

Data to Action: Build Healthy & Sustainable OSS Communities



FOSS Backstage March 2025

<https://chaoss.community/about-chaoss-practitioner-guides/>

 <https://chaoss.community/>

 <https://github.com/chaoss>

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Dr. Dawn Foster

- ★ 20+ years in tech—OSS at VMware, Intel...
- ★ OpenUK Board
- ★ CNCF TAG Contributor Strategy co-chair
- ★ PhD on Linux Kernel Collaboration

Peculiar C. Umeh

- ★ 5+ years in tech- Software Developer
- ★ Open Source Advocate
- ★ CHAOSS Education Project Manager.
- ★ CHAOSS Project Management Co-Chair



Peculiar C. Umeh

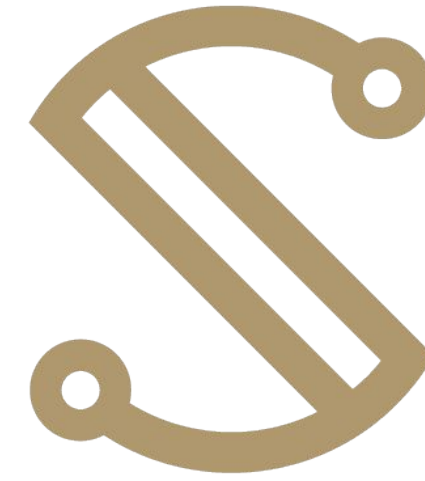
CHAOSS
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Thank You!



**ALFRED P. SLOAN
FOUNDATION**



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Agenda

- CHAOSS Overview
- Responsiveness
- Contributor sustainability
- Organizational participation
- Security

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CHAOSS: Community Health Analytics for Open Source Software

We are:

- An Open Source, Linux Foundation Project
- Globally distributed with 2000+ members in Slack
- A lovely place to spend your time

We are NOT:

- Not focused on medical health
- Not for-profit with any specific mandate
- Not only focused on code contributions

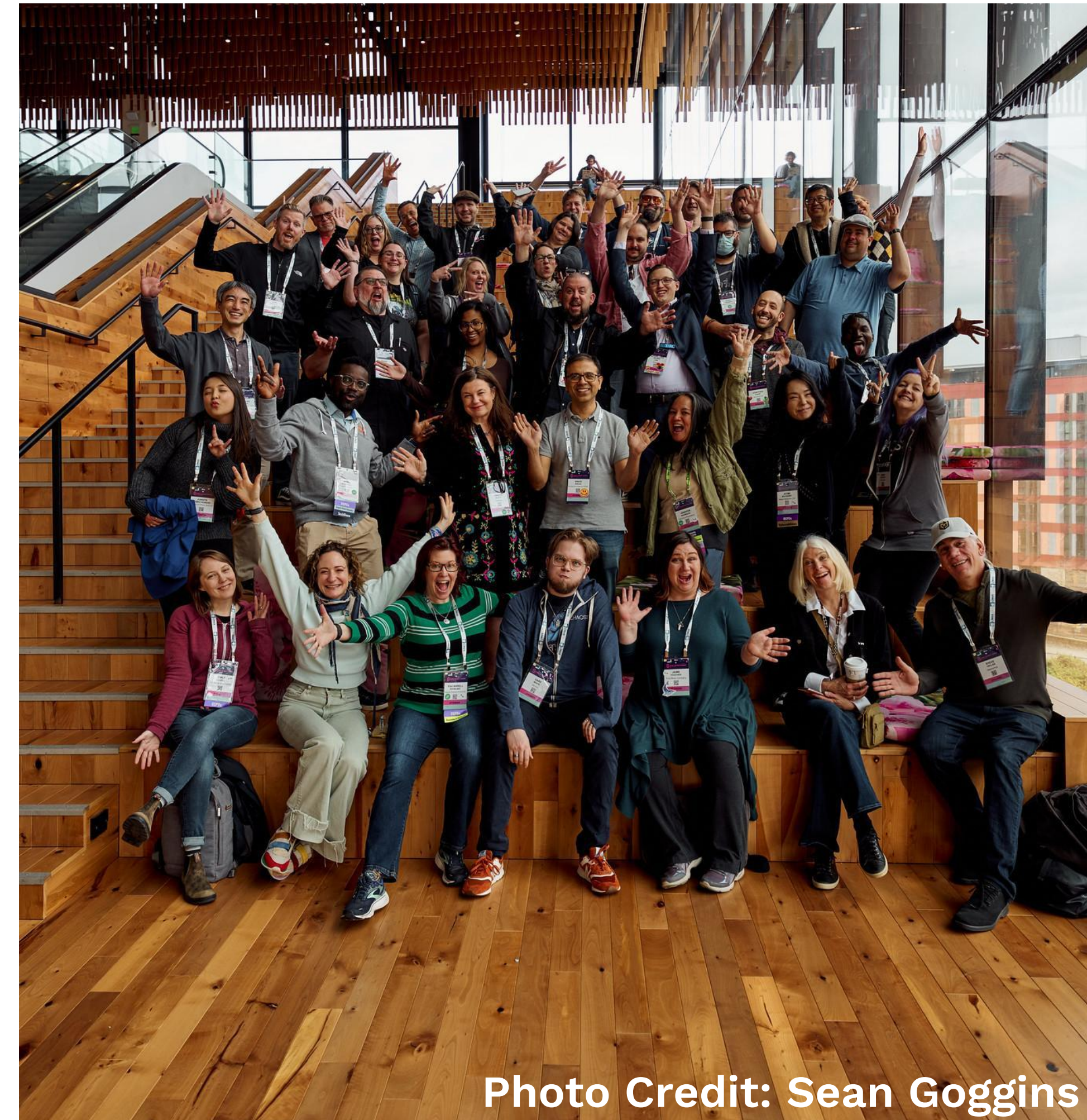


Photo Credit: Sean Goggins

Join Us!

Context WGs: OSPOs, Academic / Uni, Scientific, Data Science, UN SDGs

Metrics WGs: Metrics Development, Metrics Model.

Chapters: CHAOSS Africa, CHAOSS Asia, CHAOSS Latam, CHAOSS Balkans

Programs: Event Badging and Project Badging

Software: Augur and GrimoireLab

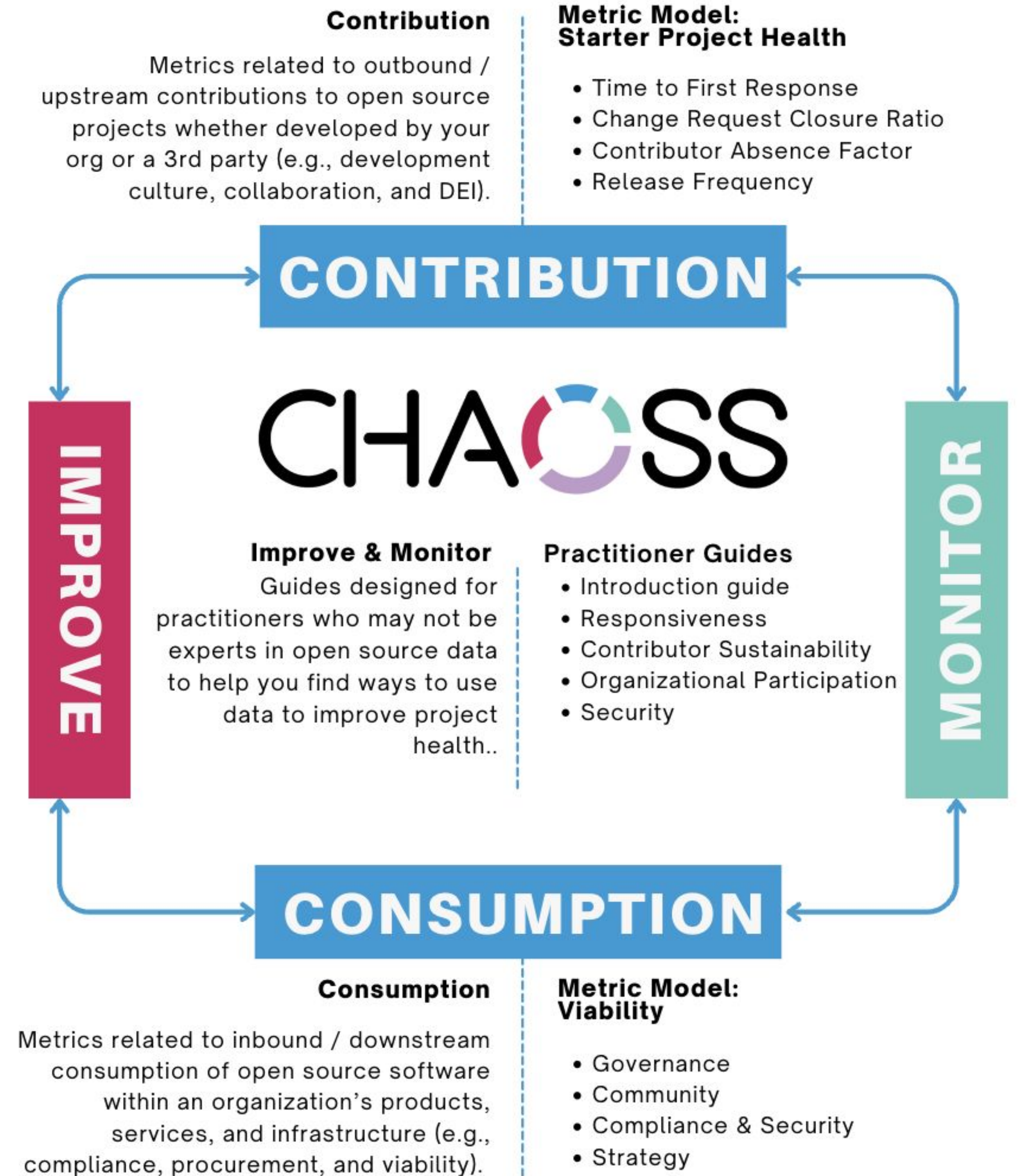
And More!



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CHAOSS Resources

Practitioner Guides
and collections of
metrics to improve the
health of your projects



Avoid the Tsunami

People get overwhelmed
by a wall of metrics and
are not sure where to start



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Metrics Require Interpretation

Practitioner Guides:

- Introduction
- Responsiveness
- Contributor Sustainability
- Organizational Participation
- Security
- More guides coming soon



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Metrics Strategy

**Think strategically
about what you
want to accomplish and
customize your metrics.**

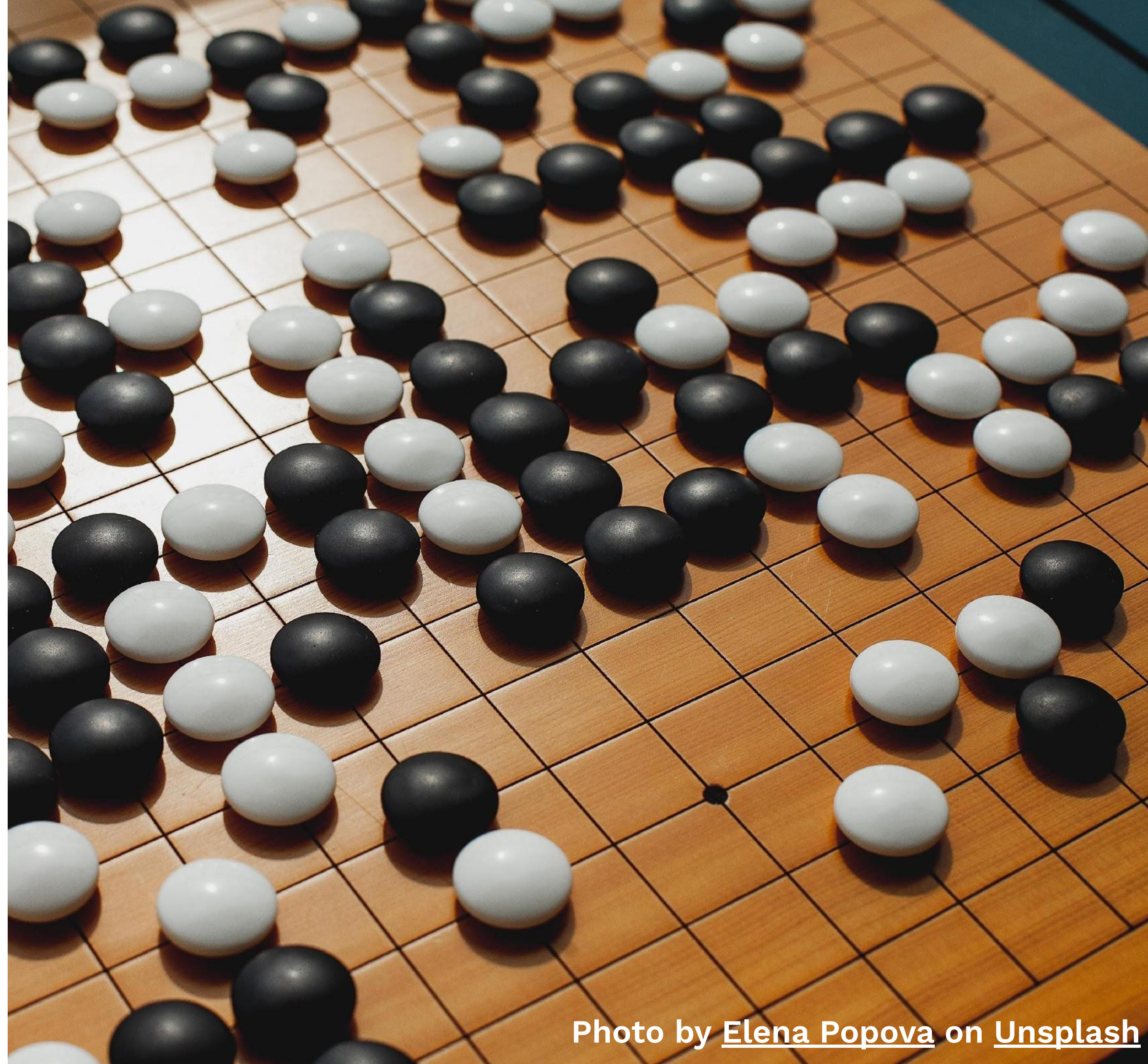


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Collaborate with Your Community

A project's maintainers and contributors can help interpret your metrics and make the best improvements for that project.



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Responsiveness

Projects that can keep up
with contributions will
be more sustainable

Key metrics:

- Time to First Response
- Time to Close
- Change Request Closure Ratio



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Responsiveness

Improve responsiveness by setting expectations, promoting contributors into maintainers, and using templates to improve contribution quality



Contributor Sustainability

Projects without enough contributors to sustain them are at risk of failure.

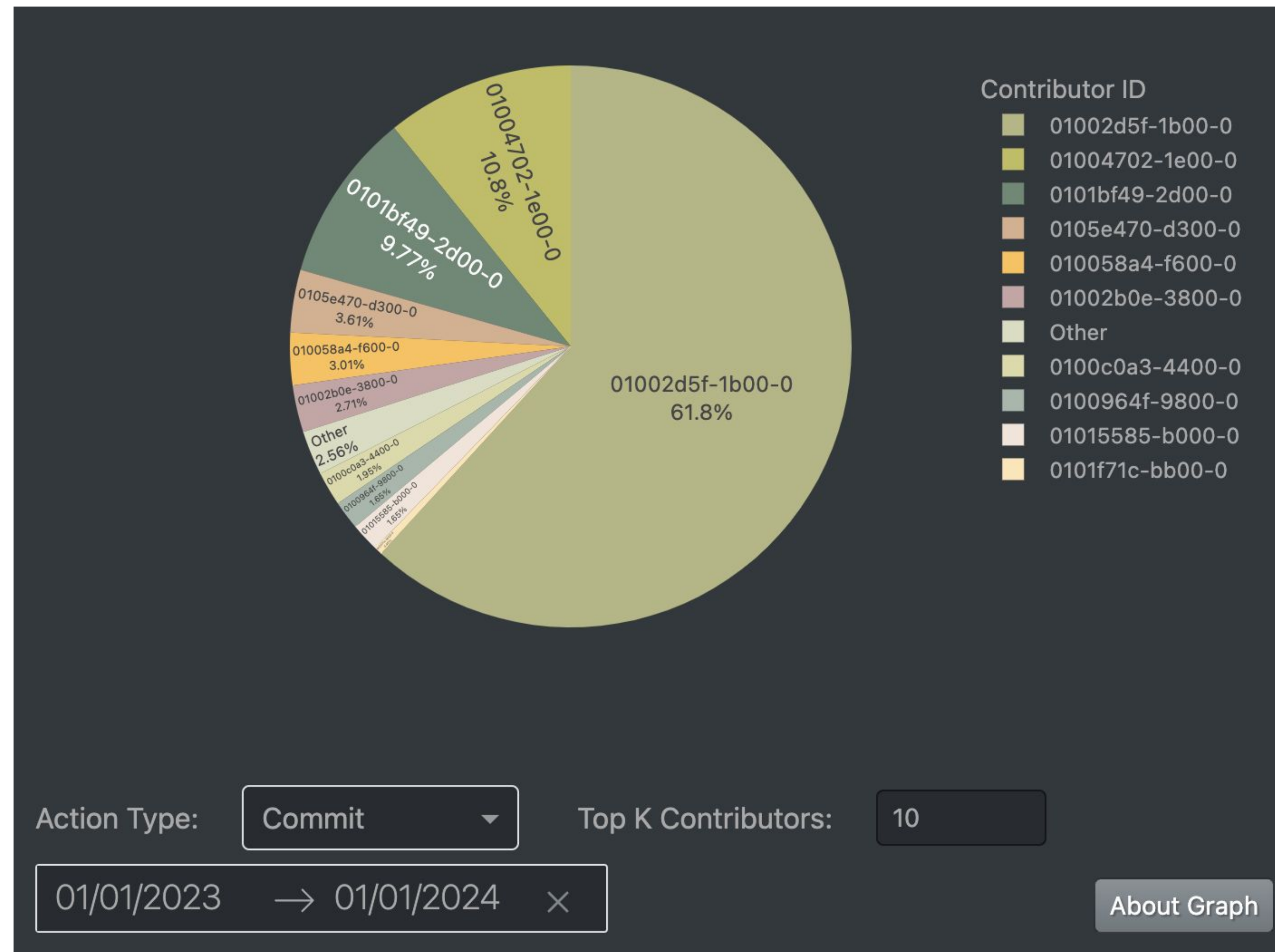
Key metrics:

- Contributor Absence Factor (Bus Factor)
- Contributors
- Types of Contributions



Contributor Sustainability

Improve by recruiting new contributors & promoting maintainers including non-code roles, and improve contributing / onboarding guides



Organizational Participation

Projects dominated by a single organization might be less sustainable.

Key metrics:

- Elephant Factor
- Organizational Influence
- Organizational Diversity

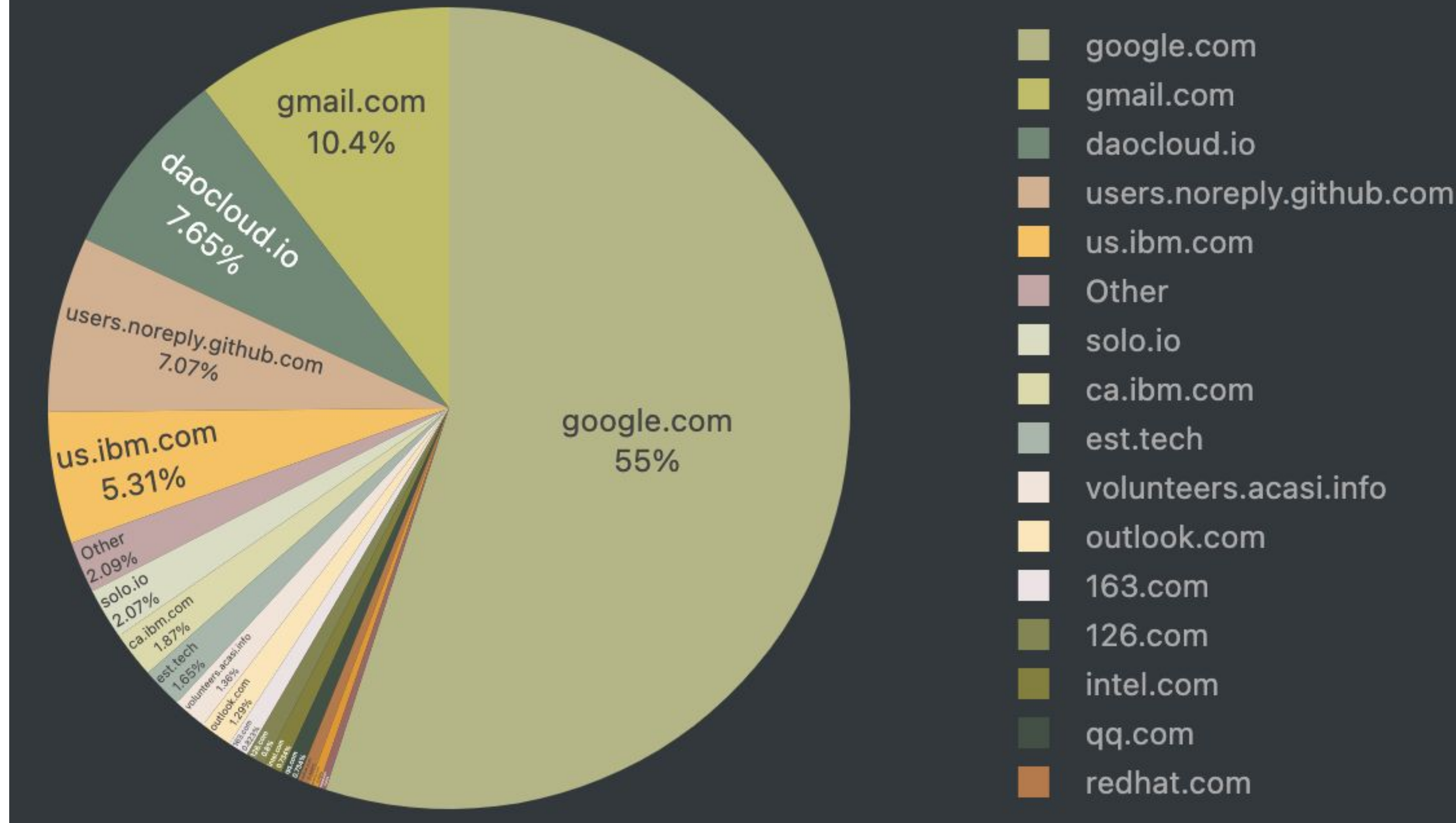


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Organizational Participation

Improve by recruiting contributors from other organizations, improving transparency, encouraging employees to contribute

Commit Activity by Domain



Security

A proactive approach to security increases trust and improves sustainability.

Key metrics:

- OpenSSF Best Practices
- Libyears
- Release Frequency



Security

Improve by securing your repo, creating a security policy, updating dependencies, and cutting releases with security fixes

OSSF Scorecard	
Check Type	Score
Aggregate Score	7.3
Binary-Artifacts	10
Branch-Protection	-1
CI-Tests	10
CII-Best-Practices	5
Code-Review	7
Contributors	10
Dangerous-Workflow	10
Dependency-Update-Tool	10
Fuzzing	0
License	10
Maintained	10
Packaging	10
Pinned-Dependencies	0
SAST	10
Security-Policy	4
Signed-Releases	-1
Token-Permissions	0
Vulnerabilities	10

Repo General Info	
Section	Info
License	MIT License
Code of Conduct	File found
Contributor Guidelines	File found
Security Policy	File found
Number of Releases	129
Last Release Date	2024-04-28
Avg Time Between Releases	12.0 Days
Star Count	572
Fork Count	840
Watcher Count	22
Issues Enabled	True

Final Thoughts

Building healthy and sustainable open source projects is challenging. Identify issues using metrics and proactively improve before you have a crisis.

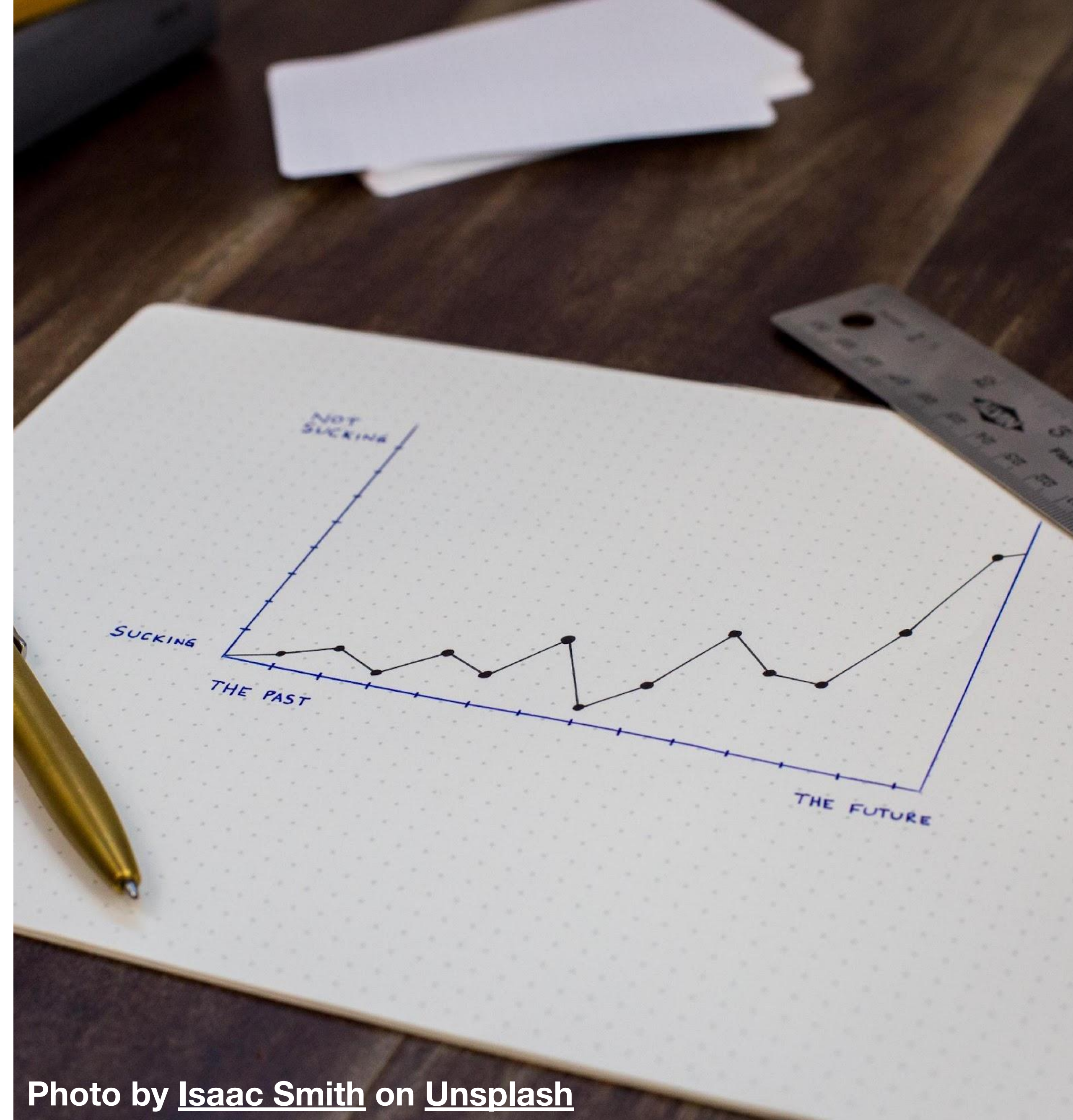


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THANK YOU!

Any Questions?

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