Transforming the Workforce of the Future

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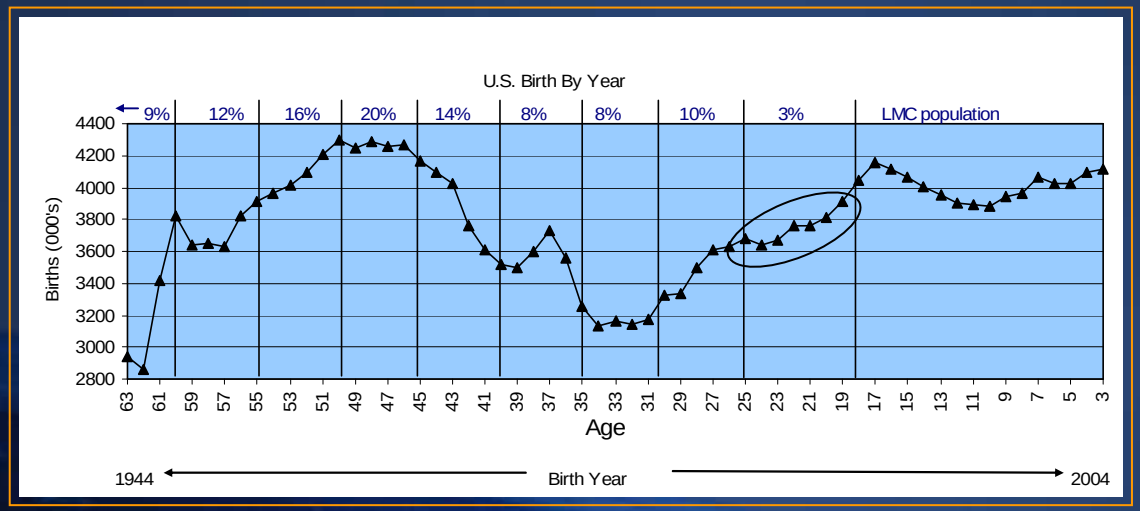
Topics & Unifying Themes

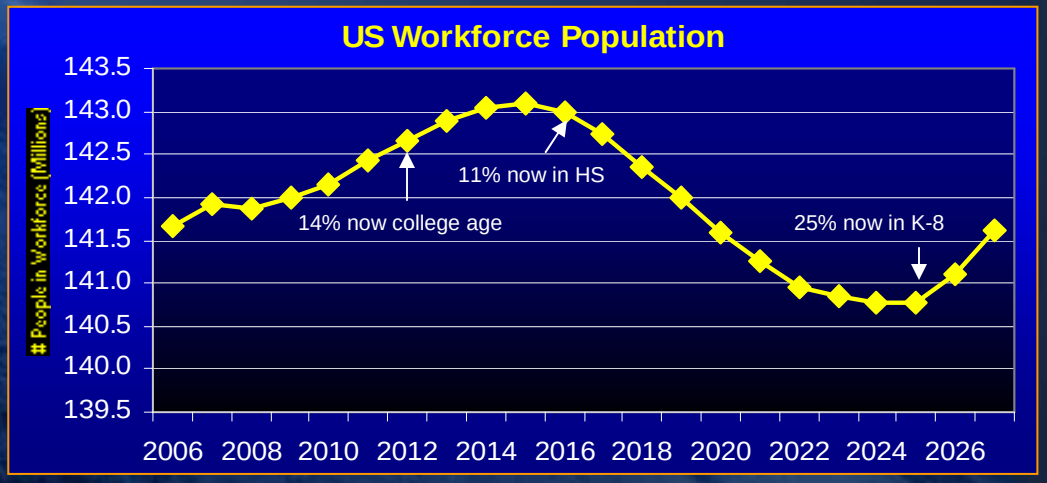
- The future workforce demographics & what it may portend for our future
  - Our collective challenge in filling the talent pipeline
- Workforce development transformation in progress…
  - Importance of industry relevance in workforce development / workforce programs
  - Importance of opportunities for engaging industry / workforce and labor entities in workforce development / workforce program development
  - Importance of industry and workforce / labor entities partnering with education and training organizations to leverage expertise, resources, share perspectives

U.S. Current and Future Workforce



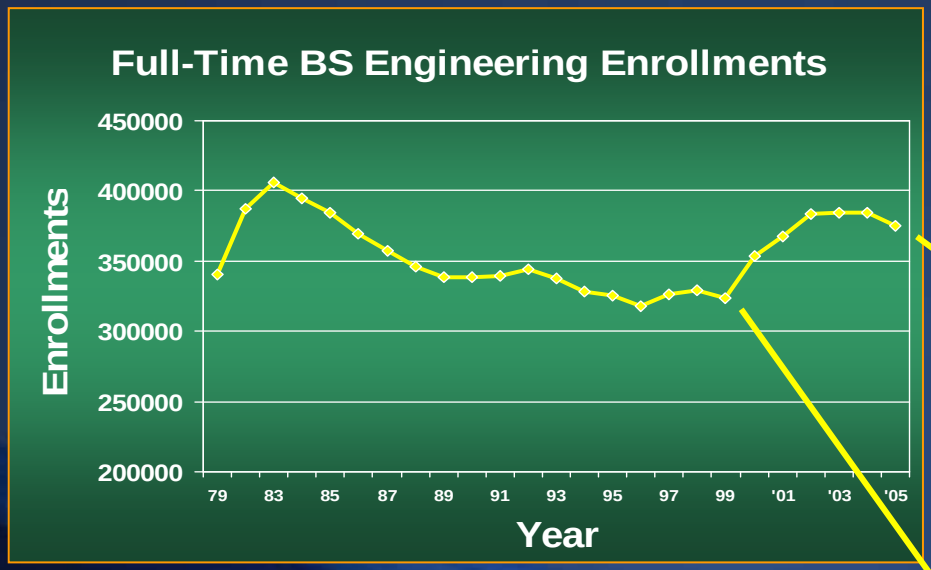
- **Labor force through 2025 already born**
- **Births not sufficient to replace "*Baby Boomers*"**
  - **"*Millennials*" nearly as large as "*Boomers*" (70M vs. 76M)**
  - **"*Gen X*" baby bust will cause tightness through middle of next decade**

- **U.S. workforce population estimate at right**
  - ***assumes people enter the workforce at age 23***
  - ***and retire at age 60***



Challenge: How To Sustain A Vibrant Science / Engineering Workforce In An Environment Of Decreasing Workforce Population?

Engineering Talent Trends – A Skills-Based Shortage

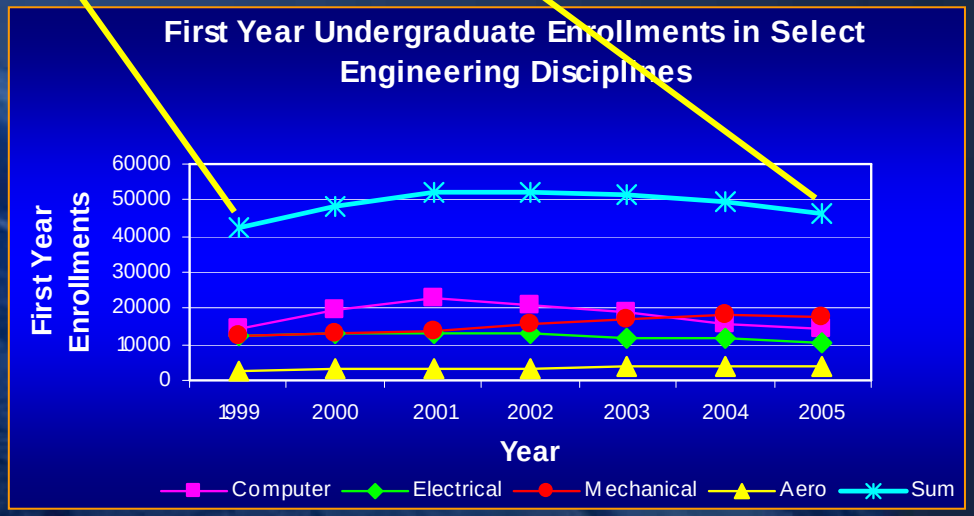


Source: Engineering Workforce Commission, AAES

- Total Engineering enrollments have decreased while birth data suggests they should increase
  - Demand projected to stay flat in Aerospace, increase in other industries
    - Aerospace Industry core disciplines follow trend

Disturbing Engineering enrollment trends:

- 2005 first-year BS enrollment in Aerospace core disciplines has declined 11% since 2002
- 2005 Computer Science first-year enrollments down 36% from 2001
- Electrical Engineering down 17% from 2002
- 2006 degrees to foreign nationals:
  - BS: 8.0%
  - MS: 46.0%
  - PhD: 67.0%



Source: Engineering Workforce Commission, AAES

Multi-Pronged Approach Required To Meet The Supply / Demand Challenge

Attacking The Challenge

- Influencing K-12
  - Encourage young people to consider aerospace as a career
- Recruiting entry-level professionals
  - Partnering with Universities and Colleges; Shaping the future workforce
- Attracting experienced professionals (ExPro's)
  - Seasoned talent to lead projects and mentor junior employees
- Retaining employees
  - Ensure ongoing support of our Nation's critical programs

Panelist

- Bruce Gardner, PhD, Principal Director/Learning Systems, The Aerospace Institute, The Aerospace Corporation
  - Overview of Systems Engineering training effort under WIRED
- Vince Brantley, Vice President, Business Development, Santa Ana Chamber of Commerce
  - Development of High School, Inc. – a high-tech high school in Santa Ana which has been a 2 year + collaborative effort of the Chamber, the school district and industry
- Tim Rainey, Director of Workforce and Economic Development, California Labor Federation
  - Apprenticeship and other workforce programs of organization
- Ray Deutsch, Founding Chairman, CSA Board of Directors, Community Relations Director, Westberg & White, Inc., Architects and Planners
  - Overview of California Space Center
- David Gonzales, Director, Center for Applied Competitive Technologies, El Camino Community College District
  - Disconnect between industry's demand for manufacturing workers and the public perception that manufacturing jobs are going overseas, and the role of the community colleges in developing a solution