Georgia Institute of Technology

The Leadership Challenge: Strategies to Seize Our Opportunities

President G. Wayne Clough
Administrative Retreat
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Megatrends in a New Millennium

- Talent is dominant
- Population continues to diversify
- Technology is ever more pervasive
- Interdisciplinary is in; biotechnology, nanotechnology, IT expand their impact
- Shelf-life of knowledge shortens
Megatrends (continued)

• Computing and communications grow exponentially; infinite information access
• Major industries converge and globalize
• Entrepreneurism, start-ups change economy
• Federal support for research lessens; industry looks to universities for long-term research
Leveraging the megatrends... to seize our opportunities.
Implications for Georgia Tech

- Industry follows talent to our campus
- Importance of diversity grows
- All industry is now high-tech; our role grows
- Influence of traditional disciplines declines; importance of biotechnology, nanotechnology, information technology grows
- Lifelong learning concept becomes reality
- Research environment grows more complex
Implications for Tech (Continued)

• Technology changes learning environment
• Educate leaders, not technicians
• Inculcate understanding of new economy: speed, agility, adaptability, decision making
• Establish links to entrepreneurial companies
• Institutional agility is critical (complacency is death; complexity is slow death)
Georgia Tech in the New Millennium

• A world-class university
• A catalyst for economic development in Georgia
• Stimulus for an economic and cultural renaissance in Midtown
• A campus environment that supports institutional aspirations
Building a National/International Profile

• Sharpen strategic plan
• Become a player in setting policy at state, national, and international levels
• Increase profile in blue chip organizations in higher education
• Build breadth in national rankings
• Establish east/west international beachheads
• Strengthen focus on learning and students (compassionate academia)
Strategic Positioning

- Revise the GT Strategic Plan
- Carefully choose targets of opportunity
- Develop communications strategy
- Build and reinforce strategic partnerships

“We’re surrounded by insurmountable opportunities.”
- Pogo

“The essence of strategy is choosing what not to do.”
- Michael Porter
Influencing Technology Policy

- Organizations - NAE, NAS, IOM, Council on Competitiveness, Science Coalition
- Build relationships - e.g., Center for Science, Policy, and Outcomes with Columbia University
- Capitalize on European Union Center
- Develop centers with national policy impact - e.g., Information Security Center
Influencing State Policy

• State Data Center
• Center for Geographic Information Systems
• Center for Transportation Research
• GT Regional Engineering Program
• ATDC, Yamacraw, GCATT
• Traditional Industries Program
• Skidaway Institute of Oceanography
Influencing Local Policy

- John Williams Center for Quality Growth and Regional Development: West Chair
- Electronic Modeling of Large Urban Areas
- SMARTRAQ
- Support and shape Metro Atlanta Chamber of Commerce initiatives
Blue Chip Memberships

- National Academy of Engineering - 16 members
- National Academy of Sciences - 2 members
- Institute of Medicine - 1 member
- American Association of Universities - aspiring member
Opportunities...

to raise our profile and make our mark.
Computing and Advanced Communications Technology

- Rapid growth in student interest
- Strong support by industry and state
- Advanced Computing Technology Building
- Yamacraw Program and Design Center
- GCATT
Advanced Computing Technology Building
Biotechnology and Sustainable Technology

- Biotechnology partnership with Emory
  - Joint department, joint degrees
  - Joint biotechnology research park
- Sustainable technology
  - Center for Sustainable Technology
  - Skidaway Institute of Oceanography
- BEM Complex
BEM Complex
Entrepreneurism and Electronic Commerce

- DuPree Center for Entrepreneurism: Munchak and Huang Chairs
- iXL Center for Electronic Commerce
- MS in Management of Technology
- Proposed Executive Education Center
- ATDC franchises
- Atlanta
International Initiatives

• Metz Campus
• Logistics Institute-Asia: joint program with National University of Singapore
• CIBER
• Sam Nunn School of International Affairs
• Study abroad programs
Interdisciplinary Research Thrusts

• Engineering of living tissues
• Next generation of semiconductors
• Center for New Media Education and Research
• Nanostructures and miniaturization
• Severe weather forecasting
Educational Technology

- Wired (and wireless) campus; student computers required
- Technology-based classroom
- Web-enhanced curriculum
- Internet course delivery
- GTREP
Student Life and Campus Environment

- Enclose Aquatic Center and renovate SACI
- Build Undergraduate Learning Center
- Implement Master Plan
- Expand and build new athletic fields
- Create a learning community
Stimulating a Midtown renaissance... through high-tech development.
Industries of the Mind

- Fastest growth of high-tech jobs in nation
- Atlanta Chamber of Commerce: identified 517 companies to recruit to Atlanta
- Developing strategy to grow and recruit talent
- Marketing Midtown as a high-tech hot spot
  - Governor Barnes/Mayor Campbell
Midtown’s Synergy

- GT Facilities
- Start-ups
- Expanding giants

Numerous loft/condo/apartment projects
Linkages

- High-tech corridor
- 5th Street spine
- North Avenue Research Area
- Downtown
- Light rail
Building the future... means overcoming its challenges.
Challenges of the Future

• Uncertainties in state funds
• Uncertainties in research funds
• Achieving diversity
• Enhancing faculty/student interaction
• Campus visits: Faculty concerns
• Reducing potential for internal conflict
Uncertainties in State Funds

• 11.6% EFT enrollment decline systemwide, fall of 1997 to fall of 1998
• $100 million decrease projected in formula funding for FY 2001, perhaps more
• K-12 and technical institute systems also examining their funding mechanisms
• Shifting political power balance
Uncertainties in Research Funds

- Projected decline in federal research funds, FY 1999 - FY 2004:
  - 14.3% decrease in defense R&D
  - 14% decrease in NSF funding
  - 6.3% decrease in NIH funding
  - 13.5% decrease in Dept of Energy funding

Adjusted for inflation
Source: AAAS
Achieving Diversity

• InGEAR study
• EMERGE
• $2.5 m NSF grant with Morehouse and Spelman Colleges to double African American PhD’s in science and engineering
• Women’s Resource Center/Office of Diversity programs
• Heightened commitment
Enhancing Faculty-Student Interaction

• 15% of freshmen drop out, not because of academic failure, but because they have not connected personally with campus life.

• Connecting students, faculty, staff:
  – In study groups and across the curriculum
  – In the residence halls
  – Through extra-curricular activities
Campus Visits: Faculty Concerns

- Morale is generally strong, some exceptions
- Concern in some units about perception of role
- Real and perceived barriers to doing industry research and spinning off businesses
- Condition of classrooms
- Desire to live near campus
Reducing Internal Conflict

- Ombuds program
- Alternative dispute resolution procedure
- Uphold a consistent level of ethics
- Better management/training
The rubber hits the road...

in the Strategic Plan.
Revisiting the Original Agenda

• Enrich educational opportunities
• Improve student life
• Maintain and enhance research
• Take full advantage of technology
• Improve the infrastructure
• Identify optimum size and composition
• Expand collaboration, linkages, economic development efforts