

How FlexLab™ supported the evolution of a clinical laboratory over the years



In Trento (Italy), a hospital lab achieved full return of investment from its independent automation system with open connectivity



THE CHALLENGE

In 2010 the Santa Chiara Hospital (Trento, Italy) decided to consolidate its clinical laboratories in a single space, grouping together several specialties previously distributed on different floors. To meet this goal Dr. Patrizio Caciagli, head of Clinical Pathology, had to overcome a few challenges: on top of the **limited budget**, he had to group together **several specialties** into a **narrow and long room**.

He was aware of the steadily **growing demand for diagnostic tests** and of the quick evolution of analytical technologies; the manager wanted a solution that would accompany the service for years to come, without requiring dramatic changes to the layout.

*“Realizing how rapidly technologies are evolving in the IVD sector, I really wanted an automation system that would leave us the **freedom to adopt the analyzers that seemed best suited to our needs** in each case, and to update them over time, without having to change direction”.*

Even if it was natural to consider a Total Laboratory Automation system (TLA), Dr. Caciagli was looking for a modular and expandable solution that did not limit the laboratory to the workflow at the current time, but allowed for a possible future increase in activity of at least 50%, especially in the serum area.

Lab set-up



1.1 Mil.
tubes/year



11
analyzers
connected



3
specialties
offered



42
collection
points



7
client labs
served

THE IDEA

It was then that Dr. Caciagli considered acquiring an **independent track system** with open connectivity, that could remain a stable asset of the laboratory:

*“Despite being a public hospital, we made the choice to purchase the automation system on the basis of a ‘private’ logic, which would allow us to manage its ownership, care for it and allow it to grow over time. In this way **we brought home value and knowledge** and protected ourselves against the risk of outsourcing.”*

In 2010 the hospital issued a tender for the purchase of an open automation system, without analyzers - an absolute novelty at the time.

Dr. Patrizio Caciagli
Head of Pathology
S. Chiara hospital, Trento (Italy)



“In 2011 we wanted a system that would be flexible without sacrificing robustness, and Inpeco was the answer.”



THE SOLUTION

The promise offered by the name of the Inpeco FlexLab™ open system already met Dr. Caciagli's needs and wishes, with the necessary **expandability features**:

"In 2011 we wanted a system that would be flexible without sacrificing robustness, and Inpeco was the answer. I believe that for Inpeco our request also represented a challenge; together we designed a layout that would fit into a long, narrow room with columns in the middle."

In collaboration with Tosoh, Inpeco proposed a layout developed over a length of about 40 meters with all the connections on one side, already taking into account the possibility of **automation expansion**. Installed in the new laboratory spaces in only a few weeks, it initially connected 12 analyzers of 3 different brands, for 3 clinical specialties (Chemical Chemistry, Immunoassay, Hemostasis).

*"The choice of an **independent system** challenged us to study the project carefully, to make it our own. We chose to **build the track the way we wanted it**. We provided training courses to 80 people, not all of whom were laboratory professionals; this allowed us to bring together people with different backgrounds, and has offered additional value for everyone."*

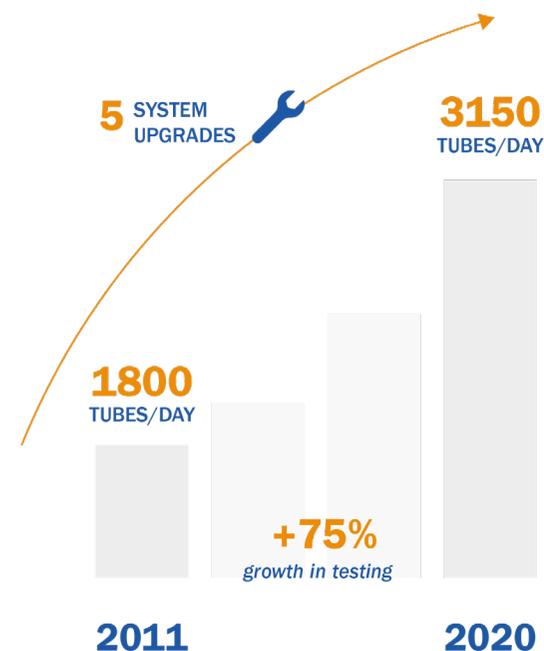
As Dr. Caciagli had predicted, the laboratory's workload constantly grew over the years, and it became necessary to **connect new analyzers**/modules and **replace obsolete ones**.

"The upgrades made and the new connections added overtime weare all completed on schedule, avoiding delays in the laboratory's services."

Now running for more than 9 years the track has lived up to its promise, undergoing **five upgrades so far**: an aliquotator was added on a dedicated slot, two Modular (Roche) immunochemistry units were connected to the track, and the Liaison analyzers (DiaSorin) were updated to the latest XL version. In 2016 a U-turn module was added to improve the tube workflow to meet the laboratory's morning peak, and the two Modular (Roche) units were replaced with new Cobas 8000 (e801) systems.

Throughout all this, Inpeco provided the necessary hardware modifications and software updates, guaranteeing an up-to-date automation system that continues to meet the laboratory's needs.

"This solution is still proving to be valid and responsive to our needs; the standard maintenance interventions have kept it efficient and up to date. FlexLab™ has kept its promise."



THE BENEFITS

FlexLab™ has ensured the growth of the laboratory workflow from around 1800 tubes/day in 2011 to the current 3150; it has consolidated both routine and STAT testing on to the same system with clear efficiency gains, while maintaining the turnaround time (TAT) targets that were set in the tender specifications (40 minutes for emergencies - STAT).

“On this track we now handle emergency and routine requests - a big advantage in terms of process efficiency.”

FlexLab™ automation has **paid off the initial investment**, demonstrating its value in these areas:

- It has evolved in response to the needs and volumes of the laboratory
- The capital investment has anchored the value of the laboratory, over time
- Favorite analyzers and latest generation technologies have been grafted on
- The laboratory's capacity to negotiate with equipment suppliers has increased

Thanks to its intelligent design, the customer was able to modify both the automation and analytical parts of the system without having to interrupt the daily routine, maintaining the performance required for the laboratory's ongoing growth.

Watch the interview
with Dr. Caciagli



*“I think we made the right choice;
FlexLab has proven to be really
flexible, reliable and efficient.”*

Inpeco is the global leader in Total Laboratory Automation. The company's game-changing solutions combine open connectivity with full sample traceability to deliver secure test results and increased productivity to clinical laboratories around the world. To date, more than 2000 Inpeco TLA systems have been shipped to over 70 countries.

FlexLab™ is the proprietary Inpeco brand for the only truly-open automation system that allows laboratories to connect the analyzers of their choice and the specialties they need, regardless of the vendor. FlexLab is extremely versatile and can fit labs of any size, including those with very complex settings.

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