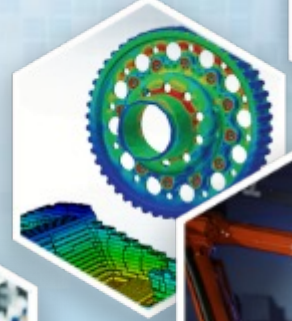


Welcome to Innovation South

University of Tennessee
Research Park at Cherokee Farm



Convvene. Connect. Catalyze.

Fresh from Innovation South Groundbreaking...



Fresh from Innovation South Groundbreaking...



East TN Composites Corridor – Connected ecosystem



The TN Composites ecosystem comprises of IACMI – UT – ORNL - Industry - National & Fed Labs



UNIVERSITY OF TENNESSEE COMPOSITES

- Fibers & Composites Manufacturing
- Mechanical Characterization
- Joint Institute for Advanced Materials (JIAM)
- Center for Renewable Carbon (CRC)



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE



CARBON FIBER TECHNOLOGY FACILITY

- Low-cost textile & lignin precursor carbon fiber
- 25 ton per year carbon fiber production
- Custom sizing and characterization



MANUFACTURING DEMONSTRATION FACILITY

- Intermediate to large scale composite fabrication
- Hybrid materials
- Additive - Composites

**BASIC SCIENCE → LAB SCALE → INTERMEDIATE SCALE –PROTOTYPING
– MANUFACTURED PRODUCTS – SERVICE and END OF LIFE**

IACMI: On the Move

Current & Future

October 3, 2022

Mid-2024



NTRC Location

- Will maintain 1 large collaborative space/office and access to conference and meeting rooms
- Maintain IACMI address
- Close proximity to MDF



Checkerboard Facility (temporary)

- 10658 Checkerboard Lane, Knoxville, TN 37932
- 11,000 Sq Feet with offices, conference room, meeting space and high bay
- Houses IACMI equipment



INNOVATION SOUTH



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE



THE UNIVERSITY OF TENNESSEE
RESEARCH PARK
AT SMOKEY PARK

Innovation South (Long Term)

- University of Tennessee Research Park at Cherokee Farm
- 2641 Osprey Vista Way, Knoxville, TN 37920
- Will become IACMI HQ
- FCMF

Groundbreaking!

Innovation South at UT Research Park at Cherokee Farms



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

RESEARCH PARK
AT CHEROKEE FARM



PARTNERS
DEVELOPMENT



UT THE UNIVERSITY OF TENNESSEE
RESEARCH PARK

Innovation South – UT Research Park at Cherokee Farms (85,000 sq.ft) – Value Proposition



- ◆ UT Significant footprint in advanced materials & manufacturing
- ◆ Collaboration between units – Engineering, Agriculture, UT Medical Center
- ◆ Highly collaborative faculty (UT & beyond)
- ◆ Major student engagement ~ 50+ grad, 100+ undergrads
- ◆ IACMI-HQ
- ◆ Major Work Force Development (WFD) – ACE, MEEP, and
- ◆ ORNL – MDF, BTO, CFTF, CF Group, CMD
- ◆ Core partners – ORNL-IACMI-Industry
- ◆ Commercial partners co-located
- ◆ Retail space (coffee shops etc.)



Innovation South at the UT Research Park at Cherokee Farms



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RESEARCH PARK
AT CHEROKEE FARM



PARTNERS
DEVELOPMENT



THE UNIVERSITY OF TENNESSEE
RESEARCH PARK
AT CHEROKEE FARM

Innovation South – Commercial Space Tenants (June 2023)

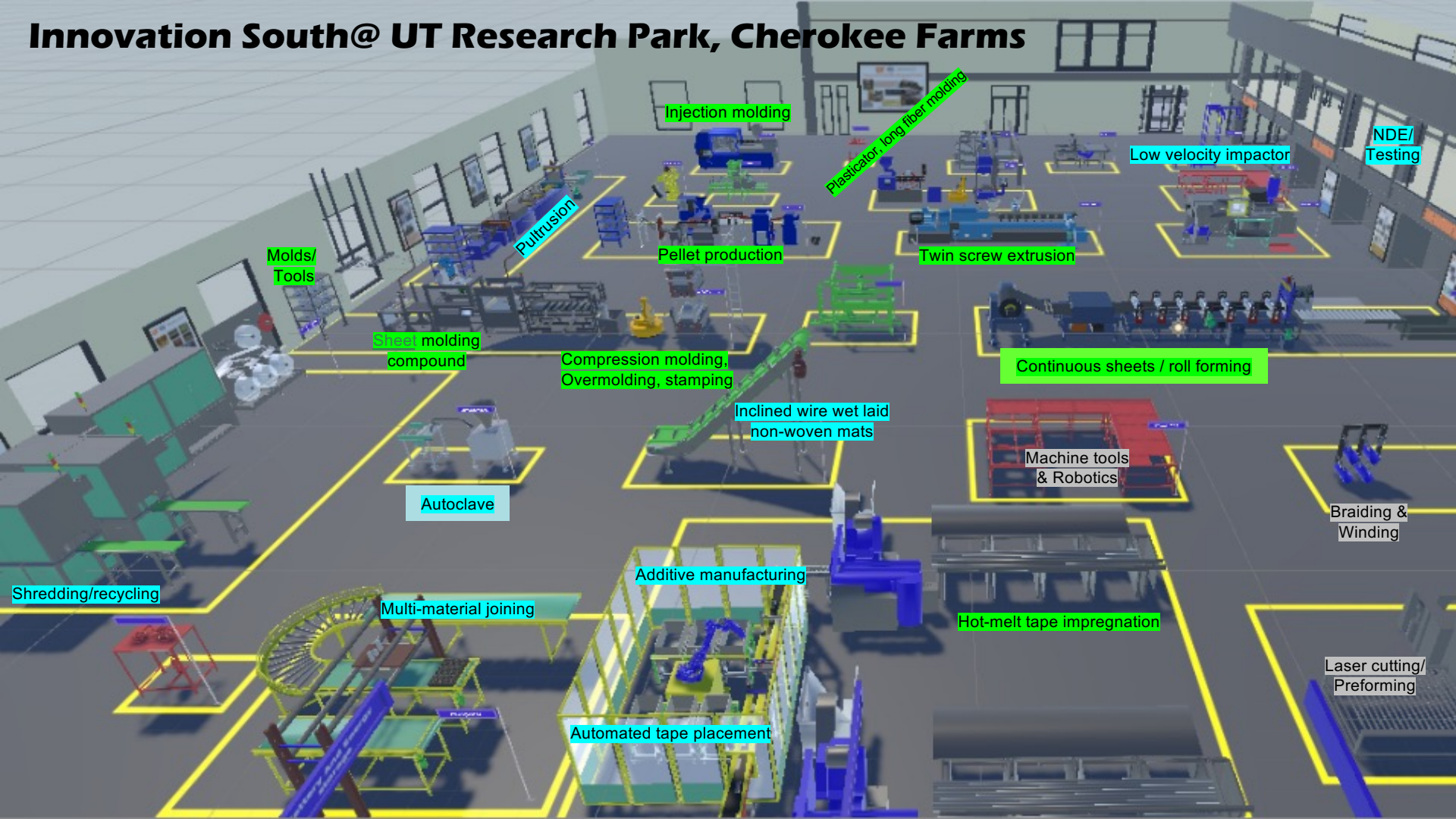


VOLKSWAGEN
GROUP OF AMERICA



Several IACMI companies and regional partners in discussion

Innovation South@ UT Research Park, Cherokee Farms



Injection molding

Plasticator, long fiber molding

Low velocity impactor

NDE/
Testing

Pultrusion

Pellet production

Twin screw extrusion

Molds/
Tools

Sheet molding
compound

Compression molding,
Overmolding, stamping

Continuous sheets / roll forming

Inclined wire wet laid
non-woven mats

Autoclave

Machine tools
& Robotics

Braiding &
Winding

Additive manufacturing

Hot-melt tape impregnation

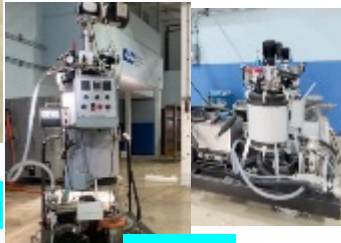
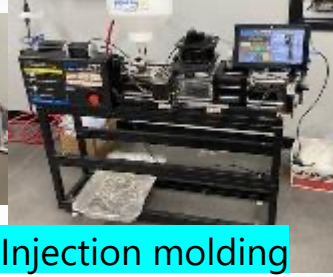
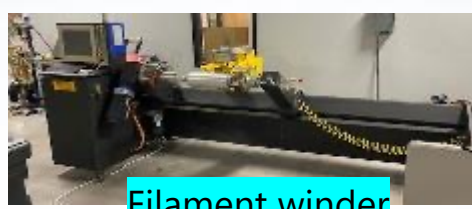
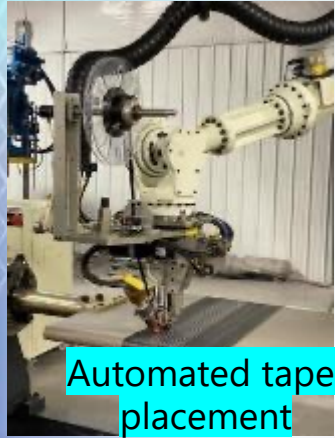
Laser cutting/
Preforming

Shredding/recycling

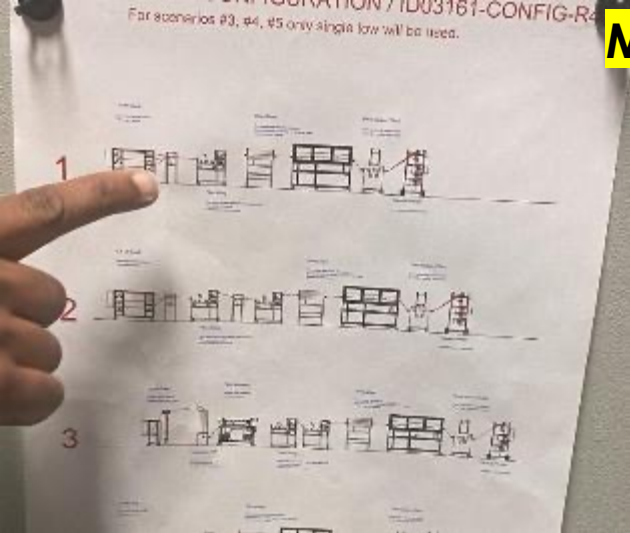
Multi-material joining

Automated tape placement

Representative assets



Michelman Sizing Line ~60-70 ft modular



Courtesy: Michelman

CRC - Fiber thermoforming



Fiber Thermoforming Technology

- Short fibers in a water slurry, dispersed and recirculated
- Vacuum-assisted molding of complex geometries
- Spray head for additives
- Robotic transfer to cold press and hot press

New and existing manufacturing technologies

- Facilitates use of natural wood and ag fibers
- High-quality finishes to form precise parts
- Synthetic and recycled fiber composites have been demonstrated

Current users and research

- Genera – produces ag-fiber molded containers
- VW / UT-CRC – developing fiber-molded auto parts
- Recycled fiber and synthetics
- UT-CRC – PI Dr. Nicole Labbé leads a USDA grant to remove PFAS from products and an NSF Engine to develop an ag-fiber economy in the Southeast.
 - Footprint - 10.8 x 4.6 x 3.6 m
 - Part – 900 x 600 x 160 mm



Kiefel KFT90 Speed



Genera's Earthable® Eco-friendly plates and bowls



VW Group of America President and CEO Pablo Di Si with Cece Grubb Demonstrating molded fiber composites at the CRC



Industry Relevant Collaboration Spaces IACMI is Expanding!



Colorado



Indiana



Michigan



Ohio



Tennessee



Shared Spaces for Catalyzing **Innovation**, Expediting **RD&D**, Supporting **Workforce Development**