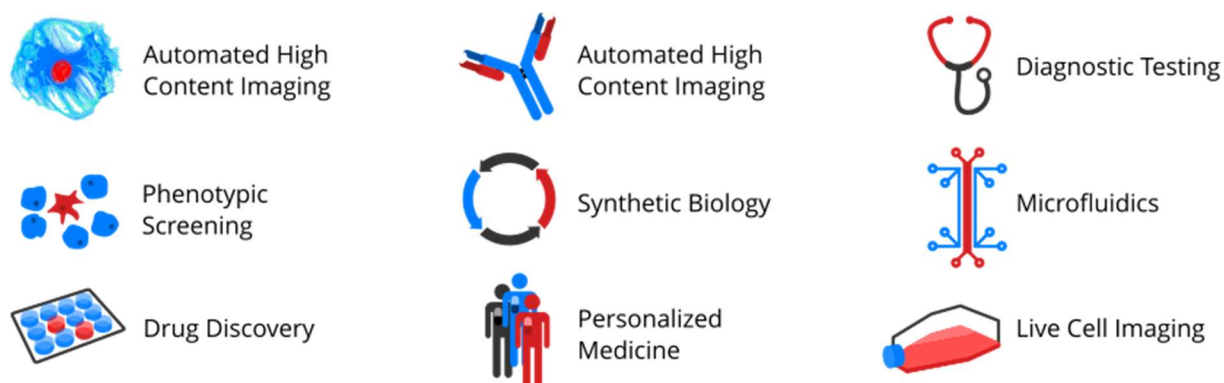


Zaber Automated Microscopes for High-Throughput & Industrial Biology

By Mike Fussell

Applications



Diagnostic

The Zaber MVR automated microscope is the ideal platform for developing and deploying novel imaging-based diagnostic tests. Industry standard optics ensure reliable acquisition of high quality data enabling you to deliver accurate, actionable results for clinicians and patients. The MVR platform's modularity and flexibility simplifies integration and supports rapid design iteration while developing your proof of concept and optimizing it for production.

Eliminate risks and delays with a common development and deployment platform (Fig. 1). Translating a test developed on a traditional research microscope to purpose-built hardware can introduce unexpected delays. Inevitable differences in hardware and software must be investigated and compensated for. The Zaber MVR smoothly transitions from a high-performance research tool to a cost optimized deployment platform. The MVR platform's flexibility also ensures equipment can be reconfigured to support future development of additional diagnostics, or quickly adapted to pivot as your R&D uncovers attractive new opportunities.

Single Platform R&D vs. Discrete Platforms

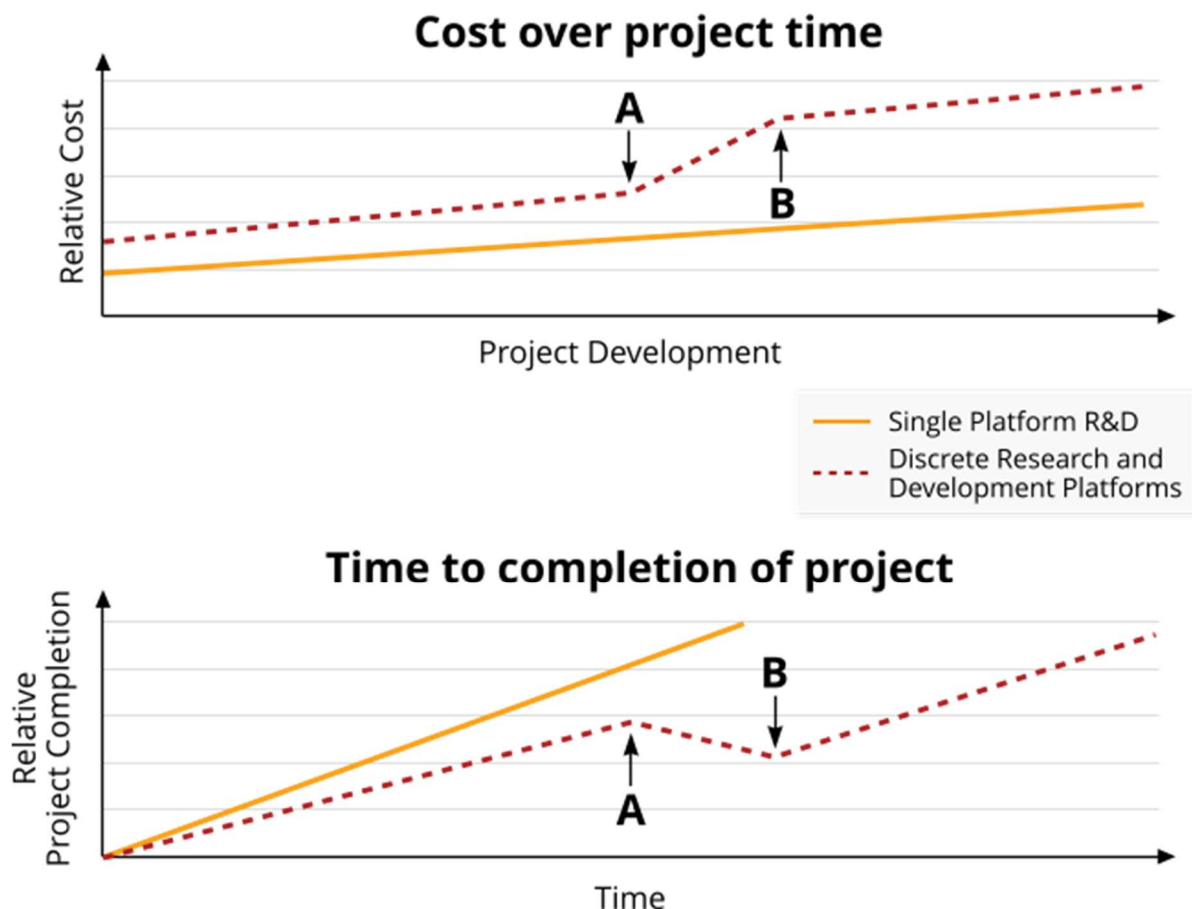


Figure 1: Developing a diagnostic test on a traditional research microscope then adapting it to application specific hardware (A) is likely to result in unforeseen delays and costs until the transition has been completed (B). Using a single platform to transition smoothly from PoC development to field deployment reduces the risk of delays and cost overruns.

The Zaber MVR delivers the performance you need to deploy cutting-edge diagnostic testing platforms. Its optical path captures clear, detailed images at up to 100x magnification and is compatible with third party confocal and super resolution imaging modules. The MVR's high speed and industrial reliability ensures maximum throughput with minimum unscheduled downtime, and risk of sample loss.

Zaber is your partner as you scale from proof of concept to commercial operations. We can quickly deliver customized hardware to accelerate your prototyping and design iteration. Our in-house manufacturing facility has the capacity to meet your volume and scheduling needs as you grow. Our dedicated team of application engineers are standing by to provide any integration support you may require.

Discovery

In-house high content screening and its advantages are more accessible than ever thanks to the Zaber MVR automated microscope platforms' game-changing combination of speed, imaging

performance, reliability and affordability. Keep valuable materials and knowledge in-house longer to avoid costly milestone and royalty payments (Fig. 2) and build a more sustainable, more valuable company with a robust pipeline.

Cost over time of internal vs. outsourced screening

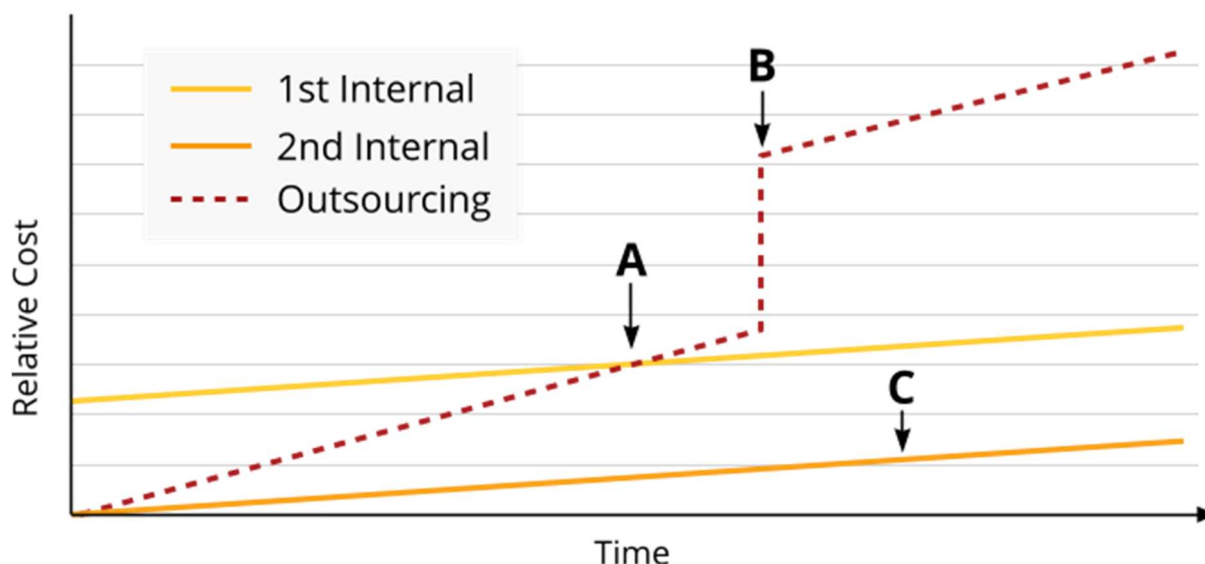


Figure 2: The initial cost of setup cost of setting up internal screening capabilities is higher than to engage with an external service provider. However, the cost over time is higher, leading to a break even point (A). Royalty payments from cost/risk sharing arrangements (B) can be extremely costly. The cost of starting additional programs with an external facility as hits are developed into optimized leads or additional hits are sought to fill your pipeline will remain the same for outsourced programs, while additional programs on existing equipment will have minimal start-up costs (C).

While the low up-front cost of outsourced high content screening services can be enticing for companies pursuing discovery programs, outsourcing screening brings significant long-term costs and risks that should not be overlooked. The risks of losing control of valuable materials and IP may be mitigated through strict material transfer agreements and data security audits, the loss of in-house expertise and knowledge from outsourcing programs too early is much harder to quantify, but no less critical.

Conducting early-stage screening in-house enables your company to capture valuable insights early and better direct your focus in later-stage larger scale campaigns. In-house screening can also accelerate your development programs by enabling rapid investigation of interesting results from external screening operations.

Being equipped with both the knowledge gained from previous internal screening programs and the capability to carry out additional early-stage campaigns in-house enables companies to build robust pipelines and bigger valuations.

The Zaber MVR empowers your business to:

Deliver Accurate and Reliable Results

- Industry standard optics deliver accurate and detailed images, ensuring reliable and unambiguous results.
- Highly accurate and repeatable sample position and focus control ensures consistent performance.
- Industrial reliability eliminates unexpected downtime and preserves your valuable samples

Reduce Costs

- Low up-front cost with no hidden charges for accessories or support
- Proven industrial reliability minimizes the risk of in-field failures and the associated downtime and loss of samples, lowering long-term costs
- No requirement for proprietary software or consumables
- Modular and customizable platform enables deep optimization of system costs and performance to achieve the ideal balance

Maximize Throughput

- Maximize your screening throughput by minimizing cycle times with high speed stepper motor XY stages
- When every second matters, high speed and high acceleration linear motor stages deliver the best possible performance
- Eliminate unplanned downtime with proven industrial reliability delivering service lives of over 900,000 96 well plate scans, and virtually unlimited service lives for linear motor stages
- Minimize filter switching times for faster multi-channel imaging with a low latency, high speed filter cube turret

Stage	Stage Drive	Minimum 96 Well Scanning Time	Minimum 384 Well Scanning Time
X-ADR	Linear Motor	< 12 Seconds	< 46 Seconds
X-ASR	Stepper Motor	< 19 Seconds	< 58 Seconds

The minimum scanning time is the time required to traverse standard microplate with a 100X objective stopping at each well to settle and capture a 25 μ s exposure. Scanning times will vary on a case-by-case basis depending on camera, fluorophore, imaging parameters, illumination wavelength and objective selection. Stage service life will vary depending on the stage load, speed and acceleration. Higher loads at higher speeds will result in increased wear of stepper motor stage components.

Eliminate Risk

- Proven industrial reliability delivers years of trouble-free operation to eliminate unexpected downtime and prevent the loss of valuable samples

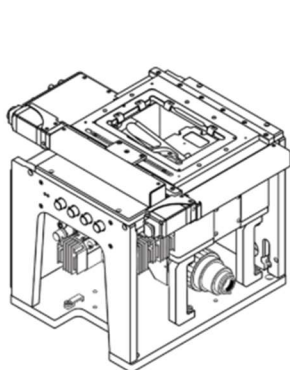
- Seamlessly transition from PoC development to deployment on one platform to avoid unanticipated integration and performance issues
- Retain control over your valuable materials and IP with in-house high content screening
- Keep valuable tacit knowledge in-house to recognize and capture the value of serendipitous discoveries

Scale Faster

- Zaber's manufacturing facility has the capacity to meet your needs as you grow
- Quick turnaround customization accelerates your R&D, getting you to market faster
- Simplify integration and custom application development across a wide range of programming languages, and host computer platforms
- Build a strong pipeline earlier with internal early-stage discovery capabilities

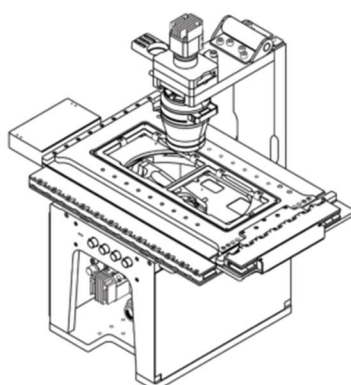
Pricing & Customization

Complete MVR Systems including a camera start at \$27,000. Final system prices will depend on configuration specific options and additional accessories. Objectives and filter cubes are not included.



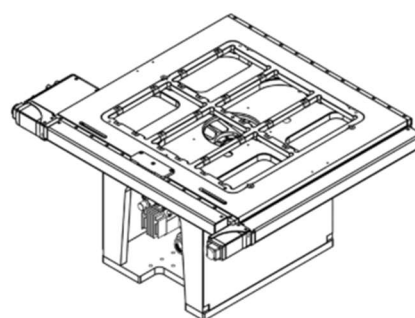
Automated fluorescence microscopy

- 120 mm (single microplate) stepper motor XY stage
- 3 Channel LED Epi-illuminator
- Starting at \$27K



High-content screening

- 250 mm (two microplate) linear motor XY stage
- 3 Channel LED Epi-illuminator + Transmitted illuminator
- Starting at \$36K



Maximum walk-away time

- 305 mm (six microplate) stepper motor XY stage
- 3 Channel LED Epi-Illuminator
- Starting at \$29K

Example configurations and prices are available [online](#). For detailed pricing information on additional configurations, please contact our sales team.

While Zaber's wide range of off-the-shelf MVR configurations provides your engineers with a high degree of design freedom, we understand that some applications have unique and specialized requirements. We're here to support you with customized modules to fit your

specific needs. Zaber provides quick turnaround times for low-volume customization to help accelerate your prototyping, and can deliver custom products at scale to support your growth.

Satisfaction Guarantee

All of Zaber's standard products (those that appear on our website) are backed by a 30-day satisfaction guarantee. If for any reason you are not satisfied with your purchase, you may return items in good, saleable, unmarked condition within 30 days of the purchase date for a refund, less applicable shipping costs.