

How robotics improved safety and working efficiency in a European premium cancer institute



M Roche¹, A Angapin¹, V Blazy², A Hyvert³, L Moriconi⁴, M Federici⁴, B Diawara¹, C Monnel¹, L Ferreol¹, A Mitha¹, H Aboudagga¹, R Desmaris¹

¹ Department of Clinical Pharmacy, Gustave Roussy, 114 Rue Edouard Vaillant, 94805 Villejuif, France ² Department of Information Technology, Gustave Roussy, 114 Rue Edouard Vaillant, 94805 Villejuif, France

³ Biomedical engineering Department, Gustave Roussy, 114 Rue Edouard Vaillant, 94805 Villejuif, France ⁴ Loccioni Humancare, Via Fiume, 16, 60030 Angeli di Rosora AN, Italy



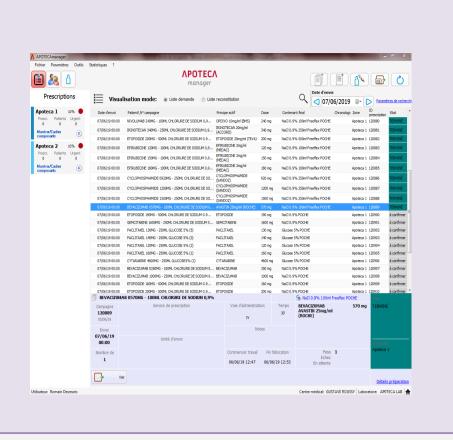
2018:

Implementation of an automated anticancer drugs compounding platform

2 APOTECAchemo robots



What was done?



2020:

Implementation of a bidirectional interface between the robots and the hospital's Electronic Prescribing Software (EPS)



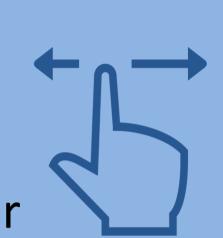
Why was it done?

BEFORE

- Prescription re-transcription
- Chemotherapy relabelling by technicians



→ Despite strict procedures : Manual data entry = RISK of human error



IMPROVEMENTS

PATIENT SAFETY

- High-standardised procedures,
- Great repeatability
- Limited human intervention

EFFECTIVENESS

- Benefits during the compounding process
- Streamlining pharmacy workflows
 - Full and paperless traceability



How it was done?

Definition of the interface specifications by pharmacists and the IT team



Development of the interface between EPS and APOTECAmanager



Implementation using Health Level Seven (HL7) standards

NB: staff to ensure preparations remained identical (i.e. two technicians)

COMPARATIVE ROBOT PERFOMANCE **ANALYSIS**

- Number of processed drug products
- Compounded preparation numbers
 - Real robot's use per day

Data retrieved from

robot's embedded statistical tool:

- Before implementation (March May 2020)
- After implementation (July Sept 2020).



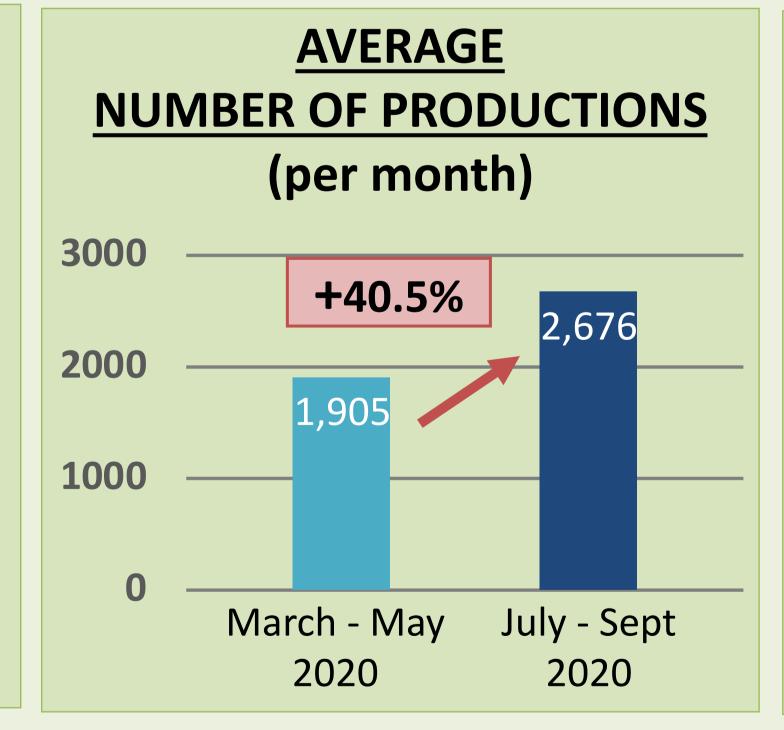
What has been achieved?

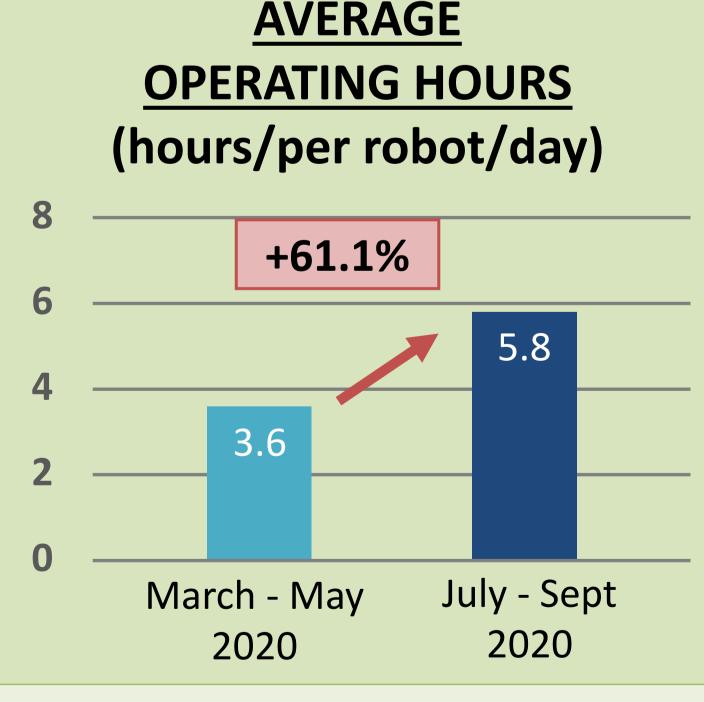
March - May 2020

versus

July - Sept 2020

- 13,746 preparations compounded
- 95% infusion bags
- 5% elastomeric pumps
- → Most of these preparations were produced in advance (administration D+2 or D+3)





19 different molecules compounded:

- Anticancer drugs
- Monoclonal antibodies

Preparations with reconstituted drug vials:

Increase of 38.1% (from 625 to 863 vials)



Interface between robots and the EPS = successfully implemented

→ IMPROVED SAFETY AND EFFICIENCY

What is next?

Paediatric preparations

= prepared manually with visual controls = pharmaceutical release after analytical controls



Mid 2021

= Installation of a 3rd customized robot for syringes and paediatric preparations

Contact: mathilde.roche@gustaveroussy.fr 25th Congress of EAHP – March 2021 – Virtual congress