EXECUTIVE WFM CASE STUDY · PROJECT 02

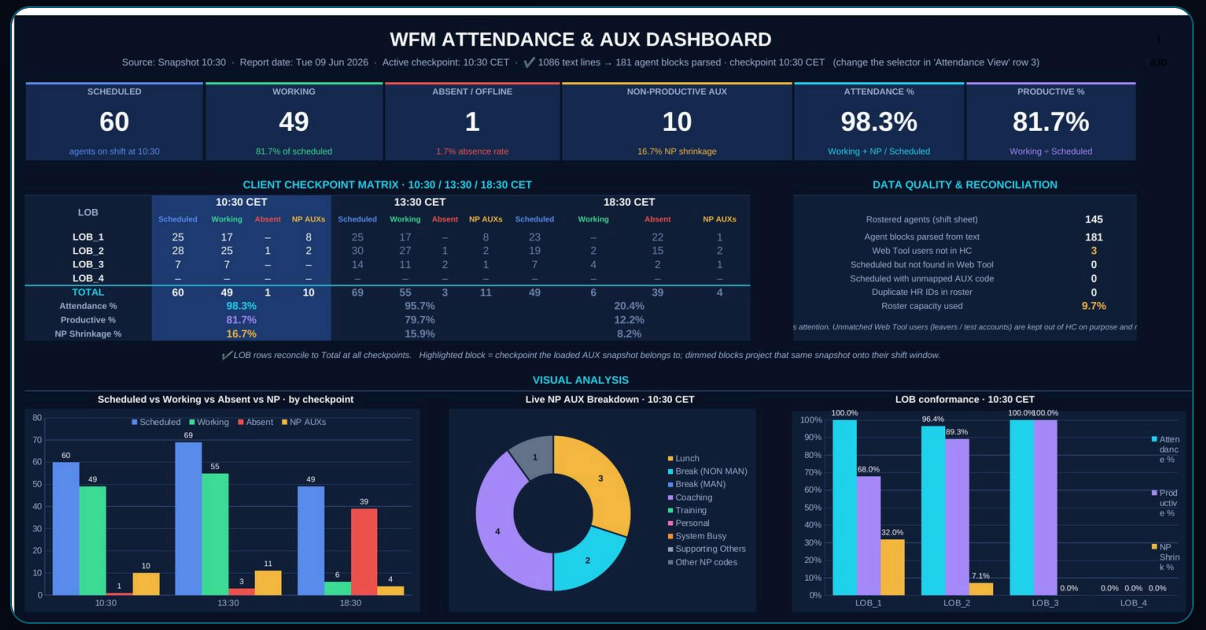
Back-Office Intraday Attendance & Live AUX Extraction Engine

100% Native Excel · Zero VBA

Marwan Shaaban | Global Real-Time Analyst

Web Tool | Advanced Excel | 100% Native Formulas | Zero VBA

168 TOTAL HC	**145** SCHEDULED ROSTER	**4 / 12** LOBS / TEAM LEADERS
3 DAILY CLIENT CHECKPOINTS	**45+ → <1** MINUTES PER REPORT	10:30 · 13:30 · 18:30 CET



Executive Dashboard · live KPI ribbon, checkpoint matrix and charts

THE OPERATIONAL CHALLENGE

The “Zero-Export” back-office blind spot

THE PROBLEM

A back-office business unit ran on a **single web tool** with **zero export capability** and **zero historical data**. Once the screen refreshed, the previous state was gone.

THE CLIENT REQUIREMENT

Strict **attendance and productive / non-productive state** reporting **three times a day**, with no tolerance for missing or late checkpoints.

THE LEGACY BOTTLENECK

A manual **Ctrl+F lookup** across published schedules for **every single agent**, three times a day, by hand.

CLIENT REPORTING CHECKPOINTS (CET)

10:30
ATTENDANCE & STATE REPORT

13:30
ATTENDANCE & STATE REPORT

18:30
ATTENDANCE & STATE REPORT

Result: **45+ minutes of manual lookups every day**, a high risk of human error, and no audit trail to prove what the floor looked like at each checkpoint.

DISCOVERY & DATA PATTERN

The 6-line web text block

Pasting the full web page text produces a **strict, repeating 6-row block per agent**. Once the pattern was clear, every agent could be decoded with formulas alone.

Line 1	**“Employee State”** constant marker that opens each agent block
Line 2	**Initials** agent initials (ignored)
Line 3	**Username + CHAR(160) + 5-digit extension** the key that is matched to the roster
Line 4	**AUX state + duration** current AUX and time in that AUX
Lines 5–6	**Counters & timestamps** not used by the model

The delimiter is a **non-breaking space**, UNICHAR(160), not a normal space. That is why ordinary text splitting fails and TEXTBEFORE / TEXTAFTER succeed.



▼ PASTE WEB TOOL PAGE TEXT HERE (Ctrl+A, Ctrl+C on the web tool → paste in P5)

Web Tool Extraction (drop zone)	Line #	Active Text	# Setup	Pack	Agent	EXT	2# Setup	Pack 2	Duration	AUXs	In HC?
Employee State	1	Employee State	3	Dummy_USR 27 29137	Dummy_USR 27	29137	4	Offline · 21:00:02	21:00:02	Offline	Y
DA	2	DA	9	Dummy_USR 33 29135	Dummy_USR 33	29135	10	Offline · 4:20:58:41	4:20:58:41	Offline	Y
Dummy_USR 27 29137	3	Dummy_USR 27 29137	15	Dummy_USR 85 20123	Dummy_USR 85	20123	16	Offline · 14:00:11	14:00:11	Offline	Y
Offline · 21:00:02	4	Offline · 21:00:02	21	Dummy_USR 38 20248	Dummy_USR 38	20248	22	Available · 01:15	01:15	Available	Y
0 0 0	5	0 0 0	27	Dummy_USR 152 25260	Dummy_USR 152	25260	28	Offline · 15:21:50	15:21:50	Offline	Y
00:00:00 00:00:00 --:--:--	6	00:00:00 00:00:00 --:--:--	33	Dummy_USR 125 25193	Dummy_USR 125	25193	34	Offline · 13:59:28	13:59:28	Offline	Y
Employee State	7	Employee State	39	Dummy_USR 168 25263	Dummy_USR 168	25263	40	Offline · 13:58:54	13:58:54	Offline	Y
DA	8	DA	45	Dummy_USR 167 25250	Dummy_USR 167	25250	46	Offline · 13:59:55	13:59:55	Offline	Y
Dummy_USR 33 29135	9	Dummy_USR 33 29135	51	Dummy_USR 166 25246	Dummy_USR 166	25246	52	Offline · 8:14:00:35	8:14:00:35	Offline	Y
Offline · 4:20:58:41	10	Offline · 4:20:58:41	57	Dummy_USR 165 25256	Dummy_USR 165	25256	58	Unknown		Unknown	Y
0 0 0	11	0 0 0	63	Dummy_USR 164 25253	Dummy_USR 164	25253	64	Unknown		Unknown	Y
00:00:00 00:00:00 --:--:--	12	00:00:00 00:00:00 --:--:--	69	Dummy_USR 163 25264	Dummy_USR 163	25264	70	Offline · 15:29:25	15:29:25	Offline	Y
Employee State	13	Employee State	75	Dummy_USR 162 25254	Dummy_USR 162	25254	76	Offline · 13:59:27	13:59:27	Offline	Y
DA	14	DA	81	Dummy_USR 161 25247	Dummy_USR 161	25247	82	Offline · 1:13:59:55	1:13:59:55	Offline	Y
Dummy_USR 85 20123	15	Dummy_USR 85 20123	87	Dummy_USR 160 25262	Dummy_USR 160	25262	88	Offline · 13:59:40	13:59:40	Offline	Y
Offline · 14:00:11	16	Offline · 14:00:11	93	Dummy_USR 159 25241	Dummy_USR 159	25241	94	Unknown		Unknown	Y
0 0 0	17	0 0 0	99	Dummy_USR 158 25267	Dummy_USR 158	25267	100	Offline · 14:00:12	14:00:12	Offline	Y
00:00:00 00:00:00 --:--:--	18	00:00:00 00:00:00 --:--:--	105	Dummy_USR 157 25249	Dummy_USR 157	25249	106	Offline · 13:59:56	13:59:56	Offline	Y
Employee State	19	Employee State	111	Dummy_USR 156 25257	Dummy_USR 156	25257	112	Offline · 13:59:56	13:59:56	Offline	Y
DA	20	DA	117	Dummy_USR 155 25258	Dummy_USR 155	25258	118	Unknown		Unknown	Y
Dummy_USR 38 20248	21	Dummy_USR 38 20248	123	Dummy_USR 154 25240	Dummy_USR 154	25240	124	Unknown		Unknown	Y
Available · 01:15	22	Available · 01:15	129	Dummy_USR 153 25244	Dummy_USR 153	25244	130	Offline · 13:58:37	13:58:37	Offline	Y
3 2 3	23	3 2 3	135	Dummy_USR 171 28037	Dummy_USR 171	28037	136	Break (NON MAN) · 04:38	04:38	Break (NON MAN)	N
02:24:30 00:00:00 9 June 2026 10:12 · 01:47:49	24	02:24:30 00:00:00 9 June 2026 10:12 · 01:47:49	141	Dummy_USR 151 25266	Dummy_USR 151	25266	142	Unknown		Unknown	Y

Raw drop zone in Attendance View (column P) and the parsed columns



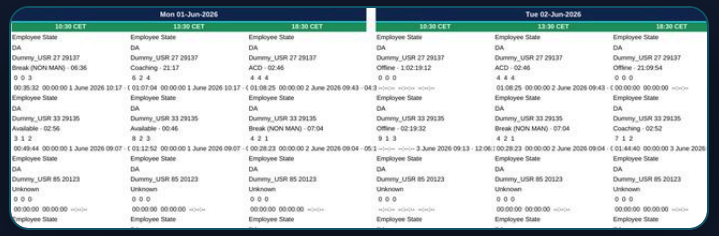
Extraction History: the audit trail of every pasted snapshot

NATIVE EXCEL ARCHITECTURE

The 6-layer data flow

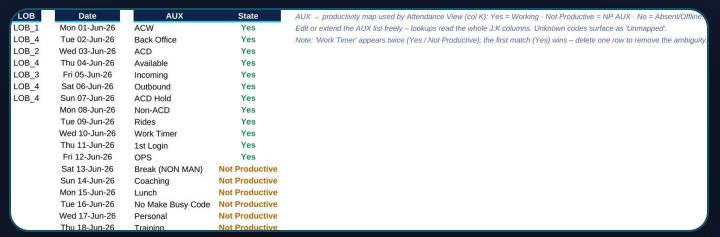
1 Extraction History

90-column monthly audit archive of every checkpoint snapshot



2 RAW Data

24-code AUX taxonomy: Working = Yes, NP AUX = Not Productive, Absent = No



LOB	Date	AUX	State
LOB_1	Mon 01-Jun-26	ACW	Yes
LOB_4	Tue 02-Jun-26	Back Office	Yes
LOB_2	Wed 03-Jun-26	ACD	Yes
LOB_4	Thu 04-Jun-26	Available	Yes
LOB_3	Fri 05-Jun-26	Incoming	Yes
LOB_4	Sat 06-Jun-26	Outbound	Yes
LOB_4	Sun 07-Jun-26	ACD Hold	Yes
	Mon 08-Jun-26	Non-ACD	Yes
	Tue 09-Jun-26	Rides	Yes
	Wed 10-Jun-26	Work Timer	Yes
	Thu 11-Jun-26	1st Login	Yes
	Fri 12-Jun-26	OPS	Yes
	Sat 13-Jun-26	Break (NON MAN)	Not Productive
	Sun 14-Jun-26	Coaching	Not Productive
	Mon 15-Jun-26	Lunch	Not Productive
	Tue 16-Jun-26	No Make Busy Code	Not Productive
	Wed 17-Jun-26	Personal	Not Productive
	Thu 18-Jun-26	Training	Not Productive

AUX → productivity map used by Attendance View (col K): Yes = Working · Not Productive = NP AUX · No = Absent/Offline.
Edit or extend the AUX list freely – lookups read the whole J:K columns. Unknown codes surface as 'Unmapped'.
Note: 'Work Timer' appears twice (Yes / Not Productive); the first match (Yes) wins – delete one row to remove the ambiguity.

3 HC

Roster mapping master: HR ID, agent, web tool username, manager, LOB, extension



HR_ID	Agent_Name	Tool Username	MANAGER_FULL_NA	LOB	EXT
100001	Dummy_AG 1	Dummy_USR 1	Dummy_TL 1	LOB_1	29016
100002	Dummy_AG 2	Dummy_USR 2	Dummy_TL 2	LOB_2	20041
100003	Dummy_AG 3	Dummy_USR 3	Dummy_TL 3	LOB_3	29144
100004	Dummy_AG 4	Dummy_USR 4	Dummy_TL 2	LOB_2	20042
100005	Dummy_AG 5	Dummy_USR 5	Dummy_TL 4	LOB_1	29504
100006	Dummy_AG 6	Dummy_USR 6	Dummy_TL 3	LOB_3	20526
100007	Dummy_AG 7	Dummy_USR 7	Dummy_TL 2	LOB_2	20601
100008	Dummy_AG 8	Dummy_USR 8	Dummy_TL 5	LOB_2	20606
100009	Dummy_AG 9	Dummy_USR 9	Dummy_TL 5	LOB_2	20603
100010	Dummy_AG 10	Dummy_USR 10	Dummy_TL 6	LOB_2	20095

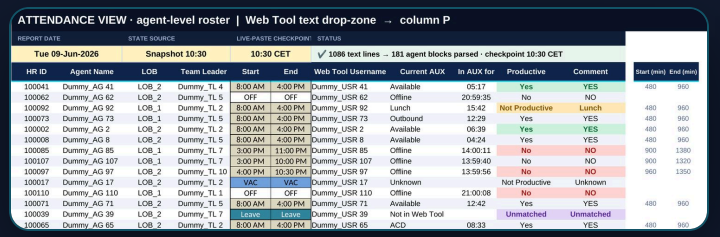
4 Agents Shift

Published weekly schedules with start and end per day



5 Attendance View

Text-parsing engine and snapshot selector



6 Dashboard

Executive KPI ribbon, checkpoint matrix and charts



Extraction History → RAW Data → HC → Agents Shift → **Attendance View** → **Dashboard** · everything is a plain formula, so each paste flows through all six layers automatically.

FORMULA ENGINEERING SHOWCASE

Parsing text without macros

1 · Sequence stepping

```
# Setup = previous + 6
→ rows 3, 9, 15, 21 …
```

Each agent block starts 6 rows after the last, so a simple counter addresses every block.

2 · Block fetch

```
=XLOOKUP($S5,$Q$5:$Q$9104,
 $R$5:$R$9104,"")
```

Pulls the active text of the block that starts at # Setup.

3 · Robust splitting

```
=TEXTBEFORE($T5,UNICHAR(160),1)
=TEXTAFTER($T5,UNICHAR(160),1)
```

Splits on the non-breaking space: username on the left, extension on the right.

4 · Shift lookup

```
=INDEX('Agents Shift'!$F:$S,
 MATCH($A5,'Agents Shift'!$B:$B,0),$AE$3)
```

Matches the agent to the selected report date and returns the published shift.

5 · Active shift check

```
COUNTIFS(LOB, …, Start, "<="&T,
 End, ">"&T)  → Start ≤ T < End
```

Only agents whose shift covers the checkpoint minute (T) count as scheduled.

6 · Dynamic references

```
=XLOOKUP($G5,$U:$U,$Z:$Z,
 "Not in Web Tool")
```

Whole-column references scale automatically as headcount grows.

LIVE ROSTER & SNAPSHOT ARCHIVE

Switch between live paste and saved snapshots

ATTENDANCE VIEW · agent-level roster | Web Tool text drop-zone → column P

REPORT DATE	STATE SOURCE	LIVE-PASTE CHECKPOINT	STATUS
Tue 09-Jun-2026	Snapshot 10:30	10:30 CET	✔ 1086 text lines → 181 agent blocks parsed · checkpoint 10:30 CET

HR ID	Agent Name	LOB	Team Leader	Start	End	Web Tool Username	Current AUX	In AUX for	Productive	Comment	Start (min)	End (min)
100041	Dummy_AG 41	LOB_2	Dummy_TL 4	8:00 AM	4:00 PM	Dummy_USR 41	Available	05:17	Yes	YES	480	960
100062	Dummy_AG 62	LOB_2	Dummy_TL 5	OFF	OFF	Dummy_USR 62	Offline	20:59:35	No	NO		
100092	Dummy_AG 92	LOB_1	Dummy_TL 2	8:00 AM	4:00 PM	Dummy_USR 92	Lunch	15:42	Not Productive	Lunch	480	960
100073	Dummy_AG 73	LOB_1	Dummy_TL 5	8:00 AM	4:00 PM	Dummy_USR 73	Outbound	12:29	Yes	YES	480	960
100002	Dummy_AG 2	LOB_2	Dummy_TL 2	8:00 AM	4:00 PM	Dummy_USR 2	Available	06:39	Yes	YES	480	960
100008	Dummy_AG 8	LOB_2	Dummy_TL 5	8:00 AM	4:00 PM	Dummy_USR 8	Available	04:24	Yes	YES	480	960
100085	Dummy_AG 85	LOB_1	Dummy_TL 7	3:00 PM	11:00 PM	Dummy_USR 85	Offline	14:00:11	No	NO	900	1380
100107	Dummy_AG 107	LOB_1	Dummy_TL 7	3:00 PM	10:00 PM	Dummy_USR 107	Offline	13:59:40	No	NO	900	1320
100097	Dummy_AG 97	LOB_2	Dummy_TL 10	4:00 PM	10:30 PM	Dummy_USR 97	Offline	13:59:56	No	NO	960	1350
100017	Dummy_AG 17	LOB_2	Dummy_TL 2	VAC	VAC	Dummy_USR 17	Unknown		Not Productive	Unknown		
100110	Dummy_AG 110	LOB_1	Dummy_TL 1	OFF	OFF	Dummy_USR 110	Offline	21:00:08	No	NO		
100071	Dummy_AG 71	LOB_2	Dummy_TL 5	8:00 AM	4:00 PM	Dummy_USR 71	Available	12:42	Yes	YES	480	960
100039	Dummy_AG 39	LOB_2	Dummy_TL 7	Leave	Leave	Dummy_USR 39	Not in Web Tool		Unmatched	Unmatched		
100065	Dummy_AG 65	LOB_2	Dummy_TL 2	8:00 AM	4:00 PM	Dummy_USR 65	ACD	08:33	Yes	YES	480	960
100025	Dummy_AG 25	LOB_3	Dummy_TL 3	1:00 PM	9:00 PM	Dummy_USR 25	1st Login	06:46	Yes	YES	780	1260
100012	Dummy_AG 12	LOB_2	Dummy_TL 6	Leave	Leave	Dummy_USR 12	Not in Web Tool		Unmatched	Unmatched		
100007	Dummy_AG 7	LOB_2	Dummy_TL 2	8:00 AM	4:00 PM	Dummy_USR 7	Available	13:51	Yes	YES	480	960
100079	Dummy_AG 79	LOB_1	Dummy_TL 8	9:00 AM	4:00 PM	Dummy_USR 79	Lunch	13:55	Not Productive	Lunch	540	960
100072	Dummy_AG 72	LOB_1	Dummy_TL 8	3:00 PM	11:00 PM	Dummy_USR 72	Offline	3:13:58:46	No	NO	900	1380
100063	Dummy_AG 63	LOB_1	Dummy_TL 2	8:00 AM	4:00 PM	Dummy_USR 63	Available	06:29	Yes	YES	480	960
100115	Dummy_AG 115	LOB_2	Dummy_TL 8	3:00 PM	11:00 PM	Dummy_USR 115	Offline	1:13:59:48	No	NO	900	1380
100108	Dummy_AG 108	LOB_1	Dummy_TL 10	3:00 PM	11:00 PM	Dummy_USR 108	Offline	1:13:59:04	No	NO	900	1380
100044	Dummy_AG 44	LOB_2	Dummy_TL 8	3:00 PM	11:00 PM	Dummy_USR 44	Offline	14:00:05	No	NO	900	1380
100152	Dummy_AG 152	LOB_2	Dummy_TL 12	3:00 PM	11:00 PM	Dummy_USR 152	Offline	15:21:50	No	NO	900	1380

Attendance View · Tue 09-Jun-2026 · Snapshot 10:30 · 181 agent blocks parsed

The selector (row 3)

One dropdown chooses the data source for the whole workbook.

Live Paste

Processes the page text pasted in column P right now.

Snapshot 10:30 **Snapshot 13:30**

Snapshot 18:30

Reloaded straight from Extraction History, with no re-pasting.

Every report, KPI and chart follows the selector, so any past checkpoint can be re-opened and re-sent in seconds.

CLIENT CHECKPOINT MATRIX · 10:30 CET

Reconciled at every checkpoint



CLIENT CHECKPOINT MATRIX · 10:30 / 13:30 / 18:30 CET

LOB	10:30 CET				13:30 CET				18:30 CET			
	Scheduled	Working	Absent	NP AUXs	Scheduled	Working	Absent	NP AUXs	Scheduled	Working	Absent	NP AUXs
LOB_1	25	17	–	8	25	17	–	8	23	–	22	1
LOB_2	28	25	1	2	30	27	1	2	19	2	15	2
LOB_3	7	7	–	–	14	11	2	1	7	4	2	1
LOB_4	–	–	–	–	–	–	–	–	–	–	–	–
TOTAL	60	49	1	10	69	55	3	11	49	6	39	4
Attendance %		98.3%				95.7%				20.4%		
Productive %		81.7%				79.7%				12.2%		
NP Shrinkage %		16.7%				15.9%				8.2%		

DATA QUALITY & RECONCILIATION

Rostered agents (shift sheet)	145
Agent blocks parsed from text	181
Web Tool users not in HC	3
Scheduled but not found in Web Tool	0
Scheduled with unmapped AUX code	0
Duplicate HR IDs in roster	0
Roster capacity used	9.7%

s attention. Unmatched Web Tool users (leavers / test accounts) are kept out of HC on purpose and r

Client Checkpoint Matrix · 10:30 / 13:30 / 18:30 CET across LOB_1 to LOB_4 and Data Quality & Reconciliation panel

60
SCHEDULED

49
WORKING

1
ABSENT

10
NP AUXS

98.3%
ATTENDANCE

81.7%
PRODUCTIVE

16.7%
NP SHRINKAGE

LOB rows reconcile to the total at all checkpoints.

Data quality & reconciliation

Rostered agents 145 · Blocks parsed 181

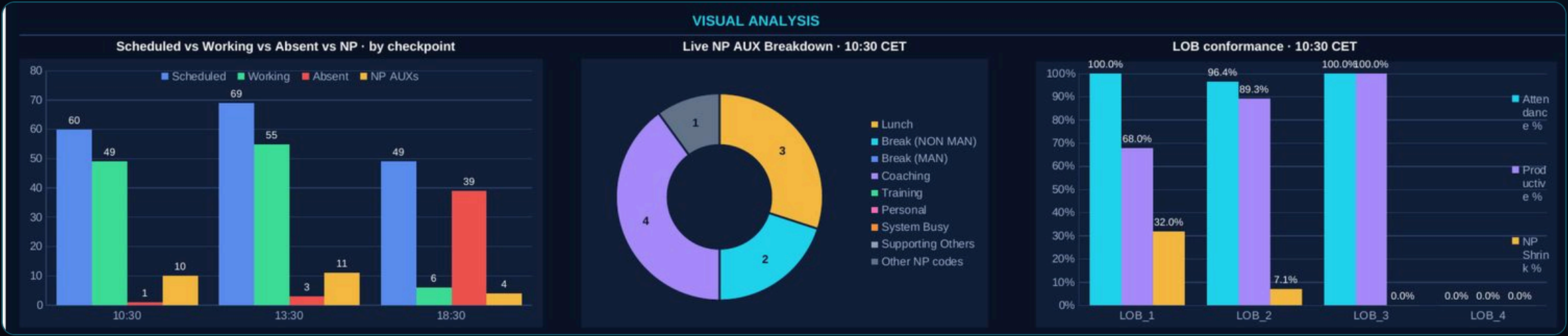
Web Tool users not in HC: **3** (leavers / test accounts)

Unmapped AUX codes 0 · Duplicate IDs 0

Roster capacity used 9.7%

VISUAL ANALYSIS

NP AUX shrinkage, made visible



Scheduled vs Working vs Absent vs NP · Live NP AUX breakdown · LOB conformance

Checkpoint staffing

10:30 → 60 / 49 / 1 / 10
13:30 → 69 / 55 / 3 / 11
18:30 → 49 / 6 / 39 / 4
Scheduled / Working / Absent / NP

Live NP AUX breakdown

Coaching 4 · Lunch 3
Break (NON MAN) 2 · Other NP 1
10 agents in NP AUX at 10:30

LOB conformance

LOB_1: 68.0% productive, 32.0% NP
LOB_2: 89.3% productive, 7.1% NP
LOB_3: 100% productive

BUSINESS IMPACT, SCALABILITY & HANDOVER

From 45+ minutes to under one

45+ → <1

MINUTES OF DAILY MANUAL EFFORT

Manual Ctrl+F lookups replaced by a paste-and-refresh pipeline that delivers client-ready reports in seconds.

90

COLUMNS OF HISTORICAL AUDIT LOG

Extraction History keeps every snapshot, giving audit compliance the web tool never offered.

0

MACROS · IT LICENCES · SECURITY WARNINGS

100% native formulas, with automated headcount expansion. Built to scale to 1,500+ agents.

Handover-ready

The Dashboard carries a formula-engineering reference, so any analyst can maintain the engine without IT support.

6 tabs | 24 AUX codes | 3 daily checkpoints | 4 LOBs · 12 Team Leaders | Zero VBA