Systems Engineering Society of Australia (SESA)

ANNUAL OPERATING PLAN 2017

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Contents

Revision History

Version	Date	Description of Amendment
0.1	13 Dec 2016	Original created by Ray Hentzschel
0.2	20 Dec 2016	Updated section 3.1 outcomes and activity plan by David Orr
0.3	09 Jan 2017	Accept edit from all Objective leads
0.4	07 Feb 2017	Update Knowledge Creation Strategy
0.5	10 Feb 2017	Final Draft tidy up
0.6	06 Mar 2017	Update MARCOM strategy, import new INCOSE vision and mission.
1.0	06 Mar 2017	Initial release

1   Introduction

The Systems Engineering Society of Australia (SESA) is the leading professional body for promoting and advancing complex Systems Engineering within Australia. SESA is a Technical Society of Engineers Australia (EA) and the Australian chapter of the International Council on Systems Engineering (INCOSE).

SESA seeks to increase the awareness of systems engineering to as broad an audience as possible and to provide an authoritative knowledge base to support systems engineering practitioners in Australia.

This Annual Operating Plan (AOP) is being created in the context of SESA, INCOSE and EA's Vision, Mission, Goals. It describes a high-level plan and outcomes for the key activities throughout the year, and provides members with an insight into SESA's priority areas for the year and how SESA intends to achieve them. These activities will be supported by the 2017 Annual Budget Plan.

2   SESA Mission, Vision, Goals and Values

SESA is the INCOSE Australia Chapter by means of the Memorandum of Understanding (MOU), renewed at the SETE2015 conference in Canberra on 27/04/15 (Annex A). In the context of this MoU, SESA aligns its mission, goals, activities and strategic priorities with that of both INCOSE and EA (Annex B).

2.1 Mission

In alignment with the mission of EA and INCOSE, the mission of the SESA is to share, promote and advance the best of Systems Engineering for the benefit of Australian organizations and community.

2.2 Goals

In alignment with the goals of EA and INCOSE, the following goals are adopted to achieve our mission:

a.   To provide a focal point for dissemination of systems engineering knowledge in Australia;

b.   To promote international collaboration in systems engineering practice, education, and research;

c.   To assure the establishment of competitive, scalable professional standards in the practice of systems engineering;

d.   To improve the professional status of all persons engaged in the practice of systems engineering; and

e.   To encourage governmental and industrial support for research and educational programs that will improve the systems engineering process and its practice.

2.3   High-Level Activities

The high-level activities supporting the SESA's goals may include but are not limited to the following:

a.   Systems Engineering regional and national meetings, conferences, seminars, tutorials and workshops;

b.   Publishing a professional journal and/or Society newsletters;

c.   Contribution to the development of Australian and International Standards, Guides, and Instructions on Systems Engineering;

d.   Liaison with other organisations having synergistic goals, such as INCOSE, ISO, IEEE, and the like;

e.   Promotion and publicity;

f.   Collaboration with the College of Leadership and Management in implementing the learned society functions of EA;

g.   Contribute to the INCOSE body of knowledge relevant to SESA;

h.   Establish and maintain the Chartered Australian Systems Engineer process for attaining dual certification of CPEng and CSEP; and

i.   Represent EA and INCOSE in the wider community consistently with EA and INCOSE's policies and regulations.

3   SESA Five Year Objectives

SESA Management Committee has developed a set of objectives to focus SESA operations and activities on a yearly basis. The Committee has conducted a 1-day Strategy Workshop on 20 November 2016 to discuss and enhance the set of five year objectives. The following are the next five year objectives:

- Cross-Sector/Discipline Influence;
- Tomorrow's Systems Engineers;
- Professionalisation;
- International Engagement; and
- Knowledge Creation.

3.1 Cross-Sector and Cross-Discipline Influence

Objective Lead: Industry Representative (in conjunction with the Government and Academic Reps)

Objective: Expand the breadth of SESA influence and build membership in traditional and emerging sectors including Transports, Energy and Healthcare.

Outcomes:

a) Systems engineering awareness increased in traditional and emerging sectors

b) SESA membership increased in traditional and emerging sectors

Strategy: This objective is supported by three strategies:

1. **Engage with other Sectors**: Address professionals in selected non-traditional sectors (transport, energy and healthcare), and demonstrate to them the value of systems engineering;

2. **Attract Systems Engineers**: In selected sectors, address those whose primary role is performing systems engineering (including those who are not called systems engineers) and make them aware of the full range of value that SESA and INCOSE offers, leveraging from INCOSE impactful products and services (i.e. SE Vision 2025, and SE Handbook V4.0); and

3. **Build Alliances with associated Disciplines**: Engage with other technical societies and professional bodies that are closely related to systems engineering, and whose expertise is required to ensure delivery of modern complex systems (eg. EA Software Engineering Technical Society, PMI).

2017 Activity Plan:

Id	Activity description
O1S1.1	Research and identify the sectors to target
O1S1.2	Form IGA committee with industry, government, academic representatives and sector leads for each of the target sectors
O1S1.3	IGA committee gathers professional contacts based on EA membership information and committee knowledge
O1S1.4	Prepare systems engineering informational material
O1S1.5	Systems engineering email campaigns
O1S1.6	Measure effectiveness of email campaigns

Id	Activity description
O1S2.1	Research and identify selected sectors to target and roles performing systems engineering

Id	Activity description
O1S2.2	Prepare material on the value of SESA and INCOSE: CSEP, handbook, resources etc

Id	Activity description
O1S3.1	Identify technical societies and professional bodies closely related to SE
O1S3.2	Setup periodic collaboration meetings
O1S3.3	Explore other corporate advisory board (CAB) models
O1S3.4	Form local CAB based on best practice

3.2 Tomorrow's Systems Engineers

Objective Lead: Dr Quoc Do

Objective: Create awareness of systems engineering among young Australians and educational institutions.

Outcomes:

a) Formed Integrated Awards and Mentoring Committee (IAMC)
b) Established Awards at key Universities with Systems Engineeirng Courses;
c) Programs including UniSA, ANU, RMIT and QUT; and
d) Developed an Integrated Awards and Mentoring program for 1st Cohort.

Strategy: This objective is supported by two strategies:

1. **Recognise SE Excellence** – Recognise and award great achievements in systems engineering University programs and industry projects, establishing partnerships with University and industry; and
2. **Mentor Early Career SE** – Establish and maintain a mentoring scheme to support early-career systems engineers and graduating students to progress in their systems engineering career, leveraging from existing INCOSE and EA services and training opportunities.

2017 Activity Plan:

In order to achieve Objective 2 through two Strategy 1, the following activities will be performed:

Id	Activity description	Mentoring	Award

O2S1.1	RMIT - Best Performance by a postgraduate Student in the Introduction to Systems Engineering (MANU2127) in a Master of Engineering degree	1Yr Program	$500 Plus 1 year SESA/INCOSE membership
O2S1.2	ANU - Best Performance by a Graduating Student in the Undergraduate Systems Engineering Design (ENGN2225)	1Yr Program	$500 Plus 1 year SESA/INCOSE membership
O2S1.3	UniSA - Best Performance by a Graduating Student in the Undergraduate Systems Engineering (EEET 3034)	1Yr Program	$500 Plus 1 year SESA/INCOSE membership
O2S1.4	SESA – President Award for SE Innovation	1yr Program (mentor by the President or Past President)	Complementary SETE 1-Yr membership
O2S1.5	SETE Best Paper Awards	1yr program	$500 Plus 1 year SESA membership
O2S1.6	SESA Service Awards (Multiple Awards based on merits)	Mentor	Recognition Shield/plaques Complementary SETE
O2S1.7	SESA Foundation Awards (Multiple Awards based on merits)	Mentor	Recognition Shield/plaques Complementary SETE
O2S.1.8	Facilitate the nomination of Systems Engineers in Australia for relevant INCOSE and EA Awards	Nil	INCOSE Awards EA Awards

In order to achieve Objective 2 through Strategy 2, the following activities will be performed:

Id	Activity description
O2S2.1	Establish an Integrated Awards and Mentoring Committee (IAMC)
O2S2.2	Develop an IAM program (Recruiting Mentors)
O2S2.3	Execute the IAM program for First Cohort

3.3   Professionalisation

Objective Lead: CASE Lead

Objective: Promote EA recognition of Systems Engineering area of practice and engage engineers to acquire CASE status in Australia.

Outcomes:

a. Matured CASE Program

b. 50 CASEs by end 2017

c. Expanded Systems Engineering certification / CASE diversity

Strategy: This objective is supported by two strategies:

1. **Finalise Implementation of the Chartered Australian Systems Engineer (CASE) program** – Mature the CASE program through finalising the renewal process and integrating feedback from program development, as well as enabling increased CASE applicants through increased CAR capability and establishing a cost neutral operating position; and
2. **Increase the Number of CASEs** – Increase the number of CPEng (SE AoP) and CSEP certified engineers through providing more opportunities to attend INCOSE knowledge exams and promoting CPEng (SE AoP) to existing CSEPs.
3. **Broaden the CASE Awareness** – Increase the awareness of the CASE program and benefits through engineering media publications and presentations at targeted engineering (non-traditional SE discipline) events utilising CSEP/CASE members.

2017 Activity Plan:

Id	Activity description
O3S1.1	Finalise agreement between INCOSE and EA for Renewal process/mechanism

O3S1.2	Facilitate provision of training to increase CAR capability (for CASE assessments as well as standard CSEP assessments) within Australia
O3S1.3	Mature and simplify application process – revise CASE instructions and website
O3S1.4	Establish a Cost Neutral position for CASE
O3S2.1	Increase access to knowledge exams
O3S2.2	Engage with existing CSEPs to pursue CASE
O3S3.1	crEAte magazine article promoting Systems Engineering to engineers in other areas of practice
O3S3.2	Presentation of Systems Engineering benefits at seminars/conferences in other areas of practice.
O3S3.3	Presentation / Advertising of INCOSE systems engineering body of knowledge
O3S3.4	Utilise CSEPs from various areas of practice to promote CSEP/CASE in these areas

3.4   International Engagement

Objective Lead: Mr Bill Parkins

Objective: Create and sustain SESA's international visibility and to contribute to key international systems engineering events and activities.

Outcomes:

a) Increased SESA and INCOSE recognition and relevance in the region

b) Improvements in recruitment and retention due to participation in international activities

Strategy: This objective is supported by two strategies:
- **Participate in INCOSE Sector III**– Support and contribute to Sector III activities and events; and
- **Contribute to INCOSE** – Create SESA's international visibility and influence by attending and contributing to (IW), (IS) and other regional events.

2017 Activity Plan:

Id	Activity description
O4S1.1	Attend monthly sector business meetings and gather data in response to INCOSE information action requests

O4S1.2	Continue to promote the CASE program throughout the sector, following on from the APCOSEC meetings in Bangalore
O4S1.3	Facilitate in-country communications between overseas EA members and local country INCOSE Chapters
O4S1.4	Promulgate meetings of interest in the sector and facilitate meetings of opportunity
O4S1.5	Assist the Sector Director in strengthening the INCOSE activities, events and operations
O4S2.1	IW: provide funding to support up to required participants travel and accommodation.
O4S2.2	IS: provide funding assistance for approved participants to attend IS 2017.
O4S2.3	Identify a sector country meeting where SESA representation would benefit INCOSE and SESA. Provide funding assistance for a SESA representative to attend

3.5   Knowledge Creation

Objective Lead: Technical Director

Objective: Enable the creation of new systems engineering knowledge and enhance existing systems engineering practices.

Outcomes:

a) SESA members visibly contributing to the development of international SE standards

b) SESA members visibly contributing to SESA/INCOSE working groups

c) SESA members contributing to the systems engineering body of knowledge

d) SESA delivering a quality national speaker program to the membership

Strategy: This objective is supported by three strategies:

- **Support the development of International Standards** – Contribute to the establishment of foundational International System Engineering Standards that codify best SE practice;
- **Support SESA/INCOSE Working Groups** – Support existing working groups and cultivate new working groups to share, promote and advance the practice of systems engineering;
- **Support development of SESA Technical Products** – Support the creation of creditable technical publications to contribute to the systems engineering body of knowledge, including SETE and ASEW proceedings, and other working group technical publications; and
- **Delivery of a new national speaker program -** Development and delivery of a new SESA national speaker program.

2017 Activity Plan:

Id	Activity description
O5S1.1	Participate in ISO/IEC JTC1/SC7 software and systems engineering standards Technical Committee (IT-015)
O5S2.1	Engage with INCOSE Tech Ops and other Technical Directors
O5S2.2	Provide support for existing and new SESA/INCOSE working groups in Australia
O5S3.1	Encourage technical contributions to INCOSE IS, SETE and ASEW
O5S3.2	Engage with INCOSE Tech Ops, other Tech Directors and SESA members to leverage existing experience
O5S3.3	Management of the review and selection process for SETE and ASEW with the aim of ensuring the quality of proceedings
O5S3.4	Document the SESA review and selection process and timetable
O5S4.1	Planning and delivery of a new SESA national speaker program at Engineers Australia facilities
O5S4.2	Selection and management of speakers for the program
O5S4.3	Coordination of the program with SESA regional representative

4 SESA Operations

4.1 Governance

4.1.1 Committee Structures

The large agenda outlined in Section 3 is too much to be managed efficiently by a single committee. The 2017 SESA Management Committee will be reduced to a central governance core that co-ordinates the agenda, and manage interfaces required between activities that are largely executed through sub-committee structures. Representatives of the sub-committees will report on activities undertaken against the Objectives or enabling functions, and seek guidance as required from the Management Committee and support of other enabling functions. Reasonable autonomy will be given to the sub-committees to make decisions required to execute their terms of reference, however any expenditure over and above those allocated in the 2017 budget must gain approval by the executive. The mode of operation of each subcommittee will be determined by that committee, and will depend on the level of coordination and dialogue required. Given the geographical dispersion it is expected that these will be virtual meetings ranging from e-mail forums to teleconferencing. The chair of each sub-committee will prepare reports to the SESA Management committee in accordance with the instruction given in section 4.1.3 and will ensure that at least one core constituent attends this meeting if he/she is unable to be present.

The following table describes the sub-committees identified to execute the AOP2017 the chairs of the constituent sub-committees are the core committee members, and it is anticipated that additional members may be need to be seconded from the membership to assist with critical functions needed to execute the responsibilities. The subcommittees meet on an as required basis, normally to address an action arising from National Committee business which is taken off the main committee agenda in order to expedite committee business.

Committee Name	Core Constituents	Responsibility
Events	SETE Convener (Chair) ASEW Convener Technical Chair (TD)	IS2017/ SETE2017/AOSEC2017 ASEW 2017
CASE	CASE Lead (Chair) CASE Admin Lead CASE Reviewer	Professionalisation Objective
Corporate Outreach	Industry Representative (Chair) Government Representative Academic Representative Sector Representatives CAB?	Cross Sector / Cross Discipline Influence Objective
Awards and Mentoring	Immediate Past President (Chair) Academic Representative Mentors	Tomorrow's Systems Engineers Objective
Tech. Ops.	Technical Director (Chair) Working Group Leads Regional Branch Leads	Knowledge Creation Objective Regional Branch Meetings

Marketing and Communications	MARCOM Manager (Chair) IT Manager Editor Executive Assistant	Marketing Materials Public Relations Website content Newsletters e-blasts Social Media
International Engagement	Note: Sector III Director (Corresponding Member) Sector III Rep (Secretary) Sector Events Rep	International Engagement

4.1.2 Constitution

Activity Lead: President

Engineers Australia has issued a new constitution intended to govern the operations of all Technical Societies. Although this is stated as being operational, it is still out for consultation and will not likely be finalised until the end of the current round of Technical Society reviews.

This constitution does not require member endorsement as it is predetermined through EA regulations, and any changes to these must be carried through the EA governance mechanism not by Tech Society member assent.

SESA will draft a thin Governance Plan covering operations as stated in section 4.1.1 using our terminology that complies as far as possible with the EA draft. Detailed operations will be governed by the AOP and associated policies and procedures.

4.1.3 Meeting Standing Operating Procedures

The activities in this AOP will form the basis of a standing agenda at each SESA Management Committee meeting. This will be placed on the SESA Team site prior to each meeting. The Objective and enabling function leads will complete a report against any action taken on any of these activities prior to the meeting. Indicate "Nil" if there has been no action against any activity since the last meeting. If no discussion/decision/action is required by the management committee then this line item grey. If the activity is complete shade the item green. Unless there are any comments from the floor against reports in shaded items, the meeting will only deal with the unshaded line items. Any discussion captured by the minute taker together with the prepared reports will constitute the minute for the meeting.

It is **essential** therefore that all committee members gain access to the Team site and edit reports to the agenda prior to the meeting. This will ensure efficient meeting operations.

4.1.4 Review and develop our policies (By Laws) and procedures

Activity Lead: President, Secretary, Treasurer

The scope of this activity encompasses the development of a set of governing suite of documentation:

- Financial procedures;
- Events manual;
- Retention of records and artefacts;
- Committee operating procedures;
- Reporting procedures operating performance;
- Position descriptions of all Management Committee roles; and
- Travel and reimbursement policy.

4.1.5 SESA Business Strategy Workshops

Activity Lead: President

The SESA Management Committee plans to have two Business Strategy workshops to be collocated at the SETE2017 (in conjunction with IS2017) and ASEW2017. The aims of these are:
- SETE2017:
  - Confirm nominations for positions to be elected at the AGM;
  - Collate materials and announcements for AGM and confirm running sheet;
  - Enhance the 2017 Annual Operating Plan and update the required budget; and
- ASEW2017:
  - Conduct a business strategy workshop to review and update rolling 5 year strategic plan, as input to the 2018 AOP.
  - Conduct a business strategy workshop to establish the draft 2018 AOP;
  - Establish an associated budget to support the draft 2018 AOP; and
  - Discuss and set 2018/9 membership fees.

4.2 Events

4.2.1 Conferences and Workshops

SESA Events Committee will support the INCOSE events committee in staging IS2017, incorporating SETE2017 and AOSEC2017, in Adelaide, 15-20 July 2017. The EC will also convene the Australian Systems Engineering Workshop (ASEW) in Brisbane, Oct/Nov 2017.

4.2.2 Regional Branch Meetings

In additional to formal conferences and workshops, regional branches will arrange their own program of meetings throughout the year in accordance with the desires of the regional membership.
Once a quarter these branches will be connected via video conference, using facilities provided by Engineers Australia. This National program will be managed by the SESA Technical Director.

The details of regional branch meetings will be announced throughout the year by SESA Regional Branch Leads via email distribution:

- Dan Hartigan – ACT;
- Bill Parkins – NSW;
- Edmund Kienast – Qld;
- John Risson – Vic; and
- Quoc Do – Adelaide.

4.3   Marketing and Communications

Activity Lead: MARCOM Manager

SESA Management Committee recognises the importance of establishing consistency in SESA messaging both internally and externally across all forms of media. The MARCOM manager will manage the various functional elements that ensure the consistency, completeness, currency and timeliness of SESA's communications in accordance with a SESA Marketing and Communications Plan, which he/she will establish and maintain.

The MARCOM Plan will:

- Identify target markets and understand how SESA/INCOSE systems engineering products/services meet the needs;
- Map out a strategy to reach our target audience, including key messages and the associated means to deliver these messages via key systems engineering forums, capitalising on key SESA, INCOSE and EA events during the year; and
- Provide guidance on the form of various communications to SESA membership to ensure optimal efficiency and prioritising of messaging.

Incoming information, or information generated by SESA committees, that requires national distribution to the membership or externally, should be funneled through the MARCOM Manager, who will determine the appropriate mode of communication in accordance with the MARCOM Plan.

With the support of the Marketing and Communications committee the MARCOM Manager will develop marketing materials to support the scheduled marketing opportunities.

The following activities support the MARCOM strategy:

1) Create a long-term marketing plan with the aim of projecting SE as a rigorous engineering area of practice that meets the needs of engineers in various domains.

2) Updating all the marketing and communication materials including:

- SESA website redesign and update
- SESA brochure redesign and update
- a CASE brochure (online and print formats)
- the logo suite (SESA, SETE, ASEW) ensuring consistency amongst them
- an email signature with SESA logo for outgoing eblasts

3) Create a YouTube channel to share with the community interesting keynote talks at SETE and ASEW, and the National Speaker Program.

4) Provide working groups news coverage on the website, and LinkedIn.

The following functions are identified as contributing elements of MARCOM.

4.3.1 Newsletters

Activity Lead: Newsletter editor

SESA Management Committee plans to have quarterly newsletters with each issue focuses on a selected theme (where possible), 2017 newsletter tentative schedule is as follow:

- 1st Quarter – March:
- 2nd Quarter – June:
- 3rd Quarter – September:
- 4th Quarter – December:

4.3.2 SESA eBlast

Activity Lead: SESA Executive Officer

Regular eBlasts will inform members of key events and news on an "as needed" basis.

4.3.3 IT and Website

Activity Lead: IT Manager

The SESA Website will be updated regularly to keep members well informed and abreast of coming activities, interesting events and systems engineering news. A project will be initiated and funded this year to replace and enhance the SESA Website and Content Management System. This should involve the sourcing of appropriate external resources to transition the existing content and host the new site and update related documentation.

4.3.4 Social Networks

Activity Lead: Mr Mahmoud Efatmaneshnik

All are welcome to join the SESA LinkedIn (http://www.linkedin.com/groups/2981276/profile). This forum aims to provide an additional means for subscribed members to further share, promote and advance topics related to systems engineering, posting of systems engineering news, jobs, upcoming events and new issues of our newsletters.

Annex A: Memorandums of Understanding

SESA has the following Memorandums of Understanding (MOUs):

1. INCOSE-EA MOU renewed on 27/04/2015;

2. SESA ITEA MOU; and

3. CASE MRA –dated 23/05/2016.

Annex B: INCOSE and EA Mission, Vision and Goals

B.1 INCOSE

B.1.1 Mission

The mission of INCOSE is to address complex societal and technical challenges by enabling, promoting and advancing Systems Engineering and systems approaches.

B.1.2 Vision

The INCOSE vision is for "a better world through a Systems approach".

B.1.3 Goals

INCOSE has established the following goals for the organization to achieve the mission and vision:

a. To provide a focal point for dissemination of systems engineering knowledge;
b. To promote international collaboration in systems engineering practice, education, and research;
c. To assure the establishment of competitive, scalable professional standards in the practice of systems engineering;
d. To improve the professional status of all persons engaged in the practice of systems engineering; and
e. To encourage governmental and industrial support for research and educational programs that will improve the systems engineering process and its practice.

B.1.4 Values

In INCOSE we value:

a. Systems Thinking – thinking and acting to apply systems approaches to address complex challenges and thus to realise successful sustainable solutions;
b. Pioneering and Innovation – taking opportunities ourselves or with partners to evolve systems approaches to meet future challenges;
c. Learning and Development – life-long learning with a changing world through education and continuing professional development, covering both technical and leadership competencies;
d. Respect, Diversity, Collaboration – building and maintaining respectful relationships internally and externally in order to enable effective collaboration across the diverse community;
e. Individuals – the importance of people, their intellect and influencing skill, to support complex decisions and to deliver enduring change; and

f.   Volunteerism – volunteers and staff working together to achieve our objectives and to deliver benefit to our members, individuals and society.

B.2 Engineers Australia

B.2.1 Vision

Engineers Australia (EA) is the trusted voice of the profession. It is the global home for engineering professionals renowned as leaders in shaping a sustainable world.

B.2.2 Strategic Goals

EA's strategic goals are:

a.   Professional Home for Life - To build our body of knowledge and be the leading source for professional and career development for every Australian engineering professional no matter where in the world they are practising;

b.   Connectivity and Partnerships -To build a high profile with key stakeholders, leaders and decision-makers in the community;

c.   The definitive voice of the Profession - To provide trusted and highly respected leadership and advocacy for the engineering profession;

d.   Professional Credentials and Currency - To sustain world class engineering education, qualifications and professional credentials;

e.   International Orientation - To be the gateway to international engineering practice in a global profession;

f.   Tomorrow's Engineers - To create awareness of the opportunities in engineering among young Australians and their influencers; and

g.   Business Sustainability - To take a professional approach to member service, business processes, performance and accountability.

Annex C: SESA Support Contracts

SESA has established the following contracts for ongoing support and services:

- Enhanced Management Services, signed 2 Mar 2017; and
- Events PCO contract (TBD).