

Why host your Foundation at The Linux Foundation?

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SVP of Projects and Legal
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We Build Self-Sustaining Foundations Every Day

Structure, Governance, & Funding

- A new foundation can be established within a week. Raise funds through membership, grants, and donations in various entity types (e.g., US 501c6, US 501c3, LF Europe, LF UK, LF Japan).
- Your foundation board or delegate body make decisions for your projects. E.g. decide how funds and grants are distributed to other organizations, contractors, developers, and even hiring FTEs for project sustainability.

Built to Scale for Any Number of ECP Technical Projects

- A proven umbrella model, able to support any number of technical projects
- All types of technical collaboration: open source, standards, data and hybrid models.
- Comprehensive tools (LFX Insights, Security, Mentorship, etc) that your foundation and all its projects can use.
- Anyone can contribute and participate in technical projects regardless of funding/membership

Cross-Pollination with Other Sub-Foundations

- Access to 100+ other LF foundations over 3,000 academic, government and corporates members, and 900+ projects
- Over 70 countries represented by members in our projects
- Over 100 events per year featuring our projects held annually in 17 countries reaching 90,000 attendees, representing 135 countries. 55+ full time employee events team.

We've Done this for USG

- Hosted multiple projects including umbrella foundation of DoD, additional projects underway soon to be announced
- Experience with ins and outs of contracting process for supporting sub foundations receiving and disposition USG funds to support their sustainability

The LF is a broad scope foundation of foundations hosting openly developed technologies across many segments.

Automotive

Our Automotive Grade Linux platform is deployed in millions of production vehicles covering infotainment, telematics, autonomous, etc.



**Support from OEMs
Covering 50% of global
auto shipments**

AI

Our open governance has helped accelerate adoption and collaboration on open artificial intelligence platforms.



**PyTorch is the most widely
adopted AI framework in the
world**

Web

We are providing the application development framework for next generation web, mobile, serverless, and IoT applications.



**Node.js packages are
downloaded over 1 billion
times per day**

The LF is a broad scope foundation of foundations hosting openly developed technologies across many segments.

Security

We are securing the world's open source software supply chain



Sigstore signs Kubernetes, npm, python, and more. Scorecards are built into many build pipelines.

Networking

We are home to 8 of the top 10 open source networking projects in the world, backed by the majority of global network providers.



Support from carriers handling 70% of mobile subscribers

Cloud

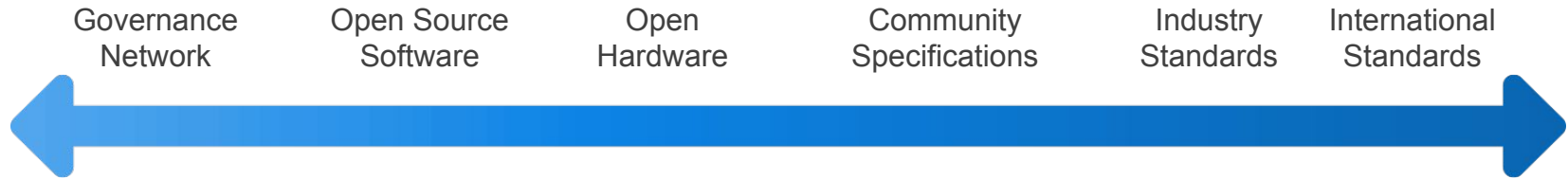
We are creating a portability layer for the cloud, driving standards and developing reference tools for cloud native development.



Every relevant public cloud provider supports Kubernetes

The Linux Foundation advances innovation in **open source, open hardware, standard setting, and data sharing** in a foundation of foundations structure.

The Collaboration Spectrum



The Linux Foundation
Foundry of Collective Innovation

The LF has become a global commons for holding community foundations and assets.

100+ Foundations
900+ projects with
community assets

- Generally, no one company trusts another company to own assets for the community
- Assets include logos, trademarks, domains, gerrit/GitHub, CLAs all seen as potential control points
- Structures are based on modular building blocks
- US-based with operations around the world including Japan, Europe, UK, APAC and more.

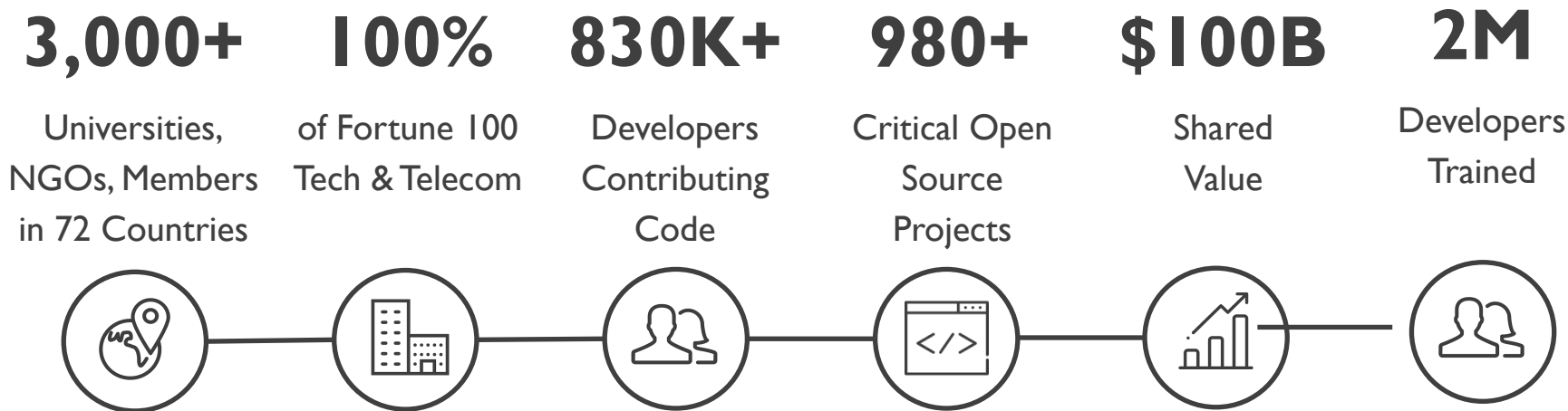
Management of
assets requires scale
and expertise

- Over 320 full time employees
- Over 30,000 CLAs signed for project communities that decide to require a CLA
- Over 1,700 project domains and DNS records
- Over 1,000 trademark files managed, hundreds of unregistered marks
- Over 15,000 source code repositories
- In-house legal team and 30+ outside counsel firms around the world supports foundation

Neutral source for
managing leveraged
fundraising

- 3,000 unique member company relationships
- Our communities raised over \$250 million in 2022 via 6,500+ invoices
- Our communities spending funds generate 200k+ transactions annually

We are a global organization committed to the free exchange of data, code, and innovation



The Linux Foundation is a critical part of modern technology

Across our foundations: hundreds of projects, lines of code in the billions



110M

Lines of Code
Added Weekly



14.4M

Lines of Code
Removed Weekly



722,330

Technical
Contributors



118,556

Ecosystem
Contributors



12,925

Contributing
Companies



12,899

Repositories



12.2M

Commits



1.4M

Pull Requests



2.1M

Builds Monitored



933,150

Logged Issues



11.2B

Container
Downloads



236,499

Vulnerabilities
Detected



4.4M

Email
Messages



5.1M

Chat
Messages



32,517

CLA
Contributors



82,939

Event Attendees
(12 months)



1100+

Project
Domains



28,028

Community
Meetings

Successful open collaboration ecosystems comes down to four core factors.

Neutrality

No one company or organization can “take it away” from the community that forms around a project.

IP Clarity

Removal of IP uncertainty enables anyone to get involved as a contributor or implement as a user.

Open Governance Do-ocracy

The most successful projects that have stood the test of time have neutral, open governance models where those who do the work make the decisions in a defined governance model.

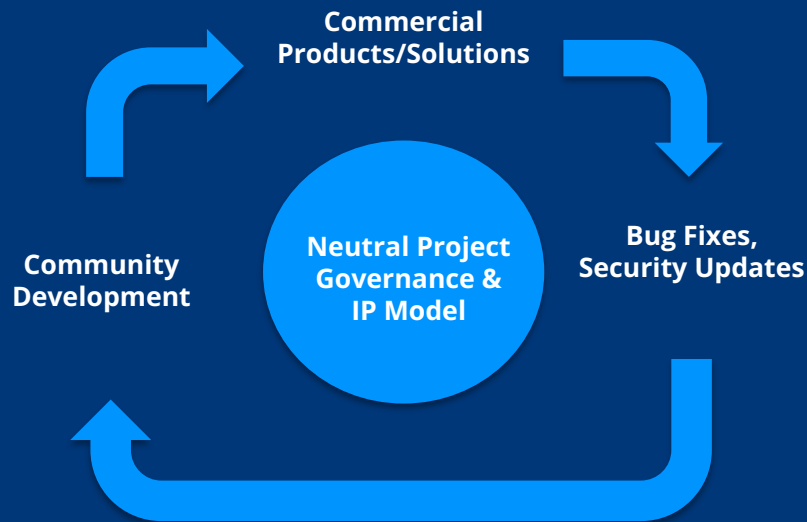
Financial Support Ecosystem

Encouraging academic, government, and commercial engagement in leads to jobs, faster adoption, new contributions and features that address new use cases.

Projects support a continuous, sustainable ecosystem.

Under the LF model projects become part of a continuous, sustainable ecosystem

- Sustainable projects have a developer community
- A developer community's technology is used in commercial solutions that profit businesses
- The businesses then participate and reinvest back into the project
- The businesses then hire developers to work in the community



Commercial dependency drives a virtuous cycle of commercial and community engagement based on accepted governance and IP models

What do projects generally seek from the LF?

Neutrality

A neutral host foundation for intellectual property (IP)

Governance

Governance and community help

Resources

Events, community, marketing, training, CI/build infrastructure

Growth

Build momentum within the LF community thousands of global members

Funds

Ability to raise and manage funds (optional)

Experience

Colleagues who share deep open source experience

Projects often start with individual companies looking for a neutral home for their open source initiative, or individual developers seeking to elevate their project so that more companies and developers will participate.

The LF's
Support
Programs help
communities
succeed.

Developer Community

Release & Infrastructure Support

CI/CD, release engineering, infrastructure, collaboration tools, DNS/web

Developer Engagement

Dev Summits, meetups, events, Hackathons for maintainers and extended dev community

Mentorship

Upskilling for better careers, expanding the pool of developers and next generation leaders

Commercial Ecosystem

Talent & Skills Development

Educational engagement, training courses, professional certifications

Neutral Venue, Global presence

Nonprofit entity, leadership and managers to engage on issues/ideas, neutral governance templates, global entities

Open Standards

Open specifications, ISO standardization path

Resource Funding Options

Ability to infuse resources into a community

Project Maintainers

Security

Security audits, best practices, badges and scanning tools

Facilitation

Neutral managers available to facilitate development and execution on priorities

Project Advocacy

PR/AR, social media, blogs, videos, content creation highlighting their project

OSPO & Legal Professionals

Analytics & Insights

Project health and dependability metrics

OSS Management

TODD Group OSPO peer engagement, OSPO best practices and guides, Legal Summit and peer engagement

Compliance

Process guides, license scanning, export control management, tools for internal use

Foundation as a Service Support

The LF provides a back-office infrastructure for foundations, projects and initiatives so they can focus on delivering value for their community.

Operational Infrastructure and Support

- Access to and support on the infrastructure operated by The Linux Foundation, including Salesforce, ADP, NetSuite, Bill.com, and Expensify to manage finances as well as membership and business development information
- Domain management, trademark management

Business Leadership and Shared Services

- Access to and support from The Linux Foundation management team regarding industry matters and governance issues such as the IP policy

Finance, Accounting and Human Resources

- Profit and loss, balance sheet, and cash flow management
- Treasury
- Budgeting and quarterly forecasting
- Monthly financial reporting to the Project Budget and Finance Committee and consultation with The Linux Foundation's finance team
- Payroll and benefits access and administration for project staff members
- Legal and tax compliance
- Accounts receivable and accounts payable management, including follow up with project members as needed regarding payment and management of pass-through expenses for third parties such as international public relations partners

The LF can structure different types of collaboration.

- Open source software
- Open hardware
- Open standards
- Open data
- Open governance

Linux Foundation Project Hosting Requirements

- Use an open source license for code (e.g. OSI approved)
- Be supported by an LF member
- Allow neutral ownership of project assets such as a trademark, domain or GitHub/GitLab account (the community can define rules and manage them)
- Technical do-ocracy through separation of business governance from technical governance (we're flexible on the model) clearly documented in a charter
- Allow anyone to participate in the technical community, whether or not a financial member or supporter of the project (explicitly not pay-to-play)

How we structure projects & foundations

There is no “one size fits all” approach to building a community for your open source project. The Linux Foundation exists to help you as an experienced, trusted advisor and facilitator.

Community Project

These projects take advantage of the governance structure and back-end resources that the Linux Foundation provides to all hosted projects.

Examples

SPDX, FOSSology, CHAOSS, Linuxboot, Open vSwitch, and OpenBMC

Community Project + Funding

These projects benefit from community-raised funding to provide resources and infrastructure like enhanced code repositories, continuous integration systems, testing resources, conformance programs, and developer events. Membership or funding support for these projects is never required to contribute.

Examples

PyTorch Foundation, GraphQL Foundation, OpenAPI Initiative, and Open Mainframe Project, Overture Maps Foundation

Umbrella Community + Funding

These projects support several technical projects under the same funding structure and are focused on a technology area. This allows the community to pursue a strategic vision across a spectrum of opportunities while balancing demands on resources.

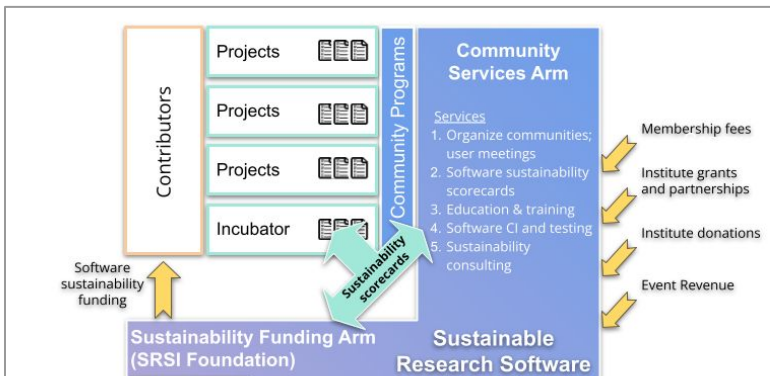
Examples

Automotive Grade Linux, Cloud Native Computing Foundation, Hyperledger Foundation, LF AI & Data, and LF Networking

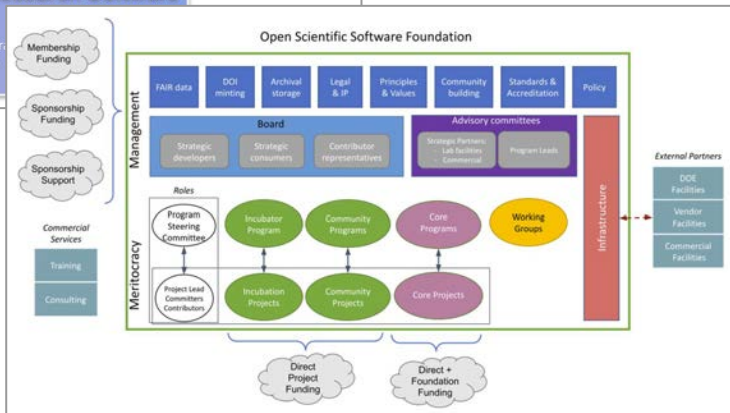
How does the LF sustain itself?

- LF member contributions pays for the core LF staff and capabilities to host projects at no cost.
 - Enables the LF to establish projects at no cost, so long as the initiators agree to open governance, open source licensing, and neutral ownership of the trademark/domains/etc.
- If a projects wants a supporting resource for itself, each project pays its own way
 - Project governing boards decide how much funding to raise and their budget.
 - E.g. if Project X needs \$500k for a cloud service (e.g. AWS, Azure, Oracle Cloud, etc), the project needs to fundraise because we don't have \$500k to just give any project.
- The LF charges a G&A fee to cover the cost of supporting project funding.
 - When a project raises money, the LF has to deal with contracting, accounts receivable, accounts payable, HR (if hiring staff), contract management, reporting, treasury, etc.
 - The G&A fee is 9% on the first \$1m raised, 6% over \$1m (we see efficiencies as projects scale funding)

The Linux Foundation can fully support the SRSI and OSSF proposed structures



- The LF already supports similar governance models in other communities
- The LF can support all of the funding models/options, grants, and models for making decisions about how to apply the funds
- The LF already supports organizing community meetings at scale, software sustainability scorecards (and lifecycle), education and training through our Training & Certification programs, a team devoted to software CI and testing, and we consult with our communities on many areas of sustainability and beyond
- The LF has multiple examples and would be happy to walk through options and figure out the best alignment path with any of the Seed projects (e.g. SRSI, OSSF).



LFX is a toolkit built to add value to every aspect of open source development. LFX directly supports projects and empowers open source developers to write better, more secure code and grow sustainable ecosystems.



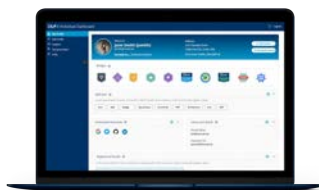
LFX Insights

You can't improve what you don't measure



LFX Security

Open source security is a shared responsibility



LFX Individual Dashboard

Measure your impact across the entire open source ecosystem



LFX Mentorship

Train future open source leaders



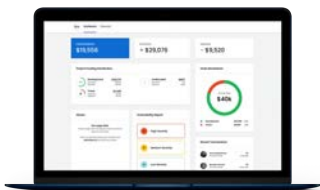
LFX EasyCLA

Don't let contribution policy disrupt development velocity



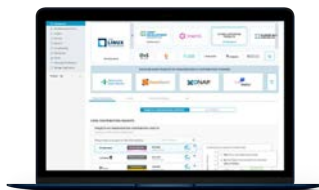
LFX Crowdfunding

Support the projects you depend on



LFX Organization Dashboard

The limited access beta will be launching mid 2021 for LFX Organization Dashboard.



LFX Project Control Center

The limited access beta will be launching mid 2021 for LFX Project Control Center.

Additional tools include...

- LFX Member Enrollment
- LFX Landscape
- LFX Community Events
- LFX Training Portal

Learn more at lfx.dev

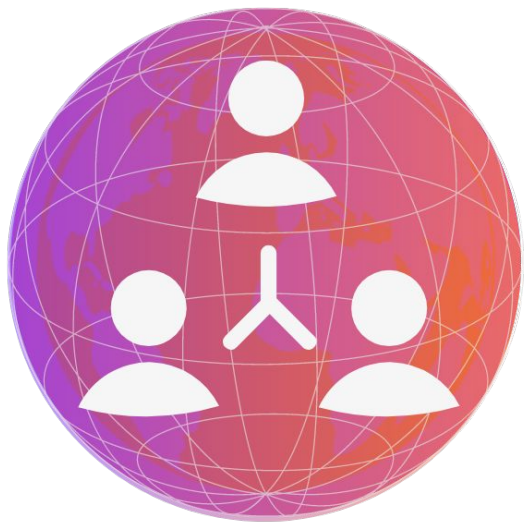
Initial Understanding of Needs / What Else?

- ✓ LF is not a monolith. It is a foundation of foundations and we can rapidly create (within a week) a SRSI Foundation for DOE/the National Labs. The key input required is the structure you want us to implement.
- ✓ Each technical project has its own developer community/ decision making process
- ✓ Provide a not for profit funding entity to be able to receive and dispense funds focused in support of the SRSI projects
 - ✓ Ingress/Egress of capital to support project sustainability.
 - ✓ Raise monies in the form of any combination of membership, grants, and other donations and collected into different entity types (US 501c6, US 501c3, LF Europe entity, LF UK entity, LF Japan entity etc)
 - ✓ Can be allocated at the discretion of the board or delegate body (like Advisory Council) to 3rd party entities
 - ✓ Ability to provide funding to contractors, developers, or even take on FTEs as required for project sustainability
- ✓ A council that is the bridge between the technical projects and the funding body
 - ✓ This body could for example decide which projects should be allocated grant \$\$s.
- ✓ Leverage LF's existing relationships with over 400 Academic Institutions and NGOs, and be able to expand easily
- ✓ Build on LF's partnership of hosting projects for DoD / DARPA (have CRADAS in place with DoD and DARPA, as well as experience with contract vehicles that also allow for funding of initiatives)
- ✓ Multiple LF projects are currently leveraged by Exascale Compute Project (Linux, OpenHPC, and more)
- ✓ LF can support SRSI Foundation with all the back office foundation work to support its mission
- ✓ Cross Pollination and Visibility with other projects and sub-foundations
- ✓ LFX Tools such as Insights and Mentorship available for all projects
- ✓ Have sustainability metrics/badging as well as leverage OpenSSF Best Practices badge.



PyTorch Example

June 2023



The **PyTorch Foundation** aims to help end users navigate the PyTorch ecosystem, recruit talent, and adopt PyTorch by supporting open source AI technologies successfully.



“By creating a neutral home with the PyTorch Foundation, we are collectively locking in a future of transparency, communal governance, and unprecedented scale for all.”

Dr. Ibrahim Haddad, Executive Director, PyTorch Foundation



History of PyTorch

- Built with an open-source, community-first philosophy, PyTorch partnered with the AI community to create a framework for AI research in 2016
- Thousands of contributors have built 150,000+ projects
- PyTorch has become one of the leading platforms for research and production across the AI community
- Meta brought PyTorch to the Linux Foundation in September 2022
- The Linux Foundation's core mission is the collaborative development of open source software
- The creation of the PyTorch Foundation ensures that decisions will be made in a transparent and open manner by a diverse group of board members



Growth from the PyTorch Foundation



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

The number of new
community members
contributing is
up by 18%



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

Total technical
contributions have
increased 23%



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

2600k+ users
created their first post
on the discussion forum



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

**2,315 unique
contributors**
in the last 6 months



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

PyTorch 2.0 comprised of
4,500+ commits and
400 contributors



FIRST SIX MONTHS OF
THE PYTORCH FOUNDATION

The number of commits
across all repositories
increased 36%





PyTorch

Governance



Governance

The PyTorch Foundation is a single funding effort to support end to end machine learning framework.

PyTorch adopts a technical governance structure that is hierarchical.

- A community of contributors who file issues, make pull requests, and contribute to the project.
- A small set of module maintainers drive each module of the PyTorch project.
- They are overseen by core maintainers, who drive the overall project direction.
- The core maintainers have a lead core maintainer who is the catch-all decision maker.

Resources:

- [PyTorch Governance](#)
- [Code of Conduct](#)



Governing Board

Responsibilities include

- Strategic direction and evolution of the PyTorch Foundation
- Funding the foundation
- Meeting monthly over conference call

Member Company	Name
Amazon Web Services	Brian Granger
AMD	Niles Burbank
Google Cloud	Ting Liu
Meta	Aparna Ramani
Microsoft Azure	Steve Wan
NVIDIA	Duncan Poole



Technical Advisory Council

- A Technical Advisory Council is composed of technical experts and leaders from the project responsible for key modules and functions being developed by the community.



Marketing Committee

About

- Larger projects and umbrellas form Marketing/Outreach Committees (often in the Charter) and Working Groups to help guide project marketing priorities, planning, and execution. We meet monthly on the third Wednesday.

Benefits

- The ability to pool marketing expertise from industry leading companies
- Community-driven marketing is more authentic, relevant, and useful
- Collaborative planning leads to greater member “buy in” and participation in marketing programs
- Cross-promotion of marketing efforts in marketing channels
- MAC Chair/Vice Chair provide leadership and represent the marketing function at the board of directors level and with other project groups
- Endorsement of Marketing Plan with quarterly progress reviews



Marketing Committee

Composition

- One appointed voting representative from each Premier Member
- Each General Member may appoint a non-voting representative to observe and participate in the Marketing Committee

Charter

- The Marketing Committee provides input and oversight of the PyTorch Foundation's marketing activities. The Marketing Committee works closely with the Foundation's staff to develop programs that will further the interests of the Governing Board and PyTorch community at large.



Membership Benefits + Tiering



Benefits of membership

- **Gain** technical traction and insight for your organization's products by immersing your teams with other industry leaders.
- **Increase** strategic and technical advantages with early knowledge and access to technical deliverables in motion.
- **Provide** thought leadership and expand industry awareness as PyTorch amplifies member progress across the industry.
- As an active member of the PyTorch community, **build** your innovation partner network, supply chain, and customer pipeline as an active member of the PyTorch community.
- **Deepen, engage, and lead** in local and industry developer networks and conferences.

Membership Levels



Premier Member

- Acceptance subject to Board and Technical Review Approval
- Automatic seat on the governing board
- Prominent placement in displays of membership including website, landscape and marketing materials
- Exclusive live webinars with PyTorch online programs
- And everything included within a "general" membership



General Member

- Display of logo on the PTF website and in marketing materials
- Insight into PTF strategy and activities through engagement with the PTF leadership team
- Opportunity to host "PyTorch Day", including on-demand webinars and livestream
- Individualized amplification upon membership announcement



Associate Member

- Participation in marketing committee meetings
- Receive discounts on the PTF event sponsorships and training courses
- Exclusive to academic and nonprofit organizations

Membership Pricing



Premier Member

\$150,000 annually + LF Silver
Membership



General Member

LF Silver Membership +

5,000+ employees: \$50,000

3,000 – 4,999: \$40,000

1,000 – 2,999: \$35,000

500 – 999: \$30,000

1 – 499: \$25,000



Associate Member

Free Membership

Exclusive to academic and
nonprofit organizations



Opportunities for each membership

Benefits	Premier	General	Associate
Hold one (1) seat on PTF Governing Board + one alternate (1) representative			
Appoint one (1) voting representative in any subcommittees or activities of the PTF Governing Board			
Enjoy most prominent placement in displays of membership including website, landscape and marketing materials			
Receive greater insight into PTF strategy and activities through engagement with the PTF leadership team			
Opportunity to host "PyTorch Day", including on-demand webinars and livestream			
Create an individualized amplification plan upon membership announcement with the PTF team			
Participate in all Marketing, Community, Thought Leadership opportunities			
Receive discounts on PTF event sponsorships and training courses			
Demonstrate your support for the PTF by displaying your logo on the PTF website and in marketing materials			
Internship opportunities			
Opportunity to be considered for a PTF Board position <i>(Note that premier members automatically receive a seat on the board)</i>			



Membership Marketing Opportunities



About

- Each member company at the PyTorch Foundation will have different marketing needs, roughly along the lines of their engagement in PyTorch.
- Premier and General members are expected to have the highest needs, while Associate members will be more minimal.
- If a company desires additional support beyond what is in the following slides, they should make a proposal so that the Board can determine whether the request can be accommodated.



Content creation + message amplification

Blog announcements

- Draft up to four blog posts on major project releases or thought leadership, as appropriate.
- Includes media prep, staffing interviews and follow ups, if applicable.

Collaborative content creation and support

- Webinars, blogs, contributed articles, presentations.
- Includes planning/brainstorming, outline creation, and editing.

End-user case studies

- Case studies on end-users identified by the project, with a companion blog post
- Content to be pitched to media and shared via social for additional amplification

Submit your content using the [Content Submission Form](#)

Analyst briefings

- Briefing pitches to major firms (Gartner, Forrester, IDC, RedMonk, 451 Research)

Social media amplification

- Amplify posts on the project's official social media account via RTs / Shares

Emails

- Member digest emails containing information about upcoming events and happenings, recent announcements
- Community members can choose to subscribe

Press Releases

- If warranted, we will issue formal communication typically issued over a newswire and distributed directly to members of the media for hard news, new project member, or details of an event. We can go through PR Newswire or post to the Linux Foundation website



The Role of the Linux Foundation



The PyTorch Foundation Team

Core team



Dr. Ibrahim Haddad
Executive Director



Lucy Hyde
Program Manager



Jen Shelby
Sr Marketing Manager



Kylie Wagar-Dirks
Communications Manager



Reden Martinez
Project Coordinator

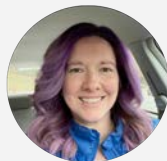
Extended team



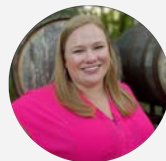
Tim Serewicz
Training Director



Chris Abraham
Web Engineer



Alena Davis
Web Director



Deb Giles
Event Director



Roles

PyTorch Foundation	<ul style="list-style-type: none">● Support members through marketing, program management● Be a liaison to the member companies and the community as a neutral entity● Participate with the technical committee to ensure amplification● Host and coordinate events
Member companies	<ul style="list-style-type: none">● Submit ideas and blog drafts● Submit newsletter content● Participate in foundation events
Marketing committee	<ul style="list-style-type: none">● Webinar themes and content● Propose webinar participants● Propose case studies● Event strategy and support● Review content developed by Foundation Marketing/Comms team



PyTorch Foundation Guidelines

We have created guidelines for our member companies to follow when working with the PyTorch Foundation.

Please follow them closely and reach out with any questions.

- [Social Media Guidelines and Best Practices](#)
- [Medium Guidelines](#)
- [Web Services Guidelines](#)
- [Meetup Guidelines](#)
- Documentation on PyTorch [Github](#)



PyTorch Foundation Resources

- [PyTorch Website](#)
- [GitHub](#)
- [PyTorch Community](#)
- [Forums](#)
- [Brand Guidelines](#)



Linux Foundation Resources

Our broader team at the Linux Foundation* can help with:

- Events
- Creative
- Training + certification
- Web
- Demand generation
- Research

The PTF team will leverage them as necessary depending on the project. Please reach out if you have any questions about the broader foundation.

**Please note that these may incur additional costs*

Linux Foundation information to leverage:

- [Membership](#)
- [Open source guides](#)
- [LFX Platform](#)



Questions

Please reach out should you have any questions or comments

- For membership: ibrahim@linuxfoundation.org; lhyde@linuxfoundation.org
- For marketing: jshelby@linuxfoundation.org; kwagar@linuxfoundation.org
- For all other inquiries: lhyde@linuxfoundation.org



Thank you!

LF AI & Data Foundation Example

June 2023

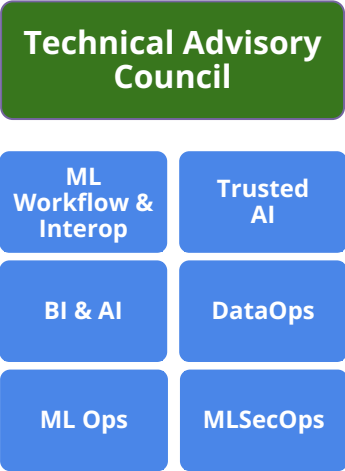
Foundation Structure and Governance

Foundation Governance

(Funding effort)



Technical Coordination











Hosted Projects



























Projects Hosted in LF AI & Data



















Graduated LF AI & Data Projects (8)

 Adversarial Robustness Toolbox Adversarial Robustness Toolkits LF AI & Data Foundation 3,257	 Angel-ML LF AI & Data Foundation 6,631	 Egeria LF AI & Data Foundation 1,132	 Flyte LF AI & Data Foundation 2,712	 Horovod LF AI & Data Foundation 12,753	 Milvus LF AI & Data Foundation 13,839	 ONNX LF AI & Data Foundation 13,351	 Pyra LF AI & Data Foundation 7,623
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Incubating LF AI & Data Projects (24)









 ADLIK LF AI & Data Foundation 398	 AI Explainability 360 Toolkit LF AI & Data Foundation 1,172	 AI Fairness 360 Toolkit LF AI & Data Foundation 1,348	 Amundsen LF AI & Data Foundation 3,302	 DataPractices LF AI & Data Foundation 24	 datashim LF AI & Data Foundation 284	 DELTA LF AI & Data Foundation 1,326	 Elastic Deep Learning (EDL) LF AI & Data Foundation 137	 FATE LF AI & Data Foundation 4,541	 FEAST LF AI & Data Foundation 3,637	 ForestFlow LF AI & Data Foundation 60	 JanusGraph LF AI & Data Foundation 4,006
 kedro LF AI & Data Foundation 7,558	 Kompute LF AI & Data Foundation 958	 K8Serve LF AI & Data Foundation 1,748	 LUDWIG LF AI & Data Foundation 8,527	 MARQUEZ LF AI & Data Foundation 1,182	 NNStreamer LF AI & Data Foundation 521	 OpenDS4All LF AI & Data Foundation 597	 OpenLineage LF AI & Data Foundation 1,328	 SOAJS LF AI & Data Foundation 52	 sparklyr LF AI & Data Foundation 880	 Substra LF AI & Data Foundation 152	 TINY LF AI & Data Foundation 681

Sandbox LF AI & Data Projects (18)























 101ML LF AI & Data Foundation 10	 Artigraph LF AI & Data Foundation 16	 BeyondML LF AI & Data Foundation 18	 CLAIMED LF AI & Data Foundation 2,212	 DeepRec LF AI & Data Foundation 845	 docarray LF AI & Data Foundation 2,348	 Elyra LF AI & Data Foundation 1,449	 feathr LF AI & Data Foundation 1,117	 FlagAI 达智 LF AI & Data Foundation 122	 InterSectional Fairness LF AI & Data Foundation	 LakeSoul LF AI & Data Foundation 1,323	 Machine Learning Exchange LF AI & Data Foundation 121
 OpenBytes LF AI & Data Foundation 8	 OpenDataology LF AI & Data Foundation 16	 OPENFL LF AI & Data Foundation 375	 Recommenders LF AI & Data Foundation 15,992	 RosaeNLG LF AI & Data Foundation 65	 Xtremel LF AI & Data Foundation 458						

Projects Hosted in LF AI & Data
















Graduated LF AI & Data Projects (8)

 Adversarial Robustness Toolbox Adversarial Robustness Toolkits LF AI & Data Foundation ★ 3,257	 Angel-ML LF AI & Data Foundation ★ 6,601	 Egeria LF AI & Data Foundation ★ 1,132	 Flyte LF AI & Data Foundation ★ 2,712	 Horovod LF AI & Data Foundation ★ 12,753	 Milvus LF AI & Data Foundation ★ 13,839	 ONNX LF AI & Data Foundation ★ 13,351	 Pyra LF AI & Data Foundation ★ 7,623
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Incubating LF AI & Data Projects (24)

 ADLIK LF AI & Data Foundation ★ 998	 AI Explainability 360 Toolkit LF AI & Data Foundation ★ 1,172	 AI Fairness 360 Toolkit LF AI & Data Foundation ★ 1,348	 Amundsen LF AI & Data Foundation ★ 3,302	 DataPractices.ORG LF AI & Data Foundation ★ 24	 datashim LF AI & Data Foundation ★ 284	 DELTA LF AI & Data Foundation ★ 1,626	 EDL Elastic Deep Learning LF AI & Data Foundation ★ 137	 FATE LF AI & Data Foundation ★ 4,541	 FEAST LF AI & Data Foundation ★ 3,637	 ForestFlow LF AI & Data Foundation ★ 60	 JanusGraph LF AI & Data Foundation ★ 4,006
 kedro LF AI & Data Foundation ★ 7,558	 Kompute LF AI & Data Foundation ★ 958	 K8Serve LF AI & Data Foundation ★ 1,740	 LUDWIG LF AI & Data Foundation ★ 8,527	 MARQUEZ LF AI & Data Foundation ★ 1,182	 NNStreamer LF AI & Data Foundation ★ 521	 OpenDS4All LF AI & Data Foundation ★ 597	 OpenLineage LF AI & Data Foundation ★ 1,328	 SOAJS LF AI & Data Foundation ★ 52	 sparklyr LF AI & Data Foundation ★ 880	 Substra LF AI & Data Foundation ★ 152	 TINY LF AI & Data Foundation ★ 601

Sandbox LF AI & Data Projects (18)

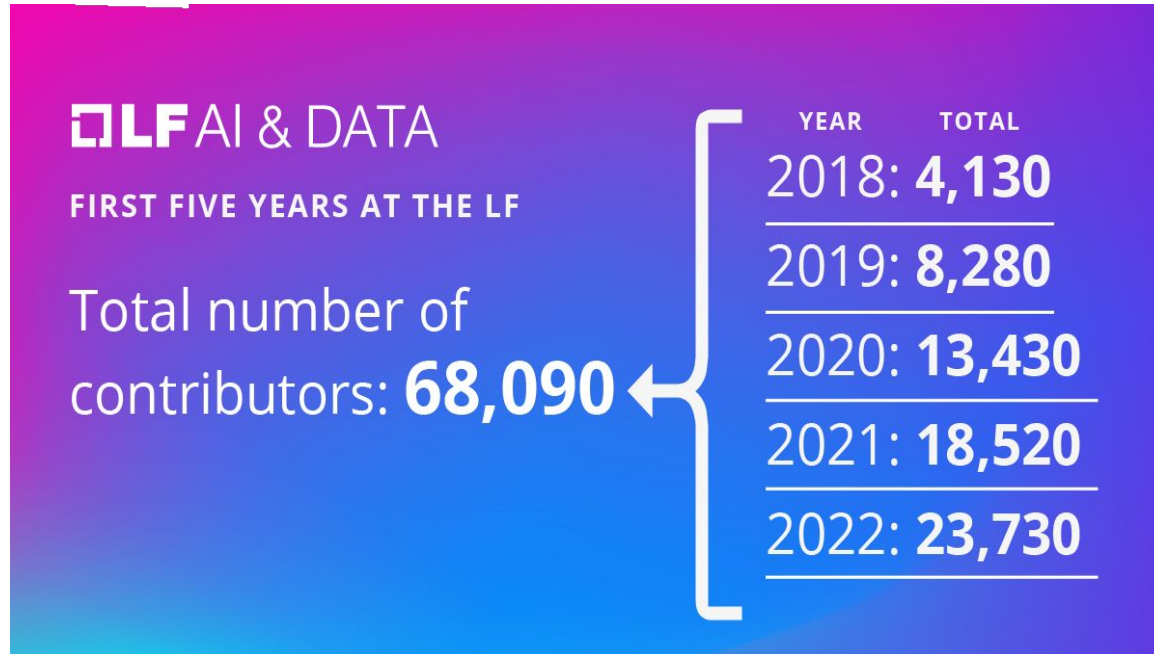
 101ML LF AI & Data Foundation ★ 10	 Artigraph LF AI & Data Foundation ★ 16	 BeyondML LF AI & Data Foundation ★ 10	 CLAIMED LF AI & Data Foundation ★ 2,212	 DeepRec LF AI & Data Foundation ★ 845	 docarray LF AI & Data Foundation ★ 2,348	 Elyra LF AI & Data Foundation ★ 1,449	 feathr LF AI & Data Foundation ★ 1,117	 FlagAI 达旗 LF AI & Data Foundation ★ 122	 InterSectional Fairness LF AI & Data Foundation	 LakeSoul LF AI & Data Foundation ★ 1,323	 Machine Learning Exchange LF AI & Data Foundation ★ 121
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Key Stats



Total Contributors

May 19, 2023, Source: [LFX Insights](#)



New Contributors Stats

May 19, 2023, Source: [LFX Insights](#)

AI & DATA

FIRST FIVE YEARS AT THE LF

New contributors
per year

*2023 Q1 only

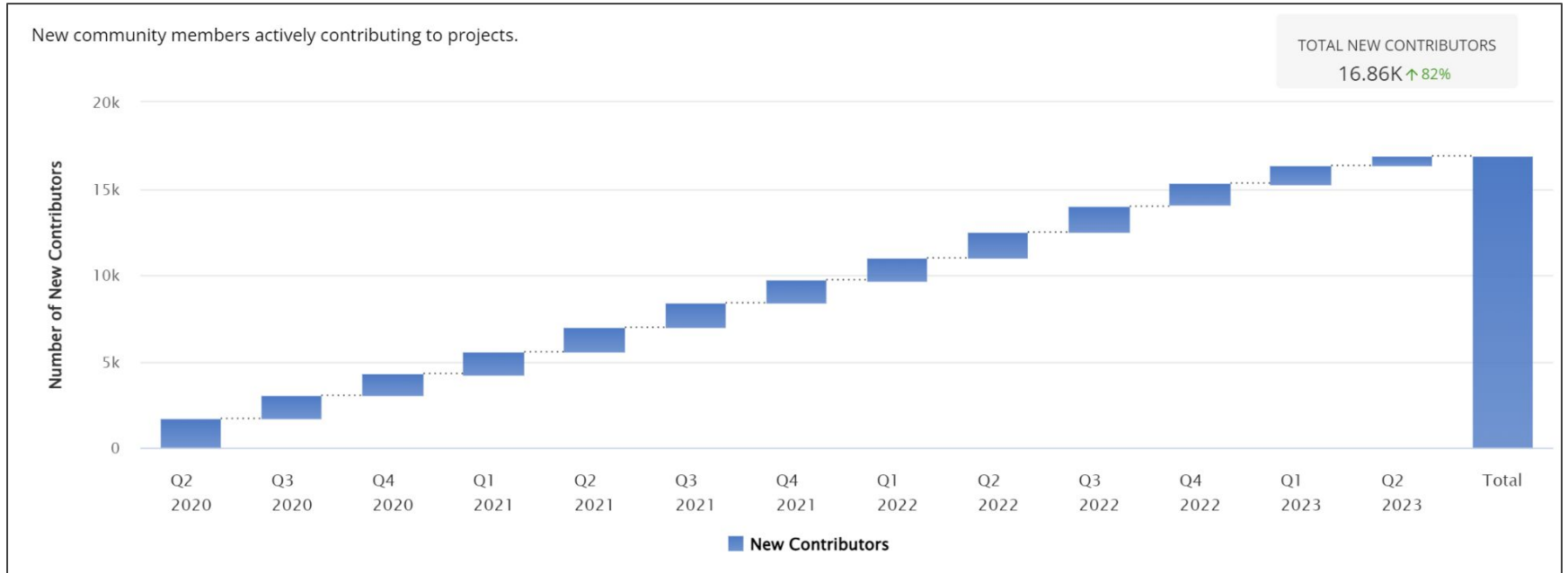
YEAR	TOTAL
2019:	5,150
2020:	7,160
2021:	7,400
2022:	10,340
2023:	2,500*

Total Number of Contributor (Q2 2020 - Q2 2023)



Contributor Growth (Q2 2020 - Q2 2023)

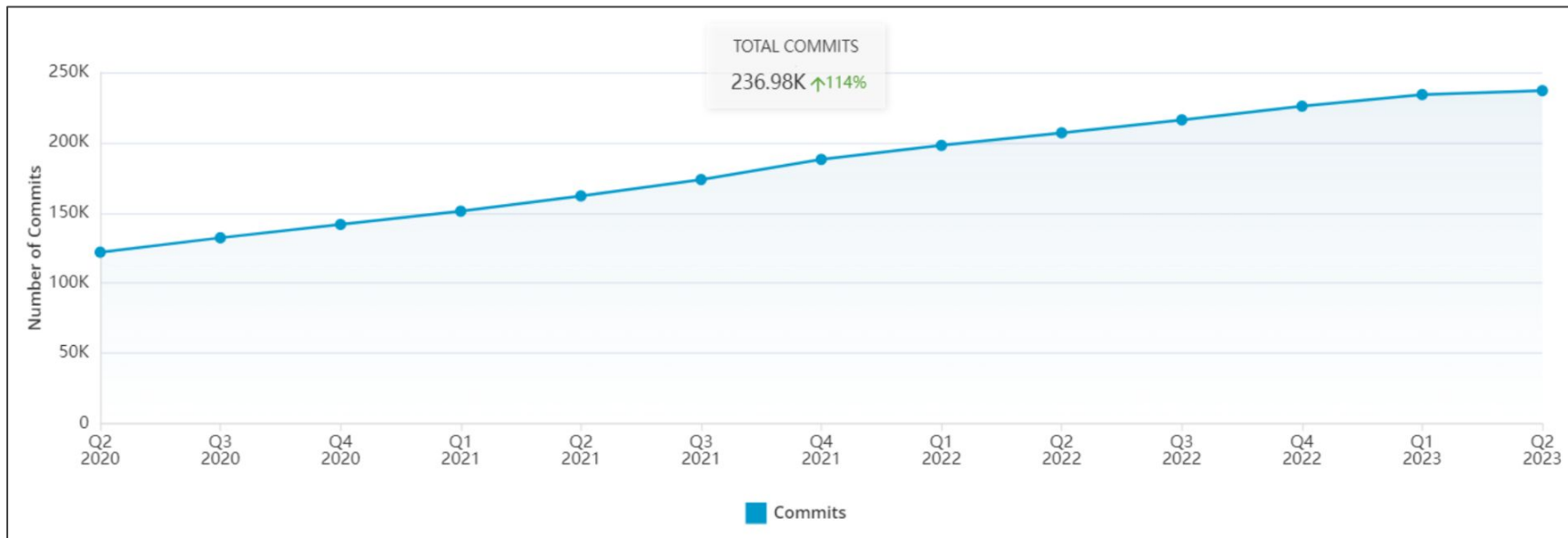
May 19, 2023, Source: [LFX Insights](#)



Our programs are enabling our projects to increase the contributions from existing developers and welcome new developers into projects at an unprecedented rate.

Commit Growth (Q2 2020 - Q2 2023)

May 19, 2023, Source: [LFX Insights](#)



Code Stats

May 19, 2023, Source: [LFX Insights](#)

LF AI & DATA
FIRST FIVE YEARS AT THE LF

Total commits
since 2018 =
212,710



LF AI & DATA
FIRST FIVE YEARS AT THE LF

Over **200M lines**
of code generated
in the past 5 years



LF AI & DATA
FIRST FIVE YEARS AT THE LF

Commits by
new contributors
per year

YEAR	TOTAL
2018:	18,847
2019:	40,423
2020:	42,106
2021:	45,761
2022:	41,677
2023:	5,368*

*2023 Q1 only

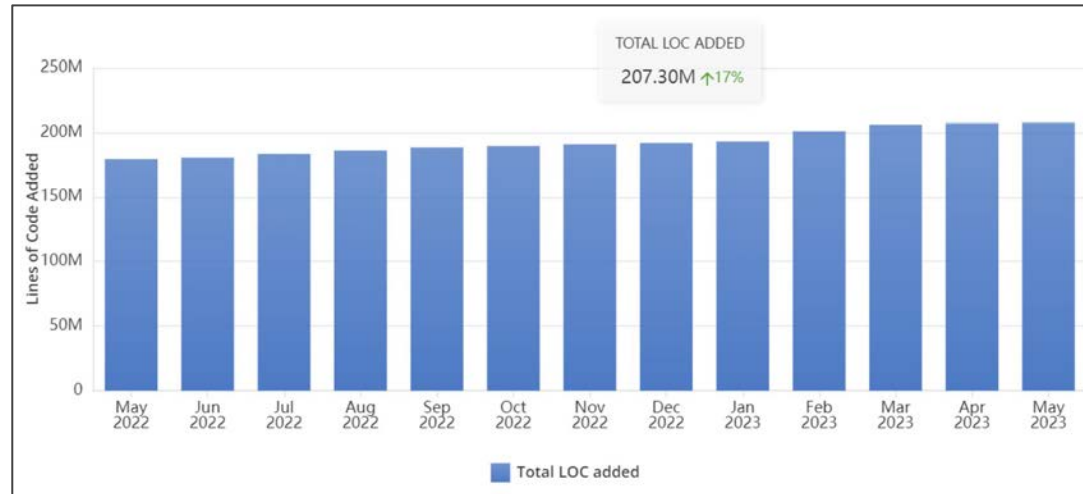
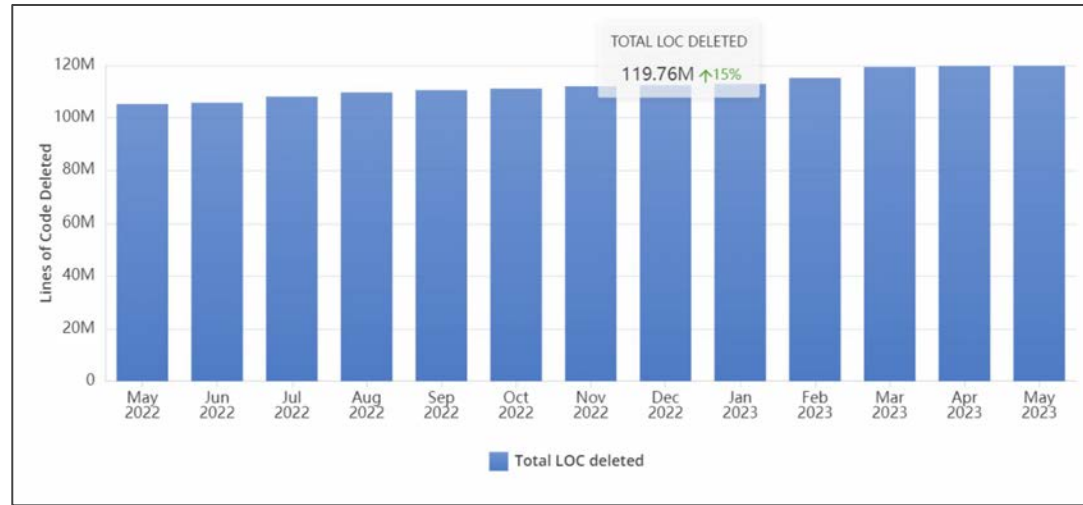
Across 297 total repositories, an average of 35.64K LOC were added per repository on a weekly basis.

Development Velocity

May 2022 - May 2023:

- 119.76 M LoC deleted
- 207.30 M LoC added

**Average net LoC added
daily: 239,000**
Every single day of the week



Code Stats

May 19, 2023, Source: [LFX Insights](#)

Across 297 total repositories, an average of 35.64K LOC were added per repository on a weekly basis.

An average of 275.20M LOC were added in the last 5 years.

Organization Engagement

May 19, 2023. Source: LEX Insights



Key Insights:

1. A total of **658 organizations participated in the code commits** during the past 5 years.
2. An average of 234 commits were contributed by individual contributors during the last 5 years.
3. An average of 364 commits were contributed by unaffiliated contributors during the last 5 years.

Sample Project Growth

Elyra
Joined
01/2021



CLAIMED
Joined
11/2022



Datashim
Joined
01/2021



Pyro
Joined
01/2019



Horovod
Joined
12/2018



feathr
Joined
08/2022



Please review our [Annual Report](#) for more details

If you would like to talk to the project formation team about hosting a project with The Linux Foundation, please reach out to us at:

formation@linuxfoundation.org

