inpeco

FlexPath™

The world's first solutions for complete traceability of histological samples, with **innovative and direct control** of automated processes.

Our **History**

30+ years of Clinical Lab Automation experience

1990

Gian Andrea Pedrazzini founded Inpeco

1994

First automation Prototype at San Raffaele Hospital, Milan

1995

First Inpeco System on Show at AACC

2000

Agreement with Dade Behring for StreamLab

2005

Agreement with Abbott

2006

150 automated systems installed in 4 continents

2011

New manufacturing unit in Val della Torre

2013

ProTube™ launch

2018

New Swiss Headquarters

2019

Inpeco delivers its 2000th lab automation system

2020

ProTube™ Mobile launch

2021

Molecular & Urinalysis on TLA

2022

Inpeco new Brand Identity Reveal

2023

FlexPath™ launch Automation in Anatomical Pathology Labs

Leading **Clinical Lab**

Automation Solutions

FlexLab™

POST-ANALYTICAL

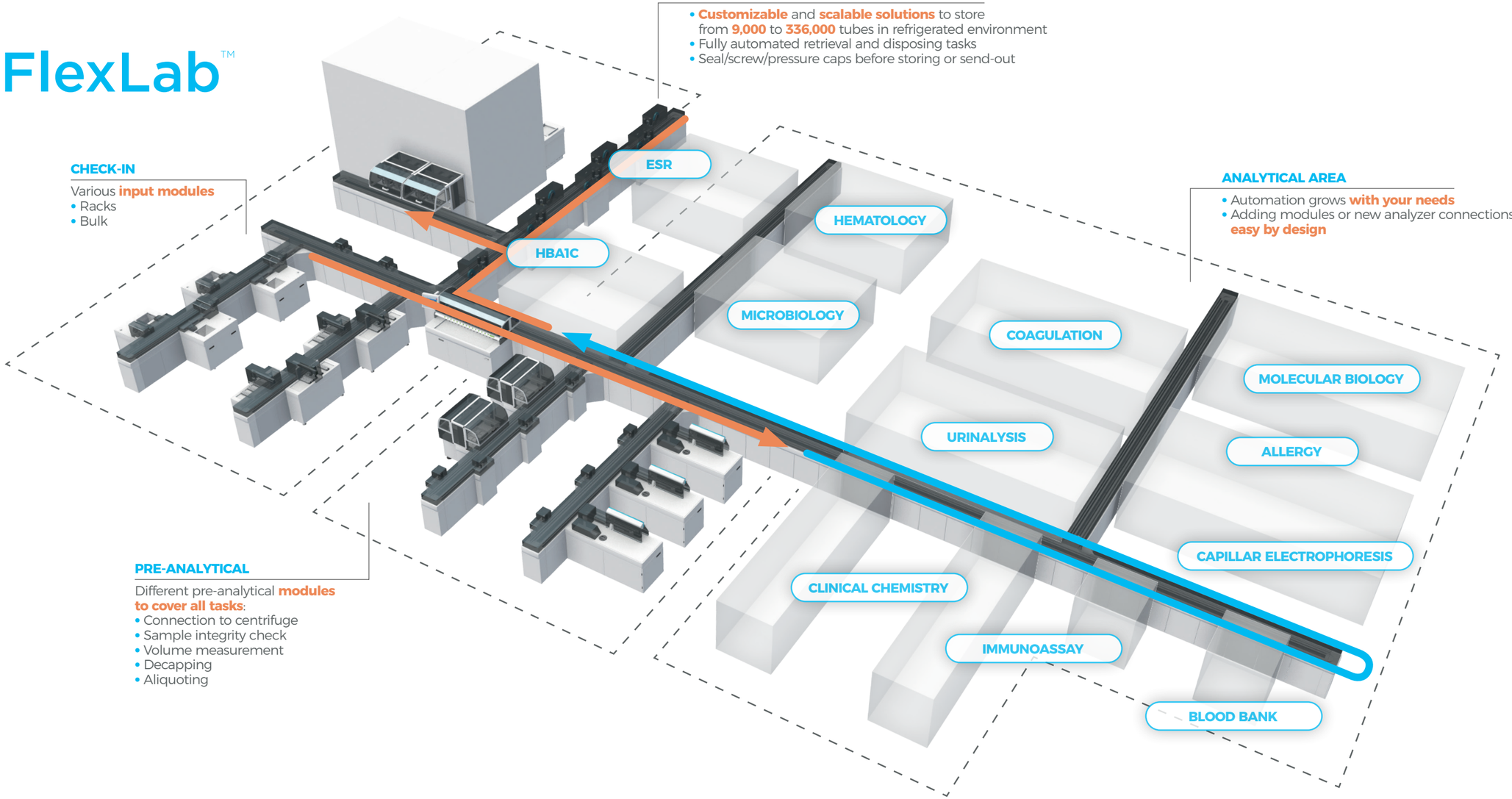
- **Customizable** and **scalable solutions** to store from **9,000** to **336,000** tubes in refrigerated environment
- Fully automated retrieval and disposing tasks
- Seal/screw/pressure caps before storing or send-out

CHECK-IN

Various **input modules**
- Racks
- Bulk

ANALYTICAL AREA

- Automation grows **with your needs**
- Adding modules or new analyzer connections **easy by design**



PRE-ANALYTICAL

Different pre-analytical **modules to cover all tasks**:
- Connection to centrifuge
- Sample integrity check
- Volume measurement
- Decapping
- Aliquoting

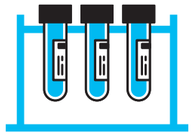
50+ Analyzer Connections

25+ IVD Manufacturers

10+ Clinical Specialties

18+ Modules

How Inpeco's **Automation Solutions**
impact the Clinical Laboratory



QUALITY

Support accurate test results and patient care through full traceability

COST

Automation can reduce headcount costs by 15%[1]

SPEED

Reduce turn around time (TAT) by 29%[2]

SAFETY

No contamination and better overall quality control

GROWTH

Automation allows to increase the number of tests processed, by 10%[3]

SOURCES

1 Clinical laboratory automation: a case study, Claudia Archetti,1 Alessandro Montanelli,2 Dario Finazzi,1 Luigi Caimi,2,3, Emirena Garrafa2,3 |Journal of Public Health Research 2017; volume 6:881
2 Improvement in laboratory test turn around times for in patients following move to hub and spoke model of delivery, David James, Derek Truman | Practical LaboratoryMedicine1(2015)2–4
3 Evaluation of the impact of a total automation system in a large core laboratory on turnaround time - Amy H. Lou, Manal O. Elnenaei, Irene Sadek, Shauna Thompson, Bryan D. Crocker, Bassam Nassar | Clinical Biochemistry 49 (2016) 1254–1258

Building on the legacy of Inpeco's Flexlab™
Clinical Lab Automation System

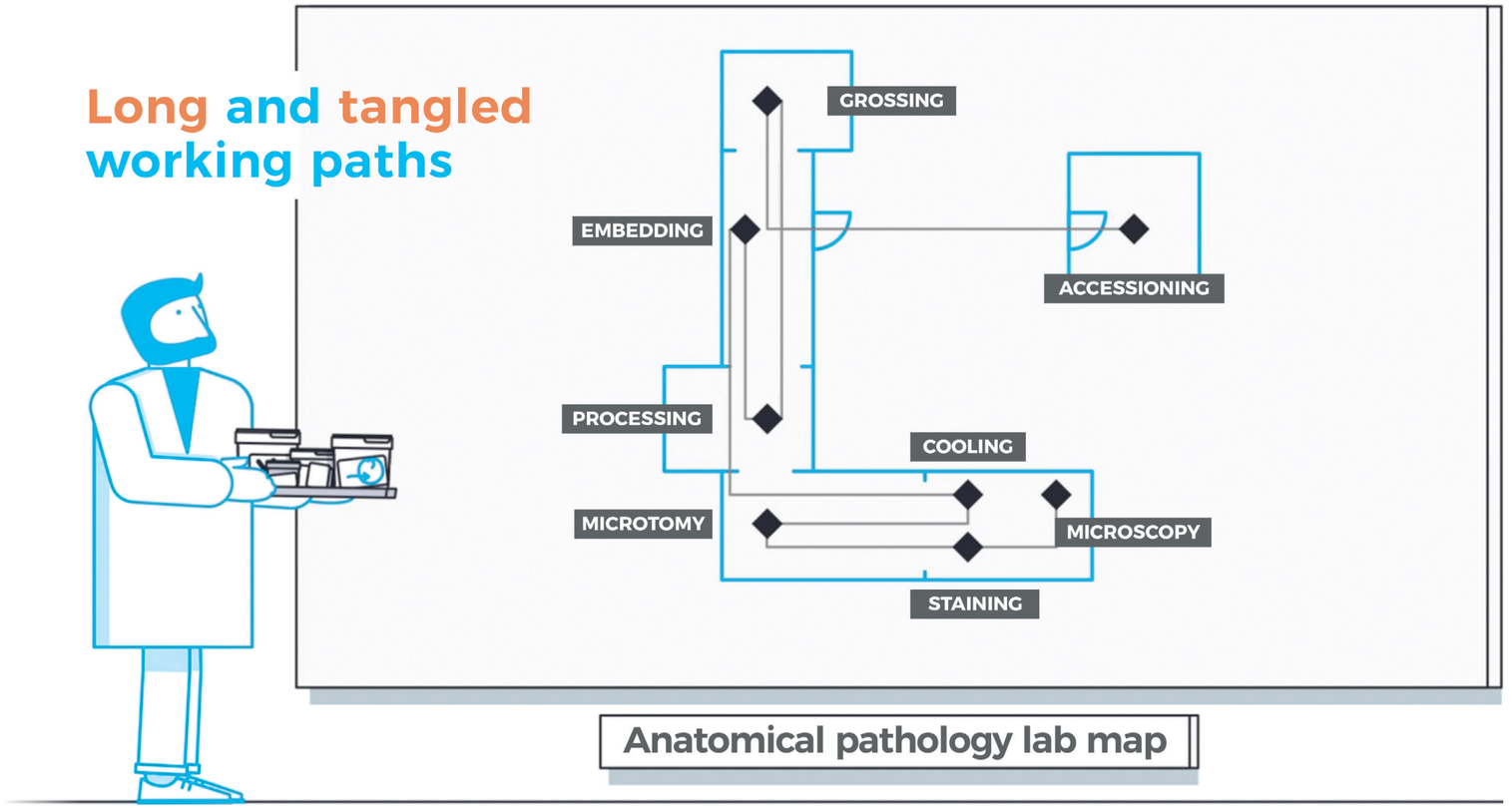
FlexPath™

Inpeco's **automation and traceability solutions for Anatomical Pathology labs**.

Anatomical Pathology Labs Today

The Diagnostic Pathway is manually

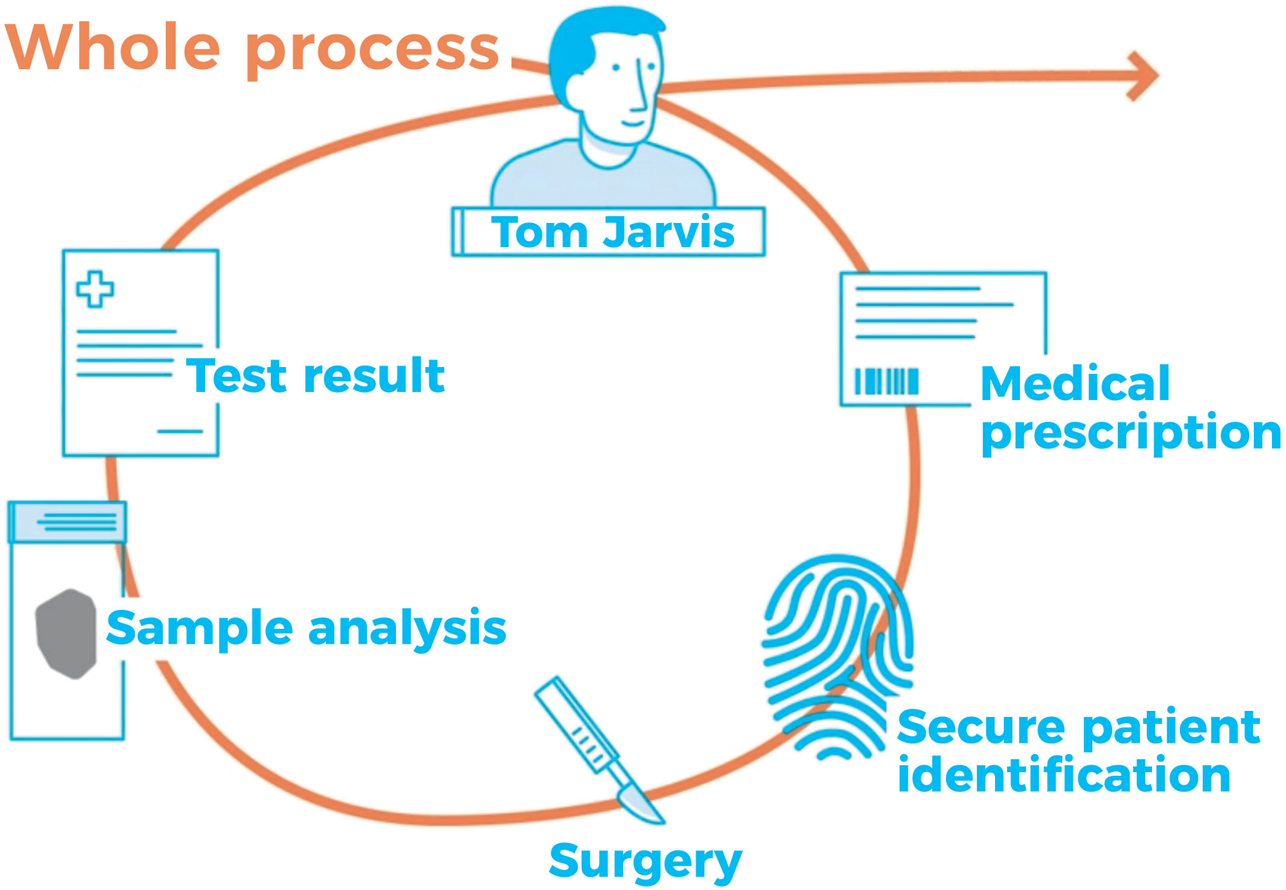
The current diagnostic pathway of a histological specimen is subject to **several processes**, often **manual**, performed in the various stages of processing in the pathology laboratory. This **long** and **tangled working path** is not supported by a complete automation of the process, nor by a traceability of the sample from the point of collection.



The Goal

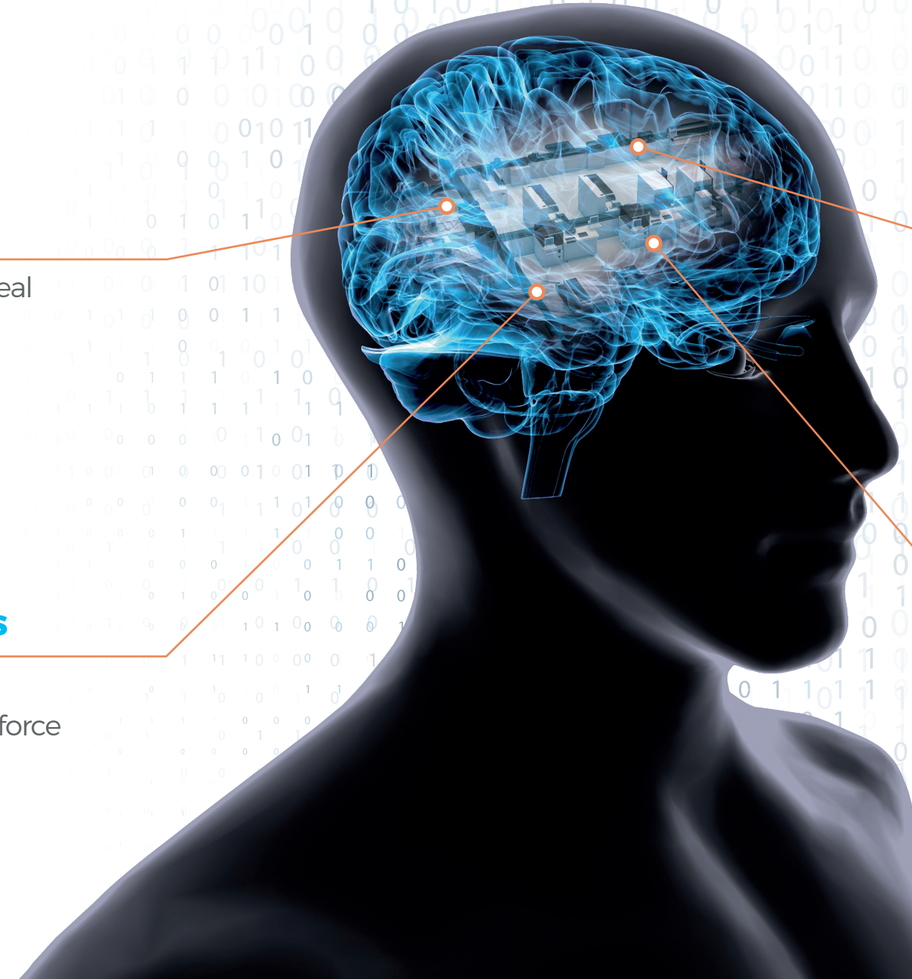
A Total Automation of the Diagnostic Process in Anatomical Pathology labs

As for the clinical laboratory, Inpeco proposes to offer for the Anatomical Pathology a **Total Automation of the Diagnostic Process** of the histological sample, including **Full Traceability**, starting from the medical prescription and including the final archive.



Four design principles that **will change the game**

Inpeco FlexPath™ is a suite of automation products that ensures full sample traceability in Anatomical Pathology laboratories, based on 4 pillars:



1. Data Collection & Traceability

100% Standardization & Real Time monitoring

2. Uncompromised instrument integration

100% Open connectivity allows customer centric innovation

3. Automation of non-technical tasks

100% Efficiency through re-distribution of lab work force

4. Automation of specimen handling

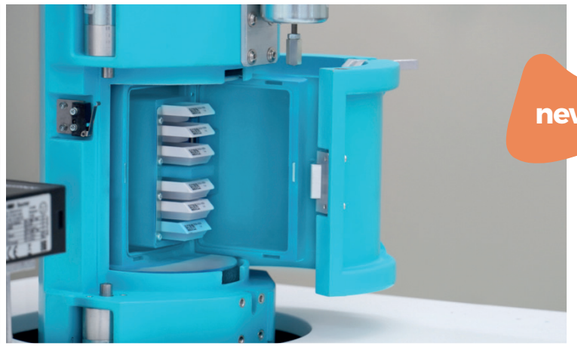
100% lean-management implementation and optimized workflow

FlexPath™ **Family**

The new way to automate Anatomical Pathology labs

Inpeco's new family of products for complete **specimen traceability** and **process automation** of the paraffin block cycle.

FlexPath™ Trace
Operator-guiding traceability solution



FlexPath™ Move
Automated sample transport management system

FlexPath™ Blox
Automation-assisted embedding module

FlexPath™ Store
Automated paraffin blocks storage

FlexPath™ Family

For complete specimen traceability and process automation of the paraffin block cycle

Embedding | FlexPath™ Blox

Transportation | FlexPath™ Move

Storage | FlexPath™ Store

Microtomy

FlexPath™ Trace

Operator-guiding traceability solution

What is FlexPath™ Trace?

FlexPath™ Trace is an operator-guiding traceability solution that ensures **full chain of custody**, from sample collection all the way to the final diagnosis and histological specimen archive. By **guiding the operator** through every step of the process leading to histological diagnosis, FlexPath™ Trace ensures individual sample management and standardized procedures. It offers quick and smooth **integration of all devices** available in the lab. Moreover, FlexPath™ Trace is fully integrable and scalable to different HIS and AP LIS.

A unique and innovative solution that tracks the histological sample from the collection point all the way through to diagnosis and archiving.

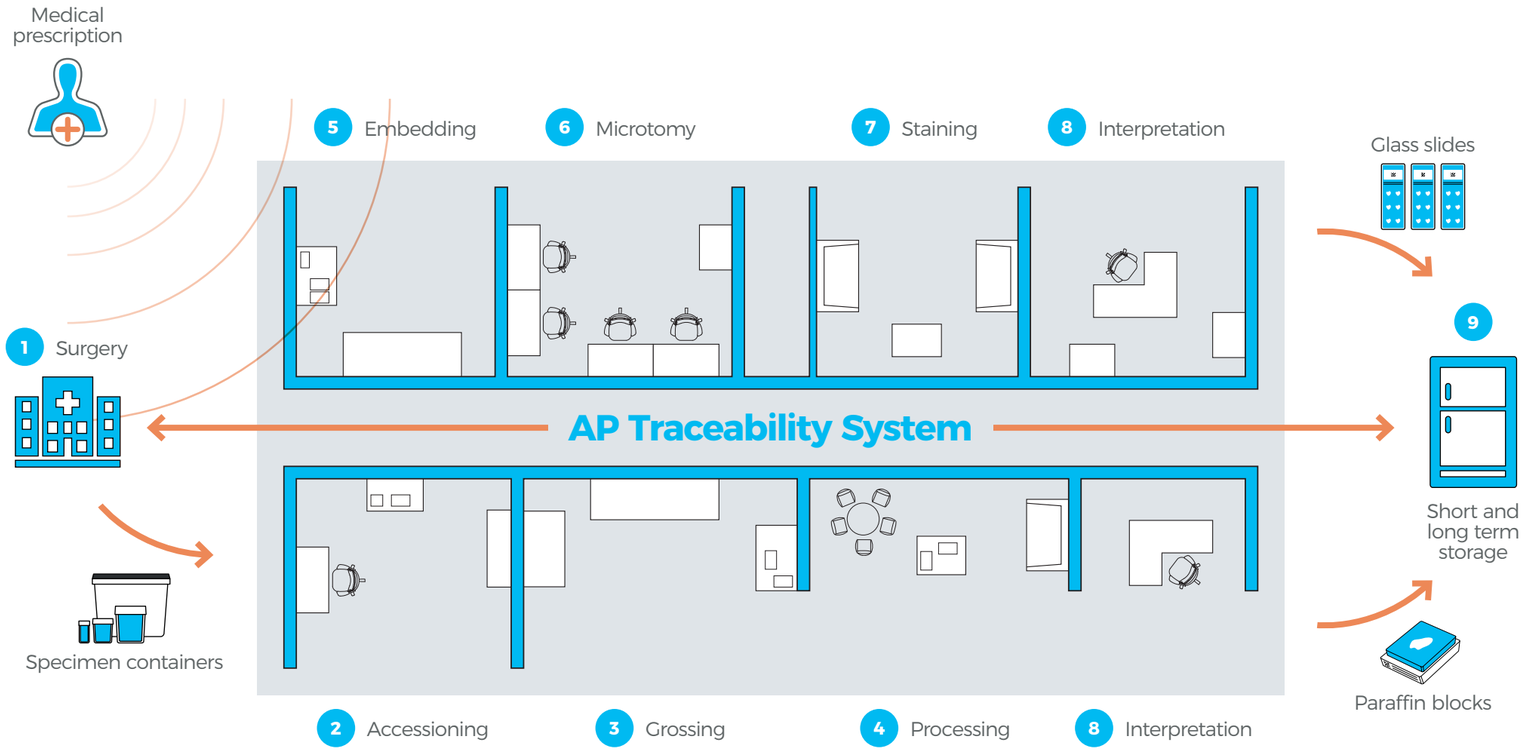
Benefits

1. Patient/Specimen verification
2. Full sample traceability
3. Data collection
4. Operator guidance

FlexPath™ Trace

Operator-guiding traceability solution

FlexPath™ Trace is composed by mini PCs covering each phase of the diagnostic path, running its own applicative instance.



FlexPath™ Trace **Station**
1. Surgery and fresh sample
2. Accessioning
3. Grossing
4. Processing
5. Embedding
6. Microtomy
7. Staining
8. Interpretation
9. Short and long term storage

FlexPath™ Trace

What It Manages

LIS-HIS Integration

Receives and exchange information from HIS and LIS for clinical case management

AP Workflow

Represent the Operator GUI for process management and even traceability

Third Part Integration Lab Device

Allow the integration of the devices already placed in the lab

FlexPath™ Module Integration (1)

Allows Automation Management via GUI interfacing to ensure proper management of the technical task

FlexPath™ Module Integration (2)

Allow technical device task management (traceability log, diagnostic)

Sample Logistic System

Integrates with the mission manager to ensure correct sample routing

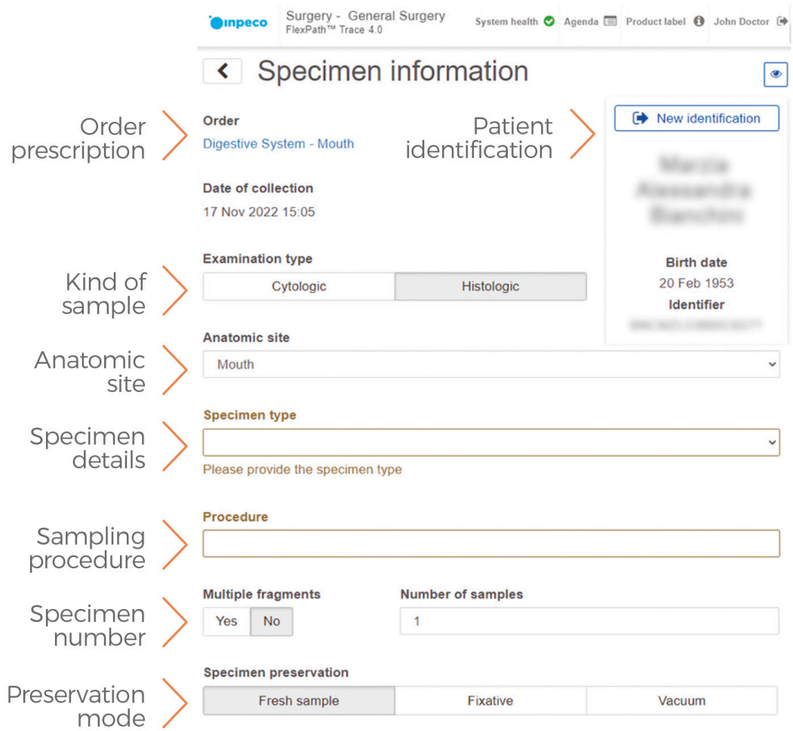
FlexPath™ Trace

Operator-guiding traceability solution

Sample Collection

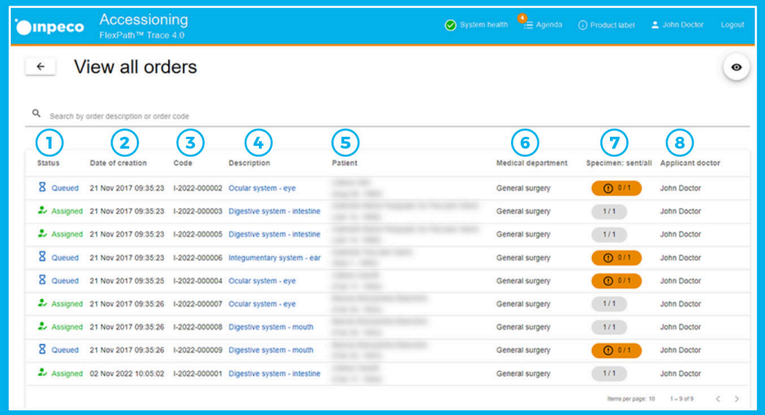
- Surgery rooms
- Ambulatory rooms
- External POC sites

NEW! - Collection Point



NEW! - Accessioning

After sample collection, a lab requisition is sent to the accessioning area. This request creates an order list for the accessioning station of the lab.
In this way the lab can easily review the expected workload and schedule all daily activities accordingly. The lab is always aware of which samples have been sent out, which ones are late on their path to the lab, and which ones have not yet been sent.



1. Order status
2. Order creation date
3. Order alias
4. Order description
5. Patient ID
6. Order dept. sourcedate
7. Specimen delivery status
8. Order user source

FlexPath™ Trace

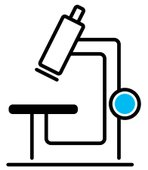
Operator-guiding traceability solution

- The data collected by FlexPath™ Trace offer the possibility to refine processing protocols, advanced staining and molecular testing, based on pre-analytical parameters.
- No more doubts during the pre-analytical phase, no more undesired events in your lab: All sample information is collected in few steps, from sample types to fixation conditions, such as time and temperature.
- FlexPath™ Trace can track all the sample processing phases, from collection points and the laboratory, and its conditions. It is a middleware IT solution (no LIS replacement required) and it brings with it the automation software too, for the other Inpeco's solutions of the FlexPath™ family.

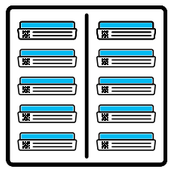
Sample collection

AP lab task

Diagnosis



Storage



FlexPath™ Blox

Automation-assisted embedding module

What is FlexPath™ Blox?

FlexPath™ Blox is Automation-assisted embedding module that automates all the non-technical steps of the delicate wax embedding phase of histological samples, allowing the operator to fully concentrate on the tissue orientation. While ensuring **complete traceability and sample unique management**, it maintains paraffin in granes, thus preventing denaturation and yellowing, and features a cold plate that avoids block cracks related to the thermal shock. FlexPath™ Blox also provides **automated blocks detachment**, case sorting as well as **automated and standardized wax dispensing** which reduces waste resulting from mold overfilling and manual handling.

An embedding module that automates all steps of the delicate wax embedding phase of histological samples, allowing the operator to fully concentrate on orienting the tissue.

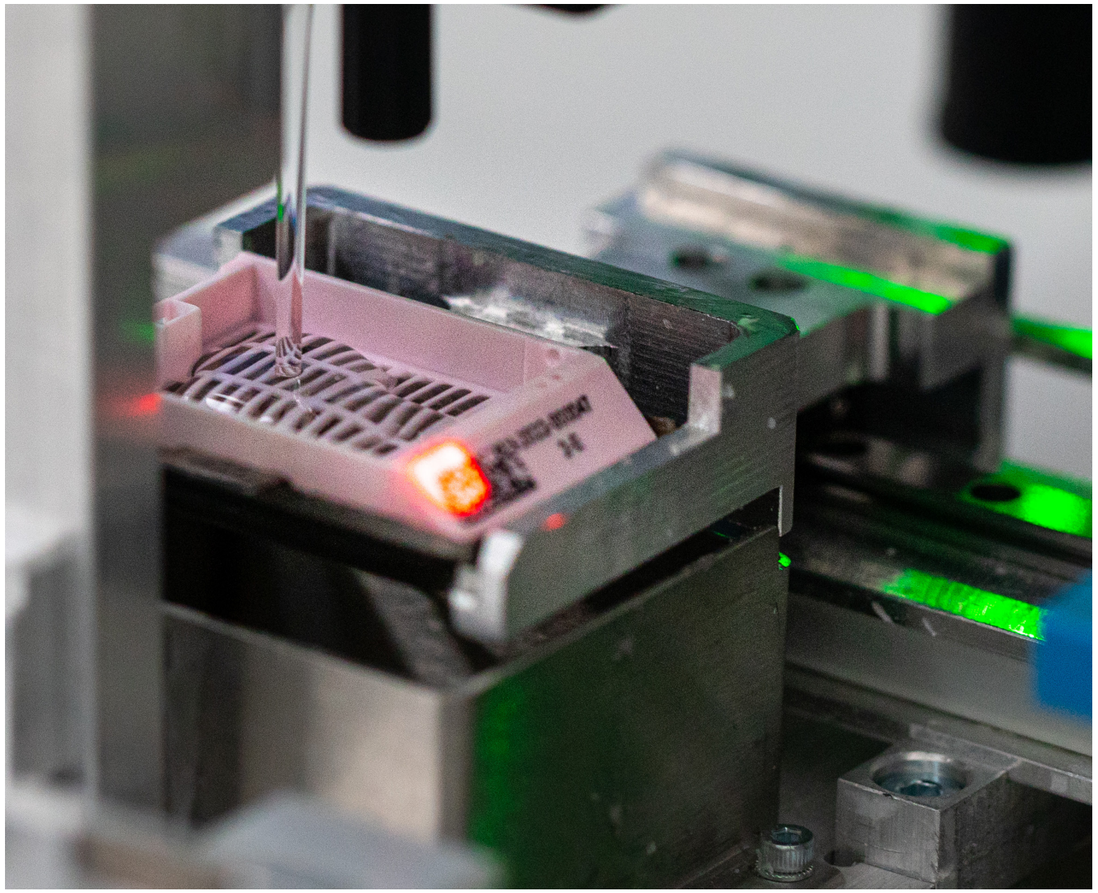
Benefits

- Operator can fully concentrate on tissue orientation
- Reduced waste
- Possible to work with common bio-cassettes on the market
- Three slots to receive the most common tissue processor baskets
- Production of blocks with pre-cleaned margins
- Automated molds reloading
- Productivity up to 120 blocks/hour

FlexPath™ Blox

Automation-assisted embedding module

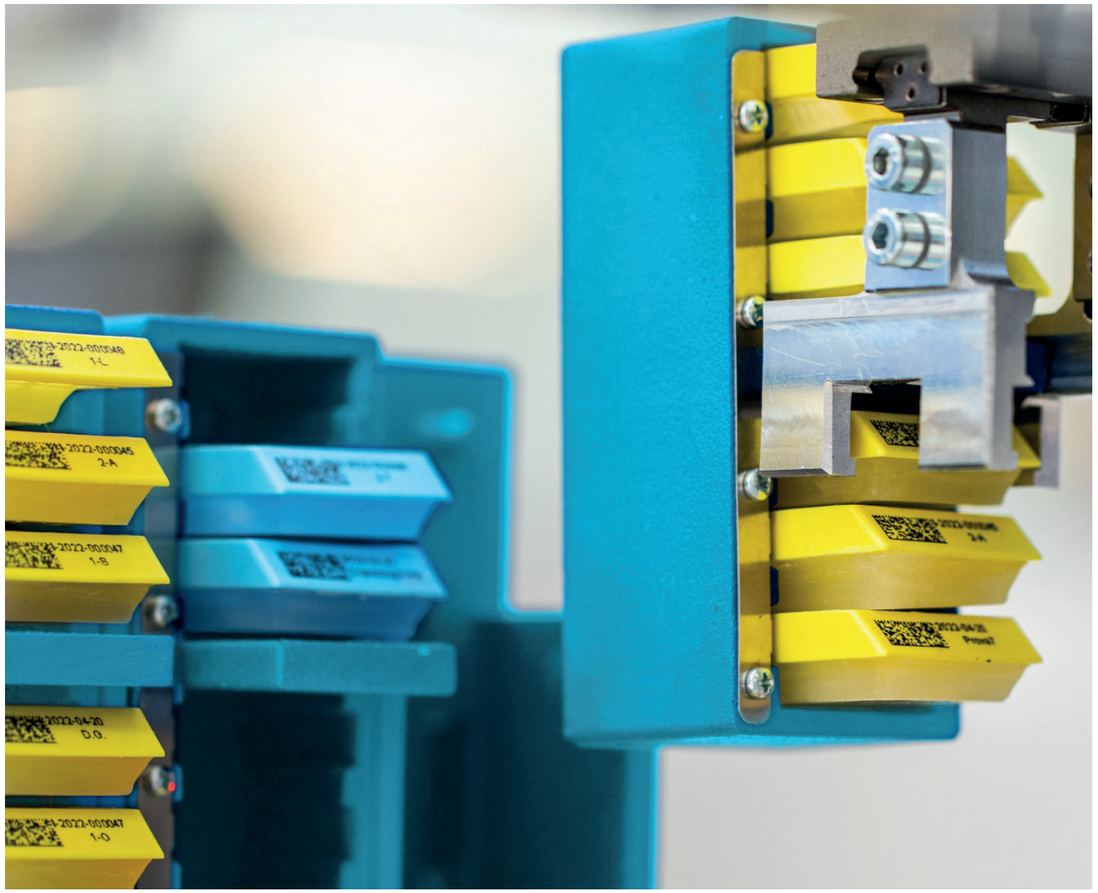
- FlexPath™ Blox best productivity reaches 120 paraffin blocks/hour.
- No need to clean the paraffin residues from blocks prior next step of cutting.
- Automatic transport sample management system FlexPath™ Move build in the module, to automatically transfer paraffin blocks to microtomy and storing area.



FlexPath™ Blox

Automation-assisted embedding module

- Lean batches of 6 blocks per trip (by case collection), are automatically delivered to microtomy by FlexPath™ Move automatic transport sample management system.
- The small batch is moved through a dedicated carrier loaded automatically inside the module.
- A carrier of 6 blocks can be shipped every 3 minutes according to the logistic managed by FlexPath™ Trace.
- FlexPath™ Blox can be simultaneously loaded up to 3 racks of the most common tissue processors and biocassettes, for an open integration of the solution with pre-installed devices.



FlexPath™ Move

Automated sample transport management system

What is FlexPath™ Move?

FlexPath™ Move manages the transport of blocks to microtomy and storage after the embedding phase, and ensures **automated blocks retrieval** from the storage*.

FlexPath™ Move deliveries are defined depending on the tissue type, on the lab technician's experience or on case priority. As a **tailor-made solution**, FlexPath™ Move offers uncompromized customization based on laboratory needs.

A transportation module that moves FFPE blocks from embedding to microtomy and final archiving.

*Certain module versions may not include all functionalities

Benefits

- Blocks distributed in small batches for continuous and easily manageable workload
- Customizable to any lab layout
- Customized and patented carrier system
- Automatic loading and unloading doors opening
- High speed deliveries up to 2 m/s

FlexPath™ Move

Automated sample transport management system

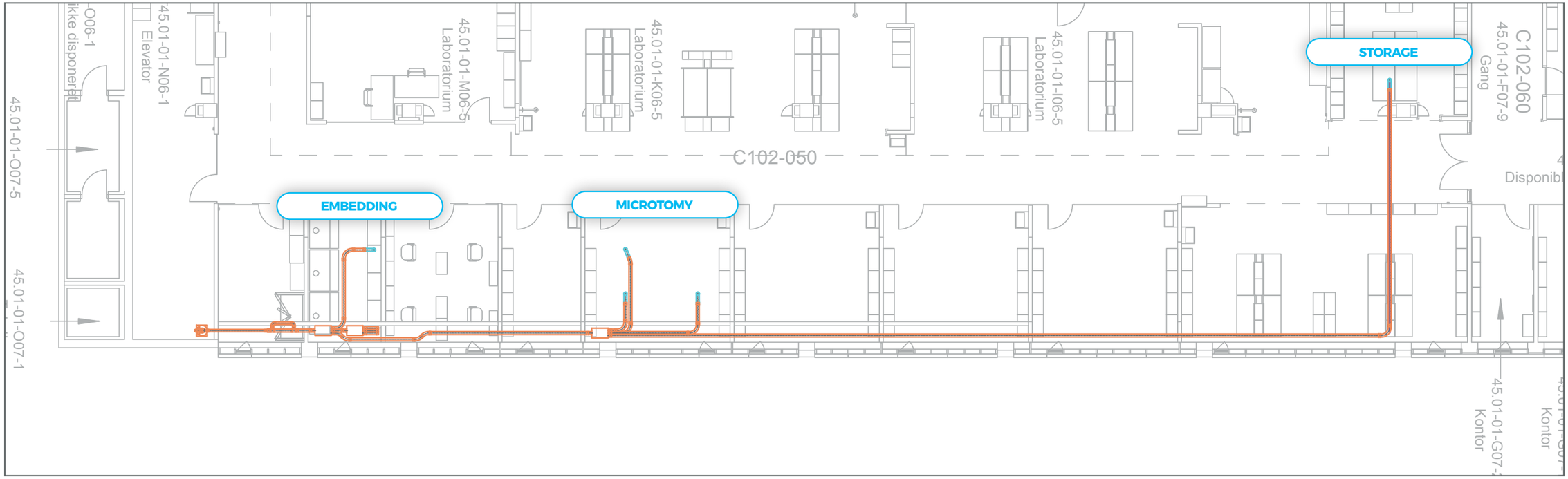
- FlexPath™ Move automated sample transport management system is a compact module designed to send automatically paraffin blocks to each microtomist stations.

- FlexPath™ Move connects automatically the working areas of the paraffin block cycle (embedding, microtomy and final storage).

FlexPath™ Move

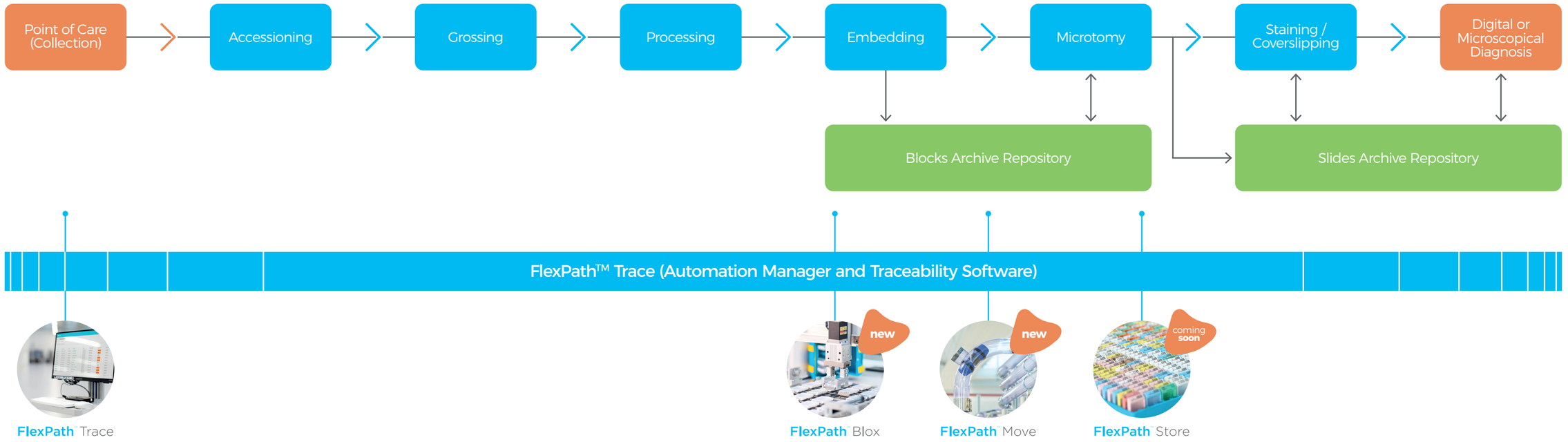
Automated sample transport management system

- Customizable to any lab layout
- Customized and patented carrier system with automatic loading and unloading doors opening
- High speed deliveries, up to 2 m/s (average 1,5 m/s)



Full Technology Flow in Pathology

Total Automation of the Histological Diagnostic Process



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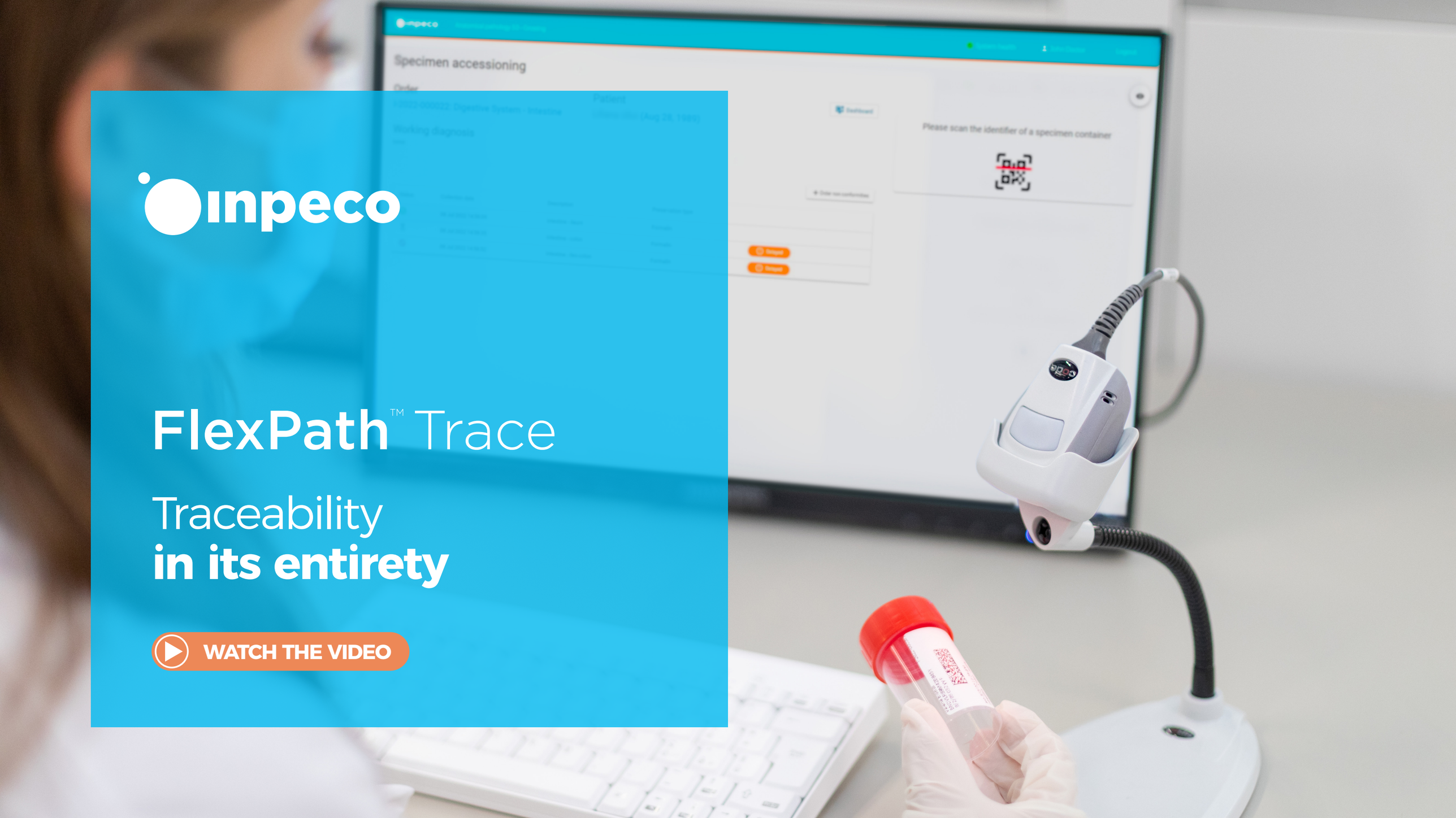
Are you **interested to find out more?**
For more information,
please visit inpeco.com or contact us
at marketing@inpeco.com



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FlexPath™ Trace

Traceability
in its entirety

WATCH THE VIDEO

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