

# ICT4D.at



# Empowering Global Citizens: Enhancing Stakeholder Collaboration for Positive ICT Impact

**Paul Spiesberger, ICT4D.at**

ACM GoodIT Conference  
4th International Conference on Information Technology for  
Social Good



# Facts and Figures




- Six of the world's seven billion people have mobile phones - but only 4.5 billion have a toilet (UN **2013**)
- Almost everyone lives in the range of a mobile-cellular tower (Brahima, **2018**)
- 60% of world population is now online, with the average user spending over 40% of their waking life on the Internet (Istrate, **2024**)



**Never in the history of mankind were so many people theoretically connected on this planet**


# Share of Global Internet Users 2001-2018






Region	Percent (%) share in 2001	Percent (%) share in 2018
Rising share		
Africa	1	11
Middle East	1	4
Latin America/Caribbean	5	10
Asia	32	49
Falling Share		
North America	30	8
Oceania	2	1
Europe	29	17

# In Low- and Middle-Income countries:


**66%** of women now use mobile internet  


 and their **rate of mobile internet adoption increased** over the past year

**BUT**  
 men's rate of adoption slowed  



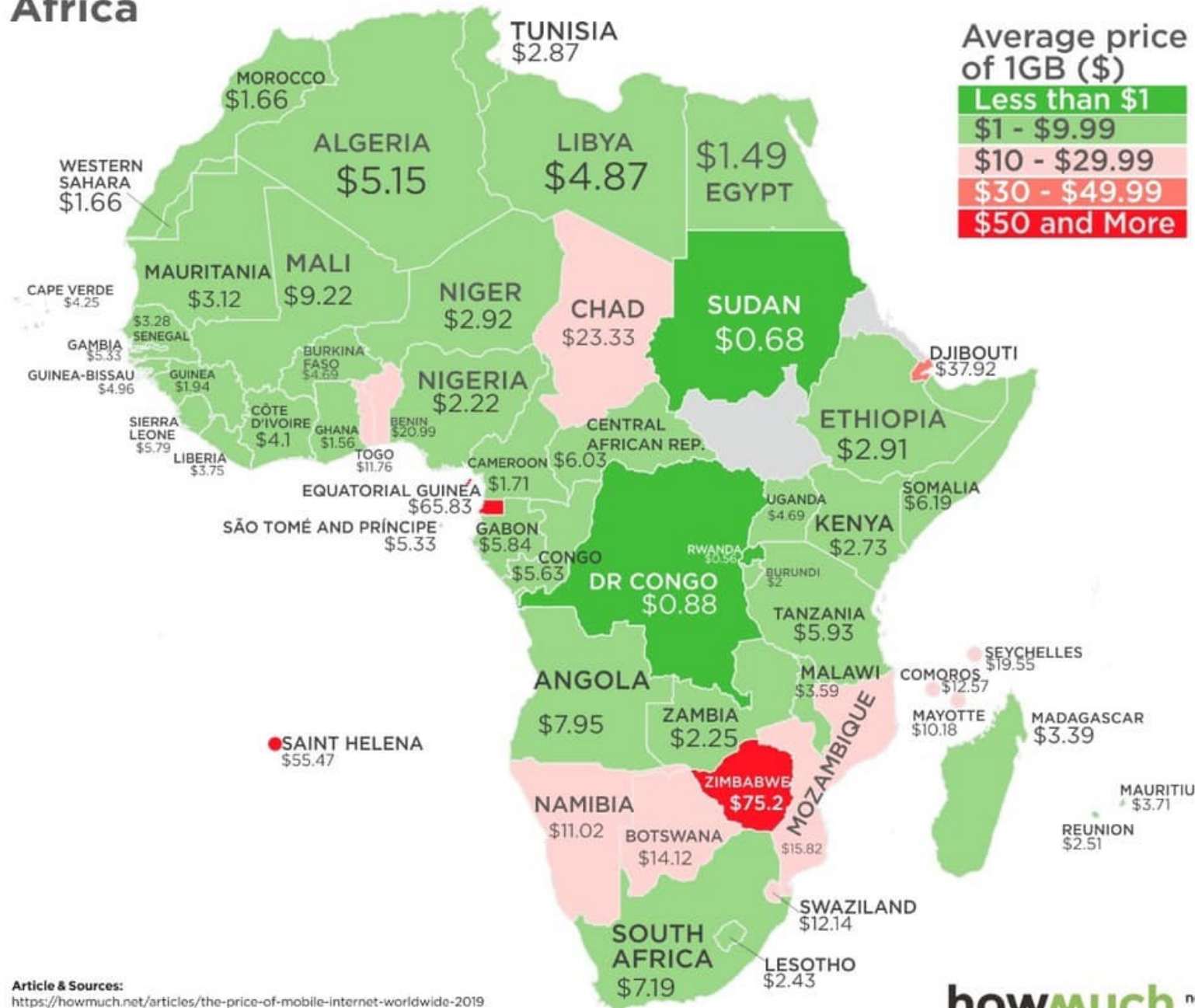
THE GENDER GAP IN MOBILE INTERNET NARROWED FOR THE FIRST TIME SINCE 2020
 

Women are **15%** less likely than men to use mobile internet  
 This means **265M** fewer women than men use mobile internet
 





THE GENDER GAP IN MOBILE INTERNET IS BACK TO WHERE IT WAS IN **2020**  
 This was driven primarily by **South Asia**

# The Price of Mobile Internet 2019

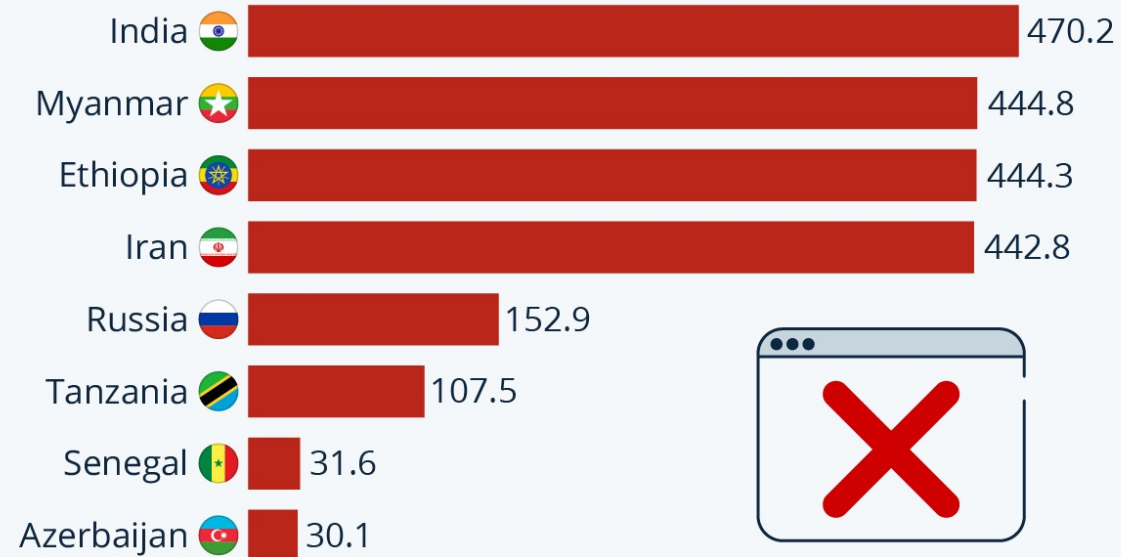
## Africa



# Privacy and Freedom of the Internet

## The Countries Shutting Down the Internet the Most

Prevalence of internet blocks and shutdowns by country in 2023 (in billion user hours)\*



Includes throttling, full blackouts and partial blocks (for example specific social media)

\* numbers of hours of blocks/shutdowns times the users affected

Source: Top10VPN



Technology is **not neutral**

Technology always **serves a purpose**

Technology is always created by **an entity with an agenda**



# Purpose/Agenda of ACM GoodIT 2024

- Technology is **not neutral**  
“...IT technologies to social **good**” (not bad)
- Technology always **serves a purpose**  
“...an action that provides some sort of **benefit to the general public**”
- Technology is always created by **an entity with an agenda**  
**ACM GoodIT 2024: “...global citizens uniting to unlock the potential of individuals, technology, and collaboration to create positive societal impacts”**

# Purpose/Agenda of Meta (Facebook)

- ...serves a purpose:  
"Give **people the power to build community** and bring the **world closer together.**"
- ...an entity with an agenda  
**Meta: "Give People a Voice, Build Connection and Community, Serve Everyone, Keep People Safe and Protect Privacy, Promote Economic Opportunity"**

# Purpose/Agenda of UN on New Technologies

- ...serves a purpose:  
"...to **accelerate** the achievement of the 2030 **Sustainable Development Agenda** and to facilitate their alignment with the values enshrined in the **UN Charter, the Universal Declaration of Human Rights and the norms and standards of International Laws.**"
- ...an entity with an agenda  
**UN: ...**

# Purpose/Agenda of UN on New Technologies

## PRINCIPLES

- 1** Protect and promote global values
- 2** Foster inclusion and transparency
- 3** Work in partnership
- 4** Build on existing capabilities and mandate
- 5** Be humble and continue to learn

## COMMITMENTS

- 1** Deepening the UN's internal capacities and exposure to new technologies
- 2** Increasing understanding, advocacy and dialogue
- 3** Supporting dialogue on normative and cooperation frameworks
- 4** Enhancing UN system support to government capacity development

# Purpose/Agenda of ICT4D.at

- ...serves a purpose:  
"A world of **equal opportunities for all**"
- ...an entity with an agenda  
**ICT4D.at: "Through knowledge, tools and networks we empower people to develop the skills they need to achieve their full potential."**

# ICT4D.at

Austrian Network for Information and  
Communication Technologies for Development





# Teach computer science in rural India







**ICT4D Project Forge**

# How to make Podcasts

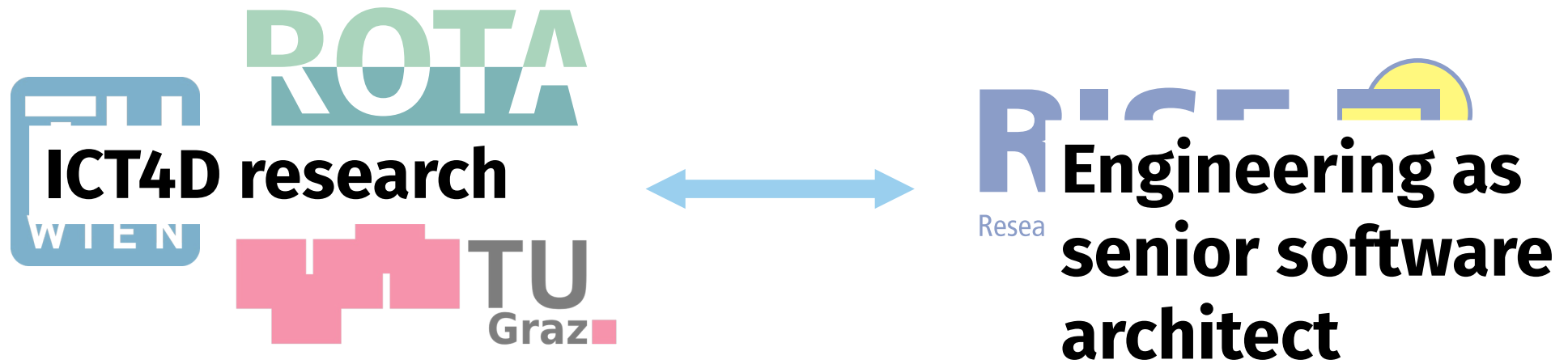


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**ICT4D NGO in the field & community**



# Exchange

**NGOs**



**Research**



**Engineers**

# How can Research Interact?

**NGOs**



**Research**



**Engineers**

# NGOs <> Science <> Software Engineers

- 1** Exaggerated views on NGOs in development and software engineers
- 2** Side topic – related and on my mind
- 3** How scientists can better collaborate with NGOs and software engineers

# Non-Governmental Organisations in Development



**NGOs in development** are normal and clueless **customers** and **do not listen much to scientists** (rather to donors) while **exporting their technological dependence** to their clients (e.g. Global South)

# Observations: NGOs in Development

- Rather use what is there than invent something new
- Quick, easy, cheap, known, scalable
- Mostly no technical understanding
- Exposed to marketing of big players
- “It just needs to work” → basic users
- Topics and focus areas are mostly set by donors
- Somehow know that they should care about technology but have other priorities (digital colonialism)

## Example NGO: Workshop about ICT4D 2024

- Title “Introduction to ICT4D” for umbrella organization Global Responsibility
- Austrian participants from Caritas, Horizont 3000, Dreikönigsaktion, CARE, Light for the World, ...
- Depend on ICTs, confused by AI, **export their dependence to their clients in the Global South**
- **Hard to explain:** open vs proprietary software, my sever vs their server (cloud)
- Writing AI grant applications to follow their donor’s tech-hype

## Side Topic: Digital Colonialism

**Digital colonialism** is the **use of digital technology** for political, economic and social **domination of another nation or territory**

# Current Development

The USA, China and EU are reinventing colonialism in marginalized regions through the domination of digital technology. Multinationals exercise imperial control at the architecture level of the digital ecosystem:

- Software
- Hardware
- Network connectivity

# Where Facebook is free in Africa (2016)

- Facebook is basically THE internet and destroys Net Neutrality
- Facebook is in control of communications, economy & politics
- Facebook extracts data and creates more and more services for “free”
- Countries get more and more depended on a foreign technology



## Research <> NGOs

- Understand NGOs' technological purpose and agenda
- Work user centred as they are non-tech people
- “Just because it is better for...” will not work in the long run
- Money speaks and donors grant: create policies with and/or lobby donors so NGOs will follow
- How will your research/technology be exported and create a dependence?

# Software Engineers

(Not the business people)



**Software Engineers build software without profound ethics in mind while being social in different ways and are represented by business people building up proprietary software monopolies**

# Observation: Software Engineers

- We build software systems because we can and enjoy doing it
- Ethical questions are asked last or never
- Entangled with business and for profit first
- *Move fast and break things* (Facebook's slogan until 2014)
- Engineers are very social, but in different ways (e.g. FOSS or ethical hacking) and mostly stick to their sub-culture
- Mostly absent from political and social discussions at conferences and hidden behind tech-business people

# Example: Conferences & Engineers



# Side Topic: Free and Open Source Software

## 1) Use

Free Software can be used for any purpose and is free of restrictions such as license expiry or geographic limitations

## 2) Study

Free Software and its code can be studied by anyone, without non-disclosure agreements or similar restrictions

## 3) Share

Free Software can be shared and copied at virtually no cost

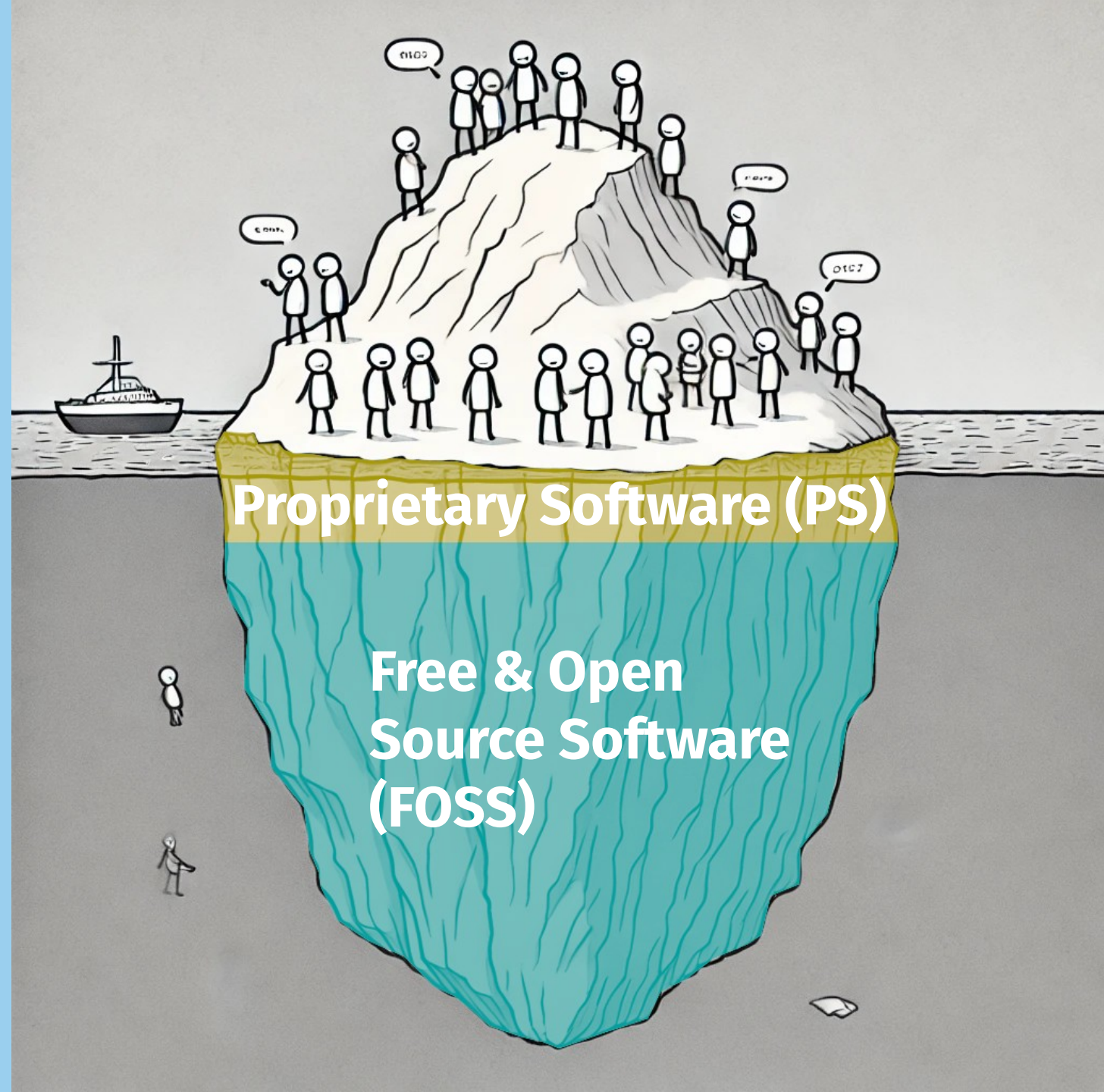
## 4) Improve

Free Software can be modified by anyone, and these improvements can be shared publicly

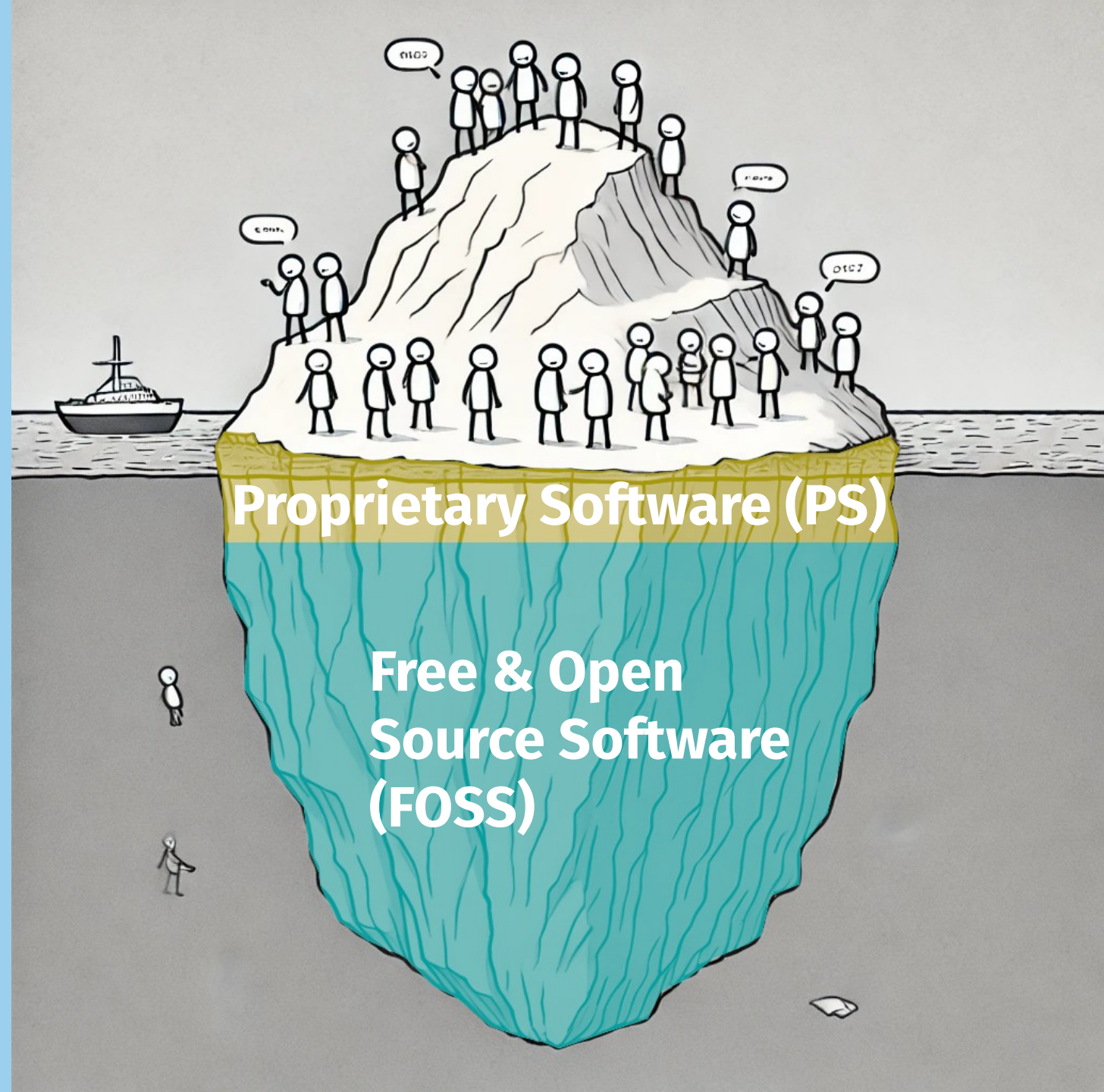
Free and Open Source Software  
(FOSS) is free as in **Freedom and not**  
free as in free beers

## Side Topic: FOSS

- Users do not understand the difference
- PS is financed by users but not FOSS
- PS builds heavily on FOSS and creates monopolies
- PS lobbies its users, FOSS has no lobby
- Users do not understand the power of FOSS



**Power and money** is concentrated in the hands of a few **tech monopolies** who built their fortune on FOSS while lobbying & surveilling the masses



# Research <> Software Engineers

- Understand person's technological purpose and agenda: am I talking to an engineer or a business person?
- The social good mostly comes second when for-profit
- Engineers are socially good via policy, community and licenses
- Demand from for-profit companies open software licenses as you finance the development
- In the same way as we demand open access journals, we should stand up for more open software



**Your research** needs to get out there **to unite global citizens** to unlock the potential of individuals, technology, and collaboration **to create positive societal impacts**

**Your Research is not neutral**

What **purpose** does **your** Research **serve**?

What is **your** **agenda**?

How is **your** research **applicable**?

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## **A World of Equal Opportunities for All**

Through knowledge, tools and networks we empower people to develop the skills they need to achieve their full potential.