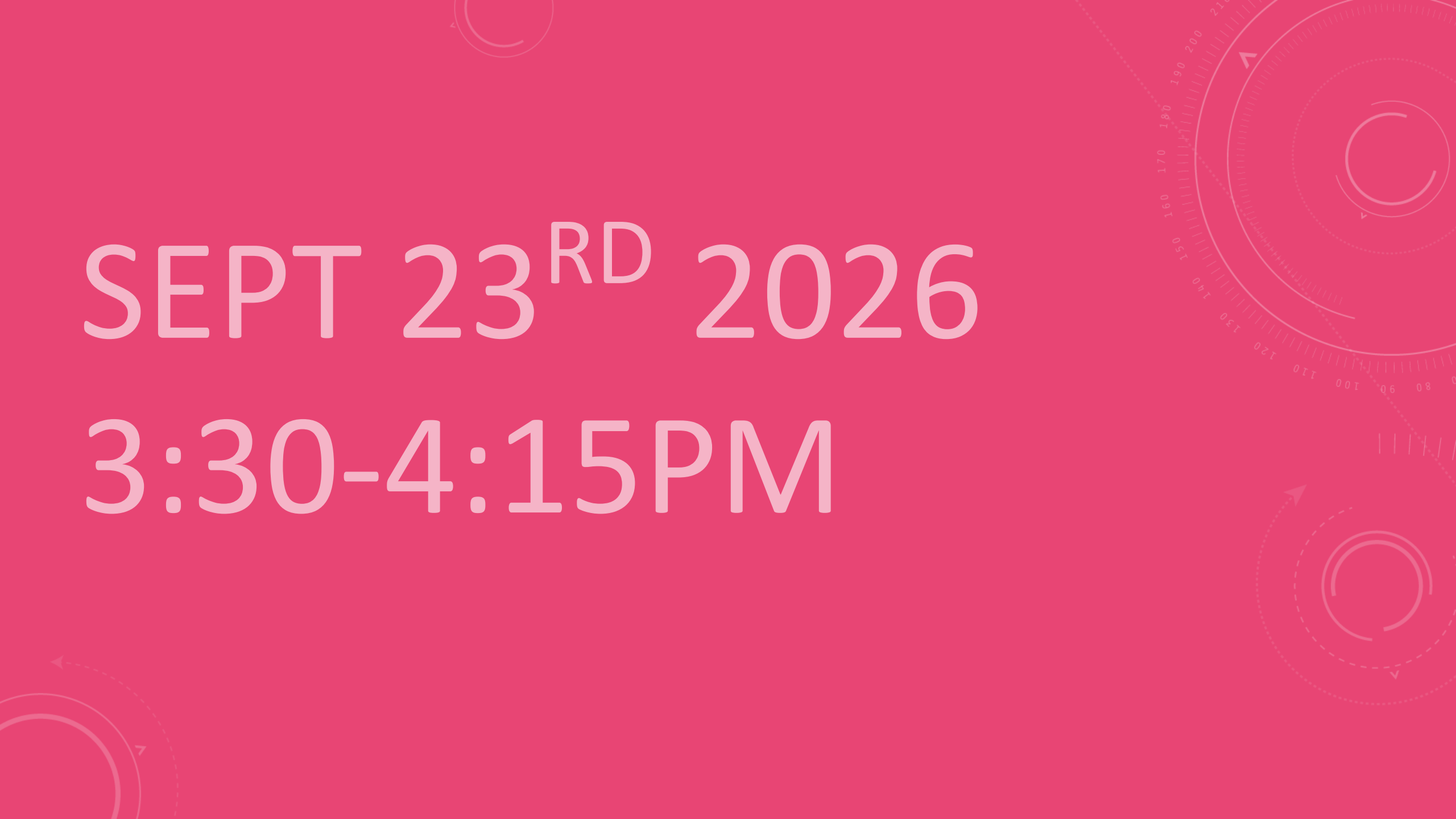




SEPT 23RD 2026

3:30-4:15PM

THE SPLINTERNET ACCELERATES: HOW AI DEMAND IS RESHAPING INTERNET PERFORMANCE, ACCESS AND FRAGMENTATION

DR. RYAN PAYNE - UNIVERSITY OF CANBERRA

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AUSTRALIA INTERNET GOVERNANCE FORUM

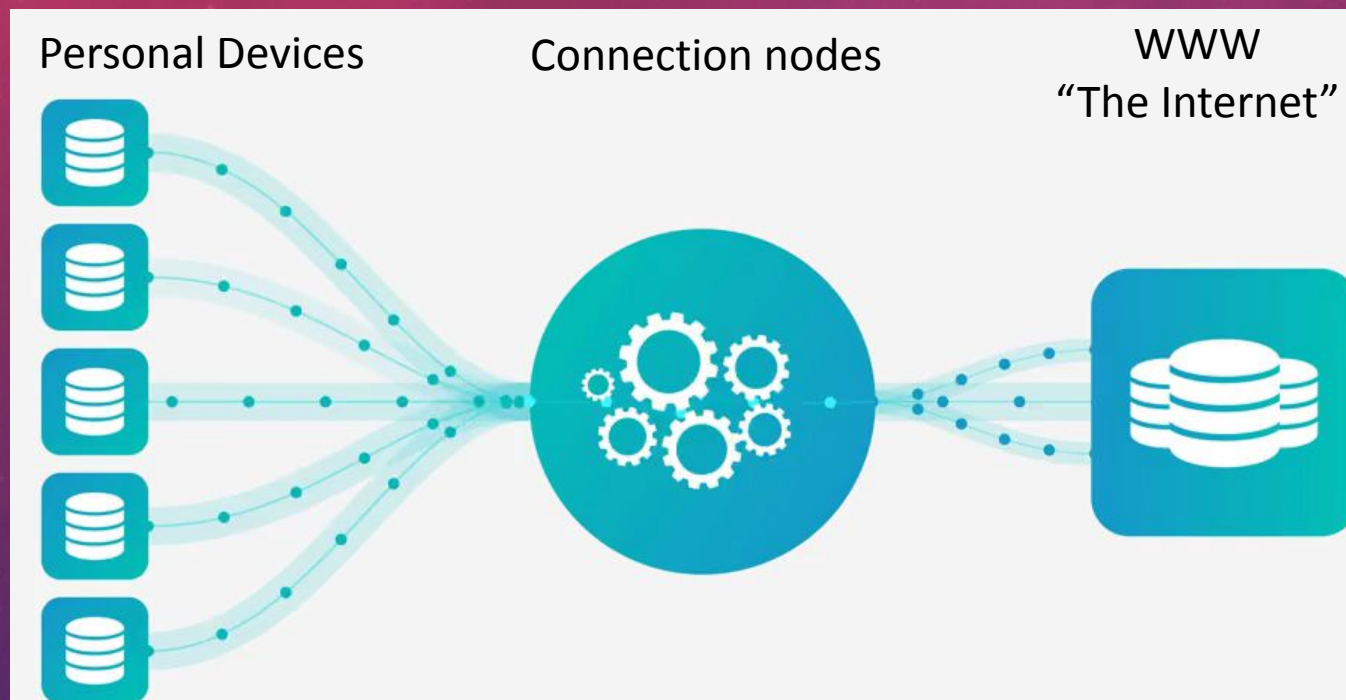
SEPT 23RD 3:30-4:15PM 2026

CANBERRA, AUSTRALIA



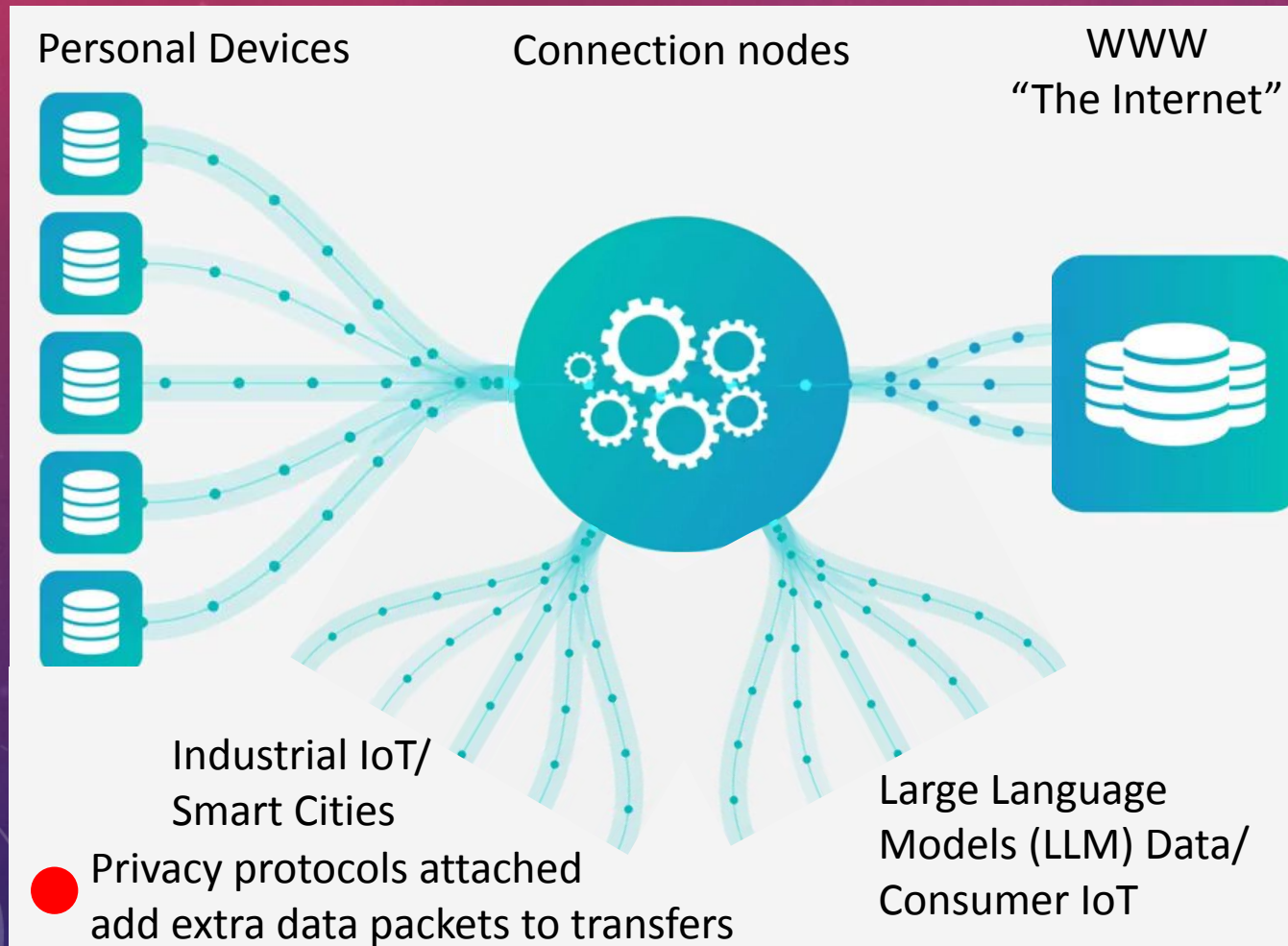
Source: Internet Society, 2024

TECHNOLOGY – DATA FLOWS INCREASING



TECHNOLOGY – DATA FLOWS INCREASING

(Platforms on Internet infrastructure are growing)



THE PRODUCTIVITY PROMISE

- Vibe Coding/Bloated code Issues/code coping
 - Faster development
 - Lower production costs
 - More people able to create software



ISSUES OF LIABILITY



Vibe Coding:

- Functionality – passes checks; but
- Malicious code;
 - Presents issues of liability to the end user;
 - Can be assessorial or strict liability (criminal matters);
 - Liability multiplier.



COST

- Cost:
 - Borne by end user and involved accessories;
 - Flows uphill;
- Legal issues are not extent of concern:
 - Functionality;
 - Unused code;
 - Unnecessary dependencies;
 - Duplicate components;
- Concern is in the outcomes, not the use.
- "It works, and it doesn't cost much", is not enough when the costs do come; cost multiplication effect.



WHO PAYS?

Actor

Developer
Cloud provider
Network operator
Consumer
Device manufacturer
Government
Environment
Society

Potential cost

Development & maintenance
Computation & storage
Traffic & capacity
Data & device requirements
Hardware pressure
Infrastructure costs
Energy & emissions
Digital exclusion

DIGITAL INEQUALITY & INTERNET FRAGMENTATION

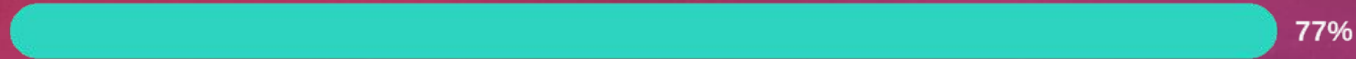
- AI accelerates the traditional digital divide
- Access and connectivity inequality -> Capability and skill inequality
- AI sovereignty and geopolitical competition -> Different standards and tech stacks in each region -> Contributes to the "Splinternet"
- Different AI regulatory regimes -> Different experience of the internet in different regions -> Internet fragmentation



DISPARATE IMPACT ON THE GLOBAL SOUTH

Regional AI compute divide

High-income



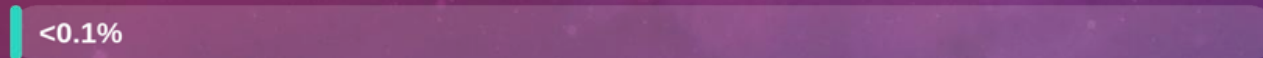
Upper-middle-income



Lower-middle-income

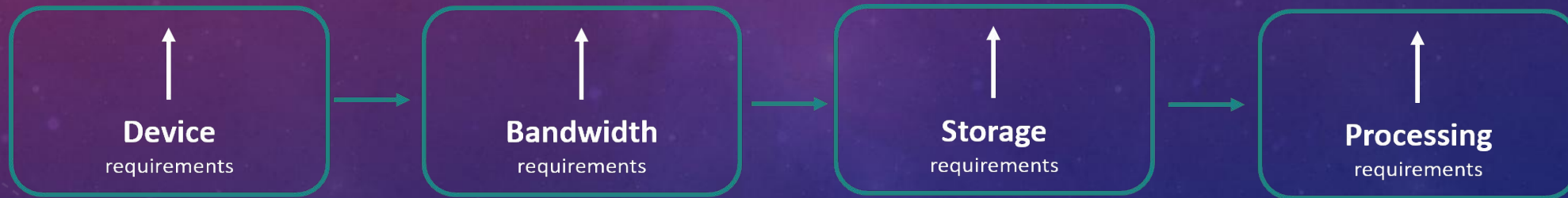


Low-income



Source: World Bank, Digital Progress and Trends Report 2025 — data centre capacity by income group, June 2025

- **AI raises the entry price at every layer, and each layer compounds the last**



- **AI-driven software inefficiency could strengthen existing advantages held by actors with greater infrastructure capacity.**

GROWTH OF PRIVATE INTERNET – FASTER ACCESS

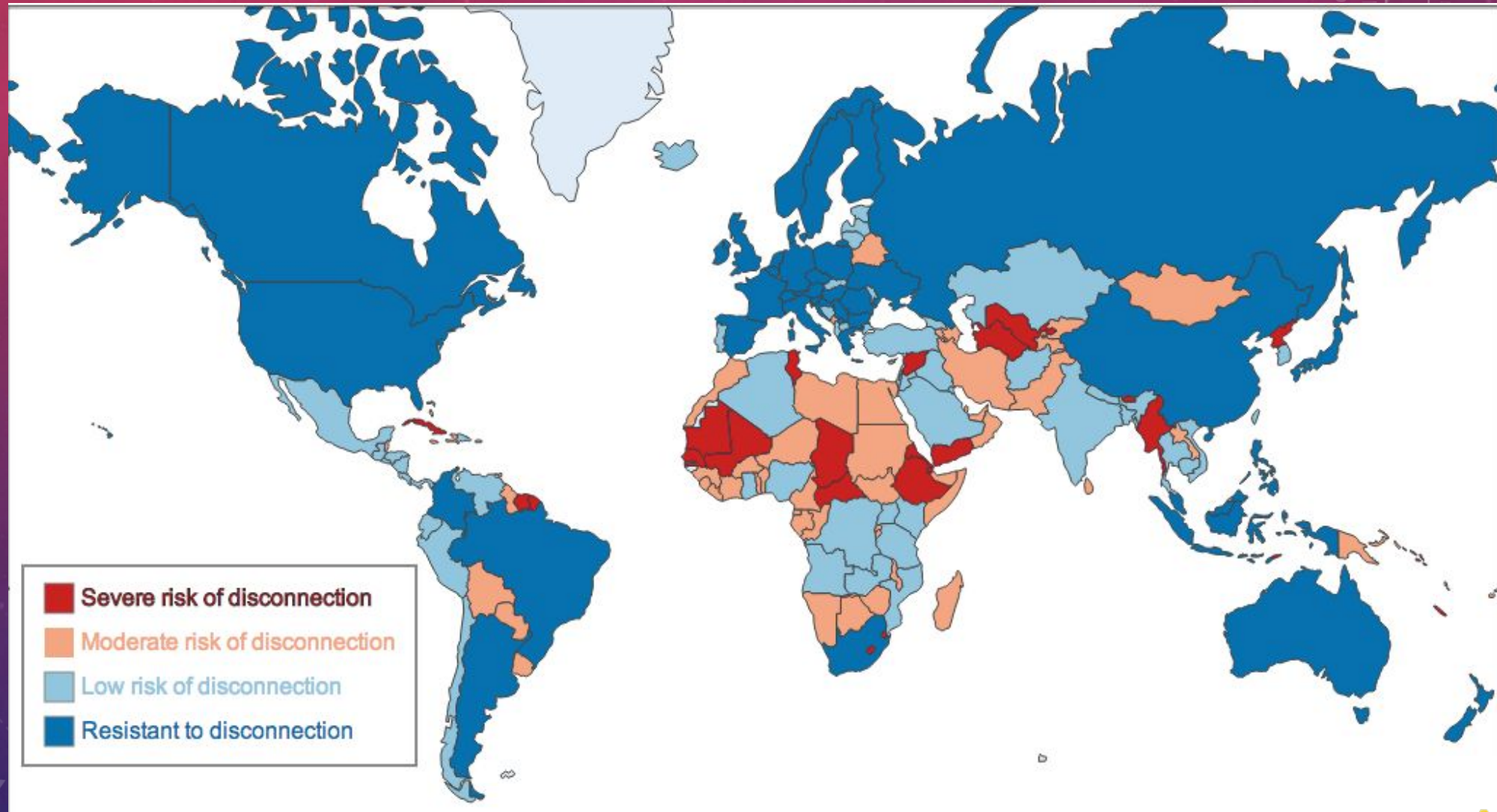
- **Starlink scaled faster than any terrestrial rollout in history** - 13 million+ consumer subscribers; 120+ countries
- **Private companies now own the internet infrastructure backbone, not just the application layer**- Google, Meta, Microsoft, Amazon's increasing ownership of international submarine cables
- **LMICs reliance on private sector Big Tech companies to meet connectivity needs**- 2Africa (Meta); 45,000km circling the entire African continent across 33 countries — a private company wiring a continent, not a government or multilateral body



PRIVATIZATION OF INTERNET



INTERNET FRACTURING



PUBLIC VS PRIVATE SYSTEMS



Public Sector

- Overseen by Governments (Public Good)
- Public Goods or services which serve or benefit the nation at large.
- Police, army, education, health care, public transit, banking, etc.
- **Privacy by societal rules**

Private Sector

- Overseen by a single individual (Private Gain)
- Private goods/ services which serve and benefit individuals or organizations
- Individuals/Corporations
- **Privacy lost to an organization**

INDIVIDUAL PRIVACY RIGHTS

- Right to know/access/export (+ portability: GDPR, LGPD)
- Right to rectify
- Right to be forgotten
- **Right to anonymity** (AfDec - AfIGF 2013, Kenya)
- Right not to be subject to automated decisions/profiling with legal effects (GDPR)
- Right not to be subject to real-time/remote biometric identification (EU AI Act + others)
- Plus rights from copyright, fraud, and defamation law (e.g. wrt. deep fakes, generative voice)



PRIVACY BY DESIGN (PbD)

From *Privacy by Design: The 7 Foundational Principles* by Ann Cavoukian

Software Context

- Privacy as the default setting
- Privacy embedded into design/Infrastructure
- Full functionality - positive-sum, not zero-sum
- End-to-end security - full lifecycle protection
- Visibility and transparency - keep it open

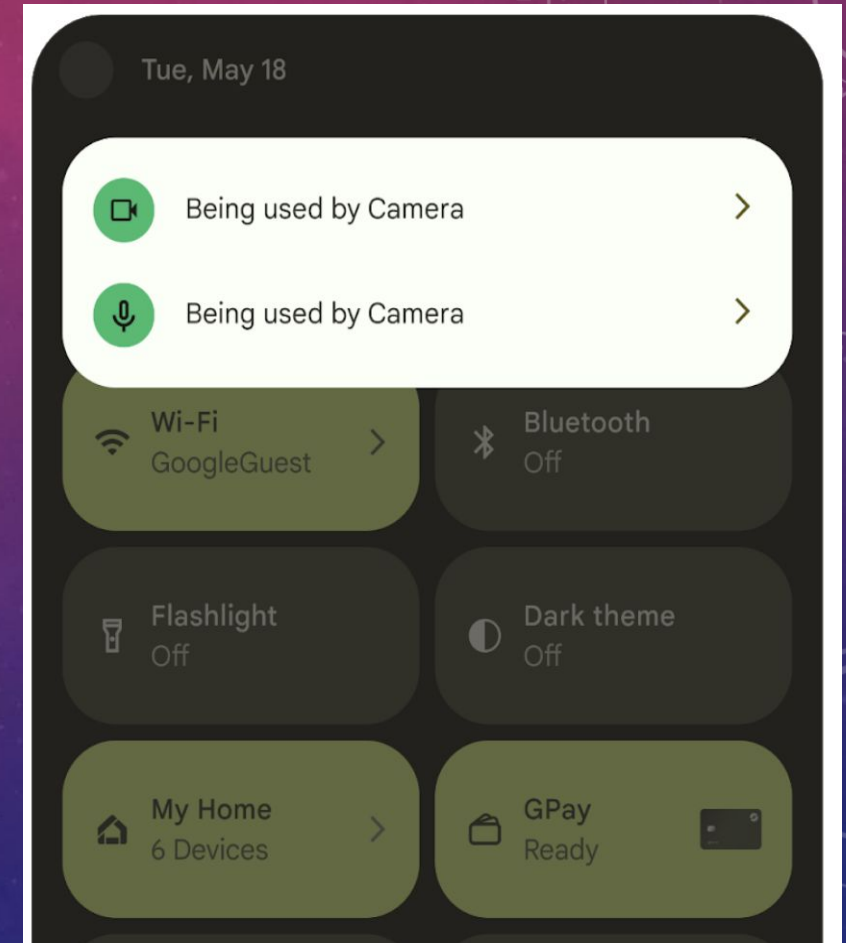


Image reproduced from work created and shared by the Android Open Source Project and used according to the Creative Commons 3.0 Attribution License.

PRIVACY ARCHITECTURE – SOFTWARE CONTEXT

Log In

[Forgot password?](#)

Create new account

Is this your account?

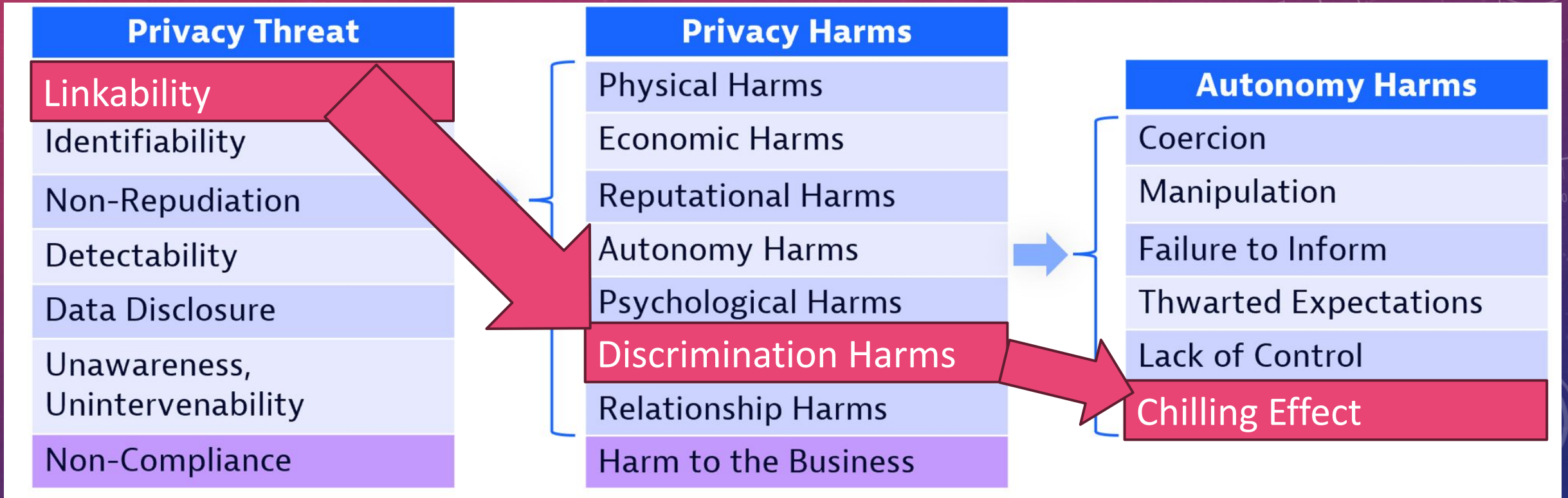


Maia Callahan
garem6900@utwoko.com • [Not you?](#)

We couldn't find an account that matches what you entered, but found one that closely matches.

Yes, Continue

BUT HOW COULD [INSERT PRODUCT/PLATFORM HERE] VIOLATE ANYONE'S RIGHTS?



Adapted from Privacy Harms, Citron & Solove, Boston University Law Review (2022)

THE NEED TO KEEP INTERNET AS A SHARED RESOURCE

Global data centre electricity, TWh



EFFICIENCY BEFORE THE NETWORK

JavaScript sorting demo, KB



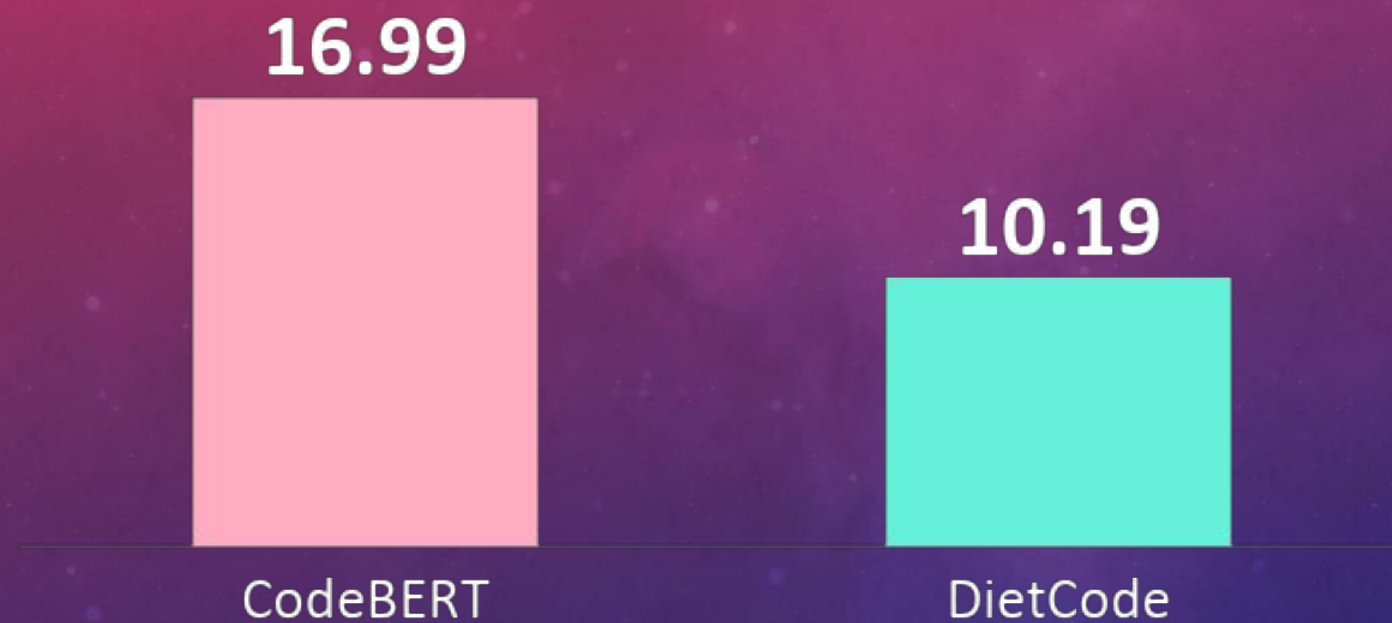
-79%

same function

Preserve network neutrality

DIETCODE: LEANER MODEL INPUTS

Computation (GFLOPs)



-40%
computation



PUBLICLY ACCESSIBLE INTERNET

- You've taken the audience from:
- **AI → code → bloat → infrastructure → inequality → Internet governance**
- Why is this an Internet governance issue?

We explicitly rejects an “**AI code tax**” or mandatory software-size limits. We don't yet know the magnitude of the externality = GOVERNANCE TO MEASURE.



INTERNET GOVERNANCE - FORWARD

- **4. Build efficiency into AI coding tools**

- Let AI identify:
- unnecessary dependencies
- redundant computation
- excessive network requests
- unnecessary data transfer.

- **5. Resource-efficiency labels**

- Eventually disclose:

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CORPORATIONS WILL NOT WANT TO REGULATE THEIR CODE = COSTS RESOURCES

IT WILL TAKE A COORDINATION OF GOVERNMENT DEPARTMENTS AND AGENCIES
TO ENACT SUCH A CHANGE

TODAY, WE ARE RAISING AWARENESS

In Person:

Dr. Ryan Payne - University of Canberra

Alek Van Hummel - University of Canberra

Thomas Aarheim - Access Partnership

Phoebe Paleologos - Australian National University

Online:

Shivangi Malhotra - MicroSave Consulting

Cameron Niven - Soldiers' Legal Counsel

Moderator:

Dr. Kate Buchhorn - Monash University

IF YOU WANT TO INTERACT WITH OUR GROUP/
RECEIVE A COPY OF THIS RESEARCH PAPER.

PLEASE EMAIL RYAN.PAYNE@CANBERRA.EDU.AU



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THANK YOU