Commonwealth Center for Advanced Manufacturing (CCAM)

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Rolls-Royce at Crosspointe

- 1,000 acres of land
- Plans for $500 million investment and 500 jobs
- $170 million invested and 130 jobs created in first facility completed in 2011
- Disc manufacturing for engines used in Boeing 787, Airbus A380 and A350
- $136 million and 140 jobs in second facility to be completed in 2014
- Produces turbine blades / nozzle guide vanes for Boeing 787, Airbus A380, and A350
- Six supplier co-locations are planned

First Rolls-Royce Factory at Crosspointe
Advanced Manufacturing Innovation Zone

**INDUSTRY DRIVEN**
- Multiple industry and university partners
- Applied research
- Industry-defined problems with easy transition of results to commercialization

**INDUSTRY OWNED AND OPERATED**
- Advanced Manufacturing
- Operational Q1 2011
- Industry “pull” for technology and jobs

**UNIVERSITY DRIVEN**
- Basic research
- Experimental engine test facility
- Results transition easily into CCAM

**INDUSTRY / COMMUNITY COLLEGE DRIVEN**
- Hands-on laboratory
- Industry applications
- Innovative, multi-faceted curricula

Commonwealth Center for Advanced Manufacturing (CCAM)
Commonwealth Center for Aerospace Propulsion Systems (CCAPS)
Factories at Crosspointe Site
CCAM Apprentice Academy and Workforce Development Program
Mission

- Bridge the gap between research and commercialization
  - Accelerate technology into markets
  - Demonstrate on real problems
- Foster collaboration among diverse industry sectors
  - Directed Research for the exclusive benefit of a member
  - Generic Research for the benefit of all members
- Lower R&D costs for member companies
  - Shared facilities and personnel
  - Shared pre-competitive research
- Train next generation of technology leaders
  - Provide market ready experience
  - Connect industry with students

Technology Readiness Levels (TRLs) 1 Through 9

New Ideas

1 - Basic Research and Technology Creation
2 - Application Development and Proof of Concept
3 - Product Development and Commercialization
4 - New Products and Services

University Partners
CCAM
Member Companies

CCAM integrates all partners into a collaboration that bridges the gap between research and commercialization thus creating a seamless flow of technologies and skilled workers.
Delivering “production-ready” manufacturing solutions at the speed of business with the intellectual rigor and innovation of universities.
CCAM Applied Research Facility

62,000 square foot research facility opened September 10, 2012

16,000 square feet of high bay experimental research space

Research equipment and office space
Expansion Plans

Additional acreage available

Additional Research Facility

High Bay Expansion

Initial CCAM Building

Career Center

Additional Research Wing

WEST QUAKER ROAD
Advanced Manufacturing Laboratories at UVA

- 20 new computers with CAD software (other computers available outside the lab)
- 6 Fused Deposition Modeling (FDM) plastic printers
- 1 Fortus 400mc FDM for larger parts with higher resolution
- 1 CNC milling machine
- 1 Full-time lab engineer and CAD specialist (Dwight Dart, PhD)
- 1 Assistant Professor focused on teaching the lab related courses (Gavin Garner, PhD)
- 1 Instructor for jet engine design course sequence (David Sheffler)
CCAM Workforce Development Program

- Funded by the Virginia Tobacco Indemnification and Community Revitalization Commission
- Workforce Study completed for the Tobacco Region
  - Performed by the Boston Consulting Group under contract with CCAM
  - Report is publicly available
- CCAM Director of Workforce Development Hired (started October 1, 2013)
- Working committees created with strong industry and education participation
  - Steering Committee – CCAM
  - Curriculum Committee
  - Marketing Committee
  - Resources Committee
- Focus is on mid-level skills
  - Machinists
  - Welders
  - Industrial Machinery Mechanics
- Focus is on industry-recognized credentials
- Creating three regional centers of excellence for training
  - Equipped and staffed to each produce credentialed workers in three focus skills
  - Goal is 75 certified graduates from each regional center by 2017
Questions

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