



morphle

MORPHOLENS 1

Small yet Perfect Companion!



Single slide capacity
High Scanning Speed

Low Dataprint
450 MBs for 15x15mm

Robust Hardware &
Consistent Quality

Under 0.1 % rescan rate
LIMS integrated

www.morphlelabs.com

Technical Specifications



Slide Rack

Lock, load & walk away

Single Slide Capacity



Slide Types

Versatility to the rescue

- Slides with / **without** / **non-dried** coverslips
- Slide thickness from 0.8 to 2mm
- Slide shapes 1"x3"



Time for 15x15mm

Speed, a logical constraint

- 180 secs with dense focus map & AI repair
- 7.5 mins with 7 Z-Stacks 1 um apart
- 15 secs fast preview with live mode



Optics & Camera

Preserving ground truth

- **0.22 microns / pixel** with primary camera
- Secondary Preview Camera for macro imaging
- High-power flash LED with custom condenser



Barcode Support

Traceability is a must

- All types supported including
- Linear type, example: CODE 39, CODE 128
 - Matrix, example : QR code, PDF417



LIMS Integration

A complete Workflow

Custom development for **bi-directional** integration is included as part of the installation



Data Size

Data is gold & size matters

450 MBs in lossless archive mode and 850 MBs within hot storage for a WSI of 15x15mm.
For Z-stack data size, it gets multiplied by a factor of the number of stacks



Image Storage

IT is painful. We solved it.

2000-3000 scans are stored in a primary hard disk and **auto-rolled out to Local / Cloud** archival based on retention time for hot storage.
Local: RAID 6 NAS-based chained storage
Cloud: Cold storage on Amazon Web Services @ 10 cents per slide per year



Physical Properties

Compact enough

Base: 16 x 18 inches
Height: 14 inches
Weight: 26 Kg (57 lb)

Data storage & Cost

Cloud Storage



Stored on a replicated HIPAA compliant cloud from tier 1 providers like Amazon Web Services, Google Cloud Storage, etc

As inexpensive as 4 rupees per slide per year with cold storage mode on AWS

Cost scales gracefully with every slide in a fully automated manner

Lag-free uploads with 40 Mbps or nightly upload mechanism works with 12 hour lag but with half the bandwidth

Local Storage



Storage on Network attached storage (NAS) drives backed by RAID architecture within the premises

Costs ~30% lower than cloud storage but adds IT maintenance

Storage scales in steps of 20-100 TBs and needs intervention from IT team

Internal Network transfer from scanner to NAS irrespective of internet availability

Image Access & User Management



Ease of Access

100% **web based** image viewer. No need to download any software.

Works well with google chrome on laptops & iPads alike.

User Management

Un-limited user login creations. Our software is free with no strings. Role Based **Access control** with a self-serve interface for scan level **permission** management.

Internet needs for Access

Lag-free navigation @ 8Mbps. Works well even with a mobile data Viewer works in **streaming mode** consuming under 50MB data during 1 min fast browsing

Solving Cytology High Speed Speciality Scanning

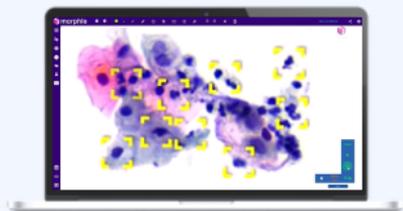


Hi-DPI Publication ready Image export

One Click export with
perfect Image Quality.

Integrated Image
annotations.

Zoom out to 0.3X for a
bird eye view of the
entire slide



Cytology with Z-Stacking

Move across multiple Z-
levels at each field using
mouse scroll just like a
fine focus knob on the
microscope

Under 8 mins for 7+
layers of Z-Stack



Screened area tracking

Preview paints the
visited region allowing
protocol based
verification

Special Needs

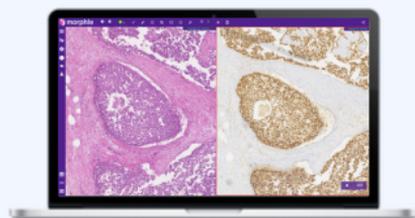
Innovative solutions



Frozen section Rapid On Site Eval

Live mode offer WSI
Preview in 15 secs +
live Z-Stack at 40x

Report instantly for
frozen section, cytology
adequacy, FNA.



Digital multiplexing

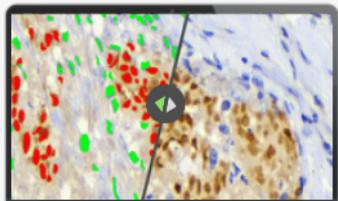
Compare H&E &
multiple IHC scans side
by side.

Upto 12 scans can be
arranged in grid style
on larger screens.

Easy adjustment in
synchronisation for
not-so-serial sections

Unlock the advantage

Artificial Intelligence

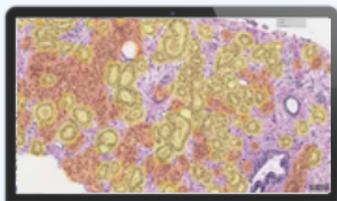


IHC Quantification

Automated cell counting for nuclear stains spits out positivity ratio in few seconds for the demarcated tumour area

Tumor region selection interface helps avoid the compounding factors

Research use only



Auto-demarcated Gleason Scoring

DeepDx® Prostate Pro application analyses Whole Slide Images of H&E stained prostate core needle biopsies and automatically classifies the histological severity of prostate cancer.

Its fully integrated within the image viewer with instantly switchable overlays.

Tools for Research

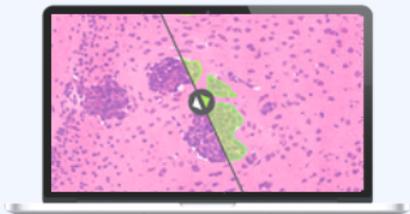
Automation and Objectivity



Hassle-free Morphometric Analysis

Calculate tumor margins. Allows setting up orthogonal references.

Precise to micron measurement for nuclear & cytoplasm boundaries



Pixel flow tool for Smart annotations

One click area tracing with real time smart image analysis

Allows precise measurement of area & exporting data of boundary as CSV

Customised AI workflows & Software Tools

Every research problem is different and often needs efficient software.

We enjoy building novel research tools in collaboration with promising researchers.

Email us
contact@morphlelabs.com



**5 Million+ slides digitised as of today
and counting...**



**VIJAYA
DIAGNOSTIC
CENTRE**

kmchospital
MANIPAL

**St. Johns
Research Institute**



NIMS

NHS



**ANAND
DIAGNOSTIC
LABORATORY**



TATA MEDICAL CENTER



AIIMS
New Delhi



**SUBURBAN
DIAGNOSTICS**
PRECISE TESTING · HEALTHIER LIVING



TAPADIA
DIAGNOSTIC CENTRE PVT. LTD.



**USC University of
Southern California**

Options for every use-case



Hemolens 1



Morpholens 240



Morpholens 6



Morpholens 1

Single slide batch	240 Slide batch	6 slide batch	Single slide batch
Dual Obj 100x Oil & 40x	40x / 20x Objective with crisp digital zoom upto 80x		
Meant for digital microscopy for PBS, BMA, CSF, Urine & other applications demanding 100X	Meant for high volumes labs with Histopath, IHCs & Cytopath. Integrated workflows & image storage	All the goodness of packed with a smaller batch size. Optimum for scanning upto 100 slides a day.	Tiny footprint & surprisingly affordable. Perfect for turnkey projects.

Plug & Play Hardware | 24x7 Support | Risk Free Returns



A Neuberger ASSOCIATE

Morphle has managed to solve even the not-so-obvious issues of digital pathology - viewer lags, fragmented LIS integration, and bloated data storage. It even tackles minor yet critical issues such as scanning slides with wet coverslips for urgent reporting.

Dr. Jayaram - Bangalore



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6, HSR Layout,
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Karnataka 560102

CLINICAL
PATHOLOGY
ASSOCIATES



With active support from team Morphle CPA was able to setup effective tele-reporting at our hospital sites for blood smears, CSF & more. CLIA validation baked into the workflow & IT setup for remote access within hospital network was a true delight for us.

Dr. Chandra Krishna - TX

Give us a call
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Schedule a demo
morphlelabs.com



Email us
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