



Post-Development Phase: Information & Communication Technology Standard & Artificial Intelligence Technical Guide

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The ancestral and traditional territories of the Mississaugas of the Credit, the Haudenosaunee, the Anishinaabe & the Huron-Wendat



The most difficult domain to regulate...

- Exponential rates of change
- Enormous diversity and complexity of barriers
- Requires innovation to address accessibility
- Industry dependent on problems
- Designers and developers not in regulating jurisdiction



ASC Standards:

- 1. [Information and Communication](#)
Technology Products and Services
- 2. [Accessible and Equitable Artificial Intelligence](#)

Canada has recently adopted
EN 301 549: the European standard for
accessibility of ICT products and services



The standard is based on functional performance statements



Functional Performance Requirements

- Usage without vision
- Usage with limited vision
- Usage without perception of colour
- Usage without hearing
- Usage with limited hearing
- Usage with no or limited vocal capability
- Usage with limited manipulation or strength
- Usage with limited reach
- Minimize photosensitive seizure triggers
- Usage with limited cognition, language, or learning
- Privacy

These broad functional performance statements are supported with general and specific requirements



Requirements to support functional performance

- Generic requirements
- ICT with two-way voice communication
- ICT with video capabilities
- Hardware
- Web
- Non-web documents
- Software
- Documentation and support services
- ICT providing relay or emergency service access



Benefits of Collaboration

- Improves compliance
- Ease of update when responsibility distributed
- Ease of training, awareness, support resources
- Requires WCAG compliance and compatible with provincial standards

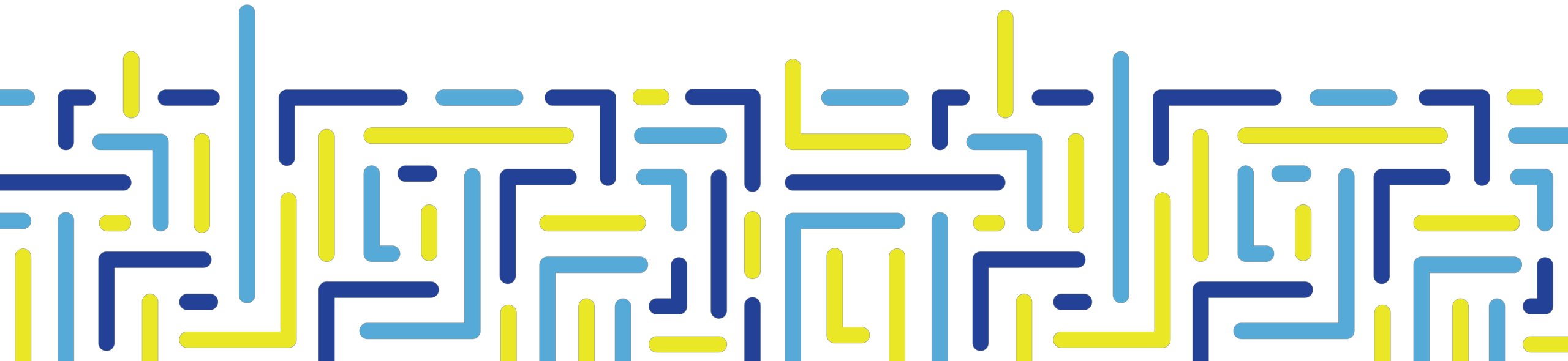


Moving directly into harmonized refresh with EU

- Addressing cognitive access barriers
- Reframing functional performance requirements as functional accessibility requirements:
 - Where visual modes of presentation are provided
 - Where auditory modes of presentations are provided
 - Where speech is required to operate a function
 - Where manual dexterity is required for operation
 - Where hand strength is required for operation
 - Etc.



Accessible and Equitable AI Standard



Why is this needed?



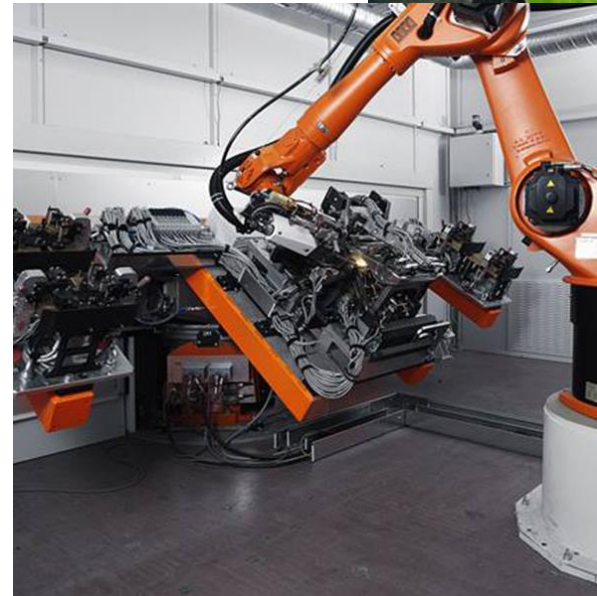
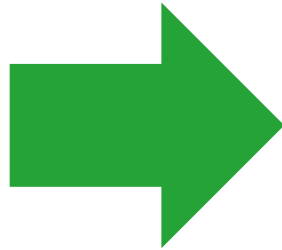
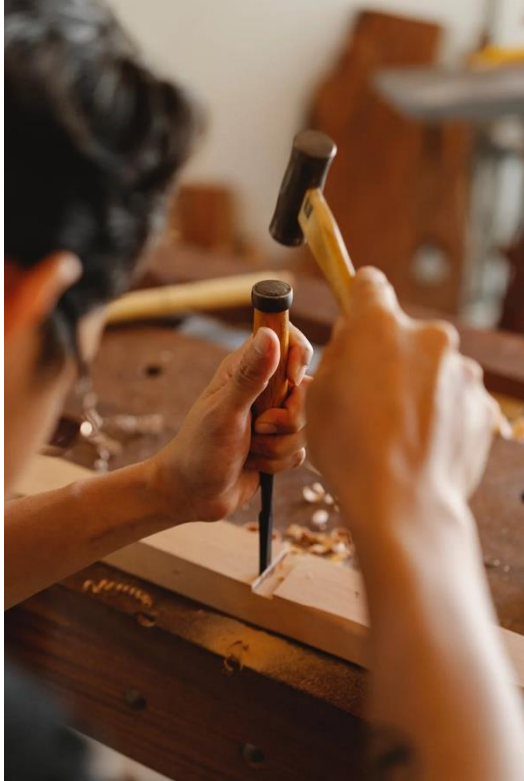
If you have a disability the opportunities and risks are at the extremes



AI is a powerful statistical reasoning machine...

feeding on available data

a power tool...



More
efficiently,
accurately,
consistently...



Statistically finding or producing the...

- typical
popular
normative
predictable
statistically average

Generations of AI

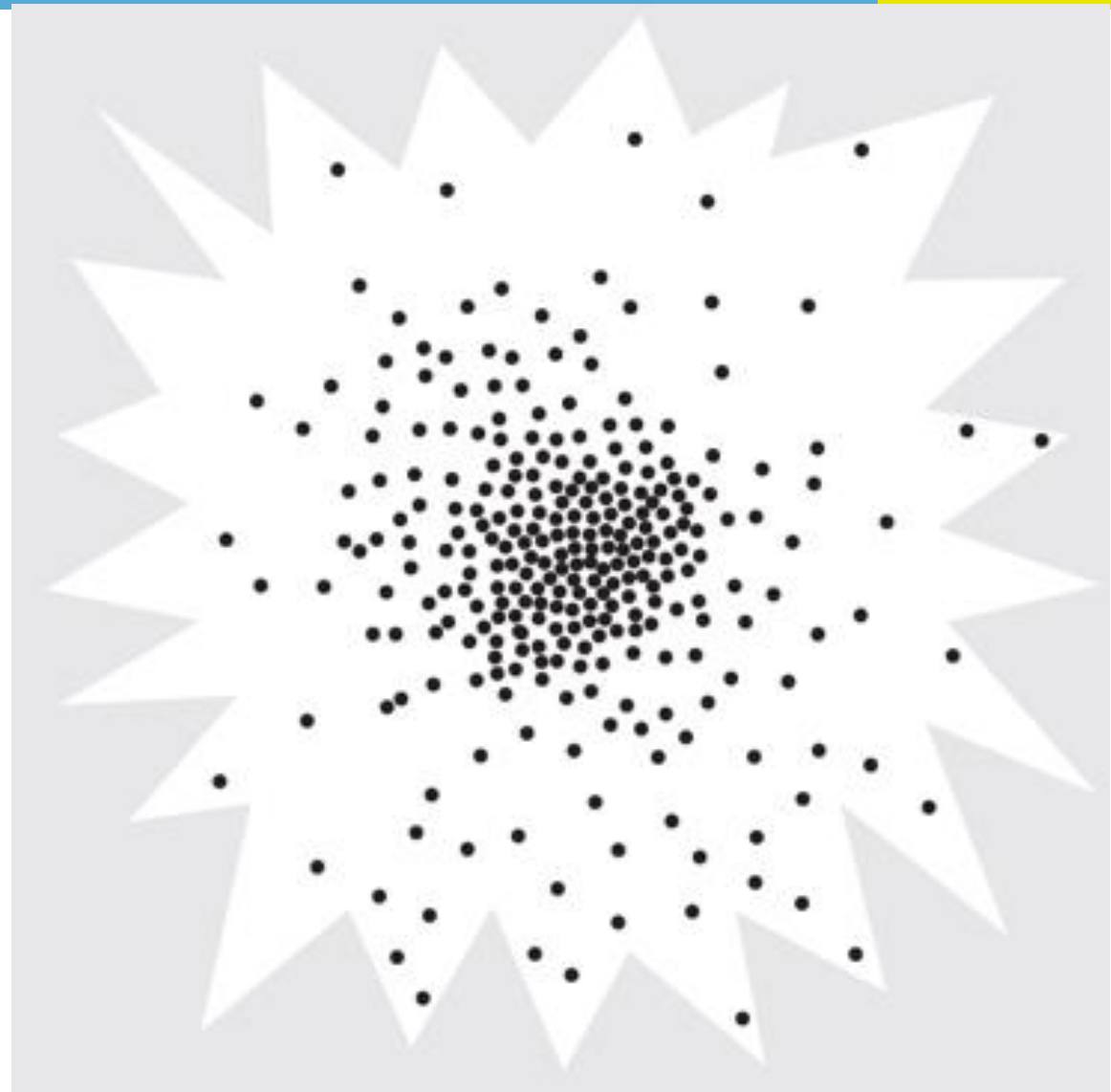
- **First:** “here are the rules, follow them literally and accurately”
- **Second:** “here is available data, use statistical reasoning to optimize the selected metrics”
- **Third:** “here is all the data we have, you figure it out and make new connections and determine weights based on past relationships and possible combinations.”

What are the data patterns that AI is amplifying, accelerating and automating?

Disability & data...



Our human starburst...



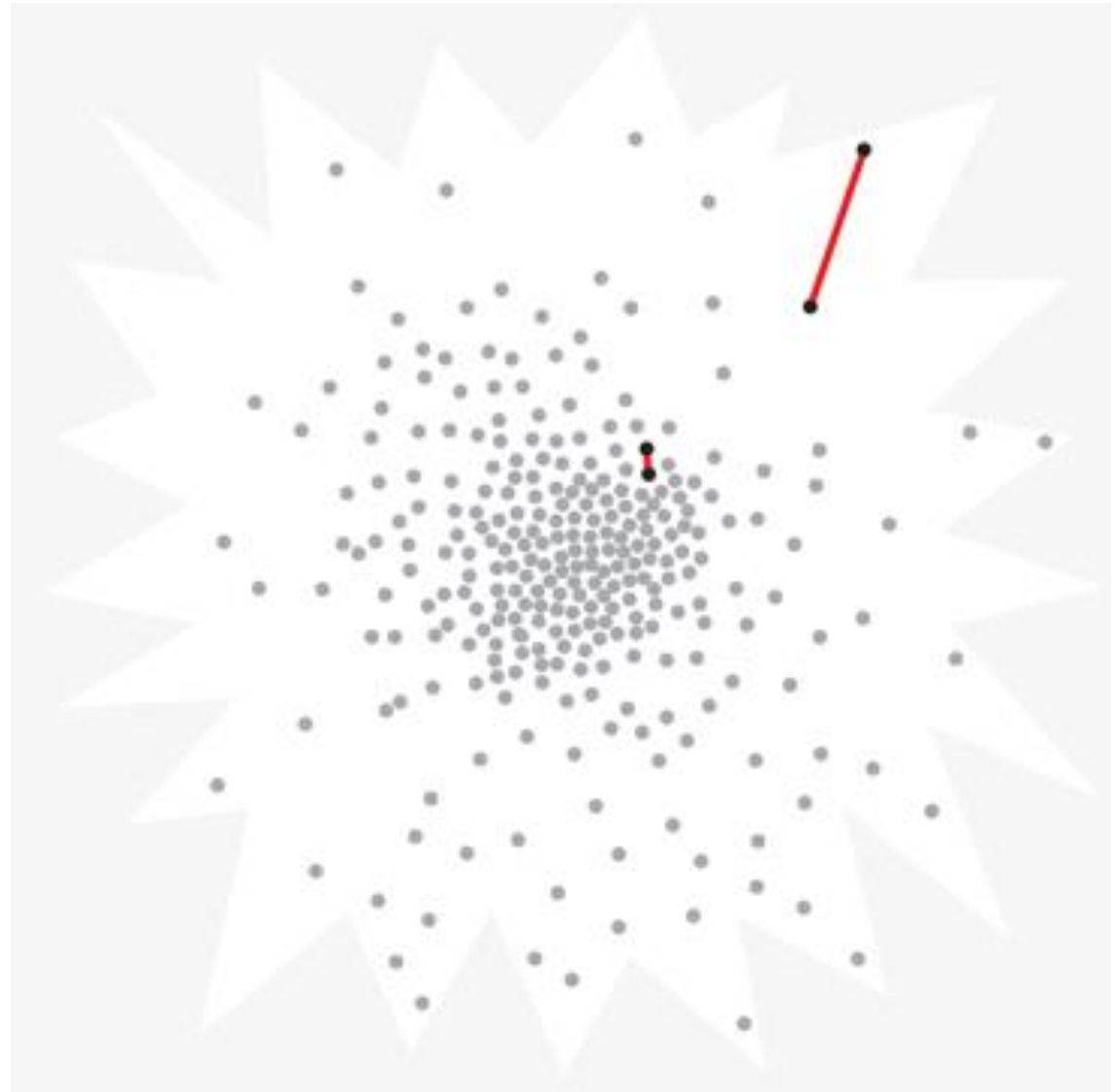
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Accessibility Standards
Canada

Canada

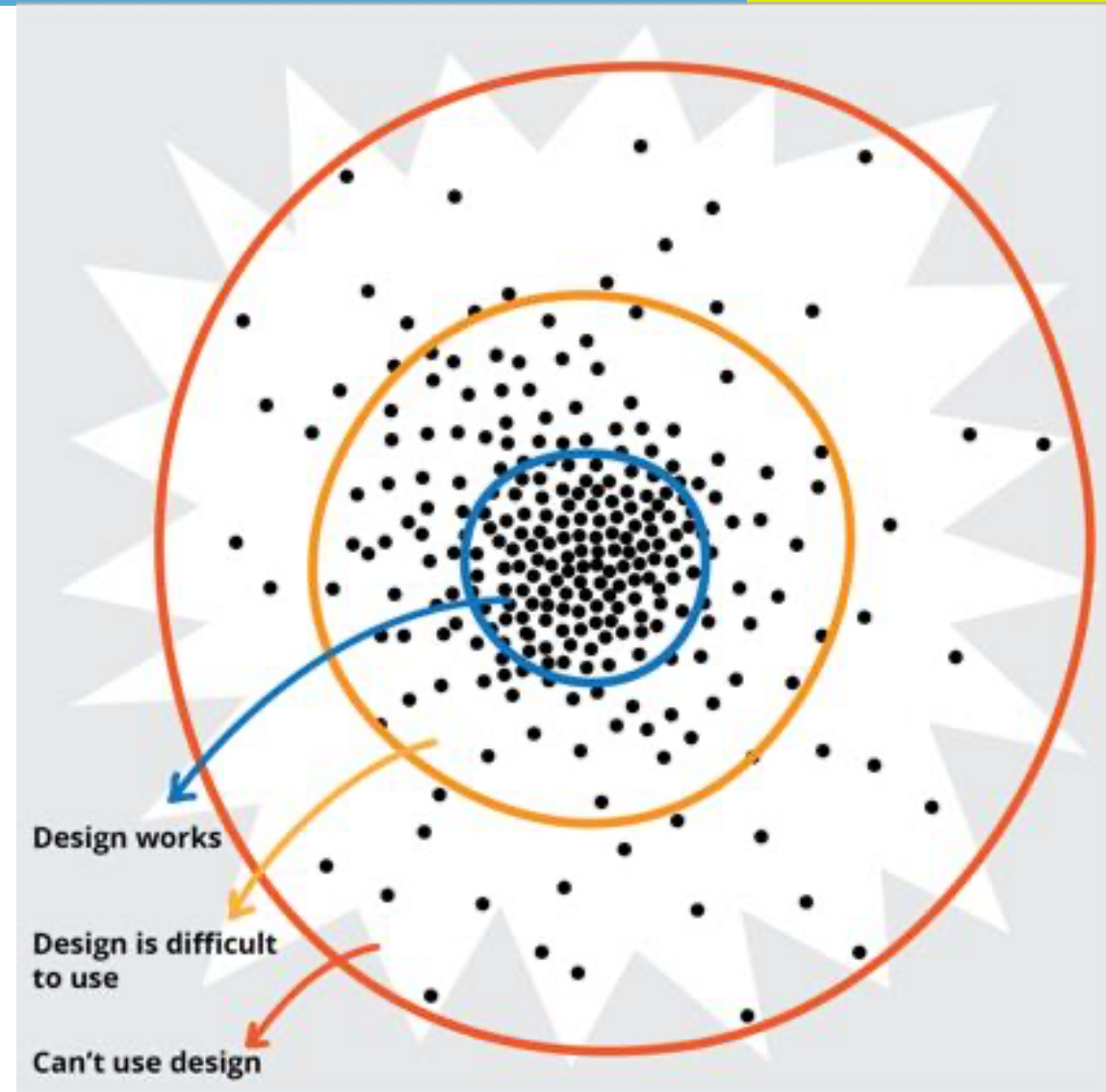
Difference...



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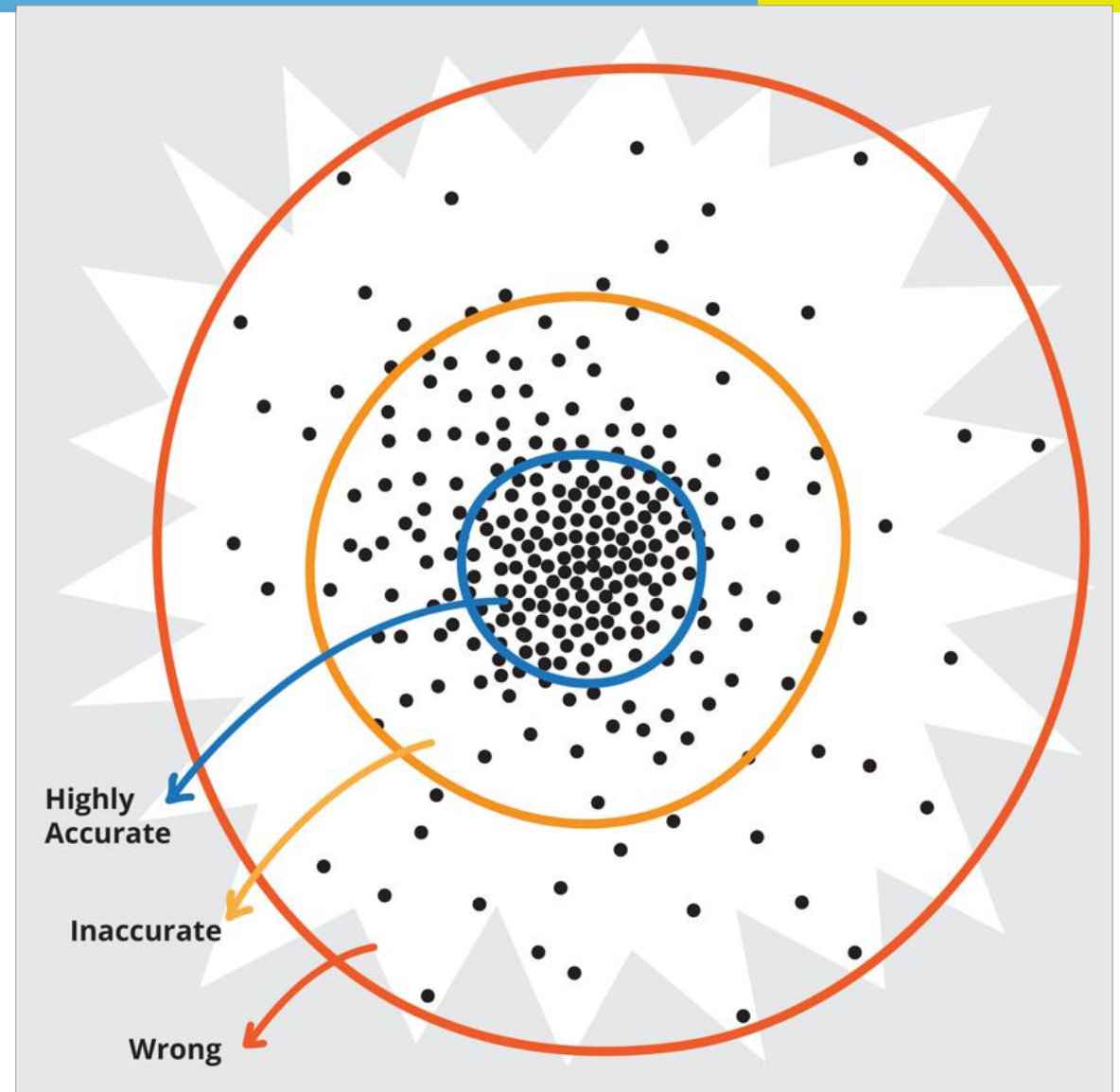
Human Starburst and Design



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Human Starburst and AI



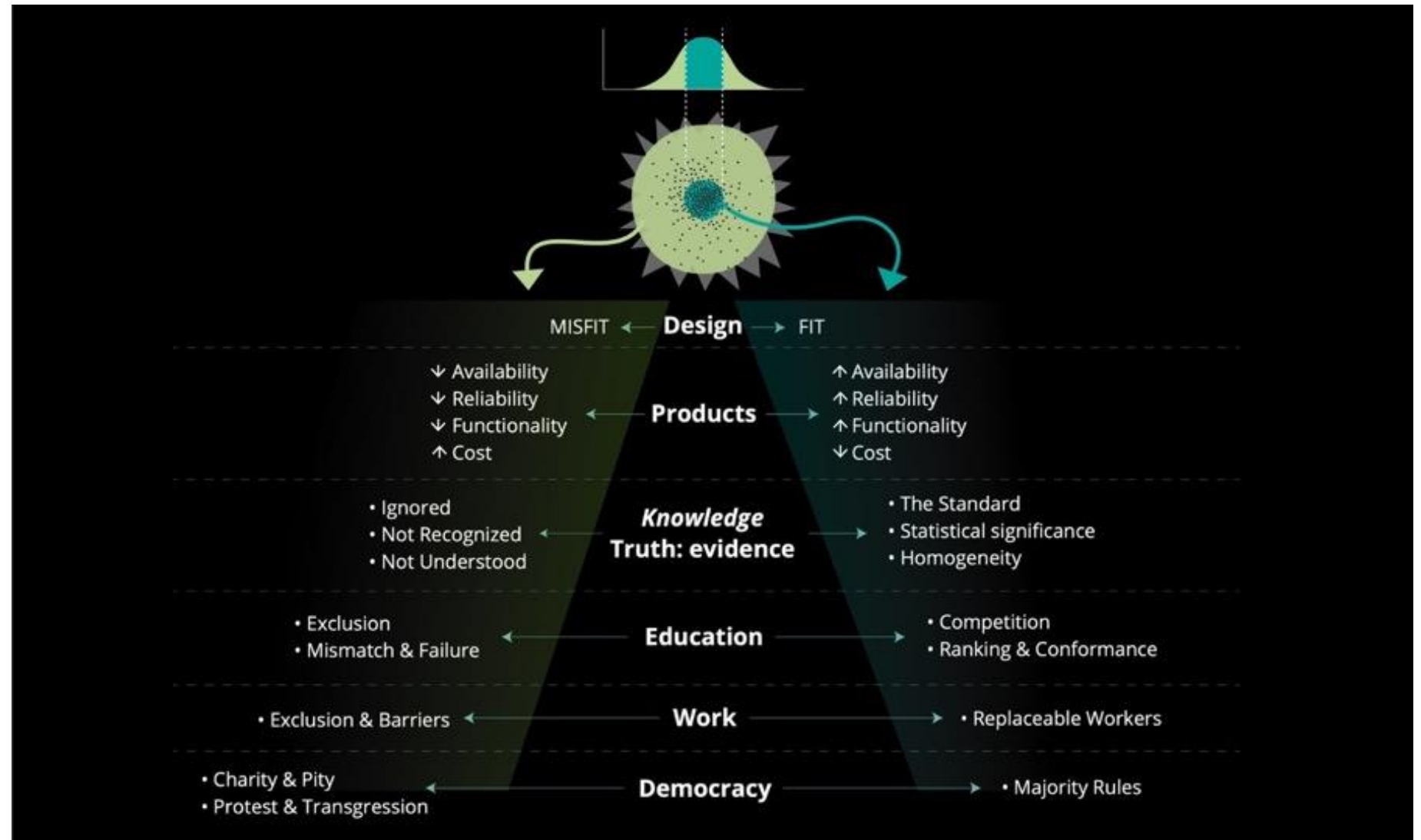
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Accessibility Standards
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Pervasive Disparity



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Assuming that what we know about the majority applies to the minority does harm



Statistical Discrimination:

AI is

...mechanizing and propagating past discrimination faster, more efficiently, and more accurately

Bias toward optimal pattern
=
Bias against difference

Pervasive...

- Employment
- Academic admissions
- Medical calculators & triage tools
- Policing and parole
- Immigration & refugee adjudication
- Tax auditors....loans, mortgages...security flagging

Community level...

- Evidence based government investment
- Political platform
- Public health decisions
- Urban planning
- Emergency preparedness, security measures...

Cumulative impact...

- News coverage
- Products marketed
- GPS routes
- Supply chain priority
- Design features selected...

Bad, unfair, inaccurate decisions



Subject to false flagging in suspicion systems



Harm and incident databases

- Disproportionate reports related to disability
- Examples: parents with disabilities falsely flagged as unfit, false positive tax audits, false positive security flagging, excluded from optima filtering in employment and education, biased credit and asset rating, unfairly denied mortgage and loans, unfairly high insurance rates, deprioritization of relevant information, iatrogenic death and illness...

Statistical Discrimination in AI Ethics Measures

- Insignificant when determining metrics and thresholds for impact
- invisible in error testing
- anecdotal in risk-benefit analysis

More than...

- Addressing data gaps and bias
- Removing human bias from algorithms
- Removing stereotypes from labels and proxies
- Excising markers of disability to avoid discrimination

Specific to Disability

- Accessibility: Nothing without us
- Statistical discrimination
- Cumulative harm
- Education

Phased Approach

- Phase 1: Automated decision systems based on data optimization and exploitation, and overall framework
- Phase 2: Large language models and general AI

Phase 1: 4 Parts

- Accessible AI
- Equitable AI
- Organizational Processes that support Accessible and Equitable AI
- Education

Accessible AI

- Ensuring that people with disabilities can participate in the full AI ecosystem

Equitable AI

- Equitable treatment of people with disabilities as subjects of decisions and representation by AI

Organizational Processes

- What processes need to be in place to achieve accessible and equitable AI

Education

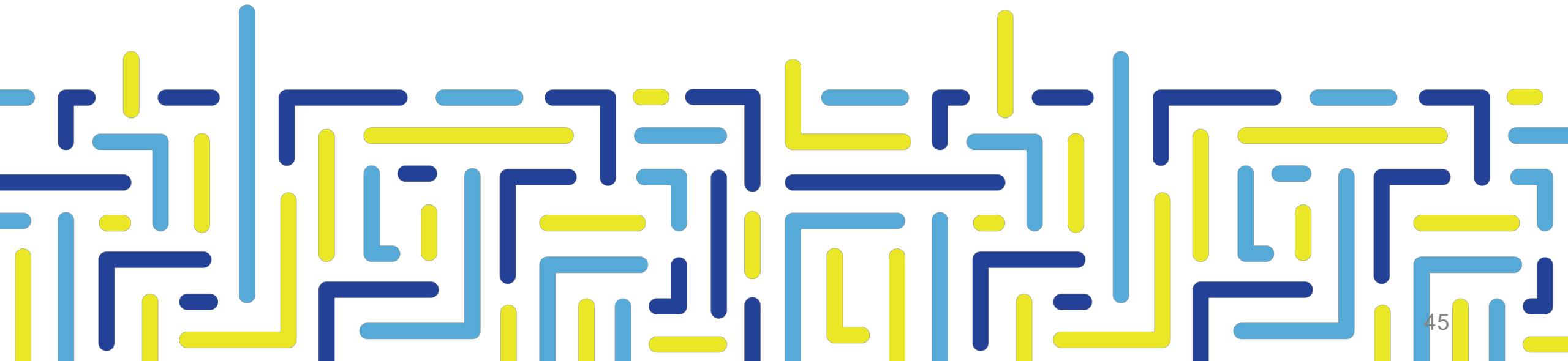
- Education about accessible and equitable AI
- Accessibility of AI education
- Supports for AI literacy

Provincial and Territorial Representation on Committee



Thank you

Questions ?



Supported in part by:



Funding Acknowledgement

Inclusive Design for Employment Access (IDEA) is supported by generous funding from the Government of Canada's New Frontiers in Research Fund (NFRF) Transformation Stream.

Le Vision Radicale Pour L'Accès Inclusif à l'Emploi (VRAIE) est financé par le fonds Nouvelles frontières en recherche du gouvernement du Canada.



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