Scaling Open-Source Solutions to Achieve the Sustainable Development Goals: A Global Call to Action

Amreen Taneja, Standards Lead
Digital Public Goods Alliance

Digital Public Goods Alliance

UN Sustainable Development Summit 2015

- In 2015, 193 countries came together with one shared vision: A better world for all by 2030.
- A commitment to people, planet, prosperity, peace, and partnerships.
- The result? The 17 Sustainable Development Goals (SDGs).

Digital Public Goods Alliance

The SDGs: A blueprint for a Better Future

- 17 Goals. 5 years left.
- From ending poverty (SDG 1) to ensuring global partnerships (SDG 17), these goals are interconnected and essential.
- Technology, innovation, and collaboration are key drivers in achieving them.

Digital Public Goods Alliance

The Digital Public Goods Alliance

The Digital Public Goods Alliance is a multi-stakeholder initiative launched in 2019 that accelerates the attainment of the Sustainable Development Goals by facilitating the discovery, development, use of, and investment in digital public goods.

We are a unique network of governments, multilateral organizations, philanthropic foundations, funders, think tanks; and technology companies working on DPGs.

45+
Members

180+
DPGs

50+
Countries in the next 5 years

Federal Ministry for Economic Cooperation and Development

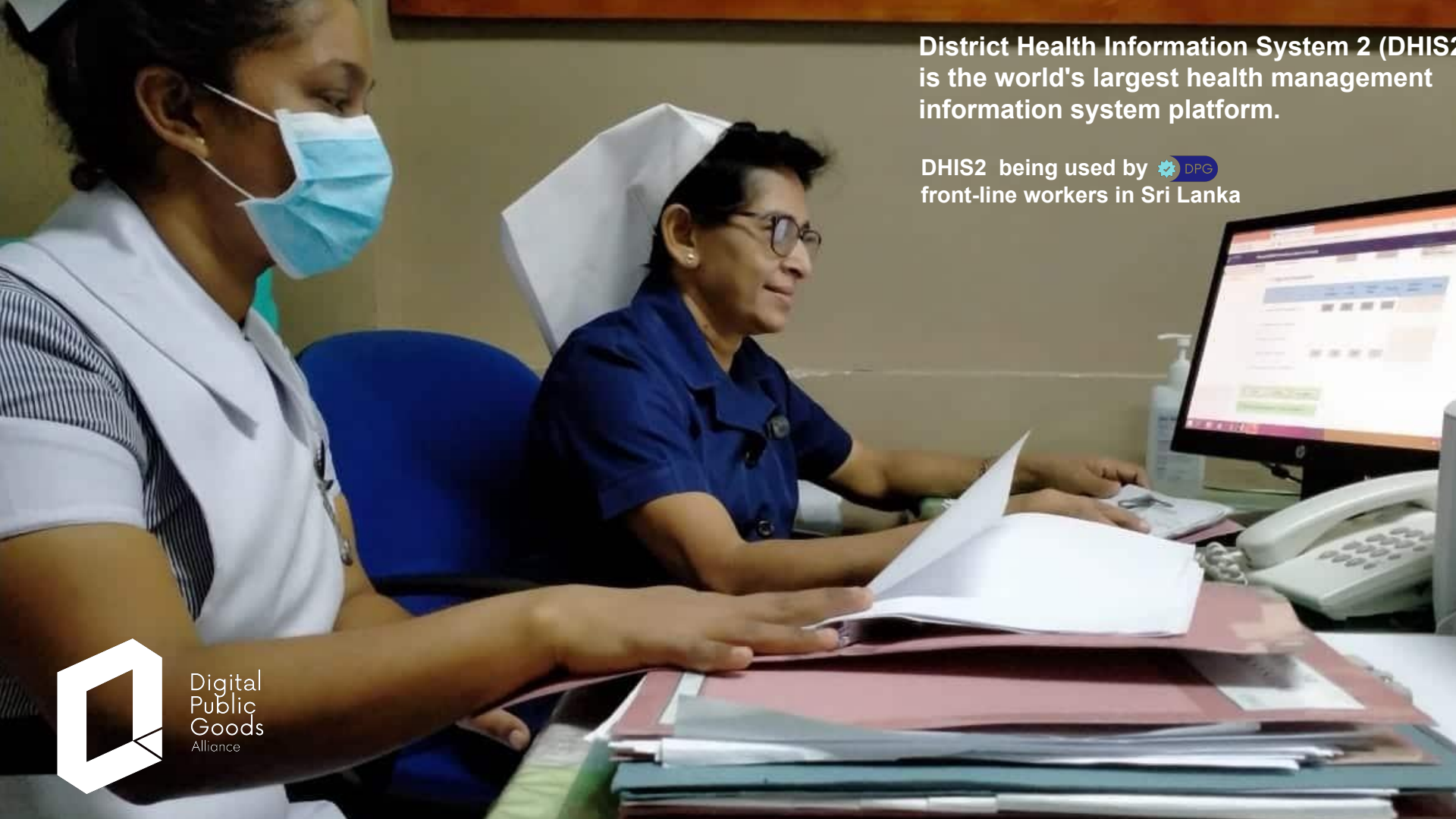
EkStep Foundation

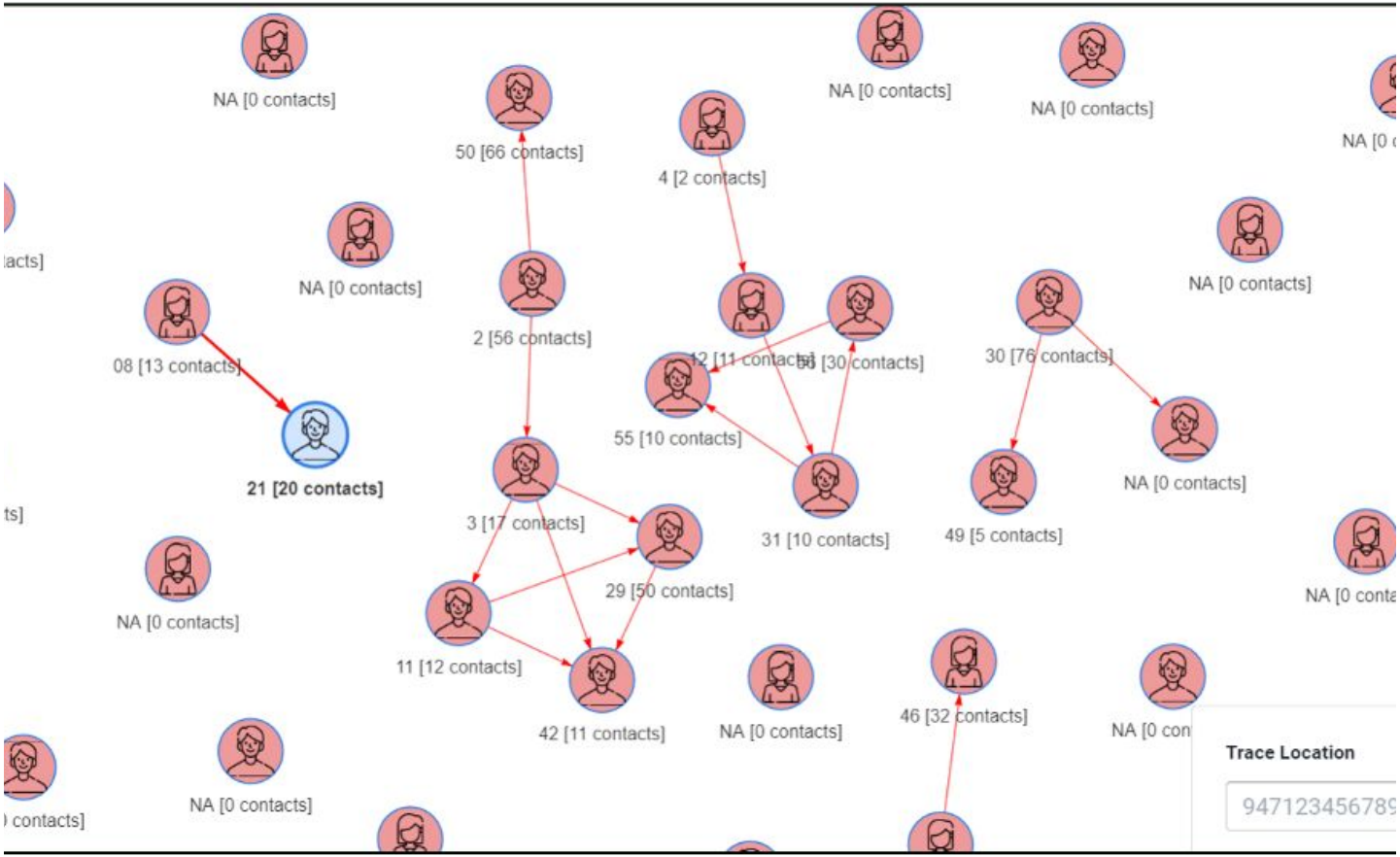
Norad

UNITY FREEDOM JUSTICE

UNDP

unicef
for every child


District Health Information System 2 (DHIS2
is the world's largest health management
information system platform.
DHIS2 being used by DPG
front-line workers in Sri Lanka
Digital
Public
Goods
Alliance



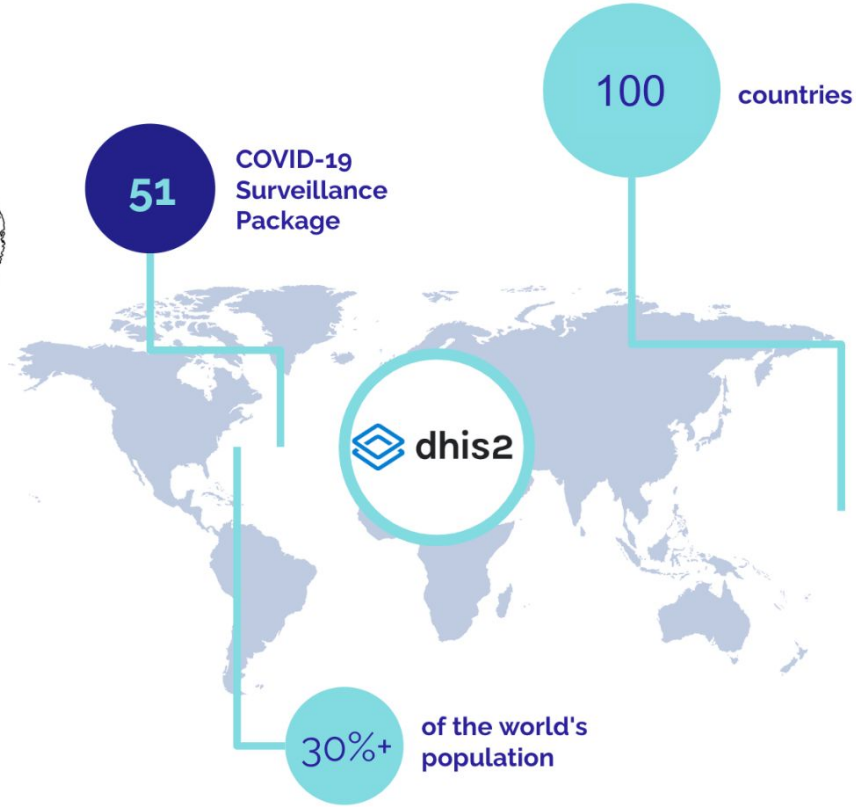
An app developed by HISP Sri Lanka to visualize and analyze contact relationships

District Health Information Software (DHIS2)

Initial release
1996

Maintainer
University of Oslo

Contributor/
User
Sri Lanka



Digital technologies: electronic tools, systems, devices and resources that generate, store or process data.

Digital Public Goods

DPG Definition & The Standard

"We must undertake a concerted global effort to encourage and invest in the creation of digital public goods: **open source** software, open data, open AI models, open standards and open content. These digital public goods should adhere to **privacy and other applicable laws** and best practices**, do no harm, and help attain the SDGs.**"

UNITED NATIONS SECRETARY-GENERAL ANTÓNIO GUTERRES

- ✓ Advance the SDGs
- ✓ Open Source
- ✓ Do No Harm

Public Good: a commodity or service that is provided without profit to all society members, either by the governments, private individuals or organisations which that benefit the public well-being.

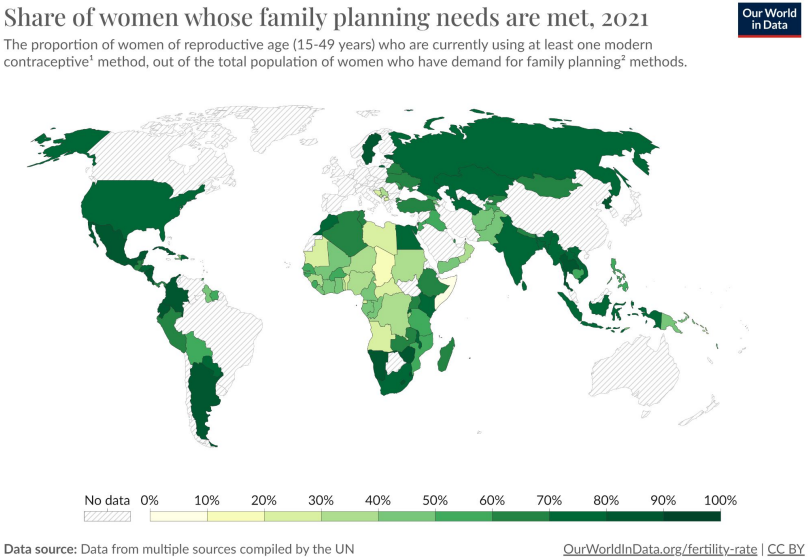
Digital Public Goods

DPG Standard

1. Relevance to the Sustainable Development Goals
2. Use of Approved Open Licenses
3. Clear Ownership
4. Platform Independence
5. Documentation
6. Mechanism for Extracting Data
7. Adherence to Privacy and Applicable Laws
8. Adherence to Standards & Best Practices
9. Do No Harm by Design
    - 9.a) Data Privacy & Security
    - 9.b) Inappropriate & Illegal Content
    - 9.c) Protection from Harassment

Indicator 1. SDG Relevance

Demonstrated efforts into advancing one or more goals



Indicator 4. Platform Independence

Prove independence from the closed component(s) and/or indicating the existence of functional, open alternatives

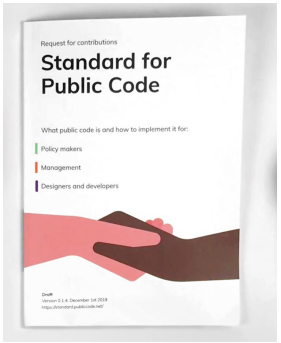
VS

Indicator 7. Privacy and Applicable Laws

- EU General Data Protection Regulation
- The Indian Digital Personal Data Protection Act, 2023
- US Persons with Disabilities Act 2020

Indicator 8. Standards & Best Practices

Design for possibility of extracting or importing data in open formats



HL7 FHIR

GTFS

Principles *for* Digital Development

RESPONSIBLE DATA FOR CHILDREN

INTERNATIONAL MONETARY FUND

Digital Solutions Guidelines for Public Financial Management

Open Standards

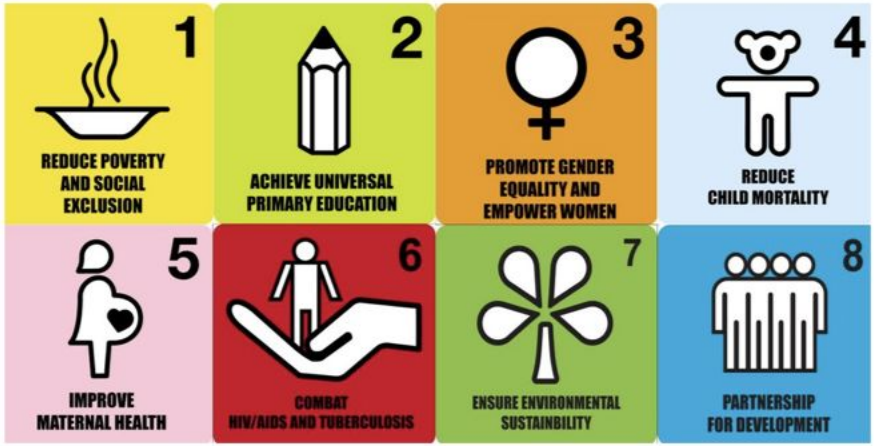
Best Practices

UNITED NATIONS
OFFICE OF INFORMATION AND
COMMUNICATIONS TECHNOLOGY

Open Source as a Key Driver for Delivering on the UN Sustainable Development Goals

2025

From MDGs...



The 8 goals that UN Member States have agreed to try to achieve by the year 2015

To SDGs...

1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
THE GLOBAL GOALS

Open Source to Lead the Way

"Set the target of creating 1 million "digital champions" for the Sustainable Development Goals by 2030, a quarter of them in Africa,"

Why Open Source?

Transparency

allows users to understand how the software works and fix bugs

Security

continuous scrutiny of the code, leading to rapid identification and patching of security vulnerabilities

Community

global diverse community collaborating through forums, documentation and code

Cost-efficiency

reduces costs associated with software development and licensing fees

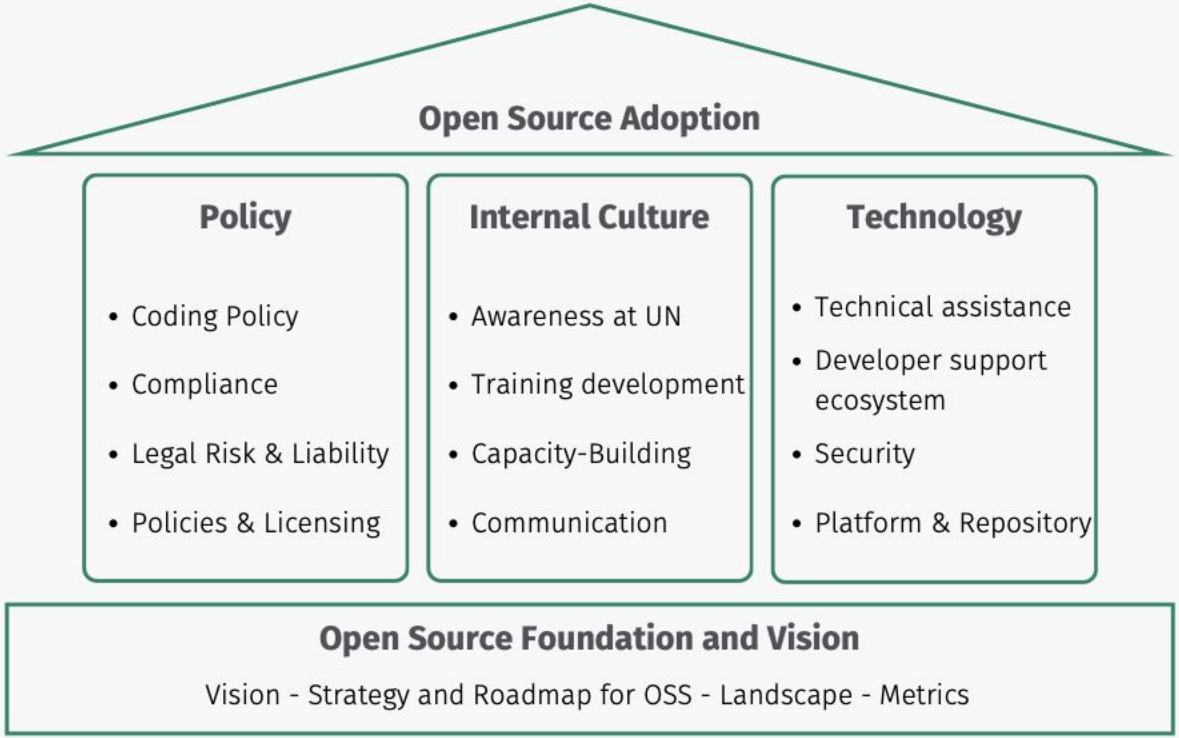
Innovation

freedom to modify by anyone fosters accelerated innovation and customization without vendor lock-in

Sustainability

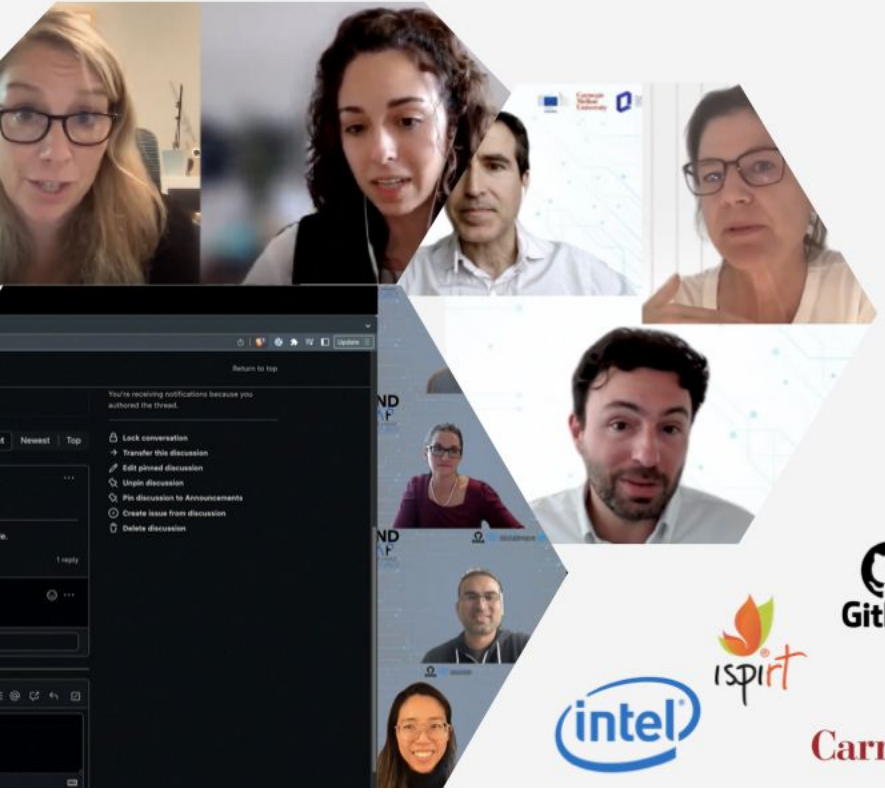
distributed ownership by multiple stakeholders extends maintained lifetime well beyond initial support

UN Open Source Strategy



From Open Source to Open Culture

Mind the Open Source Gap



Global Participation

~ Over 600 UN personnel registrations for each session

RISE Research Institutes of Sweden
TODO
CERN
OpenSSF
Sovereign Tech Fund
CLOUDFLARE
ofe OpenForum Europe
GitHub
UNITED NATIONS OFFICE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
ISPIRT
World Health Organization
European Commission
RIT Rochester Institute of Technology
Digital Public Goods Alliance
THE LINUX FOUNDATION
intel
Carnegie Mellon University
United Nations Department of Economic and Social Affairs

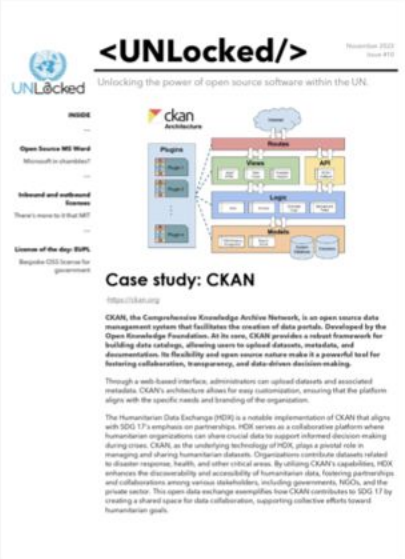
Internal OSCoP

Open Source Heroes

>500 members from diverse entities united by open source

UNLocked

Newsletter disseminating latest updates, innovations and trends of the open source landscape. Now in its 16th edition

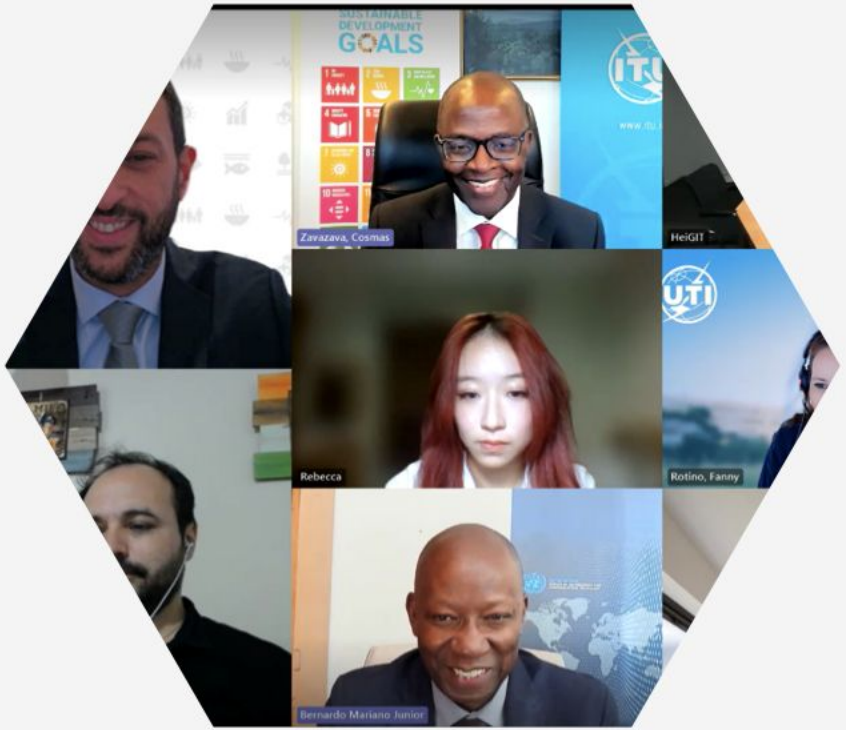


Open Source Community Member Call

Open-ended call to touch base on open source practices across the organization with presentations on open source projects

OSS4SDGs

- DTN CoP led
- Hackathons to promote Open Source for Good
- Targets one SDG each time
- Month-long with mentorship and winners



Fully Virtual

The challenges are hosted, and solutions are judged on Unite Ideas

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Fully Open

Each solution is required to be Open Source with a requisite license

Reboot the Earth

First edition was held in 2019 at Malaysia, India, Egypt, Germany, NY & virtually

Second edition was held in 2024 in NYC, India, Ethiopia, Morocco & virtually

It takes collective effort of diverse agencies to harness the full potential of open source for meaningful impact.

That's why we created OSS CoP for all UN agencies

Open Source CoP - UN System

Key opportunities

Deep Dive: Team leads to proactively prepare questionnaires ahead of retreat, ensuring thorough exploration of recommendations. Additionally, provide insights on timeline for implementing the below recommendations.

SOFTWARE CATALOG

BUILD A CATALOG OF OPEN SOURCE AND POTENTIALLY OPEN SOURCEABLE SOFTWARE IN THE UN SYSTEM CATEGORIZED IN DIFFERENT VERTICALS SUCH AS MATURITY, SDGS IMPACTED AND EXISTING SUPPORT, AMONG OTHERS.

COMMON POLICY FRAMEWORK

WORK TOGETHER TO GENERATE A COMMON SET OF POLICIES, GUIDELINES AND GOVERNANCE FRAMEWORKS THAT COULD THEN BE SPECIALIZED AND OVERRIDDEN TO SUIT THE NEEDS OF EACH UN SYSTEM ORGANIZATION.

UN OPEN SOURCE LICENSE

DRAFT A UN SYSTEM-WIDE OSI COMPLIANT LICENSE FOR OPEN SOURCE DEVELOPMENT THAT IS FAITHFUL TO THE UN STATUS, IMMUNITIES AND PRIVILEGES WHILE ALLOWING OPEN PARTICIPATION BY THE GREATER WORLD.

CODE-HOSTING PLATFORM

BUILD AND MAINTAIN A UN SYSTEM-LEVEL OPEN SOURCE CODE-HOSTING PLATFORM COMPLIANT TO EXISTING QUALITY, LICENSE AND SECURITY POLICIES, WITH VOLUNTARY PARTICIPATION FROM SYSTEM ENTITIES.

CROSS-ORGANIZATIONAL CAPACITY BUILDING

EXTEND CAPACITY BUILDING ACTIVITIES BEYOND ORGANIZATIONAL BOUNDARIES TO BREAK DOWN MYTHS AND SKEPTICISM SURROUNDING STAFF INVOLVEMENT IN OPEN SOURCE USE, PRODUCTION AND CONTRIBUTION.

UNFPA

ITU

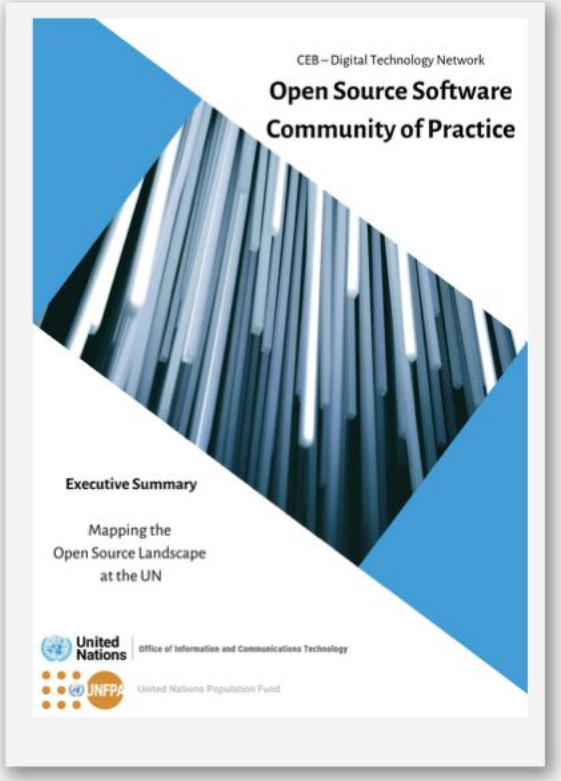
World Health Organization IAEA

UNICC

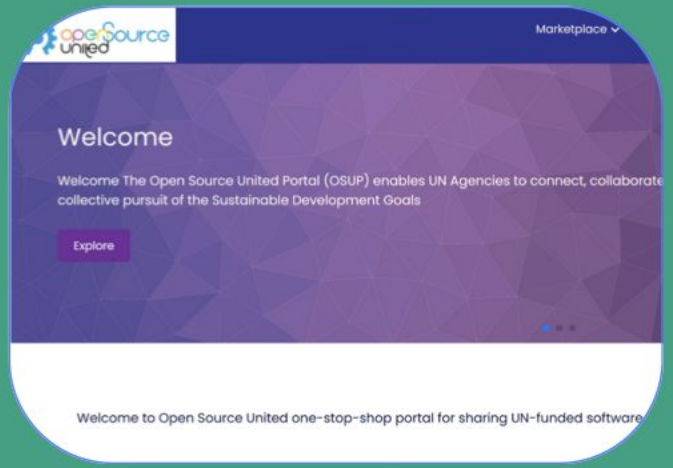
UNITED NATIONS OFFICE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

Open Source CoP - UN System

The executive summary of the survey is available at **bit.ly/unosscop**



UN Open Source Portal



One stop shop of all the open source projects at the UN, providing a unique destination for the open source community to coordinate development

OSPOs for Good 2024

CloudNativeHacks 2024

First ever hackathon at KubeCon

Advances SDGs through open web and AI applications

19-21 March, Paris

Runs alongside Kubecon+CloudNativeCon, the flagship open source and cloud-native conference with over 10k devs from all around the world

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10 challenges, 10 SDGs

Each challenge targets a subset of the SDGs and were provided by our partners

Partners

UNFPA

JOHNS HOPKINS
WHITING SCHOOL
of ENGINEERING
Inclusive Innovation Initiative

ROCHESTER INSTITUTE OF TECHNOLOGY
R·I·T
1829

RI
SE
Research Institutes of Sweden

ITU

World Health
Organization

United Nations
Office of the Secretary-General's
Envoy on Technology

TODO

UNITED NATIONS
OFFICE OF INFORMATION AND
COMMUNICATIONS TECHNOLOGY

CLOUD NATIVE
COMPUTING FOUNDATION

POP

salesforce

EQUALS
GLOBAL PARTNERSHIP

European
Commission

TODO

Ersilia

CLOUDFLARE

OSPO++

THE
LINUX
FOUNDATION

ofe
OpenForum
Europe

ispirt

GitHub

Digital
Public
Goods
Alliance

open source
initiative

intel

UNITED NATIONS
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COMMUNICATIONS TECHNOLOGY

Thank you!

Time for some announcements!

Digital Public Goods Alliance

Wikipedia is now a Digital Public Good!

DPG

WIKIPEDIA
The Free Encyclopedia

“Imagine a world in which every single human being can **freely share in the sum of all knowledge**. That’s our commitment.”

WIKIPEDIA
The Free Encyclopedia

WIKIMEDIA
DEUTSCHLAND

Wikipedia helps to achieve UN-SDG goals

4, 5, 10, 16 & 17

WIKIMEDIA
DEUTSCHLAND

Wikipedia's Role in Advancing SDGs

- **Free access to knowledge (SDG 4: Quality Education)**
  - Wikipedia as a global educational tool
  - Supporting lifelong learning opportunities for all

- **Community-driven content creation (SDG 5: Gender Equality)**
  - addresses gender bias on the platform by encouraging more women to contribute and ensuring that articles represent diverse perspectives

WIKIMEDIA
DEUTSCHLAND

Wikipedia's Role in Advancing SDGs

- **Free access to knowledge**
  (SDG 10: Reduced Inequalities)
  - Wikipedia as a global educational tool
  - Ensuring educational access in low-connectivity regions

- **Community-driven content creation**
  (SDG 16: Peace, Justice, and Strong Institutions)
  - Enhancing transparency and fighting misinformation
  - Providing reliable and verifiable information

WIKIMEDIA
DEUTSCHLAND

Wikipedia’s Role in Advancing SDGs

- **Support for multiple languages (SDG 17: Partnerships for the Goals)**
    - Bridging the digital divide
    - Collaborations with institutions and governments to expand access
    - Promoting linguistic diversity, preserving indigenous languages

WIKIMEDIA
DEUTSCHLAND

Conclusion & Call to Action

- **Wikimedia as a force for positive change**

- **How you can contribute:**
  - Edit Wikipedia, support Wikimedia projects, advocate for open knowledge

- **Final Thought:**
  - Knowledge is a key driver for sustainable development – let's make it accessible to all!

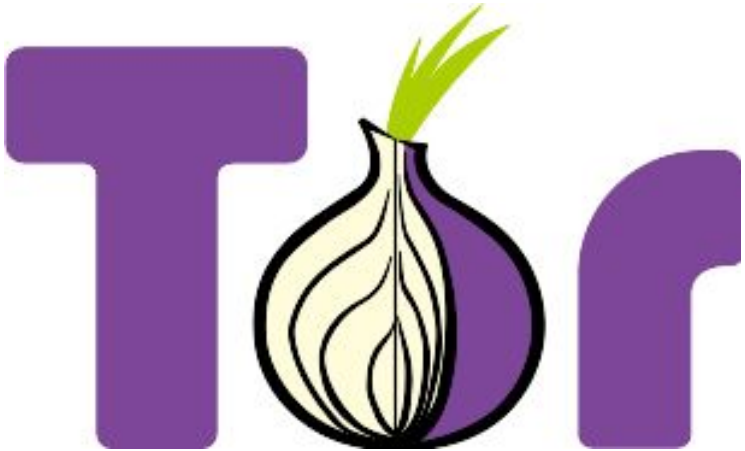
WIKIMEDIA
DEUTSCHLAND

Announcement No.2!

Digital Public Goods Alliance

The TOR project is now a Digital Public Good!

DPG



Digital Public Goods Alliance

Open Food Facts is now a Digital Public Good!

DPG

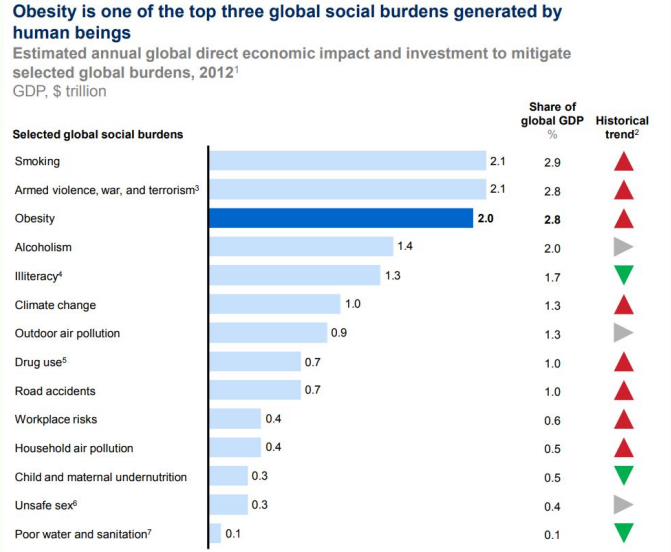
Open Food Facts' Mission: Reduce the **impacts of the food system** on **health** and the **planet** everywhere

We're helping tackle UN-SDG goals 3, 12 & 13

The impact of food on health and the planet

An observation: growing negative impacts

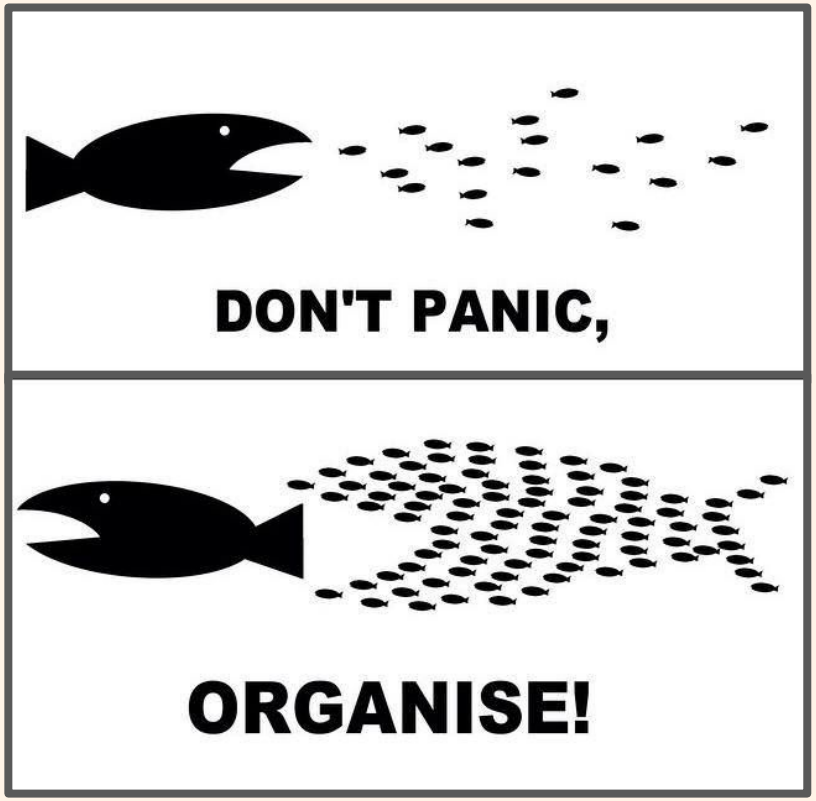
- A global epidemic of obesity
  - Europe: 3% of GDP wiped (OECD)
  - France: 1 in 2 adults & 1 in 5 children are overweight
  - Annual cost: 20.4 billion euros (Public Treasury – 2016)
- Globally, food accounts for 1/3 of carbon emissions, 70% drinking water consumption & the majority of packaging waste.



The obvious:

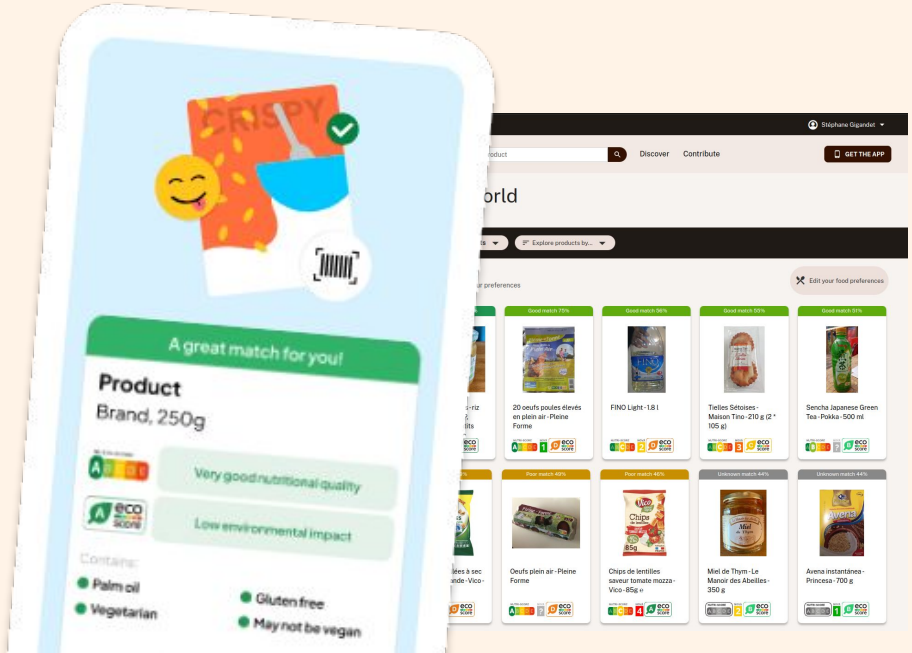
It is important and urgent to act.

Empower global citizens to have an impact

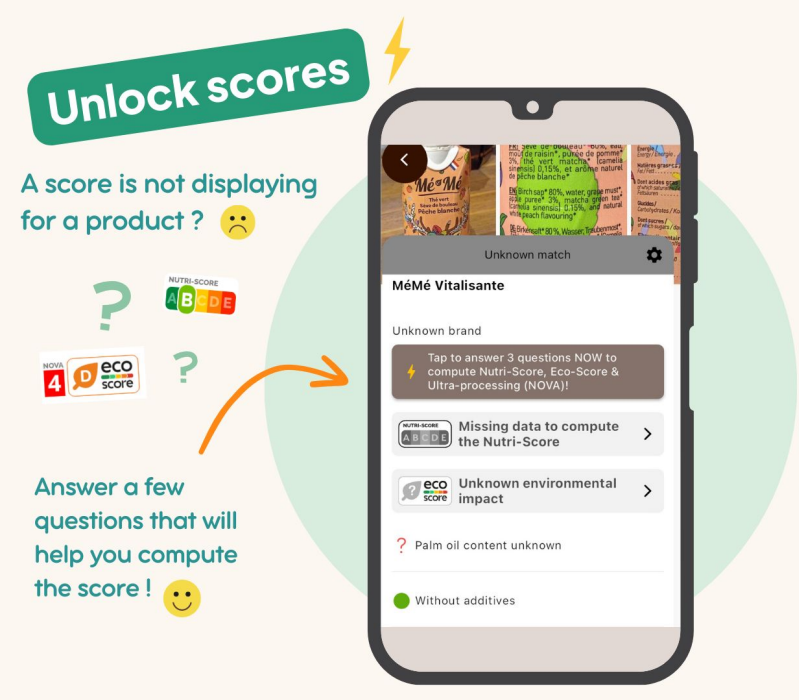


- ➔ on their own health
- ➔ on the environment
- ➔ on the food system

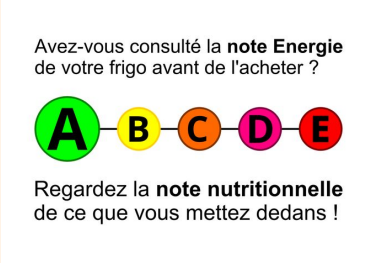
Scan almost any food to see its impact on the PLANET and yourself



If a score is missing, contribute with missing data to unlock it !

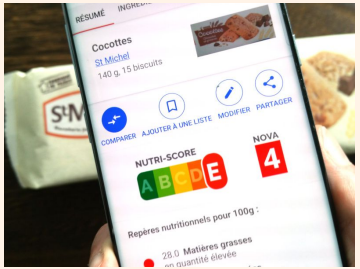


Our collective impact with Nutri-Score



Started displaying “Score 5C” on 15k products in 2015

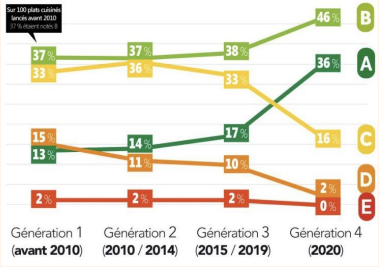
Now computed worldwide on 630k products, using mobile crowdsourcing



Anyone can get it,
even without manufacturer cooperation

Created an API ecosystem
around the Nutri-Score

Now available in real-life in **6 EU countries** and under EU review
[30% of French products have a printed Nutri-Score]



Newly-launched products have
a better nutritional profile

2021 ScanUp study

Civil society can accelerate policy: Eco-Score

France will have an
Eco-Score

Eco-Score
in Colruyt

Taking part in Ecolabel
European discussion

0.7 M Eco-Score computed
Available for 1 bn consumers

Digital Public Goods Alliance

Why Open ?

- It's in the name ;-)
- Builds trust (in food and more)
- Allows us to go faster in development
- Allows us to partner more easily with producers, governments, other organisations
- Allow others to build on top of it to go on topics where we wouldn't be able to go

open FOOD facts

Digital Public Goods Alliance

Benefits of inclusion in DPGs

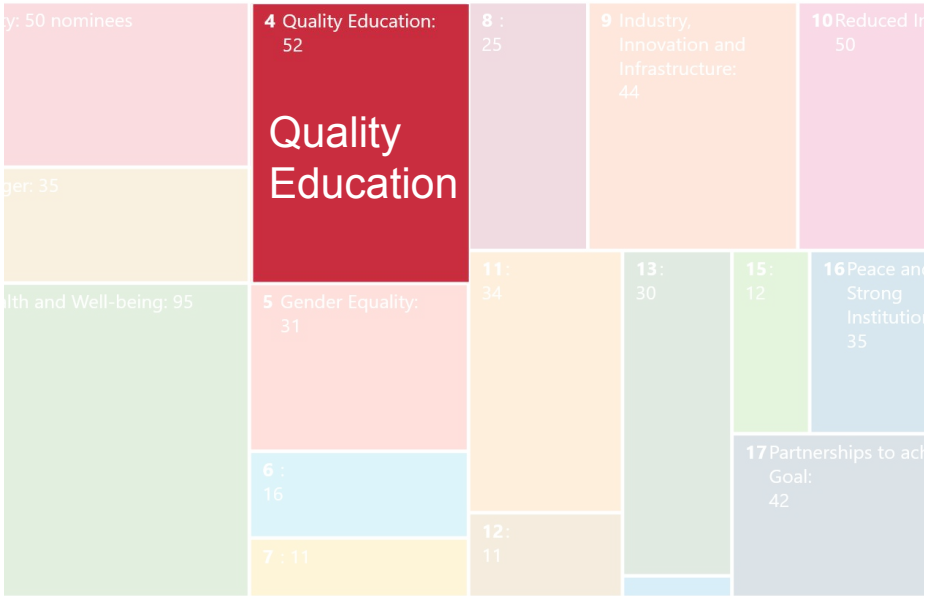
- We are happy to be recognized for what we are
- A lot of credibility to start conversations with more governments

open FOOD facts

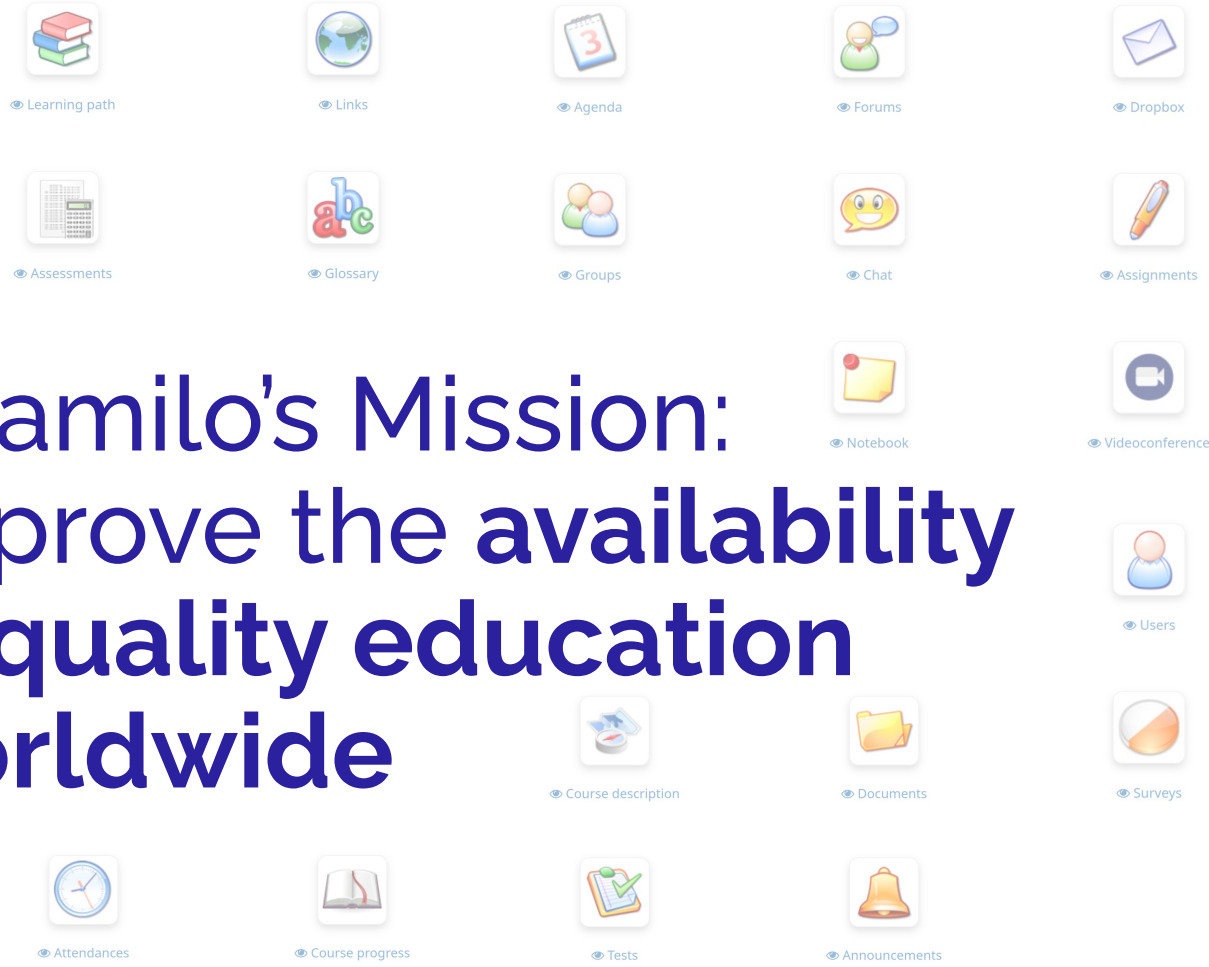
Digital Public Goods Alliance

Chamilo

E-learning made easy!



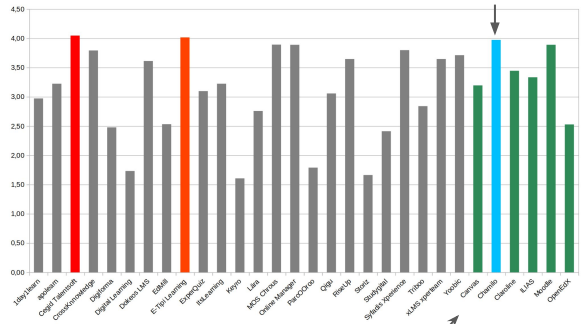
digitalpublicgoods.net/registry



Chamilo's Mission: Improve the **availability** of **quality education worldwide**

Digital Public Goods Alliance

Our process



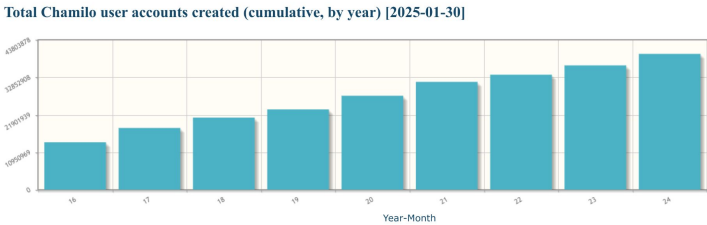
1. Provide FLOSS that is **easy to use**
2. Receive feedback from anyone, anywhere
3. Improve/Optimize
4. Repeat

FLOSS process **huge** pusher of feedback

Chamilo
E-learning made easy!

Impact on SDG 4

- Reliability: >15 years
- Reach (ease of use):
  - 40M users (+4M/y), >80k portals, >180 countries
- Portability: Can run school on Pi B+



Digital Public Goods Alliance

Impact of Open Source on Chamilo

- High maintenance cost (infra, PRs, security) 🥶
- Most efficient way to “widespread” software 🙂
- Big pusher for transparency/security 😎
- Worldwide community of excellence 🥳

Chamilo
E-learning made easy!

Benefits of inclusion in DPGs

- Networking with like-minded projects
  - real-world readiness
- Increased visibility (DPGA advocacy plan)
  - -> increases our impact

Digital Public Goods Alliance

Thank **you!**