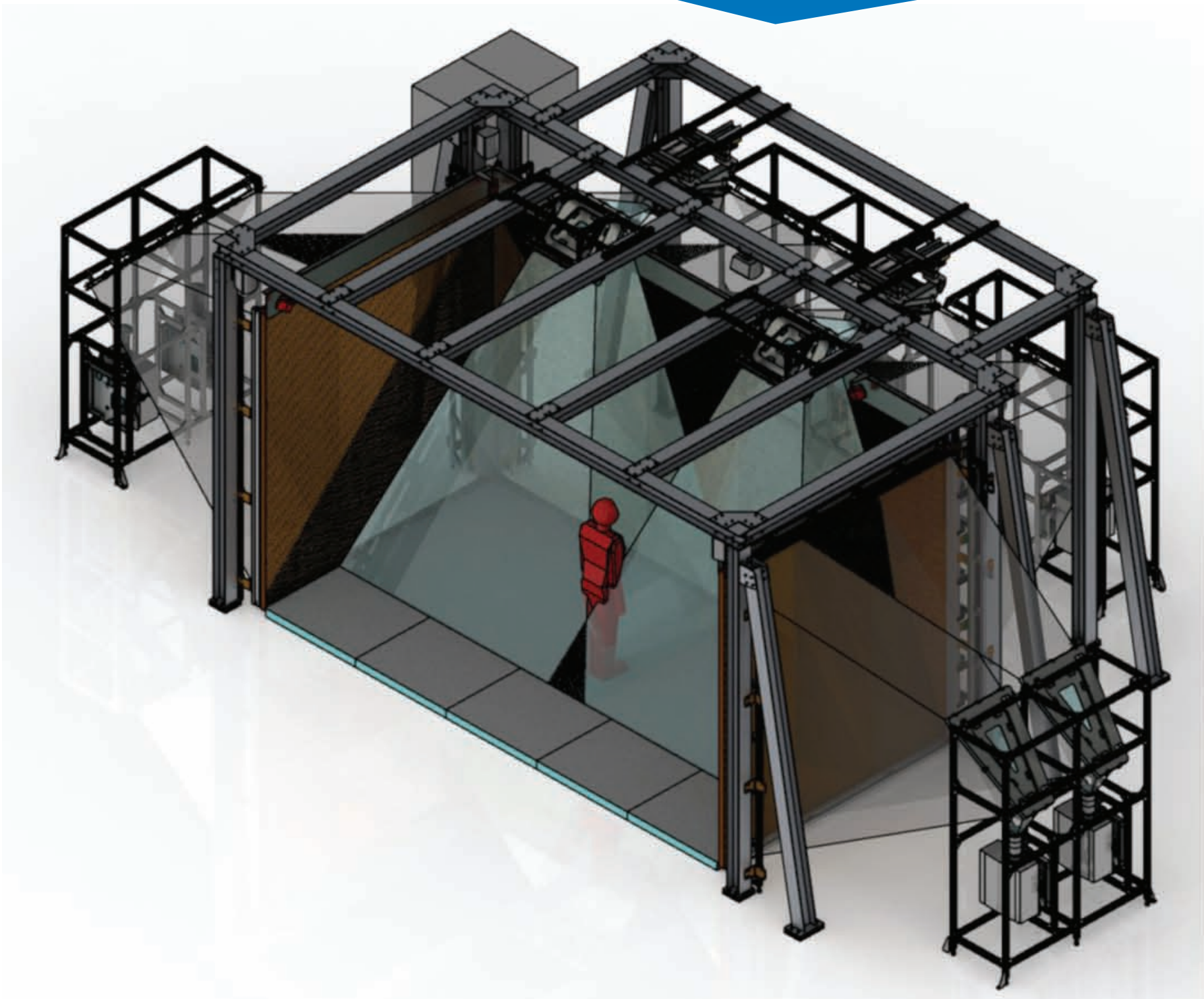


PARTNERSHIPS FOR EXCELLENCE THROUGH ADVANCED VISUALIZATION

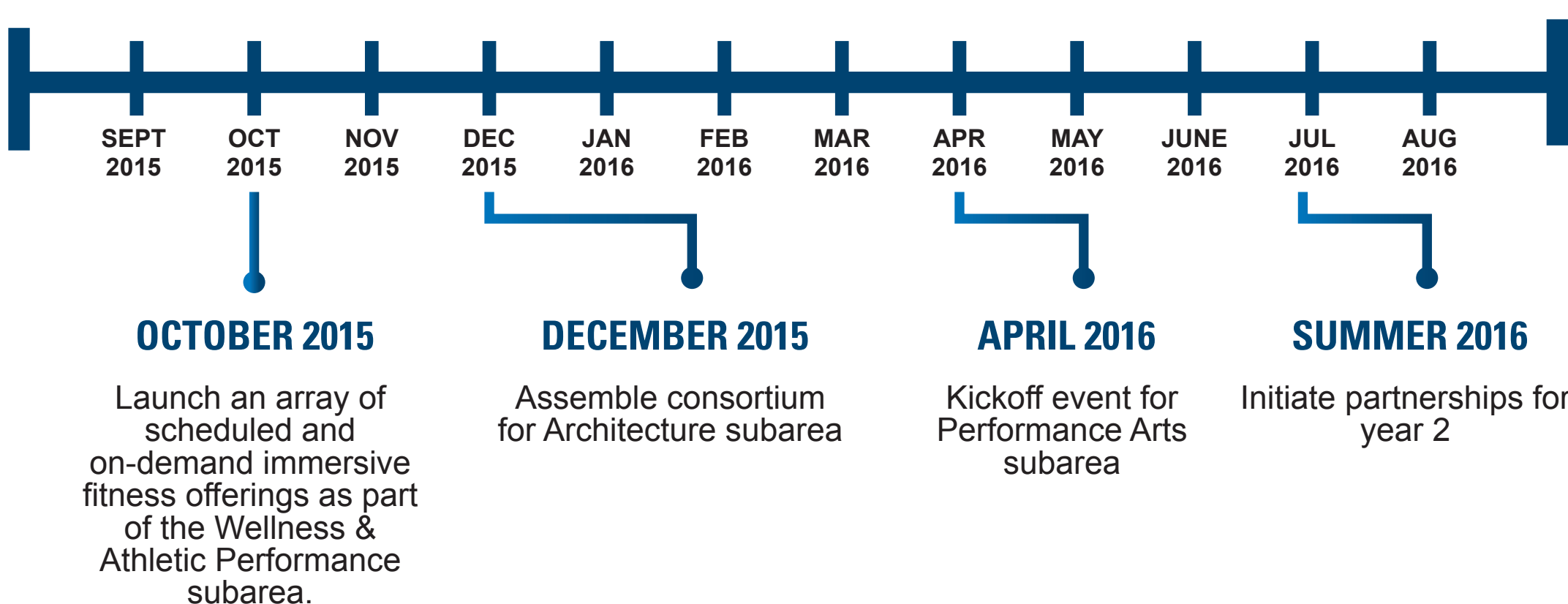
Fostering MARVL's Sustainability By Creating Partnerships And Operating Funding From Industry (Private & Public)



PARTNERSHIPS FOR EXCELLENCE THROUGH ADVANCED VISUALIZATION

The MARquette Visualization Lab is a state-of-the-art, \$1.2M, 1,700 sq ft space with computers, projectors, and other hardware and software to produce immersive (i.e. >180 degree field of view) virtual reality environments (see Figure). The facility can be used to walk through simulated buildings that do not yet exist, show blood flow through an artery in vivid 3D, or simulate the dangerous collapse of a building in an earthquake with no danger to the viewers. This project will focus on creating partnerships in subareas where MARVL research champions have already created impressive content that can now be tailored to industry. Additional subareas will be added each year to broaden opportunities for strategic partnerships in Southeastern Wisconsin. This approach is modeled after the 35-year success of the NSF Industry/University Cooperative Research Center Program that provides a structural template for industry collaboration and funding for university center operations.

MILESTONES



ABOUT OUR TEAM

MARVL has demonstrated benefits for 8 subareas, and research champions have been identified. Many of these individuals are now developing derivative projects with potential industry champions.

- Architecture - Giuseppe Mazzone** (Student-Centered Active Learning Educator, OCOE)
- Computational Fluid Dynamics (CFD) - John LaDisa** (Associate Professor of Biomedical Engineering & MARVL director)
- Hazards, Risk & Resilience - Ting Lin** (Assistant Professor of Civil, Construction & Environmental Engineering)
- Health Care Simulation - Kerry Goepfert** (Associate Dean of Undergraduate Programs & Clinical Associate Professor, College of Nursing)
- Performance Arts - Chester Loeffler-Bell** (Artistic Assistant Professor, Digital Media & Performing Arts, Diederich College of Communication)
- Visual Arts - Lynne Shumow** (Curator of Education & Community Outreach, Haggerty Museum of Art)
- Infrastructure Visualization - Chris Foley** (Professor & Chair, Civil, Construction & Environmental Engineering)
- Wellness & Athletic Performance - Kristin Kipp** (Wellness Coordinator & Adjunct Physical Therapy Instructor)

BEYOND BOUNDARIES

Pursuit of Academic Excellence for Human Well-being

This project exemplifies innovative academic excellence informed by the humanities and sciences. MARVL projects are having a dramatic impact on teaching and outreach initiatives also aligned with the theme of community engagement. As a new learning and research technology, MARVL has provided ~1,000 transformative educational experiences. Users from across campus have visited MARVL to address problems, provide engaging community-based programs, and extend knowledge beyond existing boundaries for areas benefiting from immersive visualization. In <2 years, MARVL has proven to be a valuable resource for faculty, staff and students in all engineering departments, Nursing, Theology, Philosophy, Spanish, Communication, as well as the Haggerty Museum of Art and Helfaer Theater.