The Dynamic ICT Standardisation Model (DISM): Stations

Lesley Hollis, Mark Jones, Mark Rice

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Purpose

The purpose of this report is to recommend the optimal Information and Communication (ICT) resources on each MFRS community fire station. This report should be read in conjunction with the **Role-based Resources report[1]**, the **main report ('The Dynamic ICT Standardisation Model')** and the **spreadsheet ('DISM', AKA Appendix 1)** which contains the DISM model/calculator.

Overview

Using an Excel-based model created specifically for this task, called the Dynamic ICT Standardisation Model (DISM), the user is able to select a station of their choice from a drop-down list and the appliance (read 'pump') numbers, shift types, staff numbers, staff types, **current** ICT provision, **projected** ICT provision and the **gap analysis** between current and projected provisions in terms of numbers and GBP (£)[2] are immediately displayed. The model works by referring to a master data source, which was populated from numerous sources including Station Managers (SMs), Time and Resource Management (TRM), telent and face-to-face/telephone contact with other MFRS staff. This master source interacts with a data source which dictates not only what type of role is present in various situations, but also which role gets which ICT resource and how much of each.

The model is sophisticated enough that operational staff are limited in their impact of how much ICT is subsequently provided, by the number of **full-time** appliances on-station. This is because appliance numbers typically dictate operational staff numbers actually on-station at any given time. Headline staff numbers are misleading when it comes to operational staff. The model is also sophisticated enough to divide different operational staff types on-station as a proportion of their total numbers (e.g. although unrealistic, 40 firefighters and 10 WMBs on a station with a single appliance would result in the model calculating enough ICT for four firefighters and one WMB on the basis that a single appliance holds five crew). The model cannot choose specific operational staff on-watch from a pool of staff above the number of appliances multiplied by five. The ratio calculation does not apply to non-operational staff present on stations.

The model (or calculator) also allows the user to enter hypothetical data into the spreadsheet so that they can observe how much ICT would be required. The 'MASTER DATA DISM' source enables the user to find the current mean, median and mode characteristics of all the stations (e.g. the mean number of firefighters at two-pump stations on a WT shift pattern). This is useful if the user wants to enter hypothetical data of a 'typical' station so that if they are planning to set up a new station it would not have grossly superior or inferior numbers of staff, appliances and/or ICT[3]: it would 'fit' with the rest of the stations on the MFRS estate.

Results

In summary, the data on the following pages represents the current and projected ICT provision per station, with personnel numbers, appliances numbers, shift pattern and gap analysis:

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[1] M. Rice, Role-based Resourcing, MFRS, 02.02.2017.
[2] (£) Figures are based on telent pricing.
[3] Meaning ICT on the new projected matrix, not the current situation, which is deemed to be incorrect.

Current Appliance/Personnel/ICT Station Situation

STATION	APPLIANCES	RETAINED APPLIANCES	WT/DC/24/LLAR	TOTAL PERSONNEL	PCs	TABLETS	LAPTOPS	DOCKING STATIONS	MONITORS	PROJECTORS	OTHER	COST (£)
10 - Kirkdale	2	0	WT	47	8	3	1	1	8	3	0	14910
11 - City Centre	1	0	WT	31	5	1	1	1	5	1	0	7250
12 - Kensington	2	0	DC	11	7	3	2	2	9	2	0	14380
14 - Speke Garston	1	0	WT	25	4	1	1	1	5	1	1	6650
15 - Toxteth	1	0	WT	31	10	0	4	9	16	2	6	14020
16 - Old Swan	1	0	WT	29	5	2	0	1	6	2	1	9340
17 - Belle Vale	1	0	LLAR	27	24	0	5	19	4	2	0	22960
18 - Aintree	2	0	DC	13	7	2	0	1	8	1	0	9830
19 - Croxteth	2	0	24	40	9	1	2	3	10	2	0	12220
20 - Birkenhead	1	0	24	24	10	0	3	2	10	3	0	12630
21 - Bromborough	1	0	24	25	6	0	2	1	7	2	1	8020
22 - Heswall	1	0	LLAR	12	4	0	5	1	5	1	0	7970
23 - Upton	1	1	24	25	4	0	1	1	5	1	2	4850
24 - West Kirby	0	0	0	0	0	0	0	0	0	0	0	0
25 - Wallasey	1	0	24	41	22	2	6	4	26	2	0	26980
30 - Bootle & Netherton	1	0	WT	41	26	2	2	2	24	2	8	25780
31 - Crosby	1	0	WT	27	4	0	0	1	5	1	0	4070
32 - Formby	1	0	LLAR	11	6	0	5	0	5	2	0	10000
33 - Southport	2	0	WT	39	10	2	0	2	11	2	4	13060
40 - Huyton	1	0	24	28	10	0	0	0	10	1	1	8150
41 - Whiston	0	0	0	0	0	0	0	0	0	0	0	0
42 - Kirkby	1	0	24	25	8	1	1	2	9	2	2	10600
50 - St Helens	1	1	24	38	13	0	2	1	21	1	4	12950
51 - Newton Le Willows	1	0	LLAR	13	5	0	5	0	3	2	0	9160
52 - Eccleston	1	0	24	23	3	0	0	0	3	1	1	3110
Marine Fire Unit	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	28	2		626	210	20	48	55	215	39	31	268890

DEVICE	UNIT PRICE (EXC. SERVICE, £)
PC	600
TABLET	1800
LAPTOP	780
DOCKING STATION	120
MONITOR	120
PROJECTOR	950
OTHER	N/A

Figure 1: The Current Station Situation

Projected Appliance/Personnel/ICT Station Situation

STATION	APPLIANCES	RETAINED APPLIANCES	WT/DC/24/LLAR	TOTAL PERSONNEL	PCs	TABLETS	LAPTOPS	DOCKING STATIONS	MONITORS	PROJECTORS	OTHER	COST (£)
10 - Kirkdale	2	0	WT	47	6	4	0	0	6	1	0	12470
11 - City Centre	1	0	WT	31	4	6	0	4	8	2	0	16540
12 - Kensington	2	0	DC	11	7	4	0	0	7	1	0	13190
14 - Speke Garston	1	0	WT	25	3	2	0	0	3	1	0	6710
15 - Toxteth	1	0	WT	31	4	2	0	0	4	2	0	8380
16 - Old Swan	1	0	WT	29	3	2	0	0	3	1	0	6710
17 - Belle Vale	1	0	LLAR	27	5	16	0	14	19	2	0	37660
18 - Aintree	2	0	DC	13	7	4	0	0	7	1	0	13190
19 - Croxteth	2	0	24	40	7	5	0	1	8	2	0	16180
20 - Birkenhead	1	0	24	24	4	2	0	0	4	1	0	7430
21 - Bromborough	1	0	24	25	5	2	0	0	5	2	0	9100
22 - Heswall	1	0	LLAR	12	4	2	0	0	4	1	0	7430
23 - Upton	1	1	24	25	4	3	0	0	4	1	0	9230
24 - West Kirby	0	0	0	0	0	0	0	0	0	0	0	0
25 - Wallasey	1	0	24	41	6	14	0	12	18	2	0	34300
30 - Bootle & Netherton	1	0	WT	41	6	13	0	11	17	2	0	32260
31 - Crosby	1	0	WT	27	4	2	0	0	4	1	0	7430
32 - Formby	1	0	LLAR	11	4	2	0	0	4	1	0	7430
33 - Southport	2	0	WT	39	6	5	0	1	7	2	0	15460
40 - Huyton	1	0	24	28	6	5	0	3	9	2	0	15940
41 - Whiston	0	0	0	0	0	0	0	0	0	0	0	0
42 - Kirkby	1	0	24	25	6	2	0	0	6	2	0	9820
50 - St Helens	1	1	24	38	5	16	0	13	18	2	0	37420
51 - Newton Le Willows	1	0	LLAR	13	4	2	0	0	4	1	0	7430
52 - Eccleston	1	0	24	23	4	2	0	0	4	1	0	7430
Marine Fire Unit	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	28	2		626	114	117	0	59	173	34	0	339140

DEVICE	UNIT PRICE (EXC. SERVICE, £)
PC	600
TABLET	1800
LAPTOP	780
DOCKING STATION	120
MONITOR	120
PROJECTOR	950
OTHER	N/A

Figure 2: The Projected Station Situation

Example of Gap Analysis for a Station's ICT Provision: Speke Garston

Below, the table lists the net price of changing Speke Garston station from its current ICT situation to a projected ICT situation, using telent's hardware request form as the basis for the pricing.

GAP (PROJECTED - CURRENT)	NUMBER DIFFERENCE (+/-)	COST(£)
PCs	-1	-600
TABLETS	1	1800
LAPTOPS	-1	-780
DOCKING STATIONS	-1	-120
MONITORS	-2	-240
PROJECTORS%	0	0
OTHER	-1	N/A
TOTAL	-5	60

DEVICE	UNIT PRICE (EXC. SERVICE, £)
PC	600
TABLET	1800
LAPTOP	780
DOCKING STATION	120
MONITOR	120
PROJECTOR	950
OTHER	N/A

Figure 3: The Gap Analysis of Speke Garston with telent Price List

Overall Station Gap Analysis

STATION	APPLIANCES	RETAINED APPLIANCES	WT/DC/24/LLAR	TOTAL PERSONNEL	PCs	TABLETS	LAPTOPS	DOCKING STATIONS	MONITORS	PROJECTORS	OTHER	NET (£)
10 - Kirkdale	0	0	WT	0	-2	1	-1	-1	-2	-2	0	-2440
11 - City Centre	0	0	WT	0	-1	5	-1	3	3	1	0	9290
12 - Kensington	0	0	DC	0	0	1	-2	-2	-2	-1	0	-1190
14 - Speke Garston	0	0	WT	0	-1	1	-1	-1	-2	0	-1	60
15 - Toxteth	0	0	WT	0	-6	2	-4	-9	-12	0	-6	-5640
16 - Old Swan	0	0	WT	0	-2	0	0	-1	-3	-1	-1	-2630
17 - Belle Vale	0	0	LLAR	0	-19	16	-5	-5	15	0	0	14700
18 - Aintree	0	0	DC	0	0	2	0	-1	-1	0	0	3360
19 - Croxteth	0	0	24	0	-2	4	-2	-2	-2	0	0	3960
20 - Birkenhead	0	0	24	0	-6	2	-3	-2	-6	-2	0	-5200
21 - Bromborough	0	0	24	0	-1	2	-2	-1	-2	0	-1	1080
22 - Heswall	0	0	LLAR	0	0	2	-5	-1	-1	0	0	-540
23 - Upton	0	0	24	0	0	3	-1	-1	-1	0	-2	4380
24 - West Kirby	0	0	0	0	0	0	0	0	0	0	0	0
25 - Wallasey	0	0	24	0	-16	12	-6	8	-8	0	0	7320
30 - Bootle & Netherton	0	0	WT	0	-20	11	-2	9	-7	0	-8	6480
31 - Crosby	0	0	WT	0	0	2	0	-1	-1	0	0	3360
32 - Formby	0	0	LLAR	0	-2	2	-5	0	-1	-1	0	-2570
33 - Southport	0	0	WT	0	-4	3	0	-1	-4	0	-4	2400
40 - Huyton	0	0	24	0	-4	5	0	3	-1	1	-1	7790
41 - Whiston	0	0	0	0	0	0	0	0	0	0	0	0
42 - Kirkby	0	0	24	0	-2	1	-1	-2	-3	0	-2	-780
50 - St Helens	0	0	24	0	-8	16	-2	12	-3	1	-4	24470
51 - Newton Le Willows	0	0	LLAR	0	-1	2	-5	0	1	-1	0	-1730
52 - Eccleston	0	0	24	0	1	2	0	0	1	0	-1	4320
Marine Fire Unit	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0		0	-96	97	-48	4	-42	-5	-31	70250

Figure 4: Overall Station Gap Analysis

Discussion and Additional Information

It is **strongly recommended** that this report be read in conjunction with the **Role-based Resources report[4]**, the **main report ('The Dynamic ICT Standardisation Model')** and the **spreadsheet ('DISM', AKA Appendix 1)** which contains the DISM model/calculator, because numerous observations, exceptions, caveats and parameters are discussed which help qualify the results displayed above. In *summary*:

- The provision of new tablets per appliance is as follows: two per full-time appliance and one per retained appliance. Budget permitting, these will be Panasonic ToughPads
- The forthcoming provision of tablets for Prevention and Protection is likely to consist of the Surface Pro. For both tablet types we need to learn more of what managers would like on the tablets (apps, features, etc.); an Area Manager (AM) has already been consulted
- Future innovations need to be considered when thinking about ICT provision at stations (such as card payment readers for staff who sell/fit smoke alarms, methods of clocking-in, Skype and accessibility). Given the focus on collaboration, there is likely to be some usage of MFRS ICT resources by the police (MP), and perhaps even North West Ambulance Service (NWAS), at stations such as the Wi-Fi, switches, conference rooms and internet cables. This may equally allow MFRS access to extra ICT resources
- West Kirby, Whiston and Marine were not included in the statistical part of the study
- LLAR houses and their corresponding leisure ICT requirements are currently being renegotiated
- There are relationships between the Station situation and the other situations discussed in this study (i.e. Incidents, Service Headquarters [SHQ], the Training and Development Academy [TDA] and Vesty 1 [Workshop])
- Some ICT is not included in this study or included in discussion but not in the *statistical* analysis, such as mobile telephones, MDTs and internet routers
- Projectors could be considered as unique because they are predominantly a shared resource. Allocation formulae is particularly complex for this ICT resource
- There are reliability concerns pertaining to some of the data used (e.g. double counting, classifications and assumed staff locations)
- Stations are unique in that compared to the other situations, they exist as multiples, whereas there is only a single SHQ, for instance. This meant that additional statistical analysis could be undertaken for stations (i.e. mean, median, mode)
- **Staff distribution depends on the situation under discussion. Predictably, operational staff are typically present in the Station situation, while non-operational staff – many of whom are nevertheless qualified in operational behaviour – are present in small numbers and high level managers are, justifiably, very rarely or never present**
- Community rooms are a benefit for firefighters when they are not being used because firefighters can use the ICT resources present there
- DC stations may need to have additional ICT resources because they have no 'evening' and there is potential for a 'choke point' when all firefighters need to use finite ICT resources at the same time
- The medium of Excel limits the performance of the DISM model
- The main document also gives further information on how to use the DISM model/calculator

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[4] Loc. Cit., Rice, Role-based Resourcing.

References

Rice, M., <u>Role-based Resourcing</u>, MFRS, 02.02.2017.