



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



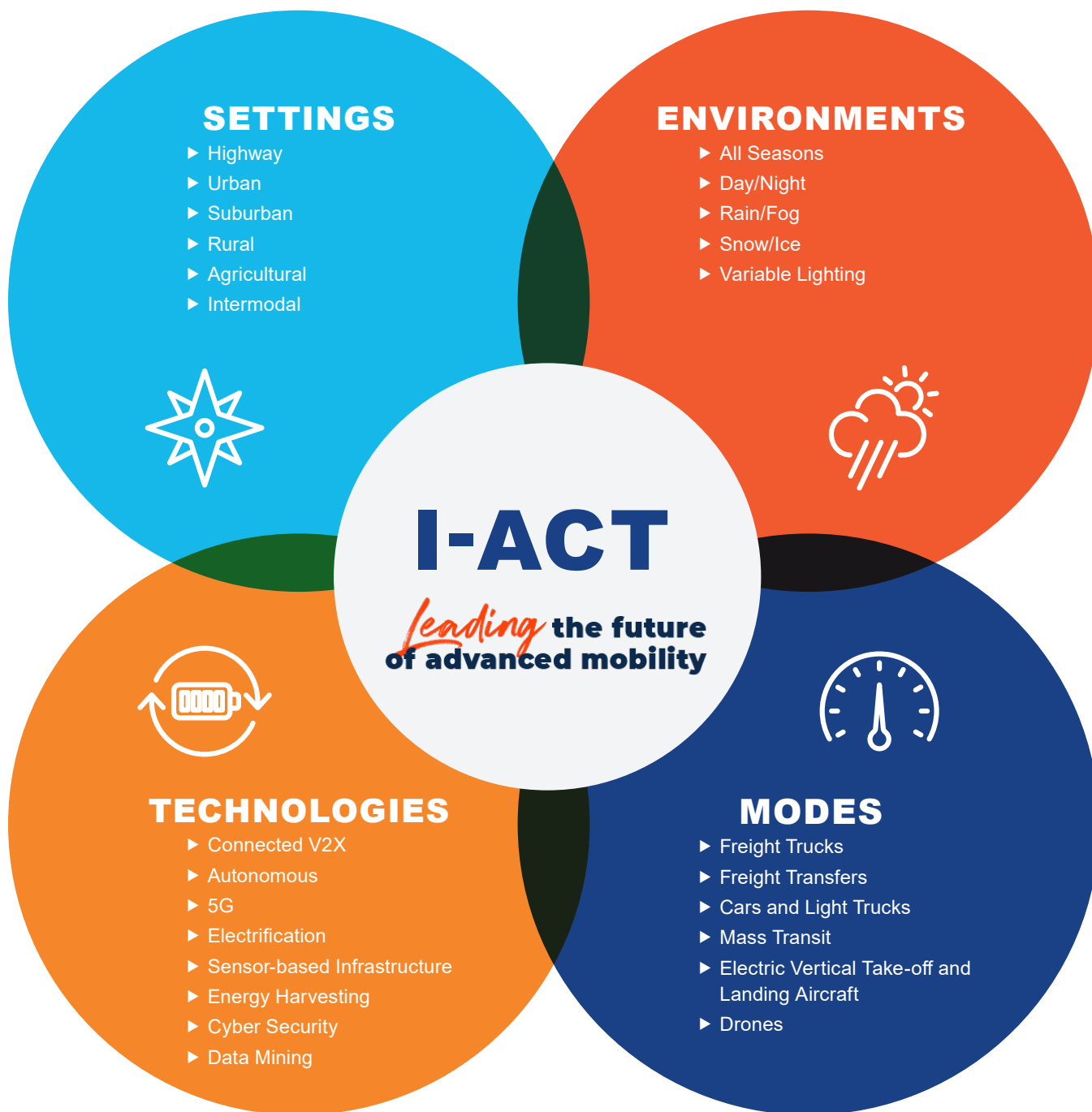
Revolutionize the freight, agriculture and clean energy industries by investigating emerging technologies



Lead changes in technology acceptance policies, compliance protocols and impact of deployed technologies on climate change

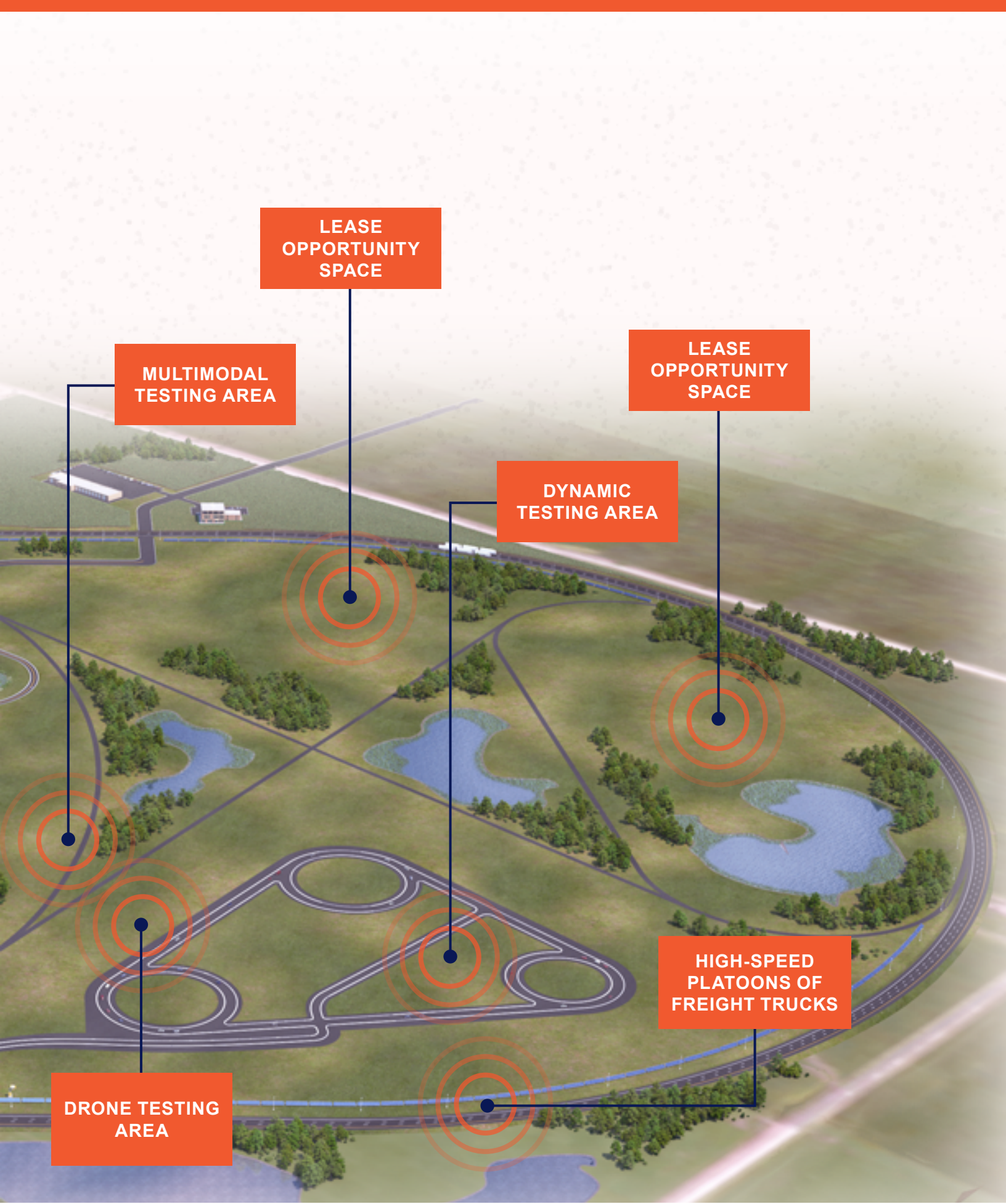
I-ACT | CAPABILITIES

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 Chantute Air Force Base.





MULTIMODAL TESTING AREA

LEASE OPPORTUNITY SPACE

LEASE OPPORTUNITY SPACE

DYNAMIC TESTING AREA

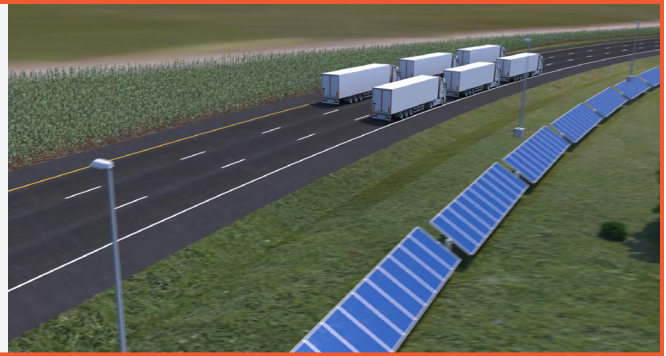
DRONE TESTING AREA

HIGH-SPEED PLATOONS OF FREIGHT TRUCKS

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

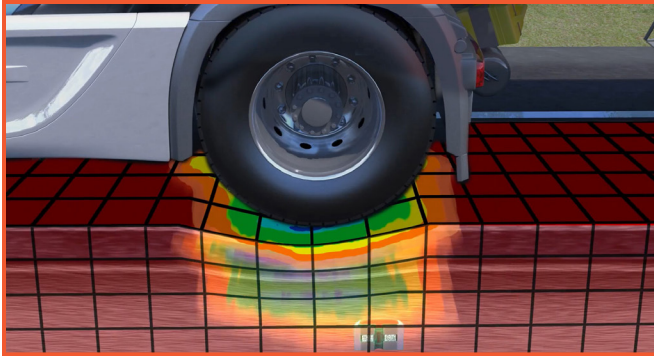


5G connectivity throughout for Vehicle to Network (V2N), Vehicle to Vehicle (V2V) and Vehicle to Infrastructure (V2I) communications



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, and data storage facilities



A Fleet Facility Building with **tractor-trailer, vehicle, and drone bays** for test vehicle maintenance and storage



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

THANKS TO OUR PARTNERS



**The Grainger College
of Engineering**

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



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**Illinois Department
of Transportation**



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