

## Introduction

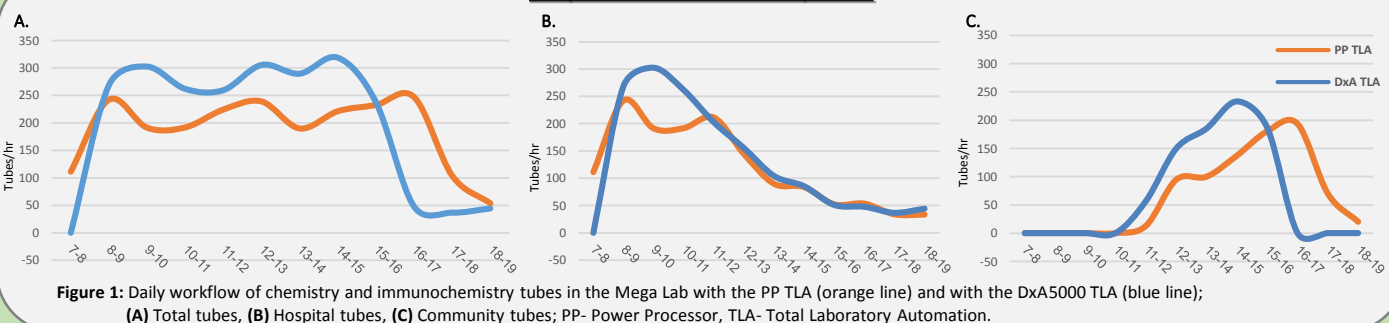
The Automated Mega Laboratory (Mega Lab) was founded in 2008, based on two separate (Chemistry & Hematology) "Power Processor" Total-Laboratory-Automation (TLA) lines of Beckman Coulter (BC). Due to increase in number of annual tests and complexity of routine procedures, there was a necessity for upgrading. Consequently, a state of the art automation system, DxAS5000 (BC), was world-widely launched in the Mega Lab at Sheba Medical Center during 2018-9.

## Objectives

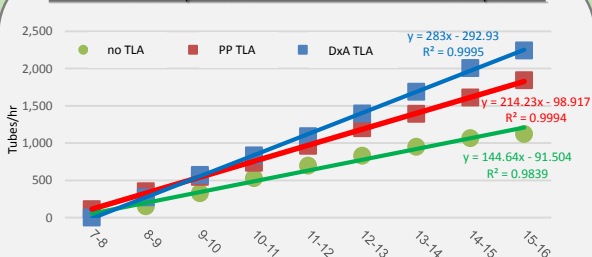
- Consolidate operation (robotics) while improving analytics quality
- Increase throughput by at least 50%
- Reduce average TAT by at least 25%
- Simultaneous auto-management of several priority levels
- Support for a mixed wider variety of tube types
- Reduce amount of full time employees (FTE)



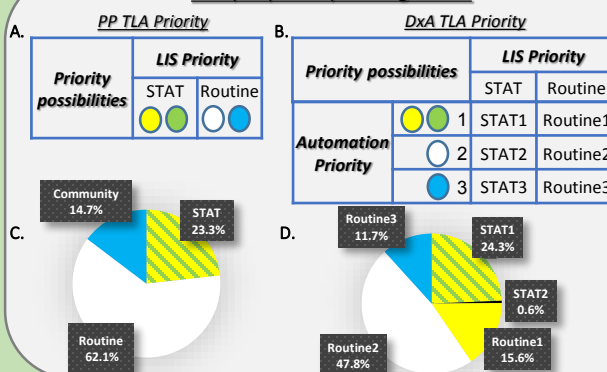
## Daily Workflow of Yellow-Top tubes



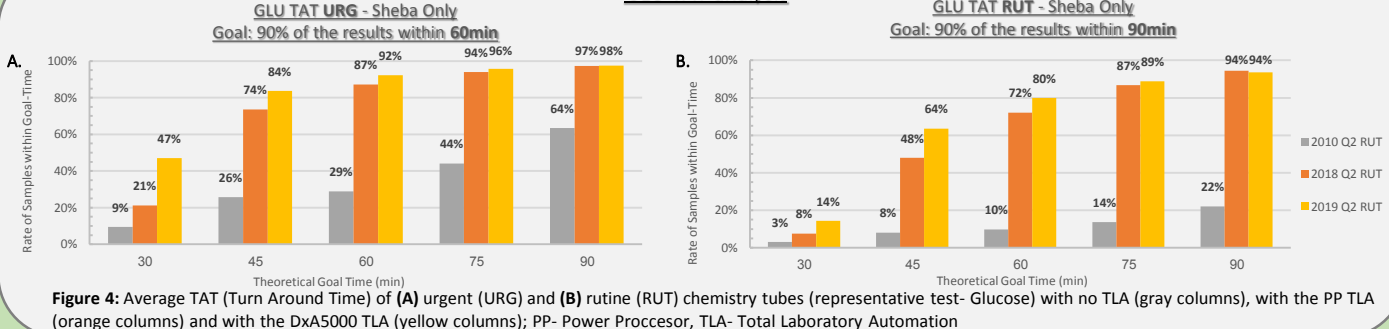
## Cumulative Daily Total Workflow Rate of Yellow-Top tubes



## Sample priority management



## GLU TAT analysis



## Summary and conclusions

**DxAS5000 TLA reduces average TAT and increases lab throughput**

Year – Gen	2500 tubes	Year – Gen	Throughput
no TLA	18 hr	no TLA	baseline
PP TLA	12 hr	PP TLA	↑ 50%
DxA TLA	10 hr	DxA TLA	↑ 30%

**DxAS5000 TLA reduces amount of full time employees**

Year – Gen	FTE
no TLA	baseline
PP TLA	↓ 10
DxA TLA	↓ 3

**DxAS5000 TLA Consolidates two automation line in to onw line and supports a wider variety of tube types**



The TLA upgrade lead to a decrease of avarage TAT, increase of lab thruout, decrease in FTE No., consolidation of automation. lines and support for a wider variety of tube types. This technological evolution have improved the efficacy of our laboratory services and consequently enhanced medical care.