



## The Future of Languages

### Scan Club output for December 2021

On December 2021, the Human Resources Innovation Foresight Team (“HRI”) hosted its monthly Scan Club on “The Future of Languages”. Participants from across the Government of Canada participated in the hour and a half activity.

HRI provided participants with three specific “Weak Signals”:

- [Ditidaht First Nation App Teaches Language to Kids Through Games](#)
- [Eternals’ Deaf Hero Leads to Increased Interest in Learning Sign Language](#)
- [Cambridge Quantum Makes Quantum Natural Language Processing a Reality](#)
- [Microsoft Teams will soon offer live transcription and translation on their platforms](#)
- [Speechmatics Pushes Forward Recognition of Accented English](#)

Participants then discussed the importance of these signals and their potential impact on the Federal Public Service.

The following infographics summarize each Weak Signal and organizes the participant’s insights and discussions into various areas of implications using a [STEEPV framework](#).

Visit HRI at:

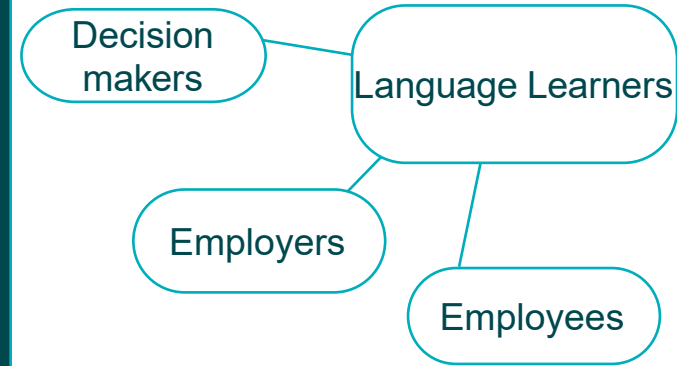
- GC-wiki: [https://wiki.gccollab.ca/EDSC\\_Innovation\\_RH\\_-\\_HR\\_Innovation\\_ESDC](https://wiki.gccollab.ca/EDSC_Innovation_RH_-_HR_Innovation_ESDC)
- GC-collab: <https://gccollab.ca/groups/profile/928221/esdc-human-resources-innovation-innovation-en-ressources-humaines-de-edsc>

## Ditidaht first nation app teaches language to kids through games

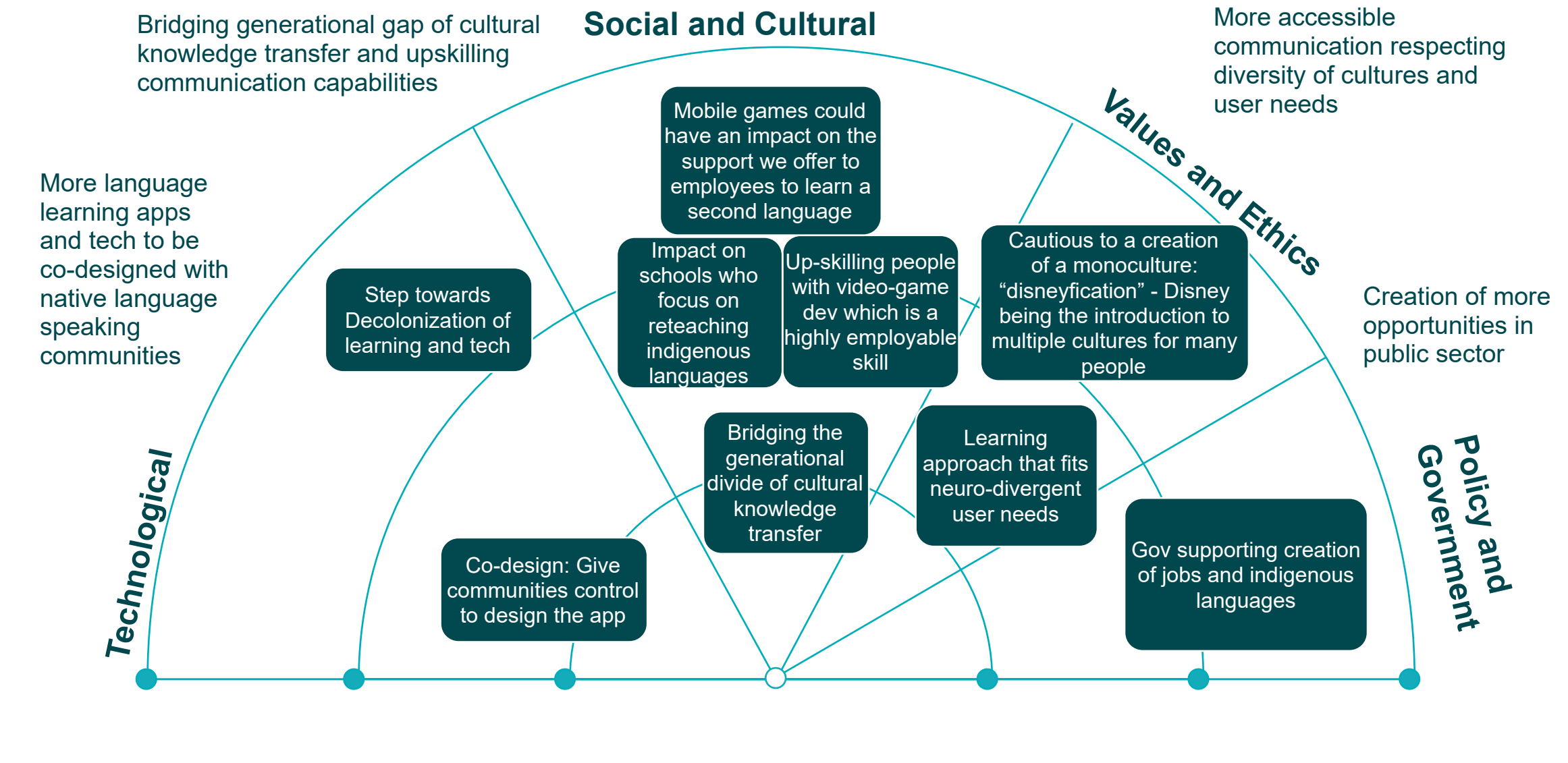


Vancouver Island's Ditidaht First Nation is both preserving their language for future generations and making it much easier for children (and adults) to learn it with a new mobile app. The Nation's app, Ditidaht Kids, teaches its centuries-old language to users through a game that takes them on a canoe trip through the nation's territory. Throughout the game, players learn about the Ditidaht's language, stories and songs.

### Who's impacted?



### So what? How may this impact us in the future?



### Conclusion:

While gamified learning methodologies are not new, using them to preserve and restore languages and decolonize traditional curricula is novel and a method for Indigenous and non-Indigenous children to learn about Indigenous history and culture. Such approaches to teaching could help bridge the generational gap of cultural knowledge transfer in communities and upskilling communication capabilities for individuals.

### References:

[B.C. First Nation app revitalizing Indigenous language with modern approach | CTV News](#)

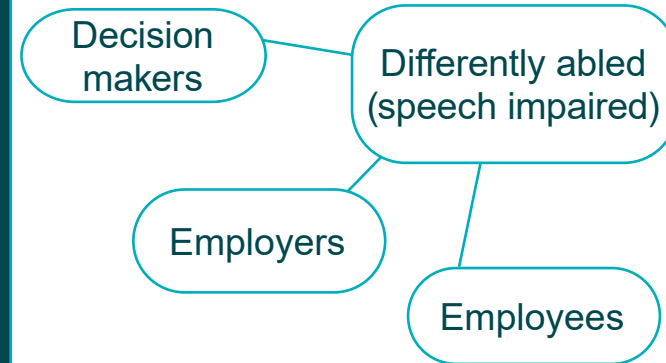


## Eternals' Deaf Hero Leads To Increased Interest In Learning Sign Language

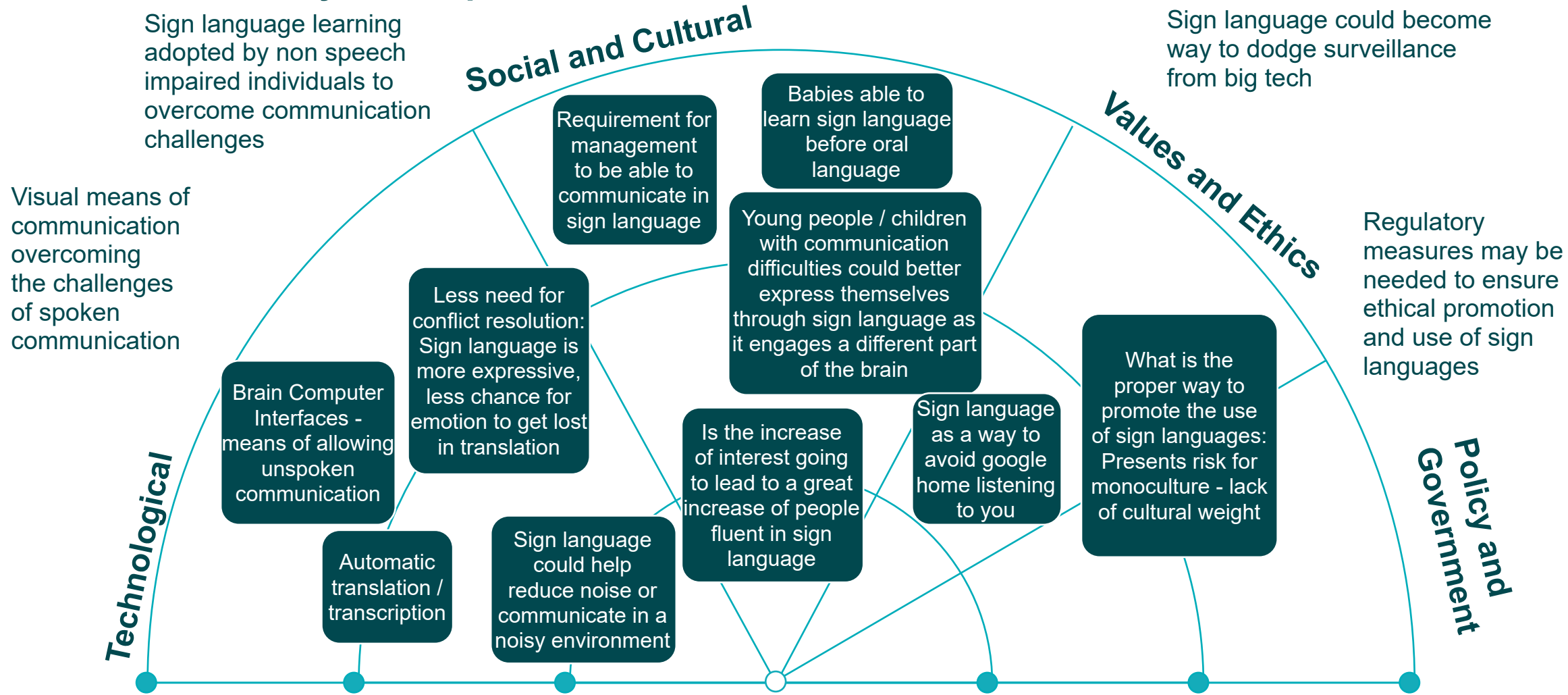


A recent study conducted by Preply has found that the movie Eternals' character Makkari, the first Deaf superhero, has led to a 250% increase in the number of people looking to learn sign language. Makkari is Marvel's first Deaf superhero, played by Deaf actor Lauren Ridloff.

### Who's impacted?



### So what? How may this impact us in the future?



### Conclusion:

With movies like Eternals giving a platform to a previously under-represented group in the film, the increase in people looking to learn sign language shows just how powerful the entertainment industry can be today. Since most of the audience of such movies belongs to younger generations, this also demonstrates how popular culture can profoundly affect children's interest and willingness to learn. Consider films like "A Quiet Place" or "Dune" that showcase sign language as a dominant form of communication. This surge in people learning sign language can lead to a series of disruptions to the way we communicate, the Official Languages Act, school curriculums, diversity and inclusion and more.

### References:

[Eternals' Deaf Hero Leads To Increased Interest In Learning Sign Language \(screenrant.com\)](https://www.screenrant.com/eternals-deaf-hero-sign-language/)



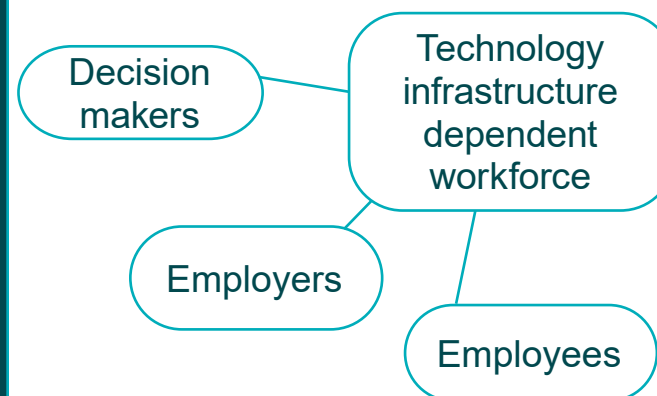


## Cambridge quantum makes Quantum Natural Language Processing a reality

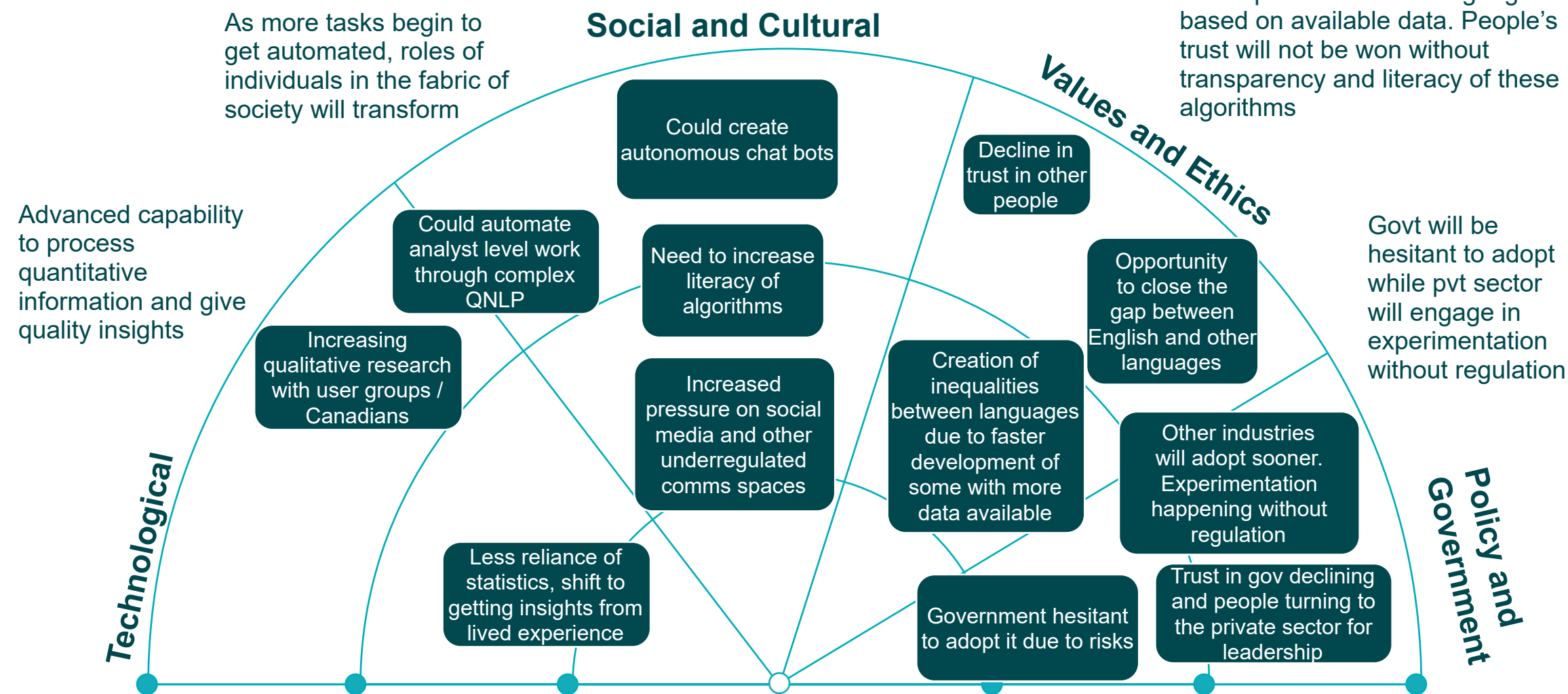


Last month, Cambridge Quantum (“CQ”) announced the release of the world’s first toolkit and library for Quantum Natural Language Processing (“QNLP”). The Lamberg toolkit is one of its first toolkits that can turn our theoretical understanding of QNLP into practical use—advancing from the traditional binary sequencing into quantum computations with little processing power.

### Who’s impacted?



### So what? How may this impact us in the future?



### Conclusion:

As advancements in Quantum become more prevalent within our society, we can expect an increase in automated roles within organizations and businesses. Leaders within organizations may eventually depend on quantum computing tools like Lamberg to synthesize information and make informed decisions within minutes.

### References:

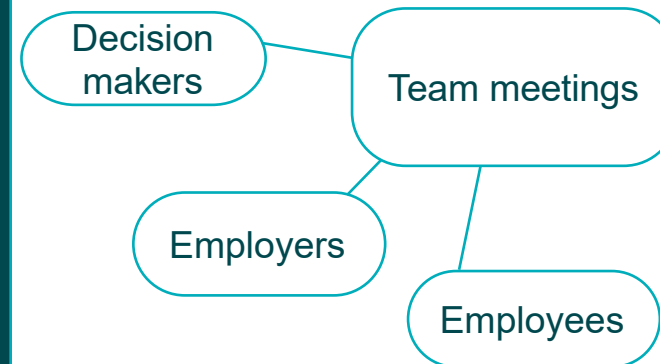
[Cambridge Quantum Makes Quantum Natural Language Processing A Reality](#)

## Microsoft Teams will soon offer live transcription and translation on their platforms

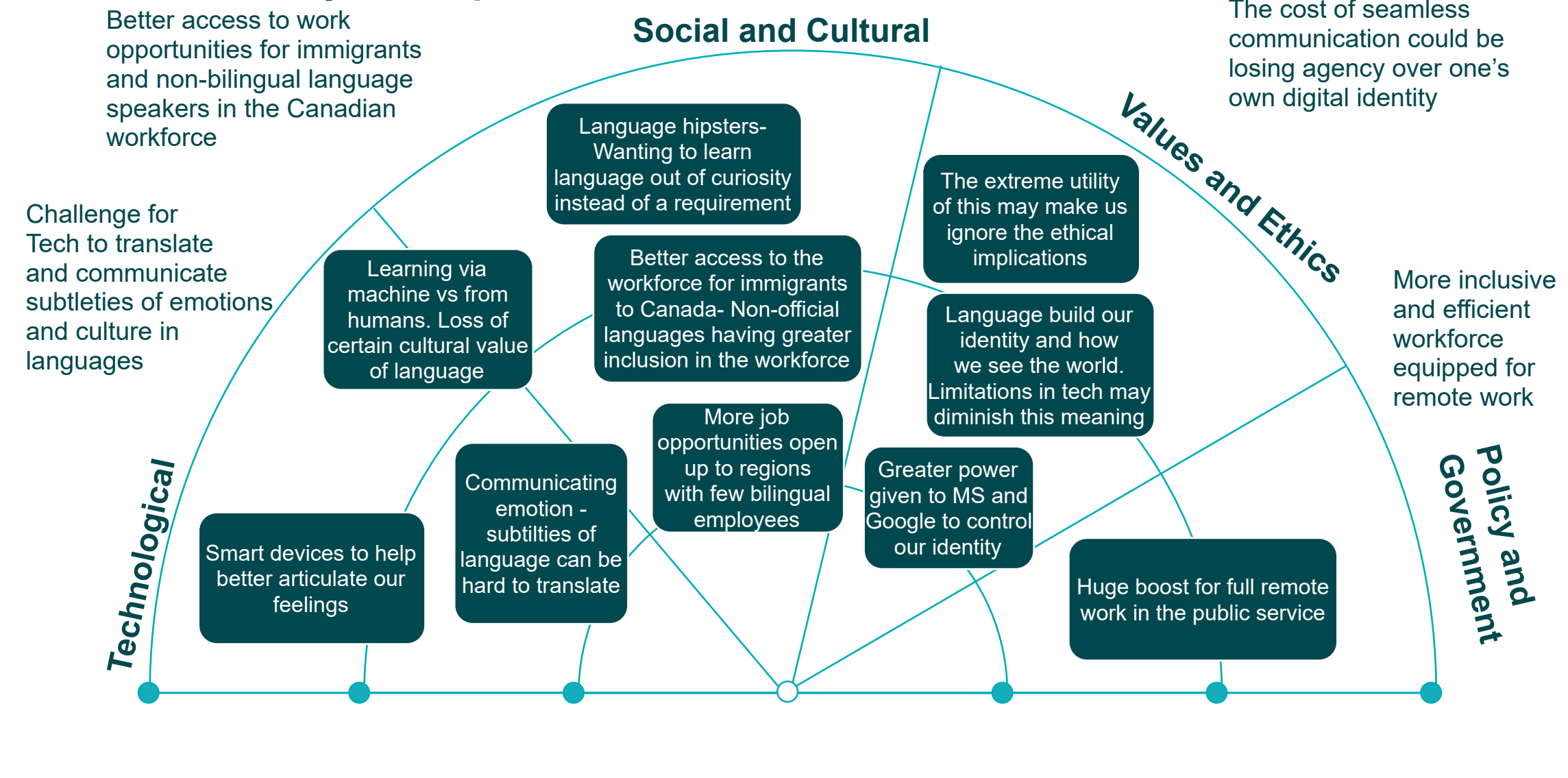


During Microsoft's Ignite event in early November, they displayed demos of AI-powered Microsoft Mesh. Microsoft Mesh is a platform that aims to enhance hybrid workforce solutions through their version of the metaverse. In the first half of 2022, Teams is expected to release 3D avatars that users can opt to use instead of being on camera. Microsoft highlighted live translation and transcription support, which will be built into Mesh to help overcome language barriers. This builds upon ongoing work to improve language and dialect support on Microsoft's suite of office programs.

### Who's impacted?



## So what? How may this impact us in the future?



## Conclusion:

Advanced translation and transcription technologies, like Microsoft Mesh, can provide newcomers and non-bilingual public servants and prospective candidates access and opportunities. Breaking down language barriers in the workplace will allow better collaboration with individuals with different linguistic backgrounds. Seamless communication could also make digital and virtual frontline service delivery models more feasible, enabling an even more dispersed Public Service. However, the cost of seamless communication could be losing agency over one's own digital identity as the powerful utility of such advanced translation and transcription technologies might blindside employers against their ethical implications.

## References:

[Microsoft Teams enters the metaverse race with 3D avatars and immersive meetings - The Verge](#)

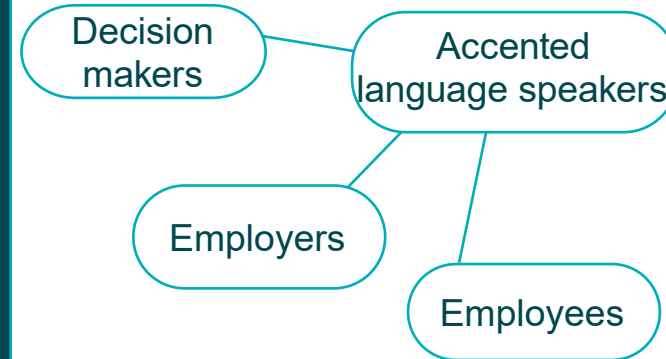


## Speechmatics pushes forward recognition of accented English



Recent speech recognition technology has struggled to recognize voices from different groups of people. Speechmatics boasts the ability to more accurately identify Black American speakers, children's voices, and other English speakers with international accents such as Indian, Filipino and South African.

### Who's impacted?



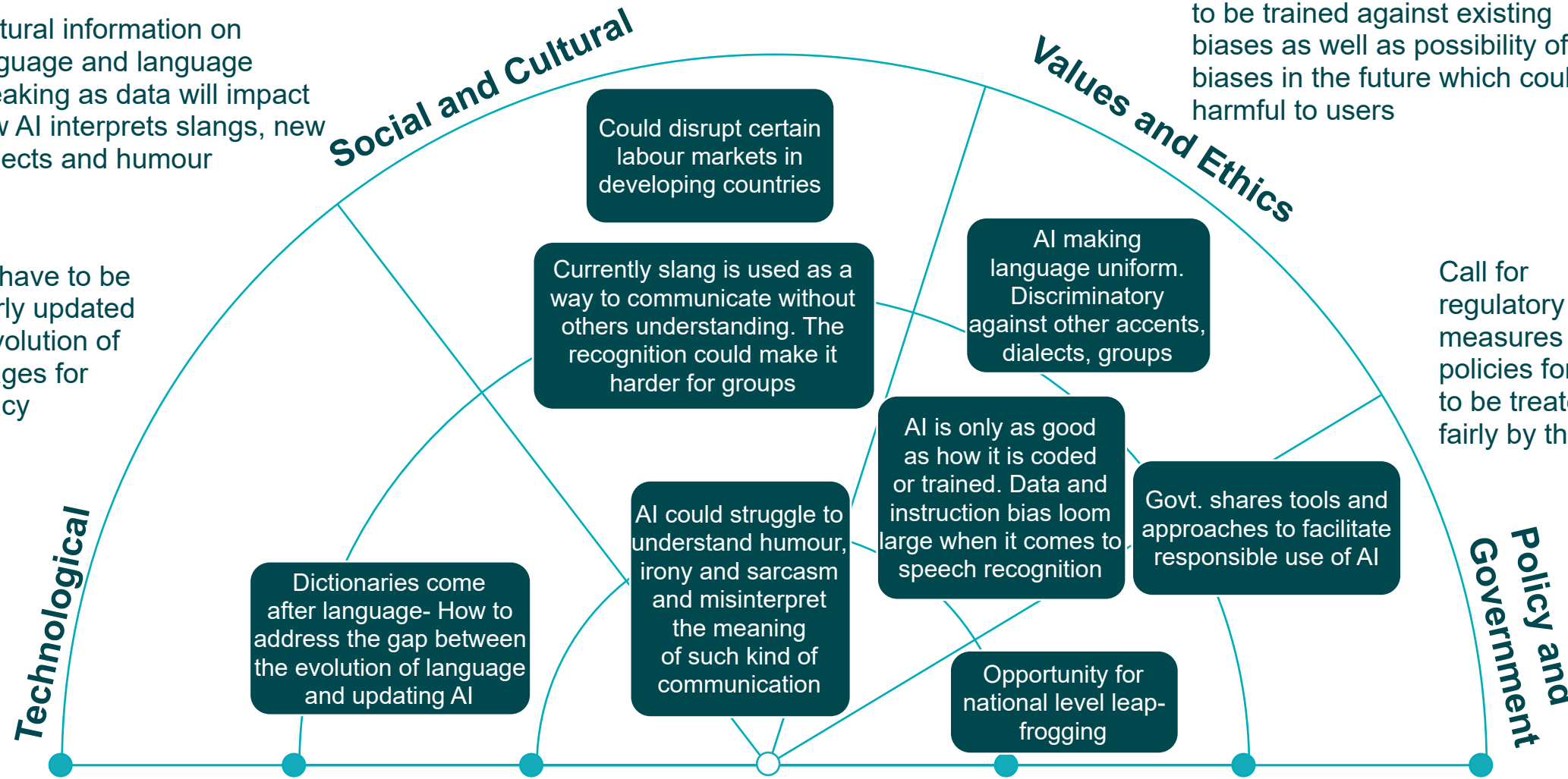
### So what? How may this impact us in the future?

Cultural information on language and language speaking as data will impact how AI interprets slangs, new dialects and humour

AI will have to be regularly updated with evolution of languages for accuracy

Technology development will have to be trained against existing biases as well as possibility of new biases in the future which could be harmful to users

Call for regulatory measures and policies for all to be treated fairly by the AI



### Conclusion:

Speechmatics may be ahead in the metrics it cites, but the AI world moves incredibly rapidly. Inclusion is an integral part of all AI work these days, and it's good to see companies trying to outdo each other in it. Google, for instance, is hard at work on making sure its engines work for people with impaired speech. Cultural information on language and language speaking as data will impact how AI interprets slang, new dialects and humour. So, AI technology, progression and success cannot take precedent over fairness and equity and will have to be regularly updated and trained against socio-cultural biases, which could be harmful to users. Powerful institutions like the government could share tools and approaches to facilitate the responsible use of AI while attempting to regulate this innovation space.

### References:

- [Speechmatics pushes forward recognition of accented English | TechCrunch](#)
- [Related: Google tests Project Relate, a voice recognition and synthesis app for people with speech impairments \(yahoo.com\)](#)