



Teamwork demonstrated at the example of the German Translation of the INCOSE Systems Engineering Handbook version 5

18.09.2023 **Thomas Halama**, David Endler, Jürgen Rambo, Rüdiger Kaffenberger, Alexander Busch

GfSE
Gesellschaft für
Systems Engineering e.V.
GERMAN CHAPTER OF INCOSE

SSSE
Swiss Society of
Systems Engineering

German Translation of the INCOSE Systems Engineering Handbook version 5

Agenda

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05 | Common approaches and tips



01

The translation team members

German Translation of the INCOSE Systems Engineering Handbook version 5

The translation team members

Dr. David Endler



Systems Engineering Consultant, Trainer, and Coach.
He is a member of SSSE and resides in Hamburg, Germany.

Rüdiger Kaffenberger



Electrical Engineer, specialized in systems theory.
He is a founding member of GfSE e.V. and resides in Backnang Germany.

Thomas Halama



Mechanical Engineer and expert in design, modeling and simulation.
He's a member of SSSE and resides in Affoltern am Albis, Switzerland.

Jürgen Rambo



Mechanical Engineer and expert in processes, methods and tools of digital product development.
He is a member of GfSE and resides in Stuttgart, Germany.

Alexander Busch, Ph.D.



Fluid-Thermal Systems Engineer and Modeling and Simulation expert.
He is a member of GfSE and resides in Lübeck, Germany.

... an many thanks to some **support for the translation of the figures** from:

- **Antje Standke, Christian Lalitsch-Schneider, Dr. Hubertus Ulmer, Isabell Schulz, Marielle Ahrens**

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The translation team members

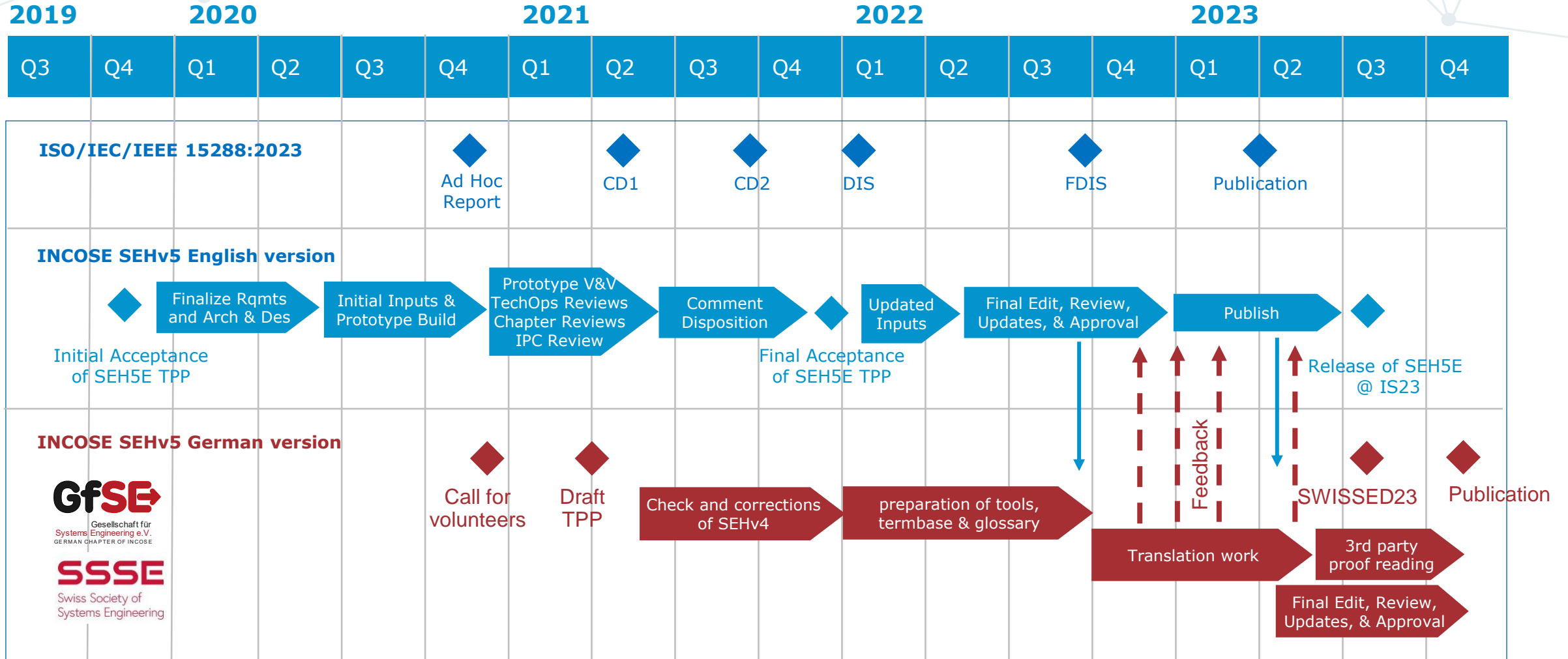
- We are mainly a **virtual team**. We did know each other only partially face-to-face.
- All the team members are **volunteering** for the translation and spending their leisure time for it.
 - Up to now, we spent around 1200 hours in preparing and translating the text, tables and figures.
- Good team mix between **experienced translators** from former versions **and newcomers**.
- We had regular online meetings to exchange on the status and progress. At the beginning, we had a meeting every quarter. During the main translation phase, we had a **weekly meeting**.
- We are using a **computer aided translation (CAT) tool called “phrase” supporter by Al**. This was already tested and used during the preceding translation projects.
- The collaboration is via INCOSE’s **Microsoft-Teams**, which allows us to work simultaneously on the same documents.



02

Timeline

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03

The translation process

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The translation process

From the beginning we followed a four-phase approach:

1. Pre-translation Phase:

- Submission of INCOSE TPP (Technical Product Plan)
- reviewing and consolidation of comments and typos from v4
- creation of the Term Base and the Translation Memory, testing of the CAT tool
- Style guide for figures
- Administrative tasks like acquire publishing rights, etc.

2. Translation by the core team

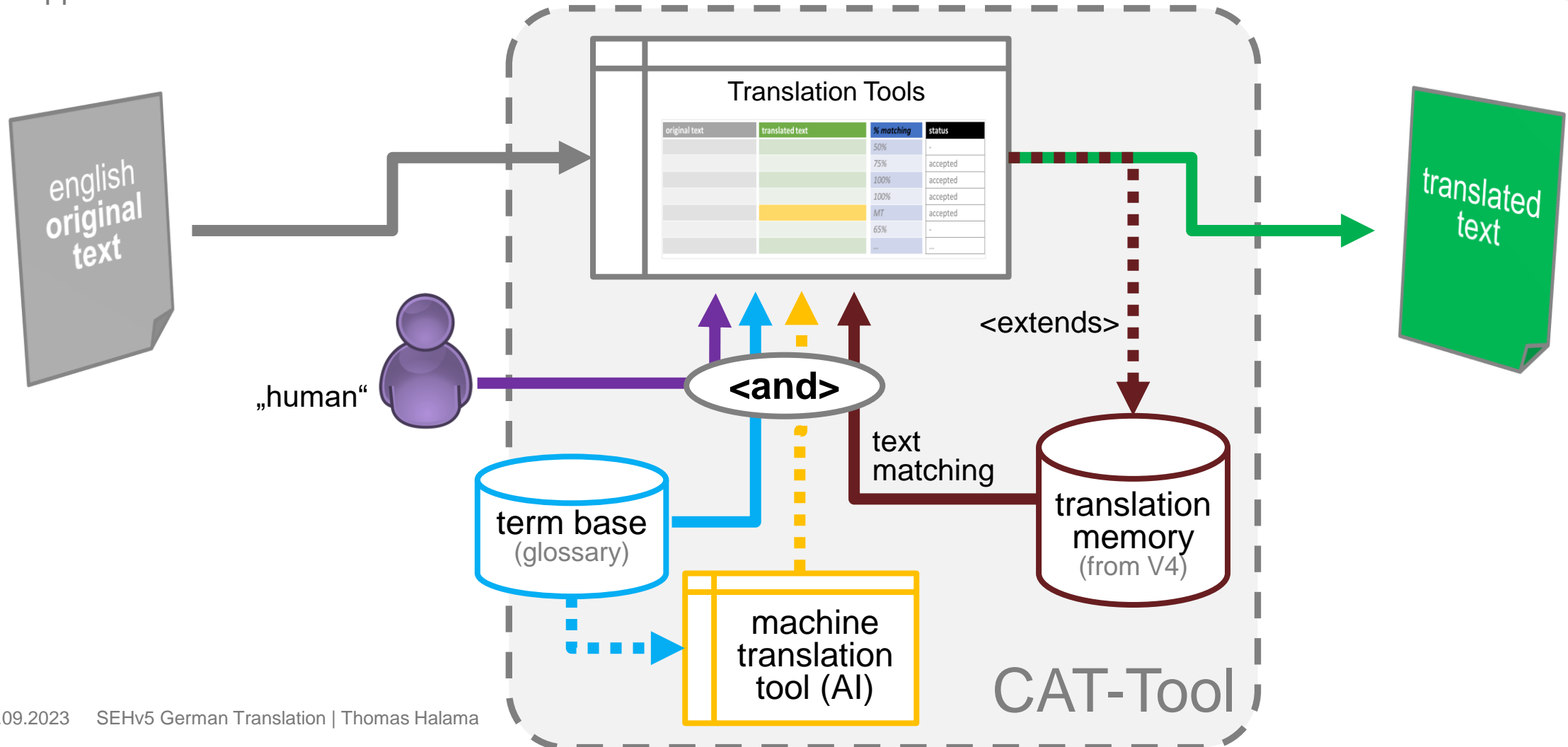
- Split of original text into chunks (each part as a separate word file)
- Pre-translation by CAT tool
- Translation in 3 passes by 3 core team members (6-eye principle)
- Creation of the figures (support from external volunteers)
- Reviews and decisions during the weekly meetings
- Feedback into CAT tool

3. Review by Proofreaders

4. Post-translation Phase

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Computer Aided Translation (CAT) Tools and Artificial Intelligence to Support the Translation Process



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The translation process

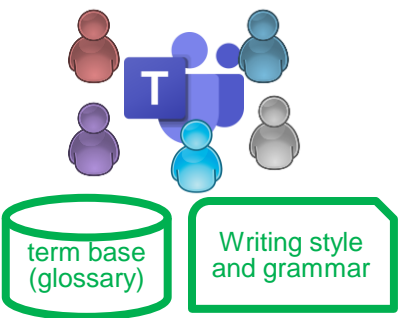
Main Translation by Core Team

→ Consistency



chunks of approx. 20 to 30 pages

Core Team



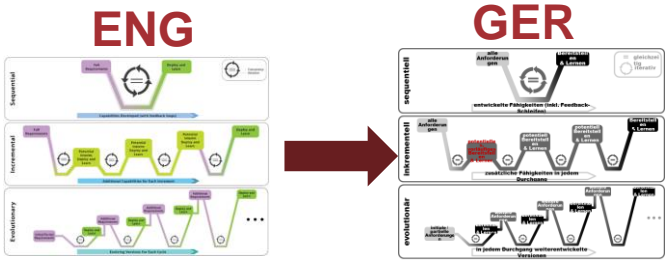
Final decision on alternative translations by the whole core team



L^AT_EX

Integration and typesetting

Figures (re)created and translated with support of a second team



Need to modify the graphics to accommodate translated text
Style guide for figures and captions

Figures and tables are reviewed by the core team



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The translation process

1904	Short stand-up meetings on a daily or weekly schedule are effective for smaller groups.	Für kleinere Gruppen haben sich tägliche oder wöchentliche kurze Besprechungen im Stehen (stand-up meetings) <u>Stand-up-Meetings</u> bewährt.	## <u>Ich denke wir können Stand-up-Meeting beibehalten. "Besprechungen im Stehen" klingt doof.</u>
1905	prevailing wisdom suggests that "what gets measured gets done," but projects should avoid the collection of measures that are not used in decision making.	Eine Weisheit lautet: „Was gemessen wird, wird auch erledigt!“ (oder auch „Miss es oder vergiss es!“), aber das Projekt sollte nur die Messgrößen erheben, die auch für den Entscheidungsprozess genutzt werden.	## <u>Der Text ist gleich wie in SEHv4. Da wurde im Deutsche nauch schon die "positive" Formulierung verwendet.</u>
1906	Good practices show that the project status report should be concise and visual (e.g., usage of red/yellow/Green "traffic lights") in order to quickly and easily identify the critical issues on which urgent	Bewährte <u>Verfahren zeigen Übung ist</u> , dass der <u>Projekts</u> Status <u>bericht</u> prägnant und visuell sein sollte (z. B. Verwendung von roten/gelben/grünen "Ampeln"), um schnell und einfach die kritischen	# <u>Geplant == soll, daher überflüssig.</u>

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The translation process

Short stand-up meetings on a daily or weekly schedule are effective for smaller groups.	Für kleinere Gruppen haben sich tägliche oder wöchentliche kurze Besprechungen im Stehen (stand-up meetings/Rund-up-Meetings) bewährt.	Ich denke wir können Stand-up-Meetings beibehalten, Besprechungen im Stehen klingen aber nicht so gut.
prevailing wisdom suggests that "what gets measured gets done," but projects should avoid the collection of measures that are not used in decision making.	Eine Weisheit lautet: „Was gemessen wird, wird auch erledigt!“ (oder auch „Miss es oder vergiss es!“), aber das Projekt sollte nur die Messgrößen erheben, die auch für den Entscheidungsprozess genutzt werden.	Der Text ist gleich wie in Englisch. Da wurde im Deutschen auch schon die „positive“ Formulierung verwendet. „Geplant“ soll daher überflüssig sein.
Good practices show that [redacted] status should be concise and visual (e.g., usage of red/yellow/green "traffic lights") in order to quickly and easily identify the critical issues on which urgent.	Bewährte Verfahren zeigen, dass der Projektstatus prägnant und visuell sein sollte (z.B. Verwendung von roten/gelben/grünen „Ampeln“), um schnell und einfach die kritischen	

Final decision on alternative translations by the whole core team

Figures and tables are reviewed by the core team



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Integration and typesetting

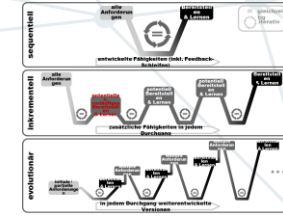
Review by Proofreaders

- 10 or more proofreaders are good
- Proofreaders are not to challenge the translation. Focus is on finding errors in syntax and grammar and remaining inconsistencies in terms
- Proofreaders work with the translated text only, including figures



Post-translation phase

- Obtain clearance for citations and figures from the standard ISO 15288 from the local standardization body
- Buy ISBN
- Final layout and preparation for print
- Production of copies
- Distribution of mandatory copies as required





04

Highlights of the German version

German Translation of the INCOSE Systems Engineering Handbook version 5

Highlights of the German version

- The German version of the **Handbook will be available as hardcopy and electronically**
- The electronic version will have **references as hyperlinks** (a feature the English version doesn't have)
- It will have a **consistent layout of figures and tables**
- Very **long sentences are cut** into multiple, shorter ones, respectively converted into bullet point lists
- In the English version found typos and **inconsistencies are already corrected in the German version**
- Contexts that are rather little known in the German-speaking area were **supplemented with footnotes**



05

Common approaches and tips

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Common approaches and tips

- Planning: always remember that you're working with volunteers. Plan robust and flexible.
- Focus: handle contractual issues with high priority.
- Motivate team: the German version has impact – it will be the basis for SE-ZERT® exams in German.
- **Use and maintain a glossary: you simply can't do it without.**
- Think about the end user: cut long sentences in digestible chunks.
- Know the background: a solid understanding of ISO/IEC/IEEE 15288 and the English version of the handbook is extremely helpful.
- Take advantage of the freedom: the English version has 100+ authors, the core translation team can harmonize terms, language, figures, etc.
- Provide feedback to INCOSE editors: report back issues that surfaced when translating, this helps to improve the next version.
- Use an optimized toolset: e.g. CAT (Computer Aided Translation) & MS-Teams Office365
 - tools significantly and constantly improve over the years → maybe for V6 we will not need human translators anymore ;-)



Thank You!
For your attention.



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