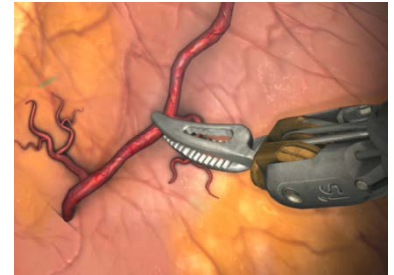
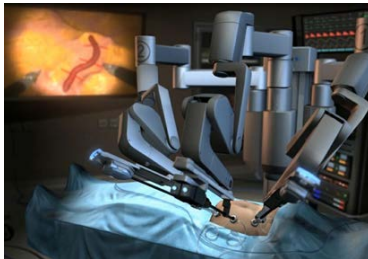


Mimic Technologies -

May, 2013

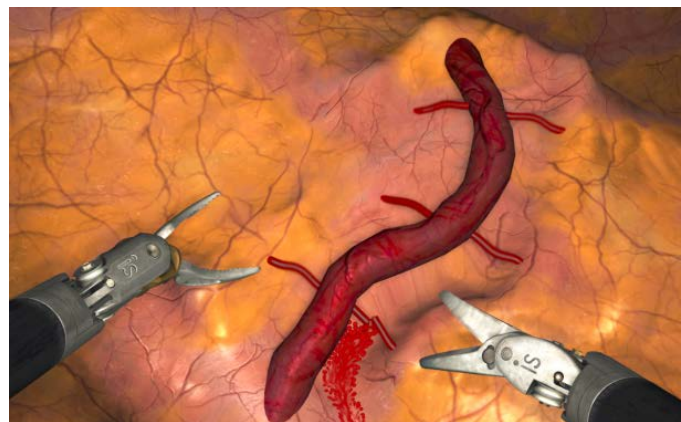


MIMICTECHNOLOGIES, INC.
www.MimicSimulation.com



OUTLINE

- ▶ Mimic Background
- ▶ dV-Trainer Features & Benefits
- ▶ MScore
- ▶ MimicMED
- ▶ New products:
 - MSim 2.0, MShare, MLabs, New Stereoscope
- ▶ Options & Upgrades



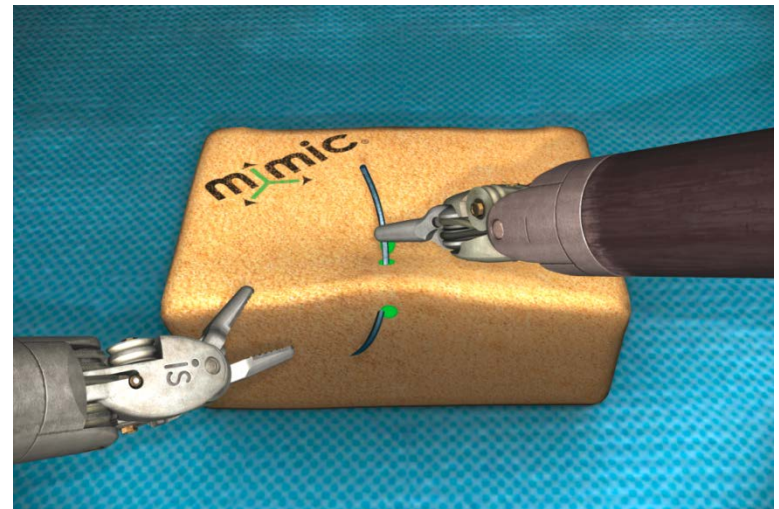
COMPANY BACKGROUND

- ▶ Founded in 2001 – Pioneer in Robotic Surgery Simulation
 - HQ in Seattle, WA – 40 employees
 - Dr. Jeff Berkley, Founder & CEO
- ▶ Business and Research Focus
 - Robotic Surgery Simulation – dV-Trainer™
 - Force Feedback Device Technology
 - Simulation Training – MimicMED™
- ▶ Funding
 - Department of Defense (DARPA & TATRC)
 - Product and Service Revenue – first dV-Trainer placed in 2007
- ▶ Relationships
 - Collaboration with Intuitive Surgical since 2003
 - 80+ Medical Institutions / Research Partners
 - dV-Trainer & Si Skills Simulator 1,000+ Install Base
 - Robotic Surgery Associations: MIRA, SRS, CRSA, SERGS, ERUS
 - Clinical Associations: AUA, AAGL, ACS, SLS



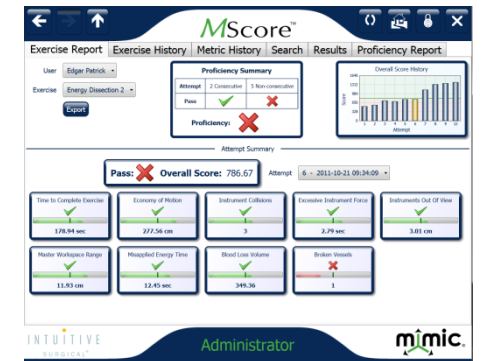
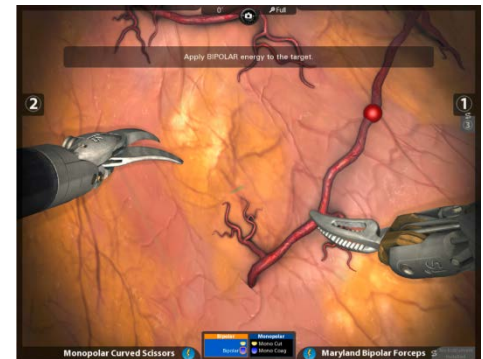
dV-TRAINER™ OVERVIEW

- ▶ Skills trainer for robotic surgery
 - Simulates Si and Si versions of da Vinci® Surgical System
 - Cost-effective “stand-alone” alternative to learning directly on robot
- ▶ Target Users
 - Surgeon with < 10 robotic cases
 - Surgery residents / fellows
- ▶ Target Applications
 - da Vinci training for novice surgeons
 - Skill retention / rehearsal
 - Surgeon credentialing / privileging
 - Academic research



da Vinci® is a registered trademark of Intuitive Surgical, Inc.

- ▶ Compact & Ergonomic Hardware Platform
 - Stand-alone, table-top or height adjustable table
 - Highly realistic S and Si simulation
- ▶ MSim 2.0™ Surgical Simulation Platform
 - Most advanced simulation platform in industry
 - State-of-the art rendering technologies
- ▶ Simulation Modules
 - 50+ highly realistic training exercises
 - Suturing & Knot Tying
 - Multimedia & quizzes
- ▶ MScore™ Performance Evaluation
 - Most advanced scoring system in industry
 - Proficiency-based scoring, utilizes experienced surgeon data
- ▶ Advanced Curriculum Development & Sharing
 - User friendly tools for customized curriculum development
 - Import, export and share curricula via web-based portal

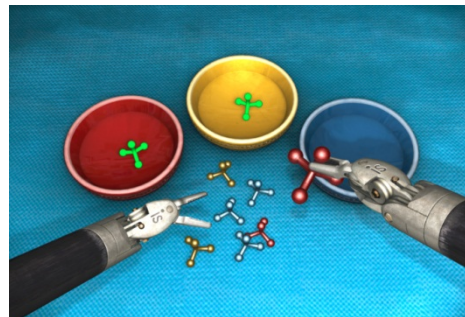
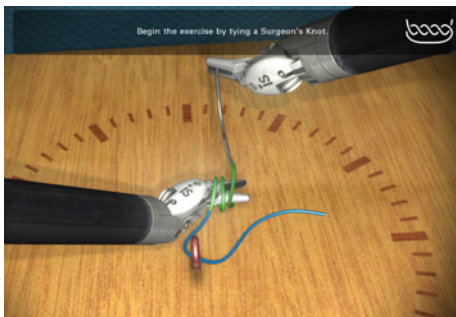


- ▶ Reduced Training Cost
 - Comprehensive training for modest up-front investment
 - Reduced need for training robot, saves OR time & cost
 - No training instruments, no robot set-up
- ▶ Increased Access To Training
 - Training outside of OR → 24/7 access to training
 - Reduced dependency on set-up personnel & proctors
- ▶ Improved da Vinci Utilization
 - Frees up clinical robot for revenue generating procedures
 - Potential to improve surgeon efficiency and decrease procedure times
- ▶ Accelerated Surgeon Learning
 - Increases surgeon confidence and speeds up learning curve
 - Enhances surgical skill and system awareness
- ▶ Improved Patient Safety
 - Surgeons can practice “off-line” before first proctored cases
 - Objective assessment suitable for credentialing & privileging

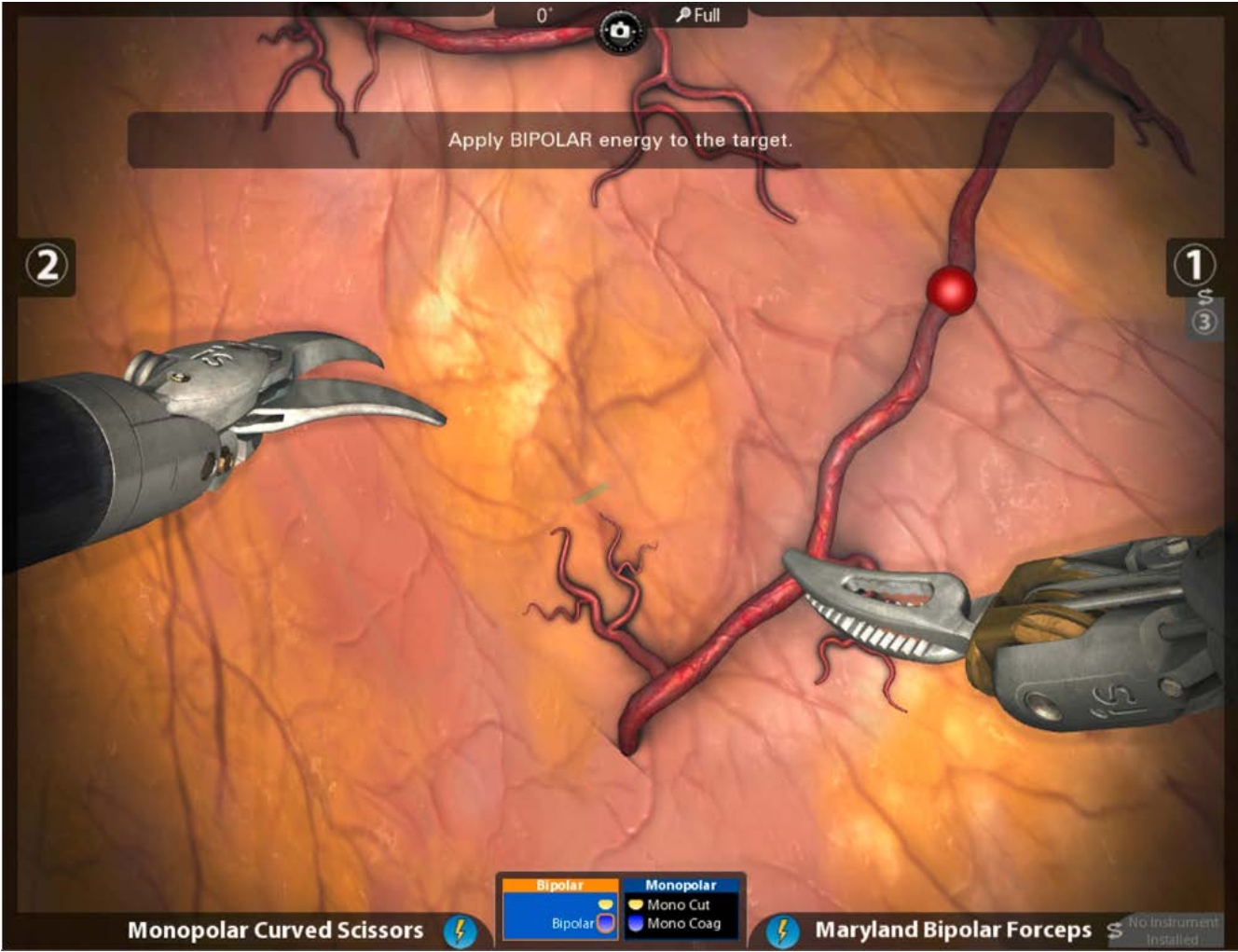


dV·TRAINER™ TRAINING MODULES

- ▶ Built on MSim 2.0™
 - Mimic's latest Simulation Platform
- ▶ Developed and validated in collaboration with Research Partners
- ▶ 8 "default" training modules
 - Module names and content customizable
- ▶ 50+ highly realistic exercises
- ▶ Both S and Si Platforms
 - Including Si finger-clutch grips
- ▶ Includes multimedia overviews and Quiz exercises



dV-TRAINER™ Si SIMULATION



- ▶ Proficiency on a metric by metric basis
- ▶ Based on expert averages and standard deviations
 - similar to the Fundamentals of Laparoscopic Surgery (FLS)
- ▶ Proficiency based on data collected from multiple institutions
 - nearly 100 experts with > 75 cases
- ▶ Both consecutive and non-consecutive successful attempts required for proficiency
- ▶ Point system encourages continued training after proficiency has been established
- ▶ Learning history for overall score and each metric can be tracked over time
- ▶ MScore Flyer:
 - http://www.mimicsimulation.com/wp-content/uploads/MScore-Flyer_q4-12.pdf

The screenshot displays the MScore™ interface for a user named Edgar Patrick. The main exercise is 'Energy Dissection 2'. The 'Proficiency Summary' table shows that the user has passed 2 consecutive attempts but failed 5 non-consecutive attempts, resulting in a 'Proficiency' status of 'Fail' (indicated by a red X). The 'Overall Score History' bar chart shows scores for 10 attempts, with the 6th attempt highlighted in yellow. The 'Attempt Summary' for attempt 6 shows a 'Pass' status (with a red X) and an 'Overall Score' of 786.67. The performance metrics for this attempt are as follows:

Metric	Value	Status
Time to Complete Exercise	178.94 sec	Pass (Green checkmark)
Economy of Motion	277.56 cm	Pass (Green checkmark)
Instrument Collisions	3	Pass (Green checkmark)
Excessive Instrument Force	2.79 sec	Pass (Green checkmark)
Instruments Out Of View	3.01 cm	Pass (Green checkmark)
Master Workspace Range	11.93 cm	Pass (Green checkmark)
Misapplied Energy Time	12.45 sec	Pass (Green checkmark)
Blood Loss Volume	349.36	Pass (Green checkmark)
Broken Vessels	1	Fail (Red X)

The interface also features navigation buttons at the top, tabs for 'Exercise Report', 'Exercise History', 'Metric History', 'Search', 'Results', and 'Proficiency Report', and logos for 'INTUITIVE SURGICAL' and 'mimic' at the bottom.

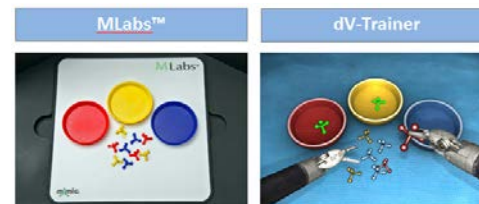
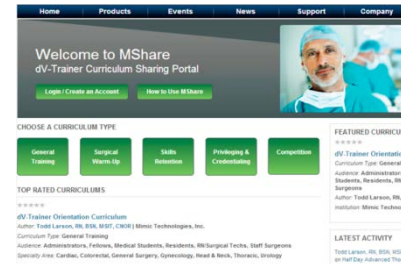
MimicMED™

- ▶ Simulation-based Training Classes
 - ▶ Nicholson Center, Florida Hospital @ Celebration
 - ▶ Nancy University Hospital , France – Diploma
 - ▶ Classes in collaboration with AUA, AAGL, SAGES, ACS
- ▶ Types of Classes @ MimicMED / Nicholson Center
 - ▶ Full Day Courses
 - ▶ Half Day Courses
 - ▶ Individual Training
 - ▶ Integrated with Advanced ISI Classes
 - ▶ Customized Partner Programs



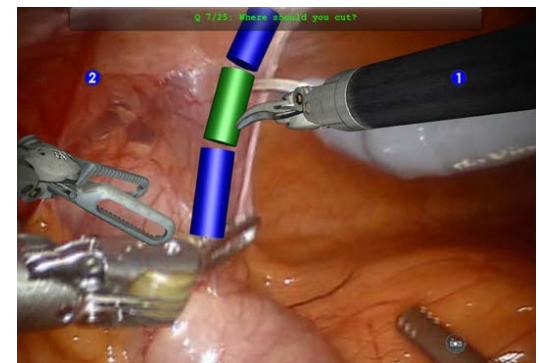
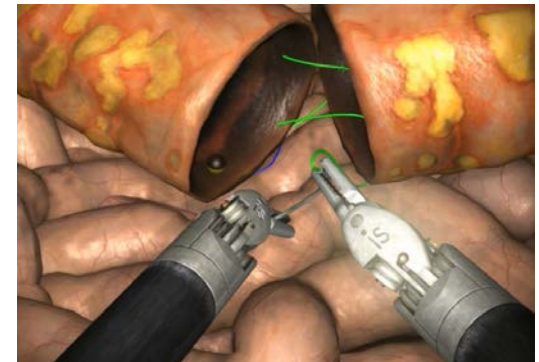
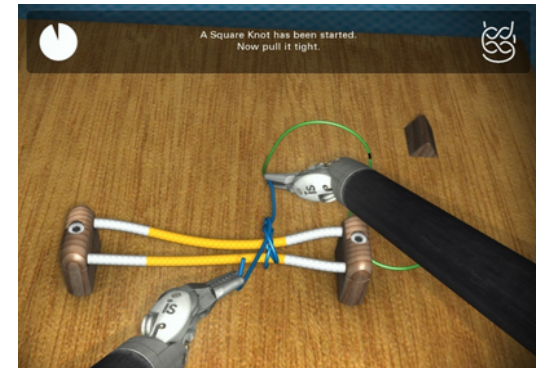
New Products - Overview

- ▶ MSim 2.0
- New Software Platform
- ▶ Mshare
- Curriculum Sharing Portal
- ▶ ErgoPak
- Customized Table for dV-Trainer
- ▶ New Stereoscope
- Superior 3D, Wide View & Improved Usability
- ▶ MLabs
- Dry Labs of Simulation Exercises



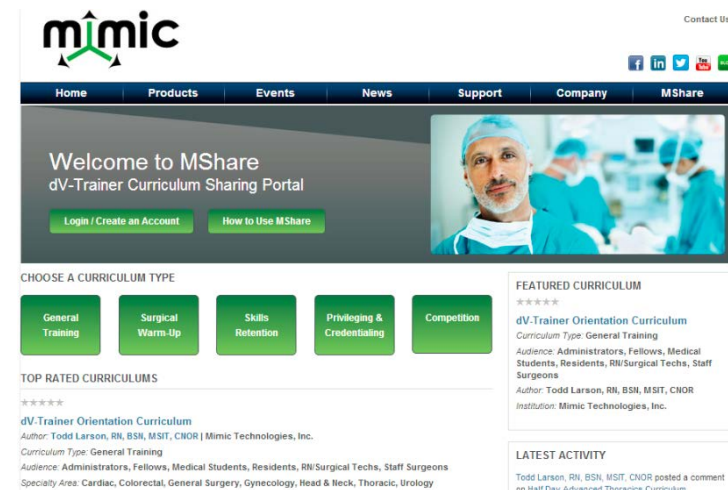
dV-TRAINER™ MSim 2.0™

- ▶ New “next-generation” Robotic Simulation Platform
- ▶ New SW Architecture:
 - Allows for rapid content development
 - Easier & faster to develop new training exercises
- ▶ New state-of-the-art rendering engine:
 - Real-time shadows
 - Improved lighting, “blooming effect”
 - “Depth of field” (blurring)YouTube: <http://www.youtube.com/watch?v=I4Teomhok6I>
- ▶ Existing simulation exercises look *more realistic*
- ▶ New technologies implemented
 - Suturing
 - Knot TyingYouTube: <http://www.youtube.com/watch?v=WRXpZMBYPec>
- In development: Video-based simulation – “Augmented Reality”
Blog: <http://www.mimicsimulation.com/2013/05/augmented-reality-may-change-the-way-surgeons-learn-robot-assisted-surgery/>
- ▶ Free for customers with valid dV-Trainer Service Plan
 - Includes basic suturing exercises



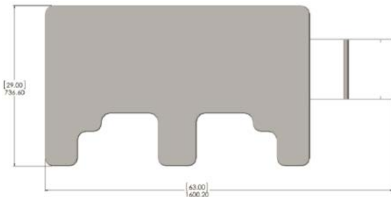
dV-TRAINER™ MShare™

- ▶ Mimic “administered” Curriculum Sharing Portal
- On Mimic website
- ▶ Extends the power of MScore
- ▶ Collaboration and interaction between Institutions and individuals
- ▶ User can rate and comment on uploaded curricula
- ▶ Users can upload supporting documentation
- ▶ Example: the Morristown Protocol
- ▶ <http://www.mimicsimulation.com/training/mshare/>



ErgoPak

- ▶ Customized Ergonomic Work Center for dV-Trainer
- ▶ Height-adjustable → fits all size users (motor-driven)
- ▶ Easy to move dV-Trainer on casters
- ▶ Locking Protective Cover



Touch Screen

Keyboard Tray

Monitor Boom



PC Rack

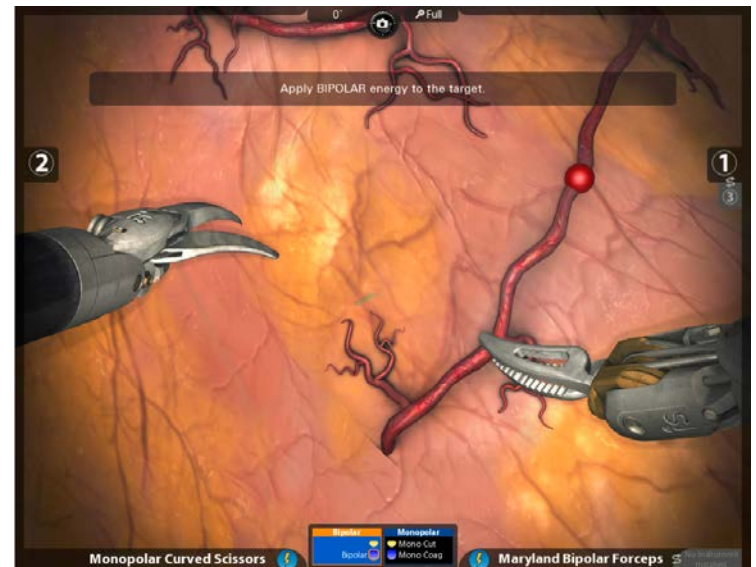
Custom
Tabletop Shape

Height
Adjustable

Casters

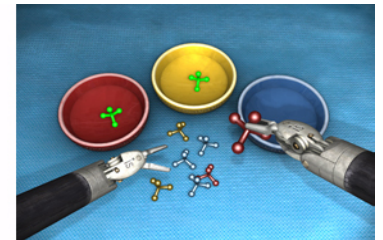
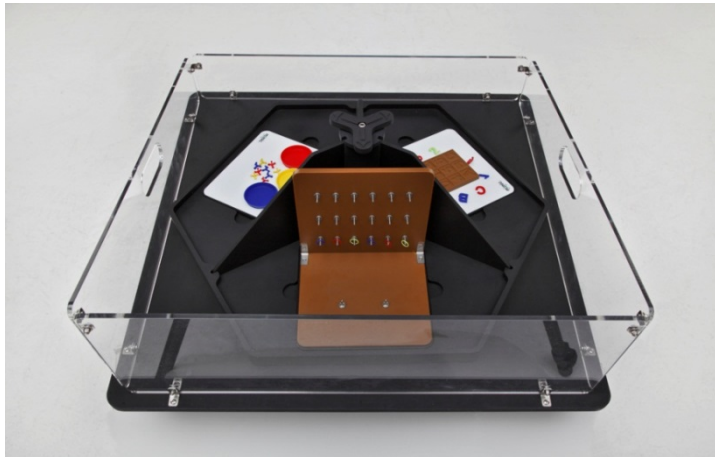
New Stereoscope

- ▶ Larger Viewing Area does not compromise Si Icons
- ▶ Longer optical path length makes it easier to see in 3D
- ▶ Better optics for improved 3D quality
- ▶ No external adjustment knobs for mirrors for improved usability
- ▶ Improved height adjustment mechanism



MLabs™

- ▶ Mimic Dry Labs modeled after existing simulation exercises
 - Pick & Place
 - Peg Board (Level 1)
 - Match Board (Level 1)
- ▶ Provides a “learning bridge” between VR simulation and hands-on dry labs on robot
- ▶ Facilitates validation of simulation exercises





INNOVATION IN SIMULATION

