



**LAI Educational Network**

**October 2006**

# Lean Aerospace Initiative (LAI) Formed in 1993

- **Industry**
  - Airframe, engine, avionics, missile and space companies
- **Government**
  - Air Force agencies, system program offices, and headquarters
  - NASA, Army, Navy
  - Department of Defense
- **Academia**
  - MIT - Schools of Engineering and Management
  - Educational Network (2003)



*A national consortium for research,  
implementation and diffusion of lean practices*

# EdNet Impetus: Dec 2000 LAI Exec Board Roundtable

***“A curriculum should be developed so that lean principles could be taught at key universities, businesses and military institutions across the country and be used for training new members of the acquisition community”***

Source: “Most frequent opportunities identified in the Exec Board Roundtable, Breakout Sessions and Canvas of Members”, Fred Stahl, Jan 2, 2001

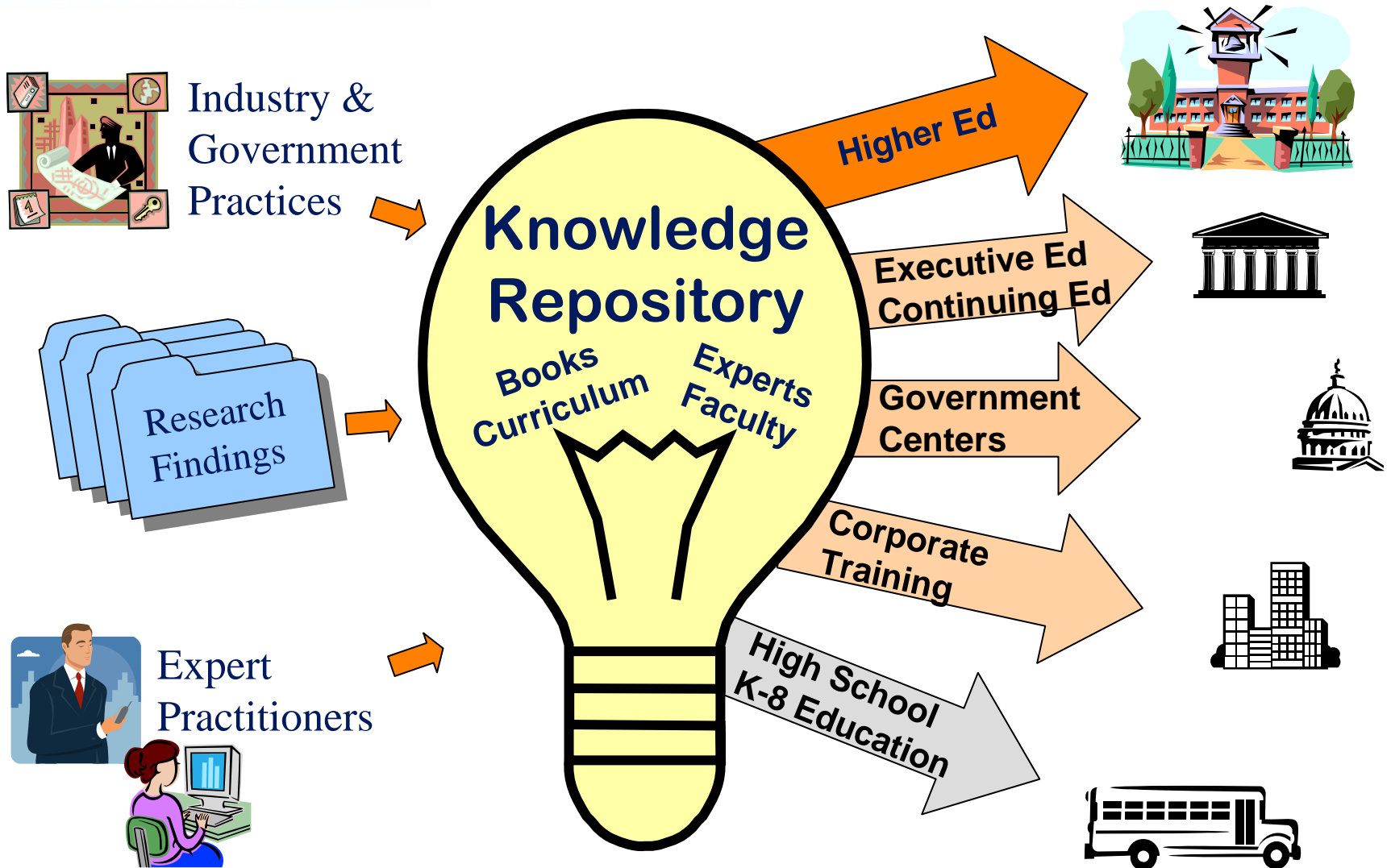
# EdNet Vision & Mission

***Vision: EdNet is a **learning community** dedicated to creating, deploying, and continuously improving **curriculum for enterprise excellence**; noticeably impacting workforce capability; and recognized as a **model of collaborative innovation**.***

***Mission: EdNet will **leverage member's expertise and resources** through collaboration and networking to accelerate the **development and deployment of curriculum** for achieving enterprise excellence.***

***Educate, Motivate, Innovate***

# Education & Training Landscape



## EdNet Enables Thought Leadership

- Knowledge network
- Link academics to industry & government
- Target audience: current and future leaders and professional workforce



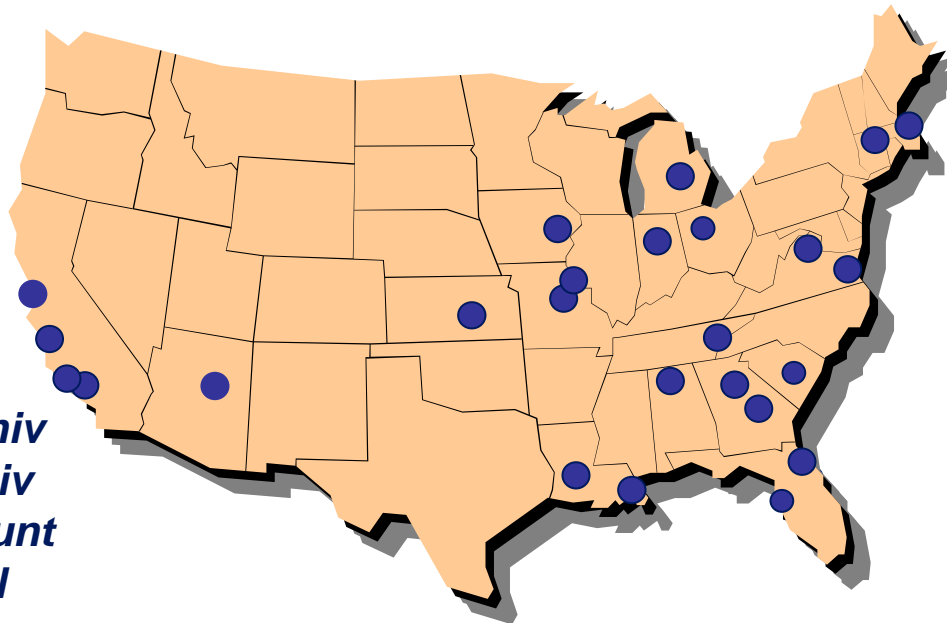
# NCCA and Business Model

- **No Cost Collaborative Agreement (NCAA)**
  - Between member schools and MIT
  - Allows sharing of Intellectual Property
  - Annual meeting
  - Three Advisors - 1 each from MIT, Government schools, all other schools
- **Business Model**
  - LAI @ MIT provides core funding to sustain EdNet operations: leadership, staff, web site, pubs, etc.
  - No financial liens nor gains for member schools
  - Faculty volunteer time for EdNet activities and curriculum development, support own travel costs
  - LAI Lean Academy instructors compensated

# LAI EdNet Schools

October, 2006

*AFIT  
 AZ State U  
 Cal Poly SLO  
 Cranfield (UK)  
 DAU  
 Embry-Riddle  
 Georgia Tech  
 Indiana State Univ  
 Jacksonville Univ  
 Loyola Marymount  
 Macon State Col  
 MIT  
 Old Dominion Univ  
 North Carolina State  
 Purdue Univ  
 St. Louis Univ, MO*



*San Jose State Univ  
 U of AL, Huntsville  
 U of Iowa  
 U of Michigan  
 U MO Rolla  
 USC  
 U of Bath (UK)  
 U of South Florida  
 U of Tenn, Knoxville  
 U of New Orleans  
 U of Louisiana,  
 Lafayette  
 U of Warwick (UK)  
 Wichita State Univ  
 Wright State Univ  
 WPI*

3 UK schools ● ● ●

● 31 Member Schools



## Curriculum

- Lean Enterprise fundamentals
- Intense one week format
- Active learning pedagogy
- On-site or on-campus
- Before and after lean proficiency measured
- Targeted audience
  - Instructors
  - Undergraduate or graduate
  - Interns, coops, new hires



## Strategy

- Develop curriculum
- Develop faculty competency
- Start with on-site offerings
- Diffuse to on-campus offerings
- Link academia with industry

# Lean Concepts and Terminology Covered in the Curriculum

- Processes
- Value
- Value stream
- 7 types of waste
- 5 S
- Flow
- Cycle time
- Takt time
- Balanced work
- Single piece flow
- Standard work
- Kitting
- Pull System
- Kanban
- Visual control
- Andon
- Mistake proofing
- Lean engineering
- Supply chains
- IPTs
- IPPD
- Systems Engineering
- SPC
- Six Sigma
- 5 Whys
- Kaizen
- Multi-voting
- Enterprises
- Stakeholders
- Internal customers
- External customers
- Process maps
- Continuous improvement
- Price vs cost
- DFMA
- Key characteristics
- Production simulation
- Solids based modeling
- Pareto charts
- Histograms
- Cause & effect diagrams
- Product lifecycle
- Lifecycle costs
- And more.....

# LAI Lean Academy® : Expanding Audiences

**2003 - 1 course**

- Summer interns and coop students

**2004 - 6 courses**

- Summer interns, coops, new hires

**2005 - 9 courses**

- Summer interns, coops, new hires, experienced employees, suppliers
- On campus undergrads and graduate students

**2006 - 12 courses**

- Industry employees with little Lean knowledge
- USAF enlisted and officer personnel
- Evening MBA students
- USC senior capstone ISE design subject
- Open enrollment offering by U of AL Huntsville

**Robust course adaptable to varied audiences**

# EdNet Strategic Directions

**Evolve & diffuse the LAI Lean Academy<sup>®</sup>**

**Develop advanced curriculum**

**Create an effective learning community**

**Be a model of collaborative innovation**

**Establish EdNet Centers in strategic locations**



**Details in EdNet Strategic Plan**

- **Reduction in USAF core funding for LAI starting Oct 06 translates to reduction in core funding to sustain EdNet**
- **Options to be considered**
  - **Develop additional sources of core funding**
  - **Replace LAI as EdNet host & develop new funding**
  - **Increase fee for LAI Lean Academy to full market price**
  - **Reduce scope of EdNet activities**
  - **Merge with LEAN or other group**
  - **Conclude EdNet**
- **Will be discussed at Wednesday business meeting.**