

HOSPITALS & MANUFACTURERS WORKSHOP

Managing surgical instrument sets better, together • 15 September 2026

Cochin Hospital field experience: managing **consignment** and **loaner** instrument sets with AnciT²

Qualification, routine deployment and first manufacturer-to-hospital loaner-set trial

D. Talon, N. Atche

Central Sterile Services Department (CSSD), Cochin Hospital
AP-HP.Centre – Université Paris Cité



AnciT² AI VISION • WEIGHING
INSTRUMENT CONTROL

Why automate surgical tray assembly?

1 Tray assembly is a critical step

Re-assembling surgical trays is a critical step in the reprocessing of reusable surgical medical devices (RSMDs).

2 Orthopaedic surgery: highest exposure

Bulky, complex instrument sets with high exposure to human error.

3 A time-consuming activity

Assembling consignment and loaner instrument sets takes considerable qualified-staff time.

REPORTED ASSEMBLY ERROR RATE

6–55%

depending on the sterilisation unit [1–3]

Multiple risks & consequences

- **Clinical:** incomplete tray in the OR impacts the surgical procedure
- **Financial:** dispute costs with the supplier if instruments are lost

Our response: decision to acquire the AnciTrak² workstation.

1. Alfred M et al. Work systems analysis of sterile processing: assembly. *BMJ Qual Saf.* 2021;30(4):271–82. · 2. Chen H et al. Incidence of adverse events in Central Sterile Supply Department: a single-center retrospective study. *Risk Manag Healthc Policy.* · 3. Zhu X et al. Errors in packaging surgical instruments based on a surgical instrument tracking system: an observational study. *BMC Health Serv Res.* 2019;19:176.

Qualification, configuration and continuous improvement

IQ / OQ / PQ protocol • February → August 2024

FEB 2024

AUG 2024

IQ

OQ

PQ

VALIDATED

IQ • OQ

**Installation & Operational
Qualification** performed by **ATH
Medical**

on a **dedicated IT network**

PQ • PERFORMANCE QUALIFICATION – 6 CRITERIA

1 Repeatability

Same operator, same conditions

2 Reproducibility

Across operators and sessions

3 Robustness

Different environments

4 Detection limits

Lower and upper limits

5 Specificity

4 baskets × 10 instruments of
the same family

6 Contamination

Water, residual soil

Detection challenges identified during PQ

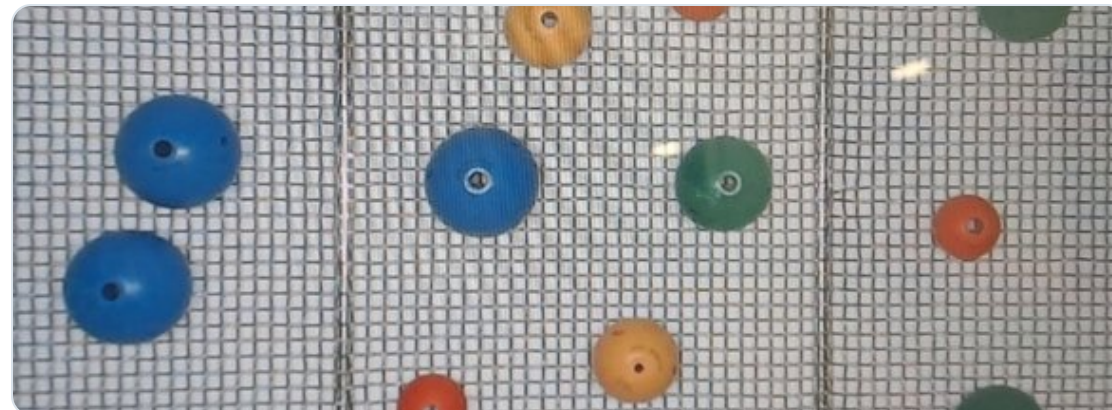
CASE A Transparent & white items



≈50%

recognition rate — **low contrast** and poor **edge segmentation** (glass, clear plastics, white on white)

CASE B Colours & chiral (left/right) shapes

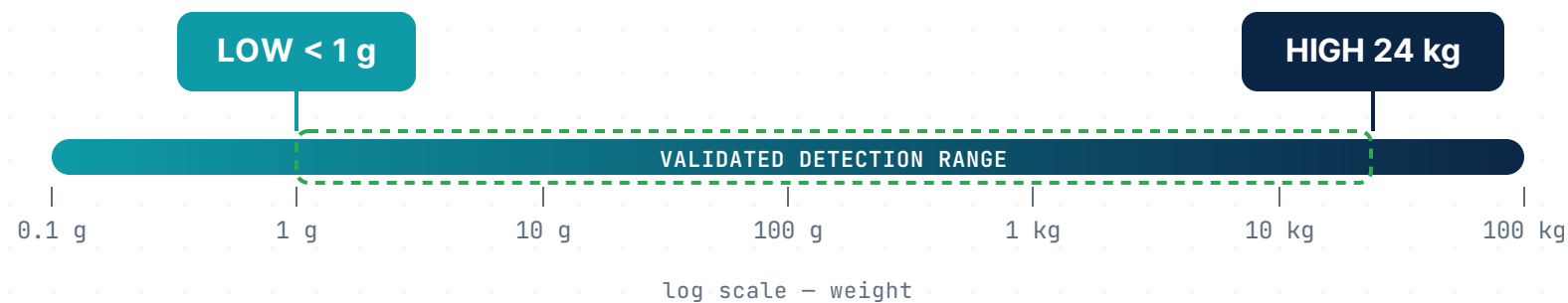


Require **several training reinforcements** (additional reference captures) to be reliably distinguished.

Detection limits by weight



Fig. Drill and pin series – lightweight instruments



LOWER LIMIT

< 1g

if the instruments in the set have **homogeneous weights**

UPPER LIMIT

24kg

maximum load on the weighing platform



Fig. Implantcast femoral spacers

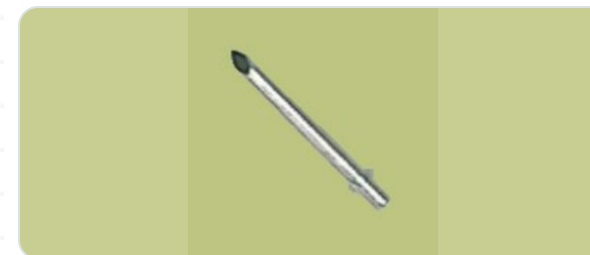


Fig. 3.2 × 3.2 headed fixation pin

Compound (multi-part) instruments



Fig. a Press positioned on the Ancitrak² imaging tray

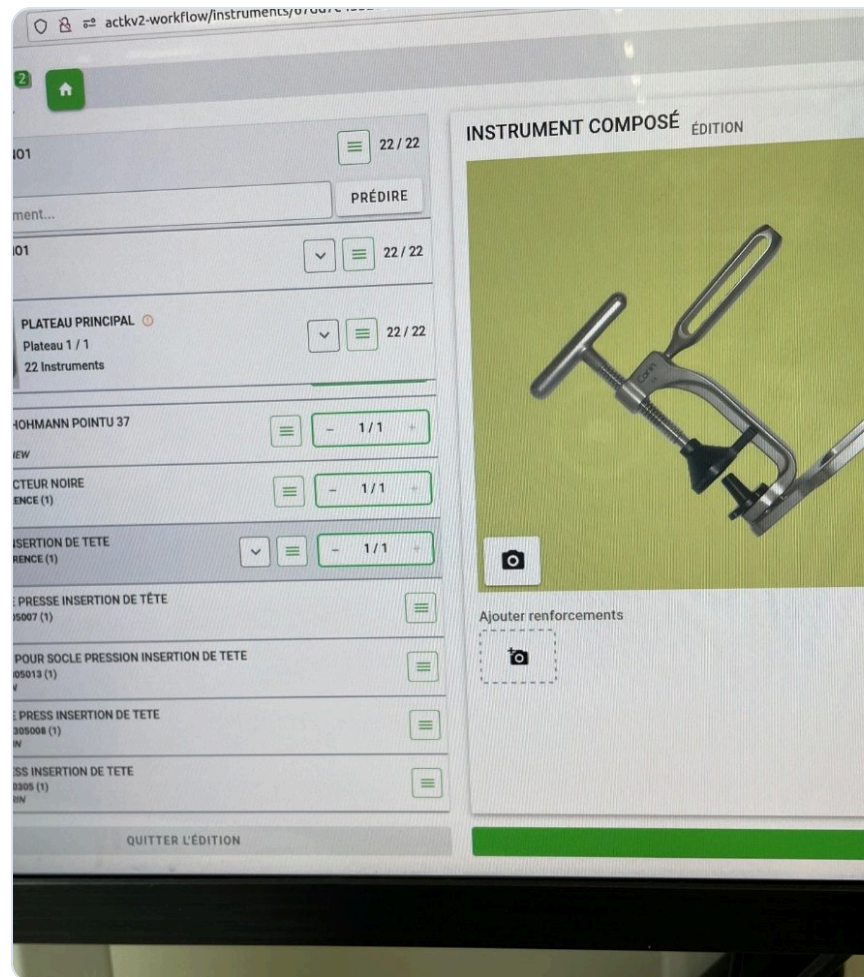


Fig. b "Compound instrument" configuration screen

EXAMPLE

4-part press

Configured as one parent instrument with 4 sub-components

- 1 Base
- 2 Base head
- 3 Press
- 4 Press head

Configuration rules established at Cochin

1 Daily start-up test

Camera + scale check to confirm the workstation is fit for use.

2 "Jewel box" tray

Small and lightweight instruments grouped in a dedicated tray.

3 One instrument at a time

Only one instrument is checked at a time.

4 Closed & reassembled

Instruments presented closed and reassembled.

5 4 to 10 reinforcements per instrument

Depending on weight, colour and shape.

6 Compound instruments as sub-assemblies

Multi-part instruments configured as a sub-set.

7 Identical labels across systems

Instrument labels strictly identical between AnciTrak² and the sterilisation traceability software (T-DOC).

Rolling out AnciTraq² in routine practice

306

instrument set boxes configured

>500

surgical trays configured

1 week

on-site training with ATH Medical support

PRE-DEPLOYMENT

MID-FEBRUARY 2026

END OF FEBRUARY 2026

1

Library build

306 set boxes (> 500 trays)
configured

2

1-week training session

Nursing assistants (NAs) & production
leads (PLs), supported by the ATH
Medical team

3

Routine use

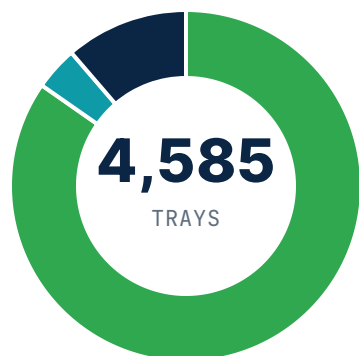
Tray assembly performed by the NAs
on AnciTraq²

Routine-use statistics

n = 4,585 surgical trays checked on AnciTrak²

FIG. 1 • WHO VALIDATED THE TRAY

HIGH TEAM AUTONOMY

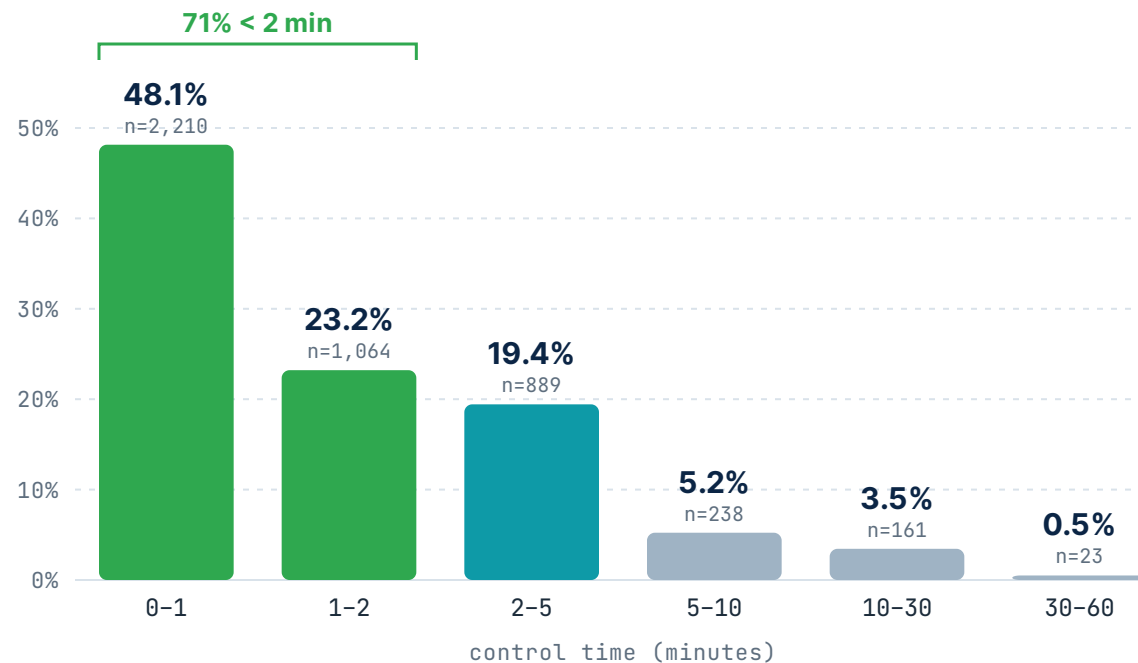


- 84.7%** n=3,885
Category A — validated by NAs alone
- 4.0%** n=181
Category B — adjusted by a production lead
- 11.3%** n=519
Category C — modified by resident / pharmacist

85% validated by NAs alone • 89% with PL supervision • pharmacist support in 11%

FIG. 2 • CONTROL TIME PER TRAY

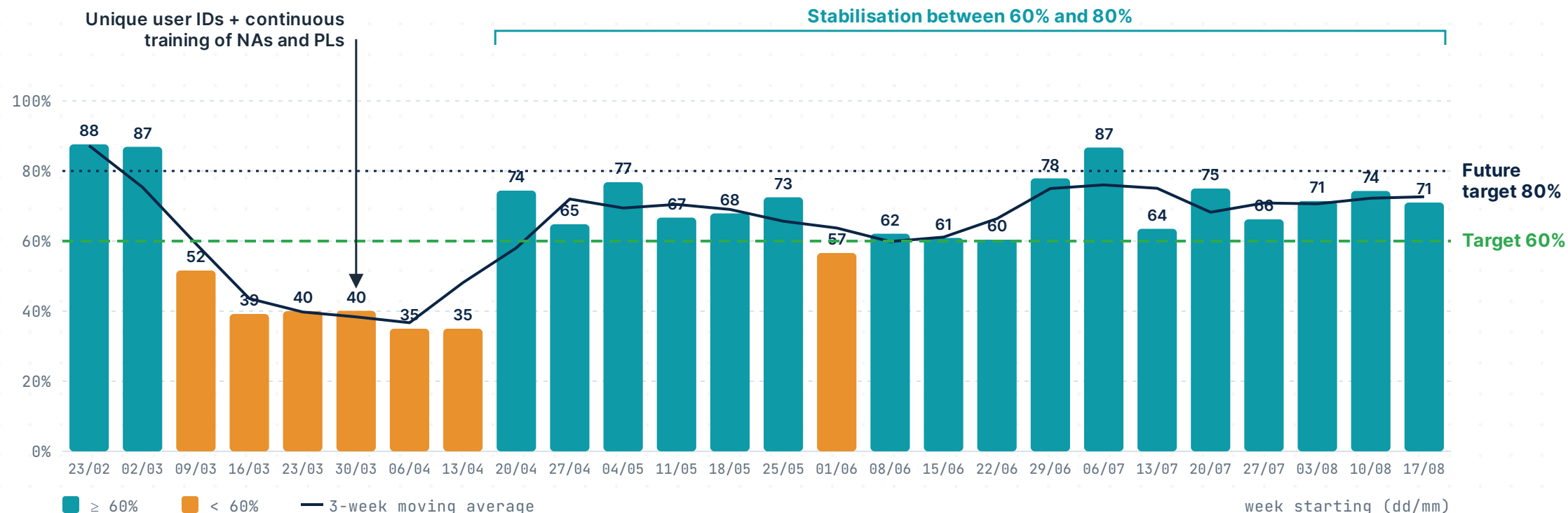
NO SLOWDOWN IN PACKAGING FLOW



71% of trays checked in under 2 minutes

Weekly adoption rate

% of AnciTrak²-tagged trays actually checked on AnciTrak² · 23 Feb → 23 Aug 2026 (26 weeks)



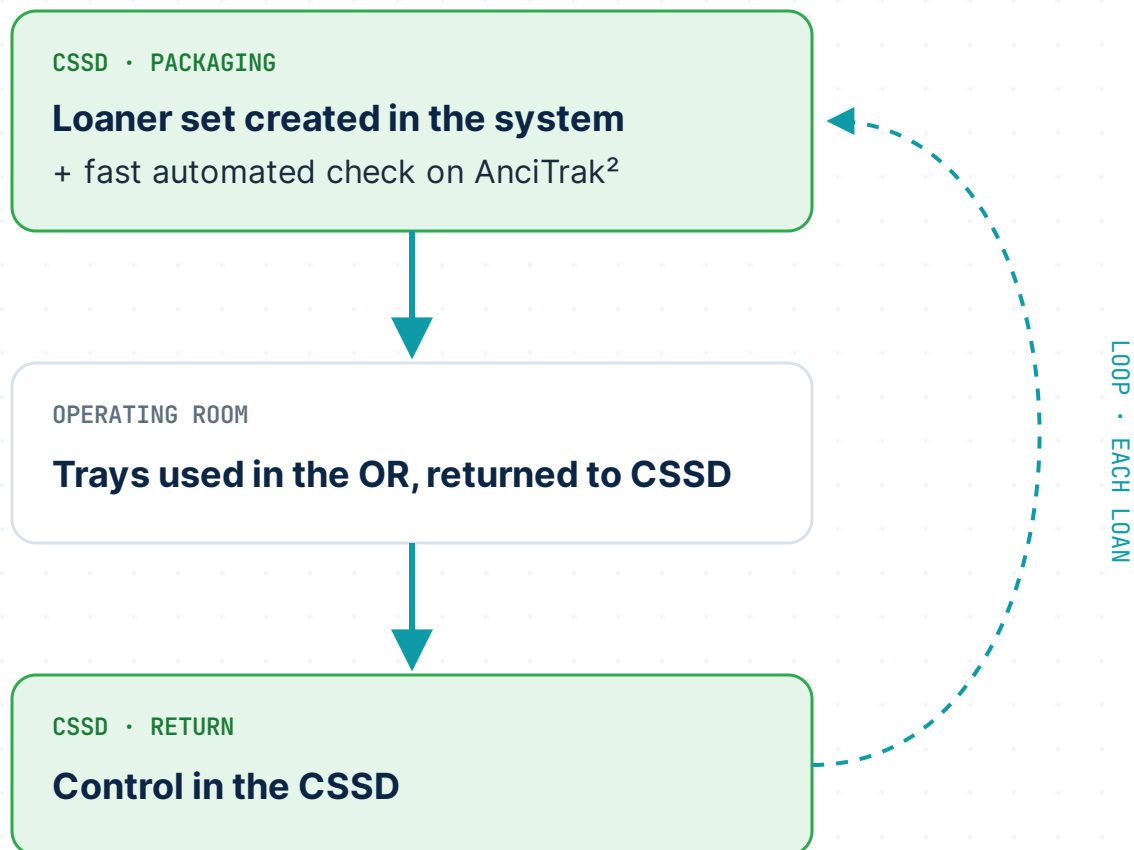
→ Routine adoption of AnciTrak² requires **continuous support of the teams**: it adds a step to the workflow and changes working practices.

SECTION 04

Loaner sets

One-off instrument loans from manufacturers — from the current workflow at Cochin to a shared, end-to-end control model.

Loaner-set control with AnciTrak² today



OVER 4 MONTHS

169

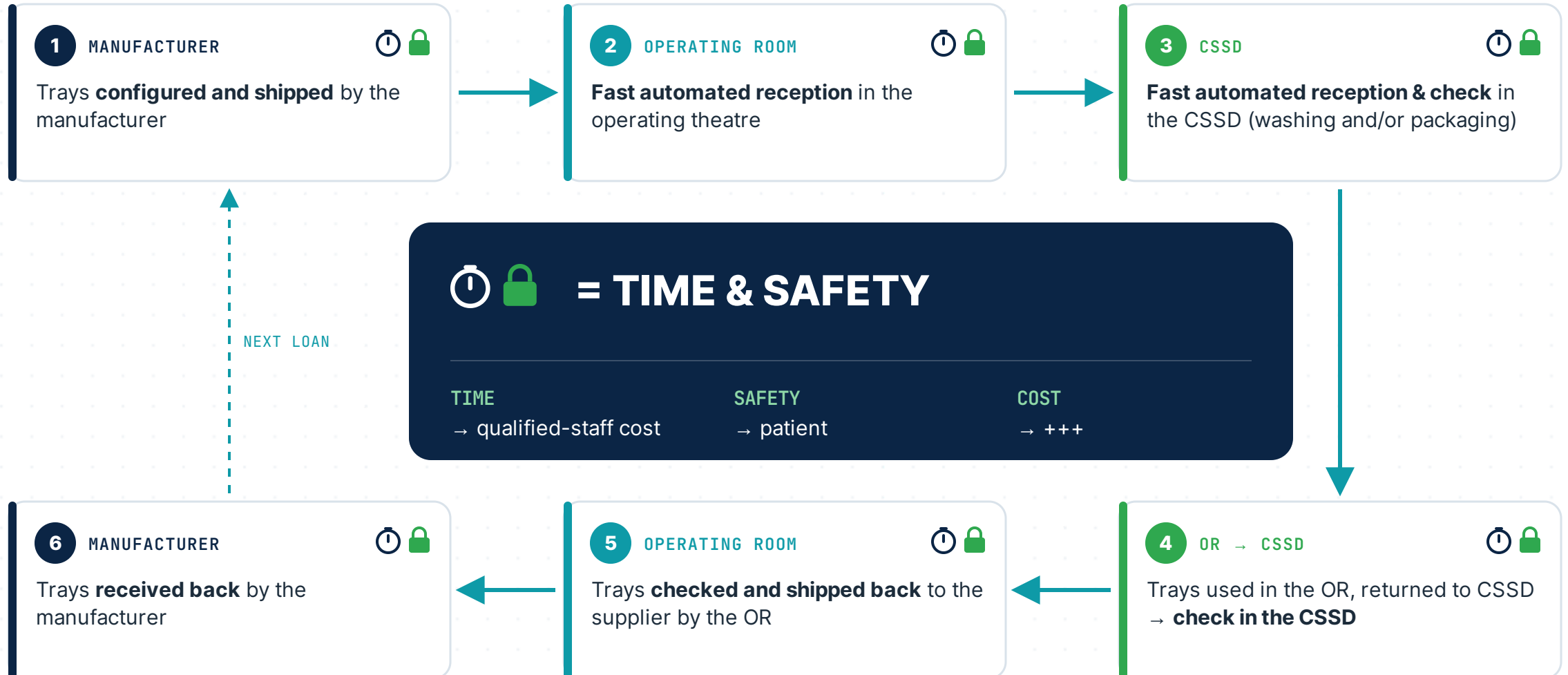
loaner sets (instrument sets)

248

surgical trays checked

End-to-end loaner-set control with AnciTrak²

A shared digital reference from manufacturer to hospital and back



Test no.1 — instrument set RK-5979-001-00

9

boxes

13

surgical trays

232

instruments

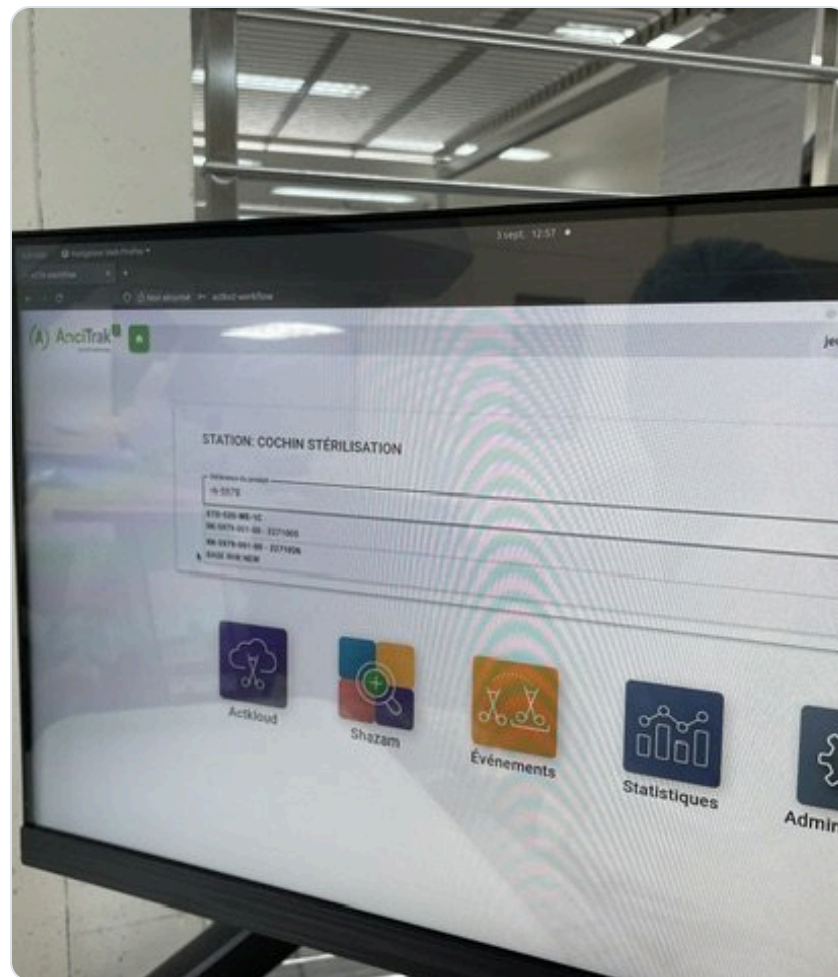


Fig. a AnciTraq² home screen at reception



Fig. b The 9 loaner boxes as received

Box 1 • 1 surgical tray • 33 instruments

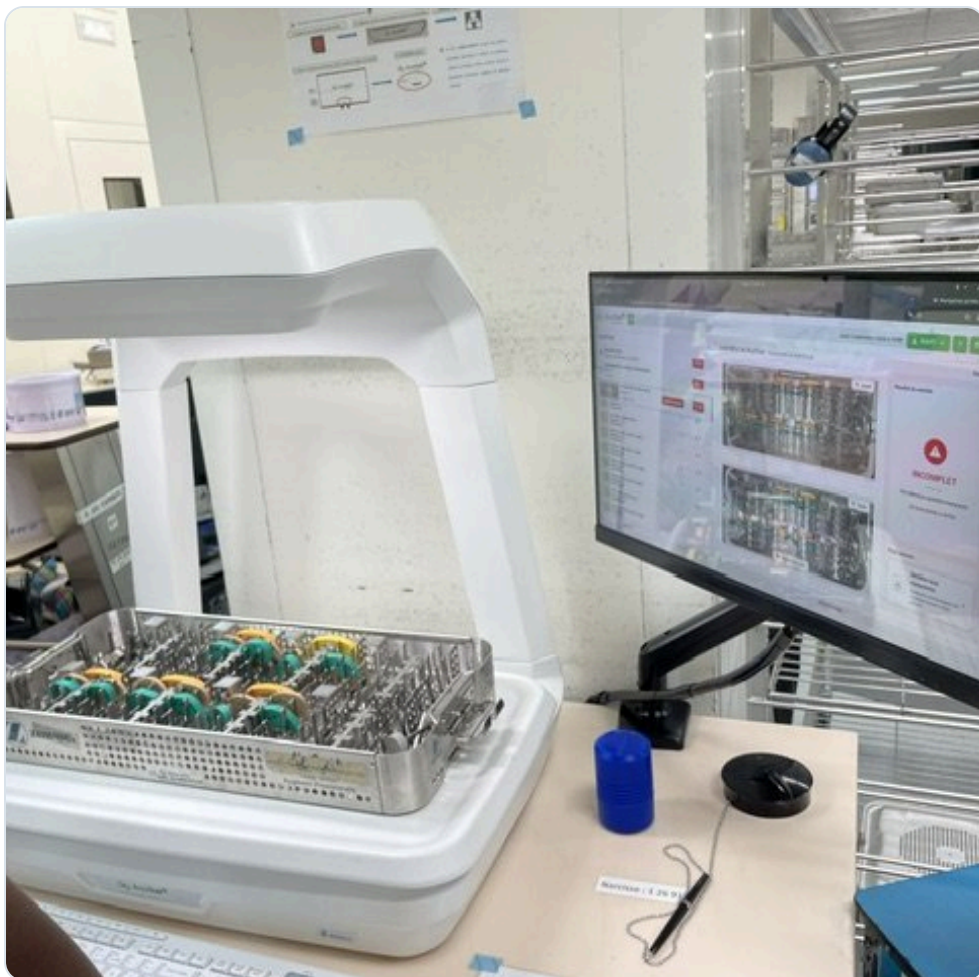


Fig. a Tray control on the workstation

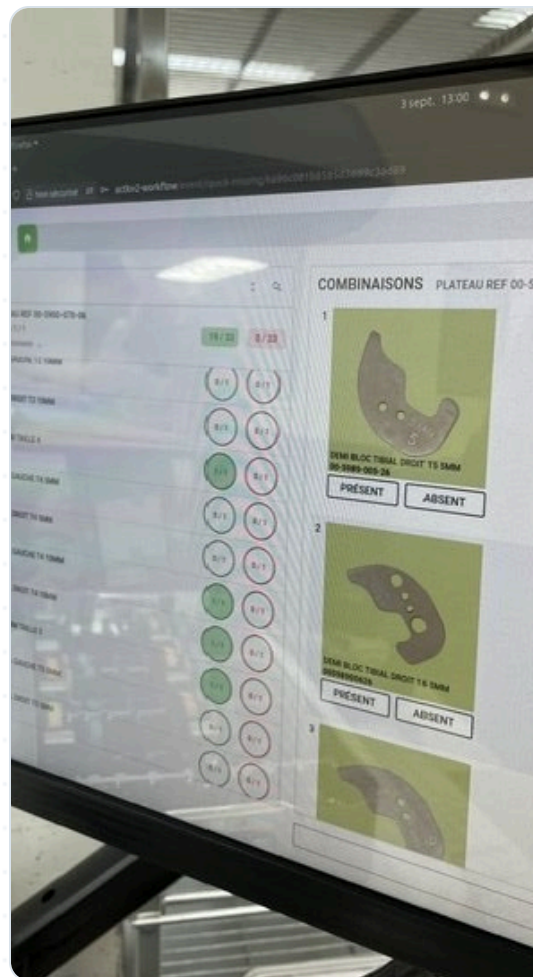


Fig. b Tibial blocks on screen

FINDING 1

10/33

instruments flagged **missing** → manually confirmed as "present", one by one.

FINDING 2 • REFERENCE MISMATCH

Configured:

00-5989-003-26

Engraved on tibial blocks:

00-5989-0326

Box 2 • 2 surgical trays

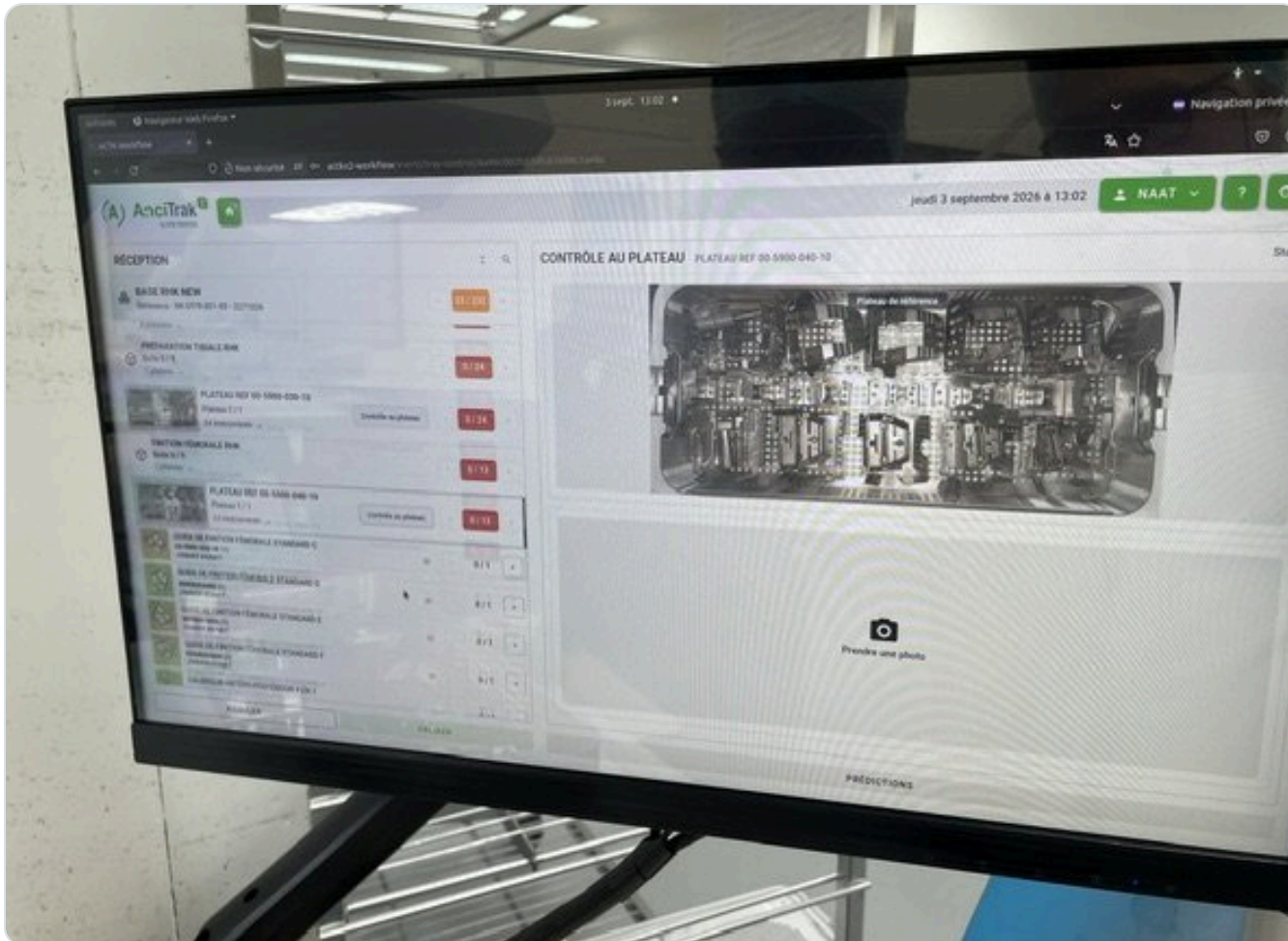


Fig. Image-based tray control on Ancitrak²

Lower tray

1 MISSING

19 instruments

1 flagged missing → **instrument identified**

Upper tray

COMPLETE

16 instruments

Complete

Box 3 • 3 surgical trays

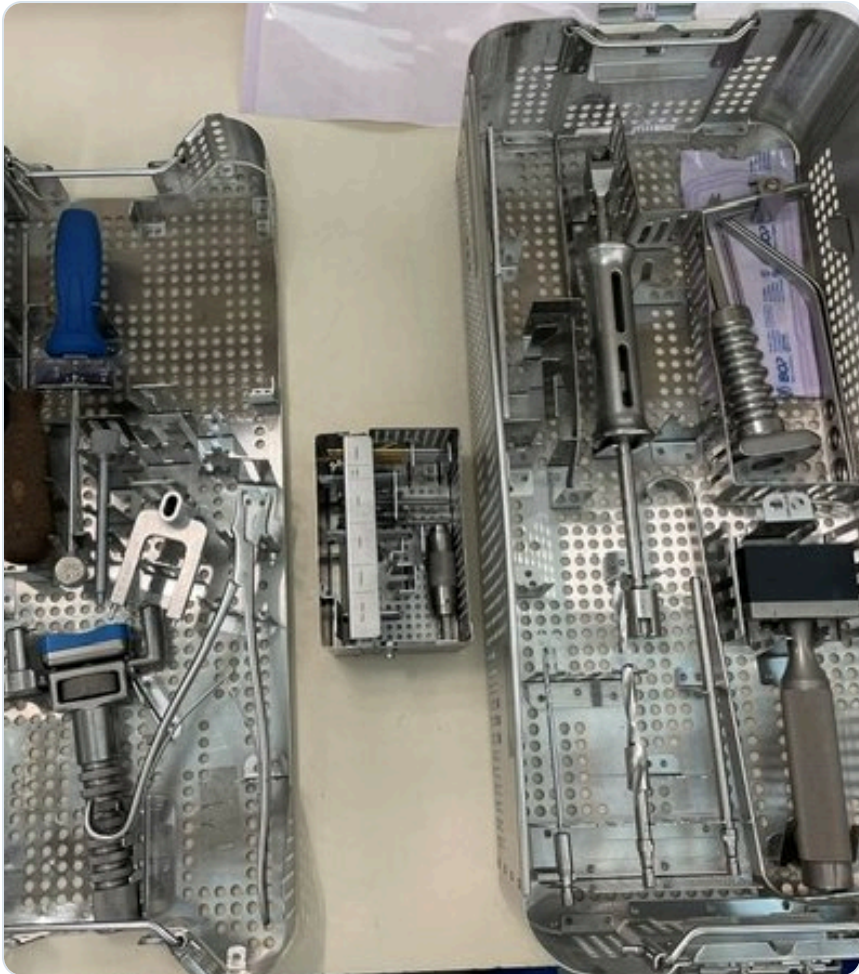


Fig. a Upper and lower trays

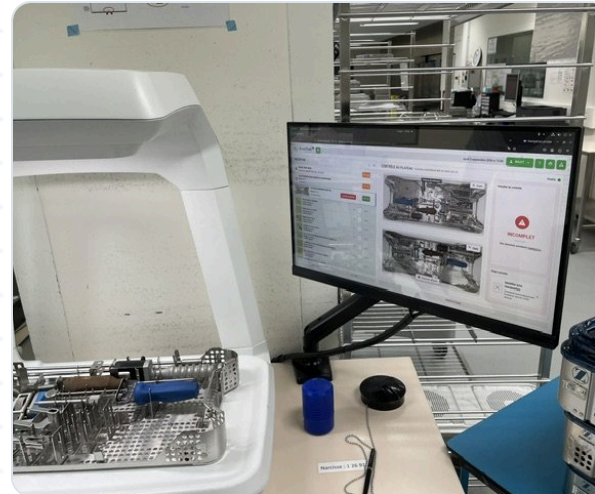


Fig. b Pin tray on the workstation

Upper tray • 10 instr.

Missing: universal chuck

INCOMPLETE

Lower tray • 13 instr.

COMPLETE

Pin tray

NON-COMPLIANT

Box 3 — pin tray: root cause found

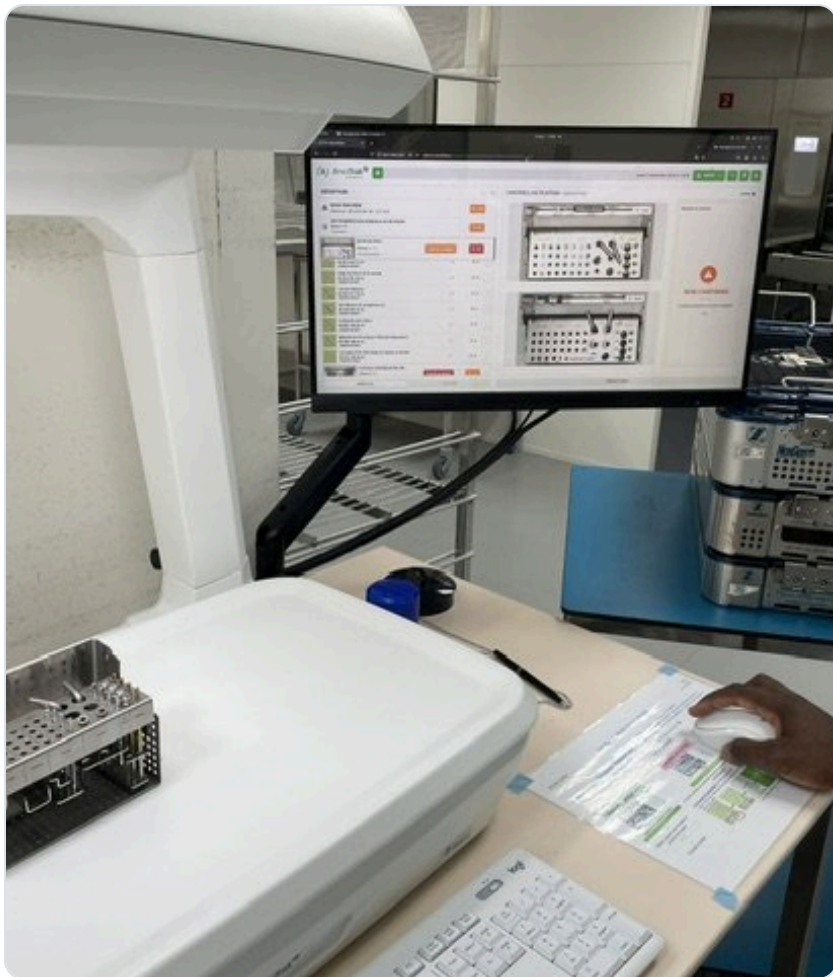


Fig. a Pin tray under control

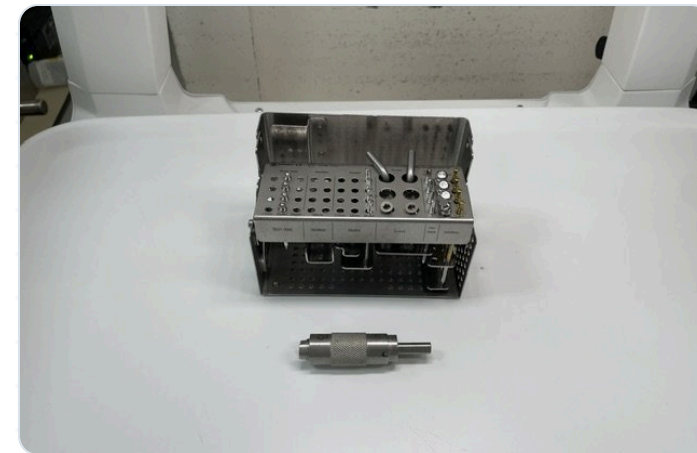


Fig. b Universal chuck found in the pin tray



RESOLVED

The **missing universal chuck** (upper tray) was found in the **pin tray**.

→ One misplaced instrument explains two non-conformities.

Boxes 4 to 9 • 6 remaining boxes

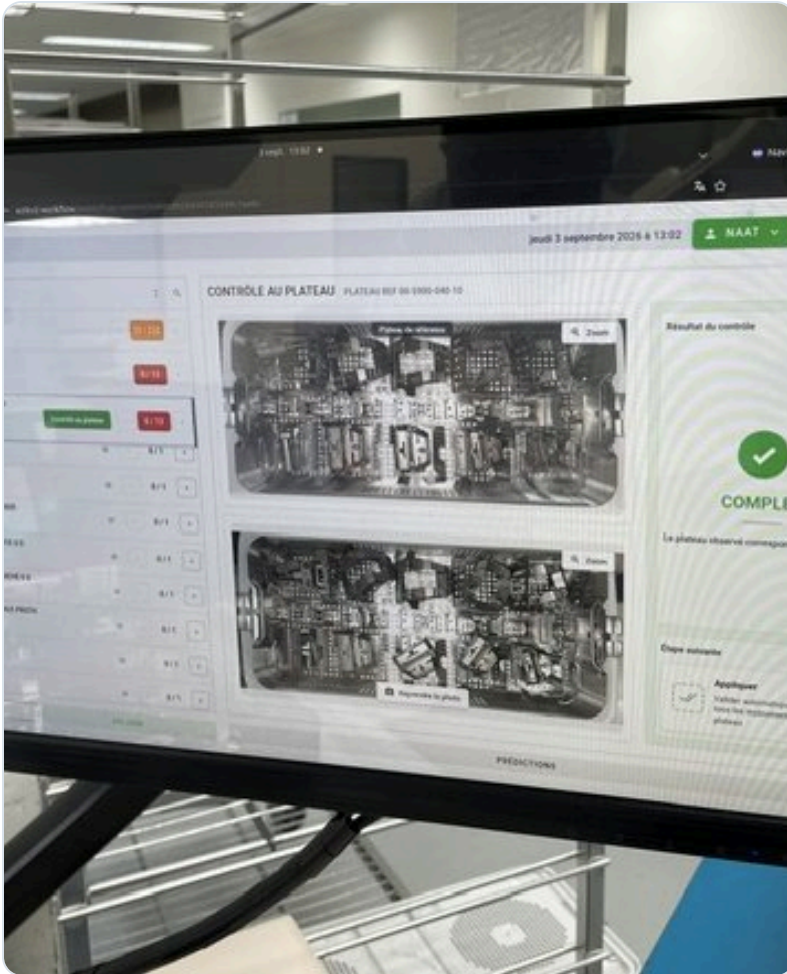


Fig. a "Complete" status returned by AnciTraq²



Fig. b Tray under the imaging hood

6 / 6 COMPLETE

All six boxes found complete.

ONLY ISSUE

A metal tray was **misidentified** because its **code was worn off**.

Outcome of the loaner-set reception test

9

loaner boxes

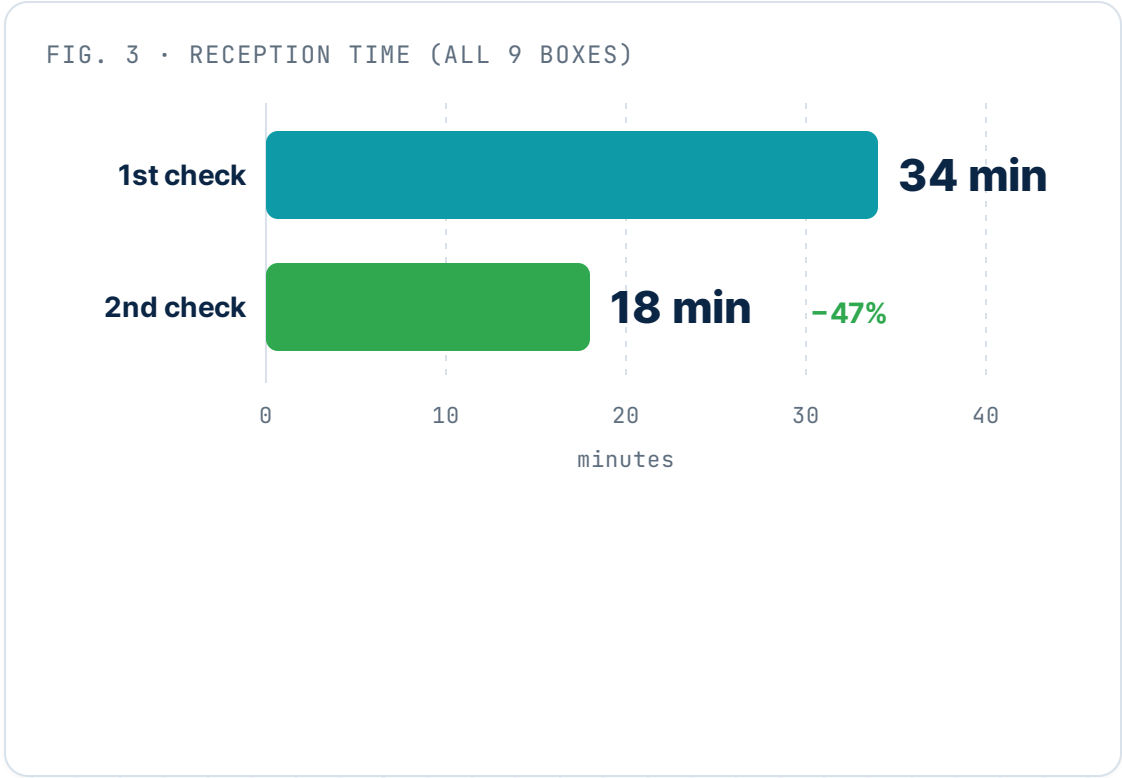
13

surgical trays

232

medical devices

TABLE 1 • FINDINGS PER BOX		
BOX	TRAYS	FINDING
1	1	10/33 manually confirmed • reference mismatch
2	2	1 instrument identified • 1 tray complete
3	3	Universal chuck misplaced in pin tray
4-9	—	Complete • 1 tray with worn-off code



>80% of qualified staff time saved on loaner-set reception

Key take-aways

1

Validated platform

Workstation qualified following an **IQ / OQ / PQ** methodology.

2

Define upfront

- Scope
- Configuration rules
- Training

3

Target high-risk sets

Routine use for high-risk boxes:
consignment & loaner sets, laparoscopy, power tools... Less suited to basic multi-supplier instrument boxes.

4

Safer and faster tray assembly

Improved **safety** and **time savings** in surgical tray re-assembly — 71% of trays checked in under 2 minutes, >80% staff time saved on loaner reception.

5

Manufacturer involvement needed

Set configuration by manufacturers is key to scaling loaner-set control.