

Case Study – Low-Throughput SL5 System Creates Better Value

Goal

To understand how some organizations are really using digital pathology. This helps to explain why high throughput digital pathology systems are selected, as they are perceived to provide the most value for the typical pharmaceutical research and contract research (CRO) organizations, as well as healthcare providers. In fact, for most real-life workflows, a low throughput system is more than sufficient.

Challenge

In practice, many organizations that have invested in high-cost, high-volume digital pathology systems have found their typical use case fails to fully utilize the purchased capacity of these systems, resulting in wasted expense due to overcapacity. Concerns over scan times and the perceived need to ‘wait in line’ to review images have driven vendors to develop larger capacity and faster scanners. These require adoption of new workflows that include preoccupying technicians for scanning and storing a high percentage of normal samples.

Solution

The low-cost, low-throughput, dual mode SL5 system from Mikroskan offers the user two distinctly different and completely separate devices in one device. The user selects either a fully functional real-time, remotely controlled robotic microscope or a digital pathology scanning device*. This flexibility allows organizations to meet actual demand and drastically reduce cost per slide.

Scenarios

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“The low-throughput SL5 system can scan at an 85% cost savings than a high-capacity system.”

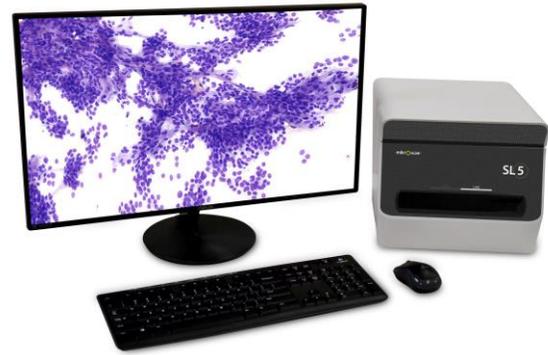
approximately 50,000 samples per month for whole slide imaging. So on average, these organizations have the perceived need to scan 600,000 samples annually. A vendor offering a 400-slide capacity whole-slide scanner can then potentially scan those slides at a cost of \$0.80 per slide.

However, the reality is that these organizations actually only scan interesting or pertinent specimens, generally less than 1% of the prepared slides. This substantial underutilization of a high-throughput system results in an actual cost per slide of \$150. In other cases, high-throughput systems have been demonstrated to create bottlenecks, when a rapid scan/answer is required.

*“For research use only. Not for use in diagnostic procedures.”

Results

For approximately fifteen percent of the expense, the 2-slide capacity SL5 system delivers the same high-quality, high-resolution images scanned at the same rapid rate as a high-capacity scanner. With a 40X scan time of less than 3 minutes, the system can scan a typical 25-slide project in just over an hour, and avoid the high-throughput bottleneck of ‘waiting in line’ for a quick answer.



# of Samples Produced by Typical CRO	# of Samples Actually Scanned
~600,000	~4,000
High-Capacity Cost Per Slide	SL5 System Cost Per Slide
~\$150	~\$20

Overhead and payroll costs are also reduced when using the low-throughput SL5 system. At least two full-time people, a lab technician and an IT specialist, and in some cases a full-time histotechnologist, are often required to run and maintain a high-throughput scanner. This headcount is not necessary with the portable, desktop-sized SL5 system, nor is a dedicated image lab to house the device.

Conclusion

When actual utilization of a high-throughput scanner by the typical CRO is revealed, the cost per slide is shown to be substantially higher than that of a low-throughput imaging system. The low-capacity, affordable, and portable SL5 system from Mikroscan meets the real demand in a more efficient and cost-effective manner.

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