

Meeting of the LF AI & Data Technical Advisory Council (TAC)

June 01, 2023

 LF AI & DATA

Antitrust Policy

- › Linux Foundation meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.
- › Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at <http://www.linuxfoundation.org/antitrust-policy>. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Undergone LLP, which provides legal counsel to the Linux Foundation.

Recording of Calls

Reminder:

TAC calls are recorded and available for viewing on the [TAC Wiki](#)

Reminder: LF AI & Data Useful Links

- › Web site: lfaidata.foundation
- › Wiki: wiki.lfaidata.foundation
- › GitHub: github.com/lfaidata
- › Landscape: <https://landscape.lfaidata.foundation> or <https://l.lfaidata.foundation>
- › Mail Lists: <https://lists.lfaidata.foundation>
- › Slack: <https://slack.lfaidata.foundation>
- › Youtube: <https://www.youtube.com/channel/UCfasaeqXJBCAJMNO9HcHfbA>
- › LF AI Logos: <https://github.com/lfaidata/artwork/tree/master/lfaidata>
- › LF AI Presentation Template: https://drive.google.com/file/d/1eiDNJvXCqSZHT4Zk_-czASlz2GTBRZk2/view?usp=sharing

- › Events Page on LF AI Website: <https://lfaidata.foundation/events/>
- › Events Calendar on LF AI Wiki (subscribe available): <https://wiki.lfaidata.foundation/pages/viewpage.action?pageId=12091544>
- › Event Wiki Pages: <https://wiki.lfaidata.foundation/display/DL/LF+AI+Data+Foundation+Events>

Agenda

- › Roll Call (1 mins)
- › Approval of Minutes from previous meetings (2 mins)
- › Vote on the project lifecycle doc (2 mins)
- › Open Voice Network (25 minutes)
- › Open Discussion

TAC Voting Members - Please note

Please ensure that you do the following to facilitate smooth procedural quorum and voting processes:

- Change your Zoom display name to include your First/Last Name, Company/Project Represented
 - example: Nancy Rausch, SAS
- State your First/Last Name and Company/Project when submitting a motion
 - example: First motion, Nancy Rausch/SAS

TAC Voting Members - Please note

- › TAC members must attend consistently to maintain their voting status
- › After 2 absences voting members will lose voting privileges
- › Voting privileges will only be reinstated after attending 2 meetings in a row

TAC Voting Members

Note: we still need a few designated backups specified on [wiki](#)

with the new attendance and voting rule adopted by the TAC, the number of eligible voting members varies per week and is tracked [here](#). Please see meeting minutes on the [TAC WIKI](#) to

Member Company or Graduated Project	Membership Level or Project Level	Voting Eligibility	Country	TAC Representative	Designated TAC Representative Alternates
4paradigm	Premier	Voting Member	China	Zhongyi Tan	
Baidu	Premier	Voting Member	China	Jun Zhang	Daxiang Dong, Yanjun Ma
Ericsson	Premier	Voting Member	Sweden	Rani Yadav-Ranjan	
Huawei	Premier	Voting Member	China	Howard (Huang Zhipeng)	Charlotte (Xiaoman Hu), Leon (Hui Wang)
Nokia	Premier	Voting Member	Finland	@ Michael Rooke	@ Jonne Soininen
OPPO	Premier	Voting Member	China	Jimmy (Hongmin Xu)	
SAS	Premier	Voting Member	USA	*Nancy Rausch	JP Trawinski
ZTE	Premier	Voting Member	China	Wei Meng	Liya Yuan
Adversarial Robustness Toolbox Project	Graduated Technical Project	Voting Member	USA	Beat Buesser	Kevin Eykholt
Angel Project	Graduated Technical Project	Voting Member	China	Jun Yao	
Egeria Project	Graduated Technical Project	Voting Member	UK	Mandy Chessell	Nigel Jones, David Radley, Maryna Strelchuk, Ljupcho Palashevski, Chris Grote
Flyte Project	Graduated Technical Project	Voting Member	USA	Ketan Umare	
Horovod Project	Graduated Technical Project	Voting Member	USA	Travis Addair	
Milvus Project	Graduated Technical Project	Voting Member	China	Xiaofan Luan	Jun Gu
ONNX Project	Graduated Technical Project	Voting Member	USA	Alexandre Eichenberger	Andreas Fehlner, Prasanth Pulavarthi, Jim Spohrer
Pyro Project	Graduated Technical Project	Voting Member	USA	Fritz Obermeyer	

Minutes approval

Approval of May 4, 2023 Minutes

Draft minutes from the May 4 TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

- › That the minutes of the May 4 meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

Approval of May 18, 2023 Minutes

Draft minutes from the May 18 TAC call were previously distributed to the TAC members via the mailing list

Proposed Resolution:

- › That the minutes of the May 18 meeting of the Technical Advisory Council of the LF AI & Data Foundation are hereby approved.

Project Lifecycle Document approval

Background

- › The LF AI & Data [Project Lifecycle Document](#) outlines and explains the four stages of LF AI & Data project hosting (Sandbox, Incubation, Graduation, and Emeritus), the requirements for each stage, the benefits, and how to transition from one stage to the next.
- › The last approved revision was published in February 2, 2021. Since then we have on boarded over 20 projects into LF AI & Data and gained deep experience on the process.
- › The document has been in review for almost 2 months.
- › We have received many suggestions for improvements. Thank you to all contributors.
- › There has not been any major change in the document. Most of the improvements are in relation to better organizing the information, clearer requirements, more precise listing of the tasks that need to be accomplished to accept projects in each category of incubation, etc.
- › Today, we are seeking a positive vote from the TAC to approved the updated version.

Approval of Project Lifecycle Document

Proposed Resolution:

The updated version of the LF AI & Data Foundation Project Lifecycle Document is hereby approved.

Next Steps:

- › Publish the document on GitHub and the website
- › Promote it via a blog post and our social media accounts



**OPEN VOICE
NETWORK**

Voice worthy of user trust

VOICE ASSISTANCE & CONVERSATIONAL AI

jon.stine@openvoicenetwork.org

Image: Unsplash



THE OPEN VOICE NETWORK AT A GLANCE

3 YEARS OLD.
FOUNDED
JUNE 2020

7 FINANCIALLY
SUPPORTING
ENTERPRISES

47 FRIEND
ENTERPRISES

≈ 150
MONTHLY ACTIVE
PARTICIPANTS

16 NATIONS

15 TIME ZONES

≈ 8
ACTIVE RESEARCH
& DEVELOPMENT
TEAMS

PUBLICATIONS
PODCASTS
BLOGS

INTEROPERABILITY
FIRST SPECIFICATION PUBLISHED
JUNE 2023

TRUSTMARK
INITIATIVE / ETHICAL
USE

EDUCATIONAL COURSE, SELF-
ASSESSMENT TOOL READY JUNE 2023

SYNTHETIC VOICE

HEALTH, WELLNESS,
LIFE SCIENCES

www.openvoicenetwork.org

THE LF COMMUNITY AT THIS INTERSECTION

Interactive Voice Response

Telephony Initiated
NLU-NLP-NLG
Call Center / Data Restricted
Inside the Firewall

Voice Assistance / Channels

Smart assistant initiated
NLU-NLP-NLG
Consumer Services / 3rd Party Apps
Inside the Walled Garden

The future is outside the firewall

NLU-NLP-NLG initiated
Pick-Pack / Transcription
Task Management
Inside the Firewall

Enterprise Operations Voice

No one platform or LM can do it all

Text and NLU-NLP-NLG initiated
LLMs for General Purposes
DSLMS for Brands, Enterprises
In and Outside the Firewall

Generative AI – Language Models



CONVERSATIONAL AI MARKET 2022 - 2030 (\$USD)

\$10.7B -> \$41.4B 23.6% CAGR

THE ENTERPRISE PAINS OF CONVERSATIONAL AI

In this world

In a rapidly-accelerating world of NLU-NLP-NLG and Conversational AI

For this constituency

The Enterprise Users of Conversational AI

And those who serve them

Facing these issues

ABSENCE OF STANDARDS

TAKING OF DATA

BIG TECH WALLED GARDENS

ONE PLATFORM-ASS'T-LLM WON'T DO IT ALL

GEN AI & LLMs WHERE? HOW?

CAN'T CONNECT OUTSIDE FIREWALL

DEEPPAKES AUTHENTICATION

Level playing field. We're all playing by the same rules.

I can reach all my customers with one build.

They can reach me directly regardless of their platform.

My data is my data. My customers' data is their data. We respect data.

It's my brand. I control the CX.

FOR THE EMERGING WORLD OF VOICE / CONVERSATIONAL AI

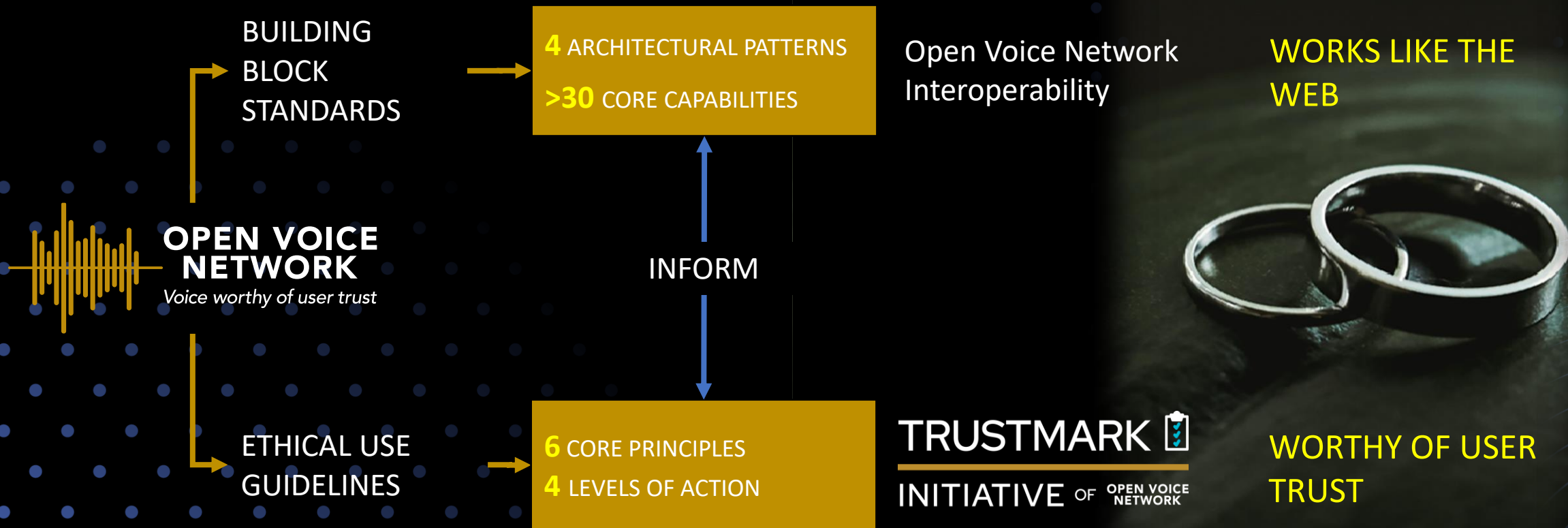


Image: Unsplash

5/31/2023

SHAPING THE EMERGING WORLD

In an era of technological and usage fragmentation

The Interoperability of Conversational Assistants

VOICE THAT WORKS LIKE THE WEB

STANDARDS CAPABILITIES NOW IN DEVELOPMENT

Find

Discovery and location services. Standard metadata.

Authenticate

Authentication of destination assistants across a worldwide system.

Connect

Fulfillment of user intents through the sharing of text, acoustic, semantics.

Protect

User data. Dialog-created data. A Zero Trust security framework.

1st Specification

DIALOG EVENTS

Published
15 June 2023

In an era of generative AI and large language models

The Ethical Use of Conversational Assistance

VOICE WORTHY OF USER TRUST

CONVERSATIONAL AI WORTHY OF USER TRUST

Respect Rights

Legislation and regulation. Personal data. Data ownership.

Promote Values

Transparency. Accountability. Inclusivity. Sustainability.

Original Thinking

Ethical AI best practices applied to the disruptions of conversational AI

TRUSTMARK

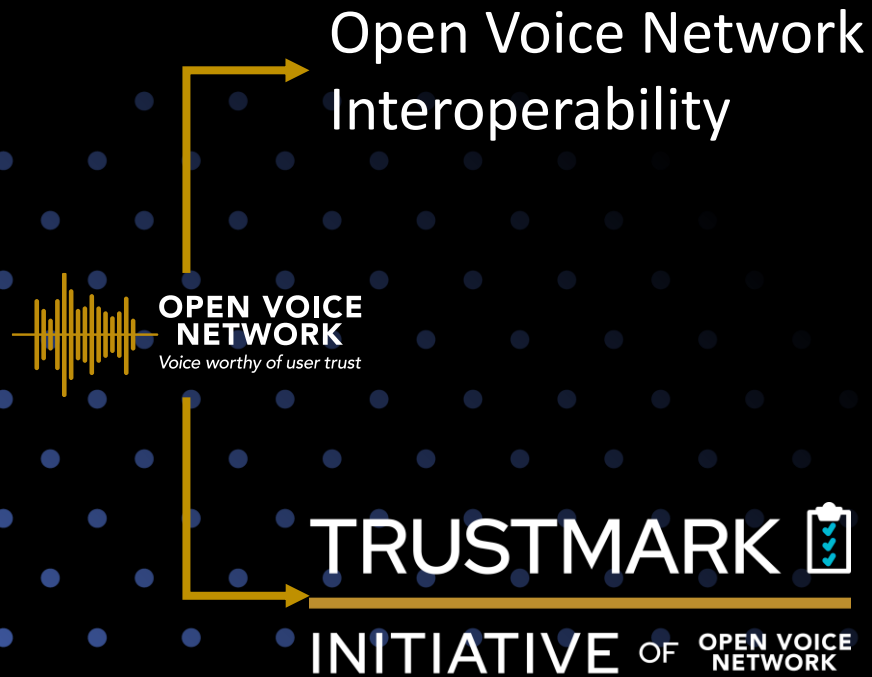
INITIATIVE OF 

Ethics in action. Education, self-assessment tools, growing ecosystem.

POTENTIAL COLLABORATION? POTENTIAL INTEGRATION?

OVON INITIATIVE

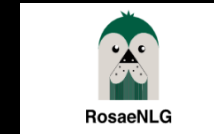
COLLABORATION ? AI & DATA PROJECT



Advise Assistant Identification?



Demonstrate?



Demonstration-test?



Inform-Advise / Collaborate?



Inform-Advise / Collaborate?



Inform-Advise / Collaborate?





Patient

Customer

Client

A COFFEE SHOP IN CAMBRIDGE

Provider

Consumer Brand

Financial Service

Image: Tyler Nix Unsplash

5/31/2023



“This is going to be very important.”

A > \$100 BILLION BRAND CEO-CIO-CDO-CMO

“How do we protect our data?”

Image: Jeremy Burdle Unsplash

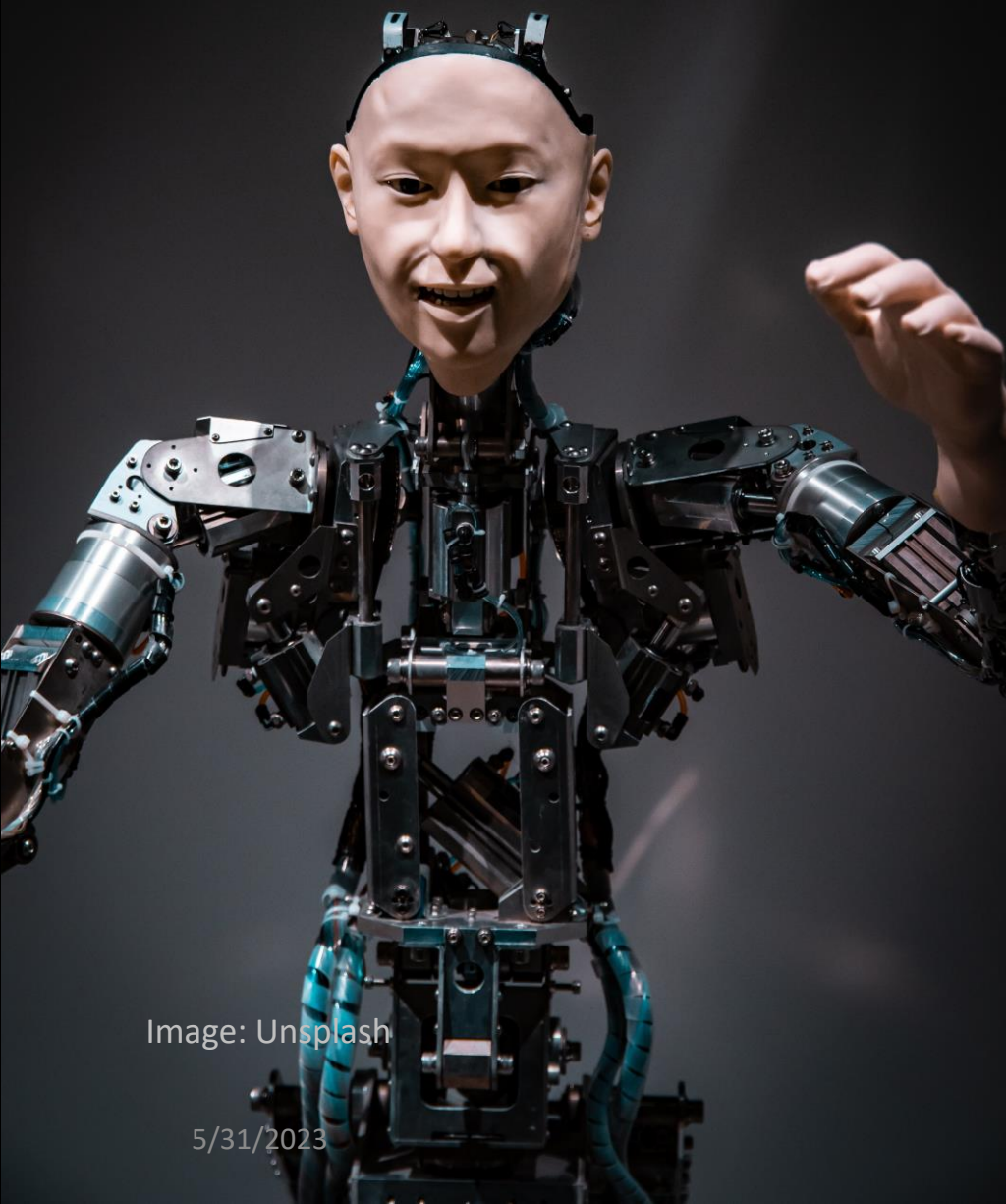


Image: Unsplash

5/31/2023



**OPEN VOICE
NETWORK**

Voice worthy of user trust

SO MUCH HAS
CHANGED.

SO MUCH HAS NOT.



More important tomorrow than today.

VOICE MATTERS

Daily use by >100M American adults, Q2 2022

Image: Open Voice Network iStock; data: Voice Consumer Index, Vixen Labs-Delineate, 2022

5/31/2023





**OPEN VOICE
NETWORK**

Voice worthy of user trust

Your data. Customer data. Interaction data.

DATA MATTERS. ACTIONABLE DATA

Yours, not theirs.

Trustworthy. Accurate.

Image: Unsplash

5/31/2023





One source of truth for all content.

EFFICIENCY MATTERS

One build, one maintenance and upgrade.

Image: Chris Briggs for Unsplash

5/31/2023



IP and Provenance.

TRUST MATTERS

Privacy. Transparency. Accountability. Inclusivity.

Sustainability.





**OPEN VOICE
NETWORK**

Voice worthy of user trust

Interaction data.

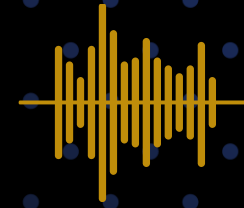
CUSTOMERS MATTER

From their car to your brand.

Image: Unsplash

5/31/2023





**OPEN VOICE
NETWORK**

Voice worthy of user trust

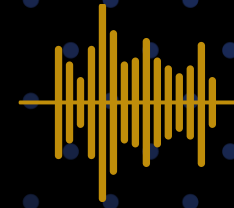
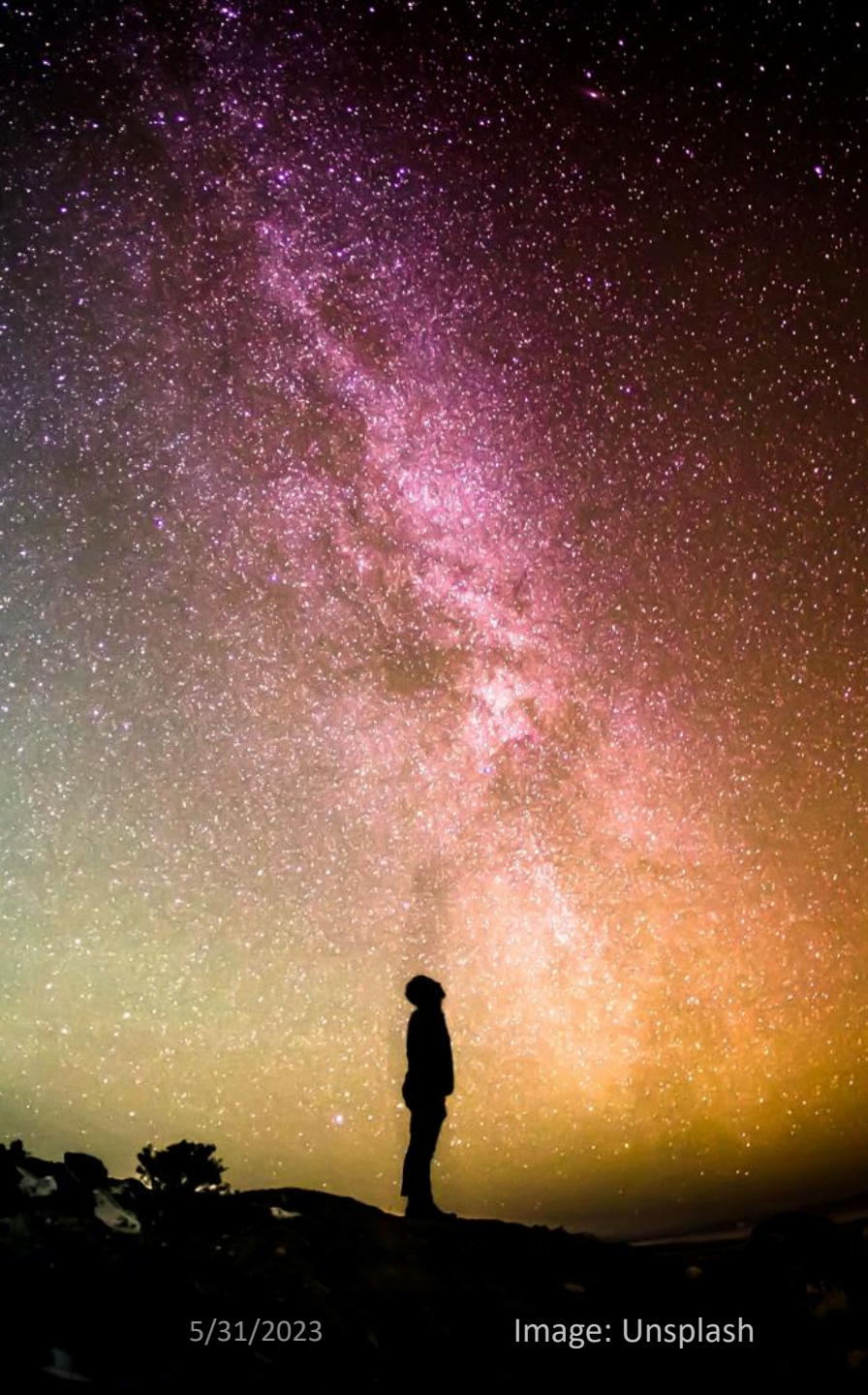
Corporate firewall.

THE FUTURE IS BEYOND THE WALL

Tech platform walled garden.

5/31/2023

[This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)



NO ONE PLATFORM
CHANNEL
LANGUAGE MODEL
WILL DO IT ALL

The era of Conversational AI diversity is here.

Technical Specifications/Protocols

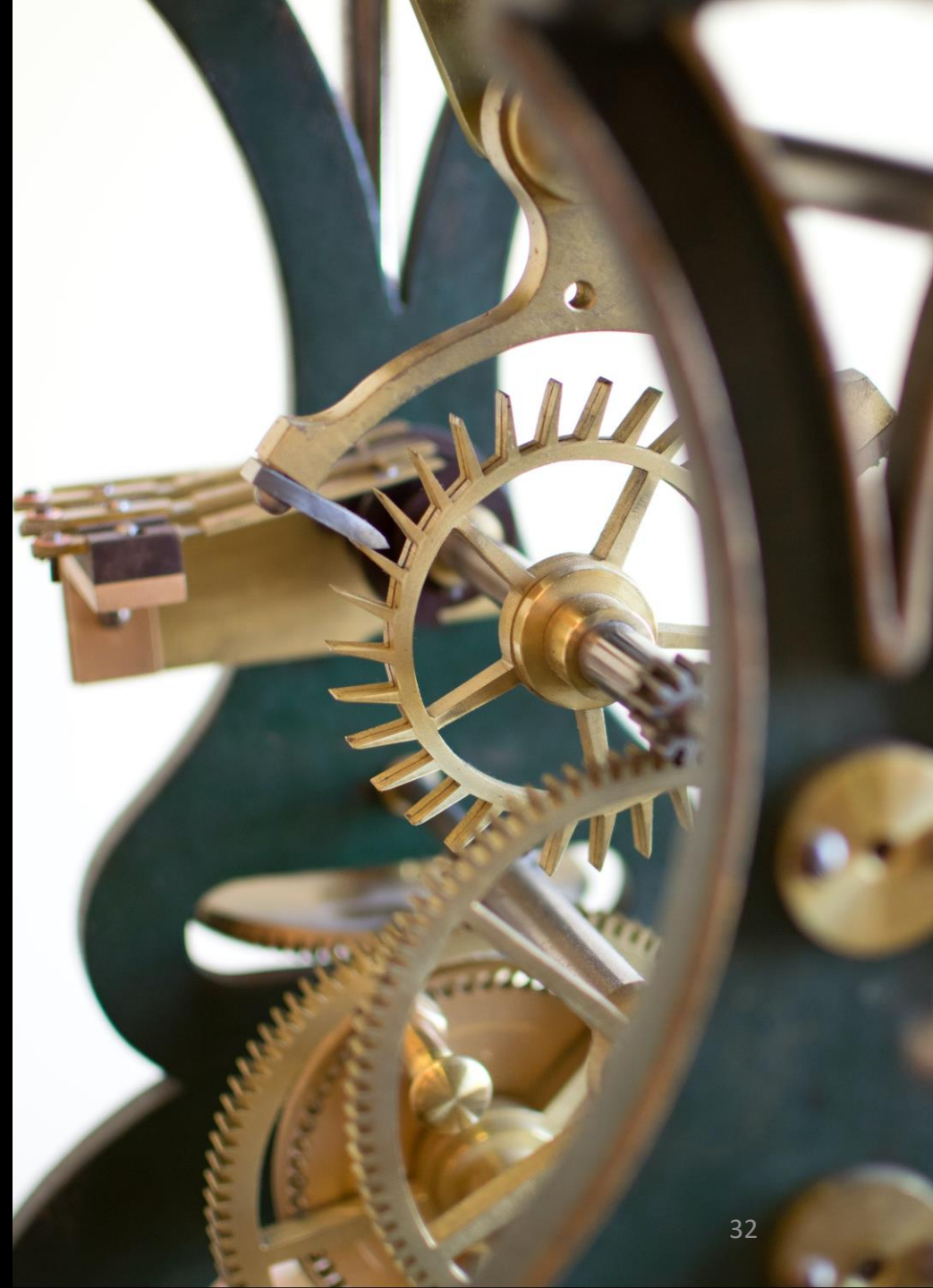
INTEROPERABILITY

A Roadmap of >30 Capabilities

First draft specifications published, demonstrated March 2023

Image: Unsplash

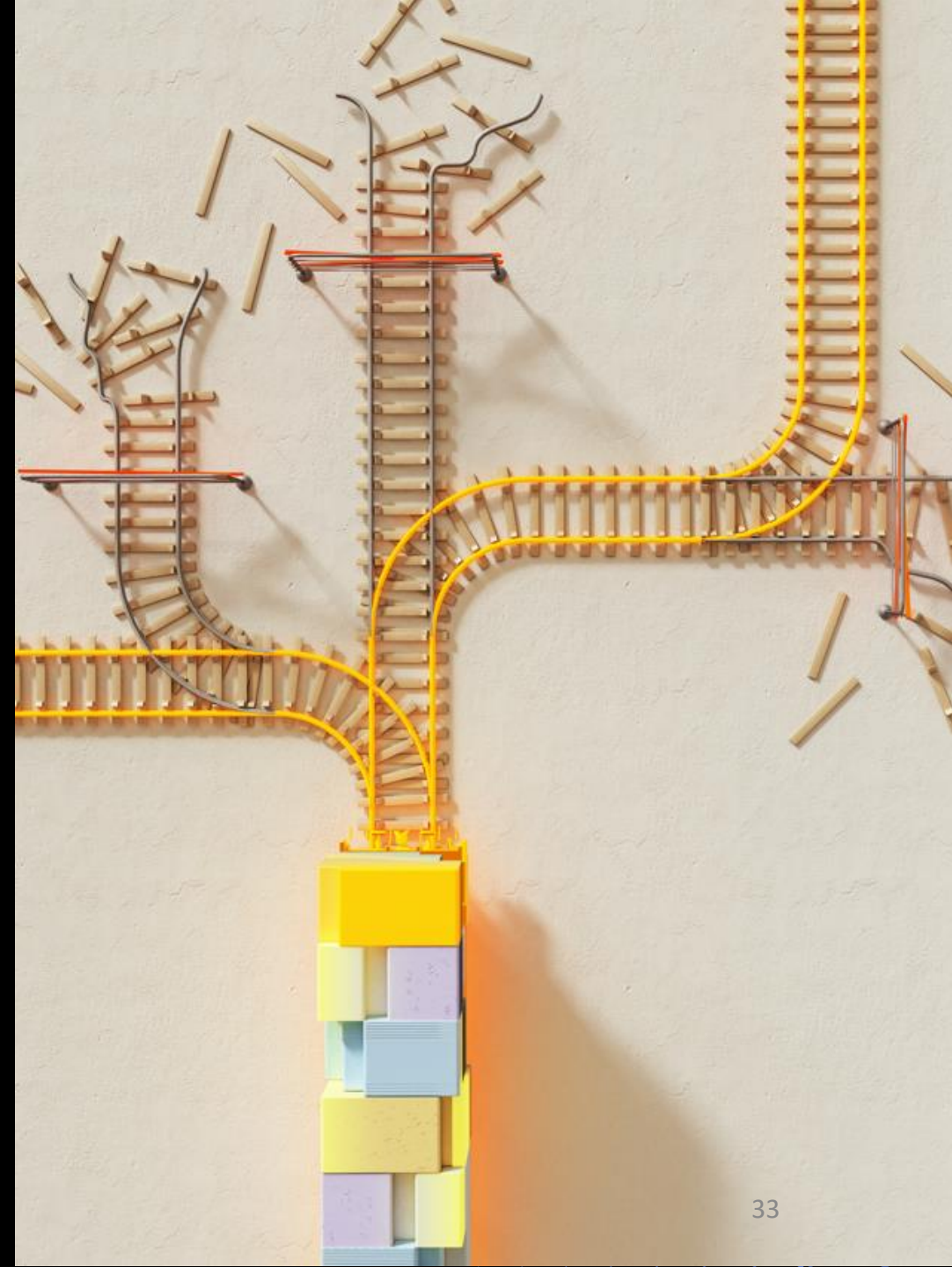
5/31/2023



ETHICAL USE TRUSTMARK

INITIATIVE OF OPEN VOICE NETWORK

Image: Google DeepMind for Unsplash





INTEROPERABILITY



REPUBLIC OF ESTONIA
INFORMATION SYSTEM AUTHORITY

Image: Nikola Johnny Mirkovic Unsplash

5/31/2023



Write code

Define requirements

Advise precedents

NOW'S THE TIME

Ethical principles into practice

Define-envision-document use cases

Support financially





**OPEN VOICE
NETWORK**

Voice worthy of user trust

THANKYOU

The Interoperability Roadmap: Progress as of 2023.05.22 on Clusters and Focus Items

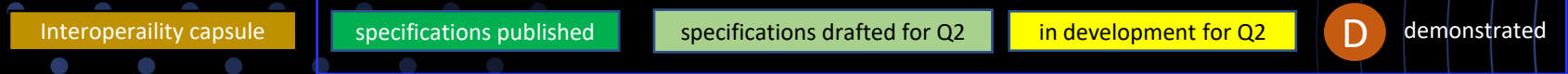
Bold Italics: Consensus priorities

AGENT INTERACTION	EXECUTION CONTROL	TRUST INTEGRITY SECURITY	DATA FLOW	VOICE ECOSYSTEM	DATA INTEGRITY	BUILDING BLOCKS
<i>Interaction Modes</i>	<i>Dialog Error Mgmt</i>	Authentication	<i>Conversation History</i>	Findability	Privacy/data ownership	<i>Dialog Events</i> D
Delegation / Negotiation	Delegation Execution	Identity Management	<i>Context</i>	Discoverability	Access Protection	<i>Inter-agent Protocols</i>
Location	Endpoints	Synthetic Voice Identity Mgmt	Data Sharing	Scalability	Data Traceability	Data Packets
Input / Output Enhancement	Wake Word Management	Hack Protection	Redaction		Data Protection	Metadata Schema
	Liveness Detection	Spoof Protection			IP Rights Protection	Language Prccsing Cmpt Interfaces
					Data Modification	Multimodality

8 of 33 in work (24%)

Anticipated Specification

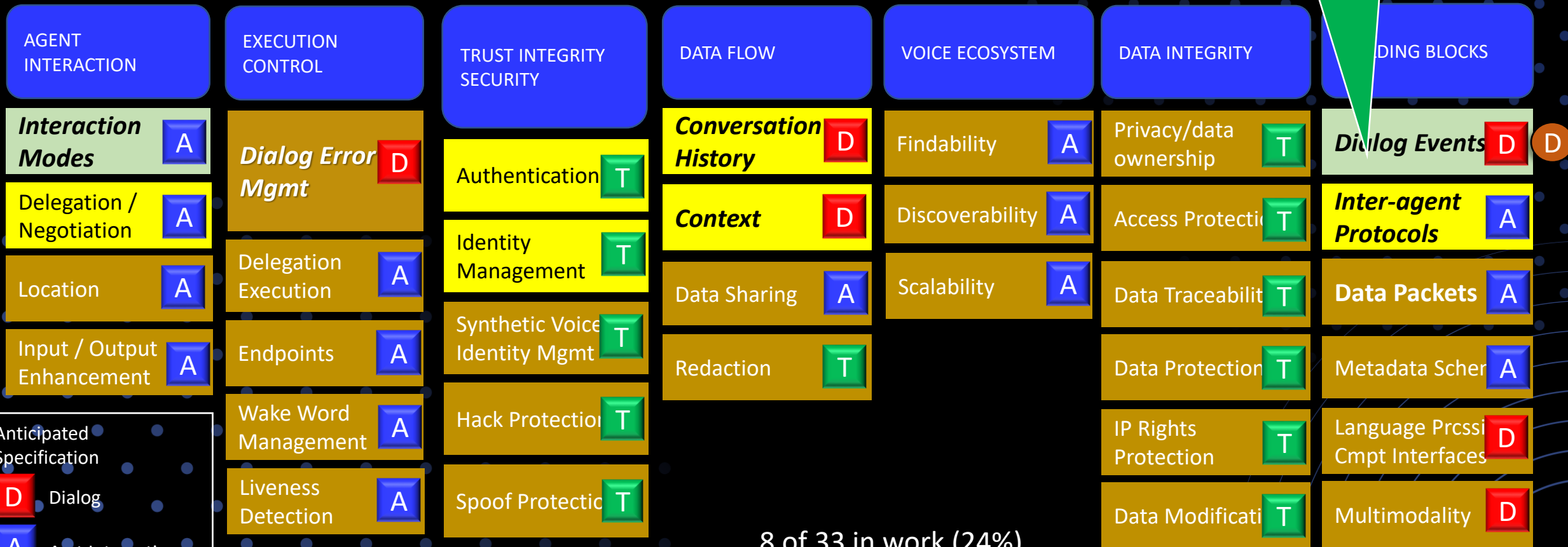
- D Dialog
- A Asst Interaction
- T Trust/Privacy



The Interoperability Roadmap: Progress as of 2023.05.22 on Clusters and Focus Items

Publish 1.0 specification Jun 2023 **D**

Bold Italics: Consensus priorities



Anticipated Specification

D Dialog

A Asst Interaction

T Trust/Privacy

8 of 33 in work (24%)





Privacy – Conversational AI systems should deliver utility to users within publicly-stated parameters, and ensure that information on users is not leveraged beyond its intended purpose.

Inclusivity– Conversational AI systems should be designed to bring people in, not shut them out, and thus should be equipped as necessary to accommodate underrepresented populations as well as they do overrepresented populations.

Accountability – All stakeholders working to create conversational AI systems are accountable for the process of creating them, as well as the outcomes they cause.

Transparency – Users of conversational AI systems have the right to understand how their data is being used and how any conversational AI system is making decisions.

Sustainability – Conversational AI systems, whether in ongoing functionality or in their development, should not compromise the economic, social, or environmental sustainability of our shared future.

Compliance – Conversational AI systems should not merely align with an abstract sense of morality and ethics but should also comply in absolute terms with current laws and regulations.

TRUSTMARK

INITIATIVE OF OPEN VOICE NETWORK

- Foundational ethical principles of conversational AI
- Public display of support on OVON TrustMark Initiative website

ENDORSEMENT

- Online and in-person training courses for Individuals
- OVON TrustMark Initiative Advocate badge
- Online courses offered through the Linux Foundation

EDUCATION

- Ethical Guidelines self assessment and maturity model for organizations
- OVON TrustMark Organizational Advocate badge

EVIDENCE

- Published best practices and guidelines
- Technical standards for privacy protection, voice synthesis, etc. in the new interoperable world
- Potential: use of neutral OVON content by third-parties for independent audits

INTENTION

PRIVACY * TRANSPARENCY * ACCOUNTABILITY * INCLUSIVITY * SUSTAINABILITY * COMPLIANCE

Upcoming TAC Meetings

 **DLF** AI & DATA

Upcoming TAC Meetings

- › June 15 – EthicalAI from Fujitsu, new Sandbox project proposal
- › June 29 – Recommenders, new Sandbox project proposal

Please note we are always open to special topics as well.

If you have a topic idea or agenda item, please send agenda topic requests to tac-general@lists.lfaidata.foundation

Open Discussion

 **OLF** AI & DATA

TAC Meeting Details

- › To subscribe to the TAC Group Calendar, visit the wiki:
<https://wiki.lfaidata.foundation/x/cQB2> _____
- › Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/430697670>
- › Or iPhone one-tap:
 - › US: +16465588656,,430697670# or +16699006833,,430697670#
- › Or Telephone:
 - › Dial(for higher quality, dial a number based on your current location):
 - › US: +1 646 558 8656 or +1 669 900 6833 or +1 855 880 1246 (Toll Free) or +1 877 369 0926 (Toll Free)
- › Meeting ID: 430 697 670
- › International numbers available: <https://zoom.us/u/achYtcw7uN>

Legal Notice

- › The Linux Foundation, The Linux Foundation logos, and other marks that may be used herein are owned by The Linux Foundation or its affiliated entities, and are subject to The Linux Foundation's Trademark Usage Policy at <https://www.linuxfoundation.org/trademark-usage>, as may be modified from time to time.
- › Linux is a registered trademark of Linus Torvalds. Please see the Linux Mark Institute's trademark usage page at <https://lmi.linuxfoundation.org> for details regarding use of this trademark.
- › Some marks that may be used herein are owned by projects operating as separately incorporated entities managed by The Linux Foundation, and have their own trademarks, policies and usage guidelines.
- › TWITTER, TWEET, RETWEET and the Twitter logo are trademarks of Twitter, Inc. or its affiliates.
- › Facebook and the "f" logo are trademarks of Facebook or its affiliates.
- › LinkedIn, the LinkedIn logo, the IN logo and InMail are registered trademarks or trademarks of LinkedIn Corporation and its affiliates in the United States and/or other countries.
- › YouTube and the YouTube icon are trademarks of YouTube or its affiliates.
- › All other trademarks are the property of their respective owners. Use of such marks herein does not represent affiliation with or authorization, sponsorship or approval by such owners unless otherwise expressly specified.
- › The Linux Foundation is subject to other policies, including without limitation its Privacy Policy at <https://www.linuxfoundation.org/privacy> and its Antitrust Policy at <https://www.linuxfoundation.org/antitrust-policy>. each as may be modified from time to time. More information about The Linux Foundation's policies is available at <https://www.linuxfoundation.org>.
- › Please email legal@linuxfoundation.org with any questions about The Linux Foundation's policies or the notices set forth on this slide.