CHS, and non-duplication of tasks
- **Increased capacity** - Doing more checks than previously, both person and vehicle
- **Proactive policing** - Being out more and the functionality of the device enables officers to be more proactive
- **Time management** - Utilising downtime to do other tasks, e.g. accompanying custodies to hospital
- **Time saving** - Ability to access files, do other tasks and update more whilst out

**Information**

- **Access to information** - Access to search systems, PNC and CHS facility to hold details on the device
- **Information accuracy** - Availability of more detailed information than through the control room, e.g., markers and warrants
- **Immediacy of information** - Availability of up-to-date information, particular in relation to missing persons
- **Additional information sources** - Ability to access photographs across range of incidents, camera facility
- **Information sharing** - Dissemination of information, much quicker and not having to return to the office
- **Security of information** - Comment that the device is more secure than the notebook

**Connectivity and Communication**

- **Connectivity** - A sense of connectivity when away from police premises; particularly those officers who are not based at police premises.
- **Real time communication** - Frequently mentioned by supervisors: access to statements and up-to-date information

- **Team communication** - Linked to information sharing, especially for supervisors and incidents such as missing persons
- **External communication** - Email and phone function for contact with public and other agencies
- **Increased visibility** - Increased presence on the street; proactive policing; Generally, a positive attitude from the public

Officer wellbeing and safety

- **Officer wellbeing** - Less office based; makes the job easier; less delay at the end of shift; anonymous access to welfare information
- **Officer morale** - A feeling of being invested in by Police Scotland, providing up-to-date technology
- **Officer safety** - Facility to access background information so have better awareness of what they may be walking into when attending incidents, identification checks, warnings on the system
- **Autonomy** - A sense of greater control over their workload
- **Covid-19** - Social distancing, Covid-19 related tickets, access to briefings and up-to-date relevant inform

Technology and Culture Change

- **Police officers' attitudes to technology** - The device has a defining role in current policing and standard practice
- **Members of public attitude to technology** - The device was expected and helped create a modern and professional image
- **Culture change** - Positive attitude towards adoption of technology; more flexible working arrangements
- **Logistics** - Less reliance on control room, access to stations and computer facilities
- **New working practices** - Less office based, more visible, crime prevention focus, more autonomy, more efficient
- **Collaboration** - Departments working together to deliver the product; development of trust
- **Improved relationships** - Across Police Scotland; e.g., officers with IT, business functions with IT

Recommendations

- **Training** - Generally positive comments about practical training session, less positive about Moodle training: a blended approach
- **Engagement with officers in device development** - Officers are interested in identifying ways to improve the device, and have been using the 'feedback function' to do so
- **Timeline for requested additional functions communicated** – User suggestions for functions that would be helpful, e.g. VPD. Keeping officers informed of developments may encourage continued engagement
- **Need for a strategy for maintenance and replacement of devices with financial and organisational backing.** There was concern expressed about the sustainability of the devices as technology improved.
- **Interoperability of systems** - While many interviewed highlighted the collaboration and better information sharing that the devices allowed, some commented that this needs to be increased.
- **All processes and governance with the new ways of working be reviewed regularly to create timely new systems** - There was a realisation that the existing procedures based on the traditional notebook system might need some review and that might need to be ongoing

Overall the introduction of the mobile devices has been a very successful project with the majority of police officers levels realising multiple benefits in process, job satisfaction, safety and access to information. The rollout of the mobile devices in stage 2 of the project was one that was waited for with anticipation by many.

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**Acknowledgements:**

The research team would like to acknowledge the help and support of Police Scotland and especially all the interviewees. This project was facilitated by the MWP team and thanks must go to Chief Inspector Martin Gallagher, Sergeant Gregor MacKenzie and Police Constable Steven Connolly for all their support.

## Benefits of implementation of mobile devices with frontline officers in Police Scotland in 2019-2020

*"I think it's great, absolutely brilliant bit of kit... being able to see where you're going... you can update the incidents and you can carry out the vehicle check, the person check you've got all the information there, you can do tickets, you can do brand new crime reports... it's only going to get better with time".*

Frontline officer, 11 years' service

### Introduction

This project is an evaluation of part of the 'Digitally Enabled Policing Programme' (DEPP), the 'Police Scotland Mobile Working Project (MWP)', which is an on-going project as part of the Police Scotland 'Serving a Changing Scotland Strategy'. The MWP equipped operational officers with a digital mobile policing solution to replace the traditional paper notebook system, to provide remote, live access to key policing information systems.

In 2018 Police Scotland produced a digital strategy entitled 'How will we use technology to improve policing in Scotland?' In this document it was realised that the organisation had 'historically underinvested in technology', and that there was a subsequent need to change this to enable Police Scotland to deliver their strategic objectives for Policing 2026. There were six design principles to this strategy in which Police Scotland wanted to:

- Simplify and standardise digital, data and ICT assets
- Lead practices and opportunities for staff to follow a professional career path
- Develop expertise in managing and exploiting data
- Integrate core systems
- Adopt a service led approach to delivery of digital solutions
- Create a portfolio based approach to delivering investments in digital, data and ICT

This implementation project by the DEPP team for the MWP is one part of this strategy.

Police Scotland worked with industry partners to develop this MWP. Samsung was the company who provided the mobile devices used, Motorola provided the notebook functionality and EE, the network provider. All were chosen for their tried and tested business model. The Samsung devices were modern but were not the latest model. The model used had been tested for the usual bugs and glitches and had been found to be robust giving a good user experience. It was similar to many of the devices that frontline officers might use personally, thus creating an ease of use and understanding immediately for the device. The notebook functionality created the system that decreased duplication of statements etc. and allowed efficient and real time sharing of information. The network EE was chosen as they had the most comprehensive network and geographical coverage throughout Scotland. Therefore the project was starting from a strong foundation of tested devices, time saving software and comprehensive coverage.

**Research project**

During July 2019 the research team from Robert Gordon and Abertay Universities put in a qualitative research proposal to Police Scotland and the Scottish Police Authority. The proposal, which was to research the benefits of the mobile working project, was led by Professor Lesley Diack (LD), an expert researcher in online systems, mobile applications and change management in collaboration with senior lecturer, Dr William Graham (WG) from Abertay who had 30 years’ of police experience as well as police research expertise. The named researcher on the bid was Dr Midj Falconer (MF), an expert in police well-being and resilience research. At the end of August, 2019 the research team were awarded the contract for the research. The research questions that the team were tasked with answering were:

1. How has the implementation of new mobile technology affected the business practices and behaviours of the officers and staff of Police Scotland?
2. What has the impact of mobile technology been for the policing of Scotland?
3. What has the impact of mobile technology been for the Scottish public?
4. What has the impact of mobile technology been for Police Scotland’s partners

**Table 1 – Timeline of the research project 2019-2020**

<b>Phase</b>	<b>Time period</b>	<b>Actions</b>
Pre-Phase	September 2019	Contracts/Researcher employed
Phase 1 - Planning	Oct-Dec 2019	Initial meetings, observation of training and desk-based research
Phase 2 - Organisation	Jan- March 2020	Meetings with key stakeholders, discussions on interviews, and focus group schedules and planning
Phase 3 – Data Collection	March – September 2020	Interviews and focus groups undertaken by telephone
Phase 4 – Data Analysis	April-October 2020	Data analysis
Phase 5 – Presentations and report	October-November 2020	Presentations to senior Police staff and final report handed in 27 November 2020

**Pre-Phase**

During the pre-phase of the project, the initial meetings and planning discussions started with the Police Scotland team led by Chief Inspector Martin Gallagher and the research team, meetings were face-to-face, by telephone and virtual. At this stage contracts were negotiated between the three organisations, the researcher was employed and vetting was started for the three researchers.

**Phase One**

The police team made a number of documents and reports available to the research team and after vetting the research team were able to access confidential high-level reports on the implementation of the mobile devices. The research team in conjunction with Police Scotland, reviewed potential research

participants and geographical areas and it was decided to use three divisions to illustrate the rollout and identify benefits. The three chosen were D, E and K divisions. Each were chosen for their location and implementation stage. D division was the initial site used for the rollout of the devices and was considered to be in the vanguard of the process, it was also in the north of the country away from the central belt. E division was perceived as easterly in location but had previously used personal digital assistants (PDAs) with officers, so there was a chance for comparisons to be made. The third used was K division and this division was near the end of the rollout process and based in the west of the country. Once the initial decisions on research participants and plans had been made, phase one was able to commence.

**Literature review**

One of the first tasks in any research is to understand the context generally of the project and how the research will complement and contrast with into other research in recent years. This project was investigating the use of mobile devices by frontline officers in a national police service (Police Scotland) and what the benefits might be.

A scoping review method was used to explore literature sources in relation to mobile devices in a police setting.

The literature indicated that there were plans and strategies for the increasing use of mobile devices by police forces. The review highlighted that there have been different methods and resources developed in diverse countries. The aim of this review was to provide examples of the benefits already highlighted in other areas and police forces and to identify effectiveness and any benefits that Police Scotland has demonstrated in their use of mobile devices.

The research question identified for this scoping review was: ‘What were the benefits perceived by all key stakeholders on the use of mobile devices in police settings?’

In this stage of the scoping review, a thematic table was constructed to provide an overview of the breadth of the literature. In the overview table below the number of reports and articles is highlighted with countries and forces presented. A fuller list is available in the bibliography at the end of the report.

**Table 2 - Scoping literature review – The benefits of the use of mobile devices in police forces**

<b>Number</b>	<b>Resource</b>	<b>Authors/Countries</b>
5	Digital strategies or reports	New Zealand, Northern Ireland, Norfolk and Suffolk, Metropolitan, West Yorkshire police forces
5	UK national reports or audits	Accenture, Deloitte (2), National Audit Office, Home Office
5	Peer reviewed articles	UK (3), USA, Australia
7	Reports for EPSRC	From Leeds University on various UK forces

Most of the reports in this review covered pilots, strategy and plans but did not cover the implementation phase. The benefits identified were potential rather than those realised by the frontline officers and related staff. However, they did provide a framework to compare and contrast the results from this research.

At the end of the scoping literature review a series of interviews and focus groups were conducted with frontline officers and other key stakeholders. The information identified in the literature review helped to inform the questions that were asked.

### **Observational Research**

After the initial research meetings it became clear that it would be useful for the research team to attend a training session for officers who were about to receive their devices. In October, 2019, two of the research team (LD and MF) attended a day training session in A Division. They observed the training, listened to discussions with the officers and the trainers, and questioned the trainers about their experience with the devices. It was highlighted to the team that there was a training course for probationers in December in A Division and the team asked to attend that course to gain the perspective from probationers. These two observation sessions allowed the research team to begin to develop a more detailed plan for who should be interviewed. Discussions with the Police team further extended this list. The observational research not only developed a research base for the team, but also allowed the team to consider an additional piece of research based on case studies with the two groups observed in A Division. A number of these trainees were interviewed a few months later to discover what their views on the devices were after a sustained period of use.

### **Phase Two**

#### **Planning the interviews and focus groups**

In January 2020, the research team, with introductions from Police Scotland, met the divisional commanders in D, E and K Divisions to discuss how the devices had been implemented or were to be implemented in their areas. This further highlighted staff roles and departments whose views would be beneficial and who should be considered for interview. It was apparent from these discussions that interviews with the frontline officers alone would not yield a comprehensive picture of the benefits and that other civil and police staff needed to be included as part of the research. The research team identified the roles that they were interested in and wished to interview. The Police Team started to make arrangements for the interviews and these were scheduled for mid-March onwards.

#### **Developing the interview and focus group schedule**

The initial scoping review of the literature identified issues to be considered; the observational research; material from Police Scotland; and the prior meetings with the three divisional commanders allowed the interview and focus group schedule to be developed based on these sources. The schedule covered a number of topics and not all would be relevant to each interviewee, but the research team member undertaking the interview would choose the relevant questions to make each interview bespoke to each participant.

### **Phase 3**

#### **Data Collection**

Participants were recruited from frontline officers and key stakeholder roles identified by the team and an introductory email and invitation was sent to potential participants by a member of the Police team. Interviews and focus groups were to be scheduled for mutually convenient times. However, this was all



to change with the restrictions introduced by the pandemic – all the face-to-face dates were rearranged to telephone interviews and focus groups and were based on convenience and opportunism. As a result G Division was also included in the interviews. While this was a change to the research protocol, it did allow the research team to interview more staff and add extra roles to the research plan. With no travel costs and travelling time to factor into the research plan, extra interviews were added instead.

The interviews were recorded over a six-month period and 68 people were interviewed or took part in focus groups or case studies with over 40 hours of information. The interviews varied from 15-60 minutes in length and were transcribed verbatim. All interviewees were allocated a unique code and no name or identifying information was included, thus anonymising the data. The transcriptions were checked for accuracy by a research team member (MF) and were used to populate the Nvivo® database. The original recordings have been preserved until the completion of the report, but will be destroyed thereafter. The transcriptions will be retained for 10 years' behind a firewall and in an encrypted file as per Robert Gordon University research data management governance.

The key stakeholder interviews numbered 28 people (29 interviews) across four divisions and centralised departments and included:

- 4 division Trainers
- 5 division Leads
- 5 Implementation Leads
- 3 people from Resource Management/Human Resources
- 3 people from Business as usual (BAU), Divisional Coordination Unit (DCU), Business Support Unit (BSU)
- 1 Operational Inspector (interviewed in March and September 2020)
- 7 'Other' [Project Lead/Business Change/Training/Communications/Information Communication Technology/Resources]

There were 40 interviews, case studies and focus groups across five divisions of frontline officers. Policing experience ranging from officers who had just completed their probation to officers with over 20 years' service. These can be split into the following groupings:

- 11 case studies interviewed in 2020, after device training in 2019
- 6 focus groups (21 participants) with officers who had devices
- 3 interviews (4 officers) with officers seconded into frontline roles for Covid-19
- 4 officers who previously used the device, but moved to a new role without a device

What was apparent after these 69 interviews etc. was that the project had achieved data saturation. Data saturation refers to the point in the research process when no new information is being collected or discovered in the data analysis. This means that the research team were reasonably assured that further data collection would yield similar results and serve to confirm the emerging themes, and was therefore unnecessary at this stage of the project.

#### **Phase 4**

### **Data Analysis**

As the interviews and focus groups were conducted, they were transcribed verbatim and loaded into a qualitative data analysis software that the research team were familiar with, Nvivo®. All the recordings were coded for themes and then further coded for sub-themes by two of the research team (MF and WG) and were checked for validity by (LD and WG). Analysis was undertaken throughout the data collection process, in a 'zigzag' pattern of collecting, analysing, collecting, analysing (Creswell 2012). This allowed the researchers to develop an iterative interview schedule that continually adapted to any new facets of information that were collected. The role of iterative qualitative data analysis allowed the research team to reflect on the concepts and themes mentioned by participants. It is a method that allows an experienced research team to provide the best explanation of 'what is happening' in any research. The process requires skilful handling of the data and relies on the team's systematic and rigorous method of coding, sub-coding and recoding (Srivastava and Hopwood, 2009).

### **Triangulation of evidence**

Police Scotland allowed the research team access to all 'asked for' documents and reports even those deemed confidential to the organisation. This unfettered access was very helpful to the team and allowed us to triangulate the qualitative data collected with the paucity of published sources and the wealth of unpublished operational data from Police Scotland. What became apparent was that the feedback forms and other reports were reinforcing the qualitative data collected and added to the rich data field available to the research team for analysis. The published and grey literature, while identifying some of the key themes, did highlight other issues that will be further explored in the results section.

To sum up, this was a very rich and diverse project that had to be altered six months into the research due to the global pandemic and just as data collection was starting. However, it allowed the project to pivot successfully to more online and telephone collection, with more participants identified and extra interviews and focus groups undertaken. This gave the project richer data and allowed it to reach data saturation.

### **Results**

The five key themes that were highlighted from the interviews and focus groups are as follows:

- Productivity
- Information
- Connectivity and Communication
- Officer Wellbeing and Safety
- Technology and Culture Change

However, it is important to note from the observation and planning stages of the project that another pre-theme became apparent and could be classified under the heading of 'preparation'. These included choice of device and network, implementation of rollout, and training.

The device, software and the network were chosen carefully, with robustness and rigour being important. Police Scotland worked with the mobile industry, including Samsung who subsequently provided the devices, to identify the best and most suitable devices that allowed tried and tested

equipment to be chosen for this project, and that were fit for purpose. Motorola's notebook software allowed immediate time saving, which could be further developed as the project continued and other benefits were realised. The service provider chosen was EE whose mobile reach covered most of Scotland and meant that there would be less problems with network coverage and being 'out of range'.

Once the equipment, notebook functionality and network were chosen, the next stage was to plan the roll-out and this was achieved in a slightly different way than the normal for Police Scotland. D Division was chosen as the initial site and an implementation lead was appointed to work with Police Scotland Digital Enabled Policing Project (DEPP) to plan and facilitate the rollout. Meetings were held with all key stakeholders every two to three months during the planning and initial implementation phase, but at all stages it was stressed that the division was responsible for their mobile device roll out. This allowed buy in from the divisional staff, who felt that were investing in their own practice and processes. The divisional lead for D Division also recorded what worked for them, and what did not, developing a template that could be handed to subsequent divisions involved in their own rollouts to use and change as necessary for their area.

Mentioned by all the divisional leads was the importance of a robust and 'fit for purpose' training system. Although this was developed and updated by the central training unit, the training itself was cascaded to the frontline officers by operational officers, usually from their own divisions, which gave a currency and relevance to the training and allowed questions to be asked to officers who were trained, but also familiar with the devices and their use. This is also mentioned by the frontline officers in their interviews.

This next section will detail the analysis of interview data in respect to: (i) benefits specified by frontline officers; (ii) an overview of the implementation of the deployment of mobile devices by key stakeholders, and (iii) key recommendations for the facilitation of the implementation of the further deployment of devices.

In response to questions about the benefits of the mobile devices, all frontline officers reported benefits of using the device, across rank and service length, as did the key stakeholders interviewed.

### **Frontline Officers**

Benefits relating to productivity and access to information were the most commonly made. Consensus was that the device was a distinct improvement on the paper notebook, especially regarding time efficiency.

" I think it's great, absolutely brilliant bit of kit, there's nothing off the top of my head that I haven't mentioned, you know, being able to see where you're going ... it's only going to get better with time it is, the usual with technology". *[Frontline officer, 11 years' service]*

For those officers who had been issued with a device, but subsequently moved into a role without, they reported missing the benefits of the device: being able to stay out longer and not having to come in earlier at the end of shifts to do paperwork, finishing on time and utilising downtime.

" ... there were loads, ... I could essentially go on all day, the things that were beneficial having it that are, been taken away from me. The amount of time, as well, that's spent at the end of each shift doing paperwork that you can do on way when you've got the device. ... if you're out and about and have a bit of downtime in the car and you stop somewhere you can just do it on the device and get it uploaded and it just, it was a lot easier".  
*[Frontline officer, 11 years' service]*

During the Covid-19 pandemic a number of officers were seconded back into frontline roles, but were not issued with devices as these were retained by the officers who usually held those posts. Four officers were interviewed who were in this position, with all seeing a benefit of having the device, mostly through the observation of their colleagues with devices.

“We were thrust from our normal everyday role, where we're comfortable into a, you know, back into a frontline role where, I've got to say, I never thought I'd ever feel kind of outdated in the police, you know, but I did around people using these things... all of a sudden there's the capability now just to take the phone out of your pocket and take a picture of something that's evidence ... so if someone was to give me one tomorrow it would obviously change the way I'm policing, in terms of the options that are available to me, how quickly I can do things”. *[Frontline officer, 10 years' service]*

There was comment that the device may be less beneficial in some policing roles, for example the mounted unit and armed response, but the benefit of the support of their colleagues with devices was acknowledged. Below are the five key themes and the 28 sub themes that illustrate the main benefits of the mobile working devices as identified by frontline staff.

- **Productivity**

#### ***Efficiency***

Many of the frontline officers referred to efficiency benefits. Commonly cited, was the avoidance of the delay going through the control room with person and vehicle checks, and access to systems such as PNC, which it was felt streamlined the process. Additionally, rather than having to note down or remember information it was there on the device. It was remarked that they ‘cut out the middle-man’, that they were able to access information, rather than the control room phoning a complainer or informant.

A majority of participants also cited the non-duplication of tasks, such as having to type up statements from notebooks, as advantageous. Statements could be directly typed up on the device, and copied and pasted into an FTR, and could be verified quickly. The statements were then available on their desktop when they returned to the office. Some officers responded that they were quicker typing on their devices rather than writing in their notebook. Other officers remarked that writing on the device could take longer than writing in their notebook, but the overall time saving was more beneficial. This was particularly the case for processes: such as, noting statements, to recording a crime, to then submitting reports and statements to the Procurator Fiscal.

The additional issue of not having to try to decipher others’, or even their own, handwriting was also identified as a positive. This non-duplication was also found to be a benefit with being able to print tickets, rather than noting details and then writing a ticket. Comment was made that the device could act as an electronic log of the day, with the assurance of automatic record keeping, rather than taking notes retrospectively.

“ ... previously, we would've had to attend that call, note all the details in a paper notebook, carry out a PNC check, satisfy ourselves that that person is the person we have in front of us. We then get another notebook out and fill in the ticket itself and then issue that to them, whereas with the mobile device, that was cutting identification out and saving you, you were doing it in half the time... on the device, you can just select, add to recorded police warning and it prepopulates it and fills in all the details and so all you had to then add was, essentially, the time and date and the crime committed then hit print”. *[Frontline officer, 11 years' service]*

#### ***Increased capacity***

Officers commented that that were able to undertake more checks and found people with warrants that they

would usually never find. It was more efficient to conduct people checks, especially where there were a few, and being able to see their details rather than phoning a PNC operator to conduct multiple checks. This was also found with vehicle checks. By being more mobile and less static, frontline officers perceived that it had increased their capacity.

“ ... so, now you got a PNC done in a few seconds ... you could easily spend half an hour phoning around stations trying to get somebody who'd got PNC to do that for you”. *[Frontline officer, 16 years' service]*

Throughout the rollout of the project Police Scotland's benefits team have reviewed the statistical evidence on the increased number of checks undertaken by the frontline officers and there was no degree of significant statistical variance. While this comparison with the quantitative data was not part of this qualitative research project it is interesting to note.

### ***Proactive policing***

Generally, it was felt that the devices, by enabling them to be out of the office more, had encouraged officers to be more proactive. Being more mobile and able to deal with some matters whilst out and about could often result in less of a delay at the end of their shift, as they did not have to return to the office and complete tasks.

“it just kind of means that we're actually out of the office being a bit more kind of proactive and let the public see us out and about more often”. *[Frontline officer, 15 years' service]*

The functionality of the device enabled officers to use it for different things encouraging them to be more proactive, and able to look at STORM incidents not yet to allocated to see what is coming in.

“ ... in relation to now they can take this opportunity to go and do an extra check or, ... they see someone walking down their street and they go, you know, I wouldn't have normally shouted up on the radio cause it's really busy, but now they're getting a few arrests, and I'm not sure if there's been an increase in arrests or anything because of it”. *[Inspector, Operational Lead]*

### ***Time management***

It was commented that the device had enabled the better management of officers' time.

“we've seen some massive changes ... The first one probably being that the cops are spending less time in the office and we're actually making better use of our time when we're out and about”. *[Sergeant, 11 years' service]*

“you can still check your emails, you can still check the jobs, you can maybe send an email or whatever so, you're able to fill your time and sort of time manage yourself better than you could if you're were just told”. *[Frontline officer, 20 years' service]*

Particular mention was made to being able to utilise downtime to do other tasks, such as crime reports: for example, when attending hospital with people in custody, transporting custodies from rural areas, dealing with protracted incidents, or in custody suites.

“ ... so we were at a sudden death ... and normally there's a process at a sudden death we need to go out quite a lot and you can be at a house for a matter of hours, once that's done and dusted you then need to take the body back to the hospital, and then you go back to the office and do a report at the end of your shift. So, all that can take hours however with the mobile device we were able to do the report and the paperwork whilst we were waiting on different things to happen, and without going into too much detail, saved massive time”. *[Frontline officer, 11 years' service]*

***Time saving***

Also cited frequently were time saving benefits: such as, the ability to access files, do other tasks and update more whilst out. It was remarked that as more resources come on-line this will save even more of an officers' time and increase the efficient use of their time.

"I think we're already saving a major amount of time as in comparison to when, what we were doing prior to these, so I just think you just kind of need to see it for the positive that it is".  
[Frontline officer, 4 years' service]

It was remarked that as the functions are at their fingertips and these connect with other apps, this has encouraged the officer to take full statements at the time; rather than summary statements and having to return at a later date to get a more detailed statement if required, saving time later. Access to search functions had been found to have considerable time saving benefits.

"... if we're able to speed up what we were doing, to give our time to other things, because we hadn't wasted doing something because the questions had been answered very quickly, within 30 seconds of him pumping a bit of information in his, his device, which normal, previously would've involved, you know, stopping a car, speaking to people, getting onto the radio, to a dedicated channel and a long, long hand kind of checks". [Inspector, 20 years' service]

- **Information**

***Access to information***

Another benefit referred to by the majority of officers was better access to information. Reference was made to access to information on systems Scotland wide. Access to search systems such as PNC and CHS for identification purposes to do checks on people while at incidents, such as warrant checks, was described as making everything a bit more fluid. This benefit was found across all incident types.

"I think the best benefit is the, the PNC ... driving licence facility you've got on it, rather than having to go through the control room, you've got it there, right in front you, ability to use that".  
[Frontline officer, over 25 years' experience]

As officers can often have repeat contact with some members of the public, the facility to hold their details on the device so that they do not have to keep asking for the same information, was also cited as helpful.

***Information accuracy***

Access to accurate information was cited as an operational benefit, the ability to check STORM incidents when out and about enables officers to see what incidents they are going to, and have more detailed information than they would through the control room. Being able to access information relating to prior incidents regarding persons or an address was also commented on.

"... another great thing is being able to read STORM incidents in full, unless, a lot of the time the control room might not pass you all of the information, they might miss stuff out, but, being able to have a good read through yourself, see previous incidents, phone calls, that really helps".  
[Frontline officer, 5 years' service]

Availability of information relating to 'make safes' was also highlighted, for example information relating to weapons.

**Information immediacy**

The operational benefits of being able to access information in a timely manner, was vital in the access to detailed and accurate information. When officers log onto Pronto they are able to access the information they need, and are able to complete checks with up-to-date information.

“ ... being able to just quickly, doing person checks, if you've got someone stopped and you're needing to do a search for drugs you can check for any markers, rather than the process that was before where you had to switch channels and, potentially miss updates ... definitely one of the bonuses”. *[Frontline officer, 6 years' experience]*

The benefit of this was particularly highlighted for information relating to missing persons, especially the ability to check home addresses or distribute photos electronically.

**Additional information sources**

Of particular benefit across a range of incidents, was the facility to access photographs using CHS and PNC. This gave the added advantage of being able to confirm the identity of a person, especially when they were being given random details by the person.

“ ... if you're stopping someone, at the roadside obviously you bring up a photograph if they are known to the police, just to confirm if they are who they say they are”. *[Frontline officer, 23 years' experience]*

Specific mention was made of the benefit when dealing with incidents involving missing persons, and the immediacy of having a photograph sent online rather than having to obtain one from the family.

“ ... if we're off at a job and we can get a picture of a missing person you can send it around within seconds and they've got that picture, whereas before we would have to wait and then potentially come back to the station and everybody have a look at the picture... probably one of the biggest things for us, especially if it's what we would class as a high-risk missing person”. *[Frontline officer, 3 years' service]*

Also commented on was the ability to take their own photographs. This included at a locus, at non-serious incidents, and also the ability to take photographs from CCTV of shoplifters for identification purposes, rather than having to wait to download CCTV. Though it was commented by one officer that they had yet to attend court with these images entered into evidence.

“... being able to take photographs of a locus when it's obviously not a serious crime but, that's probably been the biggest benefit, you're not having to wait or having, what they call a domestic abuse camera brought to you”. *[Frontline officer, 15 years' service]*

The mapping system was also mentioned as a benefit, that they could link from STORM to bring up the map as to where they need to be, especially if out with their home area.

**Information sharing**

The devices facilitated the dissemination of information, either written or photographs, as this could be shared quicker through email rather than having to continually return to an office. Comment was made that they were now able to access information Scotland wide.

“... if you've got stuff you need to pass to your colleagues ... or if you've got a photograph of something you can disseminate that through email on your device in the car so it ... allows things to progress much quicker”. *[Frontline officer, 15 years' service]*

Furthermore, departments such as CID could access the information on line, rather than waiting for officers to return to the office and having to photocopy their notebooks. Access to other officers' statements in other geographical locations and in time restricted situations was also cited as a benefit, such as the seven-day turnaround for petition statement requests; particularly when colleagues had gone on days off. As everything is now centralised and accessible, officers remarked that they can go home and not worry about getting contacted by phone.

### **Security**

Comment was made that the device was more secure than notebooks. The fingerprint function and limited number of unsuccessful log-in attempts also protected the information on the devices.

“I know that the officers, they can do their operational statements on the device, they do their crime reports on, it's more secure than notebooks”. *[Superintendent, over 35 years' service]*

- **Connectivity and communication**

### **Connectivity**

Officers commented on the benefit of connectivity when they are out all day. For those officers based at other premises, who do not return to the office on a daily basis, and do not have access to the police computer system, the benefit of connectivity was emphasised, especially accessing emails and information, and checking potential new career opportunities.

“ ... before I got my PDA, I didn't really have a point of contact... an easy way for them to contact me... they were basically phoning me on my own personal mobile, because that was the number I provided to them... which then leaves you open, on my days off, to getting phone calls, oh, this is happening, can you come now, and it's like, well, no, I can't cause it's my day off today... whereas now, I've obviously got my work phone number... so that's a real benefit for me as well because I'm so mobile during the day and I don't have a desk really, so to speak, I'm always contactable”. *[Frontline officer, 20 years' service]*

This benefit was also found where there was limited access to police stations, or office space was limited.

“... also, all things like picking up your emails and being able to put crimes on while we're out and about because obviously, there's limited time we get at the computers... I don't know about elsewhere but, we don't always have a great length of time to sit at computer and put crime reports on etc, so I've also found that to be beneficial”. *[Frontline officer, 7 years' service]*

A number of officers had found that the device had enabled an increased sense of connectivity with their colleagues and the organisation when away from the office.

“ ... the email function I found quite helpful, a couple of times I found myself taking it home on days off because I was expecting particular things, I just wanted to be able to check my emails. I didn't make a habit of that but, I know a lot of officer, or senior officers, have got their blackberry and do their emails anyway but, for normal kind of inspectors down that wouldn't be the case”. *[Operational Inspector, 15 years' service]*



**Communication**

Benefits relating to access to email and phone functions were the most cited for improving communication, and that officers were able to utilise the email and phone functions during downtime.

“I love the fact that I can get my emails, that's one of the things I use it for, is purely as an e, a mobile email device, and that sort of thing is really useful”. *[Sergeant, 7 years' service]*

“... even just having, even like this, having the facility to make phone calls, erm, or easier phone calls than it is when you're using your airways”. *[Frontline officer, 20 years' service]*

Additionally, the benefits of being able to communicate through social media were also highlighted.

“We don't need to worry about leaving voice mails or calling cards. We can communicate via Twitter, Facebook, that's the main things for me”. *[Sergeant, 11 years' service]*

**Real time communication**

Sergeants and Inspectors specified being able to access information in real time as a particular benefit.

“... when I sit in my office, I can get statements viewed in real time, from officers at the scene, before they've even come back to the office”. *[Sergeant, 11 years' service]*

This was cited as a benefit across incidents, but particularly in relation to missing persons.

“... missing people are something that the sergeants like myself run quite a lot... things like taking photos of the missing person, emailing them around, everybody's looking for them, much better than just a description being passed over the radio ...”. *[Sergeant, 12 years' service]*

By having updated information available to them, Sergeants were able to read statements taken, make sure incidents were being recorded where required, and monitor incidents to see where officers may require assistance, particularly serious incidents. The benefit of not having to decipher handwriting was also highlighted.

**Team communication**

Very much linked to information sharing, the device had facilitated improved team communication, with their colleagues and with their line management.

“... if an officer works at the other side of the city, instead of me having to go and drive all the way over, we can just simply pull up the Pronto app and have a look, which definitely saves a lot of time”. *[Frontline officer, 5 years' service]*

**External communication**

It was highlighted that the device had improved inter-agency working communication, with use of both the email and the phone function. Again, this meant that they no longer had to give out their personal phone number.

“... having access to your emails while you're out and about is a major thing for us cause we work with quite a lot of local partner agencies... who we're in contact with quite a lot throughout the day, and previously, we'd have to return to the office to find these emails but now we're seeing them when we're out and about”. *[Frontline officer, 8 years' service]*

**Increased visibility**

Officers reported the time saving aspects of the device as a facilitator to spending more time out on the street. By reducing the time that they spent at the end of their shift they could be out more on foot patrol, and let the public see them out and about more often. Being able to check STORM incidents meant that they were able to have more contact with complainers.

“ ... being able to do all of those activities, on a mobile device, out with an office, and get some kind of men out, clear, visible, so for me, that, that's one of the biggest benefits of it”. *[Chief Inspector, over 25 years' service]*

There was concern from a small number of officers that there was a feeling of the device being a bit more impersonal when taking a statement, particularly with older members of the public, and victims of certain types of incidents. However, it was commented that where possible one officer could make notes on the device whilst the other interacted with the member of the public. Both officers and Sergeants commented that they had not received any complaints regarding the devices.

- **Officer wellbeing and safety**

Although some officers could not initially see officer wellbeing related benefits, they did acknowledge that some of the efficiency and information related benefits, such as improved processes, supported officer wellbeing. Benefits mentioned included: being out of the office more; making the job easier; the information checks making them more certain in what they are doing; being able to quickly ascertain that who they are dealing with is who they say they are; enabling officers to better manage their workloads, which increases the likelihood of them finishing their shift on time. Additional benefits suggested, included access to mental health and wellbeing apps, and links to related information that officers could access anonymously.

“ ... by making more effective use of their time, that's going to cut down on them getting held on, which is a bonus, they might be a bit more relaxed if they've been able to do a lot of that stuff prior to coming in”. *[Inspector, 20 years' service]*

It was commented that as more functions become available online that office time and pressure will reduce at the end of shifts and this would help to facilitate officer wellbeing.

“ ... if they [systems] were on there and we could go and park somewhere, get us some fresh air, do you know, a little time out and do it the work, it would definitely improve wellbeing, in my opinion”. *[Frontline officer, 3 years' service]*

**Officer morale**

Specific mention was made to the impact on officer morale with the implementation of the devices. Officers felt 'invested in', with the introduction of up-to-date technology, and that the organisation had invested money in them. Sergeants and Inspectors commented on this impact, with their officers feeling prioritised that they had been given the devices first.

“I suppose from the point of view of, everybody being given a device that costs, £500, a £1,000, whatever, it might just have that feel of, we're starting to get a wee bit of funding and a wee bit looked after, possibly”. *[Sergeant, 12 years' service]*

“ ... it's a complete morale booster for the cops in the fact that they get this nice shiny thing that they can actually look at and go, the police are actually investing money in me and, therefore my time can get used better... from an organisation's point of view, it just means that we can

hopefully increase the welfare of the cops, that's what we want to try and do". *[Inspector, service length unknown]*

### **Officer safety**

The majority of comments relating to officer wellbeing were connected to officer safety. Many mentioned access to PNC/CHS checks, which enabled them to confirm identification. The ability to check people discretely was also remarked upon, particularly where there may be a number of people involved. Again, access to background information so that officers have a better idea of what they are attending was highlighted.

" ... it's also really good being able to search different incidents so you can get a background so you know what you're walking into before you go, ... you know what to ask if you've got a better background before you go in". *[Frontline officer, 1 year service]*

From a Sergeant's perspective, access to accurate and up-to-date information on the device served as a risk management process.

"... the warning signs and the markers in the PNC are really important, especially from a risk management point of view. So, they know who they're going to be dealing with or, they know roughly what type of character they're dealing with... by reading the markers or any aliases they've given or, marks, say tattoos, etc, etc, sort of helps identify". *[Sergeant, 11 years' service]*

A small number of officers mentioned that the device could take their focus away from their surroundings. However, it was commented that writing using a pencil and notepad could also take your focus away.

" ... cause you would be standing with your notebook and a pencil in hand, so you would still have your hands full if you're dealing with someone who's suddenly turned kind of nasty, you deal with that, in a sensible way it, one person's checking out, your neighbour's looking out for safety so, I don't see that, personally, as being an issue". *[Inspector, 20 years' service]*

### **Autonomy**

Generally, officers reported a greater sense of autonomy over their workload. There was a sense of independence and being able to access information for better decision-making and time management.

### **Covid-19**

When asked about the role of the mobile device in the Covid-19 pandemic, a number of officers could see benefits immediately; whilst some officers did not, they then went on to mention a number of functions of the device that were beneficial.

During the height of the lockdown (March-June 2020) officers reported not attending so many jobs/calls in person. However, when sent to a job/call they could see the complainer's details, they could read the details about the incident and brief themselves, and could call the complainer directly. As a result, they could often deal with the call with advice over the phone.

"... with the COVID questions being asked, we know how to prepare when we're going to a specific call, whether they need the full PPE. So again, it's about risk and we're trying to reduce the risk of cops getting contaminated or getting infected, I would say the mobile device has been crucial for that". *[Sergeant, 11 years' service]*

This was particularly the case for breach of lockdown rules calls, and with elderly residents and those self-isolating this avoided face-to-face contact.

“... if someone's self-isolating, we can phone them straight away from this device, and you could take a statement while you're on the phone. A lot of people in my team put the phone on loudspeaker, bring up a statement form and talk to the them while they're typing a statement ... I certainly learnt from a couple on my team that that's how they've been taking statements. So, that's very handy”. *[Frontline officer, 3 years' service]*

Again, the benefits of real-time communication were expressed by Sergeants and Inspectors.

“... so, it is handy to be reviewing incidents. So, say it's like a sudden death or something like this, and I have had to go to a few and there's concerns about Covid, you can actually read incidents while you're enroute, instead of sitting here and read the whole incident that way”. *[Sergeant, 15 years' service]*

The ability to social distance from their colleagues was specifically mentioned as a benefit, in respect of safe Covid practices introduced to keep a minimal number of officers in the office. Initially, by officers being less office based and being able to be organised when out of office. It was commented that as systems were added this would further reduce office time.

Practical issues, such as keeping the device clean was commented on, though the device is personal to them rather than a computer. Furthermore, although there could potentially be an issue with someone signing their statement, this would be an issue with a notebook, and a device is easier to clean.

The camera function was highlighted as being of benefit during the lockdown period.

“We found actually, in the Covid situation, cops have said, particularly for non-specialist, erm, deaths, sudden deaths, where you might normally have had to wait for IP to come out, the cops can just take a couple of quick shots and, and that'll be good enough. So, that's a really massive bonus as well”. *[Inspector, 20 years' service]*

Some officers had issued a number of Covid-19 related tickets, whilst others had not issued any yet. The general benefits of being able to print and issue tickets was remarked on, though this was not specific to the issue of Covid-19 related tickets.

“I've only issued the one but it was so much easier than having to get my ticket book out and I've always got it on me, rather than having to go searching through my bag and stuff like that”. *[Frontline officer in their probation]*

However, at senior level the advantage generated by flexibility of the tickets was acknowledged as creating the ability to respond rapidly to changes in legislation.

“... the legislation was changing that quickly that if we had been doing that on a paper basis it would've required hundreds, if not thousands, of paper ticket books to have been updated more than once. So, my understanding is, there is the ability to do that online and actually increase the kind of efficiency of responding to those legislation changes quite quickly”. *[Superintendent, over 25 years' service]*

#### ➤ **Technology and culture change**

##### **Attitude towards new technologies: Police Officers**

Overall, there was a positive attitude towards the adoption of digital policing expressed by the officers, and the improved communication and efficiency that it facilitated. Confidence with the device was sometimes

linked to previous technological experience, but even those officers who were not initially comfortable with the device, and had hesitancy using it, still perceived and commented on the benefits. For some officers they had previous experience of working with PDAs, whilst many of the officers in their probation had only ever known the use of the device rather than the notebook.

“really welcomed with open arms, even the one quote we had from one of the officers, was that it was the best piece of kit he's been issued in 29 years' of service. So, I suppose that speaks for it all, and then other people, other officers just so excited that it is, it's something, it's a newish technology, and that it's been invested in them and it's helping them to do their job better”.

*[Business support]*

The significance of the implementation of digital policing, and its impact on contemporary operational policing at individual, organisational and community level, was commented upon across all ranks and policing experiences. The introduction of the devices was seen as having a defining role in current policing, and had quickly been accepted as the standard way of working.

“ ... it's more become a sort of a way, it's just how we, how we use, that's how we work now. You know, so if we were to go back, I certainly would be lost without it, I would say, as well as having a role in that, it has just, you know, it's kind of solidified its role as, as policing as it is now”.

*[Frontline officer, 4 years' service]*

“ ... when you come away from notebooks and you go onto these devices, you don't realise just how, I'm trying to think of the word, almost basic, the notebooks were, you know, in terms of... how we did our business. So, I think it's a huge step forward and a huge advantage, for Police Scotland and for the public... it can mean quicker response times sometimes, for members of the public, who maybe need their assistance... because they have got that range of police systems at their fingertips. So, I think it's definitely revolutionised the way that a lot of officers are working”.

*[Superintendent, over 25 years' service]*

Officers who had previously had a device and moved to a new role without one, expressed that they would like to have retained the device. Police staff responsible for the resource management of the devices spoke of a reluctance by officers when they had to return the devices.

“I had nothing negative to say about the device, to be honest, compared to when I had it and if somebody handed me one now I'd be delighted to get it back”. *[Frontline officer, 11 years' service]*

The majority of officers stated, in their experience, that their colleagues had demonstrated a very positive attitude, even those not technologically minded. Officers commented on the peer support that they had received.

“ ... it's more kind of, younger officers that I'm working with around here they're all quite tech savvy, they're quite confident and competent ...with the mobile devices, obviously they keep me right at times but, I think it's been, well received out here”. *[Frontline officer, 23 years' service]*

The majority of Sergeants and Inspectors interviewed had been issued with a device, and used them on a daily basis. Some did not use them as frequently, but had received positive feedback from their officers, and could see how the device's functionality had impacted positively on their workload and their officers' workload. Many commented that they had quite a young workforce who were used to technology and possibly had an expectation on joining the Service that they would use electronic devices in their role.

“... there's always a bit of natural cynicism, that's just a police officer's lot, whenever something new is introduced ... oh well, I'll believe it when I see it ... I thought it seemed like a great idea but, my immediate scepticism was, if the bit of kit would be cop proof. And certainly, none of my cops

managed to break it within the first hour, which is what I thought would happen.” *[Inspector, 20 years’ service]*

It was commented that the biggest initial facilitator to the adoption of digital policing was an attitude of readiness for change.

“I think all the staff within the organisation were particularly open to the change that was coming ... most people wanted this, people in the organisation were sick and tired of old rubbish that wasn't working or just a notebook still... the desire to get modernised was a really big help”. *[Inspector, Operation Lead]*

“ ... they were really keen to get it, and actually, word of mouth spread and people were desperate to get the device, I think that officers are extremely adaptable and they're looking for modernisation and they're looking for efficiencies, ... I haven't picked any negativity up”. *[Superintendent, over 25 years’ service]*

Line managers and senior management remarked that in moving forward the commitment to the adoption of the devices would need to be maintained. Attitude of readiness for change could not be taken for granted, and the implementation of the devices would need to be a process of continuous development through the addition of Apps and systems. Although there was comment that the roll-out of Apps on the devices had been slower than they had anticipated, there was awareness that these Apps were coming. When officers were asked in the interviews what they would like to see added to the device, the most common response was the Vulnerable Persons Database (VPD). This is still to be added to the device’s functions, but is scheduled to be included in the future.

Where there was a mixed opinion on the deployment of the devices, this was usually based on practical issues, such as reliability issues, connectivity, or a loss of data access, rather than negativity towards the actual device itself. Responses from officers in relation to issues with the device dated back to June 2019, to the start of the roll-out of the devices, and with officers who undertook their training at the time. When asked if they had used the ‘feedback function’ on the device to report these issues, a number of the frontline officers responded that they had done so. However, this feedback included both issues to be resolved and suggestions to improve the functionality and capability of the device. It was commented by some officers that there was still sometimes a role for pen and paper, in conjunction with the use of the device.

#### ***Attitude towards new technologies: Members of the Public***

It was not an objective of this study to explore in-depth the attitudes of the general public to the implementation of the devices. However, as Police Scotland works on a model of policing by consent, the acceptance of digital policing by the public is a key factor in the success of the implementation of the device and its role in contemporary operational policing. Officers perceived a positive attitude from the public regarding the devices. When officers had explained what the mobile devices were, the public could themselves see the benefits of the device. A number of officers across all ranks commented that they had not had any negative responses or complaints about them.

“ ... anybody that I stop and I've explained what I'm doing and why I'm not speaking to them and, putting in, it seems to be all fairly supportive of it, I haven't had anything negative about it. I think they appreciate that's the way ahead, that's the way things are going”. *[Frontline officer, over 25 years’ service]*

It was commented that the introduction of devices had been well advertised to the public through the press and social media, so many members of the public knew that it was happening. If anyone was not aware of their

introduction, once the officer explained how they had moved from notebooks, and that they were not on their personal phones, the public were generally supportive. It was remarked that the majority of the public realised that it was a work device, and in some Divisions the public had previously seen officers using PDAs. The devices often generated discussion, and the public were interested in knowing how the officers were using them.

“I think just try and manage that public expectation and perception... a wee bit of explanation at times, helps people understand what we're actually doing. *[Sergeant, 11 years’]*

“... it's generally been pretty good. When you kind of pull it out, they seem to know that's the new stuff that you guys are using kind of thing”. *[Frontline officer, 20 years’ service]*

A number of officers felt that there was an expectation from the public that Police Scotland would already have been using up-to-date technology, and that it presented a much more professional image.

“... they seem quite impressed that Police Scotland are moving with the times and becoming more digital”. *[Frontline officer, 4 years’ service]*

“I do think these look a lot more professional and we can do a lot of things on it and the public see you doing a lot, looks like we're ready *and* prepared for what we're going to, instead of having to say, hold on a minute, and then you're on your radio looking for people checks and waiting, for things to come back”. *[Frontline officer, 3 years’ service]*

### **Culture change**

Senior officers, Implementation Leads and key stakeholders in business, support and operational roles commented on the significance of the implementation of mobile devices both on the impact of officers’ working practices and the impact on Police Scotland as an organisation. For those who had been employed by the legacy Forces when Police Scotland was established in 2013, this was one of the most significant changes to operational frontline policing since the formation of the single Police Service for Scotland.

It was remarked that the implementation of the mobile devices, augmented by the Covid pandemic, had brought about rapid change in working practices across Police Scotland; particularly regarding the nature of operational policing. There was greater acceptance with the devices’ connectivity to consider options such as home working for senior officers.

“... there's been a massive cultural change within Police Scotland during Covid about remote and flexible and agile working. So, I'm sitting in the house on my laptop, that would've been significantly frowned upon in the past, for a senior police officer to even dare to even think about working at home... we obviously still need to remain connected with colleagues and show visible leadership etc, there's a significant cultural change”. *[Superintendent, over 25 years’ service]*

Some senior officers had been trying to encourage more flexible working and there was now an accepted move towards this. There was acknowledgement that flexible working options were not appropriate to every role, but certain roles could be further supported by the even more widespread use of technology.

“... if we were to equip more officers with some sort of mobile technology, efficiency and cost savings would be even more significant because at the minute, most people, in more junior positions, have got a mobile device ... if we enabled additional functionality of that device or, we gave them some sort of some, additional mobile device, like a laptop, they could achieve even more in terms of efficiency”. *[Superintendent, over 25 years’ service]*

The functionality of the device was commented on as playing a significant role in the policing response during the Covid-19 pandemic. In addition to social distancing and being able to respond to incidents with more phone contact, other processes could be used for the Covid-19 response. For example, completing arrest forms at scene and the details being available to the custody suite, meant that this paperwork no longer had to be completed on arrival and could reduce contact time when being assessed and checked in at the custody suite. This was greatly embraced by the officers who could see the benefit of the system.

“... what can I say, we're almost lucky that we've delivered it just before [Covid-19]”. *[Project Team]*

The devices also enabled officers to keep in contact if they were shielding, self-isolating or absent; or allowed officers to do a limited amount of work if they were shielding or self-isolating. The decision to take the device home is the choice of the individual officer, though some senior officers perceived that it allowed them as an organisation to communicate better with their officers; feedback from officers was positive that it enabled them to keep in contact through their emails and keep up to date with guidance about the Covid-19 situation.

However, it was acknowledged that whilst Covid-19 had facilitated technological change in some aspects, it had delayed other anticipated aspects.

“... that cultural change of trying to get people into coffee shops and doing their work, definitely not there yet... but that's, that's where we wanted to go and that's the big push we had but we definitely aren't there yet”. *[Project Team]*

### ***New working practices***

In response to being asked about the overall impact of the implementation of the device, senior officers commented that the devices had brought policing into the twenty-first century, and cited many of the benefits that they had observed that had already been achieved and also could see the potential for further benefits as use of the device developed. They had seen their own working practices change over the previous six months, due to the uptake of technology during the Covid-19 pandemic.

“... my diary is absolutely rammed most weeks just with meeting after meeting ... it always used to be the case you had to travel to these meetings. Now, these meetings are all in Microsoft Teams and travel is absolutely negligible” *[Superintendent, over 25 years' service]*

Senior officers commented on the efficiency that the devices had brought to their Division. It was remarked that in some areas supply and demand to incident response was finely balanced, and that the introduction of the devices has enabled the maximising of officers' time and reduced wasted officer time. The ability to complete paperwork remotely and in real-time, rather than having to complete it at the end of the shift, or multiple returns to the office, provides the opportunity for greater mobility and for additional patrol time, and providing a more accessible and visible presence to the public. With the proviso that officers take their refreshments breaks. There was an expressed concern about availability of sufficient numbers of devices for new officers and officers within other departments, such as CID.

The benefits achieved had extended to other officers and departments within the organisation that were not currently eligible for the device.

“... for statements to be taken, and then at contemporaneously being uploaded on to the servers so they would be accessible to anyone that needed to see them, officers are out dealing with a serious crime, CID officers can log into the desktop and can view the statements as they're being



taken, and they can begin to work through the investigative kind of actions they need to consider on the basis of live time information". *[Chief Inspector, 11 years' service]*

There was improved background information for incidents, and better information gathering, dissemination, recording and sharing, during and in the aftermath of incidents. The devices had facilitated more effective two-way communication, such as the ability to send and receive emails, and officers were able to respond quicker to emails relating to communication from members of the public.

"... in gathering of information, the devices obviously allow that kind of push out of information as well. So, for example, in incidences where we're dealing with a high-risk missing person and you need to quickly get out a picture and a description of that individual, that now can easily be done. For instances where you are turning up and dealing with a, a crime which has just occurred, officers can easily circulate CCTV of that individual, for example, and, indeed, we've had a number of really good captures, whereby other officers attending have been able to conduct a search of the area and apprehend the suspects nearby". *[Chief Inspector, 11 years' service]*

Also commented on as beneficial, was the improved connectivity and communication with other departments of the Scottish legal system; such as statements being electronically transcribed through to the Procurator Fiscal, and the camera function on the phone, which enabled officers to take photo of a locus, prior to the arrival of Scenes of Crime officers.

As the nature of interagency working is changing across some areas in Scotland, and there will more integration with other agencies, such as local authorities, the benefits of officers being digitally enabled was cited as allowing multi-site working from a range of police offices and multi-agency public sector buildings. There was consensus from senior management and line management (Sergeants and Inspectors) with the benefits outlined by the frontline officers and the positive impact of the mobile devices on officers' workloads and work patterns and they regularly received feedback from officers on how the device had impacted positively on their workload. The officers themselves had worked out a range of ways to use the device to save time.

"... I go to shift briefings and I speak to officers all the time operationally, the officers that I've got responsibility for are uniformed officers... and what I'm seeing, in terms of feedback from them, is that they're using it, on a daily basis, they're quite quickly getting to grips with it once they've taken delivery of it and using the functionality. So, certainly from an operational perspective, it seems to be going down positively with end users. *[Superintendent, over 25 years']*

As with the responses from the frontline officers in the interviews, efficiency savings were particularly mentioned in feedback to senior officers; such as, not having to return to offices and the better time management of downtime. Access to information had been highlighted in the feedback as a significant benefit, again echoing the frontline officers interview responses, including keeping updated with developing information and legislation.

"I think that's the biggest bit of feedback I certainly get is it that, in terms of crime recording, the ability to just do it on a device and it disappears to where it needs to go is making a significant difference for the officers who've got them". *[Superintendent, over 25 years' service]*

The majority of comments made in relation to improved officer wellbeing by senior officers, were related to officer morale and officer safety. The impact on morale related to officers not only feeling 'invested in' with the technology and deployment of the devices and the time invested to train them in using the devices, but also in the recognition that they needed the capability to do their job as efficiently and as safely as they could.

Interviewees constantly remarked on the impact that the device had on improved officer safety. Of particular mention, was better risk assessment to enhance safety through information availability when officers were attending incidents; or doing vehicle checks or had stopped someone in the street, to be able to discretely see any warning markers or outstanding warrants. This was particularly related to access to information benefits that frontline officers had highlighted, and the accuracy and immediacy of information.

“ ... a cop with a couple of years’ service, if they're unsure about something while they're out and about on the street, they don't have to feel as vulnerable or unsure as they did before because , they've got access to all the information they need in their pocket”. *[Inspector, over 25 years’ service]*

The ability to access a photograph for ID purposes was also commented on in managing risk, as was the potential development of the devices for fingerprinting. Practical issues were also highlighted, such as officers having to carry less equipment.

Those interviewed in business, support and operational roles, and the project team, also highlighted similar benefits of the device, through observation and feedback from officers; including improved efficiency (reduction in PNC checks through the control rooms) and proactive policing, including carrying out additional checks.

The potential to count the value against an officer’s post was cited as being challenging, as measurement of time saving was recorded through the device usage rather than the officer filling a form in. Though activity recorded through the device was now date and time stamped, time saved could depend on the nature of an officer’s particular day, but the ability to complete functions quicker and more frequently, and subsequently organise their work better, all potentially contributed to business benefits.

### ***Line management***

Sergeants and Inspectors commented on the change in working practices for officers, when operational themselves, and the implication for their roles in the line management of their teams. This was again especially in relation to improved efficiency, and connectivity and more effective communication with their team. The time saving aspects of the device, such as officers not having to return to the office, and the time management aspects, such as utilising downtime, were repeatedly cited as being beneficial.

“... as a supervisor, it let me see the productivity of some members of my team, and what they'd been to and what they'd been involved in... I could have access to the STORM incident and I could see what was on the STORM incident, as opposed to maybe having to return to the office to review that. So, I found that to be really beneficial”. *[Sergeant, over 25 years’ service]*

The nature of their working practices has also changed with the device. It has enabled them to be more mobile through remote access, and through ‘real-time’ access to information, such as information regarding incidents being available immediately through officers writing statements at the time of the incidents. The recording of incident details could be monitored, particularly for serious incidents. Incident updates on STORM were beneficial for the whole team, as everyone had better background information regarding incidents, as this was more detailed than going through the controller, as details could sometime be shortened.

Consistently mentioned was improved communication relating to missing persons, with regard to the immediacy and accuracy of information, and better information sharing, and this has significantly impacted on their working practices and workloads.

The email function was consistently reported as being beneficial, working on a two-way communication basis to ensure that both Sergeants and the officer have the information they need. Communication was cited as improved in general, not only between colleagues and line management, but also with the general public, with different mediums of communication being utilised, including social media.

“we're moving with modern times now and how we communicate with people, so if it's by a text message a complainer would rather be updated, well we can do that now”. *[Sergeant, 11 years' service]*

From their perspective communication has become more efficient. Between officers and Sergeants there was sometimes less ongoing communication but better overall information at the end of an incident.

“Yeah, I think it's probably less, less communication, if you know what I mean? In terms of, they'll point me at the very end of the call, once they've done all the bits and bobs around about it and they have all the info in front of them, whereas before, they might have been pointing me for different parts of what the incident was reading or, various other aspects of it. So, no, it's a lot better in terms of communication, yeah”. *[Sergeant, 8 years' service]*

The centralising of information has enabled Sergeant and Inspectors to access statements in one place, resolving a number of practical issues; for example, issues with notebooks being inaccessible in lockers when officers are off shift or on days off, and notebooks being dispersed across wide geographical areas. No longer having to decipher handwriting was also considered a positive.

Again, an improvement in officer safety was frequently commented on, with officers having access to information to better risk assess situations, such as warnings and markers. Inspectors and Sergeants interviewed could see not only the current benefits of the device, but the potential as more functionality was added, as could the officers from feedback received. However, to gain full benefit it was commented that officers need to be equipped to operate it to the best of its ability.

### **Logistics**

The facility to use the device to conduct checks has reduced contact with radio controllers for basic search purposes. The volume of requests from officers has decreased considerably, and there is less pressure on controllers for conducting searches with the current controller to officer ratio. This has cleared airtime for officers who need to communicate with controllers regarding ongoing incidents where additional support may be required.

“ ... certainly from the National Database Enquiry Unit, they're now able to look at other aspects of roles that they are undertaking and had planned to undertake, and as the checks that they were undertaking have diminished it means it opens up for them to do some additional work and some additional checking in other aspects, for operational officers”. *[Chief Inspector, service years' unknown]*

Other benefits highlighted by officers was the connectivity and communication that the devices provided when they were mobile and unable to access police premises. This was particularly the case for officers based in rural areas, or where there was no local station provision.

“ ... we've got a lot of abandoned vehicles and it was a vehicle check for enquiry you just couldn't get it done, you had to phone the police stations, the controller wouldn't do because it's for enquiry, had to use the PNC channel, you'd phone them, and if it was for enquiry they'd direct

you to a front office, and of course all our front offices are closed now". *[Frontline officer, 16 years' service]*

" ... the station's not open so we don't have a front counter clerk, if you've got to put your PNC and school checks on, at least you can do it in the station and you're not having to sit, try and find somebody to do it... whereas maybe in some the bigger stations you can just pop through to the front counter and get somebody to do it for you. We don't have that option here". *[Frontline officer, 20 years' service]*

### **Collaboration**

Frequently commented on by those involved in the project management of the implementation of mobile working, and those involved in the roll-out of the deployment of devices, was the positive collaboration between different departments. Engagement and learning acquired across Divisions, particularly those Divisions that had initially deployed the devices was remarked on as being helpful, as was engagement with other Forces who had already implemented mobile working. Support from the national project team and business and support functions aided the roll-out through communication management, including media releases for members of the public and briefings for officers, and resource management, including scheduling officers' time for training and managing the distribution of the devices.

"I was also involved in another project, almost running simultaneously... the mobile working were far and away the best to deal with. They were organised, nothing was too much trouble, if you had a question it got answered really quickly. The support available through that was great, which then helped us support the frontline when we were delivering it". *[Training support]*

Communication with senior officers regarding the development of the devices was cited as positive, in consideration of additions to the device for the benefit of the users. Where officers had identified beneficial systems that were not on the device, such as missing persons and the Vulnerable Person's Database (VPD), there was collaboration with the mobile working team to prioritise these functions for the future.

Cited as one of the biggest facilitators to the adoption of digital policing by senior officers, and business, support and operations functions was engagement from officers in the deployment and development of the devices. Senior officers detailed examples of where officers had tested the device and suggested expanded usage to further develop the benefits of the device. These included, the development of a procedure to cut down time at desks at custody suites, and the introduction of a form for those attending hospitals under the Mental Health Act.

" ... initiatives rumbling just now within division off the back of mobile working but they're only there because the staff are seeing the development purpose and I think that, that kind of pays homage to how well it's been received here and how much our staff view this as a platform that they're wanting to work for the future". *[Inspector, over 20 years' service]*

A number of challenges and issues were highlighted with respect to the device roll-out. These included delays due to external and internal factors, delivering within timelines, and officer availability to attend training courses. Measures implemented at Divisional level, such as local teams and end user groups, and flexibility with training delivery, were effective at addressing many of these challenges. Specific mention was made to the vital role that trainers had played in the success of the roll-out. Those with implementation roles stated that they were very positive with the process of implementation, and whilst they would perhaps do some things differently in retrospect these were minor rather than major aspects.

***Improved relationships***

The MWP collaboration has augmented better working relationships across departments and functions. Relationships of trust have been developed between ICT and other departments, and ICT and officers; derived from officers being given technology and equipment that helps them to do their job.

“ ... the feedback, both on the business side, which I do see that, but the feedback on the technology side has been tremendous... so, that is a benefit though not just the actual benefits that the police are obviously getting efficiency saving-wise but, the benefits of that trust in being able to work together”. *[Business support]*

Communication between different roles and functions on the project delivery team had developed over the timeline of the project, with expertise and contributions mutually respected.

“it is just that it's a brand new tool of communication for the officers that they've not had before and that team had very specialist knowledge, they knew the subject of the devices inside out and again, they had a mix of operational officers, who were on the team and business analysts and everyone brought a specialism to the, to the project to make it as fully rounded as it was to be able to roll out”. *[Business support]*

**Recommendations*****Training delivery***

Generally, positive comments were made regarding the training that the divisional trainers received to undertake the mobile device training with the officers, and from officers themselves with the training they received. A significant facilitator in this positive feedback was a willingness by officers to undertake the training having seen the benefits and quality of the device. Feedback from officers, line managers and senior officers to the practical training highlighted many positive aspects of the face-to-face training. Some officers responded that a whole day was too long and others that it was not long enough. One Division had separated their training day sessions into experienced officers and officers on their probation, whilst others had a mix of experience with attendance based on officer availability. Benefits of both formats were commented on.

Officers responded that generally the training had given them the confidence to go forward and use the device on duty, whilst learning further whilst using the device. Support was available after the training for any queries or issues that the officers had and peer support was also helpful for those officers with less technology experience.

“ ... definitely, 100%, cause once we were out and actually using it, it didn't take long to, to get a better grasp of it, through just a couple of attempts of using the device and it was a lot easier but, the training was more than sufficient to get a starter on it. *[Frontline officer, 1 year service]*

“ ... the first couple of times you stood with the person, or the vehicle you've stopped and you're taking that wee longer than maybe you should, just till you get your head round the results of the search and so on but we're happy doing that and confident just telling folk to wait a wee minute, it'll take us longer and then we've quickly got used to it. *[Sergeant, 12 years' service]*

There was comment regarding issues where there was a delay using the device after training, and having to recall the training, which also applied to some of the functions taught which officers were less likely to need to access in contrast to other regularly used functions, such as PNC checks.

The Moodle training package received many negative responses from across all ranks and functions regarding the format, duration and timing with the deployment of devices. There was comment that there was duplication across the two parts of the training, the Moodle and practical sessions, and that the Moodle part would have benefitted from officers having the device available to them for the training. It was also remarked it would have been more beneficial if the Moodle training had been more relevant to the device functions that they would use. In contrast to the practical session at which officers spent the day focusing on the training, specific time set aside from operational duties for the Moodle training as mentioned by some officers would also have been helpful.

“I can't really remember too much about it, but generally with Moodle, you tend to find that if it's lengthy, you're bored and not take in half of what's on it ... if there's a delay between the Moodle, you've got so much going on at work to remember, you're not going to remember processes and steps to use on a device that you're not handling”. *[Frontline officer, over 20 years' service]*

- **Where possible, a more blended learning approach may be the best method to training delivery. Where impossible, consideration should be given to the scheduling of the Moodle and practical face to face sessions of the mobile device training, and targeted training of the relevancy of functions taught.**

### ***Maintaining officer engagement***

Highlighted as one of the biggest facilitators to the successful adoption of the mobile device, by senior officers, and business, support and operations functions, was an attitude of readiness for change and engagement from officers in the deployment and development of the devices. Officers were now more confident to question features and identify better ways to work, and a process of a request assessment, a technical and security assessment, has now been put in place to evaluate the business benefits. Comment was made regarding the willingness of officers to be involved in the development process and the importance of the continued support for this engagement.

“ ... the worst thing you could do is not support it and not keep it up to date and modern, and if the officers are submitting suggestions back to us, saying this could work better or that could work better, they would like to see something for their efforts and some communication back the way, or an explanation, that we understand what you say but we're not doing it for this reason”. *[Business support]*

A number of officer-led local initiatives were now in place with consideration at national level for development.

- **It is recommended that to maintain officer engagement, consultation and communication processes are established for feedback from officers' experiences of device usage, and the consideration and development of initiatives to improve the functionality of the device. It is suggested that perhaps MWP champions or user groups be established to suggest and test new initiatives.**

### ***Device timelines***

Officers commented in the interviews that they had used the 'feedback function' to highlight issues and suggestions for improvement, including the addition of systems that would be beneficial. Officers have been encouraged to do so by their line managers and mobile working trainers, but there were still a number of officers unaware of the feedback function. Some of the systems requested were under development for inclusion on the device during the interview period, but officers were not aware of these developments and

were unclear why these applications were not included on the device. There was some question by officers as to whether it was worthwhile to continue feeding back when there was no update to the officer regarding their suggestions. There was comment that some good ideas had been proposed by the officers, but many of these were not deliverable.

“I've done the wee feedback thing in Pronto and I've got literally everyone round my briefing table to do it so that, if they got it 15 times in a day they might think, oh, we'll fix that it's just, very frustratingly not been fixed when, when other things we see them updating very quickly and turning around in a matter of days”. *[Sergeant, 12 years' service]*

“I fed a few back. When we first got the device, I used the feedback bit for one of my issues. I think it was the nationality on the persons... then it obviously never got added... then I maybe did it a couple of months later with the same issue because a new update had come out with like the arrest and the charge bits but, it hadn't been added I just gave up after that”. *[Frontline officer, just completed probation]*

- **Where possible, device users should be kept informed of timelines for the addition of systems and processes, and there should be clarity where suggested additions and initiatives are not feasible or are delayed due to operational issues.**

#### **Sustainability of system and operation**

The topic of sustainability was touched on by administrative staff and senior officers who felt that this rollout project had been so successful and was appreciated by all, however they did not perceive plans to sustain the project after the life of the present devices and comments and comparisons were made about the PDA project in E division. There was great support for this transformational change to operational policing in Police Scotland to be ongoing with a planned maintenance and replacement strategy to be implemented as well as the next stage, Phase 2, of the rollout to more officers and staff.

- **A planned strategy for maintenance and replacement of devices needs to be established with financial and organisational backing.**

#### **Interoperability of systems**

While many interviewed highlighted the collaboration and better information sharing that the devices allowed, some commented that this needs to be increased especially with external organisations. There is a need for a project to undertake a needs analysis on collaborative software for public service organisations throughout Scotland, which would ally with the Police Scotland systems. This is something that the Digital Health and Social Institute could perhaps coordinate or develop.

- **It is recommended that a full-scale needs analysis of collaborative systems is needed throughout Scottish public organisations to create a synergy of work process.**

#### **New procedures and governance**

There was a realisation that the existing procedures based on the traditional notebook system might need some review and that might need to be ongoing as the changes to processes and governance

would evolve in the next few years. Some of the interviewees felt that this was something that needed to be progressed in tandem with the changes in police officers' ways of working.

- **It is recommended that all processes and governance with the new ways of working be reviewed regularly to create timely new systems.**

## Conclusions

This has been the first study of its kind where the rollout of mobile devices has been evaluated 'in situ' during the first year of implementation. All previous studies have been at earlier stages of the process either during pilot or strategy development stages. It is also the first study to cover all stages of the rollout from planning to implementation and operational. It was completed in conjunction with staff at all levels and types within a national police force.

The strengths of this qualitative study are that data saturation was reached with the interviews; frontline officers, administrative staff and senior management participated; there was diversity geographically, operationally and experientially in the participants.

The weaknesses were that the general public were not asked directly for their views on the new devices; the interviews were a snapshot at a particular time and a longer case study approach might have added to the evidence; this was solely a qualitative study that would have been stronger with quantitative approaches added.

In the literature it was suggested that officers might find it difficult to stay away from using their devices and feel that they would need to be continually 'at work' whether they were on duty or not. However while the ability to stay up to date was mentioned as an advantage, the feeling of never being off duty was not perceived as an issue by staff.

This research was carried out mainly during a global pandemic and the research team had to adapt the project to the conditions of 2020. What became apparent throughout the research was that the introduction of the mobile devices had been very timely and had made their use very worthwhile during the social distancing and lockdown conditions. This need to use flexible and remote practices came into its own with Police Scotland's response during COVID-19. The ability to disseminate information quickly, to produce tickets and to give briefings remotely were all mentioned as advantageous to processes and efficiencies.

This is a robust and rigorous research project, which has not only identified five main benefit themes, but 28 sub themes, and made recommendations to aid any further development and with the rollout in Phase 2 of the project.

These results suggest that the MWP has transformed policing in Scotland in the last eighteen months and has allowed Police Scotland to develop new and more efficient working practices, more job satisfaction for staff and become more visible to the public. This is a success story that will develop further as the devices become further embedded in Police Scotland's daily practice.





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