

2021
Annual
Report



20 Years of the Python Software Foundation

LORENA MESA, BOARD CHAIR

2021 was the 20th anniversary of the Python Software Foundation. It was also the year of virtual events, as we organized a virtual PyCon US and continued supporting virtual events through the Grants Program. 2021 had us hire several new team members to expand our operations, say farewell to two long-time staff members, and prepare for an in-person PyCon US in 2022.

PyCon US is always the biggest happening for the Python Software Foundation, and for a large part of the Python community. Even though PyCon US 2021 had to be virtual for everyone's safety, we worked hard to make it an enjoyable and unique experience, with high-quality talks, tutorials and keynotes, and virtual meeting spaces for attendees to learn about our sponsors, discover the job market, explore Python projects and meet fellow Python community members. Although the ongoing pandemic did not let us celebrate the PSF's 20th anniversary at PyCon US quite the way we would have wanted, we did make the most of it. We recreated two classic Python T-shirts and offered them as gifts during our Spring Fundraiser, held during PyCon US.

Our 20th anniversary also involved some staffing changes. Betsy Waliszewski, our Sponsorship Coordinator, retired from the PSF after many years of being our fundraising and administrative backbone. We strengthened our team with four new members: Olivia Sauls (Event Assistant and Administrative Support), Loren Crary (Director of Resource Development), Łukasz Langa (Developer-in-Residence), and Shamika Mohanan (Packaging Project Manager). Last, but not least, was the departure of Ewa Jodłowska, our Executive Director. Ewa made the PSF what it is today, and we owe her an enormous debt of gratitude for her many years of exceptional service to the PSF and the Python community. When she decided it was time for her to move on, she took great care to make sure the PSF staff was in a position to keep everything going. Thomas Wouters, Board Vice Chair and long-time community member, stepped up as Interim General Manager to make sure the staff have everything they need, while the Board of Directors continued the search for the next Executive Director. We have now hired Deb Nicholson as the next Executive Director.

In the meantime, the Python Software Foundation continues its work. Even through another year of pandemic challenges, we are proud we met the 2021 goals set in our 2020 Annual Impact Report, although we will continue to work on diversifying revenue and improving sustainability. We continued supporting the Python community through grants and fiscal sponsorships, spending more than \$117,000 to support the global Python community in 41 countries, primarily through virtual events, and we celebrated the efforts of 12 community members through Community and Distinguished Service Awards. We also started preparations for an in-person PyCon US 2022, taking great care to do so safely and responsibly.

We look forward to expanding our operations in the years to come, and 2022 will be about establishing the groundwork for this. Shamika and the Packaging Work Group are already working on improvements to PyPI to support the community and allow us to diversify income. The new Executive Director will work with the Board of Directors and the rest of the PSF staff to establish more concrete goals for this year, and we will be keeping the community up to date on the progress.



Looking back at 20 years of the PSF

THOMAS WOUTERS, INTERIM GENERAL MANAGER

The Python Software Foundation is twenty years old. As a contributor to Python at the time, I was a founding member, and I was a member of the Board for the first three years. Even though I kept up with the community and some of the work the PSF has done over the years, I didn't really see the full extent of the PSF's growth and impact until I came back to the Board a few years ago, and especially now that I've taken on the interim General Manager role.

Twenty years ago, the PSF was created to hold the Python copyrights and trademarks. It was also created to safeguard the language as an open-source project, and with the idea of raising funds to spend on Python and the community. Despite having some experienced people on the Board (not me), most of us didn't really have a good idea of the strategic direction of the Foundation. We didn't know where to go, or how to get there. We did believe Python was special and would remain popular, but I do not think any of us

expected it to grow to be one of the most popular, most widely-used languages in the world.

Now, the PSF is where we could not possibly have hoped for. Python is incredibly popular, all over the world and in all areas of business, science and education. We have a thriving, diverse, global community. The PSF hosts critical infrastructure, foremost the Python website and PyPI, the Python Packaging Index. We have actual staff to run our day-to-day operations, to organize PyCon US every year, and to provide Fiscal Sponsorship to Python projects and Grants to communities and events all over the world. We now even have team members to support volunteers working on PyPI and on CPython.

Just last year the PSF hired Łukasz Langa as the PSF's first Developer-in-Residence, a full-time developer to work on CPython, directed by the Python Steering Council. We also hired Shamika Mohanan as the Python Packaging Project Manager, to help us expand PyPI's functionality and improve sustainability. More on their work later in this report.

I think it's safe to say the Python Software Foundation could not have been so successful if it hadn't been for Ewa Jodlowska, who was our Executive Director until last year, as well as our early staff members, Kurt Kaiser and Betsy Waliszewski. But while they were instrumental in building up the PSF to its current state, they are far from the only ones who helped us get here. The PSF is a collaborative effort by Board members past and present; everyone who worked on Python itself; everyone who worked on Python projects, documentation, events or community resources; and everyone who supported the community in some way. It is truly a community accomplishment.

It is because of the community support and efforts that the PSF weathered the last two years so well, and that we're in a good enough shape to attempt an in-person PyCon US for the first time in three years. The PSF has a solid paid staff to support the volunteer Board of Directors and all the volunteers who work with us, and we can now make long-term plans and investments. The future of Python is looking bright, and we look forward to working with the global Python community to build it.

Highlights of 2021

30TH

ANNIVERSARY
for the Python
Language

20TH

ANNIVERSARY
for the Python
Software Foundation



2,700

Pythonistas attended our second virtual PyCon US—making it a huge success!

OUR COMMUNITY
GAVE BACK
\$373,000

IN DONATIONS
IN 2021!

83

COMPANIES &
ORGANIZATIONS
BECAME SPONSORS

WE HIRED THESE ROLES:

Event Assistant

Director of Resource
Development

Packaging Project Manager

Developer in Residence

PYPI INTO THE FUTURE

We conducted a PyPI survey to learn about PyPI users needs and priorities to shape the future.

GRANT GIVING

was restarted in 2021 to connect & hold virtual events. We gave:

131 to 129 in 41
GRANTS GROUPS COUNTRIES

WE SUPPORTED

10 existing sponsorees & 3 new fiscal sponsorees:



WE RECOGNIZED

12 amazing, resilient, & generous Pythonistas with community and distinguished awards.

ABOUT US

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 12 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.

2021 GOALS

Investing in Packaging

In 2021, the PSF dedicated resources to advancing the PyPI package repository. Shamika Mohanan joined the PSF as Python Packaging Project Manager in August 2021, fulfilling a key PSF goal for 2021. In that role, Shamika has been focused on working closely with the packaging community to identify development opportunities that would improve the packaging ecosystem.

As the first major initiative, Shamika worked with the packaging community that uses PyPI as a team. By soliciting feedback from the community in a series of three surveys, Shamika has identified prioritized features that will add value to PyPI. The surveys highlighted the important role that PyPI plays in any Python user's workflow and the consensus was generally positive. The most requested features were namespace support, organization accounts that can manage multiple users and projects, and private packages. Another recurring theme in the surveys was a demand for the ability to establish provenance of a package, and we hope that namespace support and organization account features will go a long way in serving this community need. The development of these new features will also create a path for PyPI to become a self-sustained service. The full survey report is available [here](#).

We are grateful to Bloomberg for generously providing the funding for this role and sponsoring this valuable work.



2021 GOALS

A Note from our Inaugural Developer in Residence— Łukasz Langa

One of the PSF's key goals for 2021 was to hire a Developer in Residence, a brand new role with the goal of providing a developer with full-time focus on CPython and amplifying the impact of our volunteer contributors. Thanks to a generous Google grant, in August 2021, Łukasz Langa became the first PSF Developer in Residence!

Read on to hear in his own words what he was able to



accomplish in his first several months, and what he's aiming to do in the year ahead.

I've been really rooting for Python Software Foundation to be able to sponsor core Python development. After applying for the position and being chosen as the inaugural CPython Developer in Residence, I felt this is a huge opportunity to accelerate the velocity of the project. I [blogged](#) extensively on what

my views on the position were and what role I thought I can most productively fulfill. Long story short, I decided to start by unblocking other existing core developers through code review and pull request merging.

In 2021, I managed to review and close 886 pull requests which lead to closing of 217 issues on the bug tracker. I reviewed another 94 pull requests and authored close to 50 of my own. I did not have a particular area of focus, instead reviewing pull requests as they came, to get a better feel of where the most action is, and to get to know the project better. It's over a million lines of code after all. Even though I contributed to CPython for over 10 years before taking on this job, there were large parts of the codebase I haven't touched before. The most exciting PR I reviewed was probably [the addition of `except*`](#) (as described by PEP 654).

Through the year my work shifted somewhat. I did some research on what the open pull requests on GitHub constitute and wrote a [blog post](#) on that in particular. I met Sam Gross who is working on removing the GIL from CPython, [organized a meeting](#) around it and am now mentoring Sam to become a CPython core developer. I also co-organized the virtual CPython core sprint week.

While being the CPython Developer in Residence I continued releasing CPython, putting three releases of Python 3.9 and one security release of Python 3.8 in the second half of 2021. I helped Pablo Galindo Salgado with various minor release-related busywork for his Python 3.10 releases as well.

I'm always open to feedback, based on which by end of year I switched gears from reviewing random PRs to more far-reaching projects. In particular, I'm currently involved in the migration of [bugs.python.org](#) to GitHub issues. I'm very excited for what 2022 will bring! Don't be a stranger, if you have any comments on how you think I could improve my work and positive impact, let me know! I am tremendously grateful for this opportunity.



PyCon Tanzania, 2021 - K15 Photos

2021 GOALS

Infrastructure

Our infrastructure continued to support the Python community by hosting resources and downloads on python.org, documentation on docs.python.org, packages on pypi.org, and more.

In addition to these public facing resources the PSF infrastructure continued to support the development workflows of CPython, hosting of mailing lists on mail.python.org, and deliver us.pycon.org to support the annual PyCon US.

We also support the community by maintaining domain registration, DNS, mail, and more for our fiscal sponsorees and projects like PyPy and Jython.

Last year, python.org served over 110 billion downloads for Python releases, and PyPI saw 126,545,477,066 downloads for the >369K projects hosted there. That's just over 10 billion per month. Yes, billions with a B! To serve that many downloads requires 324.1 Petabytes of data transfer, or 82.2 Gbps of bandwidth, 24x7x365.

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](https://fastly.com) 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 Tanzania, 2021 - K15 Photos

PyCon US 2021

The second-ever virtual PyCon US took place from May 12 to May 18, 2021. We were excited to connect Pythonistas around the world, and we welcomed over 2,700 participants!

PYCON US 2021 BY THE NUMBERS:

100+

VIRTUAL SESSIONS, tutorials, summits, talks, keynotes, lightning talks & more! All of which had over 23,000 unique views!

24,000

VIRTUAL VISITS to 49 virtual booths including sponsors, startup row companies, open source projects and poster sessions.

49

VIRTUAL BOOTHS including sponsors, startup row companies, open source projects and poster sessions

Grants

After being paused for most of 2020, we restarted the grants program with a focus on virtual events, as well as some in-person events. The PSF distributed \$117K in grants in 2021, to 129 groups in 41 countries around the world!

“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”



Python training by Afrodjango Initiatives, Uganda, 2021 - Joshua Kato

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



PyCon Tanzania, 2021 - K15 Photos

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 Pallets (Flask), PyLadies, PyCascades, Boston Python, PhillyPUG, PuPPy, PyBeach, PyHawaii, PyMNtos, and San Diego Python; and 3 new fiscal sponsorees who joined the PSF in 2021: Jazzband, PyPA, and PyRVA.

PSF Sponsors

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

VISIONARY



Bloomberg

Engineering

SUSTAINABILITY



NVIDIA.



MAINTAINING



CORNING



CONTRIBUTING



LATA CORA



Red Hat





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Thomas Wouters (Vice Chair Elect)

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Staff

Jackie Augustine, Director of Events

Joe Carey, Accounting Manager

Loren Crary, Director of Resource Development

Phyllis Dobbs, Controller

Ee Durbin, Director of Infrastructure

Laura Graves, Senior Accountant

Deb Nicholson, Executive Director

Olivia Sauls, Event Assistant and Administrative Support

Fundraising Campaigns

The PSF hosted two fundraisers in 2021! In the spring, we celebrated the 20th anniversary of the PSF and the 30th anniversary of Python with a campaign that included commemorative T-shirts. We also had an end-of-the-year fundraiser in partnership with JetBrains, which raised \$25K through generous community support. In 2021, the PSF raised over \$373K in donations. We're grateful to each one of our donors for your choice to contribute your support into your Python community.

*We thank all
our donors
who give back
to Python!*



PyCon Tanzania, 2021 - K15 Photos



PyCon Tanzania, 2021 - K15 Photos



Python Workshops for Girls & Teachers Spoonbill
Nest Innovation Center, Albania, 2021

PyCon US 2022

PyCon US 2022 will take place April 27th-May 3rd, nestled in the mountains of Salt Lake City, Utah. Please see [our event page](#).

PyCon US 2022 will allow our community to reconnect in a safe way to network, learn, share ideas, and create new relationships and partnerships—for the first time since 2019!

SPONSORSHIPS

Sponsorships make PyCon US possible and keep it affordable and accessible to the widest possible audience.

Your PyCon US sponsorship supports the Python Software Foundation's broader mission, so through PyCon US and beyond you'll also get Foundation benefits and the option to support CPython Development, as well as PyPI benefits with exposure via [us.pycon.org](#), [pypi.org](#), [python.org](#), and associated social media accounts. [Apply](#) to sponsor today!



PSF Financials 2020-2021

Consolidated Financial statement (\$ in thousands)

REVENUE	2021	2020
Program Service Revenue	\$1,405	\$762
Contributions, Membership Dues, & Grants	\$1,303	\$1,491
Other Revenue	\$5	\$58
TOTAL REVENUE	\$2,713	\$2,311

EXPENSES	2021	2020
Program Service Expenses	\$566	\$784
Staffing	\$768	\$656
Information Technology	\$267	\$200
Insurance	\$109	\$93
Legal	\$154	\$128
Other Expenses	\$97	\$65
TOTAL EXPENSES	\$1,961	\$1,926

NET INCOME	\$752	\$385
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ASSETS	2021	2020
Cash and Cash Equivalents	\$4,772	\$3,671
Accounts Receivable - Net	\$243	\$415
Other Current Assets	\$48	\$48
TOTAL ASSETS	\$5,063	\$4,134

LIABILITIES	2021	2020
Deferred Revenue	\$334	\$103
Accounts Payable & Liabilities	\$194	\$249
TOTAL LIABILITIES	\$528	\$352

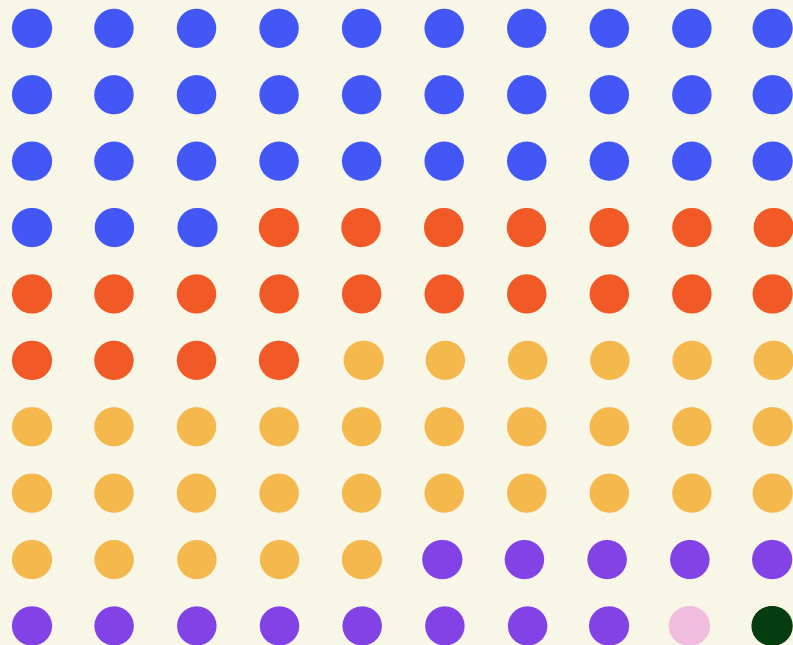
NET ASSETS	2021	2020
Net Assets without Donor Restrictions	\$3,514	\$3,107
Net Assets with Donor Restrictions	\$1,021	\$675
TOTAL NET ASSETS	\$4,535	\$3,782

TOTAL LIABILITIES & NET ASSETS	\$5,063	\$4,134
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Program Service Expenses

2021 Expenses by Category

(\$ in thousands)



● PyCon US (32.7%) | **\$ 184K**

● Grants (20.7%) | **\$ 117K**

● Packaging Work Group/Infrastructure/Other (31.2%) | **\$ 177K**

● Fiscal Sponsors (13.1%) | **\$ 74K**

● Community Awards & Expenses (1.9%) | **\$ 11K**

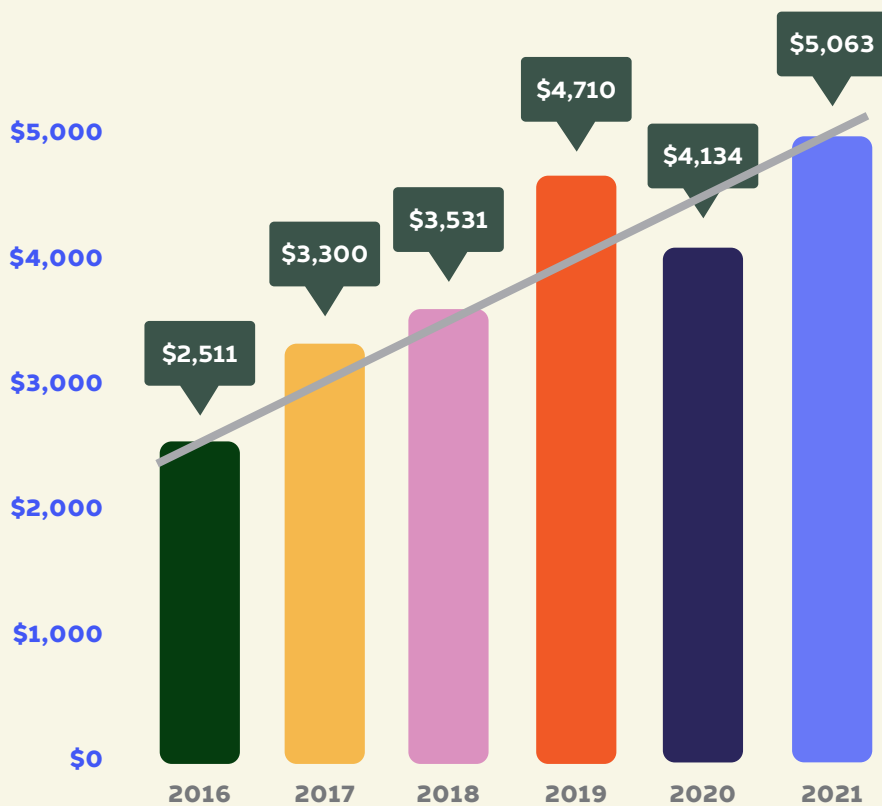
● Code of Conduct (0.4%) | **\$ 2K**

Total Program Service Expenses: \$566K

Growth of Assets

PSF Asset Trends from 2016-2021

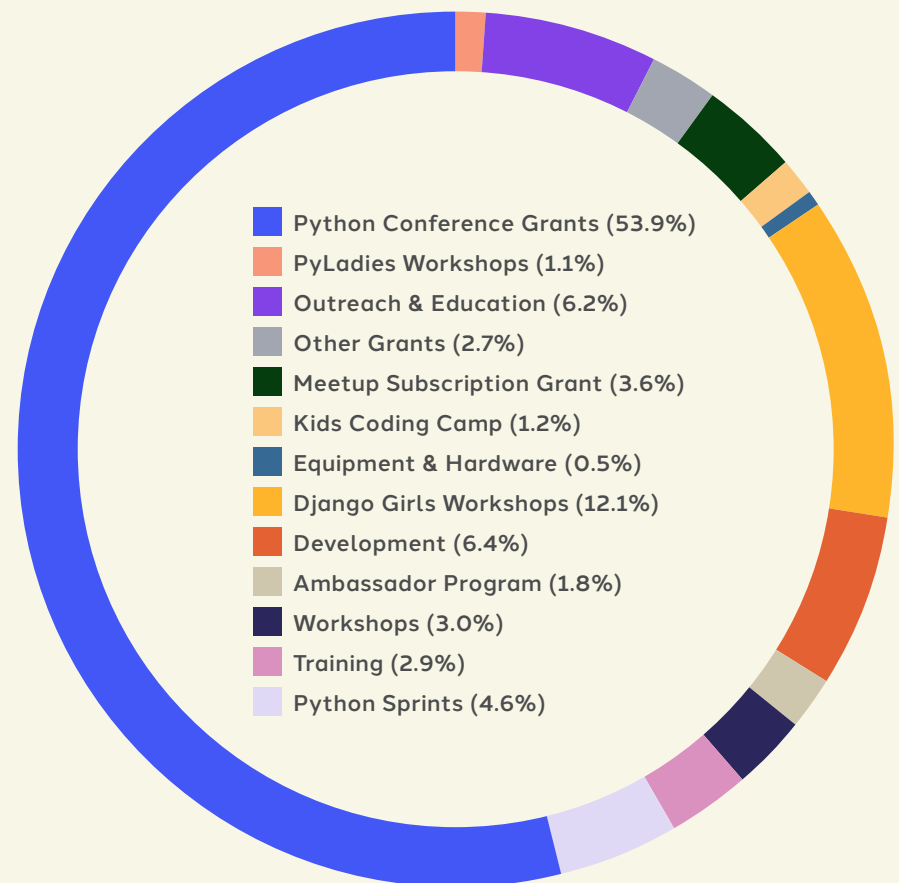
(\$ in thousands)



Grant Disbursement

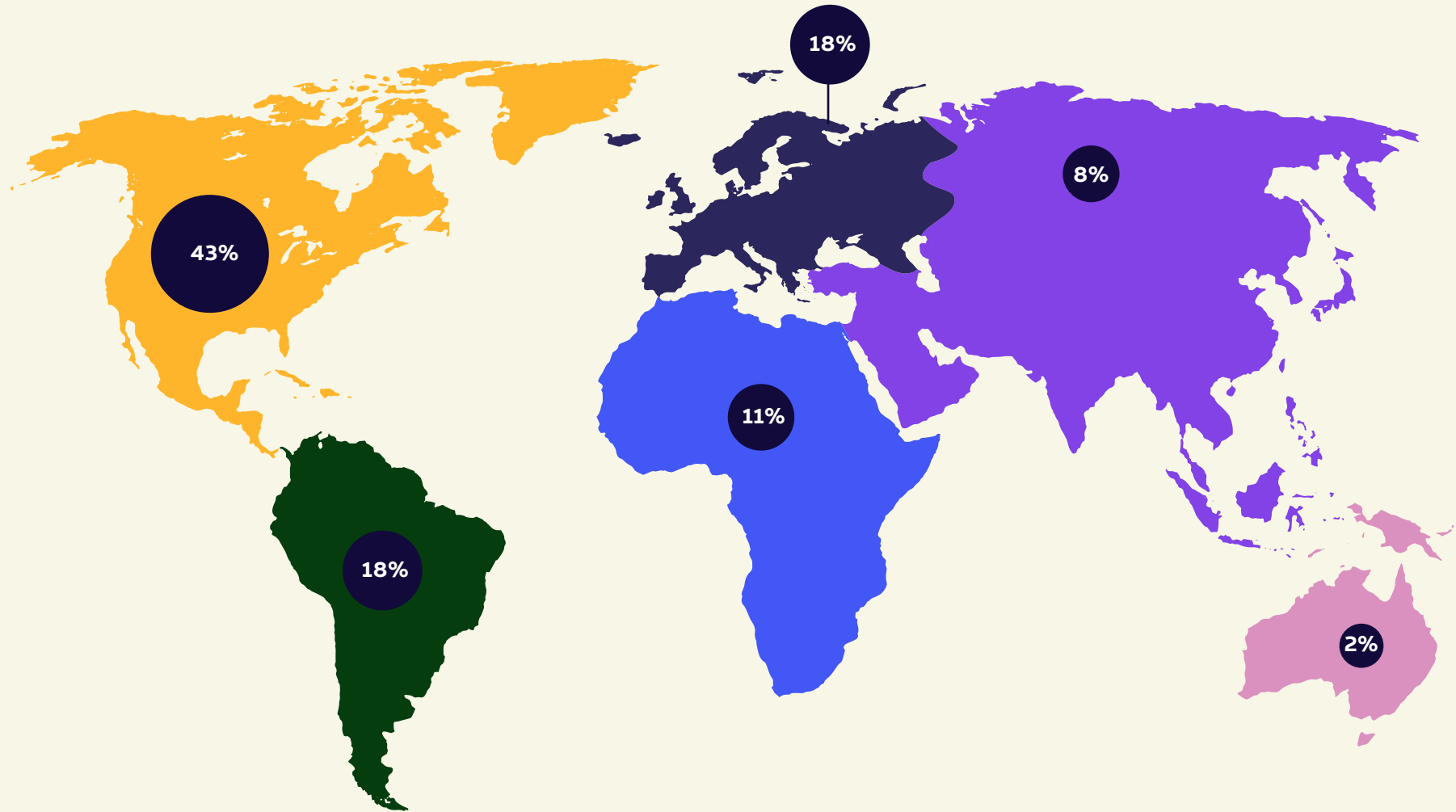
The PSF resumed funding worldwide Python events and projects in the Fall of 2020. Although grant requests have been lower than usual due to pandemic fatigue, we look forward to continuing to support Python around the world with plans to increase our grants budget in future years.

PSF Grant Disbursement from 2015-2021



Grants by Continents

After being paused for most of 2020, we restarted the grants program with a focus on virtual events, as well as some in-person events. The PSF distributed \$117,157.68 in grants in 2021, to 129 groups in 41 countries around the world.



Looking Forward With Our New Executive Director

The PSF Board of Directors undertook a comprehensive search for a new Executive Director to oversee the PSF's continued growth and stability. We welcomed Deb Nicholson as our new Executive Director in April, 2022. Deb is a longtime supporter of the Python community with her work as a founding Board member and tutor at OpenHatch and local organizer for the Boston Python User Group. She brings to the PSF 15 years of open source experience and over 25 years of non-profit experience.

“In 2022, we’ll be continuing the work to strengthen and diversify the global Python community. In particular, I’m looking forward to working with the Board and the wider Python community to identify new opportunities to support education and outreach. With the PSF staff, I’ll be focused on increasing our technical and organizational capacities, so that we can even better serve Python users.”

– DEB NICHOLSON, EXECUTIVE DIRECTOR

How Can I Get Involved?

All of the PSF's initiatives help maintain and support the Python community and Python tools that you and the Python community use daily. This work can only be done with the generous financial support that organizations like yours provide. Whether you want to give back to this vibrant community or perhaps introduce your business or brand to like-minded industry professionals, the Python Software Foundation can help you accomplish those goals. Your contributions matter and they make an impact!

The PSF is recognized by the IRS as a 501(c)(3) non-profit charitable organization.

We hope you'll join us as a sponsor & help make a difference in the Python ecosystem. We'd love to talk with you. Please get in touch by contacting: Sponsors@python.org

