



# ISO上層委員会報告会 IEC/ISO Workshop on Digital Transformation in New Delhi

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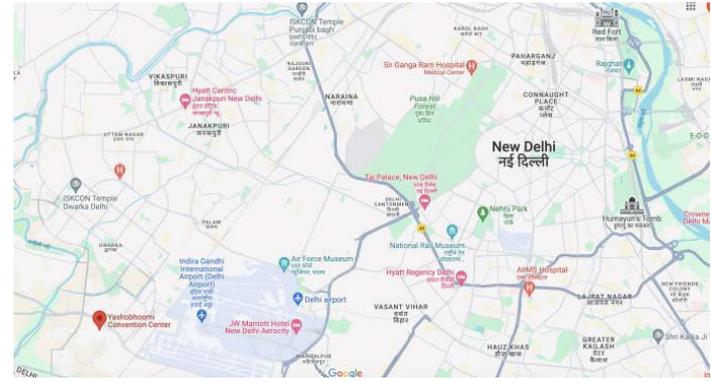
2024-04-16

# DT Workshop概要

- 2日間のワークショップで、IEC/ISO、CEN/CENELEC、開催国であるインド、講師を出した英国、フランス、ドイツ、南アフリカに於けるデジタルトランスフォーメーション(DT)の進捗状況報告が行われた。300名程度の参加
- DTについては、技術的な改善も重要だが、それ以上に働く人の意識改革が重要、と確認された
- OSDについて解説があり、規格文書からTest Planを作成してTRF(test report form)になるまでのデモ等があった
- 最近話題となっているAIの進み具合、標準化活動での活用について報告があった



Venue



Location



# AI と 出版

- ISO CS Hussain Hadi から、出版業界のDT対応について詳しい報告があった。ISOはAcademy Pressと位置づけ
- AI について内容が豊富な情報提供が有り、非常に参考になった

# 出版業界での業態の変化

- 今後、避けて通れないsubscriptionにも言及

## Digital Transformation

- E-books and digital formats
- Audiobooks
- Subscription services
- Digital marketing and social media
- Data analytics
- AI-powered tools
- Digital rights management



# Semantic interoperable, machine interpretable

- Dr. Sundeep Oberoi はSG 12 TF 3コンビナ
- SMARTではマシンが標準を理解する必要がある
- マシンによる標準の理解とは？ マシンはコンピュータで人間と同じように標準を「理解」することはない、プログラムに従うのみ
- SMARTでマシンが標準を「理解」するとは？ → 人が標準を理解する手助けができる、色々な場面で代理として利用者の役に立つことができる
- Semantic Interoperability実現について、限られた分野でなら可能性がありそう、と説明

# SMART

- SMART requires that standards be “understood” by “machines”
- “Machines” are computers
- Computers don’t “understand” things in the way that humans do. Computers follow instructions
- Why should machines be able to “understand” standards?
  - To help humans understand standards
  - Computers are intermediaries in very many activities that we do today
    - Internet banking
    - Fly-by-wire aircraft
    - Energy management
    - And many many more
- SMART is a journey

# Directions in which work is taking place

- What is an “information model” for a standard
- How do we associate “semantics” with data
- How do we create “information models” of sufficiently large domains in a formal way so that families of standards can leverage these “semantic” domains and achieve semantic interoperability
- Some of this work is happening in IEC SMB SG-12 TF3
  - SIM stream
  - Semantic interoperability stream
- **Semantic interoperabilityを実現するには、形式に従った方法で大きな domain に Information model を作る必要がある → 当初想定 の DP2 では SIM としては不十分**
- **ISO、IECに限っても semantic interoperable を実現するには、全 TC/SC/SyC/PC が同じ domain である必要がある、を意味するのか？**

# AI

- Dr. Pushpak Bhattacharya (IN)はJTC1/SC42国内委員長、AIと標準化について講演を行った
- AI用の言語モデルについて説明、インド地域言語への翻訳が紹介された
- X線画像読影AIは、専門家が不足しているインドにとって役立つシステムであると紹介された
- ISO CS Hussain Hadi によるAI解説が追加された。情報が多く、理解するには更なる学習が必要

# AIの定義 ISO/IEC 22989

## What is AI?

AI is the “capability to acquire, process, create and apply knowledge, held in the form of a model, to conduct one or more given tasks”

ISO/IEC 22989:2022 - Information technology — Artificial intelligence — Artificial intelligence concepts and terminology

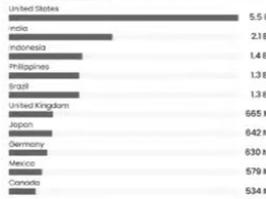


# AIサイトの人気 ChatGPTがダントツ

## Exploring the AI Industry: 50 Most Visited AI Tools with over 24B Visits

Between September 2022 and August 2023  
There were more than 24 billion visits, experiencing  
an average monthly growth of 236.3 million  
equivalent to a 10.7% growth rate.

### Top 10 Countries With the Most AI Users



Google Bard with just 7% of the 24 billion traffic ranks at 11th in our list, averaging 11.3 million over 7 months.



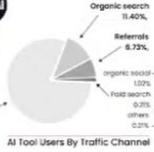
Hugging Face, only AI tool in Data Science. Users typically spend 11 minutes & 2 seconds per visit, with traffic evenly split between desktop and mobile (48% each).

ChatGPT is the leading AI chatbot in its category, receiving 60% of the 24 billion traffic, while 7 other AI chatbots collectively account for only 18.8%.

Craiyon, MidJourney, & QuillBot had the largest traffic declines during the period. Craiyon 15m, MidJourney 8.66m, QuillBot 5m.

ChatGPT, Character AI, & Google Bard experienced net traffic growth of 1.8 billion, 483.4 million & 68 million visits respectively.

All Bard's user spends 10 minutes per session, with 87% being mobile users, and an impressive lower 26.55% bounce rate.



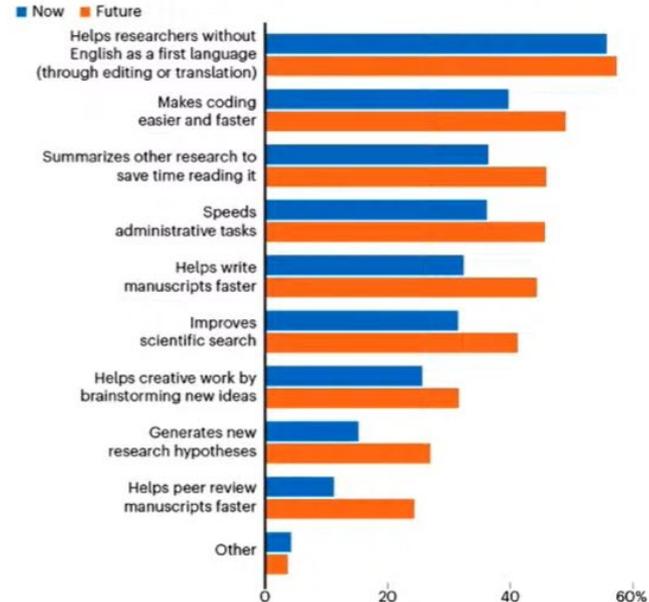
# 生成AIの利点 翻訳、コード作成等

## Perceived benefits of Generative AI (Nature)



When asked about Generative AI such as LLMs, respondents to a Nature survey highlighted translation, coding, and research summaries as having the biggest beneficial impact for research

Q: What do you think are currently the biggest benefits of generative AI for research? In the future, where do you think generative AI will have the biggest beneficial impacts for research?



\*1,659 respondents. For more on Nature's survey, see [go.nature.com/t45232vd](https://go.nature.com/t45232vd)

©nature

# 問題点 Copyright

- New York TimesはMicrosoftとOpenAIを訴えた
- AI側はFair Useであるとして反論

New York Times sues Microsoft and OpenAI for 'billions'

© 27 December 2023



NEWS - NATIONAL NEWS

New York Times lawsuit says OpenAI and Microsoft's ChatGPT violates copyright law



The New York Times has filed a lawsuit against OpenAI and ChatGPT over copyright. (Shutterstock)

# 言語モデルのサイズ

## Well known LMs: size

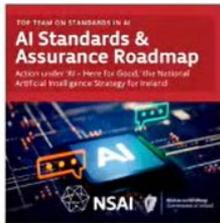


- **GPT-3 (Generative Pre-trained Transformer 3)** by OpenAI: 175 billion parameters; **GPT-4**: 1 trillion
- **BERT** by Google: BERT-base: 110 million; BERT-large: 340 million
- **XLNet** by Google AI and Carnegie Mellon University: Size: 340 million
- **T5 (Text-To-Text Transfer Transformer)** by Google AI: Size: 11 billion
- **LLAMA-2** by Meta: 34 billion
- **Olympus** by Amazon: 4 trillion
- **Mistral 7B** by Mistral.AI: 7.3 billion
- **OpenHathi** by Sarvam: 7 Billion
- **PaLM** by Google: 540 billion



# 各国MBのAIへの取り組み

## ISO NSB - AI initiatives



Ireland's AI Standards Assurance Roadmap



An AI Standards Roadmap: Making Australia's voice heard



DIN / DKE German Standardization Roadmap on AI

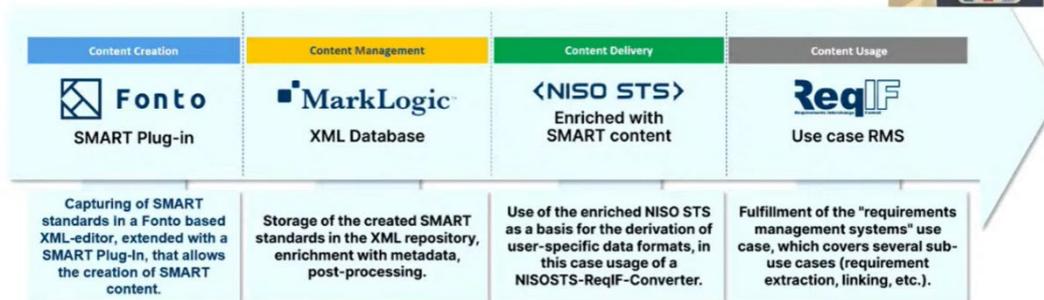


BSI White paper – Overview of standardization landscape in AI

# ドイツの動きに着目

- DINのPilotではStage毎のSoftwareの種類を説明
- Open source ではなく、Licensed versionを使っている
- AIを使って手助けをすることになっている。AIはToolである
- MarkLogicはXML形式のDatabaseでISOが採用しているものと同じ？ NISO STSは誰でも使っている
- National Adoptionは重要な機能で、Market Specificに対応

## Requirements Extraction (DIN pilot)



### Relevant standards (for pilot customers)

ISO 20653:2013	ISO/IEC/IEEE 15288:2015-05
ISO 10605:2008	ISO/IEC/IEEE 12207:2017-11
ISO 21940-11:2016	ISO/IEC/IEEE 12207-2:2020-10
ISO 80601-2-56	
ISO 10079-3	
ISO 10079-4	

### Customers

<b>Automobile &amp; machinery</b>	<b>Medical devices</b>
Schaeffler	Zeiss Optik
Vossloh	Draeger
Claas	Löwenstein
...	Pajunk GmbH
	...

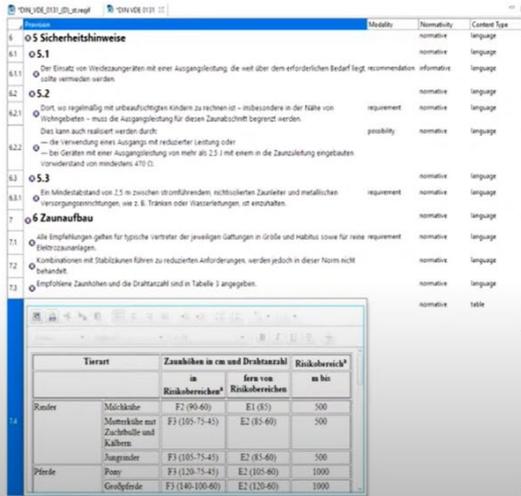
# ReqIF

- Export for Requirement Management Systems
- ここではProvision（規格の本体である要求条件を最近ではProvisionと呼ぶことが多くなっている）Centricと書かれている。
- Provisionsを企業の要求する形式で提供 Level 3

## (New) Products raised from SMART Standards ReqIF Export for Requirement Management Systems

 allows export of  
standard content  
in industry formats

- Provision centric exchange format for requirements management
- Fragmentation is level 3 compatible
- Flexible assignment of metadata possible
- Linking of the contents possible



The screenshot shows a software interface with a list of requirements on the left and a table of technical specifications on the right. The requirements list includes sections 5.1, 5.2, 5.3, and 6. The table below is a technical specification table.

Tierart		Zaunhaken in cm und Drahtanzahl		Einkehricht* in kg
		in Reinkohereichen*	fern von Reinkohereichen	
Runde	Milchkühe	F2 (90-60)	E1 (5)	500
	Mutterkühe mit Zuchtkühe und Kälbern	F3 (105-75-45)	E2 (85-60)	500
	Jugendvieh	F3 (105-75-45)	E2 (85-60)	500
Platte	Pferd	F3 (120-75-45)	E2 (105-60)	1000
	Großplatte	F3 (140-100-60)	E2 (120-60)	1000

and Services





**ご清聴、ありがとうございました**

**IEC SG 12 Member**

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