

Towards a sustainable solution to open source sustainability

Tobie Langel, Principal, UnlockOpen



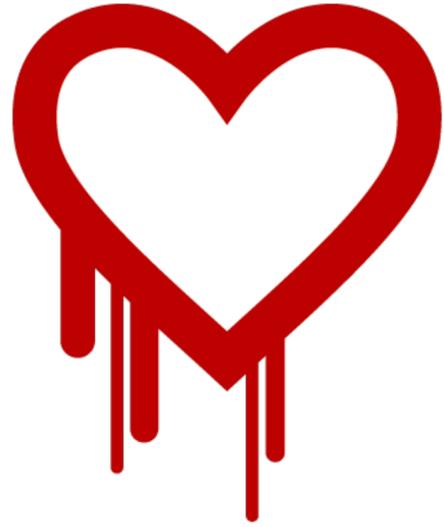
EUROPYTHON

2021 Jul 26-Aug 1 Online





The Heartbleed Bug



Heartbleed bug

💔 **WHAT WAS HEARTBLEED?**

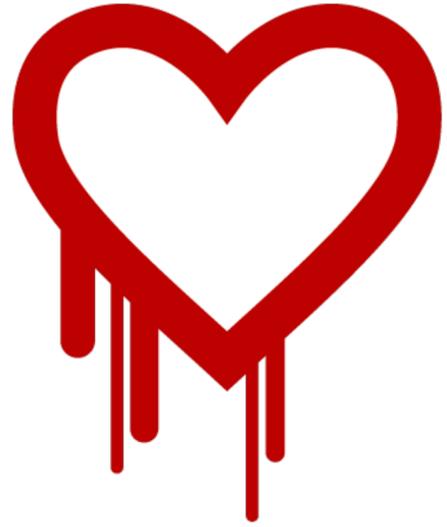
Critical vulnerability that affected the OpenSSL library in 2014.

🔒 **WHAT IS OPENSSL?**

The OpenSSL library is responsible for securing network communications in UNIX systems.

🌐 **WHY IS OPENSSL SO IMPORTANT?**

It powers the majority of internet servers.



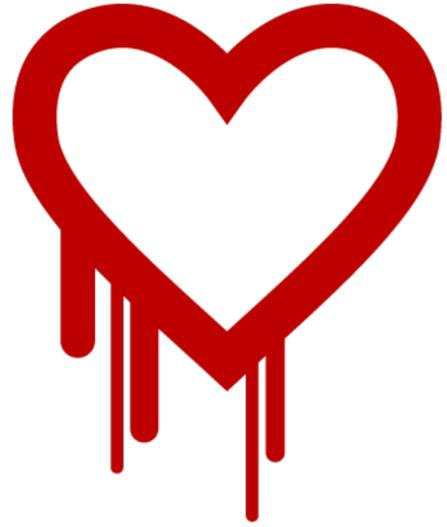
Heartbleed bug impact

 **4.5 MILLION**

The number of US patient records whose confidentiality was compromised.

 **\$500 MILLION**

Estimated cost to the industry.



Pivotal moment where tech industry realizes open source is:

UBIQUITOUS

2/3 of active sites on the Internet rely on the OpenSSL library.

CRITICAL

OpenSSL encrypts private communications, bank transactions, medical records, etc.

UNDERFUNDED

Only 1 full-time maintainer, shoestring budget (\$2k/year).





MAINTAINER BURNOUT

Huge burden carried by maintainers and cost to their mental health.

OPENED THE FLOODGATES

The community started speaking up about these issues.

SUSTAINABILITY

Open source sustainability took center stage.

MULTIPLE RESPONSES

This triggered a diverse set of response from different actors in the field.



INDUSTRY-WIDE EFFORT

Organized by the Linux Foundation. Backed by tech giants.

MULTI-MILLION \$ FUND

Administered by Linux Foundation and a steering group of industry experts.

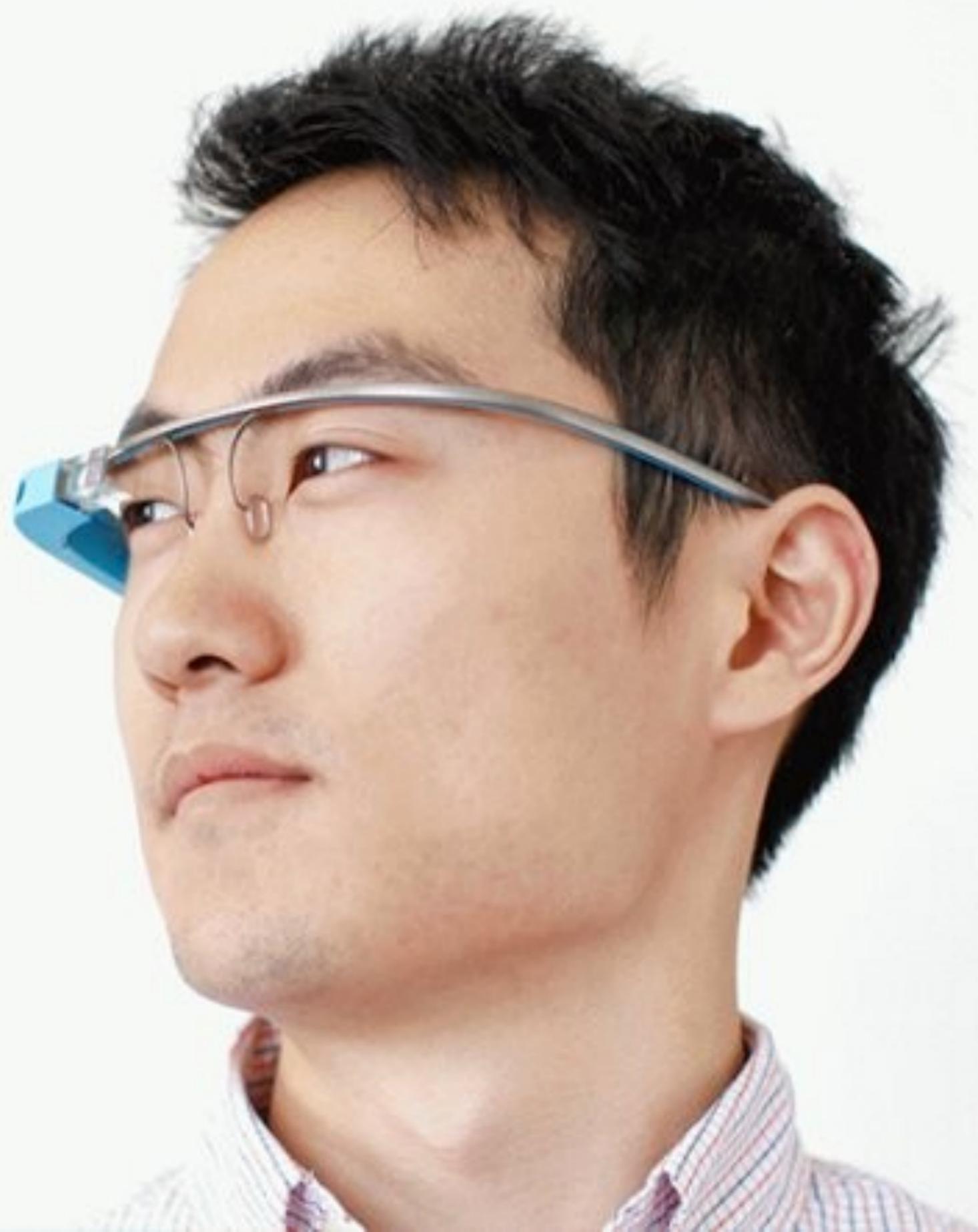
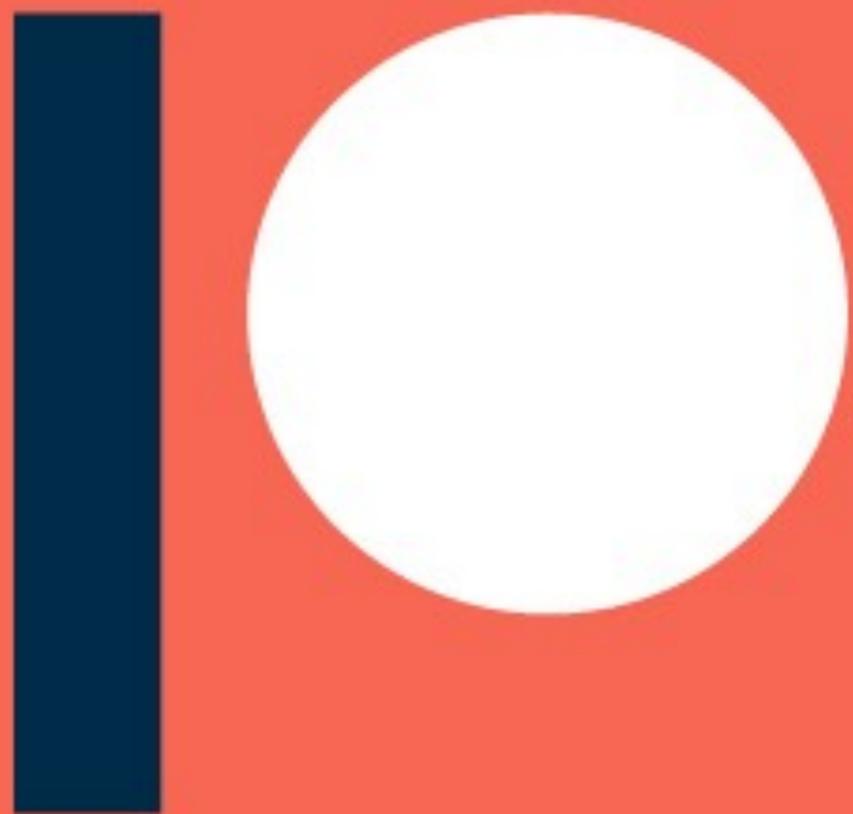
GOAL

Harden the security of key open source projects.

STRICT FOCUS ON “CORE INFRA”

The goal is to prevent a new Heartbleed. Not to make open source as a whole more sustainable.





PATREON |

FOCUS

Originally aimed at artists, musicians & writers.

GOAL

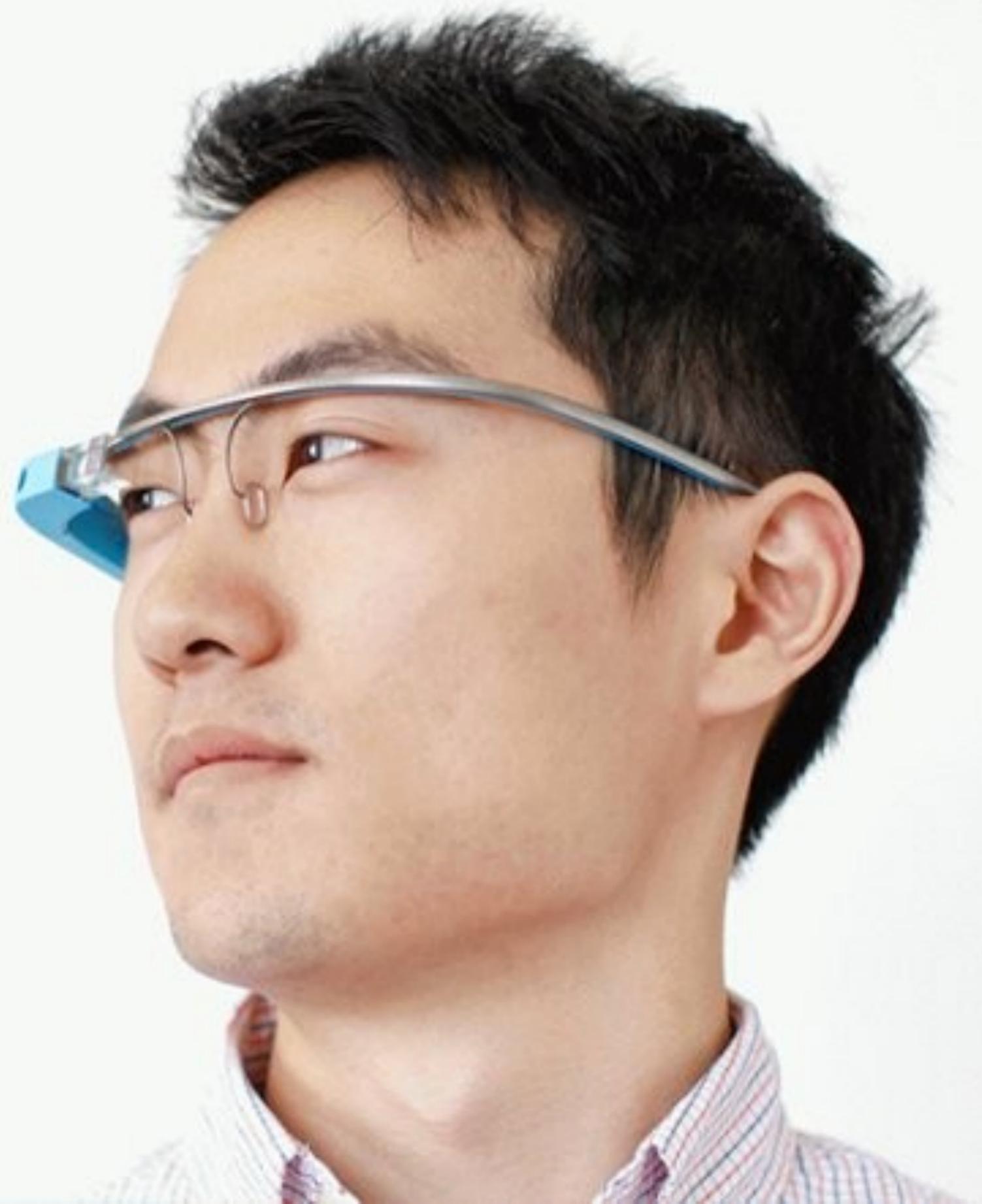
Create a “meaningful revenue stream.”

SUCCESS STORY

Evan You (pictured), creator of Vue.js. Nets over \$17K per month.

REPRODUCIBLE?

Not really. Very few devs have a large enough revenue stream to work on OSS full-time.





GITCOIN





GITHUB ISSUE MARKET

Allows project owners to add bounties to GitHub issues. Devs submit their work as a pull request.

 **\$500,000**

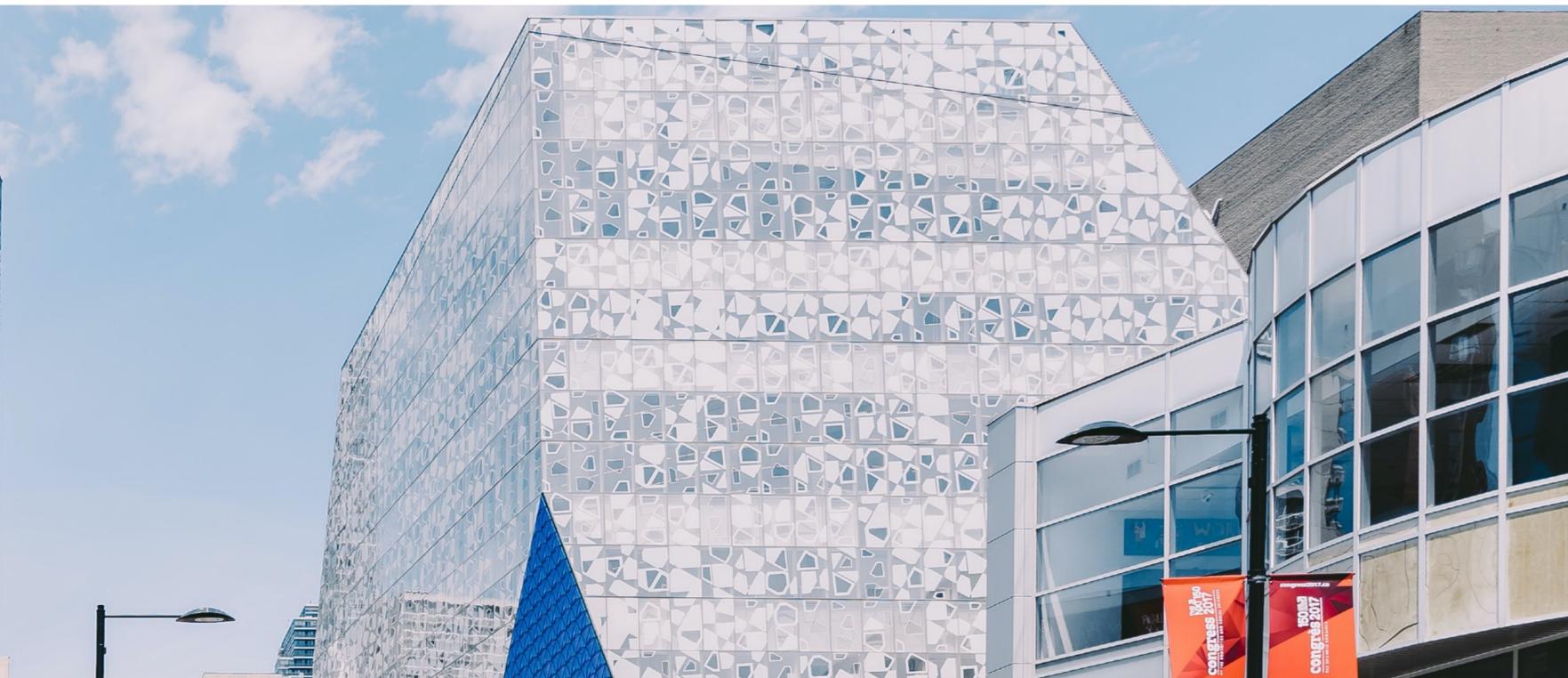
Amount of bounties paid on the platform in 2018.

BLOCKCHAIN-BASED

Developers received bounties in Ether.

WHOLE ECOSYSTEM

GitCoin also provides an ad network (CodeFund), and a Patreon-like solution (Grants).



CONTEXTUAL ADS

Advertise on the websites of open source projects.

HIRING FOCUS

Dedicated solution for hiring developers.

\$6K PER MONTH

Redistributed to project maintainers out of \$10K monthly revenue.



 **CONTEXTUAL**

Advertise on the web and mobile source projects.

 **\$6K PER MONTH**

Redistributed to project maintainers out of \$10K monthly revenue.

 **HIRING FOCUS**

Dedicated solution for hiring developers.



👍 **ENDORSED BY CODEFUN**

“They have the same mission, goals, and ethics that we worked hard to achieve.”

📖 **ORIGIN STORY**

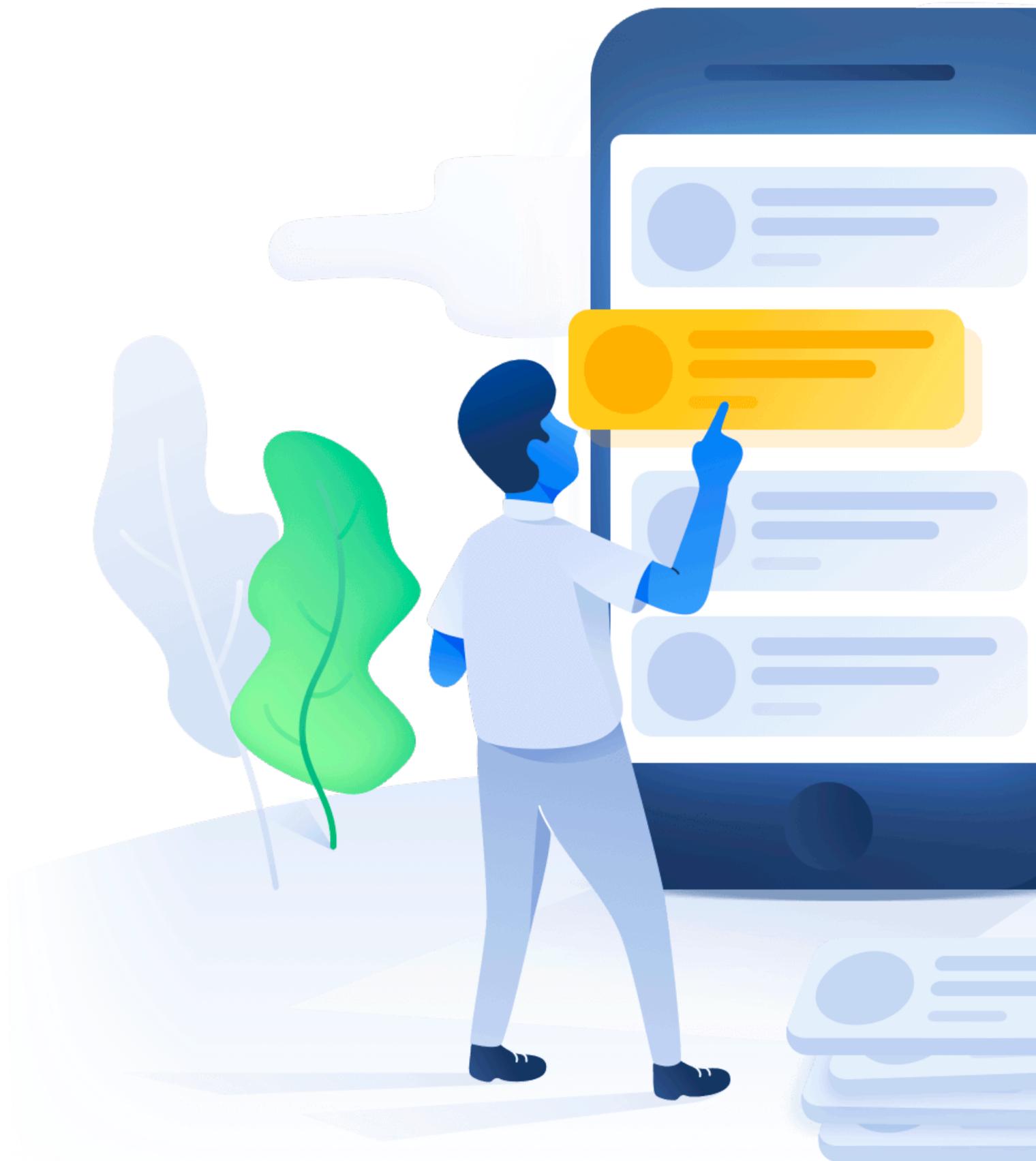
Originated as a way to fund sustainable open source development.

👨‍💻 **DEVELOPER FOCUSED**

100% focused on advertising to developers.

📈 **1 BILLION**

Number of ads served since 2016.





OSSC

Numerous crypto-based solutions





WHAT DOES IT DO?

Provides non profit status (501c6) to open source projects & transparency as to how funds are used.

SUCCESS STORY

WebPack reached \$400K+ yearly funding in 2018. Win-win situation for key sponsor (Trivago).

LONG TAIL PROBLEM

A few projects are getting most of the funding (>25% of total funds for WebPack in 2017).



 open collective

+



back*your***stack**

75





TIDELIFT

WHAT IS IT?

Red Hat business model for the long tail.

SERVICES

Provides security updates, maintenance, and legal assurances for all open source projects in an organization's stack.

HOW?

By paying the actual maintainers to do the work.

SUCCESS STORY

None yet. Still too early.



GitHub Sponsors



WARNING



AHEAD

Limitations of addressing open source sustainability through funding alone

DOES IT SCALE?

Is the current level of funding realistic compared to open source ubiquity?

IS MONEY EVEN WHAT'S MISSING?

Are we trying to solve the right problem?

IS IT A DESIRABLE OUTCOME?

Do we want a future with charity-funded open source developers on one side, and corporate developers writing “glue code” on the other?

WHAT IS THE REAL VALUE OF OPEN SOURCE?

Isn't it time to look beyond the source code?

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\$100



\$10,000

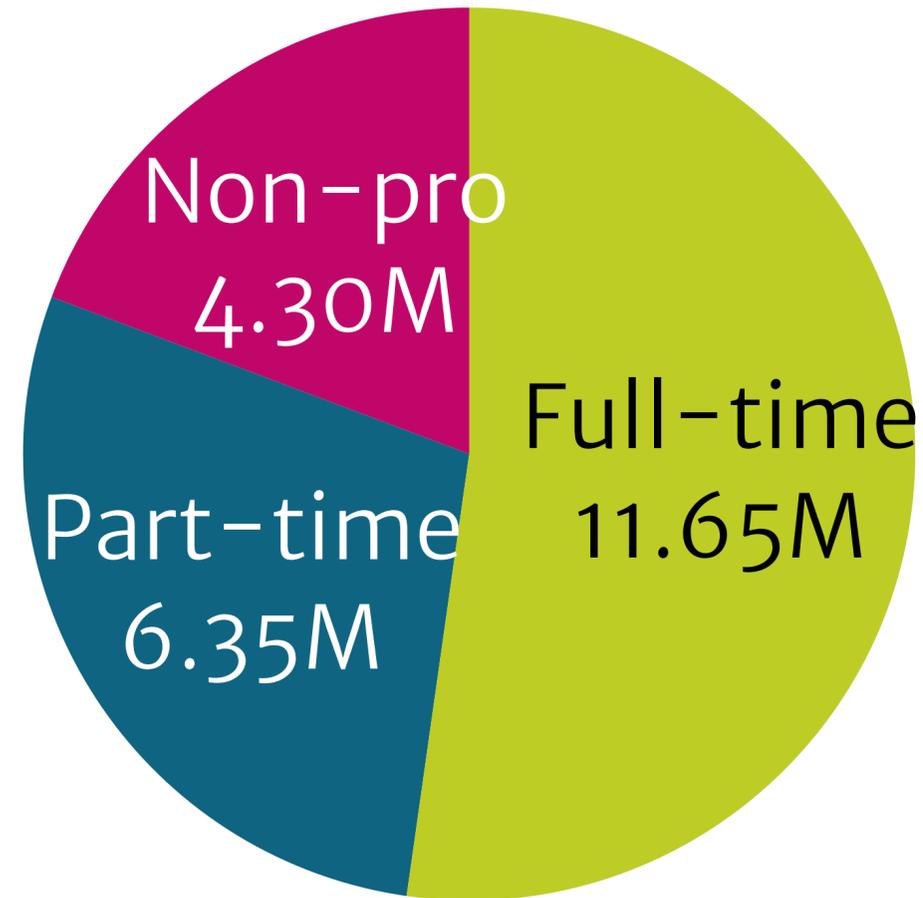
Monthly revenue of CodeFun.



1 million dollars

- Amount collected by Open Collective in a year.
- Amount Tidelift committed to pay developers.

Worldwide developer population



Quick back of the envelope math:
 $12\text{M FT devs} \times \$65\text{K} = \$780\text{B}$
 $+ 6\text{M PT devs} \times \$35\text{K} = \$210\text{B}$
 $\sim 1 \text{ trillion dollars}$

Source: IDC, [Worldwide Developer Census](#), 2018.



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100 million dollars



1 million dollars

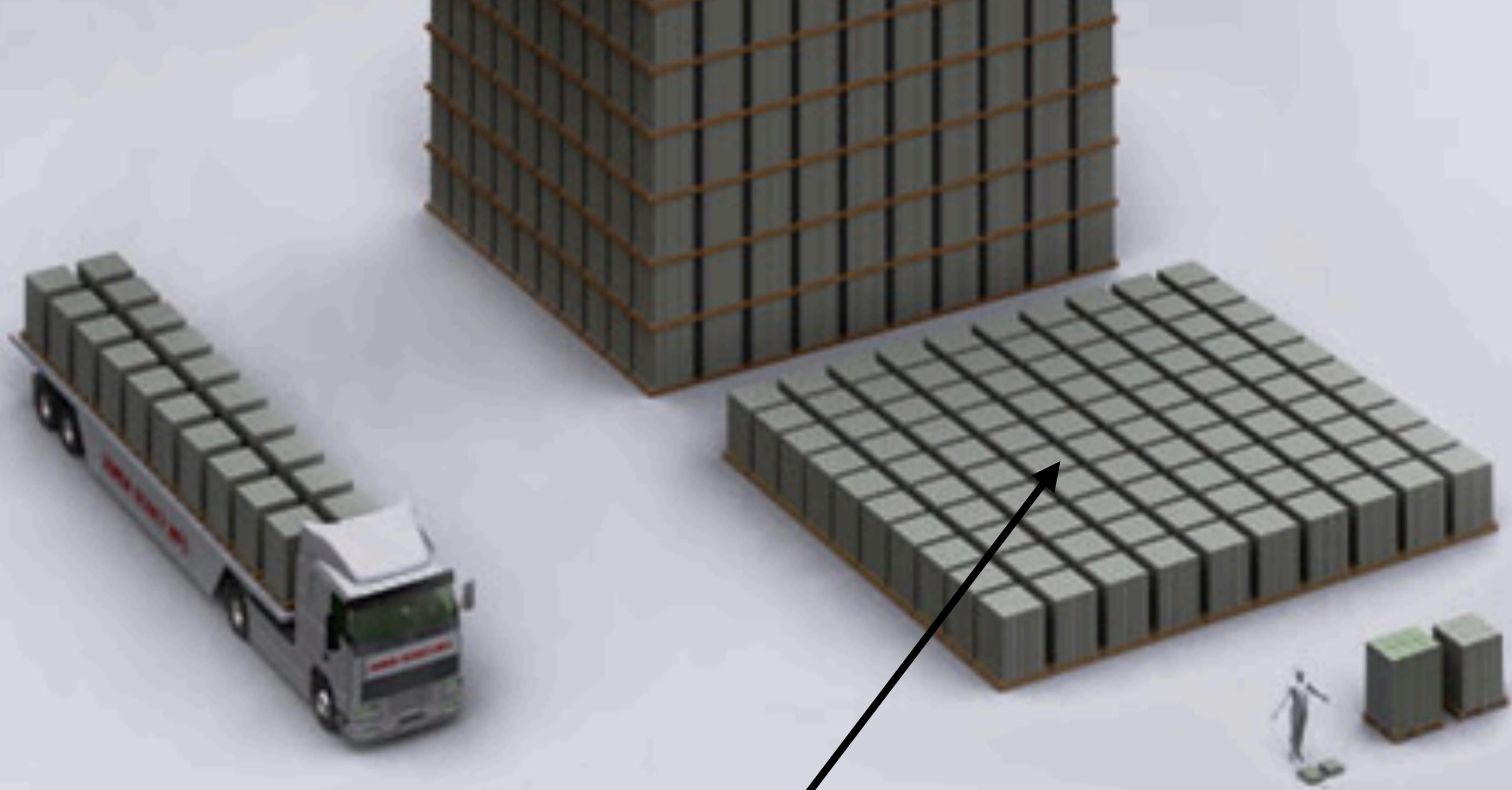


\$10,000

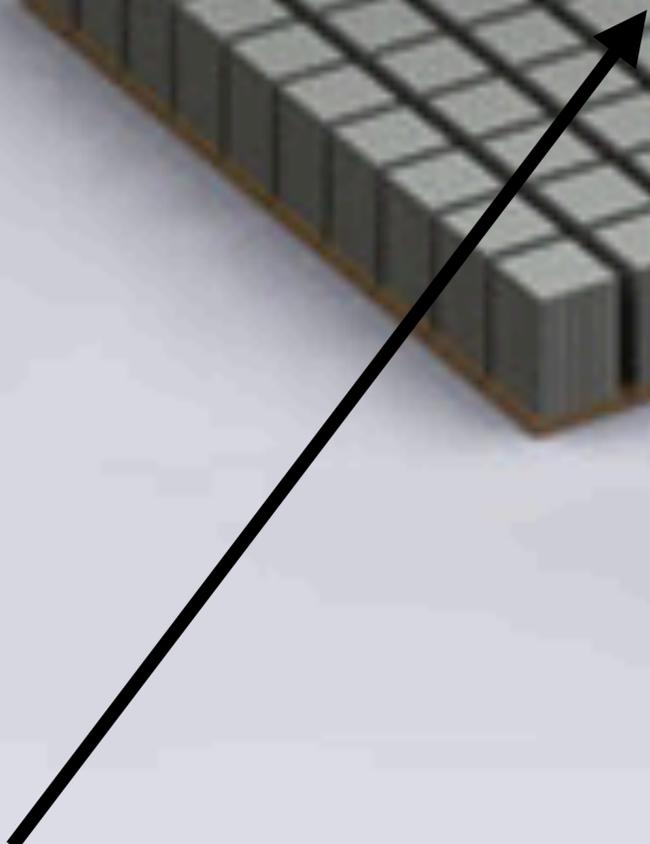


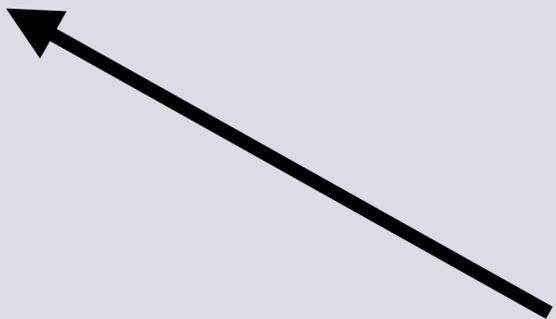
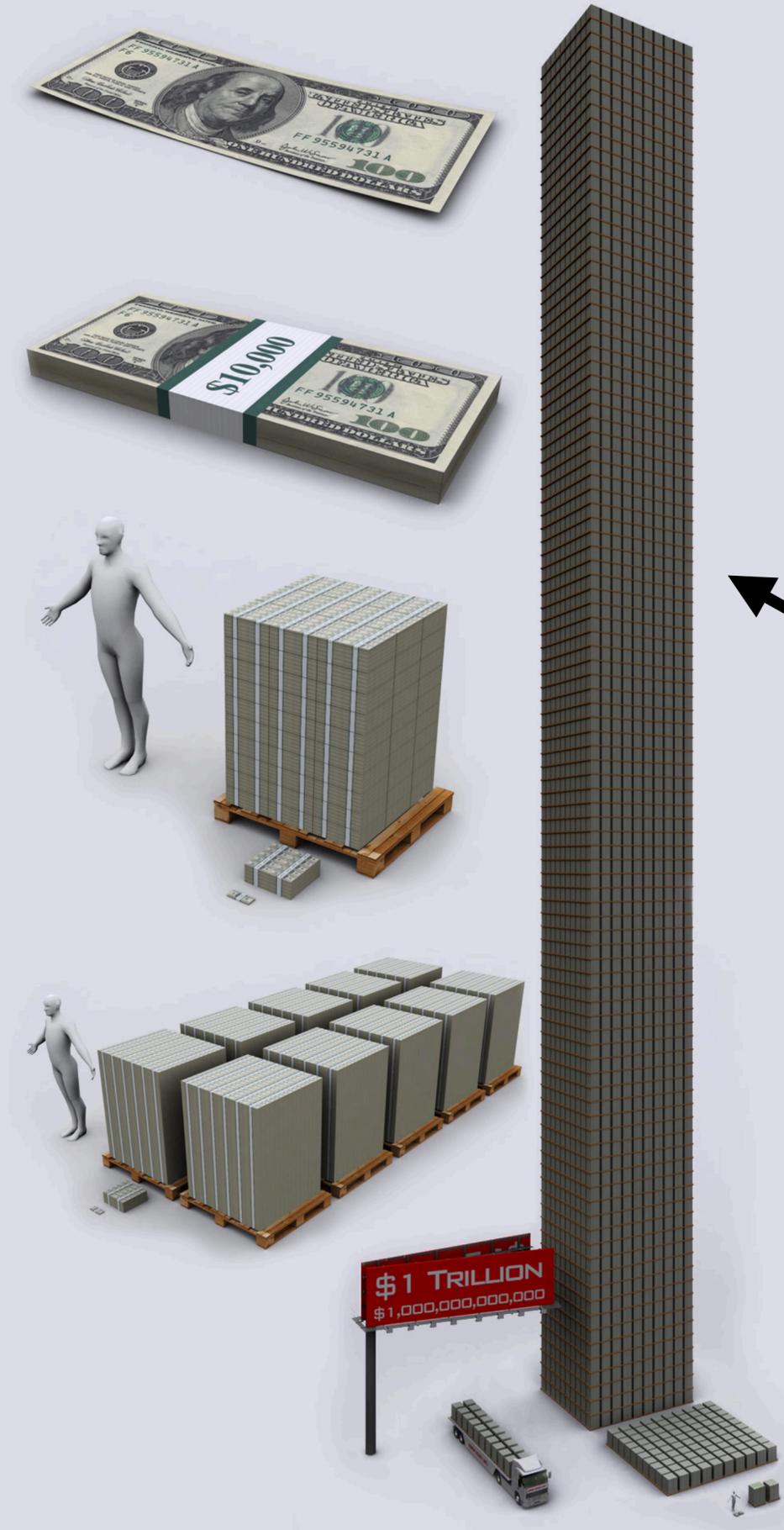
1 billion dollars





10 billion dollars

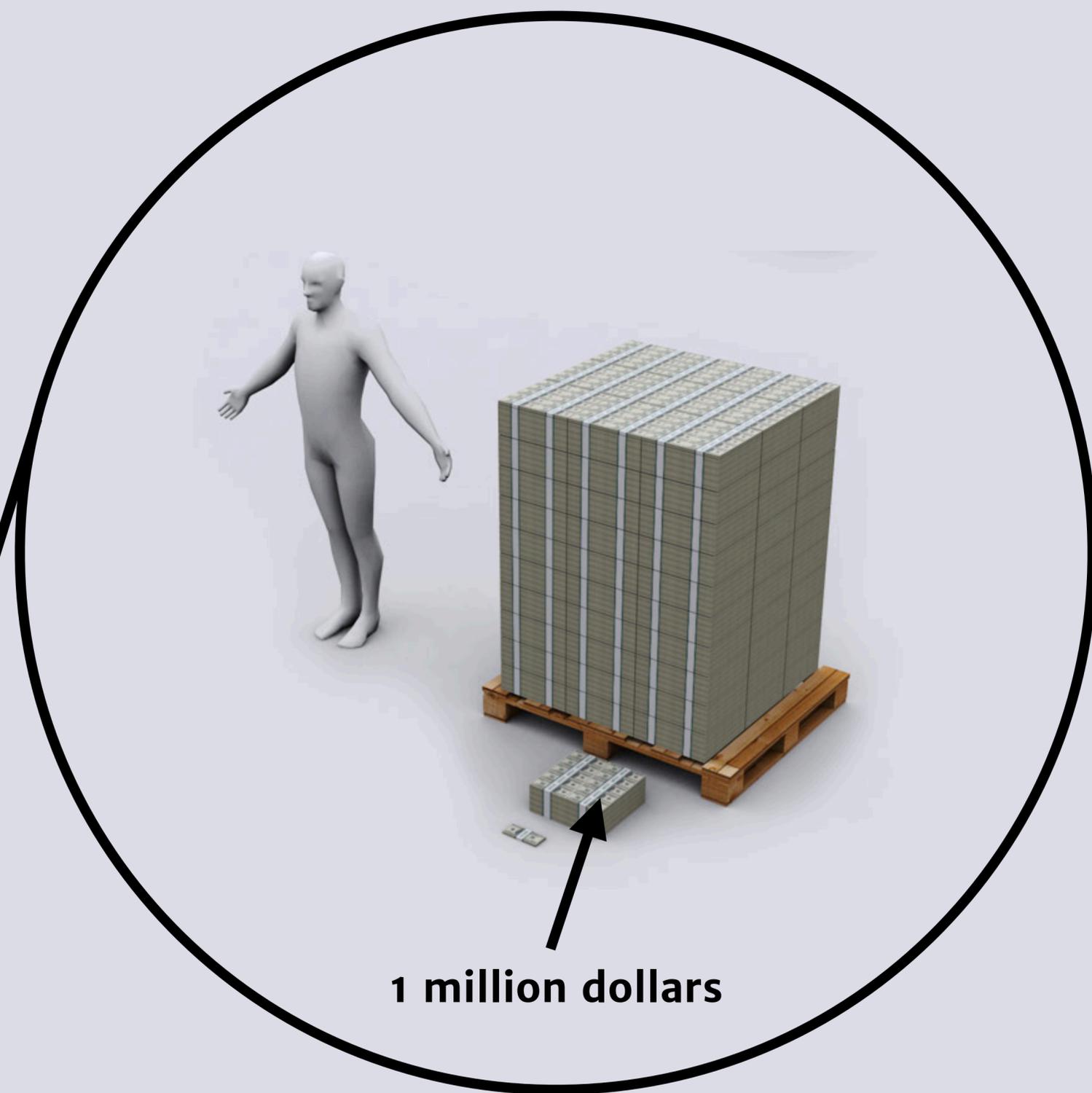
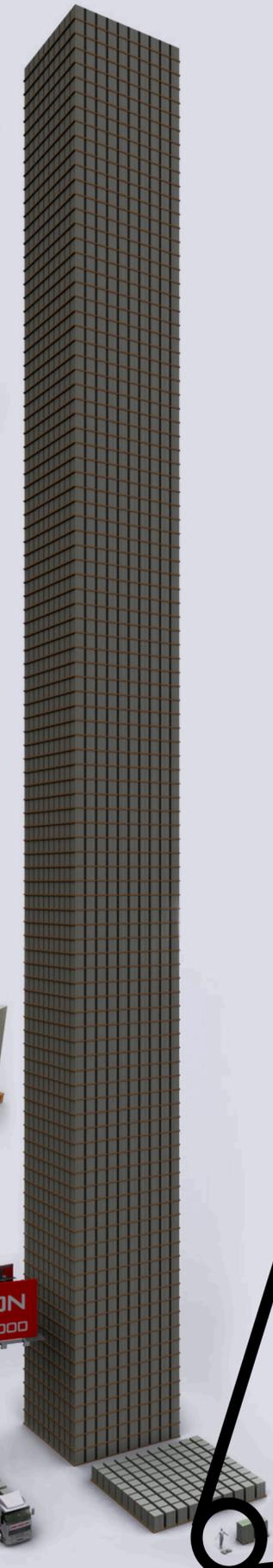




1 trillion dollars



\$1 TRILLION
\$1,000,000,000,000



1 million dollars



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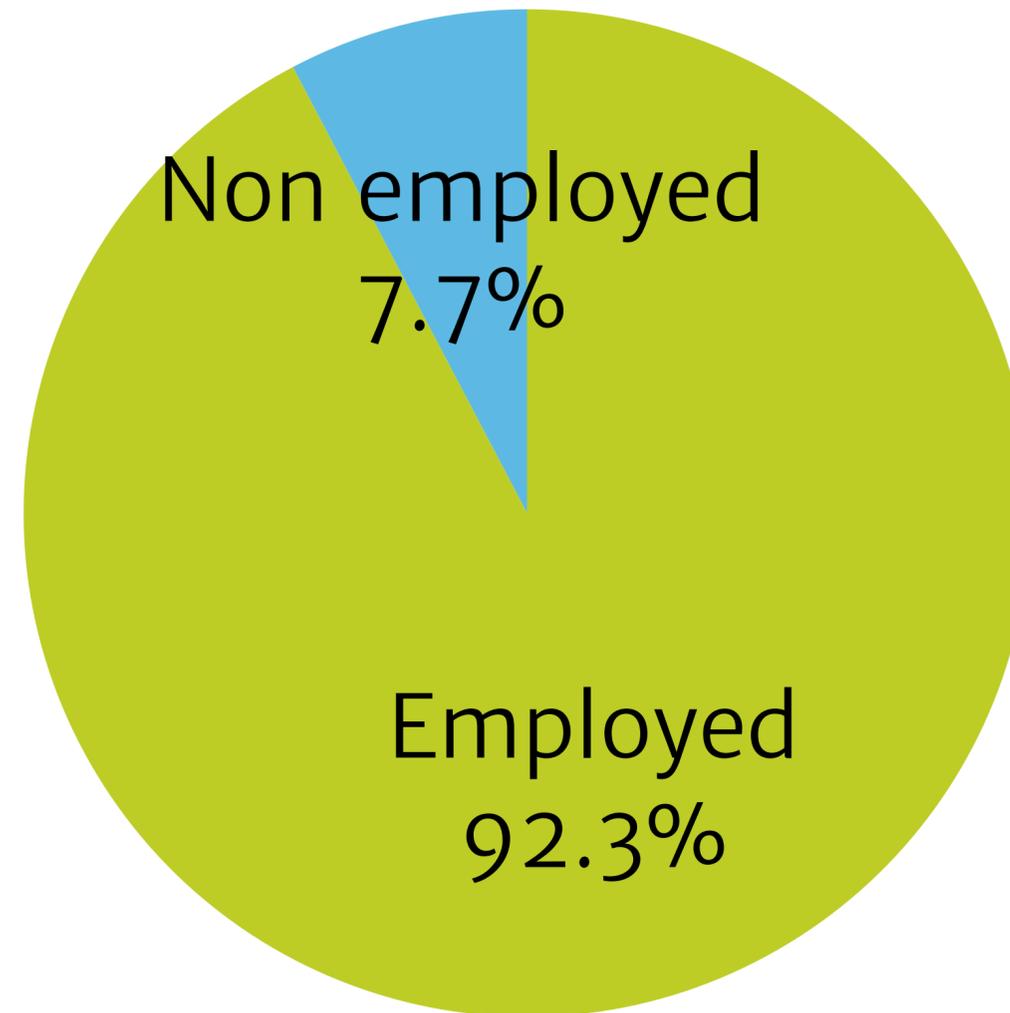
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Developers working on the Linux kernel



Source: [Linux Kernel Development report 2016](#).

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“[P]art of the reason much of open source is so good, and often so superior to closed-source commercial projects, is the natural boundary of constraints. If you are not being paid or otherwise compensated directly for your work, you're less likely to needlessly embellish it. You're solving the problems for you and your mates, likely in the simplest way you could, so you can get back to whatever you originally intended to do before starting to shave the yak.”

—DHH, [The Perils of mixing open source and money](#), Nov 12, 2013.

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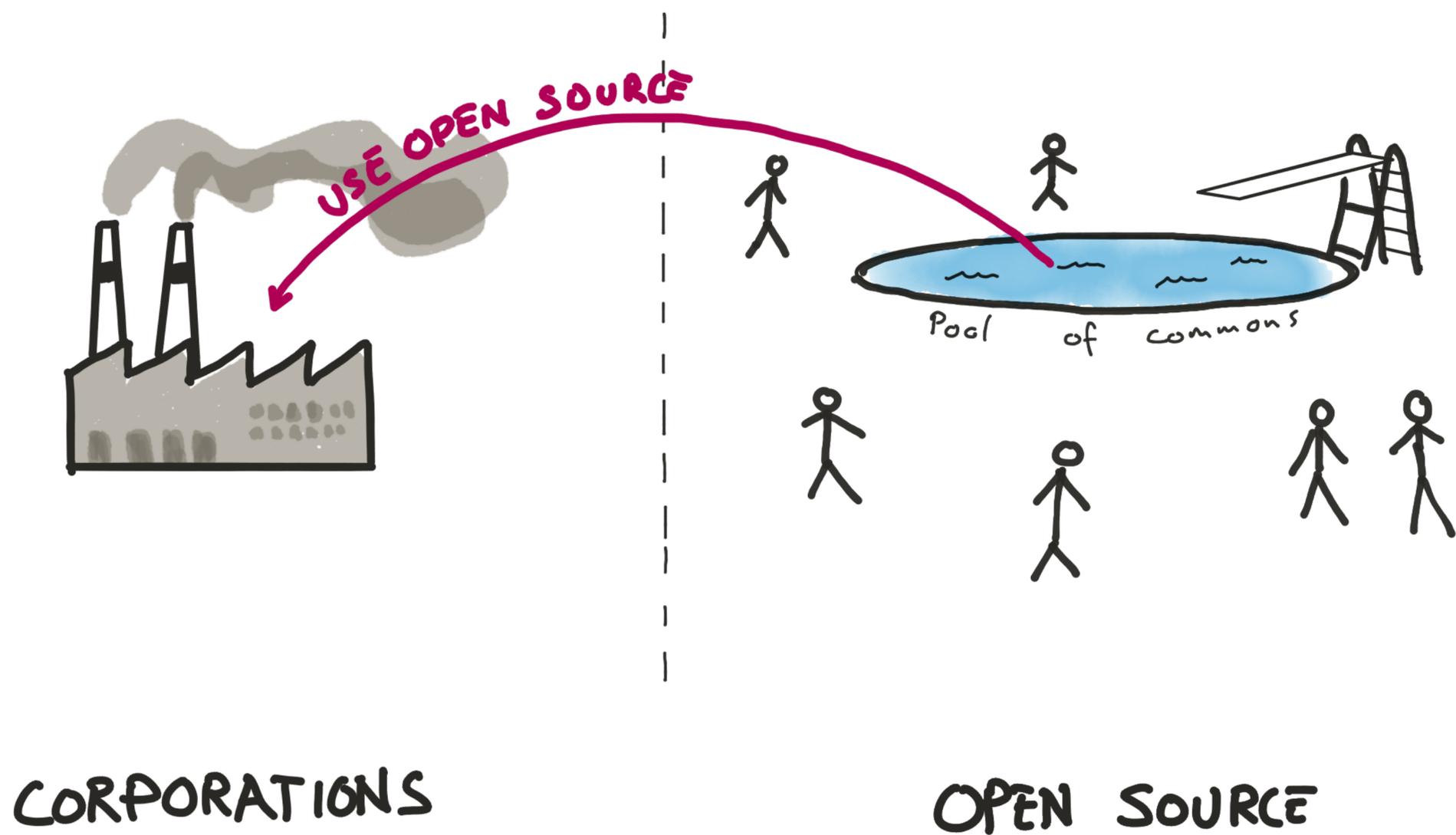
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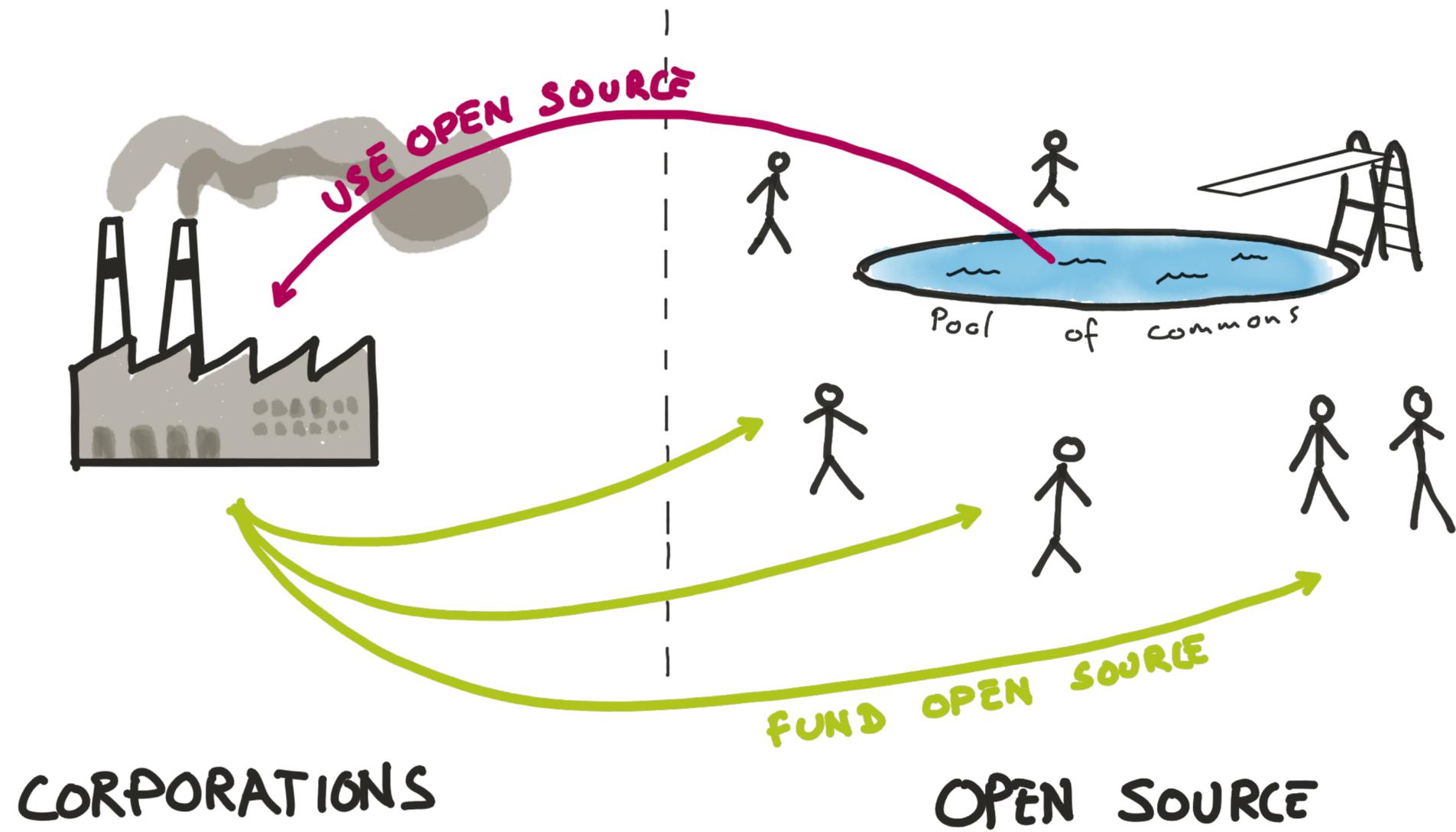
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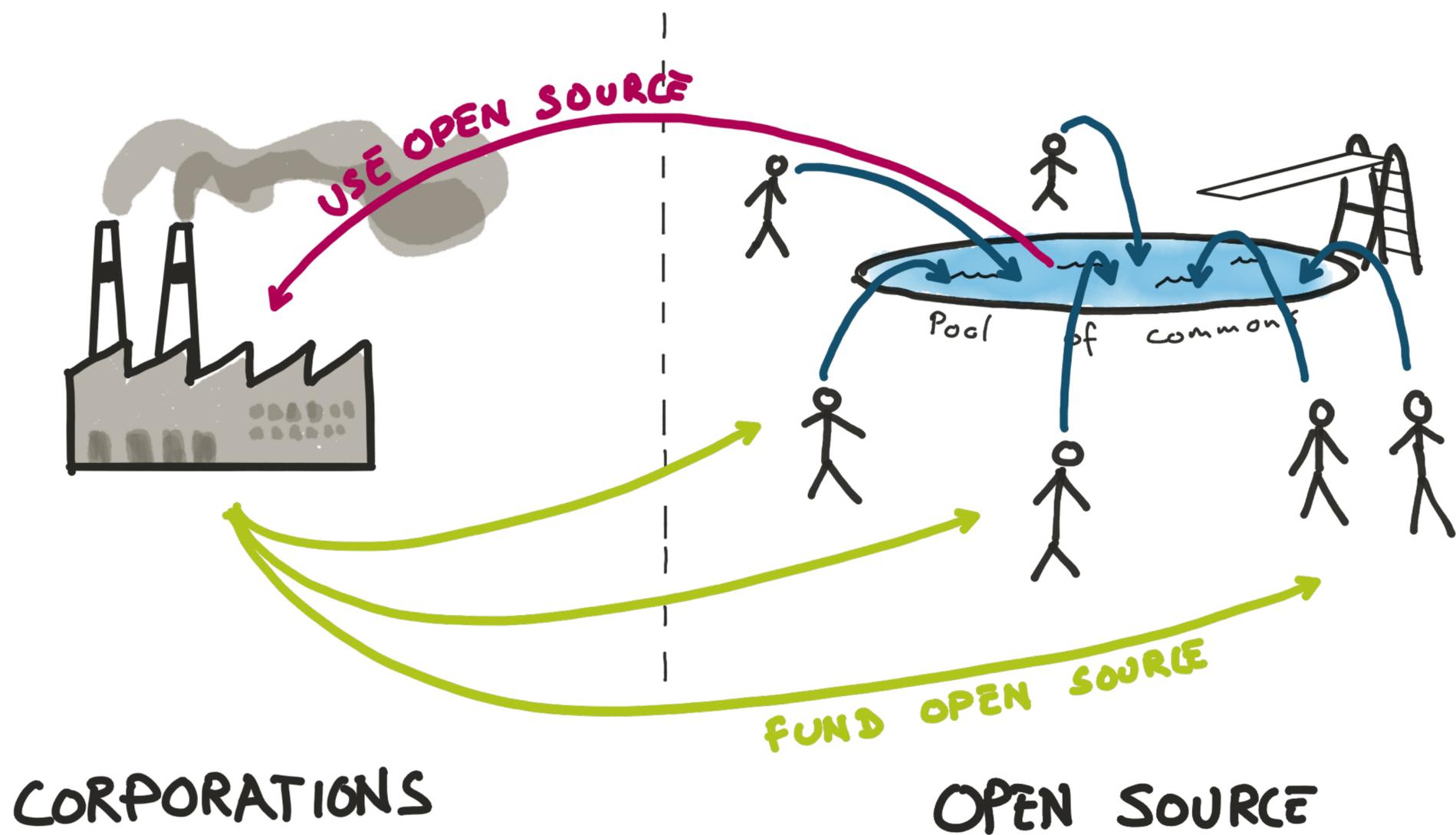
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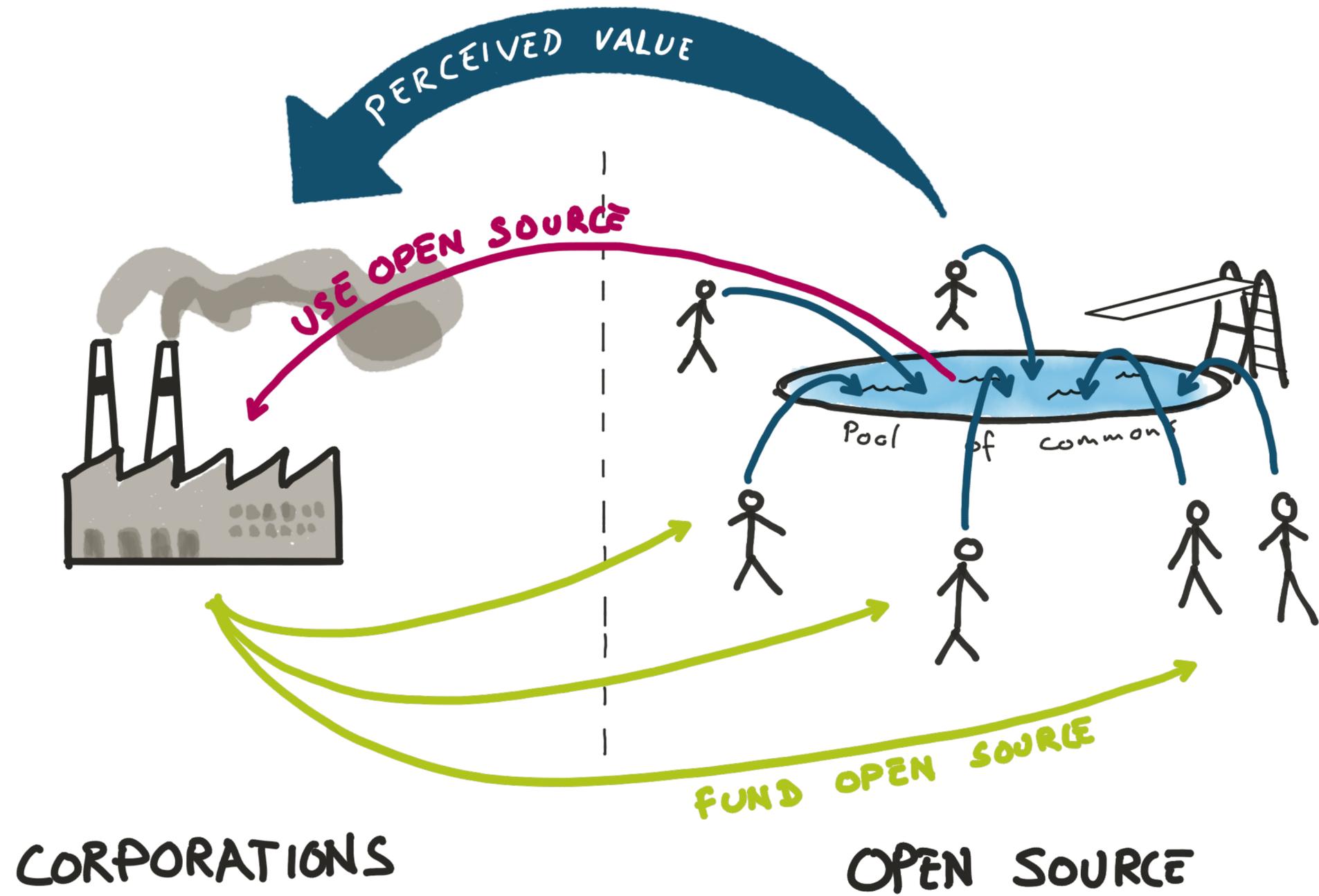
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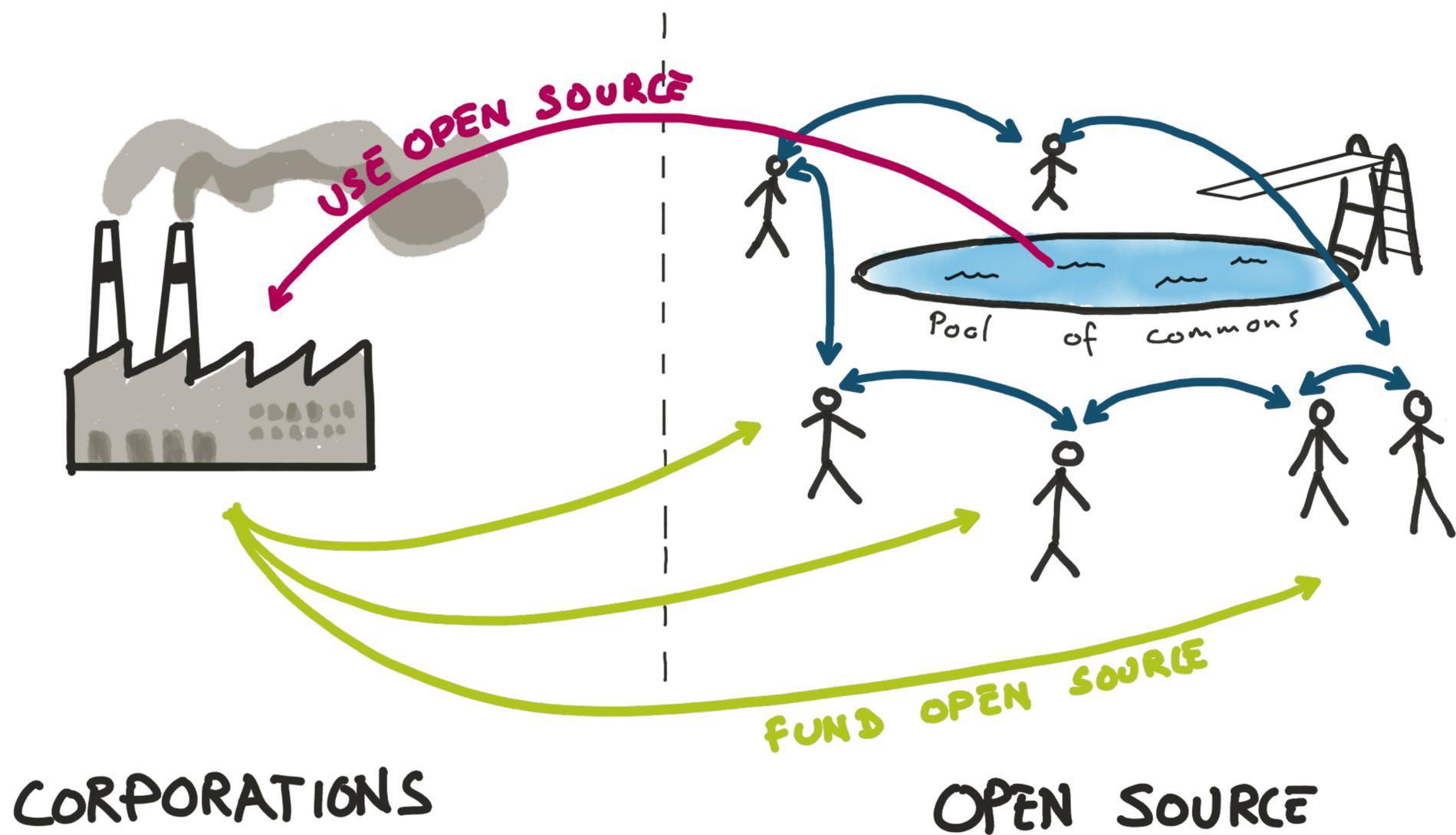
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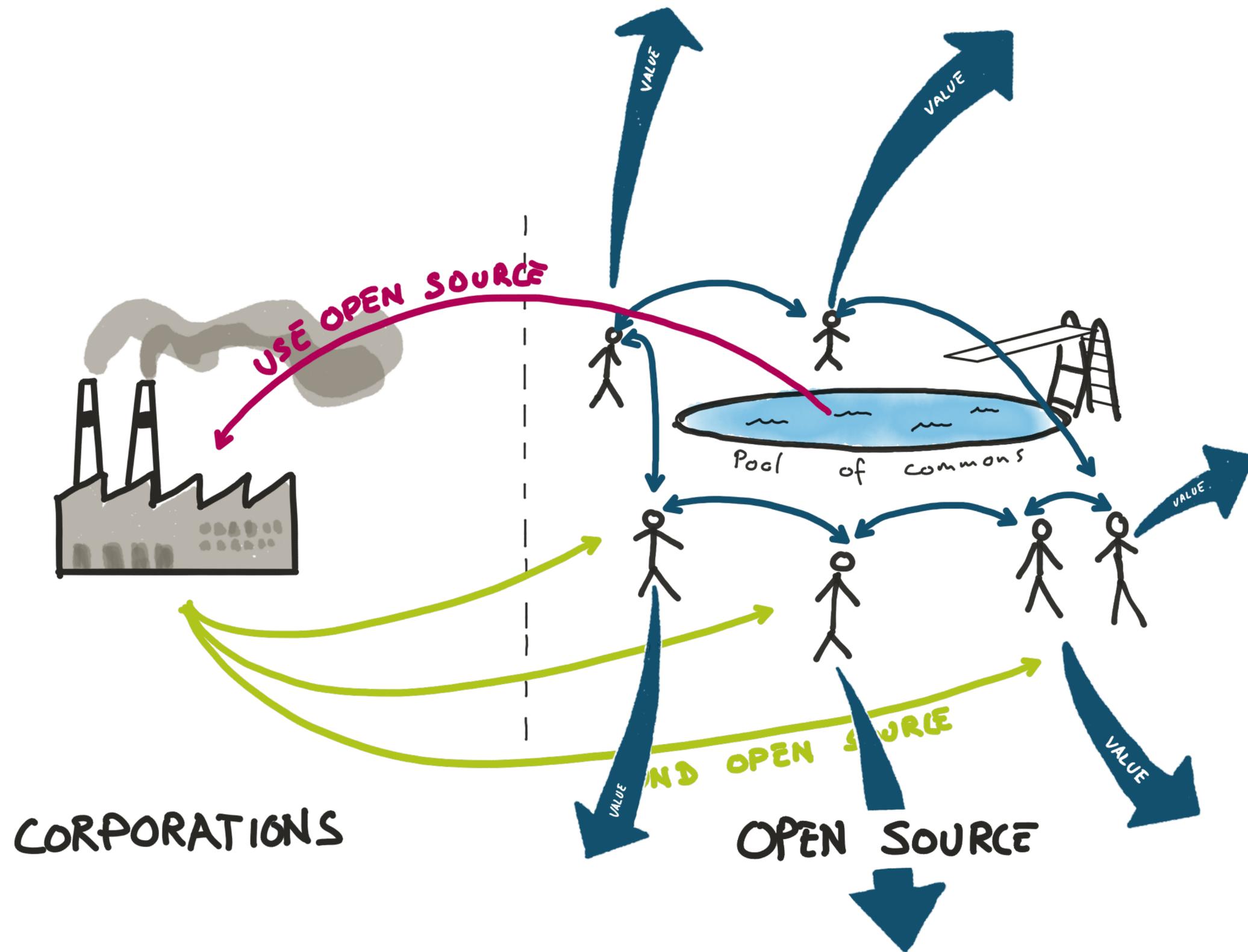


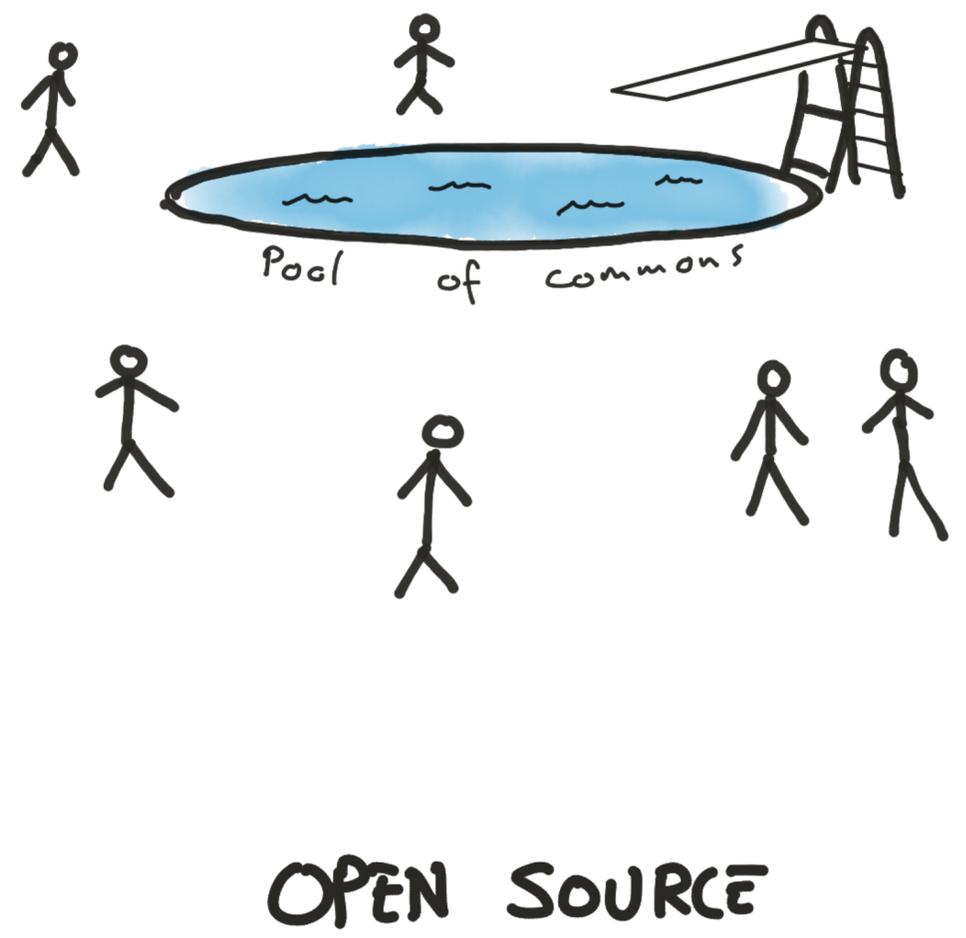
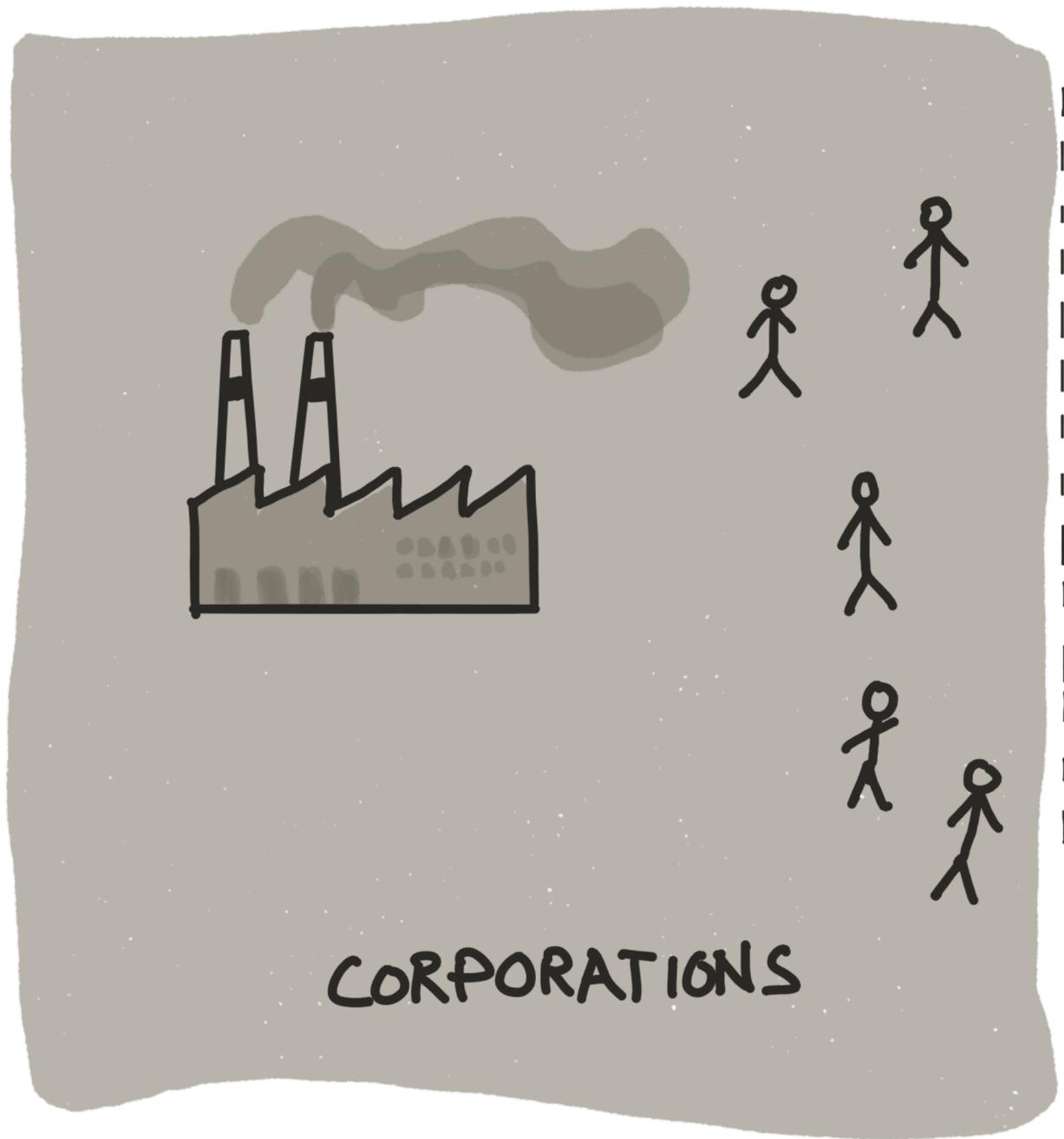


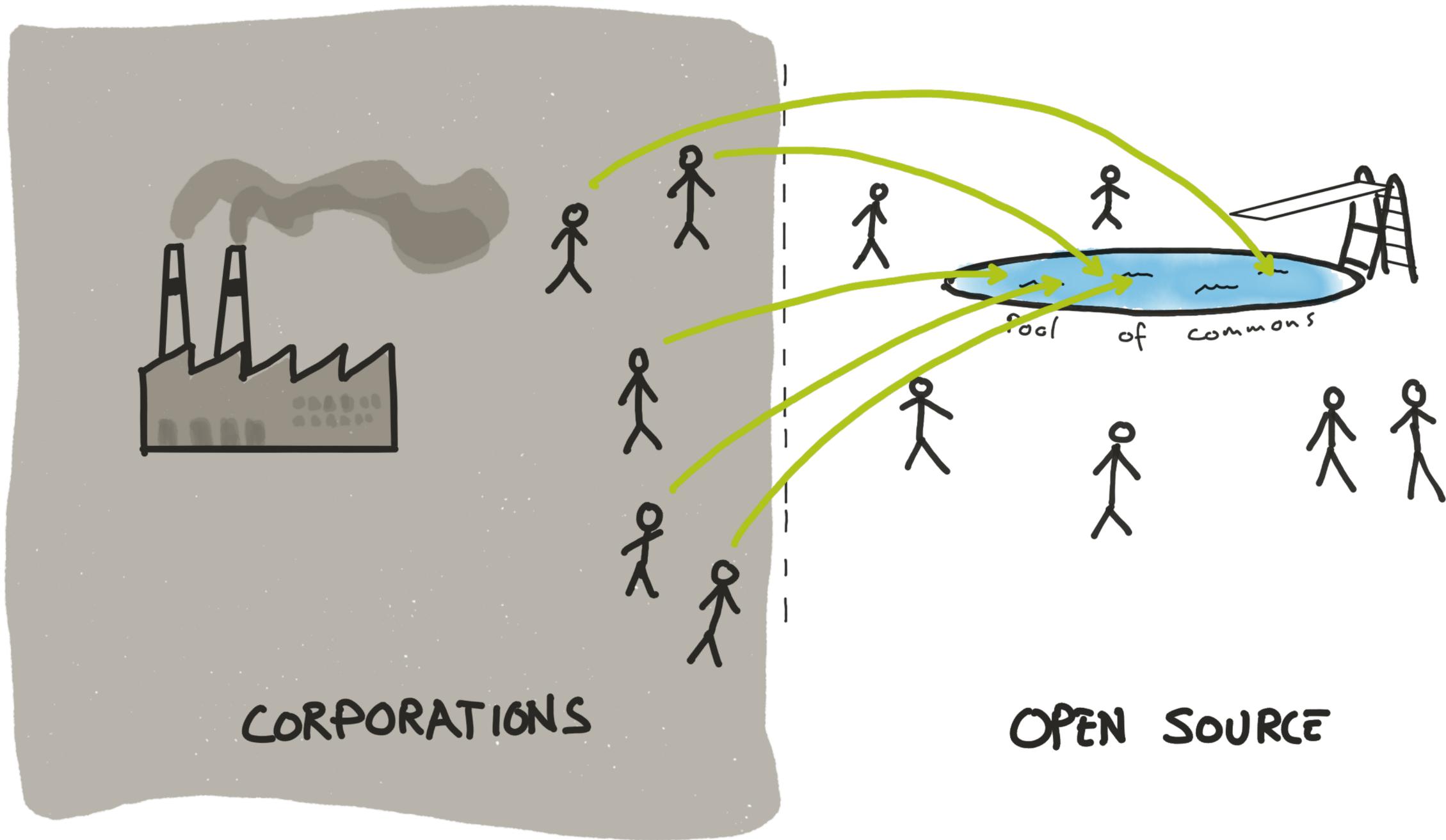


CORPORATIONS

OPEN SOURCE

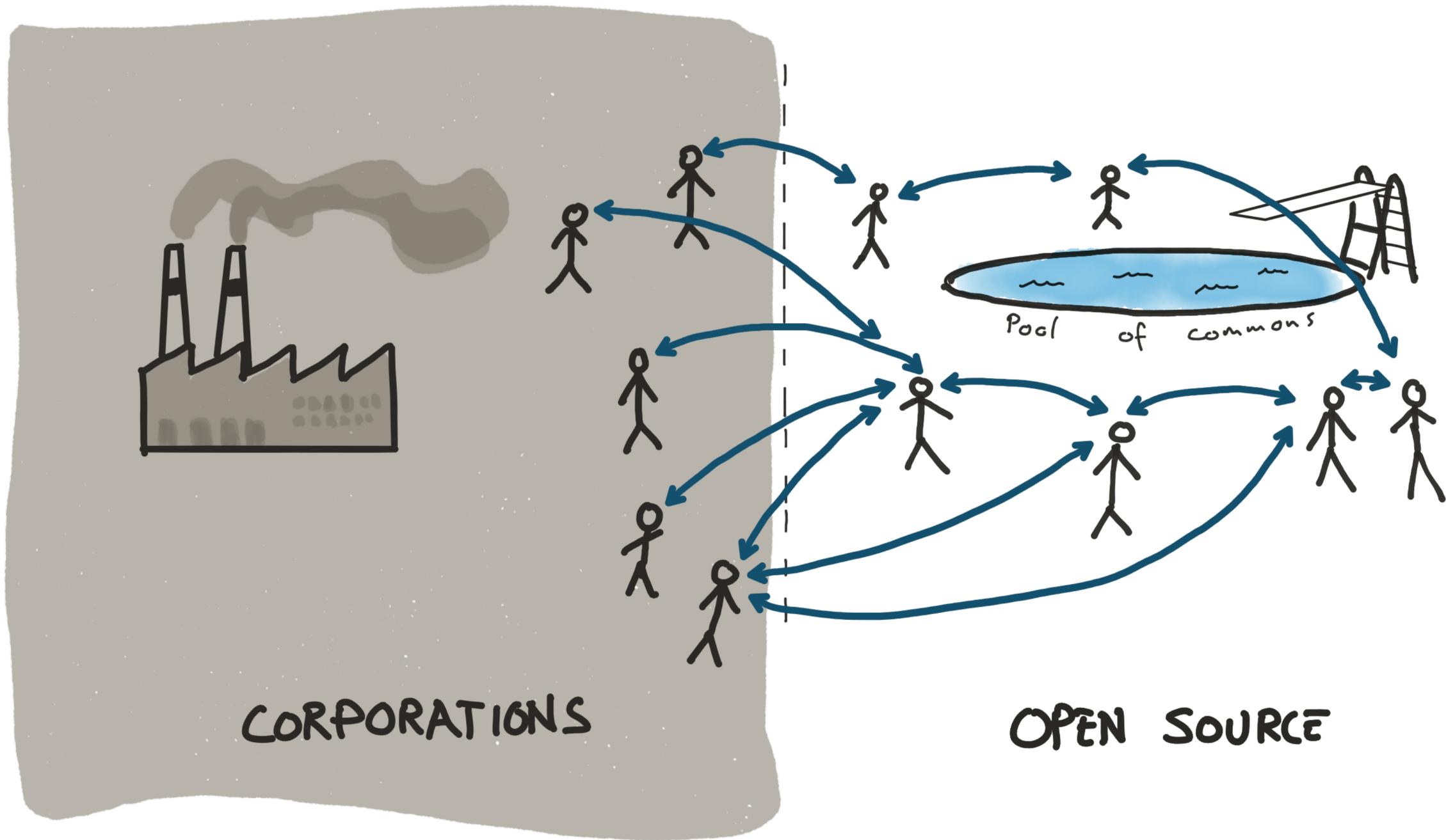






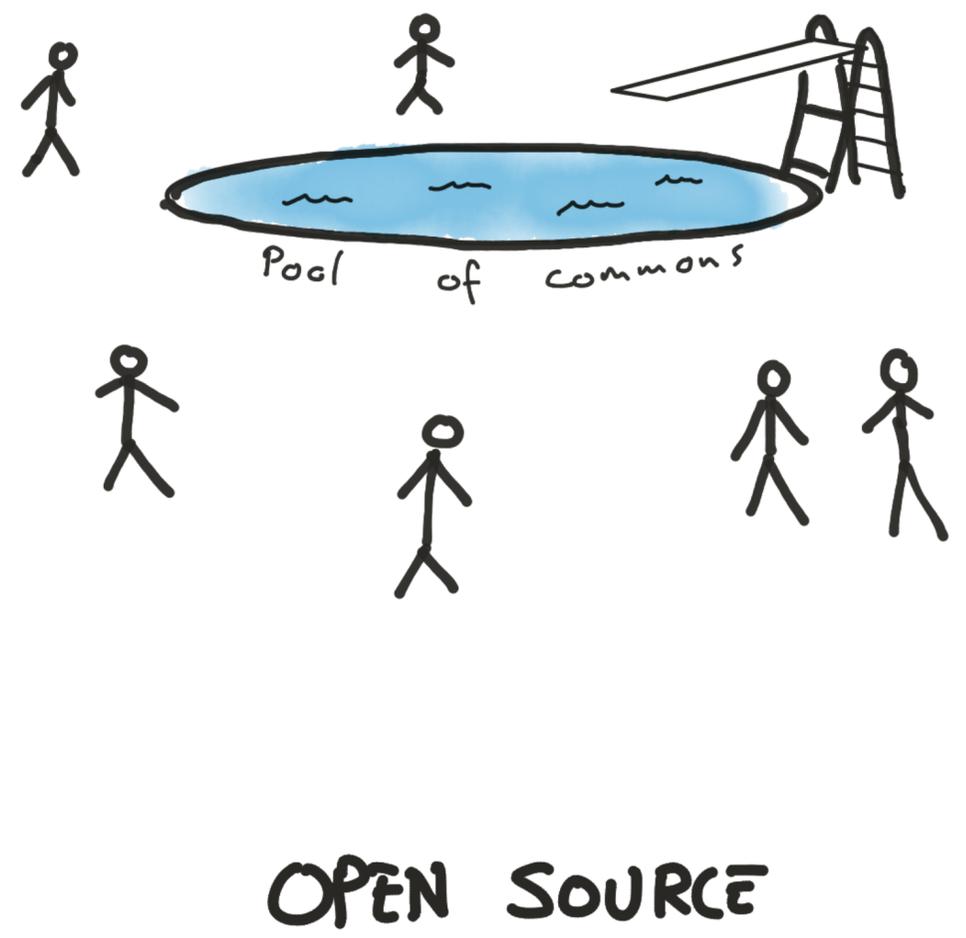
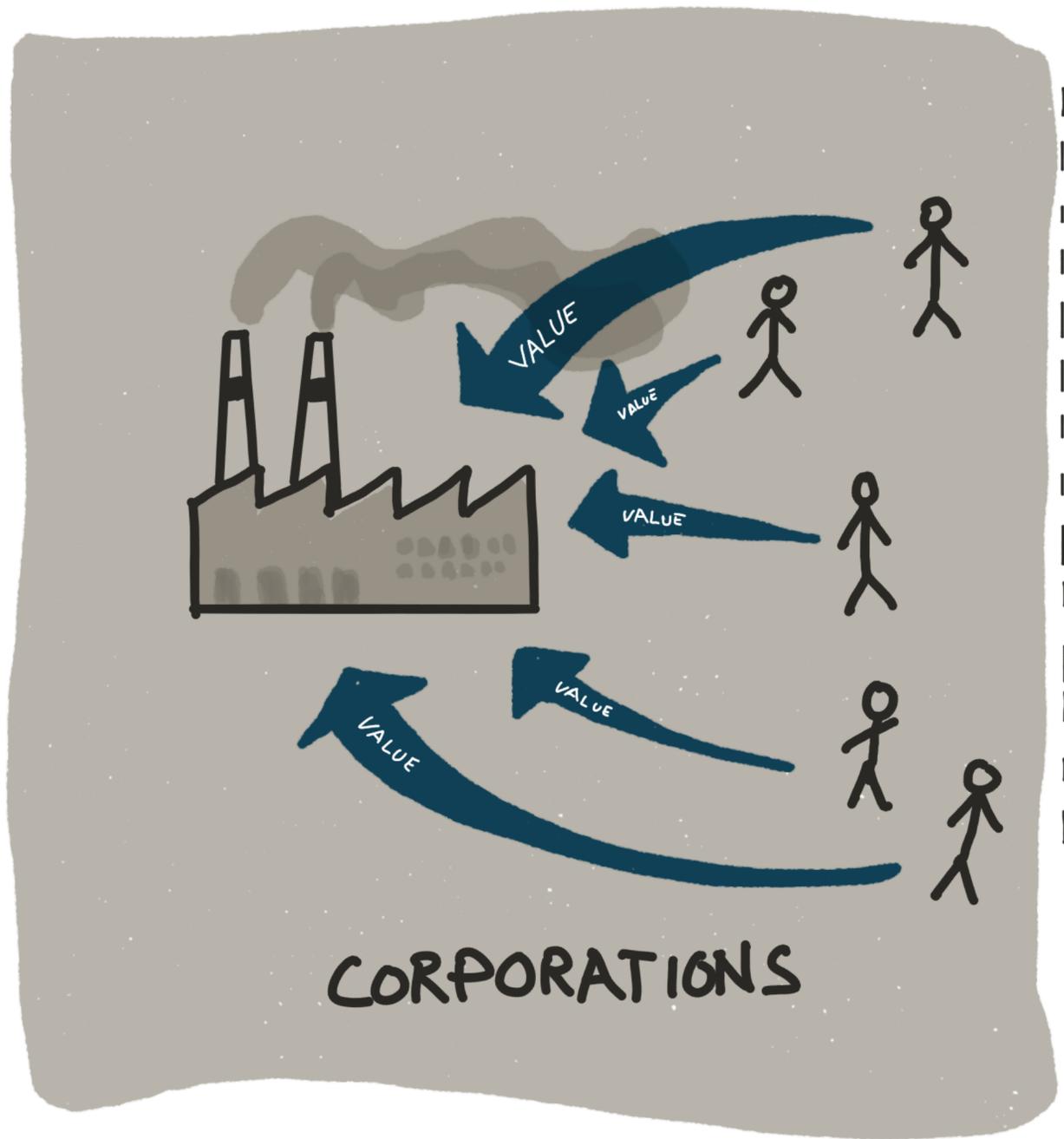
CORPORATIONS

OPEN SOURCE



CORPORATIONS

OPEN SOURCE



Charity-like funding alone is not the solution.

*Real way forward is to **normalize engineers contributing to open source as part of their day job.***

How?

*Make organizations understand **the ROI of contributing to open source.***

Thank you!

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foss
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A close-up photograph of a bumblebee in flight, hovering over a cluster of small purple flowers. The background is a soft-focus field of similar flowers and tall grasses, creating a warm, natural atmosphere.

Thank you!