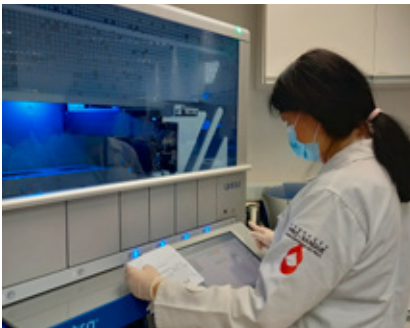


# SCALABILITY IN AUTOMATION FOR TRANSFUSION AGENCIES OF THE PRÓ-SANGUE FOUNDATION

Process optimization through the introduction of automation

TYPING



The **Pró-Sangue Foundation** is among the five largest blood banks of Latin America and it is the reference center for the Pan-American Health Organization and for the World Health Organization.



**Monthly, the Foundation collects and processes nearly 10,000 blood bags, aimed at the service of approximately 100 public health institutions in the state of São Paulo.**

## **Optimization provides quality**

Established in 1984, the Pró-Sangue Foundation's primary mission is to provide blood, blood components, and hemotherapeutic services in accordance with current legislation and international quality standards.

In response to high transfusion demand and concern for ensuring quality of the processes performed, the transfusion agency turned to automation, which enables increased safety, quality, reproducibility and traceability of the process, which are the pillars of the Foundation.

## **Transfusion safety is a primary driver**

A phenotyping transcription error that occurred in 2012 culminated in two incompatible ABO kidney transplants, and thus demonstrated the need to increase safety in the process. Additionally, the Foundation noted that technicians working night shifts experienced fatigue, which increases the likelihood of human error. With these factors in mind, automation became necessary.

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## Fast facts

- 500,000 patients per year
- 100% automated laboratories since 2019
- Transfusion units and their equipment:
  - Agencia Central: Erytra
  - Instituto do Coração: Erytra Eflexis
  - Mandaqui: Erytra Eflexis
  - Centro Cirurgico: Wadiana
  - Insituto da Infância: Wadiana
  - Instituto do Cancer: Wadiana
  - Dante Pazzanese: Wadiana
  - Castelo Branco: DG Reader



**“Automation contributes significantly to the accreditation process by increasing safety and traceability through the entire test flow.”**

*— Dra. Carla Luana Dinardo, chief of immunohematology division of Pró-Sangue Foundation*

## Project of transfusion agency automation

Beginning with large routines in 2013, such as surgical and neonatal procedures, a gradual process of expansion occurred by offering equipment to serve each unit.

Criteria for choosing the best automation solution was based on the number of samples and the patient profile to be tested. The equipment profile for each laboratory was necessary to optimize the functionality of agencies.

## Results after implementation

Automation increased the number of samples released in less than three hours from 75% to 90%, providing more time and resources for the investigation of complex cases.

Other benefits include:

- Standardization and traceability in the process of releasing results during the night shift
- Increased laboratory productivity
- Alignment with accreditation processes
- Relocation of staff to implement new routines

## Conclusion

Automation in the patient's routine enabled an improvement in the quality of the tests, with the ability to track the steps performed and the materials used.

The reproducibility of the tests in any laboratory of the institution is possible because the same consumables are used regardless of the type, model, and size of the instruments installed in the units.

Even with a 30% reduction in the number of employees, it was possible to implement new routines, such as molecular and cellular biology.