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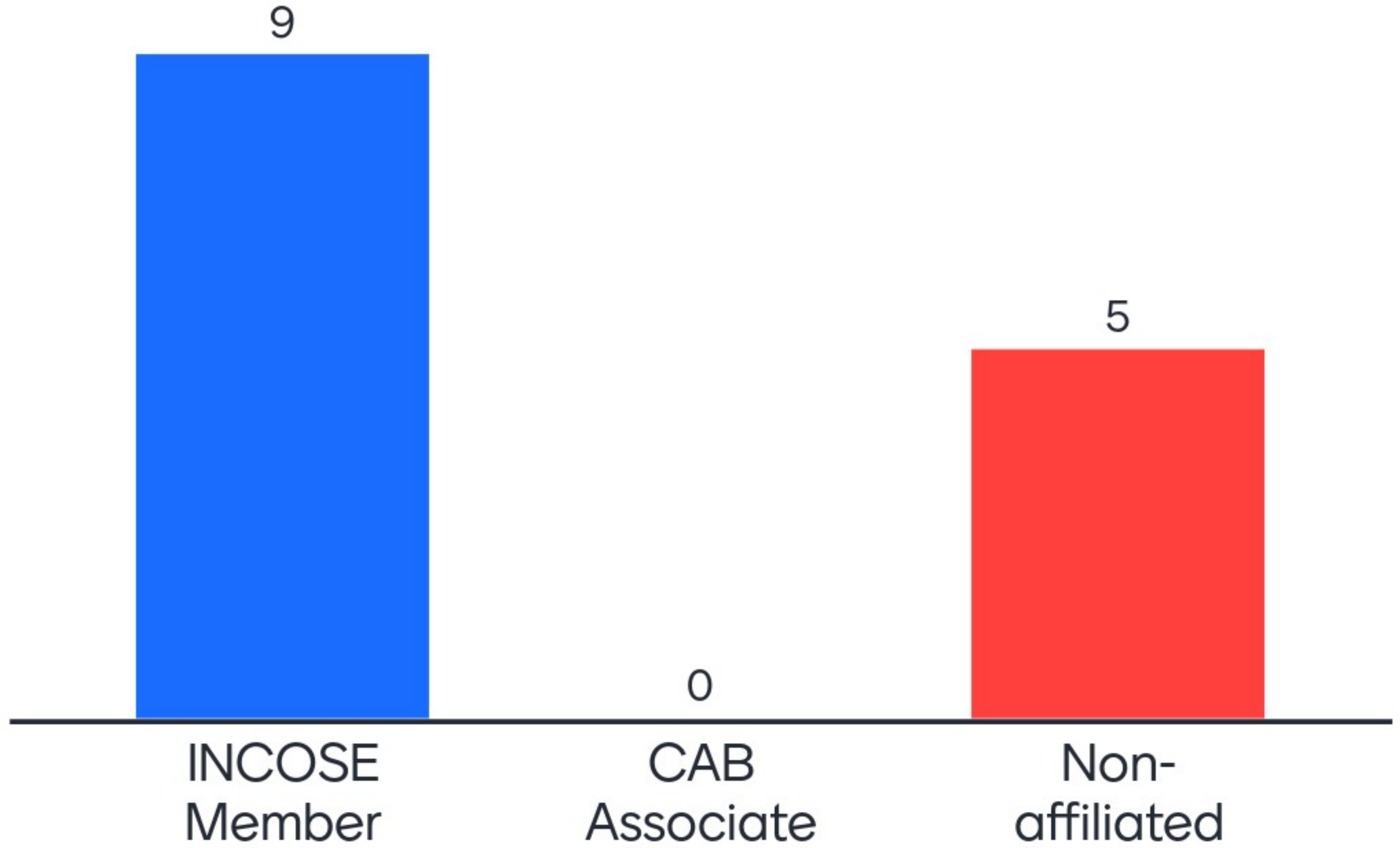
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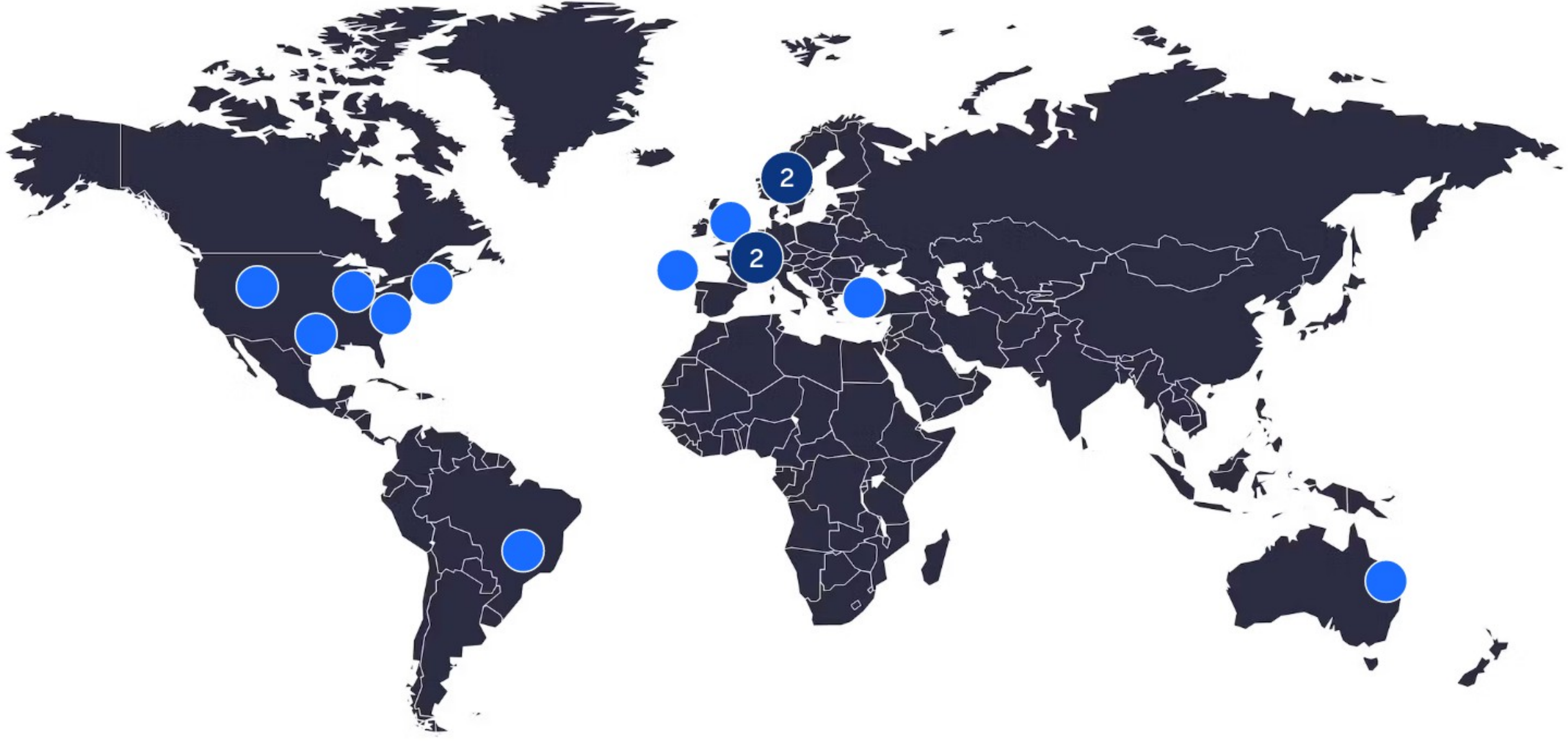
What is your affiliation with INCOSE



With what other organizations are you affiliated with?

fev turkey
sverige ingenör
istanbul technical uni
asset management council
omg **ieee** isss
engineers australia pmi
sds asme sae hl7 asee

From where are you joining?



Results from IW

(main presentation)

What practices or methods should be advanced?

29 Answers

Moving to a data centric practice of SE

MBSE implementation

Formal Methods for V&V

Consistent use of Modeling Languages

Executable Requirements

Use ontologies to define a framework covering the problem space
Promote reference models to explain concepts

SE with DevSecOps

Role of automation in systems engineering

The architecture generation should have advanced methodology to elaborate what system shall do precisely. Besides well-defined traceability through the whole life-cycle will be beneficial.

What practices or methods should be advanced?

29 Answers

Understand the difference between design inputs and design outputs.

stakeholder characterization, Pugh, CONOPS

V&V methodologies and management of systems interfaces

Ensure the culture for systems engineering

Training for Systems Thinking

agile systems engineering agile engineering in all disciplines the art of system design

Assessment of sustainability

better systems modelling language

Digital Requirements

What practices or methods should be advanced?

29 Answers

Including the user in the SE approach

Verification and validation occur across the lifecycle, not something that is only done at the end.

Modelling language for non-engineers

Use of AI to assess patterns in architecture definition

Model based and risk issue management

Model base and risk issue mngt

Traceability concept across tools

The SE Vee Model is out of date leading to misunderstanding of SE best practices.

The concept of stakeholder needs and requirements is miss used. They are only inputs to the lifecycle concepts and needs definition activities.

What practices or methods should be advanced?

29 Answers

Stop a document centric practice of SE.

The perception that MBSE is too complex and that you have to use SysML models for all systems.

What practices or methods should be stopped or used less?

20 Answers

create more complex tools

Defining everything in a document

They way INCOSE ASEP exam is conducted

MBSE

Blaming the approach for exposing the lack of understanding

Traditional SE approach

Document centric practices

Use of excel sheets for req management

Practices that focus on the process, not the customer



What practices or methods should be stopped or used less?

20 Answers



'Optimization' word in Systems Engineering

Separating requirements engineering from V&V

Identifying topics and their discussion without reference to the overall SE context in which they occur.

stop focussing on technical systems; put focus on socio-technical systems

Having meetings without a clear purpose

Specific life cycle development approach

One tool to rule them all

Digging down to the final screw. 150% where as 80% is enough

Requirement described by Confused language. Not measurable or evaluated requirement



What practices or methods should be stopped or used less?

20 Answers

Going back to old approaches, and dropping new approaches, when the going gets tough

Practitioners, Technologists and Engineers not understanding SE (& any interfaces) is everything due to their interconnectedness of our technical and non-technical systems.

What is preventing advancement of Systems Engineering as the leading methodology?

31 Answers

Mentimeter

Mindset

lack of knowledge about SE

Initial investment of the transition

Software engineer prefer code

Lack of understanding of the systems approach.

how to tailor SE in different contexts

Lack of explanation of the value of systems engineering to management, but also to everybody outside Engineering world

Lack of systems understanding

Newer more sexy topics.



What is preventing advancement of Systems Engineering as the leading methodology?

31 Answers

Mentimeter

The preference to deal with real things (stuff people can kick) over abstract concepts driving people towards hardware/software over SE.. ie lack of systems thinking

Some industries use SE methods in rudimentary form but do not know it is called as systems engineering

Lack of examples of SE being used in Agile & IT projects

mindset as 'time-consuming' method

Lack of abstraction and simplification for different stakeholder audiences

The term SE seems quite new to lot many engineers as a result there is no understanding what a SE does

Lack of examples of SE being used with Cloud based solutions

Dedicated to a small group of Aerospace engineers (perception)

SE seen as only applicable in niche domains, large or waterfall deliveries

What is preventing advancement of Systems Engineering as the leading methodology?

31 Answers

Mentimeter

The pursuit of completeness and perfection over just enough.

if we say, it is the "leading (!)" methodology, we create a fight against other methodologies

Lack of proper tradeoff between being process-oriented and being product-oriented

Expecting SE to solve everything at once

Having Project managers who do not understand what SE brings to the table

Missing quantification

Not demonstrating the potential of the method solving today's global problems like climate change etc

Systems Engineering university courses declining (certainly in UK)

what value does this bring

What is preventing advancement of Systems Engineering as the leading methodology?

31 Answers

Mentimeter

In SW industry there is no role called as SE

NO form of education in SE during university in programs other then aerospace

Systems Engineer roles only seem to exist in aerospace rather than IT Industry

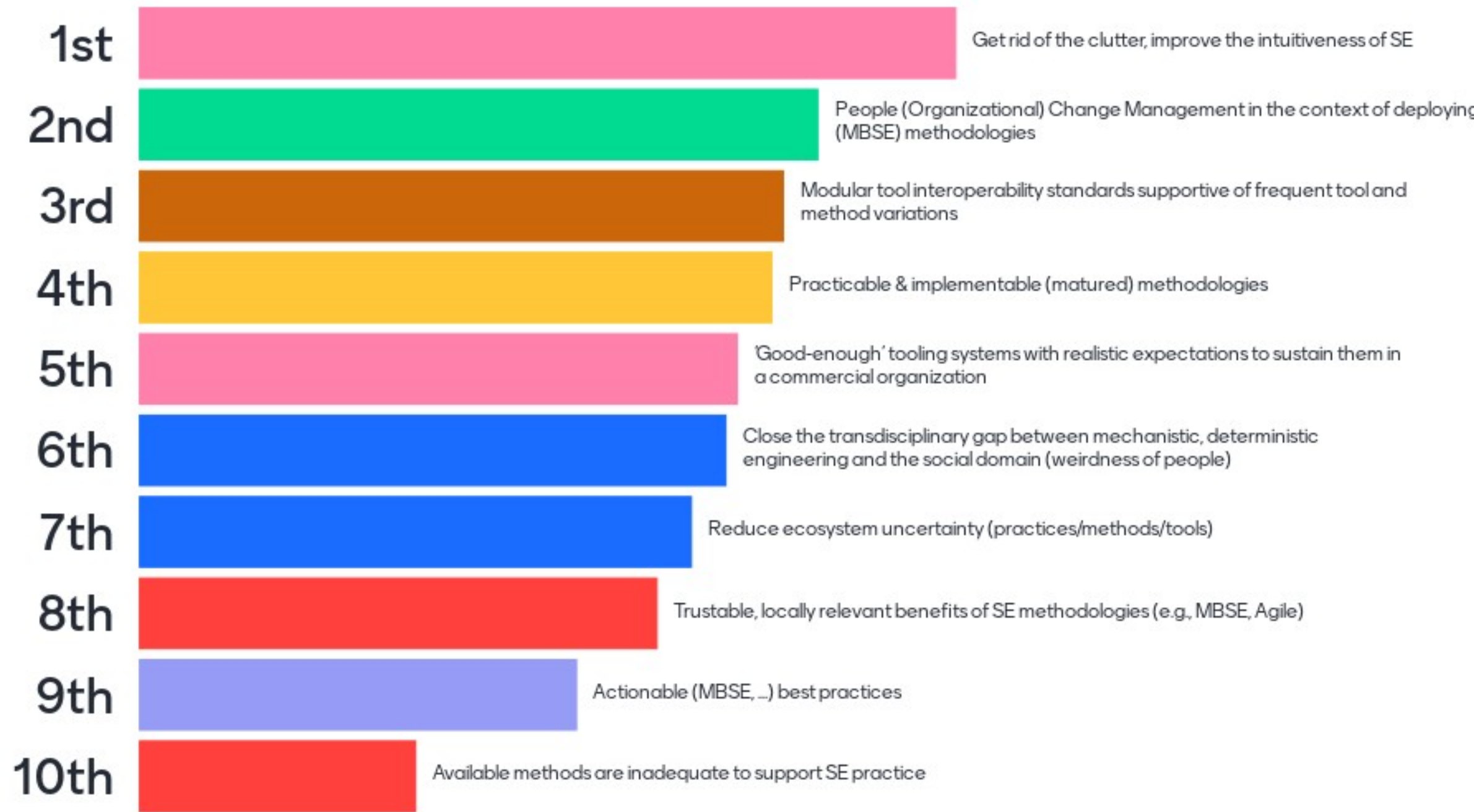
get rid of the clutter, improve the intuitiveness of SE



Break

(main presentation)

Which disrupters should be addressed immediately?



What is being done today by whom to advance systems engineering in the presence of the most urgent disrupters?

13 Answers



INCOSE

Chris Hoffman is organising workshops to gather an understanding of the problem space

FuSE Initiative working on SE Methodologies ;)

Easy tool which supports Mbse practice

The RWG Products of the year. Needs and Requirements Manual, Guide to Needs and Requirements, Guide to Verification and Validation, Guide to Writing Requirements.

EMEA conference on Sustainability aspect

Large systems vendors are doing this because it is essential to competitive success

SE handbook 5th edition- INCOSE

SysML v2- OMG

What is being done today by whom to advance systems engineering in the presence of the most urgent disrupters?

13 Answers

 Mentimeter

Companies and customers across the UK (and wider) are adopting architecture frameworks to identify gaps in understanding, especially at the enterprise level

Research Institutes with Industry in the field of SE for SMEs

Enterprises where systems are critical to their operation (e.g. Banks) are doing this to get new solutions to market quicker. The engineering is considered a trade secret.

More outreach outside of INCOSE. Clearly communicating the value of SE.

What else should we do to advance systems engineering in the presence of the most urgent disrupters?

18 Answers

Mentimeter

Pragmatism

Incorporate culture change in any and every aspect of bringing new approaches to people.

Give people the time to develop

Tools to follow the process / methods - not the other way around

Easy to communicate/ explain the value of SE

Provide education over a structured description of Systems Engineering

Provide tool environments that allow tools to interoperate so that data can be exchanged between and linked to the right places

Provide SE classes to all engineering courses at universities

More outreach outside of INCOSE communicating the value of SE.

What else should we do to advance systems engineering in the presence of the most urgent disrupters?

18 Answers

Mentimeter

local INCOSE/ SE chapters which has representation from different fields

Concepts to train/ coach people on the job having fun exploring the methods

Expanding SE reach to different types of organizations

Promote convergence of Systems Engineering and Enterprise Architecture

Don't be dogmatic

Promote SE from education stage (via specific degree)

Introduce chatgpt to improve MBSE friendly for fresh user

Systems thinking as part of Education early on

Whilst it doesn't deal with today's issues, promote systems concepts earlier in education: spread the idea that the world is interconnected

Next Steps

(main presentation)

**Thank
you!**

