Air Force Center for Systems Engineering
Strategic Planning & Execution

Mr. George Mooney, SES
Director
AFIT/SY
http://www.afit.edu/cse
### Air Force Center for Systems Engineering Strategic Planning & Execution

**1. REPORT DATE**
OCT 2008  
**2. REPORT TYPE**
**3. DATES COVERED**
00-00-2008 to 00-00-2008

**4. TITLE AND SUBTITLE**
Air Force Center for Systems Engineering Strategic Planning & Execution

**5a. CONTRACT NUMBER**

**5b. GRANT NUMBER**

**5c. PROGRAM ELEMENT NUMBER**

**5d. PROJECT NUMBER**

**5e. TASK NUMBER**

**5f. WORK UNIT NUMBER**

**6. AUTHOR(S)**

**7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)**
Air Force Institute of Technology, Air Force Center for Systems Engineering, 2950 Hobson Way, Wright Patterson AFB, OH, 45433

**8. PERFORMING ORGANIZATION REPORT NUMBER**

**9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)**

**10. SPONSOR/MONITOR’S ACRONYM(S)**

**11. SPONSOR/MONITOR’S REPORT NUMBER(S)**

**12. DISTRIBUTION/AVAILABILITY STATEMENT**
Approved for public release; distribution unlimited

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**

**15. SUBJECT TERMS**

**16. SECURITY CLASSIFICATION OF:**

<table>
<thead>
<tr>
<th>a. REPORT</th>
<th>b. ABSTRACT</th>
<th>c. THIS PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>unclassified</td>
<td>unclassified</td>
<td>unclassified</td>
</tr>
</tbody>
</table>

**17. LIMITATION OF ABSTRACT**
Same as Report (SAR)

**18. NUMBER OF PAGES**
42

**19. NAME OF RESPONSIBLE PERSON**

*Standard Form 298 (Rev. 8-98)*
Prepared by ANSI Z39-18
**Mission Impact**

**Operational Drivers**

**Enablers**

- **Consulting**
  - Assist with development and improvement of SE policy, guidance & standards
  - C-C-01
  - Assist with the implementation of SE processes
  - C-C-02

- **Personnel Development**
  - Provide career development opportunities
  - E-P-01

- **SE Community Collaboration**
  - Support exchange of researchers and practitioners
  - E-C-01
  - Generate sponsored SE research
  - E-C-02
  - Participate in SE professional associations
  - E-C-03

- **Infrastructure**
  - Support development of SE research facilities
  - E-I-02
  - Ensure IT infrastructure provides required support
  - E-I-01
  - Ensure personnel are provided required work environment
  - E-I-03
  - Ensure oversight and visibility of financial data
  - E-I-04

- **Education**
  - Advance practitioners ability to employ SE processes
  - C-E-03
  - Provide accessible graduate education
  - C-E-01
  - Provide relevant continuing education
  - C-E-02

- **Research**
  - Publish & present works to promote improved SE
  - C-R-01
  - Conduct defense focused SE research
  - C-R-02

**Strategic Alignment**

**AF Vision**

- **AF Posture Statement**
- **AF Strategic Plan**
- **AF Roadmap**
- **AF Priorities**

**Industry**

- **CSE Senior Council**

**Customers**

- **SECAF/CSAF Commanders**
- **Recruit a quality faculty & staff**
- **Optimize communication channels**
- **Deliver responsive, influential research**
- **Ensure a highly qualified, operationally experienced Command**
- **Build an integrated AETC team**
- **Develop and Support Our People**
- **Prepare AETC Airmen to deploy and fight**

**AF**

- **Roadmap**
- **Strategic Plan**
- **Priorities**

**Customers/Clients**

- **SECAF/CSAF Commanders**
- **Provide world-class military installations**
- **Train the Force Educate the Force**
- **Develop America’s Airmen Today…for Tomorrow**
- **AETC duty is highly valued and rewarded**
- **Build an integrated AETC team**
- **Balance mission and family**
- **Champion the AF Story**
- **Champion air, space & cyberspace power in the joint arena**
- **Influence AF strategic communications**
- **Outreach**
- **Deliver leading edge training**
- **Champion training capabilities**
- **Provide unrivaled education**
- **Deliver operationally relevant curriculum and research**

**HQ AETC**

- **Prepare AETC Airmen to deploy and fight**
- **Deliver Unrivaled Air, Space, & Cyberspace Education and Training**
- **Develop America’s Airmen Today…for Tomorrow**
- **Champion the AF Story**

**AU**

- **Mission Impact**
- **Operational Drivers**
- **Enablers**

**As Of:** 15 Feb 07

**Balanced Scorecard**

**In Work**
**VISION:** Become a national center of excellence for systems engineering, from theory to application, for the defense community.

**MISSION:** Shape the future of systems engineering in the AF and DoD to improve our ability to deliver war-fighting capabilities. We will accomplish this by conceptualizing new processes, practices, tools, and resources for the SE workforce through research, education, and consultation.

- **What the AF Center for Systems Engineering offers:**
  - Facilitate education through AFIT Graduate School of Engineering & Mgmt
    - Integrated Graduate Programs: PhD, MS & Certificate
    - Seminars, Workshops, Short Courses
  - Research
  - Consulting
Air Education and Training Command (AETC) will:

- Establish and maintain the Air Force Center for Systems Engineering (CSE) at the Air Force Institute of Technology (AFIT) to:
  - Promulgate and document case studies of SE implementation during concept definition, acquisition and sustainment
  - Facilitate collaborative SE efforts among DoD, the Services, defense agencies, other Government organizations, industry, professional organizations, and academia
  - Provide SE expertise for Advisory Boards & Review Panels
  - Provide forum to shape academic curricula for AF SE educators
Facilitate SE education including graduate degrees, certificate programs, and Professional Continuing Education.

Assist with development of Air Force guidance on SE processes and practices.

Recommend and coordinate with Air Force organizations on development of SE policy.

Ensure that operation and maintenance training courses provide instruction on the importance of OSS&E and ORM.
## Linking to AF Priorities

The mission of the USAF is to fly, fight and win...in air, space and cyberspace

### Air Force Priorities

<table>
<thead>
<tr>
<th>P1. Reinvigorate the AF nuclear enterprise</th>
<th>M-01: Educate SE Workforce</th>
<th>M-02: Improve SE Processes, Methods &amp; Tools</th>
<th>M-03: Improve Implementation &amp; Discipline Assoc w/ SE Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2. Partner with the Joint and Coalition team to win today’s fight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3. Develop and care for Airmen and their families</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4. Modernize our aging air and space inventories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P5. Acquisition excellence</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SY Strategic Mission Objectives

- **P2. Partner with the Joint and Coalition team to win today’s fight**
- **P3. Develop and care for Airmen and their families**
- **P4. Modernize our aging air and space inventories**
- **P5. Acquisition excellence**

- **= Primary SE linkage**
- **= Secondary/Enabling SE linkage**
## Linking to AF Goals

The mission of the USAF is to fly, fight and win...in air, space and cyberspace

### Air Force Goals

<table>
<thead>
<tr>
<th>G1. Foster mutual respect &amp; integrity</th>
<th>M-01: Educate SE Workforce</th>
<th>M-02: Improve SE Processes, Methods &amp; Tools</th>
<th>M-03: Improve Implementation &amp; Discipline Assoc w/ SE Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2. Sustain air, space &amp; cyberspace capabilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G3. Provide persistent situational awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G4. Develop Joint &amp; battle ready trained airman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G5. Improve the Total Quality Force</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G6. Impl open, transparent business practices &amp; achieve a clean audit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G7. Foster AF Smart Operations across the Total Air Force</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G8. Every Airman an ambassador to all we meet &amp; serve</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= Primary SE linkage

= Secondary/Enabling SE linkage
SY Organization

AF Center for Systems Engineering
AFIT/SY

SES 0801  Director
COL  Deputy
YD-0801-03  Tech Director
GS-0318-07  Sec (O/A)

Support Staff

GS-2210-12  IT Spec
GS-0343-11  Mgmt Analysis
SSGT  Com/Web

Applications and Development Division (SYA)

YF-0801-03  Chief
YD-0801-03  Sys Engr
YD-0801-03  Sys Engr
MAJ (62/63)  Sys Engr
MAJ (62/63)  Sys Engr

Rotation Engineers
Civ/Mil/Industry Mix – No Sponsors

Education/Training Div (SYE)

Scholars
- Professor - Curriculum Chair
- Professor
- Professor

LT COL  Chief
MAJ (62/63)  Sys Engr
LTC / MAJ Professor
LTC / MAJ Professor
MAJ Professor
Professor
Professor
Professor (Contractor)
GS-1702-07  Ed Tech

Vacant Positions
EN Collocated Positions
Rotational Positions
Scholar in Residence
Advance the Successful Employment of Systems Engineering Across The Air Force

Shape the future of systems engineering in the AF and DoD to improve our ability to deliver war-fighting capabilities. We will accomplish this by conceptualizing new processes, practices, tools, and resources for the SE workforce through research, education, and consultation.

**Mission Impact**

- Educate the SE Workforce M-01
- Improve SE Process, Methods and Tools M-02
- Improve Implementation & Discipline Associated with SE Processes M-03

**Core Processes**

**Education**
- Provide Accessible Graduate Education C-E-01
- Provide Relevant Continuing Education C-E-02
- Advance Practitioners Ability to Employ SE Processes C-E-03

**Consulting**
- Assist With Development and Improvement of SE Policy, Guidance & Standards C-C-01
- Assist With the Implementation of SE Processes C-C-02

**Research**
- Publish & Present Works to Promote Improved SE C-R-01
- Conduct Defense Focused SE Research C-R-02

**Enablers**

**Personnel Development**
- Provide Career Development Opportunities E-P-01

**SE Community Collaboration**
- Support Exchange of Researchers and Practitioners E-C-01
- Generate Sponsored SE Research E-C-02
- Participate in SE Professional Associations E-C-03

**Infrastructure**
- Ensure IT Infrastructure Provides Required Support E-I-01
- Support Development of SE Research Facilities E-I-02
- Ensure Personnel Are Provided Required Work Environment E-I-03
- Ensure Oversight and Visibility of Financial Data E-I-04

Rev: 25 Aug 08
QUESTIONS ?
REFERENCE SLIDES
Strategic Objectives

MISSION IMPACT
# Mission Impact Performance

## Objectives

<table>
<thead>
<tr>
<th>M-01</th>
<th>Educate the SE Workforce</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Qtr</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Qtr</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Qtr</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-02</th>
<th>Improve SE Process, Methods and Tools</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Qtr</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Qtr</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Qtr</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-03</th>
<th>Improve Implementation &amp; Discipline Associated with SE Processes</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Qtr</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Qtr</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Qtr</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key:

- **Meets Target**: Complies with target value
- **Yellow to Green**: Improving measure
- **Green to Yellow**: Degenerating measure
- **Within Acceptable Limits**: Compliance w/acceptable levels, but not with target
- **Red to Yellow**: Improving measure
- **Yellow to Red**: Degenerating measure
- **Outside Acceptable Limits**: Non-compliance with target
- **No Measures / No Data Available**: Nothing to execute or measure at this time

### Trend Arrows:

- **Improving**: ↑
- **Static**: →
- **Declining**: ↓

**Return to Strategy Map**
There is a need to educate the SE workforce to improve the AF’s ability to acquire, deliver and sustain systems on time and on cost which meet customer needs. The purpose of this objective is to improve systems thinking and systems engineering knowledge of those performing and/or supporting an SE process, task or activity.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a need to educate the SE workforce to improve the AF’s ability to acquire, deliver and sustain systems on time and on cost which meet customer needs. The purpose of this objective is to improve systems thinking and systems engineering knowledge of those performing and/or supporting an SE process, task or activity.</td>
<td>• Continue to track Student Feedback Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| Per Academic Year: 1. Student feedback as measured by formal survey  
Target: 90% positive response  
Threshold: 80% positive response  
2. Number graduating from DL SE MS  
Target: 4 annually  
Threshold: 0 annually | Per Academic Year: 1. 91%  
2. 4 (first ones in AFIT history) |
Mission Impact:
Improve SE Process, Methods & Tools M-02
Champion: Mr. Mooney, OPO: Mr. Freeman

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
</table>
| There is a need to continually improve SE processes, methods and tools to assure optimal use of limited resources while simultaneously meeting mission requirements. The purpose of this objective is to deliver new/improved processes, methods and/or tools which better enable CSE customers to successfully implement SE. Additionally, to share best practices / lessons learned across the AF SE community. | • Working with DoD Best Practices Clearinghouse (BPCH)  
• SE Policy Reviews v01 grf 12 Sep 08.xls |

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| 1. Number of SE policies reviewed/influenced as a percentage of total SE policies issued annually  
Target: 90%  
Threshold: 80%  
2. Development and fielding of an information sharing source which facilitates sharing of SE best practices / lessons learned across the AF  
Target: Searchable database which is available on a virtual platform and readily available to all AF SE practitioners  
Threshold: Posting of best practices / lessons learned onto a web site which is accessible to SE practitioners | 1. 100%, 7 of 7  
2. Provided link to DoD Best Practices Clearinghouse on Center website  
• Submitted Center SE Case Study Learning Principles to BPCH  
• Attended BPCH CAB meeting  
• Participating in telecons to refine BPCH vetting process |
Mission Impact:
Improve Implementation & Discipline Associated with SE Processes M-03
Champion: Mr. Mooney, OPO: Mr. Ucchino

Objective

There is a need to improve the implementation and discipline associated with the application of SE Processes, methods and tools. The purpose of this objective is to provide consulting support to CSE customers enabling them to better apply SE.

Measure(s)

1. Number of products produced per year
   Target: 8
   Threshold: 2
2. Quality of support provided as measured by customer feedback
   Target: 90% positive response
   Threshold: 80% positive response

Comments / Open Actions

- Products Include:
  - Publications (In priority order)
  - Archival Journal Articles
  - Book Chapters / Case Studies
  - Magazine Articles (e.g. INCOSE INSIGHT, Defense AT&L, etc)
  - Refereed Conferences with Proceedings
  - Invited Presentations
- Consulting recommendations & assessments, best practices, etc.

Actual Performance

1. 18 to date - AFMC Acq and Sust Tool Kit, ACDM Conference SE Tutorial, SYS 161 – HSI Requirements Capability, GEIA 649 CM HDBK, Bausman/Colombi AT&L article, INCOSE HDBK (Append M – HSI), HSI INSIGHT Theme Edition, AF SEAM, 8 consultations, 2 new SE case studies
2. 100%, 8 of 8
Strategic Objectives

CORE PROCESSES

- Education
- Consulting
- Research
### Objective

There is a need to provide relevant graduate education which is readily accessible to all those desiring / needing to attend SE graduate programs (Certificate, MS & PhD). The purpose of this objective is to assure those seeking SE graduate education have access to in-residence and/or Distance Learning (DL) mediums to take the necessary courses and obtain research and academic advisement.

### Comments / Open Actions

- “Enterprise Engineering” is likely next new DL technical track to be offered

### Measure (s)

1. Number of technical tracks offered to DL MS students: (Currently offering “Space Systems” & “Logistics”)
   - Target: 2
   - Threshold: 1

2. Number of DL SE MS Starts per academic year (Sep-Aug)
   - Target: 30
   - Threshold: 10

3. Number of DL SE Certificate Graduates per academic year (Sep-Aug)
   - Target: 40
   - Threshold: 12

### Actual Performance

1. 2

2. 24 in AY08 (as of 9/2/08)

3. 17 in AY08 (as of 9/2/08)
## Objective

There is a need to provide Professional Continuing Education (PCE) to those needing to improve their working knowledge and understanding of SE. The purpose of this objective is to meet this need through PCE.

## Measure (s)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Actual Performance (1 Oct 07-30 Sep 08)</th>
</tr>
</thead>
</table>
| Number of students completing SE-related PCE courses | 1. 2652  
2. 1225  
3. 386 |

### Live (in-residence & off-site)
- Target: 3908
- Threshold: 1062

### Web-based:
- Target: 2082
- Threshold: 464

### Instructor Led Distance Learning
- Target: 275
- Threshold: 127

## Comments / Open Actions

- Method for data gathering developed
- Tracking system initiated [System Engineering PCE Courses 6 Oct 08.xls](#)
**Objective**

There is a need to assure that those in the profession of SE have the skills necessary to best accomplish their jobs. Education (C-E-01) and Continuing Education (C-E-03) provide the knowledge required. The purpose of this objective is to advance CSE System Engineers ability to apply SE principles and practices to real-world processes / systems through hosting of various information exchange forums.

**Measure(s)**

Percentage of CSE practitioners involved in presenting seminars or tutorials at external conferences/meetings or educational forums  
- Target: 80%  
- Threshold: 70%

**Actual Performance**

1. 84%

**Comments / Open Actions**

- Qualified two new SYS 282 instructors:  
  - Major Havlicek taught SYS 282 at Gunter AFB, Jul 08  
  - Charlie Garland
Consulting:
Assist With Development & Improvement of SE Policy,
Guidance & Standards C-C-01
Champion: Mr. Ucchino, OPO: Mr. Bullard

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
</table>
| There is a need to continually improve SE Policy, Guidance & Standards to seek optimal attainment of mission requirements. The purpose of this objective is to capitalize upon SE research and direct SE practitioner interface to develop inputs to, and assist with, the improvement of SE policy guidance and standards. | • Developed candidates list
• Reviewed with Center Director on 3 Apr 08
  • Identified top 4 candidates – SE Program Office Competencies, Integration, Interface Mgmt, Common SE Nomenclature
• SEAM and HSI candidates already being developed |

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| Number of fully staffed DoD/AF policy recommendations | Mike M - HSI Policy/Guidance
Karen B – Common SE Nomenclature
Charlie G - Program Office Competencies
Randy B/Rich F - AF SEAM accepted on 11 Aug 2008 by SAF/AQ to be AF policy |
| Target: 1 recommendation formally accepted by DoD/AF for action per FY
Threshold: 3 recommendations fully staffed and submitted per FY |
**Objective**

There is a need to continually assist practitioners to improve the successful implementation of SE processes. The purpose of this objective is to capitalize upon SE research, education “reach-back”, and internal/external Subject Matter Experts to provide consulting support to those responsible for the execution / oversight of SE processes.

**Comments / Open Actions**

- Customers
  - DoD, AFMC, AFRL, AF HSI, AQR, GEIA, and NDIA
- Table: 2 - Core Processes\2 - Consulting\C-C-02 Assist Implementation of SE Processes\Consulting Charts Update - 6 Feb 08.ppt

**Measure (s)**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Actual Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of customers serviced</td>
<td>7</td>
</tr>
<tr>
<td>Target: 10</td>
<td></td>
</tr>
<tr>
<td>Threshold: 5</td>
<td></td>
</tr>
<tr>
<td>2. Number of discrete consulting support services provided</td>
<td>12</td>
</tr>
<tr>
<td>Target: 15</td>
<td></td>
</tr>
<tr>
<td>Threshold: 6</td>
<td></td>
</tr>
<tr>
<td>3. Customer feedback as measured by formal survey</td>
<td>100%, 8 of 8</td>
</tr>
<tr>
<td>Target: 100% positive response (greater than 2 on 1 - 4 scale)</td>
<td></td>
</tr>
<tr>
<td>Threshold: 90% positive response (greater than 2 on 1 - 4 scale)</td>
<td></td>
</tr>
</tbody>
</table>
### Research:
**Publish & Present Works to Promote Improved SE C-R-01**

**Champion:** Mr. Freeman, OPO: Major Havlicek

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
</table>
| The advancement of SE will occur through research (C-R-01). The purpose of this objective is to package this research in ways that are meaningful to others and present it for their use. The intent is to reach a wide audience interested in SE through, but not limited to, collaborative space (e.g. CSE web page), journal articles, presentations to professional societies / organizations, etc. | • Target & threshold settings measures required  
• Publications (In priority order)  
  • Archival Journal Articles  
  • Book Chapters / Case Studies  
  • Magazine Articles (e.g. INCOSE INSIGHT, Defense AT&L, etc)  
  • Refereed Conferences with Proceedings  
  • Invited Presentations  
• 13 Members supporting the CSE (7 primary, 6 matrix) |

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| 1. Percent of CSE members publishing at least one article / paper in a professional association publication  
  Target: 100% CSE members published per FY  
  Threshold: 100% CSE members submitting per FY  
  List of publications / presentations: [Link]  
  1. Target: 47% (8 of 19)  
    Threshold 42% (9 of 19)  
  2. 53% (10 of 19) |
Research:
Conduct Defense Focused SE Research C-R-02
Champion: Mr. Freeman, OPO: Major Havlicek

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
</table>
| Research is the underpinning of the CSE’s ability to successfully provide education and consulting support. Therefore, the purpose of this objective is to assure the CSE conducts and/or oversees defense focused research which advances the science and application of SE. | • SE Curriculum Chair moved to ENV  
• Initial work on this objective revealed student grading form which includes an area related to publishing. SE Group Grade Form rev3 (2).doc |

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| 1. Number of completed FYTD war fighter defense focused research efforts conducted annually  
   Target: 12  
   Threshold: 10 | 1. 8 GSE08M (√), 0 GSE09M (√), X ISE08J, 0 ISE09J (√), 1 PhD 09S (√), X DL Cert, 1 DL MS 08M (√) = 10 TOTAL |
| 2. Quality of research as measured by the ability to support publication  
   Target: 100% positive response  
   Threshold: 80 % positive response | 2. TBD |

Return to Strategy Map
Strategic Objectives

ENABLERS

• Personnel Development
• SE Community Collaboration
• Infrastructure
Personnel Development: Provide Career Development Opportunities E-P-01
Champion: Mr. Mooney, OPO: Mr. Mooney

### Objective
To remain viable, faculty members and staff must remain current in the newest and best practices of SE tools, principles, processes and practices. Additionally, individuals must continue to grow through life-long learning in a myriad of areas. The purpose of this objective is to assure individuals supporting the CSE have a personal development plan and are afforded the support and opportunity to pursue the elements of this plan.

### Measure (s)
Percent of assigned personnel with a current year supervisor approved individual development plan (IDP)
- **Target:** 100%
- **Threshold:** 80%

### Actual Performance
1. 18% (2 of 11)
### Objective

Members of the CSE and SE faculty (EN) conduct research, support education and provide consultation. The purpose of this objective is to enhance collaboration among and between the CSE and their customers.

### Measure (s)

1. Number of individuals assigned to the CSE as part of the faculty or practitioner rotational program.
   - **Target:** 2
   - **Threshold:** 1

### Actual Performance

1. None assigned at this time
   - Graduated last rotational practitioner (Bowen) in Jan 08

### Comments / Open Actions

- Senior Council Action Items No. 02–07, 03–07, 04–07 & 05–07
- Working through SAF/AQR and AFMC/EN to see if we can get a centrally managed position (CMP) or AETC position assigned to Center.
- Only 4 of 6 AQR CMPs funded in FY08.
**Objective**

There is a need to generate sponsored SE research to; support the war fighter with relevant research, advance the science of SE, provide interesting student topics, and to provide research funds for equipment, facilities, and research personnel. The purpose of this objective is to secure appropriate funded SE research.

**Measure (s)**

CSE-Coded Research funding received (Dollars)
- Target: 10% growth per year based upon base year of FY07
- Threshold: 3% growth per year based upon base year of FY07

**Actual Performance**

- FY07: $395,035
- FY08: $556,852
- YTD FY09: $0
- % Growth (FY07 to FY08): 41%

**Comments / Open Actions**

- Automated report not available from ENR
**Objective**

It is essential that the CSE be a proactive participant in various SE professional associations to both influence the SE community and provide a forum through which CSE research can be communicated. The purpose of this objective is assure SE members actively participate in selected professional associations.

**Comments / Open Actions**

- Ucchino on GEIA committee developing EIA-632A
- Bausman reviewing ISO 15288 and IEEE 1220 through INCOSE standards working group.
- No Center members on ISO or IEEE standards committees

**Measure (s)**

Number of CSE members actively participating in the writing / updating / reviewing of SE Standards (e.g. IEEE, GEIA, and/or ISO)

- Target: 2
- Threshold: 1

**Actual Performance**

Target met.

![Performance Chart](image)
## Infrastructure:
**Ensure IT Infrastructure Provides Required Support E-I-01**

**Champion:** Mr. Freeman

**OPO:** Mr. Parks

### Objective

IT is a critical factor in successfully accomplishing the CSE mission. The purpose of this objective is to assure that all members of the CSE have the IT equipment, software, networks, availability and support required to accomplish the CSE mission.

### Measure(s)

**Refresh rate**
- **Target:** 100% IT refresh every 3 years
- **Threshold:** 80% IT refresh every 4 years

### Actual Performance

- 86% IT refresh is within 4 years
- 78% refresh is within 3 years

### Comments / Open Actions

Detail IT inventory available at:

*SY IT INV Refresh rcp 2 Oct 08.xls*
### Infrastructure: Support Development of SE Research Facilities E-I-02

**Champion:** Mr. Freeman, **OPO:** Major Havlicek

<table>
<thead>
<tr>
<th>Objective</th>
<th>Comments / Open Actions</th>
</tr>
</thead>
</table>
| SE research requires facilities and equipment to facilitate faculty & student research. The purpose of this objective is to ensure there is adequate laboratory space and equipment to support all funded research. | • Adequate laboratory facilities have been constructed and outfitted in Bldg 646  
• Future: Develop lab facilities utilization plan and revised objective (offsite) |

<table>
<thead>
<tr>
<th>Measure (s)</th>
<th>Actual Performance</th>
</tr>
</thead>
</table>
| Percent of required SE laboratory space available (sq feet available /sq feet required)  
  Target: 100 %  
  Threshold: 85% | 1. 100% |
**Objective**

CSE personnel require a suitable work environment in order to perform their duties. The purpose of this objective is to ensure that the physical workspace is suitable and appropriately furnished to support CSE personnel.

**Measure(s)**

1. Occupancy of the new SE building w/in 2 weeks of plan
   - Target: On-time occupancy 4 Jul 08
   - Threshold: 14 Jul 08 revised to 29 Aug

2. Percent of personnel with open work space item needs (excluding IT, see E-E-01)
   - Target: 0%
   - Threshold: 10%

**Actual Performance**

1. Planned for 10-29 Aug 08
   Move completed 22 Aug 08

   1. 0% (Balance of furniture due NLT 1 Nov 08)

   • SY moved in to Bldg 646 by 22 Aug 08
### Objective

One of the critical elements of overall successful mission attainment rests on the availability of necessary funding and visibility to accurate and current financial data. The purpose of this objective is to assure that the CSE leadership has full visibility of current financial data as it relates to; the daily operation of the CSE, capital expenditures to support the CSE, and research funding and execution.

### Measure (s)

1. Percent of SY budgeted funds obligated annually
   - Target: 100% to plan
   - Threshold: 90% to plan

2. Percent of research funds (expiring in current FY) obligated
   - Target: 100% to plan
   - Threshold: 90% to plan

### Actual Performance

1. 100% !

2. \[1 - \left(\frac{35,595}{563,669}\right) = 93.7\%\]

### Comments / Open Actions

- Travel & Supply on track
  - SY MONTHLY BUDGET.pptm

Return to Strategy Map
Back Up Slides
CSE Customers

- Those involved in the oversight of defense community SE processes
- Those performing and/or supporting a defense SE process, task or activity
## Mission Impact Performance

<table>
<thead>
<tr>
<th>Objectives</th>
<th>1st Qtr</th>
<th>2nd Qtr</th>
<th>3rd Qtr</th>
<th>4th Qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-01 Educate the SE Workforce</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-02 Improve SE Process, Methods and Tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-03 Improve Implementation &amp; Discipline Associated with SE Processes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**
- **Meets Target**: Complies with target value
- **Yellow to Green** = Improving measure
- **Green to Yellow** = Degenerating measure
- **Within Acceptable Limits**: Compliance w/acceptable levels, but not with target
- **Red to Yellow** = Improving measure
- **Yellow to Red** = Degenerating measure
- **Outside Acceptable Limits**: Non-compliance with target
- **No Measures / No Data Available**: Nothing to execute or measure at this time

**Trend Arrows:**
- **Improving**
- **Static**
- **Declining**
File Structure & Naming Convention

- Data File Structure

Current BSC

1 – Mission Impact
   M-01 Educate...

2 – Core Processes
   1 – Education
      C-E-01 Accessible Graduate Education...
   2 – Consulting
   3 - Research

3 – Enablers
   1 – Personnel Development
      E-P-01 Provide Adequate Manning
      E-P-02 Provide Career Development Opportunities
      E-P-03 Facilitate Synergy...

- Data File Naming Convention

(Title) (Version) (Initials) (DD/MMM/YY)
BSC CSE 2007-2008 V27 grf 25 Mar 08
Objective:
The advancement of SE will occur through research (C-R-01). The purpose of this objective is to package this research in ways that are meaningful to others and present it for their use. The intent is to reach a wide audience interested in SE through, but not limited to, collaborative space (e.g. CSE web page), journal articles, presentations to professional societies/organizations, etc.

Measures:
1. Number of high quality case studies published annually
   Target: 3
   Threshold: 1

2. Number of CSE presentations made or articles/papers published in professional association publications or forums
   Target: One paper per SE faculty & professional staff member published per FY
   Threshold: One paper per SE faculty & professional staff member submitted per FY
# Consulting Efforts

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REQUESTING ORGANIZATION</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF SE Assessment Model (AF SEAM)</td>
<td>AFMC/EN</td>
<td>Complete</td>
</tr>
<tr>
<td>Assessed SE Processes</td>
<td>Airborne Laser Program Office Kirtland AFB NM</td>
<td>Complete</td>
</tr>
<tr>
<td>SE Assessment of AFRL FLTCs</td>
<td>AFRL/CC</td>
<td>Complete</td>
</tr>
<tr>
<td>Service Oriented Architecture</td>
<td>HQ AFRC</td>
<td>Complete</td>
</tr>
<tr>
<td>Exec Info and Decision Support IT System Architectures</td>
<td>HQ AFRC</td>
<td>Complete</td>
</tr>
<tr>
<td>Harmonize CM Process Standards with SE Process Standards</td>
<td>GEIA G-33 CM/DM Committee</td>
<td>On-Going</td>
</tr>
<tr>
<td>Vet NDIA SE Effectiveness Survey Results with OSD Systemic Root Cause Analysis</td>
<td>OSD(AT&amp;L)SSE / NDIA SE Division</td>
<td>On-Going</td>
</tr>
</tbody>
</table>
### Consulting Efforts

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REQUESTING ORGANIZATION</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewing Global Hawk Technical Planning and SE Processes Assessment</td>
<td>303 AESG</td>
<td>On-Going</td>
</tr>
<tr>
<td>Risk Management Tool Support</td>
<td>AFMC/EN</td>
<td>On-Going</td>
</tr>
<tr>
<td>HSI in DoDAF</td>
<td>SAIC</td>
<td>On-Going</td>
</tr>
<tr>
<td>HSI</td>
<td>Booz Allen</td>
<td>On-Going</td>
</tr>
<tr>
<td>AFIT-AFRL-HPW Links</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop AF HSI Education and Training Strategy</td>
<td>AF HSI Office</td>
<td>On-Going</td>
</tr>
</tbody>
</table>