



Grenoble Alpes University Hospital Microbiology Laboratory

➤ Challenges

- Modernize the laboratory
- Improve traceability
- Standardize work methods
- Reduce the risk of errors and contamination
- Assist staff during the technological transition

➤ Customer

University Hospital

- 2 sites
- 2 142 beds

Microbiology Lab Activity

- 400 requests/day (Bacteriology, Mycology, Parasitology, Serology)

Users

- 11 pathologists, 31 technicians, 5 secretaries

Grenoble Alpes University Hospital modernizes its microbiology laboratory thanks to lab automation and paperless microbiology.

The Grenoble Alpes University Hospital aims to focus on innovation and performance as part of its development plan.

With this objective in mind, the Microbiology Department has decided to automate its laboratory by deploying the BD Kiestra™ lab automation system together with paperless microbiology management using ^{TD}NexLabs Microbiology, by TECHNIDATA.

With this large-scale project, the Grenoble Alpes University Hospital has become one of the first French organizations of its kind to deploy such a modern and fully automated lab environment.

Dr. Sandrine Boisset, Microbiologist and ^{TD}NexLabs Super User, Thomas Girard, Hospital Engineer and José Eterno, Head of Hospital IT Lab, share their views on the benefits of microbiology laboratory automation.

Interfacing the lab automation system with the LIS



José Eterno,
Head of Hospital IT Lab

"The entire project is based on the communication between both systems. Information technology has turned out to be of prime importance for such a complex project.

All professionals involved in this project - the TECHNIDATA and BD teams, the hospital pathologists, as well as the hospital IT team, which is familiar with the lab functioning and LIS

parameter settings - have co-operated to jointly draft a detailed requirements specification.

This collaboration has gone particularly well. Our suppliers have employed substantial means. They have provided user support and assistance that has more than met our expectations. Since the beginning they have had a single objective in mind: the success of this project. We have really appreciated working with them. The automation system currently runs via a bidirectional communication with the LIS. It's a complete success, and it meets the users' expectations."

Helping users through the technological transition



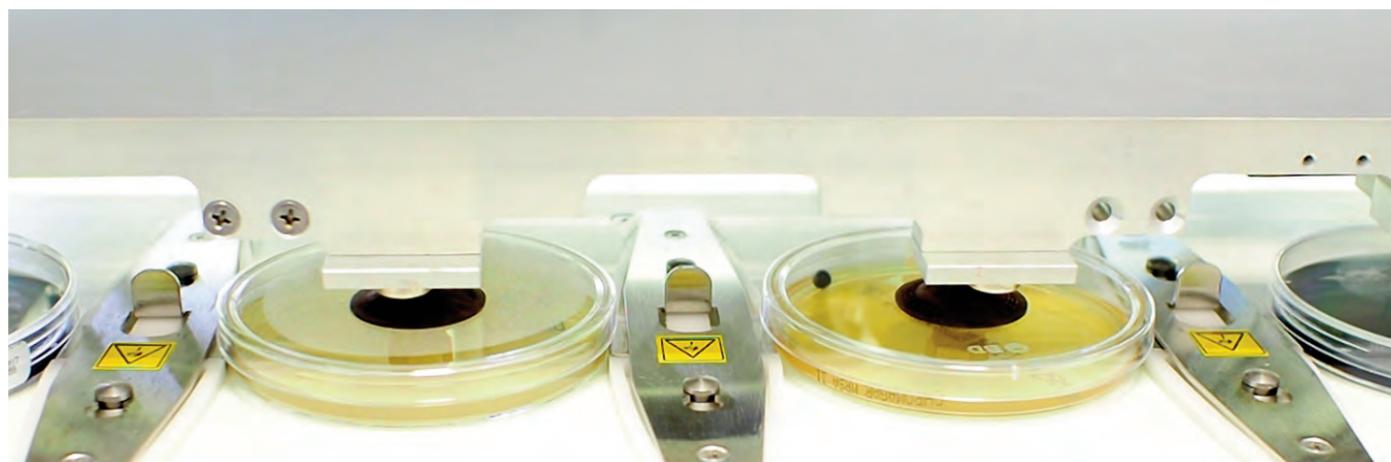
Thomas Girard,
Hospital Engineer

"In the beginning, our teams were somewhat apprehensive. Our lab technicians were afraid of having less work, and of losing their skills.

Today, they are happy with the automation of our lab, and realize that this makes their job easier. As repetitive tasks with little added value have been automated, they can now focus on more interesting duties, such

as the reading of agar plates, culture identification, or sensitivity tests.

Our skills have evolved: teams no longer physically handle agar plates, but do so through information technology and robotics. Human expertise, regarding both lab technicians and microbiologists, remains essential for the analysis of Microbiology results."



Automating streaking on the BD Kiestra™ lab automation system.

At the forefront of technology thanks to lab automation and paperless microbiology.

An ambitious, innovative and pioneering project



Dr. Sandrine Boisset,
Microbiologist

"We are currently one of the first University Hospital microbiology laboratories in France to have installed such an innovative and efficient working tool. It has enabled us to automate numerous analytical processes such as streaking, incubating, and the reading of culture plates.

We have several objectives: to streamline repetitive tasks which add little value to our daily objectives, increase productivity, improve traceability and standardize streaking processes, as well as to reduce contamination and error rates. This is an exciting and innovative project that has brought together different actors within the university hospital environment: technical and informatics departments, technicians, engineers, and pathologists. These technological advances have significantly transformed our profession," explains Dr. Sandrine Boisset, Microbiologist at the Grenoble Alpes University Hospital.

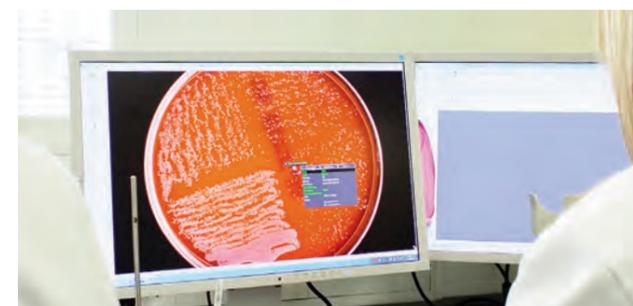
The hospital, BD and TECHNIDATA teams have collaborated closely on this ambitious project, which incidentally also involved the extension of the existing building to equip the laboratory with the BD Kiestra™ laboratory automation system.

"The BD Kiestra™ lab automation system is a robot. We therefore need a form of artificial intelligence to control it. This is where information technology comes in to explain why the interface between the TECHNIDATA LIS and the BD Kiestra™ lab automation system is essential", adds Dr. Sandrine Boisset.

Bidirectional screen synchronization

"More than just an interface between the TECHNIDATA LIS and our BD Kiestra™ lab automation system, our respective teams have endeavoured to truly integrate the two systems - the bidirectional synchronization of screens between the lab automation system and the LIS has significantly improved the working conditions of the laboratory staff", said Laurent Pinault, Country Business Leader France at BD Life Sciences – Diagnostic Systems.

On the one hand, microbiologists can easily access agar images that are stored on the BD Kiestra™ lab automation system for the digital media reading or complementary testing using the TECHNIDATA LIS during clinical validation. On the other hand, it is also possible to use the lab automation system to access requests managed on the LIS, in order to view complementary results, such as those of the pre-culture phase or which requires cytology testing.



Digital reading of agar plates thanks to bidirectional screen synchronization between the BD Kiestra™ lab automation system and the TECHNIDATA LIS.

Traceability and CAP & ISO 15189 lab accreditation

"Our laboratory is not yet accredited for activities related to culturing. Before undertaking the various steps required to gain this accreditation, we have preferred to wait for the lab automation system and the paperless LIS to be implemented. This will be of great help to us, as we will benefit from a full traceability. This is exactly what COFRAC, the French accreditation committee, requires".

Dr. Sandrine Boisset, Microbiologist.

"We are no longer required to physically handle agar plates. This means, the risk of contamination is reduced, processes and turnaround times are improved, and readings and incubation conditions are standardized. All this new technology and, more specifically, paperless LIS, provide us with full traceability of our bacteriology processes: From the registration of requests up to the delivery of results, we know exactly where our samples are located at all times, thanks to both the BD Kiestra™ lab automation system and TECHNIDATA software. »

Thomas Girard, Hospital Engineer.

T^{DB}BactiLink Middleware for paperless microbiology

To make it possible for all the laboratories – including those that do not consider installing a lab automation system – to leverage all the benefits of paperless microbiology, TECHNIDATA has launched T^{DB}BactiLink, a middleware version of its microbiology LIS.

T^{DB}BactiLink easily integrates the fundamental organization of laboratories to benefit from features which are dedicated to the discipline in a cost-effective way and without changing the existing LIS.



Learn more about T^{DB}BactiLink :
www.microbiology-middleware.com

Benefits of paperless microbiology

The TECHNIDATA LIS has been designed with and for microbiologists. It draws on the editor's proven expertise in this field and provides laboratories with features that perfectly match the specific needs of this discipline. The software handles all the different laboratory processes such as sample management, clinical review, protocol customization, epidemiology, as well as the interfacing of different microbiology instruments and lab automation systems.

"TECHNIDATA has supported us throughout the project. We have redesigned the organization of our entire laboratory and optimized workflows to fully benefit from a

paperless microbiology environment. Thanks to TECHNIDATA's electronic workbench, the laboratory can enhance its already high levels of traceability and reliability as well as improve on efficiency.

The lab automation system and paperless microbiology LIS complement each other, and are both major components of automated lab processes. They have not only helped us to improve quality and traceability but also streamline our processes. As a result, we have considerably reduced the time necessary to deliver results to clinicians. Today, we are very satisfied with this technological transition", states Dr. Sandrine Boisset.



LEARN MORE

For more information on ^{TD}NexLabs Microbiology:
www.technidata-web.com

About the Grenoble Alpes University Hospital



The CHUGA (Grenoble Alpes University Hospital) is a public healthcare institute which ranks among the 12 most important hospitals in France. Thanks to a cutting-edge technical platform, it is in a position to provide highly specialized care.

Approximately 8,000 professionals (including 1,700 physicians) ensure every day tasks relating to care, teaching, research, and prevention.

www.chu-grenoble.fr



About TECHNIDATA

With over 40 years' experience in the field of lab management, TECHNIDATA has become a leading global software suppliers for clinical and anatomic-pathology laboratory information systems (LIS). Developed in full compliance with the ISO 9001/ISO 13485 quality standards, TECHNIDATA software products are distributed in more than 25 countries and cover all the clinical laboratory disciplines.

Disciplines

- Biochemistry, Hematology, Immunology, Serology, Virology, Microbiology
- Histology/Cytology
- Genetics
- Biobanking

Products

- Laboratory Information Systems (Livextens suite)
- Solutions Middleware (^{TD}Harmony suite)
- Instrument workstations
- Point of Care Testing
- Web-based requests and results module

Services

- Consulting, development, support, training activities