Automation and Traceability in Anatomical Pathology

Automation is transforming Healthcare

CONFIDENTIAL

Global Leader in Total Laboratory Automation

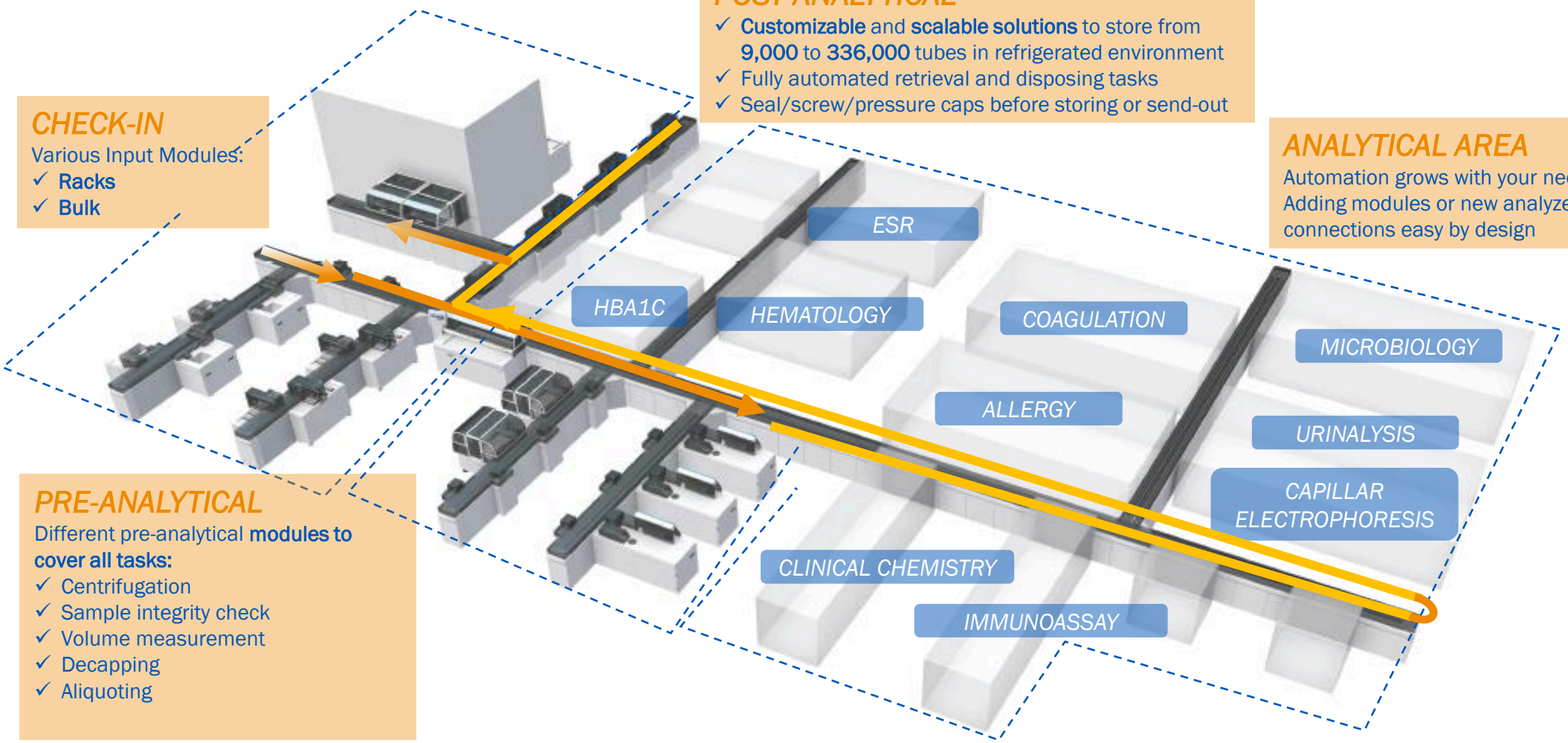
Leading Lab Automation Solutions

FlexLab

CHECK-IN
Various Input Modules:
- ✓ **Racks**
- ✓ **Bulk**

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

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:**
- ✓ Centrifugation
- ✓ Sample integrity check
- ✓ Volume measurement
- ✓ Decapping
- ✓ Aliquoting

+50 connections

25 companies

10 specialties

+18 modules

Our USP: Open automation

+50 connections already available

Labs before and after Inpeco

MANUAL PROCESS

Untidy settings
Risk of contamination
Uncertain results delivery
No sample traceability

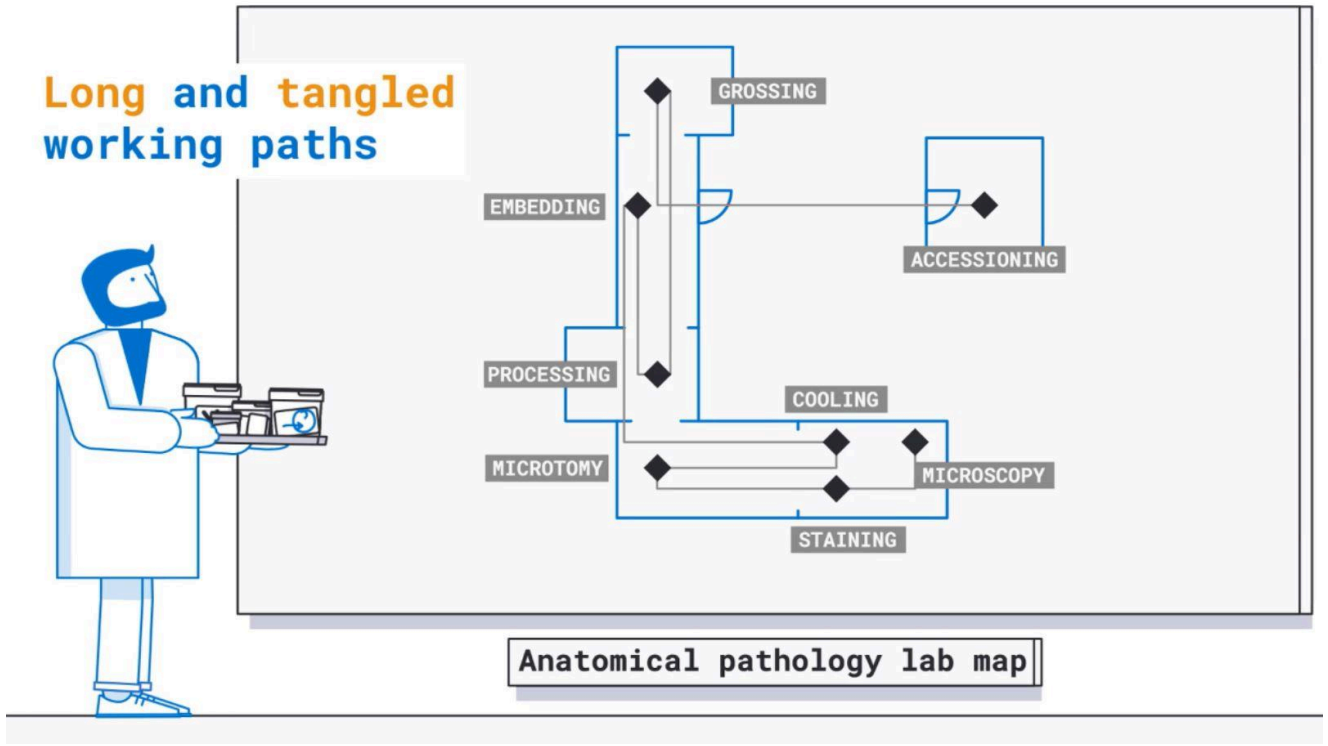
AUTOMATED PROCESS

Total sample control
Efficient and tidy workflow
Predictable turnaround time
Certified results

Inpeco in Anatomical Pathology

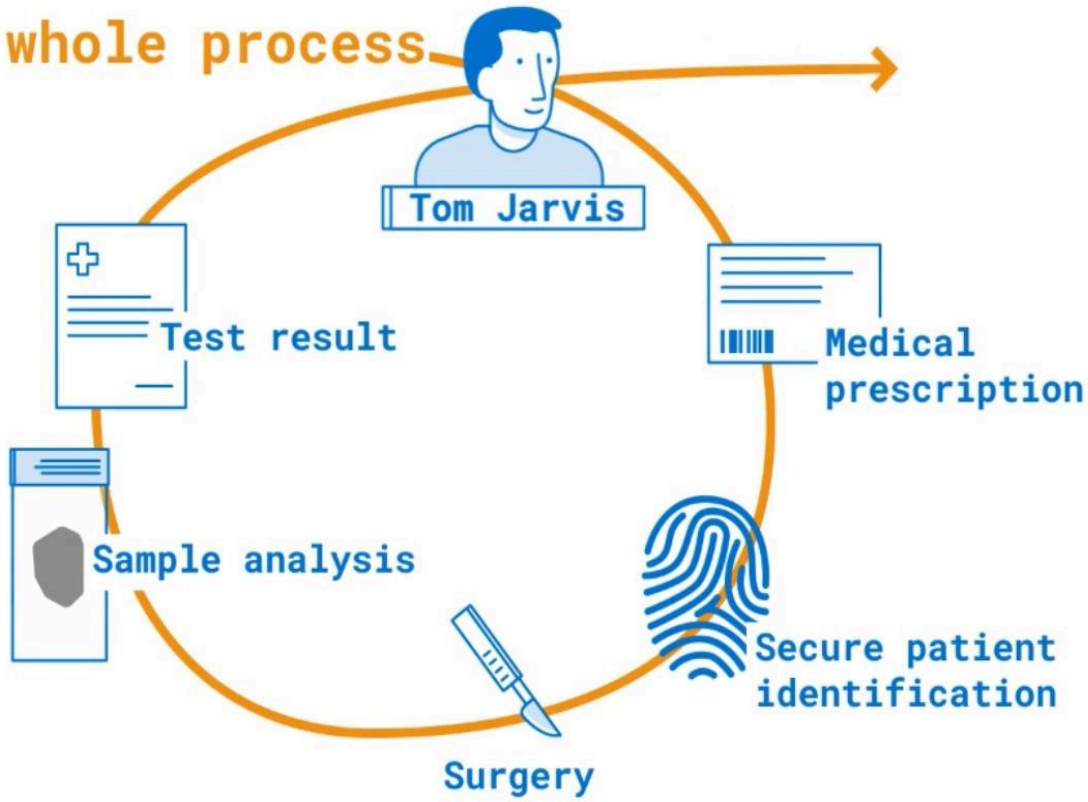
The Diagnostic Pathway in Anatomical Pathology

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.



Inpeco in Anatomical Pathology – The Goal

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.



Automation and Traceability in AP?
Four design principles that will change the game.

1 Data Collection & Guided Traceability

100% Standardization & Real Time monitoring (from Unstructured to structured data)

2 Automation of non-technical tasks

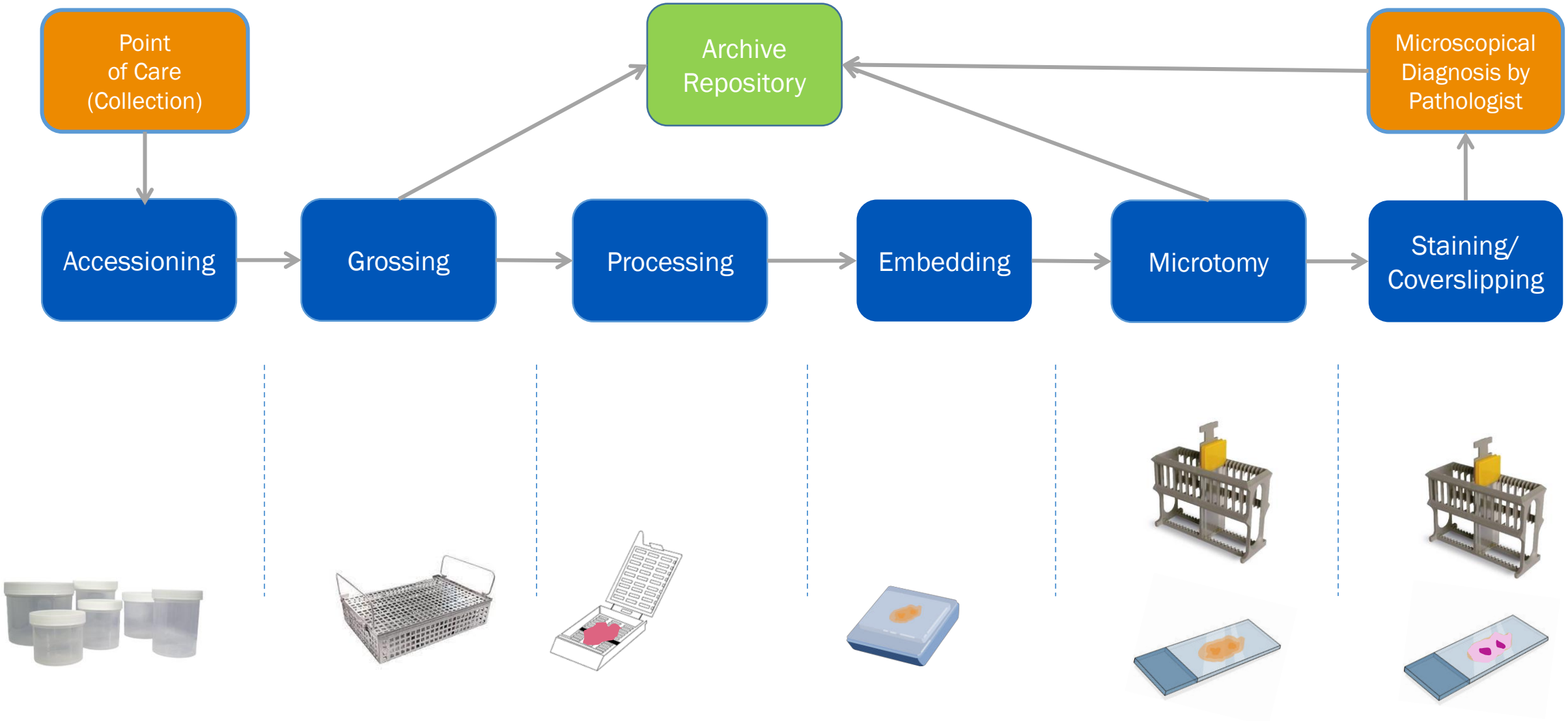
100% efficiency through re-distribution of lab work force

3 Uncompromised Instruments integration

100% Open connectivity allows customer centric innovation

4 Automation of specimen handling

100% lean-management implementation and optimized workflow

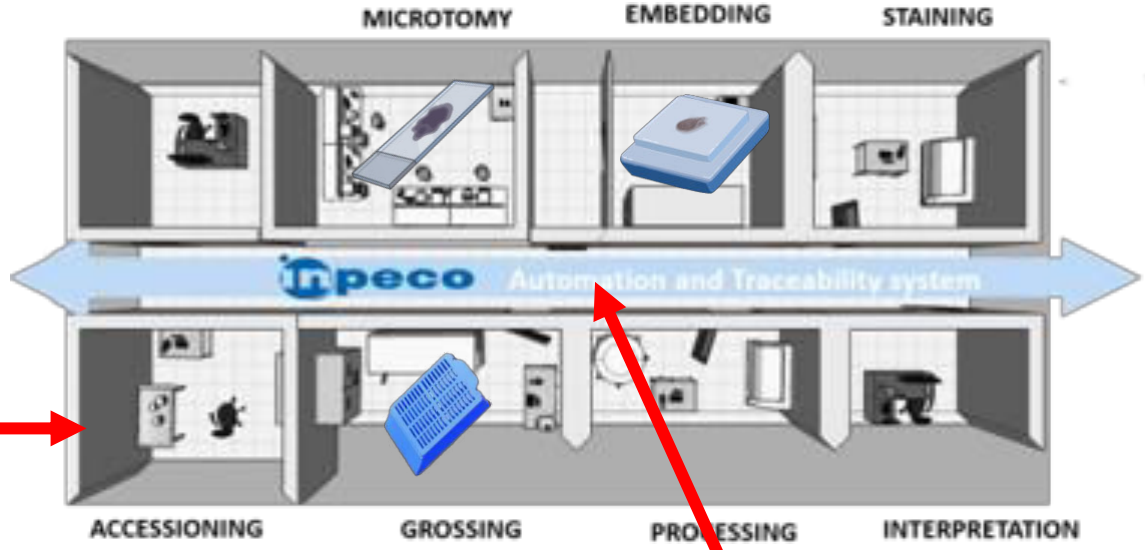

Point of Care (Collection)
Archive Repository
Microscopical Diagnosis by Pathologist
Accessioning
Grossing
Processing
Embedding
Microtomy
Staining/ Coverslipping

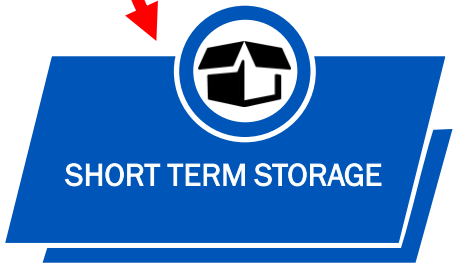
Automation and Traceability System in AP Lab

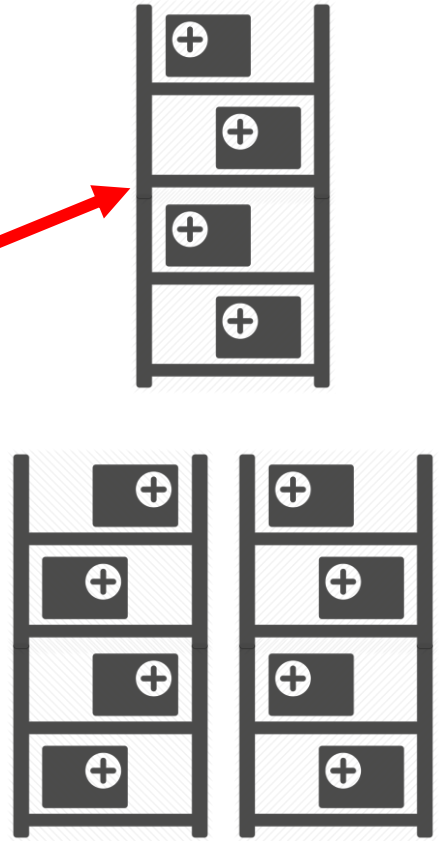
Ext collection point

Hospital perimeter

Automated long term storage







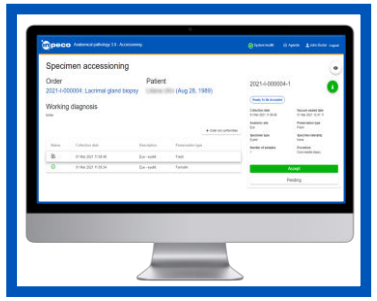
Int collection point

Building on the legacy of Inpeco's FlexLAB

FlexPath™

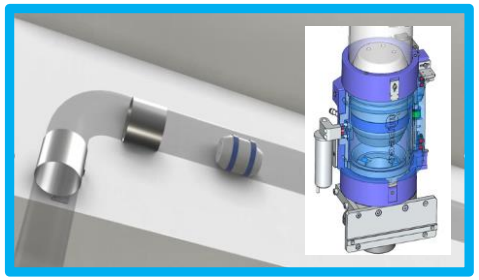
«FlexPath™, Inpeco's automation and traceability solutions for anatomical pathology labs.»

FlexPath™ – Products release 2022-23



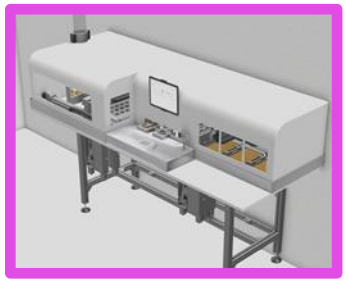
- FlexPath™ *trace*

Traceability Guided System



- FlexPath™ *move*

Sample Transportation System



- FlexPath™ *blox*

Automatic-Assisted Embedding module

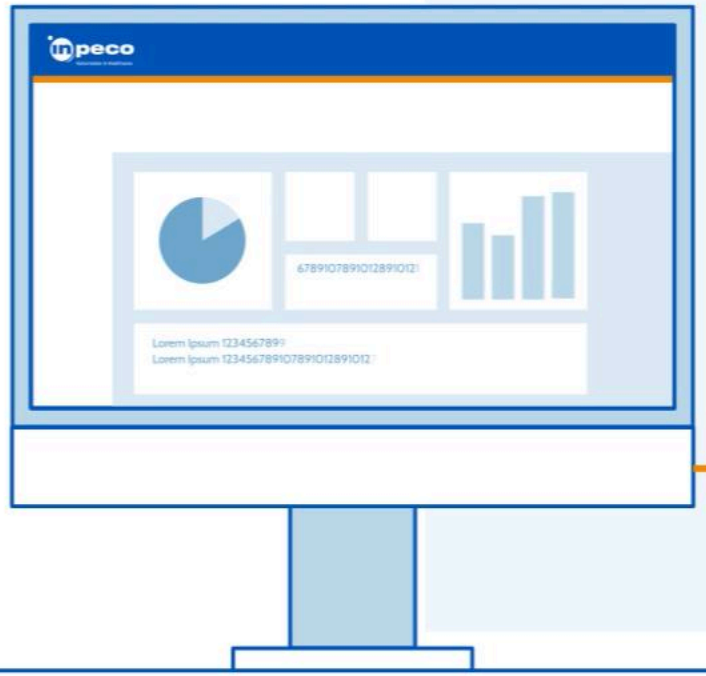
- FlexPath™ *store*

Automatic Paraffin blocks Storage

FlexPath™ *trace* -Traceability Guided System

Traceability Guided System

Automation in Healthcare



ARCHIVE REPOSITORY

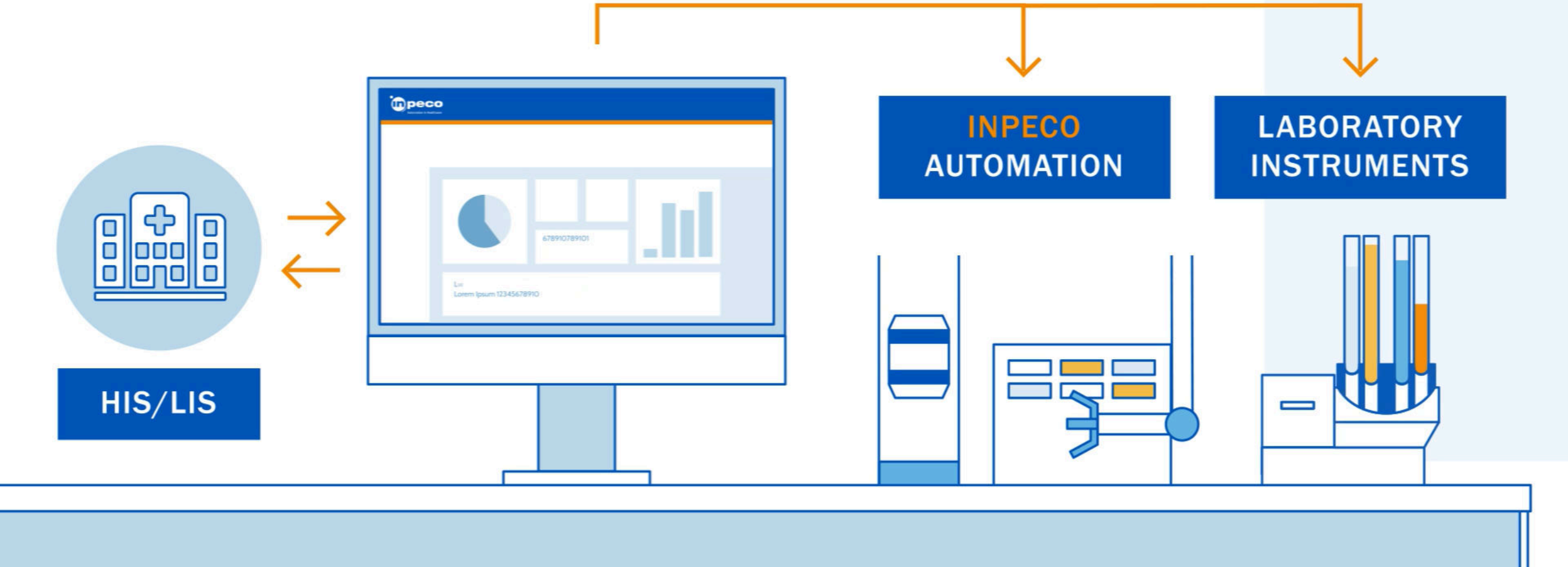
POINT OF CARE (COLLECTIONS)

MICROSCOPICAL DIAGNOSIS BY PATHOLOGIST

Traceability Guided System

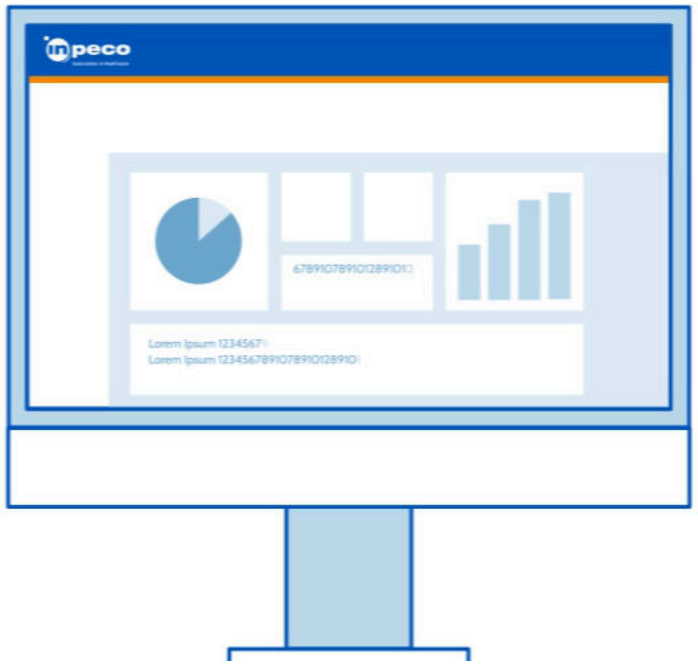
Automation in Healthcare

A data bridge between collection points and the Laboratory.



Traceability Guided System

Automation in Healthcare



- ✓ **Verifies** correct patient sample association
- ✓ **Tracks** the sample throughout the entire workflow
- ✓ **Collects** valuable data
- ✓ **Guides** the operator through the process

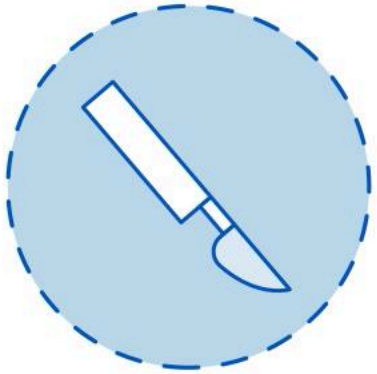
Traceability Guided System

Collection of pre-analytical data

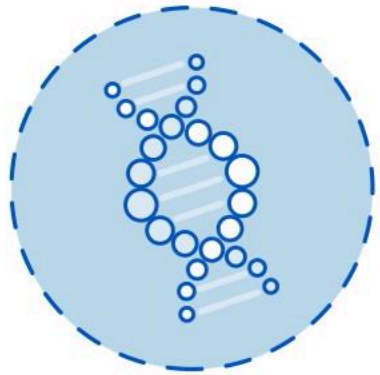
1. Type of Examination

HISTOLOGICAL SPECIMEN

CYTOLOGICAL SPECIMEN



FROZEN (EXTEMPORANEOUS) SPECIMEN

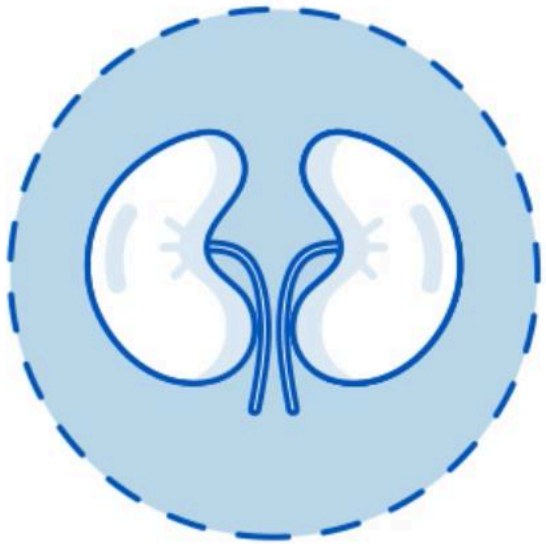


MOLECULAR BIOLOGY SPECIMEN

Traceability Guided System

Collection of pre-analytical data

2. Conditions

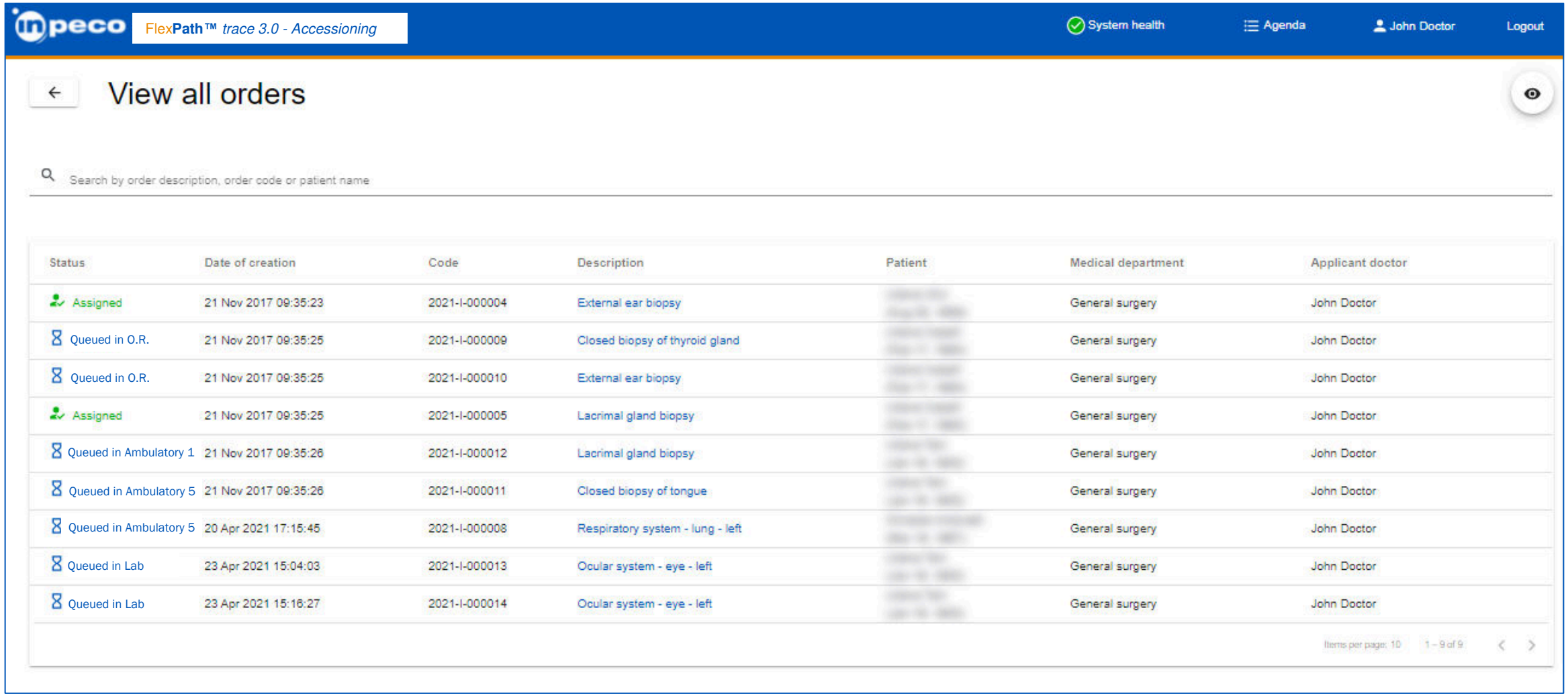


In fresh conditions

In fixative

In Vacuum bags

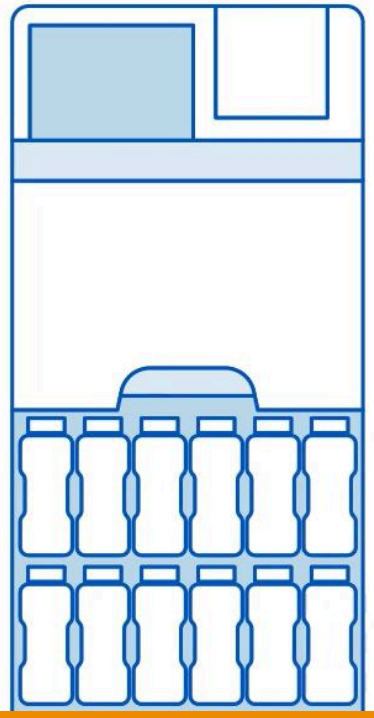
Histology Lab – Orders list



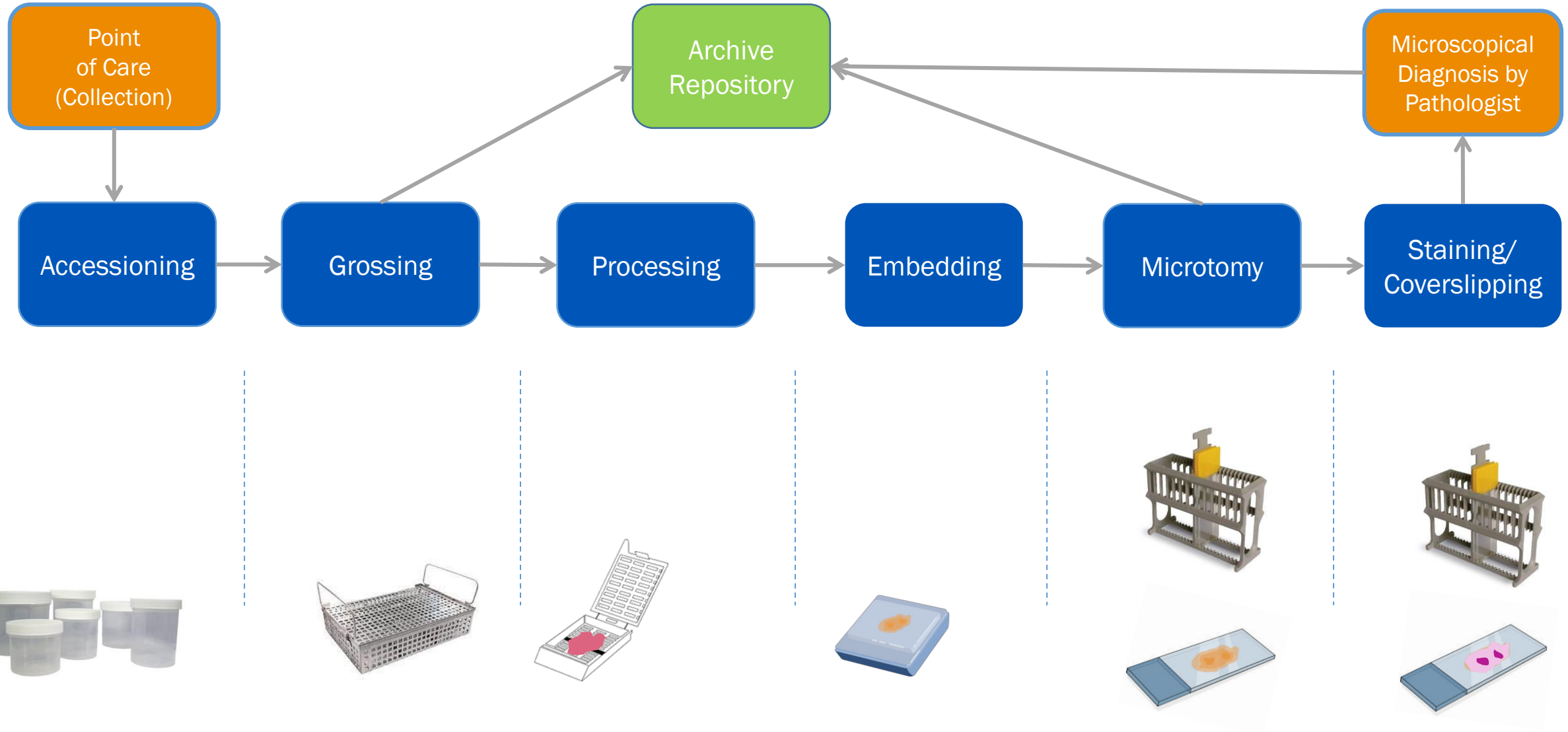
Traceability Guided System

Collection of pre-analytical data

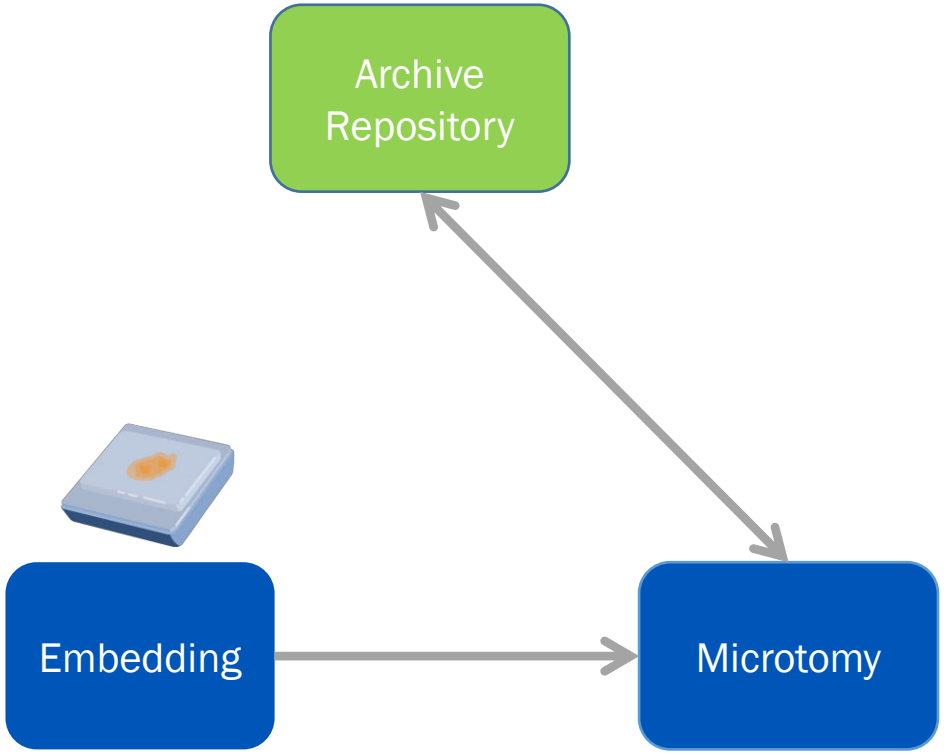
All collected data
is shared with
laboratory equipments



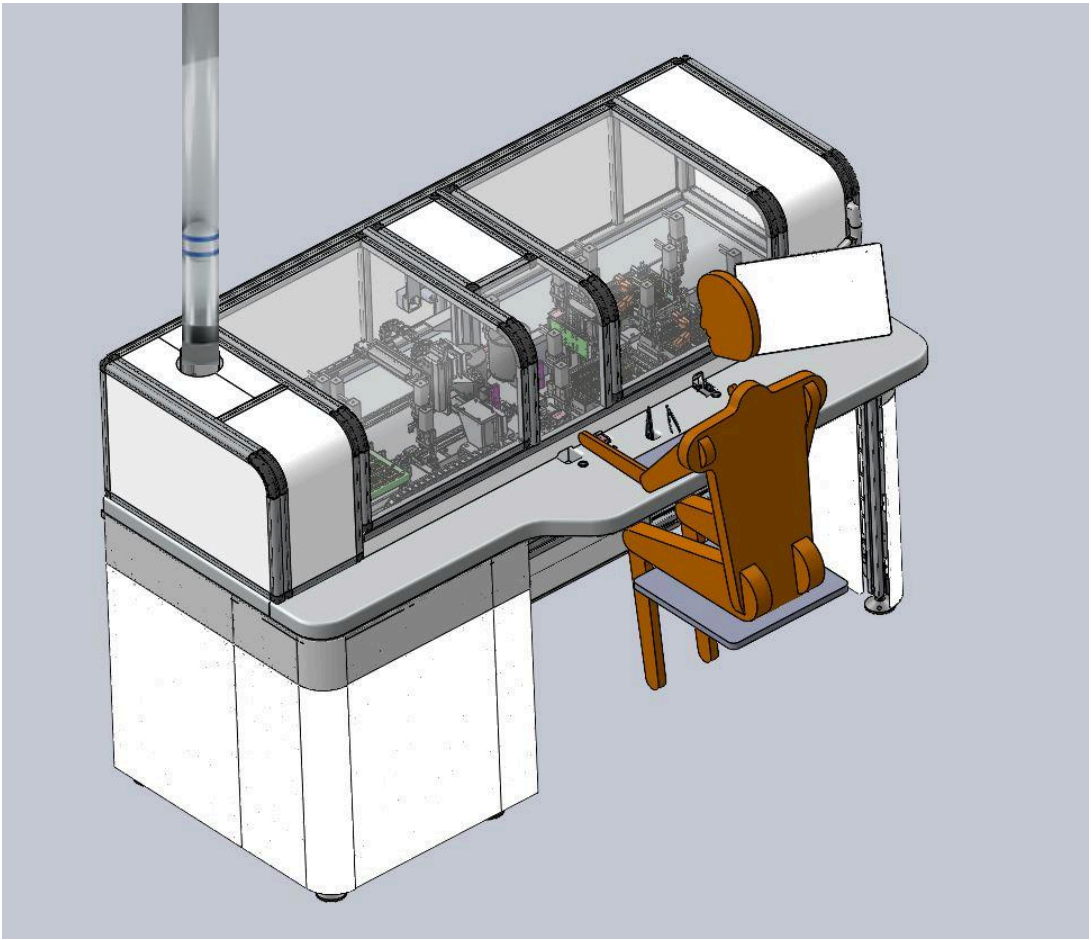
Automation of Non-Technical tasks and transportation


Point of Care (Collection)
Archive Repository
Microscopical Diagnosis by Pathologist
Accessioning
Grossing
Processing
Embedding
Microtomy
Staining/ Coverslipping

FlexPath™ - Automation of the paraffin block cycle



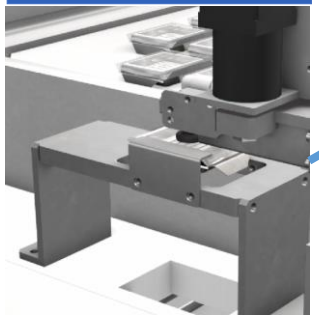
FlexPath™ *blox* - Automatic-assisted Embedding module



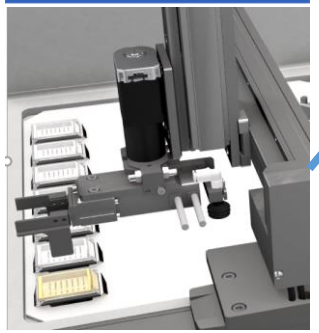
FlexPath™ *blox*

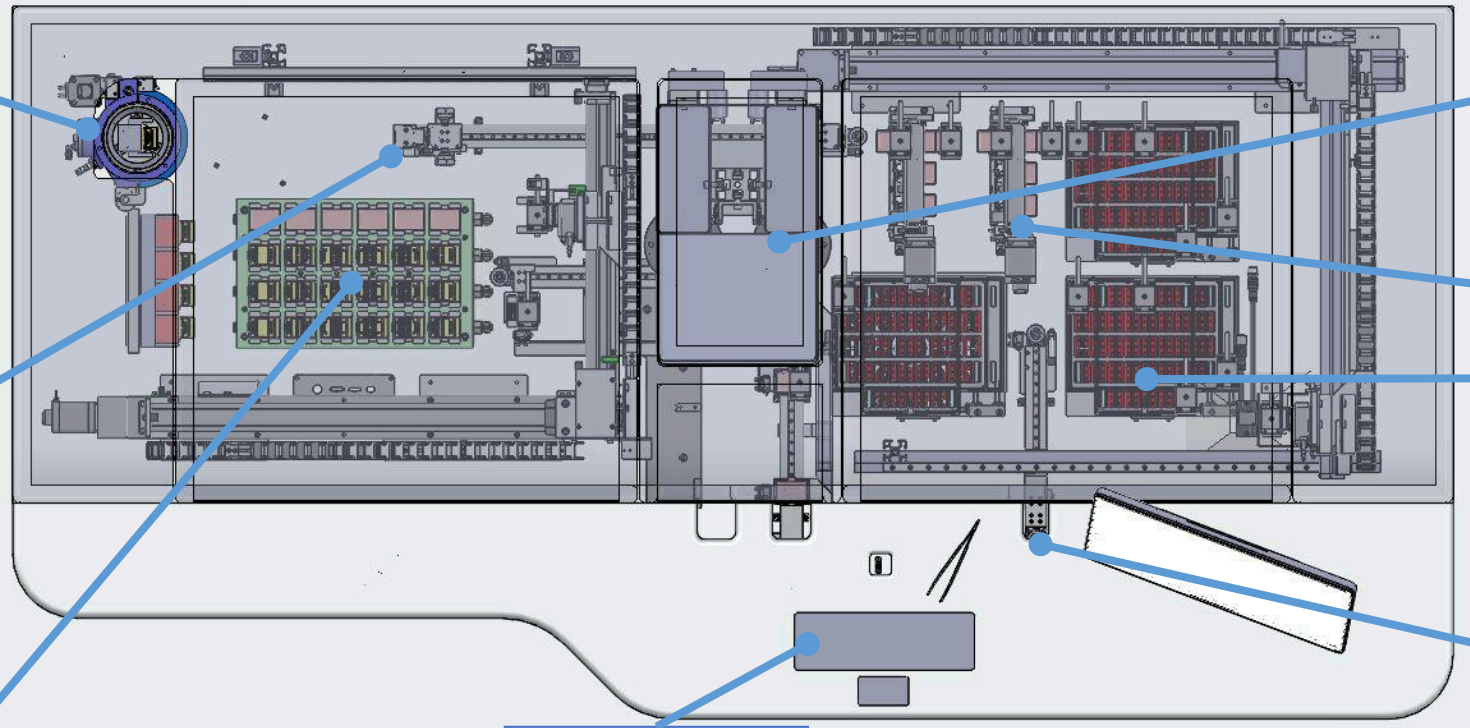
Transportation system

Mold Detachment

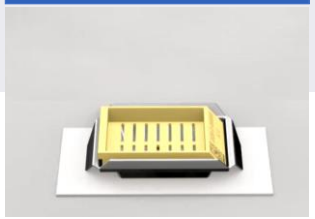


Cooling system

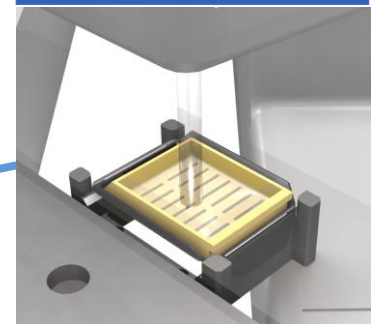




Orientation area



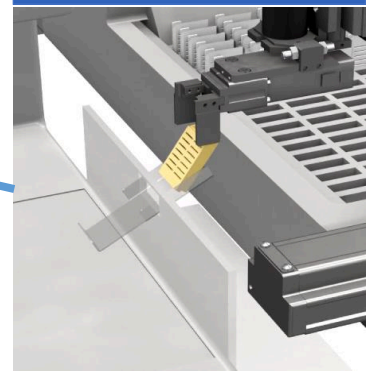
Auto-Paraffin dispenser



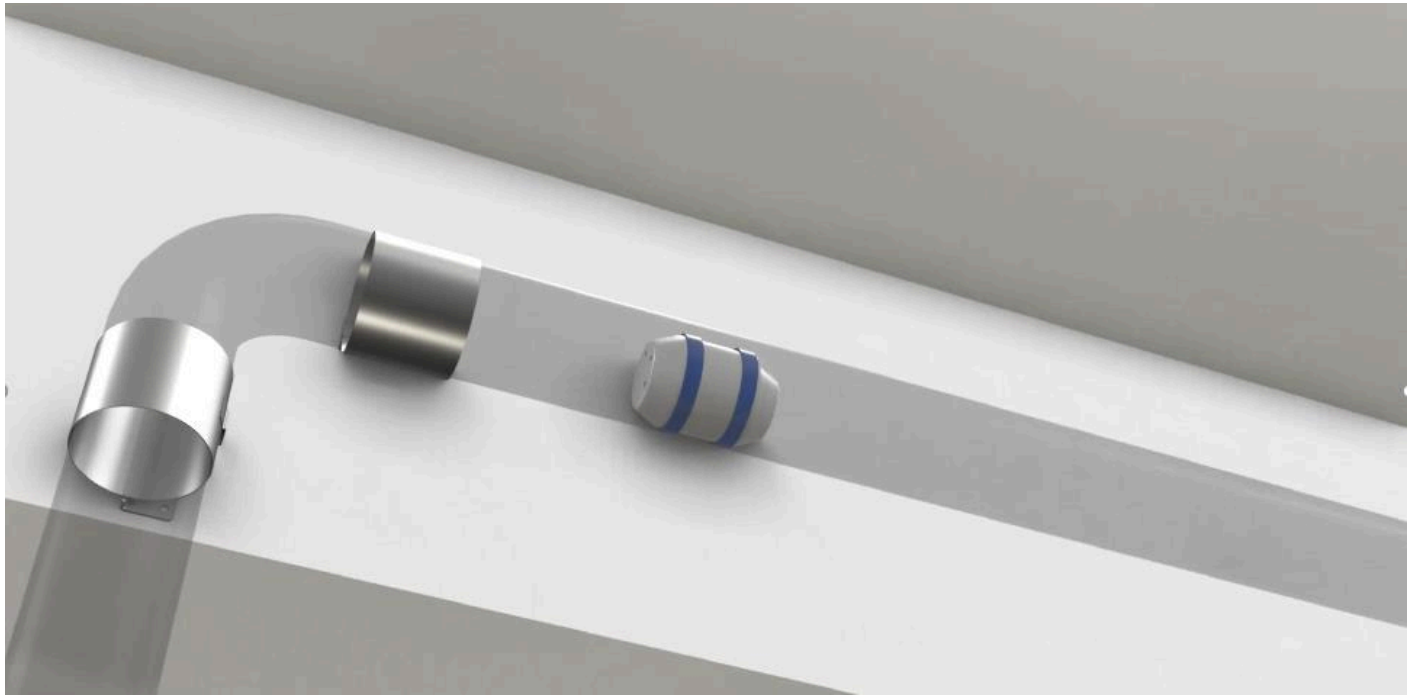
Mold Storage

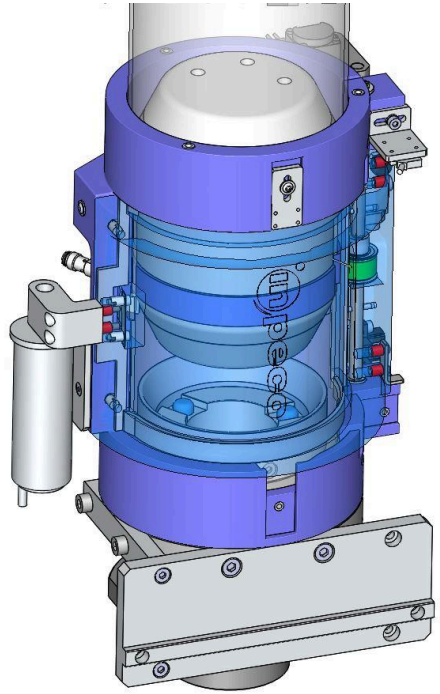
Rack Input area

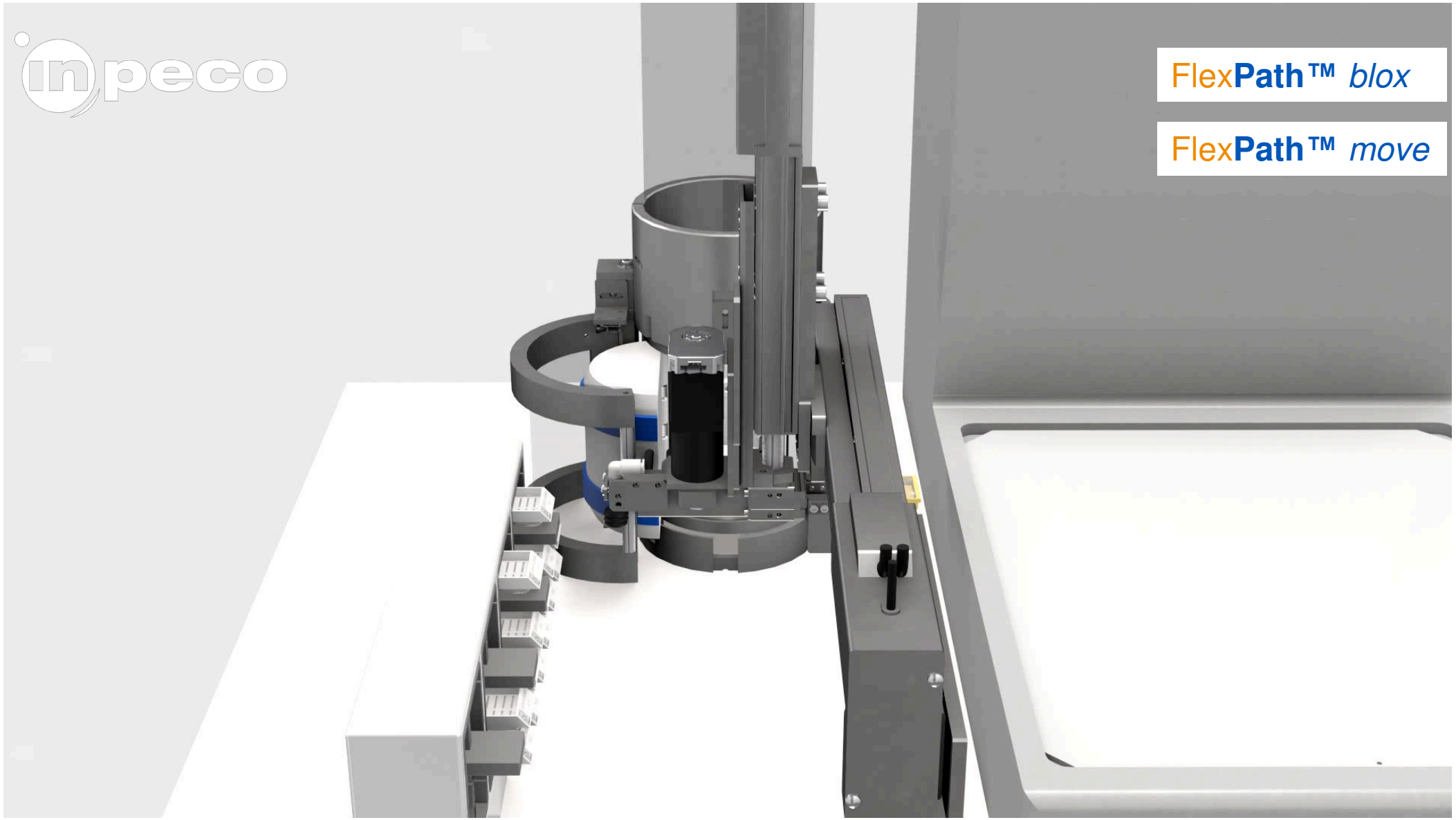
Cassette dispenser

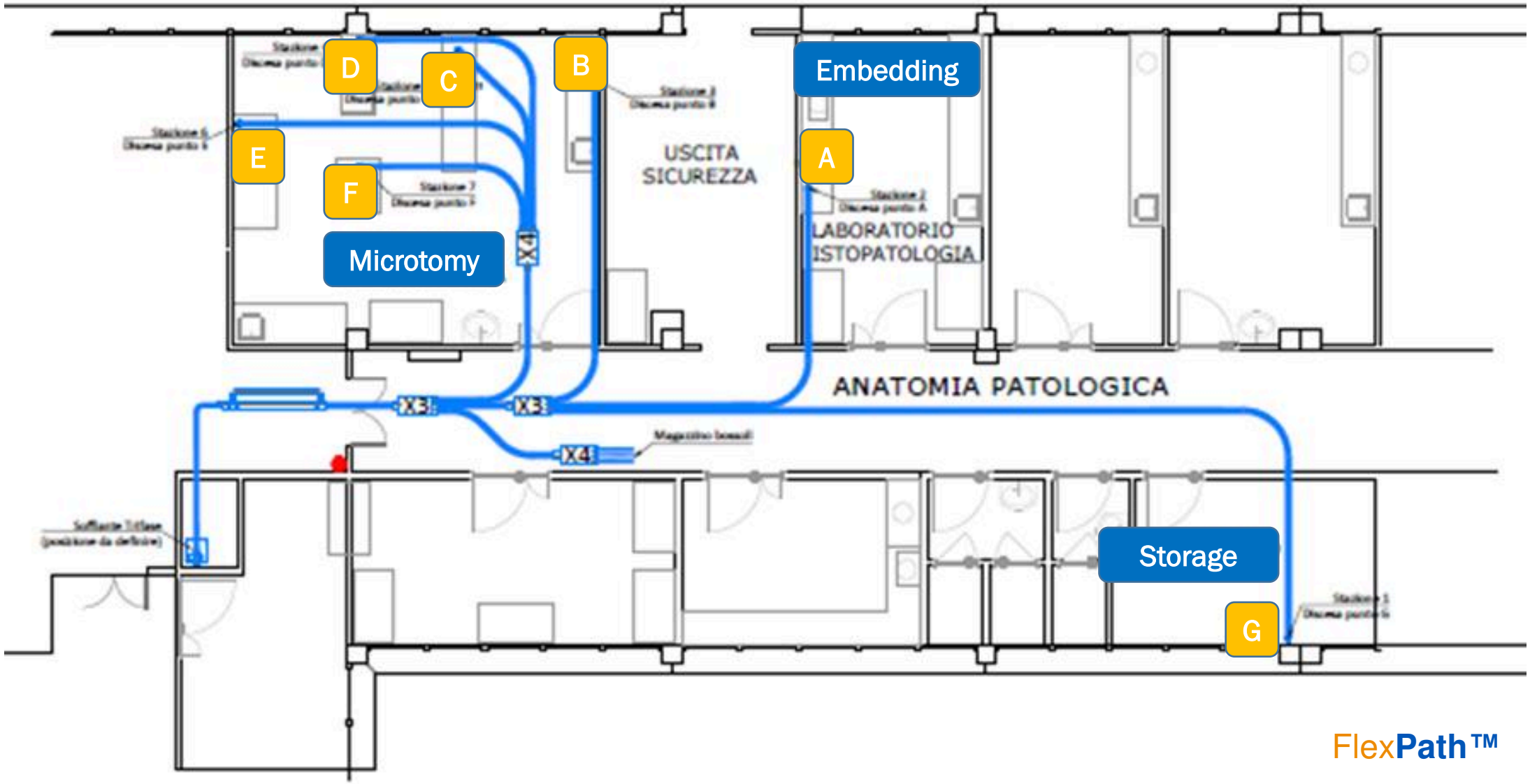


FlexPath™ *move* – Sample Transportation System



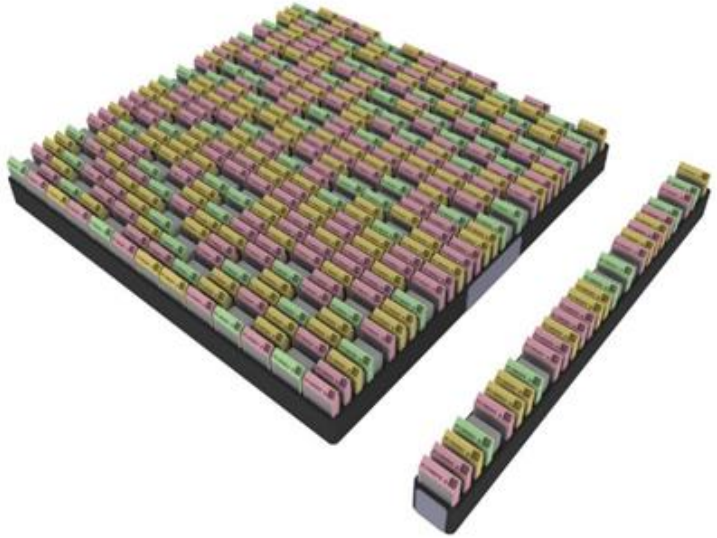



FlexPath™ blox
FlexPath™ move


D
C
B
Embedding
E
A
USCITA
SICUREZZA
F
LABORATORIO
ISTOPATOLOGIA
Microtomy
X4
ANATOMIA PATOLOGICA
X3
X3
X4
Storage
G

FlexPath™

FlexPath™ *store* - Automatic paraffin block storage



Archiving and sample retrieval – Paraffine blocks

Phase	Duration	Retrieve %	Location	Volume 1000 Paraffine blocks/day
I – Short-term	2-4 weeks (depends on type of lab)	5-10%	In-Lab In close proximity	10.000-20.000
II – Mid-term	5-6 years	2-3%	In-house Within the facility building	1.2M-1.5M
III- Long-term	> 6 years	< 1%	Within the facility for Un.Hospital Outsorced warehouse for clinical and ref.lab	>1.5M

Thank you

Automation is transforming Healthcare