

COMPARISON OF FOUR DATAMATRIX CODE READERS: STERILIZATION AGENTS' OPINION AFTER ONE MONTH OF TESTING

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INTRODUCTION

The **Central Sterilization (CS)** of Robert Ballanger Hospital (Aulnay-Sous-Bois) manages the **traceability** of the sterilization process with the Tdoc[®] software and achieves the assembly of its trays at the instrument level, by reading Datamatrix codes since 2009. The instruments were initially traced with an **infodot pad**, then in 2013, they were engraved by an external service provider on site by **dot-peen and laser technologies**, and some HN-06-16M[®] (MNEXT) readers were acquired to read the Datamatrix codes when the trays are re-assembled.

In 2014, the CS acquired a **dot-peen engraver** and 4 agents were trained to engrave the new instruments.

Goal: Currently, the company that sells MNEXT readers is no longer established in France. The objective of this work is to test different Datamatrix readers in order to select the one that will be the most adapted to our activity in case of a substitution.

EQUIPMENT & METHODOLOGY

3 Datamatrix readers *have been tested in our CS for 1 month and compared to the HN-06-16[®] (MNEXT) reader:

HN-06-16[®] (MNEXT)



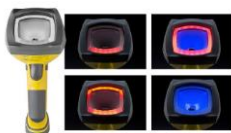
- Laying system
- White light

White Reader[®] (ATH Médical)



- Laying system
- 3 lights (green, blue, red)

DataMan[®] 8600 (Cognex)



- Trigger system
- Lighting intermittent red

DataMan 2D 9530[®] (Cognex)



- Trigger system
- Fixed red light

- 20 agents were interviewed using an evaluation grid on 3 themes: compatibility with the software, ergonomics of readers and readers performances.

RESULTS- TALKS

I. Compatibility:

- All readers are compatible with Tdoc® software.
- All readers do not disconnect from the software.

II. Ergonomics:

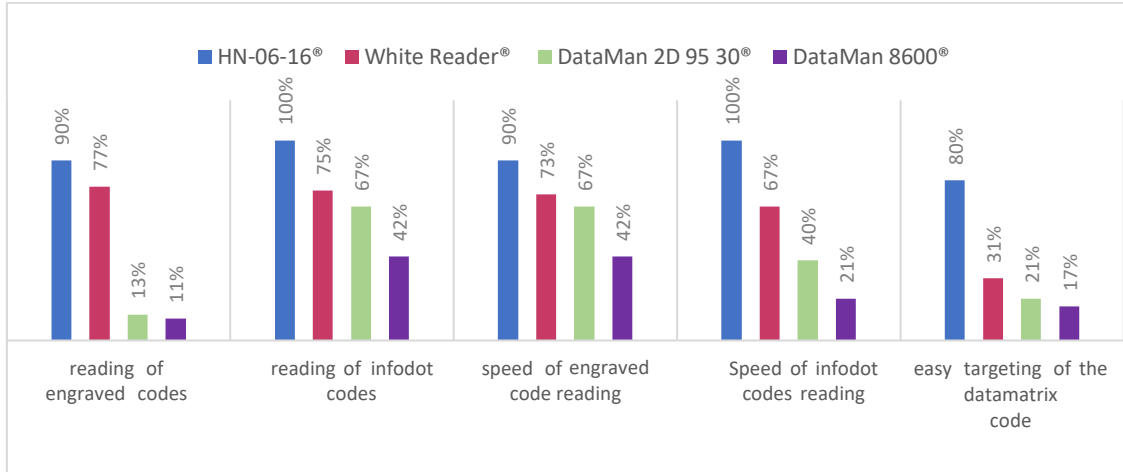


Fig. 1: Evaluation of ergonomics by reader type

- ➔ The agents prefer HN-06-16® (HN®) and White Reader® (WR®) for their easy manipulation and simple operation (Fig. 1)
- ➔ 79% of agents appreciate the WR® reading system (Fig. 1)
 - Allows to save time when scanning instruments during the assembly of trays compared to the trigger system (DataMan®)
- ➔ 75% of the agents find the (intermittent) light beam of the DataMan 8600® reader too powerful and uncomfortable while working compared to HN® and WR®

III. Performance

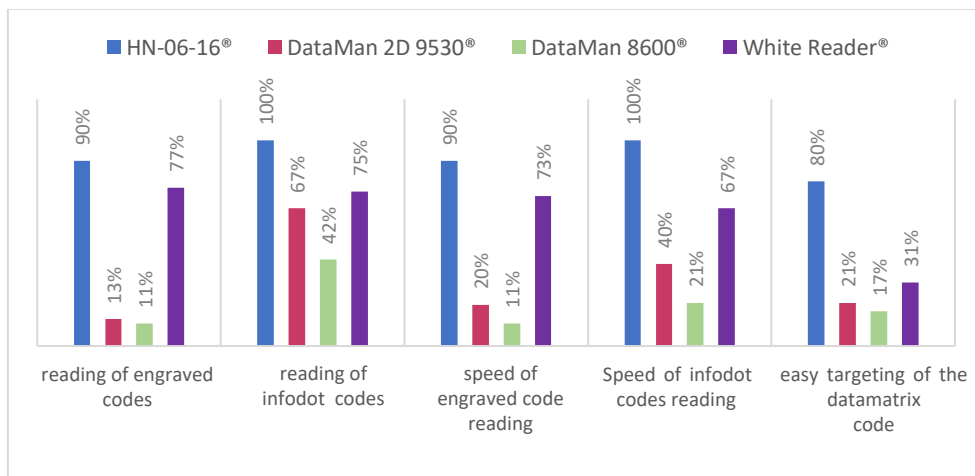
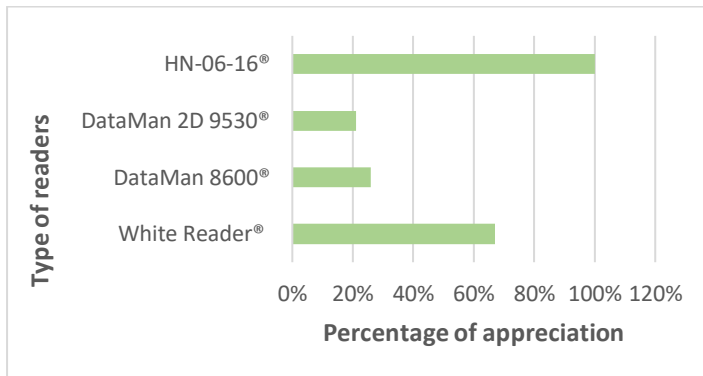


Fig. 2: Performance evaluation by reader type

- ➔ All readers can read infodot codes better than engraved codes. (Fig. 2).
- ➔ DataMan® cannot read the engraved codes (13% and 11%).
- ➔ The 4 readers have more difficulty reading worn and laser etched codes (Fig. 2).
- ➔ DataMan® Readers have more sighting difficulties with too much powerful light and they cannot read codes quickly.



HN-06-16® and White Reader®



Fig.3: Agent satisfaction level by reader type

CONCLUSION

The agents prefer the current reader, but the company is no longer established in France. The WR® reader seems to us to be the most adapted to our activity and we will choose this reader in case of a substitution. Nevertheless, a training is necessary for the agents to be able to read Datamatrix codes quickly and successfully.

**Testing has been possible thanks to the loan of the readers by the companies TDOC® and ATH MEDICAL®*

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