

# AIST INDUSTRY-UNIVERSITY ROUND TABLE

Recruiting students  
To the Steel Industry

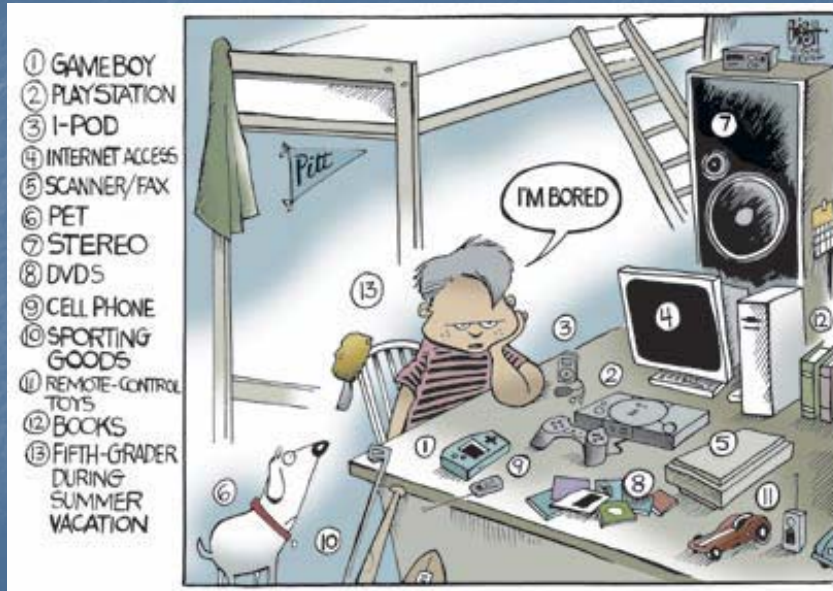
## Recruiting Challenges for Steel

- Reduced interest in science/engineering by today's K-12 students
  - If interested in science or engineering
    - Typically Medical or High Tech
    - Rarely manufacturing (steel)

Fierce competition for the limited number of engineering graduates

- Many more opportunities than graduates
- Negative image of industry (steel included)
- Fewer US universities with professors and/or programs emphasizing metals manufacturing

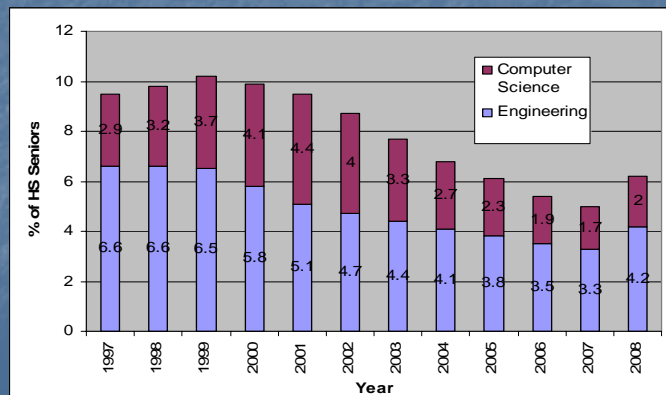
Today's kids take technology for granted yet have little interest in science or engineering



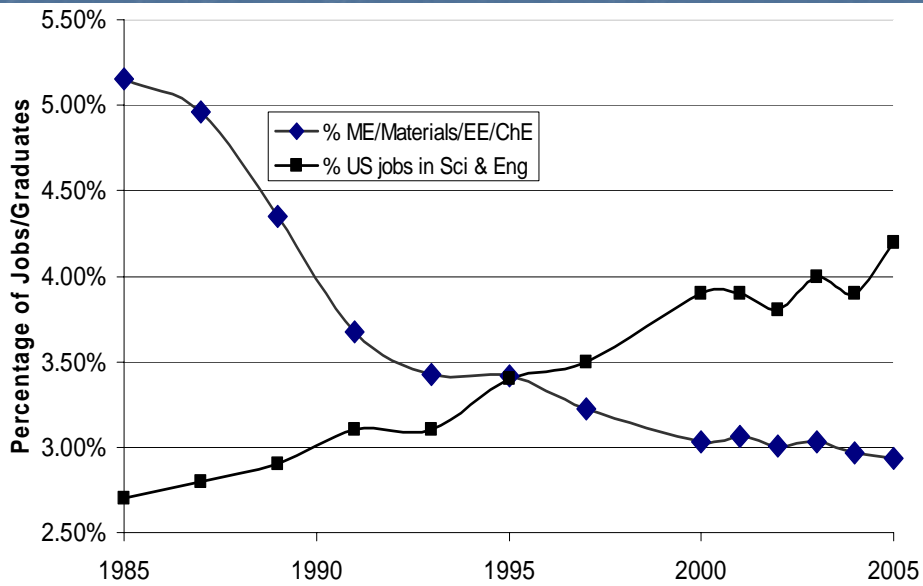
## Other factors reducing interest in engineering?

- Negative image of a manufacturing (steel) career:
  - stereotyped as assembly line, boring, dangerous, dark, dirty, in severe decline
  - opposite of characteristics desired in future careers
  - are no good images
- Today's young people not prepared or interested in career in engineering

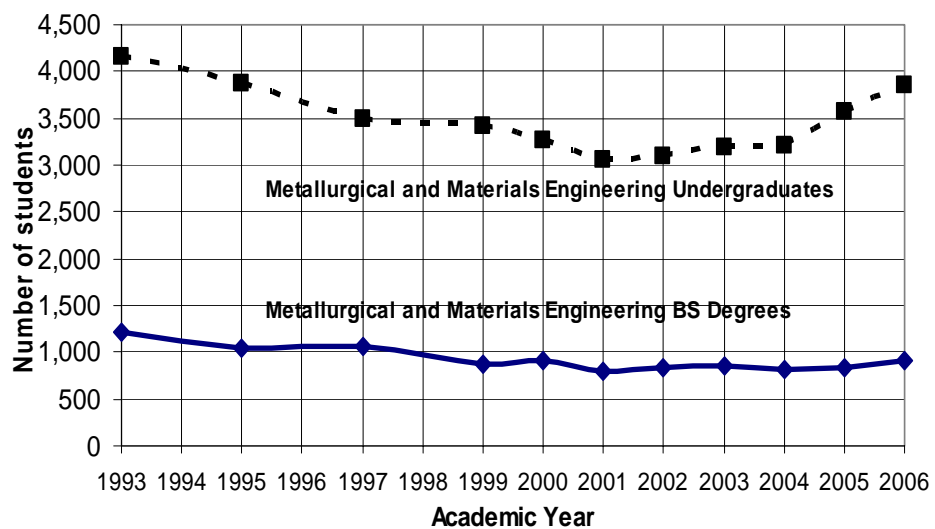
Planned Major for HS Seniors Taking the ACT



## Jobs versus Graduates in Engineering



## Number of US Metallurgical and Materials Students



## Profile of Freshman Engineering Students

(Based on survey of 1050 Missouri S&T Freshman Fall 2008)

### ACTIVITIES:

- 92% plan to join a student organization
- 69% would like to study abroad (international experience)
- 56% plan to be involved in recreational athletic activities
- 54% plan to be involved in student design teams
- 53% would like to assume a student leadership position
- 28% interested in academic/pre-professional organizations
- 24% plan to join a fraternity or sorority
- 17% plan to be involved in religious based organizations
- 17% plan to be involved in music and theatre

## Profile of Freshman Engineering Students

(Based on survey of 1050 Missouri S&T Freshman Fall 2008)

### DECIDING FACTORS (university/major):

- 97% desired academic program & reputation
- 85% financial aid/scholarships
- 80% personalized attention
- 75% campus visit and tour
- 67% Jr/Sr high school teachers/councilors
- 67% family & friends
- 24% university summer camp

## Profile of Freshman Engineering Students

(Based on survey of 1050 Missouri S&T Freshman Fall 2008)

### COLLEGE EXPECTATIONS

- 97% earn a 3.0 or higher college GPA
- 86% Co-op or Intern
- 67% complete a BS in 4 years or less
- 58% plan to complete a graduate degree
- 44% plan to study >11 hours per week
  - 76% studied <5 hours per week in high school

## Profile of Freshman Engineering Students

(Based on survey of 1050 Missouri S&T Freshman Fall 2008)

### TECHNOLOGY

- 99% brought a Cell Phone to campus
- 95% brought a PC to campus
  - 71% new computers
  - 78% laptops
  - 10% Macintosh/Apple
- 72% use online social networks (Facebook, MySpace)
- 13% spend >11 hours per week video gaming
- 13% spend >15 hours per week on the internet

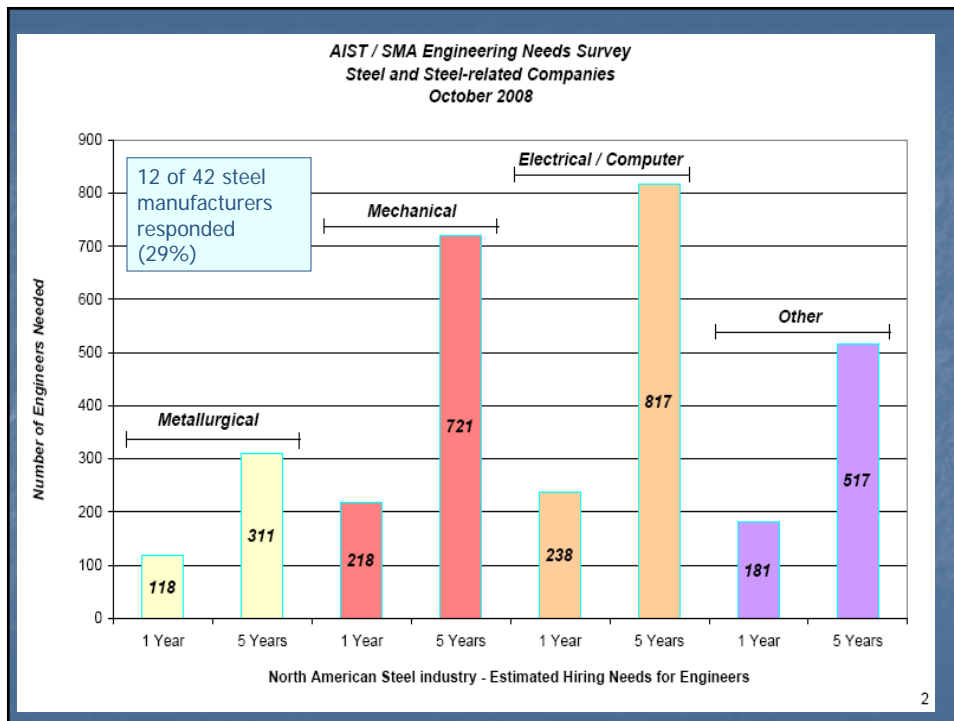
## Recruiting Competition is Fierce for Engineers

Companies by Sector at one University Career Fair

900 Recruiters from 301 Companies

Companies Seeking Metallurgical Engineers:

<u>Industry or Sector</u>	<u># of Companies</u>
Iron and Steel Industry	17
Non Ferrous Metals & Mining	9
Oil & Energy Industries	13
Transportation Industries	6
Manufacturing and Fabrication	12
Testing and Research Labs	7
Consulting and Engineering Companies	6



## Issues to Improve Recruiting

*FIRST: Develop strategy to encourage young people to pursue a career in the steel industry*

- Improve interest in science and engineering
- Encourage pursuit of steel related education
  - Metallurgy, Materials and other Related Fields
  - Present opportunities much earlier in education
    - Jr/Sr high school summers, undergrad research, interns, coops
  - Develop advocates in education for the steel industry
    - Teachers, counselors, professors and administrators

## Issues to Improve Recruiting

*FIRST: Develop strategy to encourage young people to pursue a career in the steel industry (cont)*

- Improve image of industry
  - Parents/kids of all ages/teachers/counselors
    - Highly influenced by perception of the industry
  - Need to replace negative image with positive image
  - Need to show steel industry as an exciting and promising career
    - What does the steel industry offer in a career that they can't get from the other industries competing for graduates?

## Issues to Improve Recruiting

*SECOND: Develop an environment where university professors can make a successful career in steel-related engineering*

- Professors actively involved with steel industry are critical
  - Enlighten and educate students on steel - one of most important influences.
- What does it take to maintain an academic program with an emphasis on ferrous metallurgy?
  - Faculty with an interest and opportunity for a successful academic career in steel

## Issues to Improve Recruiting

*SECOND: Develop an environment where university professors can make a successful career in steel-related engineering (cont)*

- What does it take to maintain an academic program?
  - Faculty with an interest/opportunity for a successful academic career
    - Research: Development of sustained research program
      - Capable of funding over an extended period of time
      - Critical number of graduate students
      - Involve undergraduates in research (early experiences with industry)
    - Teaching: (undergraduate and graduate)
      - Includes curriculum development/implementation
    - Service:
      - On campus: scholarship development/administration  
coordination of special programs such as visits to corporate facilities
      - Off-campus: national and international conferences  
AIST activities
    - Note – professors are not measured on student scholarships/job success
- Professors are flexible and will pursue the best opportunities
  - Explains exodus of professors/universities from metallurgy to materials
  - Opportunity for steel industry to develop more professors (and students)