



## Microbiology Lab of G. Salvini Health Hospitals

Located in Rho, the microbiology lab processes bacteriological analysis for four hospitals belonging to the Milan metropolitan area (Bollate, Garbagnate Milanese, Passirana, Rho) with about 900 beds. The laboratory performs 57.000 bacteriological samples and handles 150.000 plates a year.

The microbiology laboratory employs seven senior technicians and three consultant microbiologists.



## Time-to-results reduced by 24 hours

**At Rho hospital, automated processing has enabled microbiology lab activities to be consolidated at one site and to deliver faster results.**

In 2014, the G.Salvini Health Hospitals grouped its microbiology activities in a single technical platform. Despite the increase of volume in Microbiology Laboratory activity and a personnel shortage, it was possible to achieve high quality results.

### Opting for automated processing

To maximize the effectiveness of its new microbiology platform, the laboratory made several strategic decisions. It opted for advanced automated processing and a high performance analysis chain.

The platform is organized around the BD Kiestra™ WCA (Work Cell Automation) solution, that automatically handles specimens in liquid phase, manages plate inoculation, streaking and incubation, with intelligent digital imaging to move on to the reading phase as early as possible. "We have relieved professional staff of

monotonous, repetitive tasks. They can now focus on interpretive and more complex assignments", explains Dr Giuseppe Giuliani, Laboratory Director.

The laboratory is fully equipped with BD Systems: it performs blood culture with BD BACTEC™, fast bacterial identification by mass spectrometry with the BD Bruker Maldi Biotyper™, and susceptibility testing with the BD Phoenix™ family.



***We have relieved staff of monotonous, repetitive tasks. »***

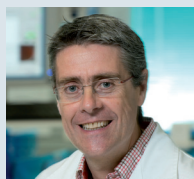
The microbiology lab has also rearranged its schedule into two shifts, morning and evening, to start processing samples over an extended period of time every day (8:00 - 20:00, 7/7 days). Newly equipped and reorganized, the lab now offers time-to-results reduced by 20%.

## Time-to-results reduced by 24 hours

### Delivering better clinical value

Thanks to automated processes, identification by mass spectrometry and its new organization, the Rho Microbiology Lab was able to achieve excellent clinical results and to reduce time-to-results by 20% on average, moving for example from 3 to 2 days. "The first to benefit are patients, as they receive the most appropriate antibiotic therapy quicker and at the right moment", explains Dr Giuliani.

"In general terms, the whole health organization reaches the best clinical-economical effectiveness and efficiency, reducing length of stay, hospital readmissions and inappropriate use of antibiotics" he adds.



Dr Giuseppe Giuliani,  
Laboratory Director of  
Clinical Microbiology  
Laboratory - Guido  
Salvini Health Hospitals

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Despite a personnel shortage owing to retirements and difficulties to hire laboratory professionals, they were able to achieve reliable, traceable and reproducible results.

### A fully supported and customized transition

The Rho microbiology lab had the full support of BD experts throughout the transition to its new system, which took a year from the laboratory planning stage to installation and phasing in. "BD gave us a global and highly qualified consultancy for our specific situation, in terms of support, training and service", adds Dr Marina Re, Head of the Bacteriology Laboratory.



Dr Marina Re,  
Head of the  
Microbiology  
Laboratory

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Installation was implemented in two steps: first, the BD Kiestra™ WCA (Work Cell Automation) and then the remaining systems. For the WCA, BD trained "the trainers", an initial group of key users, in system settings and use, so that they could in turn teach their colleagues. "Automated processes have led staff to acquire skills in systems configuration and settings", underlines Dr Re.

The new lab started processing microbiology specimens first coming from Rho Hospital and then from the three remaining hospitals.

"Automated processes also provide standardized inoculation, reducing repetitions by 5 % to 15 %. This not only reduced consumption of Petri plates, but also and, more importantly, the number of analysis reports delivered late. Digital imaging dynamic acquisition has much improved the plate reading phase, increasing the biological safety of the personnel", concluded Dr Re.

### Challenge

Centralize microbiological analysis activities at a single site, maintaining steady volumes despite a personnel shortage.

### Solution

An effective organization supported by BD technology to automate repetitive tasks and speed up bacterial identification.

### Benefits

Time-to-results reduced by 24 hours. Improved productivity, reproducibility and increased employee satisfaction.

### BD'S SOLUTION

- Blood culture system: BD BACTEC™
- Inoculation, plate streaking: BD Inoqua™
- Specimen processing, incubation, imaging and reading: BD Kiestra™ WCA (Work Cell Automation)
- Susceptibility testing: BD Phoenix™ AP / BD Phoenix™
- Microbiology data & workflow management system: BD EpiCenter™

### Partner products

- Microbial identification: BD Bruker MALDI Biotyper™



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