

BY THE
COMMUNITY.
FOR THE
COMMUNITY.



The background features a stylized illustration of a diverse group of people working together. Some are looking at a computer screen displaying a yellow interface, while others are working on a laptop. A Python logo is visible in the top right corner. The overall theme is community-driven technology and collaboration.

2022 Annual Report





A Letter from our Executive Director

BY DEB NICHOLSON, *Executive Director*

Greetings! It's been an amazing year over here at the PSF! I joined as the new Executive Director in April of 2022 and am still learning about all the amazing things people do with Python and meeting more of the inspiring people that make up our vast and vibrant community. I've also learned that many people aren't aware of all that we at the PSF do to support Python's infrastructure, facilitate the growth of the global community of Pythonistas and promote the sustainability of the language and community. As a long-time open source community member and former Boston Python Meet-up organizer, it's been very rewarding to get into the details of a community I have long admired.



[PyCon US returned to in-person in 2022!](#) We saw a total attendance of 2,422 – with 1,753 attendees joining us in person and 761 joining us online. Even more impressively, 1,551 of those in-person attendees were attending for the first time ever. Thank you so much to all the volunteers, speakers, sponsors, and community members that helped us put on a safe and welcoming PyCon US in 2022.

Things continue to evolve here in the virtual PSF office. After 10 years of working on PyCon US, [Jackie Augustine](#) has passed the torch to Olivia Sauls, who was promoted to Program Director. We also welcomed [Chloe Gerhardson](#) as a second member of our Infrastructure Team and brought on [two contract developers](#) to build new features in PyPI. Happily, our Developer in Residence, Łukasz Langa, and our Packaging Manager, Shamika Mohanan are each staying on for another year here at the PSF to continue their important work on Python and its infrastructure. Plus, we've got plans for a few more hires this year too, so please keep an eye out for those.



We introduced a [new sliding scale supporting membership](#), and we gave out \$215K in Grants this year, a 45% increase over last year's program. We expanded our [fiscal sponsor program](#) to include the global network of PyLadies chapters and are looking to slowly and strategically grow the roster of Python code and co-learning projects that we assist with back-office support.

In the coming year, we'll be working to deepen our connections with Python leaders around the world, expanding our grant outreach, and supporting the D&I workgroup and creating structures that help the PSF and Pythonistas around the world gain more insight into what we can do for each other. We'll be doing more to connect with those who are learning Python and providing resources for newer Pythonistas in classrooms, at meet-ups and every place where people are looking to learn. We'll also be tackling big issues like overhauling security for the Python ecosystem, building out more support for community and corporate organizations using PyPI and continuing to invest in the sustainability of the core Python community.

We hope you'll join us on our ongoing journey to make Python the friendliest, most accessible and most widely used programming language in the world. I am personally so excited to see what the next year brings.



About the Python Software Foundation

The Python Software Foundation is the organization behind Python. The PSF is an open membership organization, and we are made up of, governed, and led by the community. We exist to support the full Python ecosystem and community, for all uses and users of Python. If you contribute to the Python community in any way, whether as a member of the PSF, a PSF sponsor, a developer, an educator, a member of a local Python group, an organizer or attendee of a PyCon or other Python event, you are a part of the PSF and you make the work we do possible.

Our mission is to promote, protect, and advance the Python programming language, and to support & facilitate the growth of a diverse & international community of Python programmers.





We fulfill **our mission** through these core activities:

THE PSF PROVIDES THE STRUCTURE AND STABILITY THAT THE PYTHON LANGUAGE, ITS CONTRIBUTORS AND USERS NEED TO THRIVE.

- We distribute Python, free of charge and available to all
- We establish PSF licenses, hold intellectual property rights to most Python releases, and protect Python-related trademarks
- We help coordinate and put resources behind improvements to the Python codebase and new Python releases

THE PSF EMPOWERS THE PEOPLE WHO MAKE UP THE PYTHON COMMUNITY, AND WE PROMOTE CONNECTION, DIVERSITY, AND GROWTH WITHIN THE PYTHON COMMUNITY.

- We host PyCon US, the annual event for celebrating, learning about, and coming together around Python.
- We provide grants to groups across the globe hosting events for and by Pythonistas supporting each other and welcoming newcomers.
- We fiscally sponsor 13 Python-related community groups, conferences, and projects to allow them to continue their contributions to the community with organizational infrastructure behind them.

THE PSF FACILITATES ADVANCES IN THE PYTHON LANGUAGE, PYTHON-RELATED TECHNOLOGY AND EDUCATION RESOURCES.

- We host PyPI, the Python package repository and our Packaging Project Manager is working on how to best serve PyPI users
- Our Developer in Residence amplifies volunteer contributors' impact by processing CPython pull requests and tackling structural improvements
- We encourage Python-related research in the public interest, and disburse Science and Education Grants to educators, researchers, and learners.

Looking forward, the PSF aims to help the Python ecosystem grow and thrive by reaching and welcoming an ever larger and more diverse group of Pythonistas to enjoy using Python and being part of our community.

2022 GOALS

Developing Python Packaging

BY SHAMIKA MOHANAN, *Python Packaging Project Manager*

In 2022, my role concentrated on bringing in new features on PyPI that would improve user experience on PyPI. Based on [extensive user research](#), we identified key capabilities that would improve user experience on PyPI. One of the key requests was organization accounts on PyPI. Organization accounts allow PyPI users in an organization to manage collaborators and projects from the same organization. Other features that were requested were namespaces and private packages on PyPI.

Last year, I led the development of organization accounts on PyPI. Once we had decided to develop organization accounts, [I developed the high-level and detailed roadmaps](#). We hired two software developers to develop and deliver the project. I managed the project in two week sprint cycles with regular user testing. We completed the development and user testing late last year. To launch organization accounts on PyPI, we have decided to follow a phased launch. In the first phase, we will invite open-source community projects on PyPI to use organization accounts. In the second phase, we will open up organization accounts for companies and corporate users. We expect both phases to be completed later this year. Looking forward, we are planning to add namespace and private packages on PyPI.

Apart from this, I also spent some time last year identifying ways to bring in long-term improvements in Python Packaging. As Python Packaging is a broad landscape of many tools, it is hard to visualize what the future state is for the ecosystem as a whole. In order to address this issue, I am working with the community to define the long-term strategy for Python Packaging. Another project I am currently working on is the development of Python Packaging Fellowship. This fellowship is aimed at attracting long-term contributors while improving the diversity and inclusivity of the Packaging community. As these are long-term projects, developing and delivering these projects will be my focus for the remainder of the year.



2022 GOALS

A Note from our Inaugural Developer in Residence



BY ŁUKASZ LANGA

Time goes by quickly when you're doing what you love! We're firmly in 2023 already, and I can't believe I've been the CPython Developer in Residence for nearly two years now! Let's take a quick look back!

In 2022 I managed to make 627 merges to CPython that led to closing 276 issues on the bug tracker. You may have noticed those numbers are lower than 2021. That's because in 2022 I went for more challenging PRs, many of which weren't so straightforward to fix. Additionally, other activities took a significant chunk of my time. While the bread and butter of CPython Core Development is the maintenance of the CPython codebase, which takes place in the `python/cpython` repository on Github, 2022 was the year of the first in-person PyCon US after 2020's and 2021's online-only editions. I was invited to give the opening keynote and [used the opportunity to dispel some myths around type annotations](#). Clearly, I have a thing for controversy!

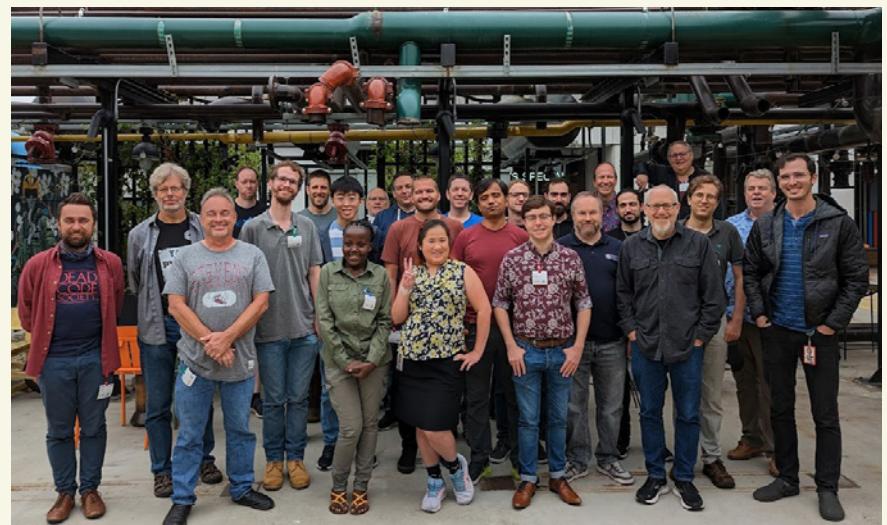
More importantly, I co-chaired the Python Language Summit at PyCon US, an opportunity for core developers of Python implementation and other stakeholders to meet in person and discuss current work and plans for the future. Alex Waygood did a great job [covering the event](#) on the Python Software Foundation blog. Apart from herding the cats and running the event with Mariatta, my personal contribution there was to bring Sam Gross to talk about the GIL removal, which crystallized into [PEP 703](#) later in the year. I'm sponsoring the PEP. I hope to see this progress this year.

The biggest project I took part in 2022 was managing the transition from our own custom bug tracker to using GitHub Issues. This was a considerable effort and required a lot of care to avoid information loss and set us up for success going forward. After almost a year of use, it seems the transition went well, and it's a good improvement over the previous state of things. Let me know if you disagree!

I feel like it's important for us CPython core developers to cooperate with other Python implementations, so I joined the PyPy/HPy core sprint in September in Düsseldorf. CPython had its own sprint week, too, in October in California. I participated in that, too, landing 97 PRs that week alone. I brought HPy developers on a virtual meeting with the CPython core devs to discuss the future of the Python C API. I hope to see this discussion continue this year at the Language Summit and beyond.

2022 also saw seven releases of Python 3.9, and four releases of Python 3.8, which I managed. It definitely seems like the rate of security releases has picked up in recent years! I also followed the buildbot fleet's status, reacted to failures, and even added a new personal buildbot to our fleet that sports 96 GB RAM dedicated to running big memory tests. I continue co-administering our Discourse and Discord instances, and I'm part of the Program Committee for PyCon US.

I'm always open to feedback, so don't be a stranger: if you have any comments on how I could improve my work and have a positive impact, let me know! I am tremendously grateful for this opportunity, made possible this year by the sponsorship of this role by Meta.





PyCon Tanzania, 2021 - K15 Photos

2022 GOALS

PSF Infrastructure Continues to Grow

We support the Python community by hosting resources and downloads on python.org, documentation on docs.python.org, packages on pypi.org, and much more.

In addition to these public facing resources, we also support the development workflows of CPython core developers, hosting of mailing lists on mail.python.org, and maintain and improve us.pycon.org for PyCon US. We also support the community by maintaining domain registration, DNS, mail, and more for our fiscal sponsors as well as projects like PyPy and Jython.

In 2022 alone PyPI served 199,529,846,822 downloads for the 428,120 projects hosted there. To serve that many downloads required 514.1 Petabytes of data transfer, or 130.3 Gbps of bandwidth 24x7x365. This means that in 2022, PyPI saw a 57% growth in download counts and bandwidth alike.

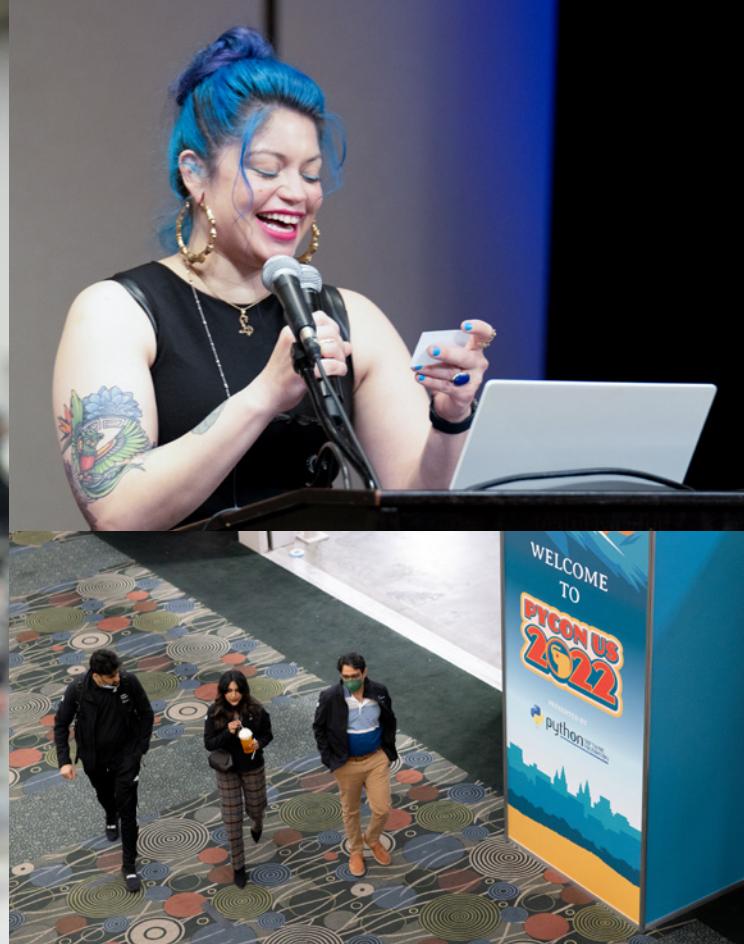
This year we also welcomed Chloe Gerhardson to the Infrastructure team. After a year of growth and learning coming up to speed, we're excited for what 2023 will bring as the PSF builds more and more bandwidth to support the community through infrastructure.

Looking forward into the next year, we are excited at new opportunities to provide application hosting for community projects based on the same technologies that have been deploying PyPI for the past five years. Stay tuned!

fastly[®]

Thank You to Fastly

The astounding traffic demands on the PSF infrastructure have continued to see year-over-year growth. Thanks to Fastly the teams that maintain the services we support, particularly PyPI, have nevertheless been able to focus on improvements and features, rather than scaling to that increased load. We are grateful to [Fastly](#) for making the online services that the PSF provides possible, so that we can invest time and resources into advancing our infrastructure to better meet community wants and needs.



PyCon US 2022

PyCon US 2022 took place both online and in-person, nestled in the mountains of Salt Lake City, UT at the Salt Palace Convention Center. PyCon US welcomed our community back in-person for the first time since 2019 for an exciting 7-day conference filled with a variety of sessions and events for attendees of all skill levels to attend, brought by a diverse group of speakers and presenters. For more details, visit the conference webpage [here](#).

PYCON US 2022 BY THE NUMBERS:

2,422

SESSION ATTENDEES

We had 1,753 in-person attendees and 669 online attendees! 1,551 first time attendees joined us!

162

PYCON SPEAKERS

The sessions, including tutorials, keynotes, Charlas tracks & lightning talks, were filled with attendees of all skill levels.

52

COUNTRIES REPRESENTED

Among all the conference attendees!

\$176K

TRAVEL GRANTS

Awarded to conference participants!



PyCon DE, 2022 - Vincent Grundke

*"I love the way
you simplify
learning
programming
with Python."*

- AUGUSTINE BISASO,
a final year student at
Makerere University



*"I want my school to be the
center of Python training for
the youth in Uganda"*

- MR. CHARLESE MUBIRU, the
director of Kikaaya College
School Bulenga

Fiscal Sponsorship

The PSF maintains a fiscal sponsorship program to support Python events and projects by handling their back office work and facilitating donations, so the projects can concentrate on furthering their goals. The program continues to grow, and we currently fiscally sponsor 13 amazing groups including Boston Python, Jazzband, Pallets/Flask, PhillyPUG, PuPPy, PyBeach, PyCascades, PyHawaii, PyLadies, PyMNTos, PyPA, PyRVA, and Python San Diego User Group.

PSF Sponsors

We are grateful to our generous sponsors who support our work and the Python ecosystem!

VISIONARY



SUSTAINABILITY



CONTRIBUTING



MAINTAINING



Board

(As of 2022 elections)

Tania Allard

Débora Azevedo (Vice Chair Elect)

Kushal Das

Dustin Ingram

Jannis Leidel

Van Lindberg (General Counsel)

Joannah Nanjekye

Jeff Triplett (Vice Chair)

Dawn Wages (Treasurer)

Simon Willison

Thomas Wouters (Chair)

Nina Zakharenko (Vice Chair)



Staff

Deb Nicholson, Executive Director

Olivia Sauls, Program Director

Joe Carey, Accounting Manager

Loren Crary, Director of Resource Development

Phyllis Dobbs, Controller

Ee Durbin, Director of Infrastructure

Chloe Gerhardson, Infrastructure Engineer

Laura Graves, Senior Accountant



20

YEARS CELEBRATION

PYCON US

23

April 19th-27th



14



PyCon US

PyCon US 2023 was a great success, taking place both live in Utah and online. Check out our recap to learn more!

This year, PyCon US celebrated a special anniversary year commemorating 20 years of PyCon. Our attendees joined us online and in-person in Salt Lake City, Utah for the 2nd year for a program filled with tutorials, talks, sprints, summits, and keynotes presented by our community, celebrating our theme “By the community, For the community”. For more details, visit the [conference webpage here](#).

BY THE COMMUNITY
FOR THE COMMUNITY

PSF Financials 2021-2022

Consolidated Financial statement (\$ in thousands)

| REVENUE | 2022 | 2021 |
|--|----------------|----------------|
| Program Service Revenue | \$2,721 | \$1,520 |
| Contributions, Membership Dues, & Grants | \$1,227 | \$1,064 |
| Other Revenue | \$9 | \$5 |
| TOTAL REVENUE | \$3,957 | \$2,589 |

| ASSETS | 2022 | 2021 |
|---------------------------|----------------|----------------|
| Cash and Cash Equivalents | \$5,402 | \$4,771 |
| Accounts Receivable - Net | \$236 | \$82 |
| Other Current Assets | \$126 | \$50 |
| TOTAL ASSETS | \$5,764 | \$4,903 |

| EXPENSES | 2022 | 2021 |
|--------------------------|----------------|----------------|
| Program Service Expenses | \$2,214 | \$591 |
| Staffing | \$925 | \$764 |
| Information Technology | \$303 | \$265 |
| Insurance | \$103 | \$108 |
| Legal | \$90 | \$151 |
| Other Expenses | \$66 | \$81 |
| TOTAL EXPENSES | \$3,701 | \$1,960 |
| NET INCOME | \$256 | \$629 |

| LIABILITIES | 2022 | 2021 |
|--------------------------------|----------------|--------------|
| Deferred Revenue | \$966 | \$316 |
| Accounts Payable & Liabilities | \$131 | \$176 |
| TOTAL LIABILITIES | \$1,097 | \$492 |

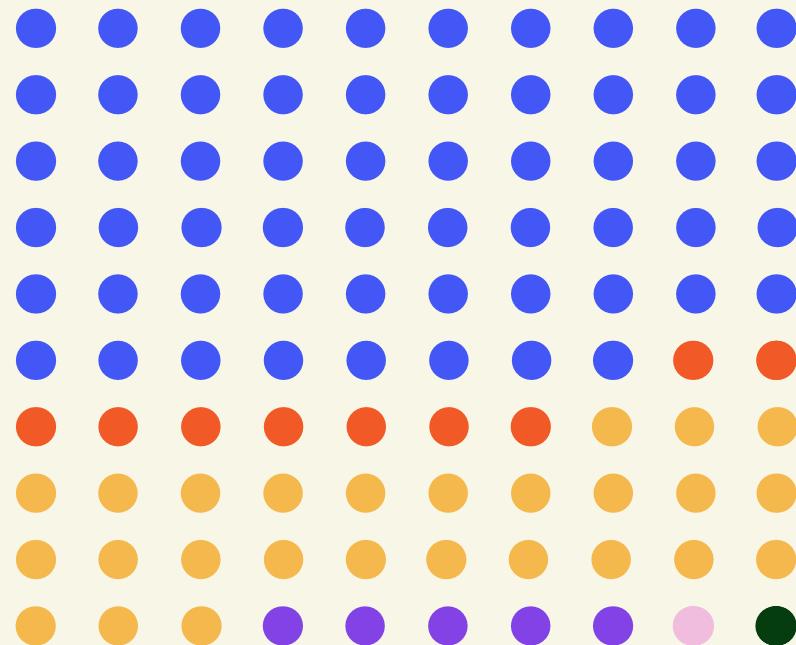
| NET ASSETS | 2022 | 2021 |
|---------------------------------------|----------------|----------------|
| Net Assets without Donor Restrictions | \$3,273 | \$3,389 |
| Net Assets with Donor Restrictions | \$1,394 | \$1,022 |
| TOTAL NET ASSETS | \$4,667 | \$4,411 |

| | | |
|---|----------------|----------------|
| TOTAL LIABILITIES & NET ASSETS | \$5,764 | \$4,903 |
|---|----------------|----------------|

Program Service Expenses

2022 Expenses by Category

(\$ in thousands)



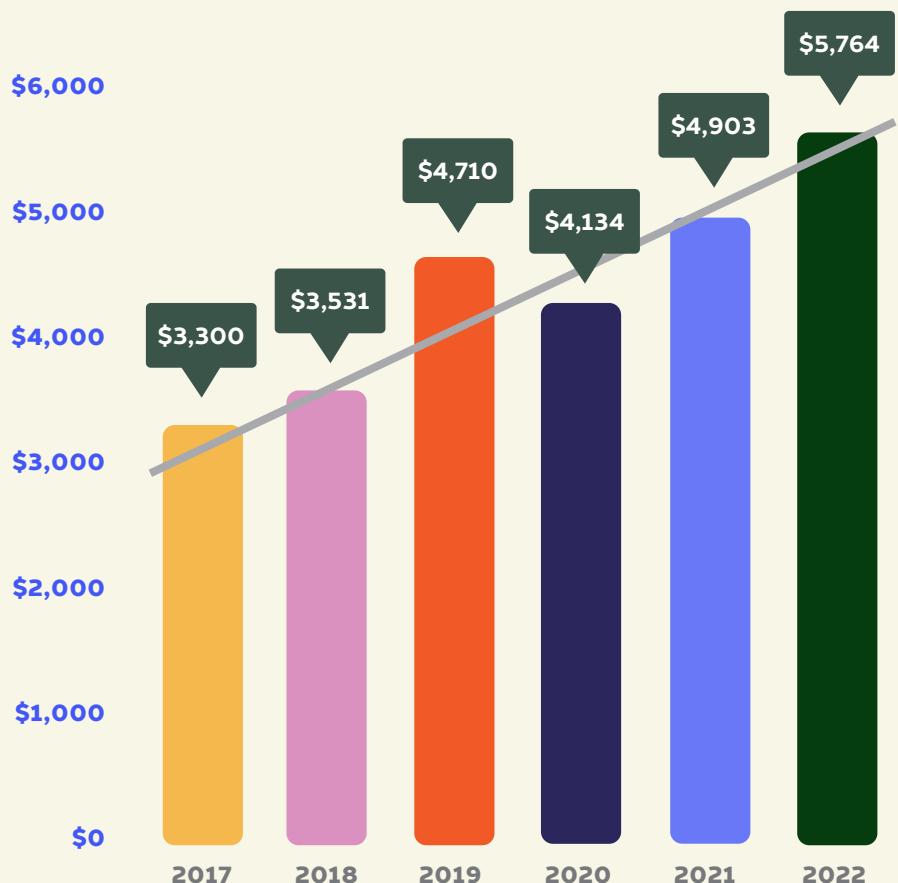
- PyCon US (57.8%) | \$ 1,281K
- Grants (9.7%) | \$ 215K
- Packaging Work Group/Infrastructure/Other (26.6%) | \$ 589K
- Fiscal Sponsors (5.2%) | \$ 115K
- Community Awards & Expenses (0.6%) | \$ 14K
- Code of Conduct (0.1%) | \$ 1K

Total Program Service Expenses: \$2,215K

Growth of Assets

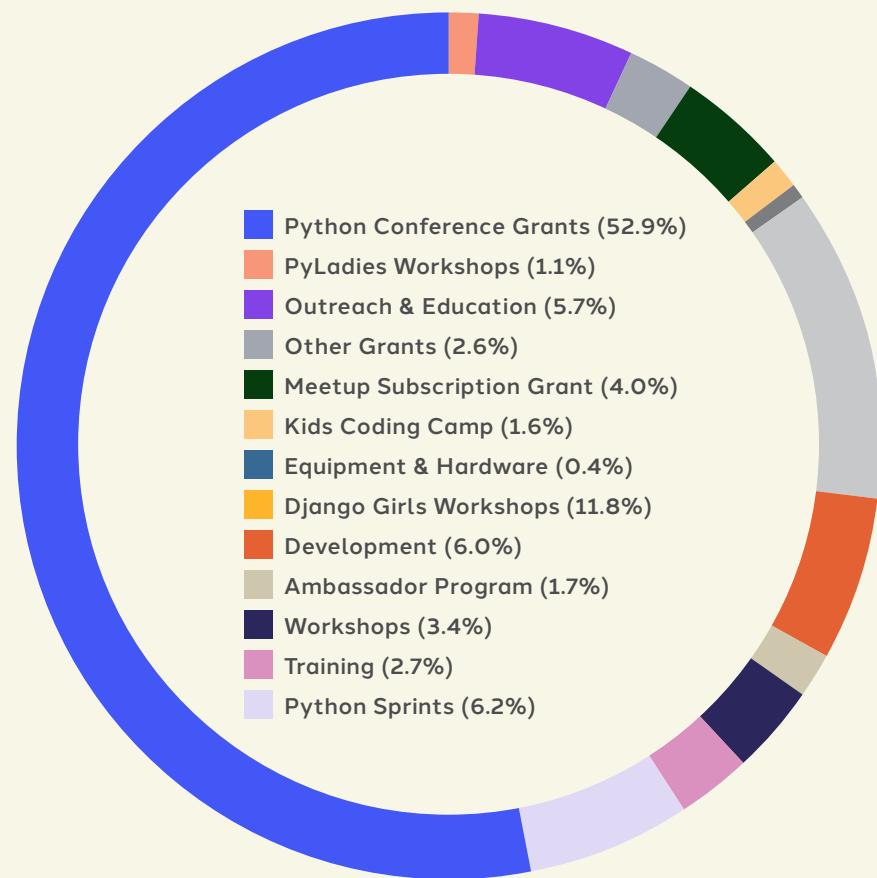
PSF Asset Trends from 2017-2022

(\$ in thousands)



Grant Disbursement

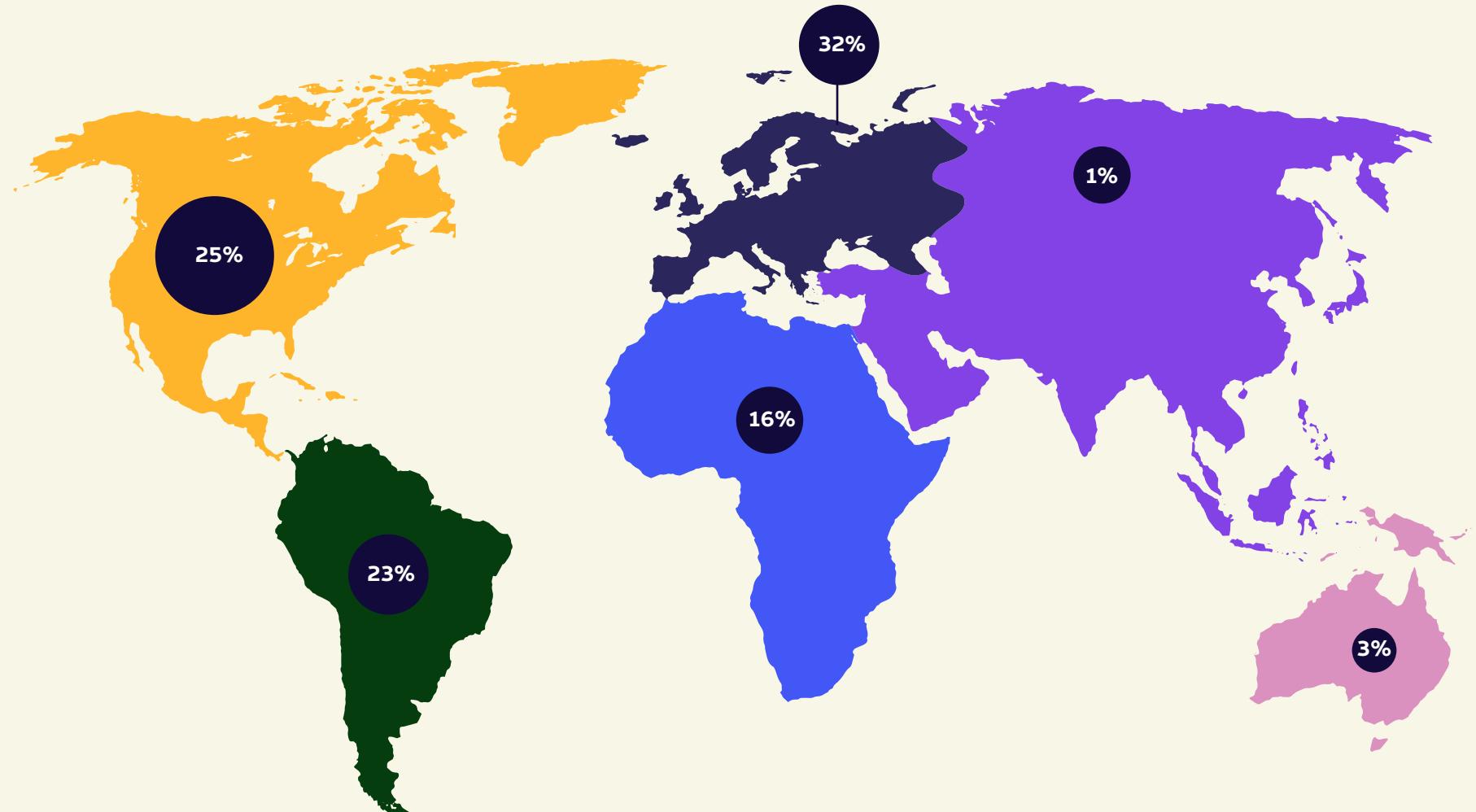
PSF Grant Disbursement from 2016-2022



Grants by Continents

In 2022, the grants program focused on virtual events, as well as in-person events.

The PSF distributed \$215k in grants in 2022, to 138 groups in 42 countries around the world.





I'm in! How Can I Help?

FOLLOW US!

We want to talk about Python and the Python community with you [everywhere](#).

[VISIT US AT PYTHON.ORG](https://www.python.org)



SUPPORT US FINANCIALLY!

- Get in touch with us about our [sponsorship program](#) or email sponsors@python.org
- Become an individual champion of the PSF through our [membership program](#) or [donate directly](#)
- If your company relies on Python, talk to your boss about [sponsorship](#)—we have lots of options!

VOLUNTEER

- Rather support the Python community with your time? We have lots of [volunteer opportunities](#)
- We can always use folks at [PyCon US](#) – either in person or online
- Many of our friendly [workgroups](#) are seeking new members
- Or you can help new folks with their questions in [Python Help](#)
- Consider running for the [PSF Board of Directors](#)

The PSF is recognized by the IRS as a 501(c)(3) non-profit charitable organization in the United States. Want to collaborate on a grant or donate something that needs to go to charity? Get in touch with us, sponsors@python.org