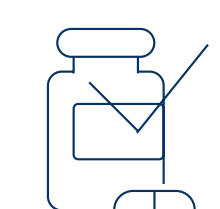#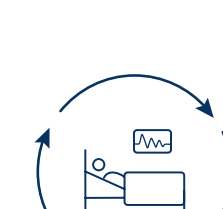 AUTOMATION MEETS TRACEABILITY TO OPTIMISE DRUGS AND MEDICAL DEVICES LOGISTICS GUARANTEEING PATIENT SAFETY AND HOSPITAL STAFF WELL-BEING

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Background and Importance

Healthcare systems are seeking solutions to improve the medication management process and logistics, spanning from central pharmacy to the patient's bedside, in order to:

- Allow healthcare operators to focus on the care of their patients
- Maintain End to End traceability of the overall medication process
- Deliver visibility and insights to the staff to make more informed, faster and accurate decisions
- Create a fully automated and efficient environment
- 100% integrated with the IT infrastructure
- Eliminate dispensing errors, diversions, inventory stockout and waste
- Free staff time and reduce operating costs
- Ensure patient safety, providing the right dose, to the right patient, at the right time

MEDICATION MANAGEMENT PLATFORM

CONNECT EASILY TO OTHER HOSPITAL APPLICATIONS

AUTOMATE DISPENSING PROCESS WITH ROBOTIZED CARTS AND CABINETS

OPTIMIZE INVENTORY WITH AI TOOLS FOR INTELLIGENT PLANNING

MAINTAIN FULL TRACEABILITY OF DRUGS AND MEDICAL DEVICES

CONTROL ROOM · ANALYSIS LABORATORY · CENTRAL STERILIZATION UNIT · CENTRAL PHARMACY · WARD · OPERATING THEATER

Aim and Objectives

- Evaluate the usability of the new automated solution
- Compare the user experience and performance of the TRADITIONAL and AUTOMATED solutions

AUTOMATED CABINET
- Automatically loads the carts
- Fast and easy loading of drugs from the central pharmacy
- Real-time stock control including controlled substances
- Automatic drug dispensing

AUTOMATED CART
- Quick and safe dispensing with direct access of the drugs on the table top
- Automatically loads the drugs required for the round
- Full traceability of the dispensing cycle
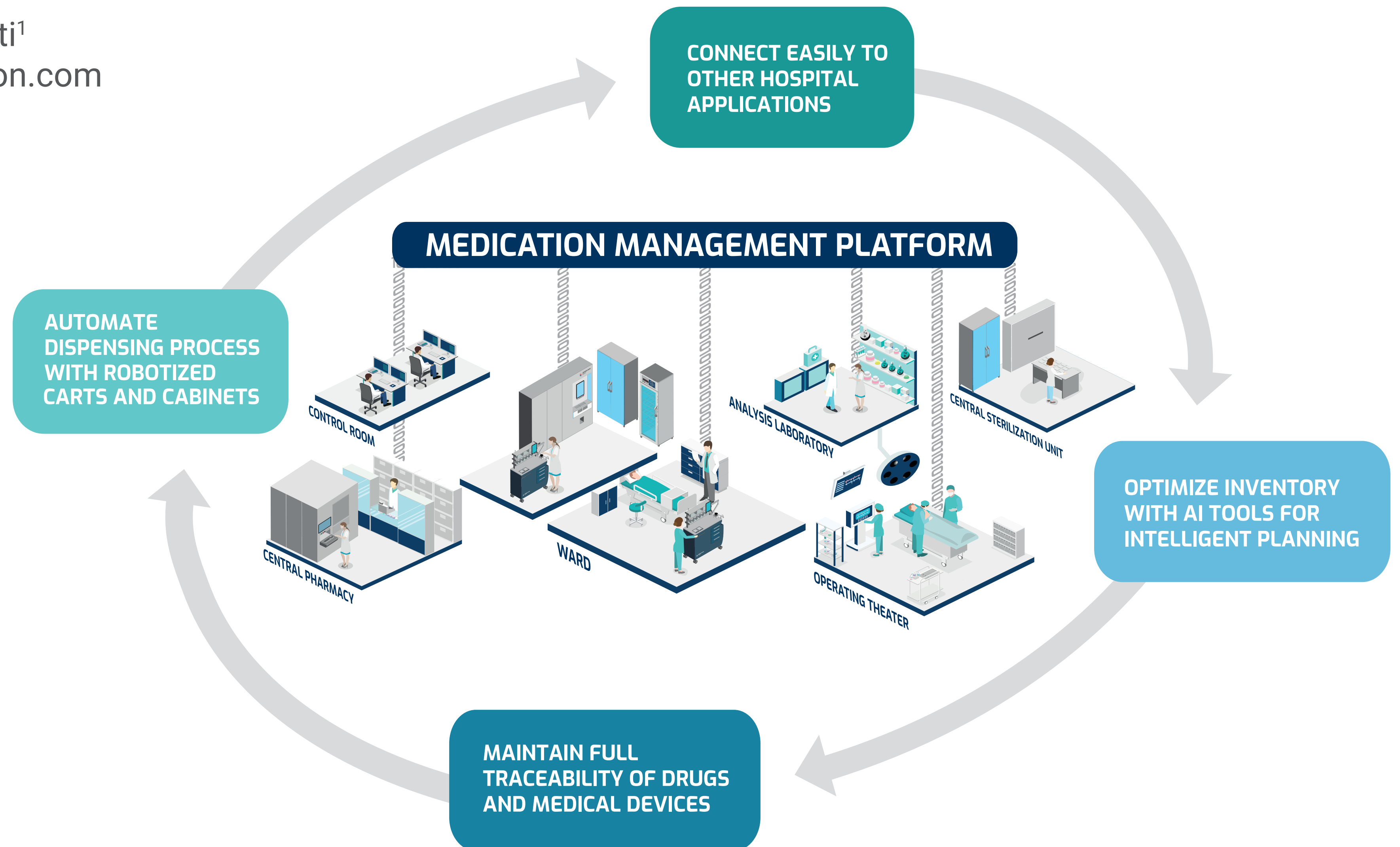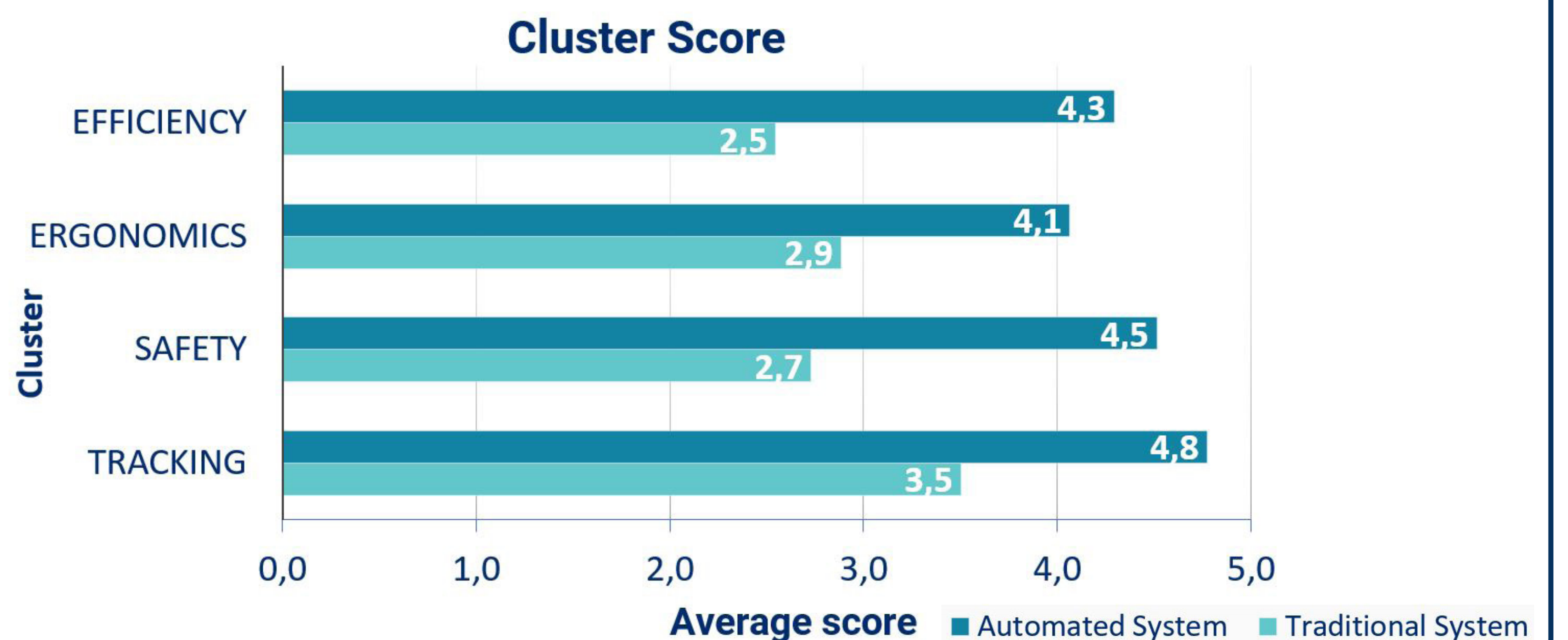- Assisted motion

Materials and Methods

The study compared the new AUTOMATED solution versus the traditional one by measuring different metrics and KPI. A panel of nurses was selected to conduct the test with different profiles (age, experience, and confidence with IT applications).

Each nurse was asked to evaluate the medication dispensing with the automated and the traditional cart on several aspects segmented in four main topics:
- Effectiveness in tracking the operations and recording results to the patient EHR
- Safety and reliability of the operations
- Ergonomics of use for the operators
- Overall efficiency of the process

Results

The automated solution obtained higher average scores (rank from 1 to 5) in each topic with safety and efficiency scoring the largest gap.

Cluster Score

Cluster	Automated System	Traditional System
EFFICIENCY	4,3	2,5
ERGONOMICS	4,1	2,9
SAFETY	4,5	2,7
TRACKING	4,8	3,5

Average score — ■ Automated System ■ Traditional System

Conclusions and Relevance

The results showed that the automatic system is prevailing over all target metrics, with particularly a high gap on safety and efficiency, thanks to the reduction of non-value-added activities such as manual drugs replenishment of the stocks within cabinets and carts, enabling what really matters: Patient Care.

This provides to the healthcare systems a new disruptive platform that makes the work of hospital staff easier, more efficient and reliable thus ensuring patient safety.

Acknowledgements

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