UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

ILLINOIS AUTONOMOUS AND CONNECTED TRACK (I-ACT)

THE FUTURE HOME FOR EMERGING TECHNOLOGIES RESEARCH
THAT WILL REVOLUTIONIZE TRANSPORTATION

Introduction

Illinois is at the transportation crossroads of the nation. A significant percentage of the nation's goods and people pass through our state every day. Our role as the nation's transportation hub benefits the economy, employment, mobility, and much more.

The transportation industry is rapidly evolving, as emerging technologies such as 5G communications, energy harvesting, and electrification are transforming how we travel and move goods. The Illinois Autonomous and Connected Track (I-ACT), a world-class research facility, is poised to lead this transformation through real-world development and testing of smart, connected, autonomous, and multimodal transport.

I-ACT will combine Illinois' unique strengths and establish partnerships between government agencies, academic institutions, key industry members, and nonprofit organizations to improve transportation safety, efficiency, resilience, and sustainability.

Imad L. Al-Qadi

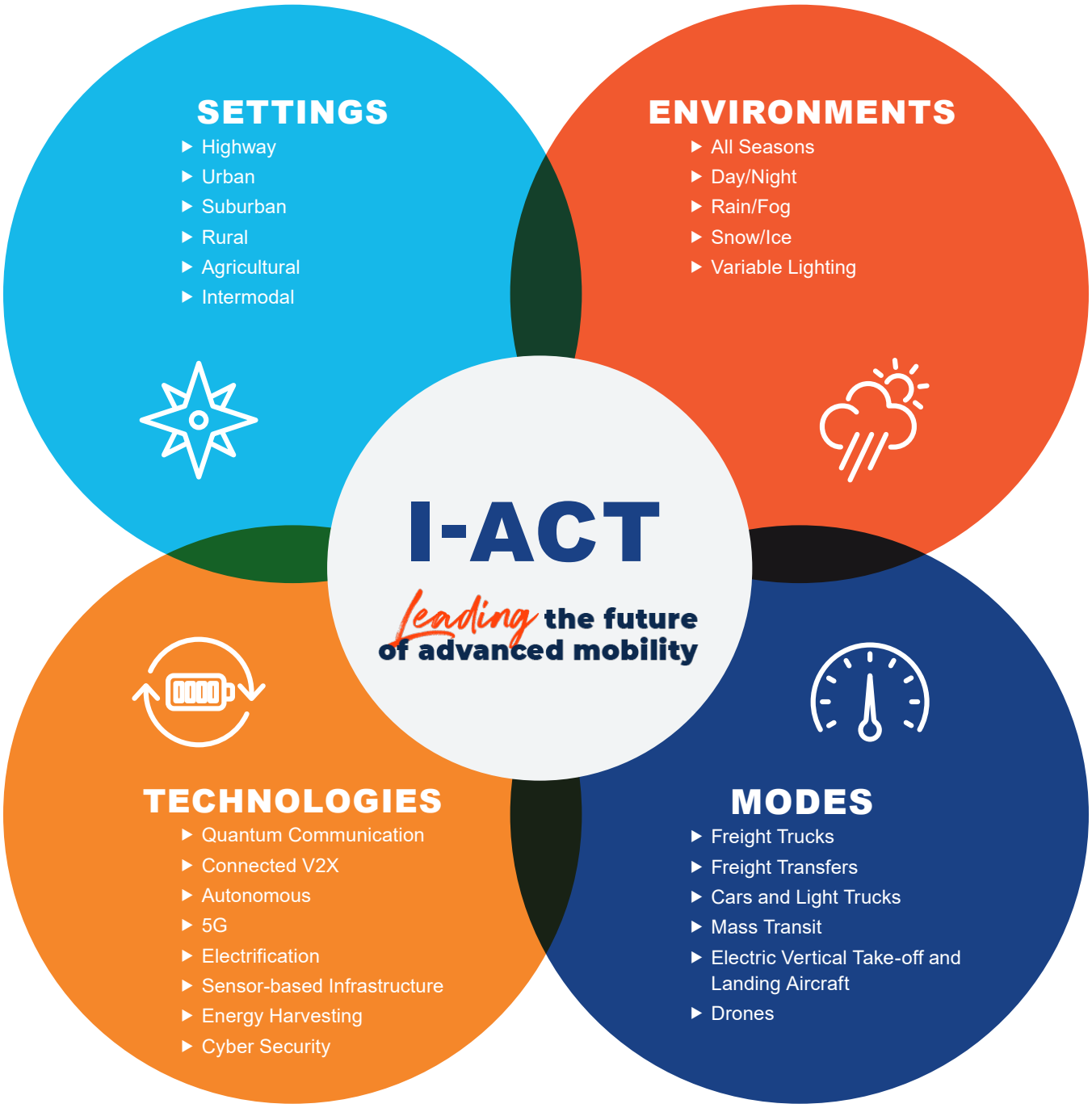
I-ACT | GOALS

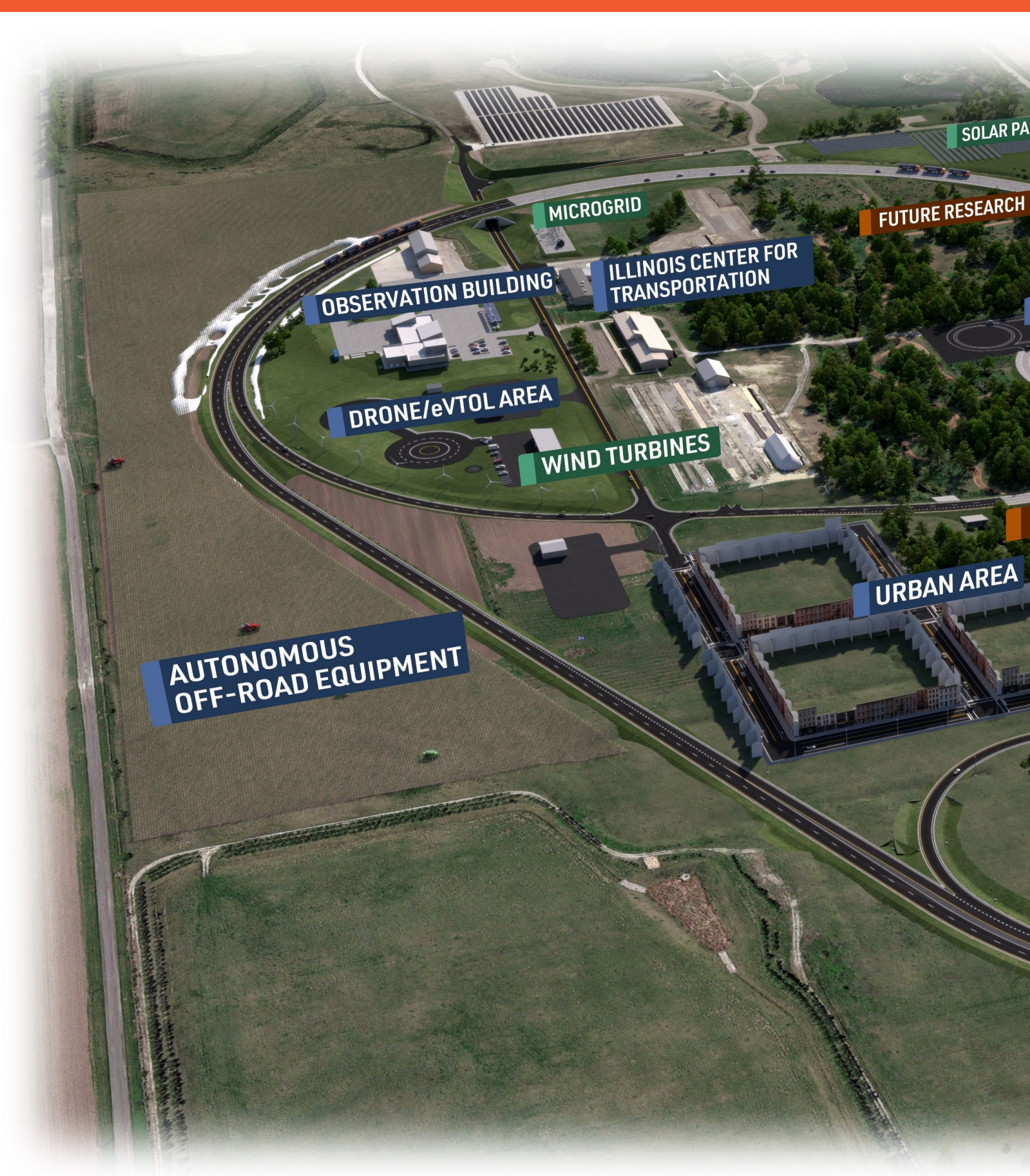
With its rich history in transportation, strength as an incubator for technology, top-tier universities, and centralized location, the State of Illinois is poised to proactively lead the new transportation agenda of the country. An investment in I-ACT can:

- Guide the future of mobility and advance Illinois' global leadership in transportation
- Assist lawmakers and stakeholders by determining ideal mobility strategies for transportation systems
- Accelerate the development and deployment of connected and autonomous transportation systems
- Transform developed technologies to the private sector by working with various partners
- Provide innovative and equitable multimodal transit opportunities
- Tap into Illinois' technological and corporate expertise to create new jobs and economic growth
- Revolutionize the freight, agriculture and clean energy industries by investigating emerging technologies
- Lead changes in technology acceptance policies, compliance protocols and impact of deployed technologies on climate change

I-ACT | CAPABILITIES

Conceived as a peerless, state-of-the art facility, I-ACT will provide a real-world testbed for a nearly endless range of potential applications in transportation. It will offer a variety of settings and environments under which to test emerging technologies for several modes of transportation.





Building on established, successful models, I-ACT bridges the gap for high-speed connected and

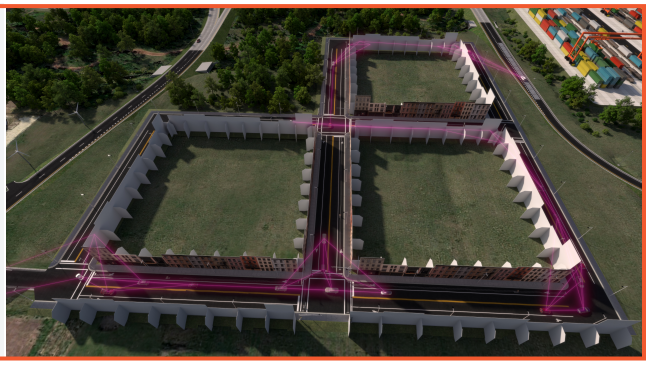
autonomous trucks at the repurposed Chanute Air Force Base.

I-ACT | FEATURES

I-ACT will be a modular facility capable of evolving over time to continually remain at the cutting edge. Some of the features planned for the initial launch include:

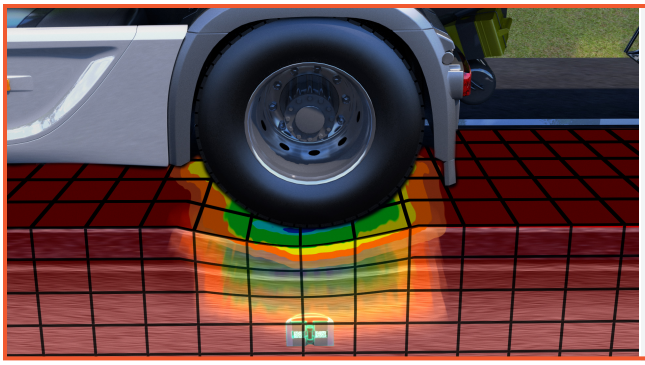
A 3-lane test track mimicking typical freeway conditions, capable of supporting endurance testing of vehicles, pavements, instrumentation, and electrification technologies at a **continuous 75 mph speed**

Variable speed **"infinity loops"** for continuous speed endurance testing simulating arterial and local roadway operations



Quantum communications and 5G connectivity throughout for Vehicle to Network (V2N), Vehicle to Vehicle (V2V) and Vehicle to Infrastructure (V2I) communications

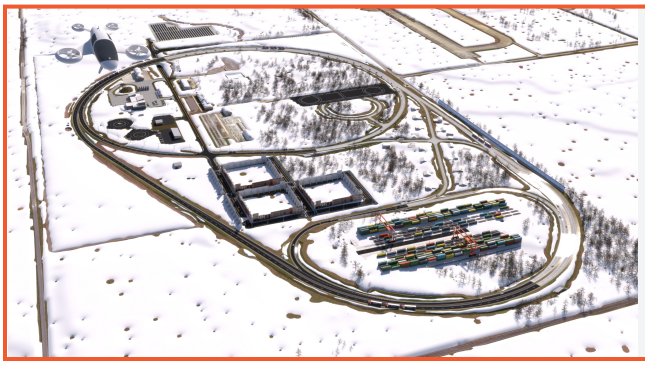
24-hour day/night testing under **simulated inclement weather** and **variable lighting** conditions



Renewable energy harvesting for research and daily operations including wind turbines and photovoltaic solar collectors

A state-of-art **Observation and Research Center** with modular office space, exhibition and teaching areas, computing capabilities, data storage facilities, and vehicle maintenance and instrumentation.

Energy harvesting technologies to facilitate **net-zero energy, powering infrastructure and EV charging,** including photo-voltaic modules (grid, noise barrier, embedded in road) and wind turbines



A campus with nearly 900 acres of research space, with **over 52 acres readily available for private leasing** by independent partners

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THANKS TO OUR PARTNERS

The Grainger College of Engineering
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Northwestern University

UNIVERSITY OF ILLINOIS AT CHICAGO UIC

The Grainger College of Engineering
Illinois Center for Transportation

Illinois Department of Transportation

Illinois Tollway

Governors State University

The Grainger College of Engineering
Civil & Environmental Engineering

Village of Rantoul Illinois

US Army Corps of Engineers ®

Leading smart mobility with I-ACT

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