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Educational Advancement  
&  
Innovation

# 21st Century Education

- What are the critical skills our undergraduate students need?
- Technical depth in a particular field
- Creativity and innovation
- Entrepreneurial outlook
- Communication skills
- Ability to work well as a member of a diverse team
- Global knowledge and experience
- Commitment to lifelong learning

**New facility  
must reinforce**

# Concept

- Create an intellectual environment for interactive cross discipline student engagements.
- Provide agility to reconfigure educational spaces and advanced technology to enable learning.
- Support an objective to attract and retain the highest caliber of students and faculty.
- Enhance student academic learning experience by immersing them in critical thinking scenarios.
- Establish industry, government and academic partnerships to support programs of mutual interest.
- Establish an infrastructure of virtual interactive networks.



# NEW INNOVATION CENTER at Clemson University

# Innovation Center Enabling Facilities





# Science and Technology Focus Areas

Academic quality and experimental learning activities require rigorous S&T and scholarly research. Examples include:

- Advanced Material Development & Fabrications
- Cyber Fusion and Software Defined Networks
- Medical and Healthcare
- Scientific Analytics
- Informational Knowledge and Discovery
- Leadership, Economic Constraints, Policy and Global Disruptions
- Architecture Technology and Sustainability
- Computational Biology and Technology Applications

# Innovation Center Enabling Facilities

- Technology Demonstration Studios
- Skills Development Studio
- Immersive Visualization Areas
- Project and Collaboration Areas
- Scientific Analytics and Leadership Studios
- Scale-Up Cross-Discipline Interactive Learning Spaces
- Science and Technology Scenario Assessment Area
- Agile and Reconfigurable Fusion Laboratories
- Simulation and Modeling Support (3D) Equipment Areas



# Innovation Center Enabling Facilities

- Rapid Prototyping Area  
Collaborations Dedicated to Partnerships
- Enhanced A/V Interactive Learning Areas
- Control Center and Academic Resource Center
- Large Auditorium and Atrium for Supporting Academics, Research and Partnership Activities
- Terrace Rooftop to Support Scholarly and Social Interactions





# Innovation Center Academic Focus

- Interactive Learning Engagements
- Technology Demonstrations
- Collaboration Across Disciplines
- Experimental & Applied Research
- Creative Inquiry and Special Projects
- Creativity and Emerging Technologies
- Progressive Use of Autonomous Processes
- Virtual Utilization of Interactive Infrastructure



# Innovation Center Basic Features



- Broadband fiber and wireless controllable IT grid
- Raised flooring with modular wiring and air flow systems
- Flexible interconnectivities and modular interior walls
- LED lighting and controlled daylight harvesting sensors
- Agile interdisciplinary science & technology areas



# Innovation Center Basic Features

- Visualization systems throughout the building
- Centralized control room for electronic development and delivery of deeply programmable software modules
- Virtual connectivities to remote assets, extended operations and partnerships



# Unique Innovation Features

- Support creation of dynamic interactive learning centers with other universities, industry and government utilizing virtual connectivity
- Improve student engagements and scale-up product development prototyping
- Creation of intelligent data to support global business environments that embrace growth and sustainability
- Advance complex problem solving solutions driven by economic assumptions and policies
- Science and technology assessments to explore business opportunities related to market dynamics



# Summary

- Educational advancements are about providing the critical skills our students need to be successful in the workplace.
- Emphasis is on cross-disciplinary collaboration, innovation, & partnerships enabled by advanced technologies.
- An essential part of cost effective operations is virtual connectivity to critical assets and collaborative partners.