



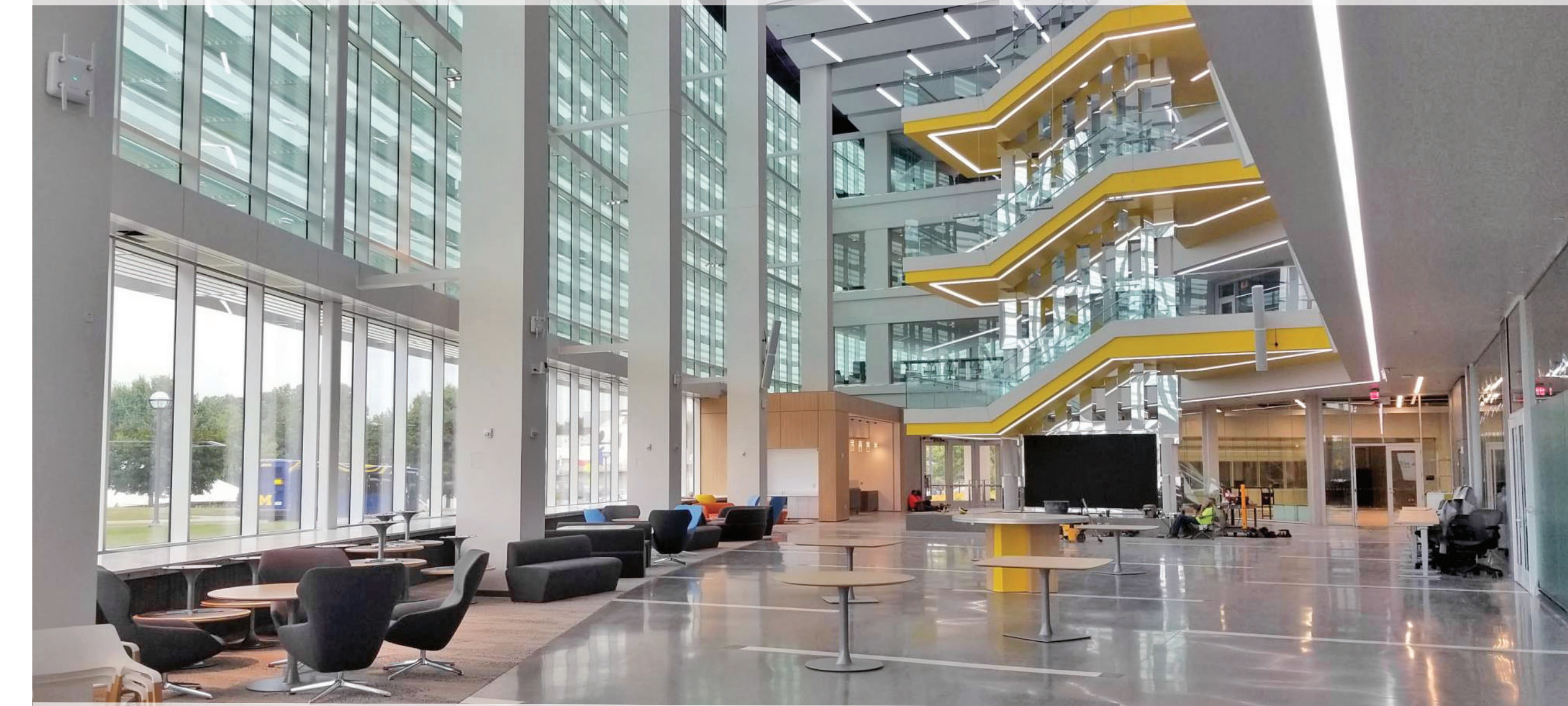
Project Description

The College of Engineering's new research and teaching facility for its Robotics program is a four-story, state-of-the-art facility. The building is approximately 140,000 gross square feet with high bay labs, dedicated shops, and classrooms and office space. The building also accommodates space for its corporate partner, Ford Motor Company, who has

co-located collaborative research activities within the facility. The building has an open plan design concept to provide flexibility while encouraging collaboration between faculty, students, and researchers. Testing labs include a robot walking lab, a flight testing lab, a rehabilitation robotics lab, and labs for electronics and software development.

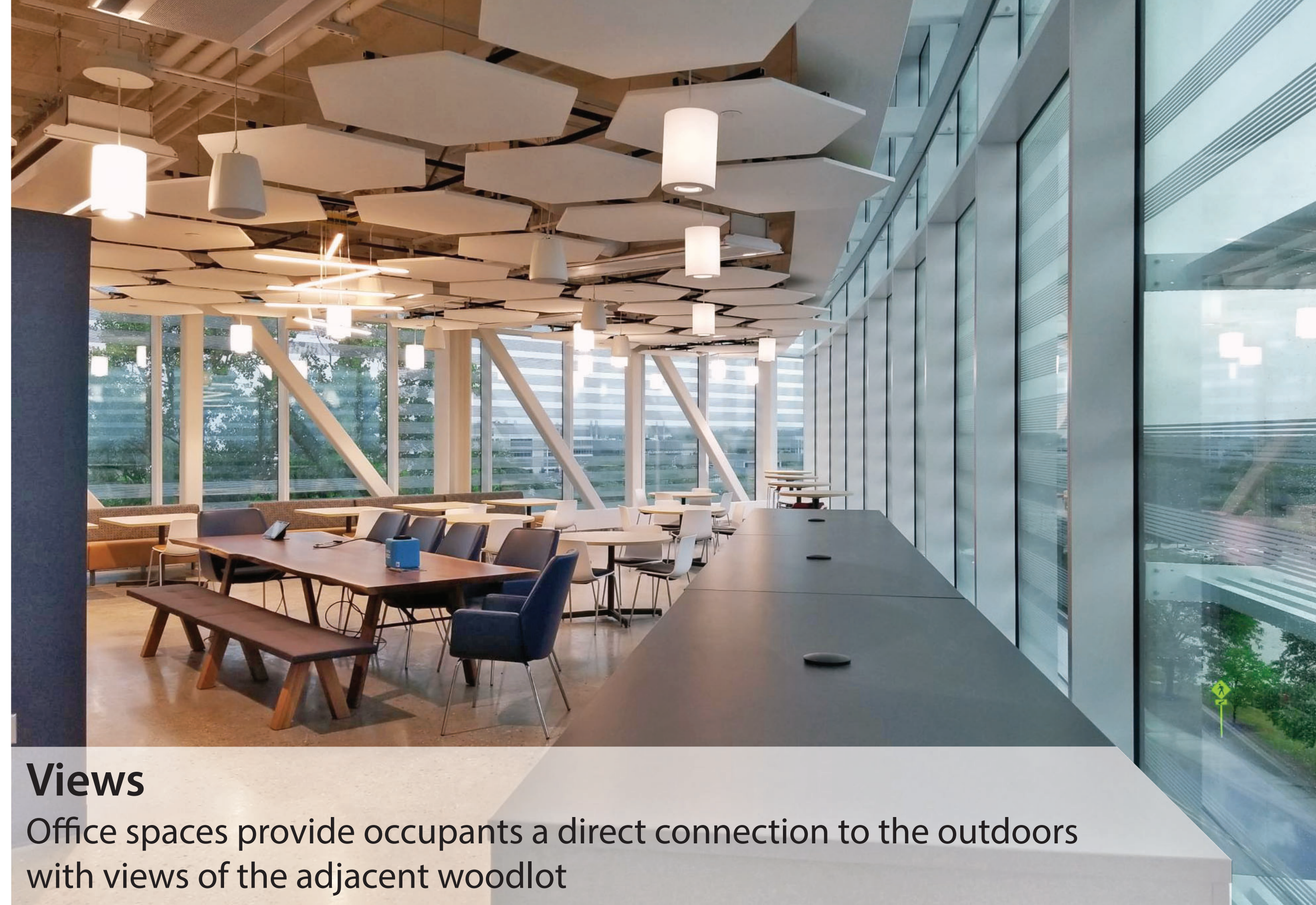
Active Occupants

Open stairwell encourages stair use promoting occupant health and well-being while reducing the electrical demands associated with elevator use



Natural Daylight

Natural daylight shines into the research spaces through the atrium, while daylight controls reduce lighting load



Views

Office spaces provide occupants a direct connection to the outdoors with views of the adjacent woodlot

Project Location: North Campus



Sustainability Facts

Ford Motor Company Robotics Building
 Building Use: College of Engineering
 Location: Ann Arbor, Michigan
 Size: 140,000 Square Feet
 Number of Occupants: 916 Daily Average

LEED version	2009	
LEED certification level	Gold	
ASHRAE 90.1 version	2007	
Energy cost savings compared to ASHRAE baseline	31%	
Total energy savings	\$96,222/ year	
Total electrical savings	176,737 KWh / year	
Total gas savings	83,091 Therms / year	
CO2 emissions avoided	565 Metric Tons	
Water fixture baseline	2012 Michigan Plumbing Code	
Total water savings	36%	
Construction/Demolition waste diverted from landfill	84%	
Insulation (R-Value)*	Code	Project
Wall assembly - above grade Limestone Panel w/CMU	15.6	22.7
Wall assembly - above grade Insulated Metal Panel	15.6	23.9
Slab on Grade Floors	0	15
Roof assembly	20	35
Glazing - Curtain wall system		
U-value**	0.55	0.25
Solar Heat Gain Coefficient (SHGC)**	0.40	0.15
Visible Light Transmittance (VT)***	1.10	23
Glazing - Skylight		
U-value**	1.17	0.39
Solar Heat Gain Coefficient (SHGC)**	0.49	0.51
Visible Light Transmittance (VT)***	N/A	0.73

Project Team	
Owner	University of Michigan - College of Engineering
Architect	HED
Engineer	HED
Contractor	Devon Instrutrial Group (DIG)
Commissioning Authority	U-M AEC
Project Management	U-M AEC

Design Period: 03/2015 - 12/2017
 Construction Period: 3/2018 - 9/2020
 * The higher the R-value the better the insulating quality
 ** The lower the U-value and SHGC the more energy efficient the window
 *** The higher the VT value the more daylight in the space. VT is measured between 0 and 1

Building Orientation

The long building axis runs east-to-west to provide the greatest exposure to southern sunlight, allowing direct winter sun to provide radiant heat while minimal glazing on the east and west façades avoids direct summer sun



View from south

