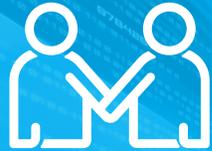# 2023 IMPACT STATEMENT

The International Council on Systems Engineering

With over 30 years of experience, we are shaping the future of systems engineering

21,000+
Members and CAB Associates

130+
Corporate Members

50+
Working Groups

65
Chapters Worldwide

75
Countries with Active Members

CONNECT

LEARN

LEAD

PROSPER

A Better World Through a Systems Approach

www.incose.org

Technical Leadership Institute (TLI)

Inspired by Systems Engineering Vision 2025 and 2035, the Technical Leadership Institute (TLI) is committed to developing systems leaders equipped to face today's product, enterprise, and societal complexity. A growing network of global leaders, the **TLI is comprised of 122 members** creating a shared journey of "learning together" in **18 countries around the world**.

These are the current cohorts:

Cohort 7: 19 Members — Members will be inducted into full membership in July 2023 and are completing three major projects.

Cohort 8: 22 Members — Members have completed their second major workshop and are shaping the desired topics and experiences for their leadership journey going forward.

Cohort 9: Nominations Open — Nominations for Cohort 9 will close March 31, 2023. The cohort will hold its kickoff workshop June 19-23, 2023.

The sun never sets on the INCOSE TLI!

TLI Webpage

Professional Development Portal (PDP)

The Professional Development Portal was created to provide value to new engineers, experienced systems engineers, contributors, and corporate officials.

For the minimum viable service (MVS) / Initial Operations Capability (IOC), the PDP was built to provide capabilities for users to conduct a competency self-assessment, browse and search the content catalog, save learning resources to a personal bookshelf, develop a learning development plan, and report completed professional development to managers.

Continuing the coordination and collaboration, the PDP Leadership Team reached across INCOSE to tie in related professional development products, services, and activities including:

- 🤝 Certification Program
- 🤝 Chief Information Officer (CIO) and IT Developers
- 🤝 Competency Working Group
- 🤝 Fellows Heuristics Team
- 🤝 Internal INCOSE Professional Development Discussions
- 🤝 Mentoring Program
- 🤝 Systems Engineering Online Laboratory
- 🤝 Technical Operations

PDP Website

Certification

The Certification Program offers an internationally recognized systems engineering qualification at three levels; confirming an individual's competency including knowledge, confirmed experience, and technical leadership. The levels are: Associate Systems Engineering Professional (ASEP), Certified Systems Engineering Professional (CSEP) and Expert Systems Engineering Professional (ESEP).

ASEP: 1,379
CSEP: 2,216
ESEP: 363

Stats from December 2022

Candidates for ASEP and CSEP can prove their knowledge of systems engineering through multiple assessment methods, available around the world.

Online exams can be scheduled at any time and are taken through the candidate's computer with a remote proctor watching through video.

Chapters and conferences may host exams in classrooms or meeting rooms, using printed exams.

University coursework can meet the knowledge requirement if the university has academic equivalency.

Certification Webpage

Products and Publications

Launched

Sep 2022
SEBoK 10 year anniversary

Sep 2022
SE Journal Volume 25, Issue 5

Oct 2022
INSIGHT Volume 25, Issue 3

Oct 2022
Professional Development Portal Launched

Jan 2023
SE Journal Volume 26, Issue 1

Jan 2023
INSIGHT Volume 25, Issue 4

Nov 2022
SE Journal Volume 25, Issue 6

Oct 2022
LTMYS: How Systems Engineering Changed My Life

Jan 2023
Systems Engineering Heuristics Webpage

Feb 2023
SE Competency Assessment Guide

Feb 2023
Natural Systems Primer

Coming Up
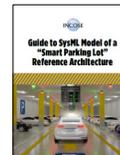
SE Handbook: Fifth Edition

Realizing Relevance: Stories for our Digital Era

Smart Cities Definition and Metrics

Smart Parking Lot SysML Model

Virtual Community

Yammer

Yammer is the community hub for INCOSE. In the last six months Yammer has grown from 50 to over **over 170 Communities** covering different chapters, interest and working groups. Yammer is available for all INCOSE Members. Join Yammer today to connect with the global INCOSE community.

Yammer

Calling All Systems

Calling All Systems is a platform of awareness about Systems Engineering, made up of a series of panel discussions presented and hosted by INCOSE; bringing thought leaders together from around the globe.
The inaugural session on March 21 will cover the topic of 'The Future of MBSE'.
More sessions will be announced in due course.

Calling All Systems Webpage

Systems Exchange Cafés

The Systems Exchange Cafés are informal conversations that take place via Zoom. They are a chance for members and non-members to **meet and connect with systems engineers** from around the globe.

Oak Café
EMEA

Maple Café
Americas

Fir Café
Asia/Oceania

Cafés Webpage

Volunteerism

Successful organizations such as ours owe their success to the involvement of our volunteers who take time away from their daily engagements and contribute to INCOSE. We are eternally thankful and commend them for their dedication. Consider becoming involved in your chapter or working group of your interest. There are both paid and volunteering opportunities available at INCOSE.

One of the opportunities recently posted received eleven submissions from seven different countries.

THE BEST ENGINEERS ALLOW FOR A LITTLE GIVE.

Become an INCOSE volunteer today! incose.org/volunteer

International Volunteer Day took place on December 5, 2022. We ran a week long social media campaign to celebrate the contribution that volunteers make to INCOSE. Below are the results of this successful campaign.

16,047 Impressions

730 Engagements

🔗 **Volunteering Webpage**

New Membership Engagement (NMET)

The INCOSE Membership function, which reports to the INCOSE Secretary, includes three main functions: New Member Recruitment, Member Engagement and Retention and Lapsed Member Recapture.

In 2022, the New Member Engagement Team launched major initiatives to support member engagement and lapsed member recapture. The New Member Welcome Center program, which consists of the Welcome Center and the monthly Cafés. About **100 people per month attend the Café sessions**, which include an overview of INCOSE and a featured guest speaker.

Launching a new lapsed member recapture campaign in 2022, we made use of a new tool called PropFuel, which enables dialog with member and past members. We found that about half of our lapsed members didn't know they had lapsed, and that many of them wished to rejoin. Through our campaigns in 2022, **over 400 lapsed members have rejoined INCOSE**.

The increased use of social media in 2022, and the dramatic increase in followers on LinkedIn and other sites, supported new member recruitment. We also offer our New Member Welcome Center cafés to new members through social media to educate non members on what INCOSE is all about.

🔗 **NMET Webpage**

Mentoring

INCOSE is starting a central mentoring program. A pilot mentoring program began in January 2023 and will run to June 2023; to check and collect feedback on the process, as well as initiate new or extend existing mentor/mentee relationships.

Members of the established mentoring team have designed the mentor-mentee matching process, published an INCOSE mentor-mentee matching website, recruited a starting set of mentors, and developed a position description for an Assistant Director for Mentoring. Following the six-month pilot, feedback will be incorporated, and a full central mentoring service is anticipated by the end of 2023. Project timeline:

- November 2022 - Recruit mentors
- December 2022 - Open pilot to prospective mentees
- December 2022 to May 2023 – Q pilot program
- February 1, 2023 - Send out first survey to obtain mentor and mentee feedback
- April 1, 2023 - Send out second survey to obtain mentor and mentee feedback
- June 1, 2023 - Send out final survey to obtain mentor and mentee input for revisions
- July 2023 - Present pilot results at the INCOSE Symposium
- August 2023 - Launch INCOSE mentor matching program

🔗 **Mentoring Webpage**

SySTEAM

SySTEAM

The SySTEAM Initiative is founded on the belief that systems skills should be part of every student's foundation, so that all students can have the interdisciplinary skills they need to succeed in their chosen endeavors and as global citizens.

We have continued to further our overarching mission of "improving education for all students, everywhere" through a number of our activities, including:

- Growing our international and interdisciplinary community of volunteers (currently 200+ on our email list).

- Regular community meetings and working sessions revolving around developing recommendations for integrating systems thinking and systems engineering competencies into education and training.

- Focused discussions on the incorporation of ST/SE principles into the arts and humanities, in addition to science/engineering education.

- Developing a preliminary report regarding the current state of systems thinking/systems engineering education, and SySTEAM's recommendations for solutions to identified gaps and issues in SE education, training, and certification.

SySTEAM Webpage

Diversity, Equity and Inclusion (DEI)

The INCOSE DEI Initiative is working to bring awareness to the SE industry to achieve the following:

- Promote cognitive diversity and neurodiversity within industry and government organizations.

- Find the intersection between technology, SE, policy, etc. that will enhance systems thinking required to develop a more robust and innovative solutions in diverse industries.
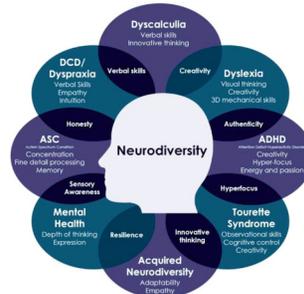
- Help achieve a more diverse and inclusive workforce to solve evolving and complex problems

- Continue to raise awareness and promote cognitive and neurodiversity through papers, publications through INCOSE INSIGHT, SE Vision 2035, mission, scope, and goals through the INCOSE IW, and INCOSE IS.

Upcoming:

- Paper submitted for presenting at the INCOSE International Symposium 2023.
- Bi-weekly meetings with the members and advisory board members of DEI.

Source: Groves Learning Organization (groveslearning.org)

Empowering Women Leaders in Systems Engineering has been supporting the new mentor/mentee pilot program and the Diversity, Equity, Inclusion Advisory team and Associate Director, and will continue to do so in 2023. EWLSE plans to nominate one or more candidates to the next INCOSE TLI cohort.

EWLSE at IW2023

EWLSE plans to continue to raise awareness of the EWLSE vision, mission, scope, and goals through INCOSE IS and other global events in 2023 including:

- Speaking at the "Women Advancing Systems Engineering" in Israel and at the Israel chapter meeting, both in January 2023.

- Holding a virtual event on International Women's Day on March 8, 2023.

- Running a workshop to create awareness about, discuss, and reflect on diversity, equity and inclusion at the INCOSE EMEA WSEC 2023 conference hosted in Seville, Spain in April, 2023.
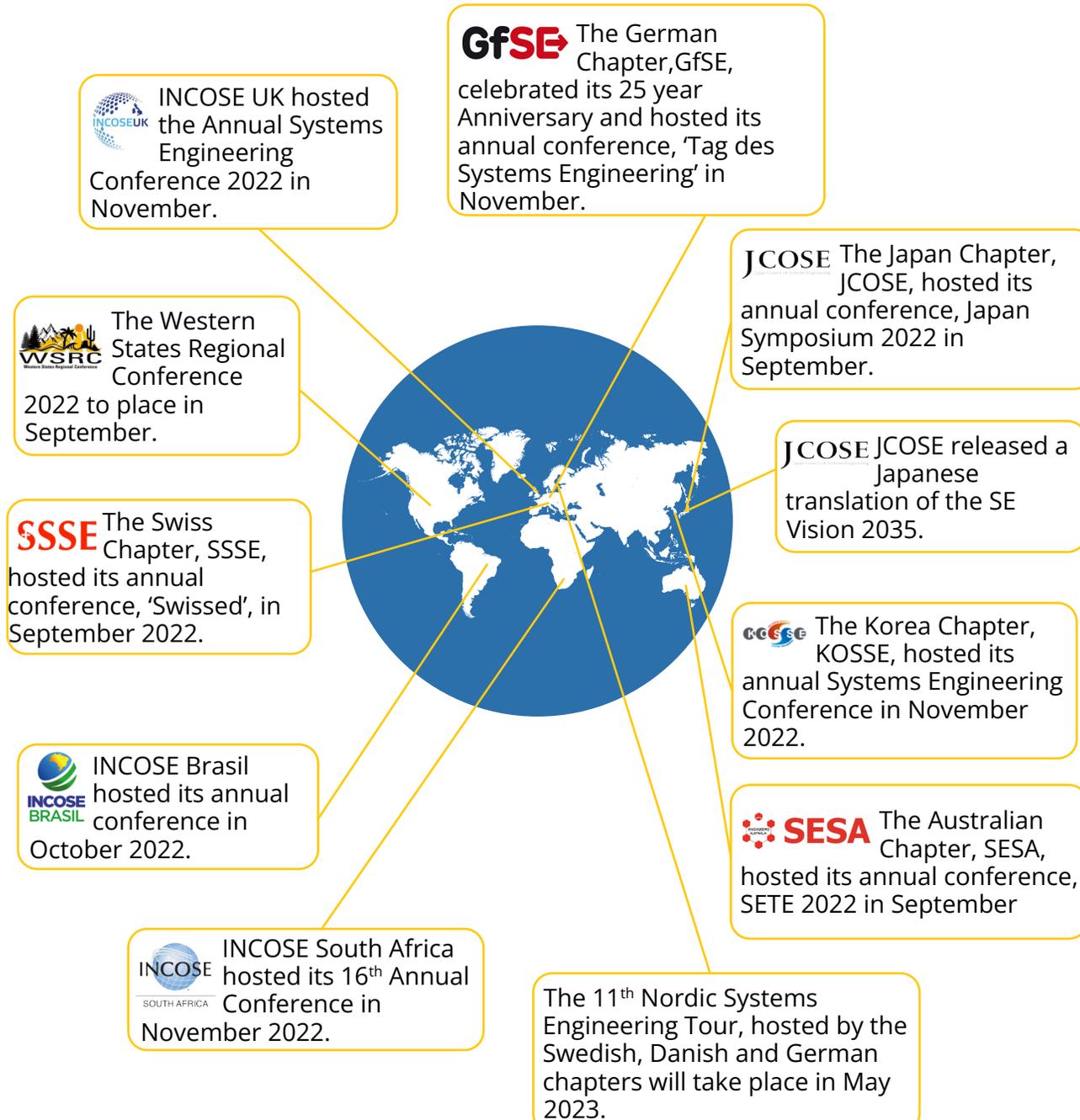
- Featuring EWLSE 2023 as a leadership workshop the day following AOSEC 2023, in Bangalore, India. On October 14, 2023.

EWSLE Webpage

Chapter Updates

GfSE The German Chapter, GfSE, celebrated its 25 year Anniversary and hosted its annual conference, 'Tag des Systems Engineering' in November.

INCOSE UK hosted the Annual Systems Engineering Conference 2022 in November.

JCOSE The Japan Chapter, JCOSE, hosted its annual conference, Japan Symposium 2022 in September.

The Western States Regional Conference 2022 to place in September.

JCOSE JCOSE released a Japanese translation of the SE Vision 2035.

SSSE The Swiss Chapter, SSSE, hosted its annual conference, 'Swissed', in September 2022.

The Korea Chapter, KOSSE, hosted its annual Systems Engineering Conference in November 2022.

INCOSE Brasil hosted its annual conference in October 2022.

SESA The Australian Chapter, SESA, hosted its annual conference, SETE 2022 in September

INCOSE South Africa hosted its 16th Annual Conference in November 2022.

The 11th Nordic Systems Engineering Tour, hosted by the Swedish, Danish and German chapters will take place in May 2023.

Working Group Updates

- *April 2023*
  The **Healthcare Working Group** will be hosting the 8th Annual Systems Engineering in Healthcare Conference in Minneapolis.
- *March 2023*
  The **Information Communications Technology Working Group** will be presenting at the International Wireless Communication Expo in Las Vegas.
- *February 2023*
  The **Natural Systems Working Group** has written and published their first primer: Natural Systems and the Systems Engineering Process: A Primer.
- The **Competency Working Group** has published the Systems Engineering Competency Assessment Guide.
- *January 2023*
  The **MBSE Working Group** met at IW2023 and reviewed 14 recent, current, and startup projects.
- The **International Workshop 2023** took place in Torrance, California; bringing together working groups from across INCOSE.
- *December 2022*
  The **Project Management Systems Engineering Working Group** presented at PMI Global Summit 2022
- *November 2022*
  The **Humans Systems Integration Working Group** held the HSI Worldwide Workshop 2022 with 88 participants in attendance.
- *January to December 2022*
  The **AI Systems Working Group** held a series of events called the 'AI Explorer Series'. The sessions were attended by over 500 people in 2022.

INCOSE Foundation

The INCOSE Foundation Board of Directors met during International Workshop 2023 with several important actions taken:

Action 1 Elected a new board member – Ty Theriot, DAU Chair of the Department of Engineering who has been working with the Foundation through the DAU Rotation program mandated by the US Congress. Ty brings the board to 11 members.

Action 2 Authorized the expansion of the SE Global Member Project. This will allow The Foundation to pursue channels to engage up to 200 members in the second phase.

Business concluded, the Board prepared to greet guests at the Wine Soiree. Well over 200 people gathered and enjoyed the wines and hors d'oeuvres filling tables. The Corporate Advisory Board has been the sponsor for the Wine Soiree every year since it began.

Foundation Webpage

Corporate Advisory Board (CAB)

What is the Corporate Advisory Board?

- The advisory board, consisting of corporate and academic members, shapes and influences the direction of INCOSE's work in advancing the profession and practice of systems engineering.
- The CAB provides strategic guidance to technical leadership, leading to the development of systems engineering products and standards to meet their needs.
- CAB representatives bring the value of INCOSE to their organizations and promote the profession and practice of systems engineering.

Why Join the INCOSE CAB?

CAB membership allows your company to guide the direction of the discipline.

Employees can gain access to the state-of-the-art products.

Align with peers and fellow industry leaders, grow your global footprint, and learn about how other industry leaders are applying Systems Engineering to solve problems.

Gain better access to talent – find and hire competent, certified Systems Engineers through your INCOSE connection.

New CAB Members since July 2022:

ARCFIELD™ · CACI EVER VIGILANT · IVECO GROUP · Lawrence Livermore National Laboratory · Mahindra™ University Global Thinkers. Engaged Leaders.

OPUS College of Engineering MARQUETTE UNIVERSITY · MTSi MODERN TECHNOLOGY SOLUTIONS, INC. · SAR الخطوط الحديدية السعودية SAUDI ARABIA RAILWAYS · VOLVO

CAB Webpage

The Future of Systems Engineering (FuSE)

2023 Key Events

International Workshop — 1

EMEA WSEC
EMEA Workshop and Conference 2023 — 2

International Symposium — 3

AOSEC
Asia Oceania Systems Engineering Conference 2023 — 4

Join the FuSE Yammer Community

FuSE Webpage

Mission

Engage and inspire the systems community for sustaining the future of systems engineering in realizing the Systems Engineering Vision 2035.

FuSE refines and evolves the SE Vision 2035 across competencies, research, tools & environment, practices, and applications.

FuSE identifies critical gaps towards the vision realizations and initiates & supports relevant actions.

FuSE fosters involvement and collaboration within and outside of INCOSE.

FuSE educates, shares success, and expands.

Success Factors

Inclusive: From an exclusive club to inclusive initiative

Attractive: Engage members and non-members

Implementation: The degree to which the road map is realized

Fresh: Relevant and updated road map and context

Close to application: Involvement of companies and domains

Global promotion: Attractive global digital marketing

Passion: To get the working groups proud to be part of it

4 FuSE Streams

The SE Vision and Roadmaps stream continuously refines, evolves, and complements the SE Vision 2035. Furthermore, we create an integrated set of roadmaps.

The SE Foundations stream has its basis in both theory and industrial practice. First goal is to assess the adequacy of the foundations and identify gaps to determine future directions.

The SE Methodologies stream guides the advancement of practices, methods, and tools for engineering systems to be fit for purpose.

The SE Application Extensions stream integrates social sciences and soft systems into systems engineering practice to address grand challenges.
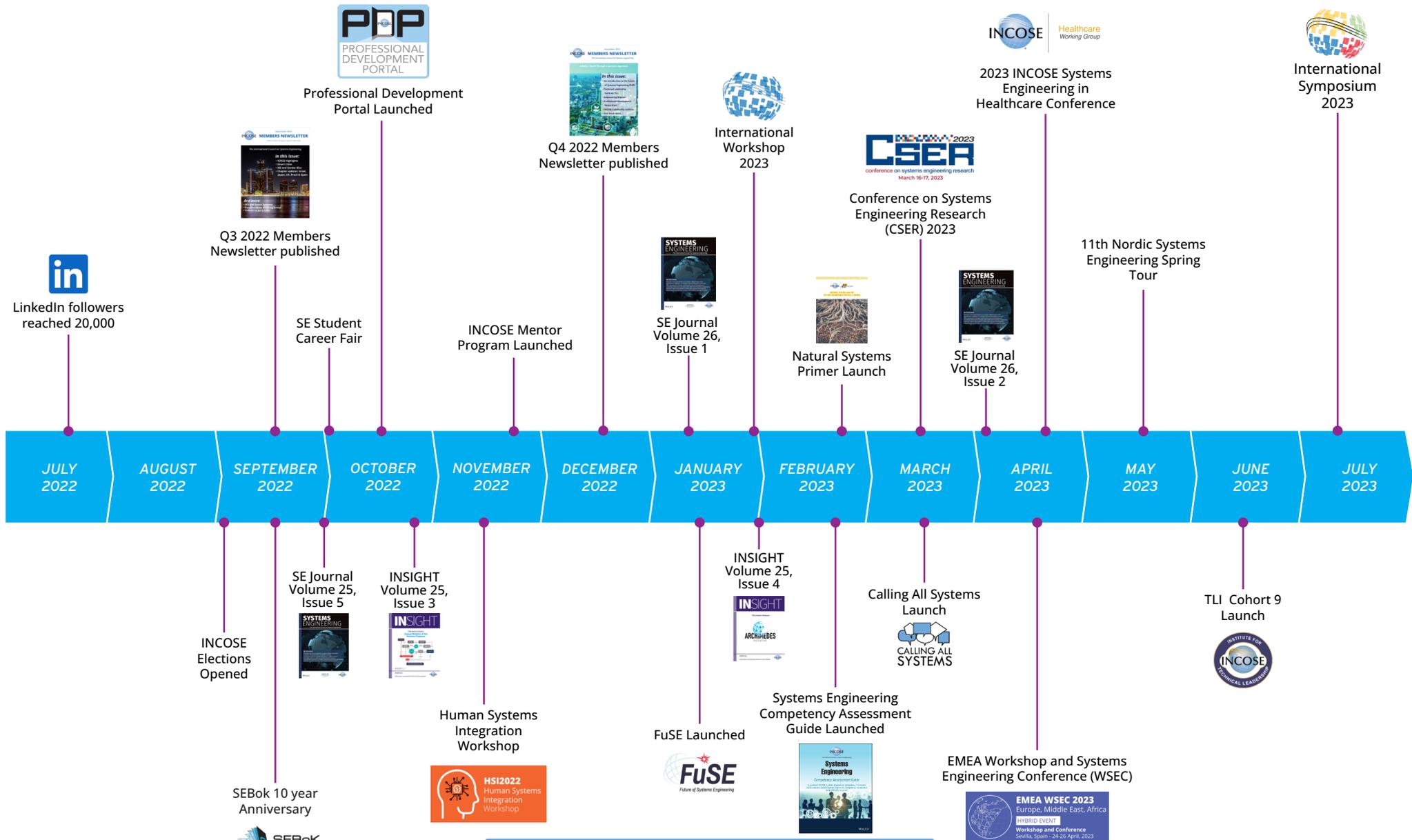
FuSE at International Workshop 2023

26hrs worked on FuSE topics

4x4 Working sessions

Active participants who joined FuSE sessions: **>500**

Total lifetime invested: **~1.5 years**

TIMELINE

LinkedIn followers reached 20,000 — JULY 2022

INCOSE Elections Opened — AUGUST 2022

SEBoK 10 year Anniversary

Q3 2022 Members Newsletter published — SEPTEMBER 2022

SE Journal Volume 25, Issue 5

Professional Development Portal Launched — OCTOBER 2022

SE Student Career Fair

INSIGHT Volume 25, Issue 3

Human Systems Integration Workshop (HSI2022)

INCOSE Mentor Program Launched — NOVEMBER 2022

Q4 2022 Members Newsletter published — DECEMBER 2022

International Workshop 2023

SE Journal Volume 26, Issue 1 — JANUARY 2023

FuSE Launched

INSIGHT Volume 25, Issue 4

Natural Systems Primer Launch — FEBRUARY 2023

Systems Engineering Competency Assessment Guide Launched

Conference on Systems Engineering Research (CSER) 2023 — March 16-17, 2023

MARCH 2023

Calling All Systems Launch

2023 INCOSE Systems Engineering in Healthcare Conference — APRIL 2023

SE Journal Volume 26, Issue 2

EMEA Workshop and Systems Engineering Conference (WSEC) — EMEA WSEC 2023, Europe, Middle East, Africa, HYBRID EVENT, Workshop and Conference, Sevilla, Spain - 24-26 April, 2023

11th Nordic Systems Engineering Spring Tour — MAY 2023

TLI Cohort 9 Launch — JUNE 2023

International Symposium 2023 — JULY 2023

Find us on Social Media

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