



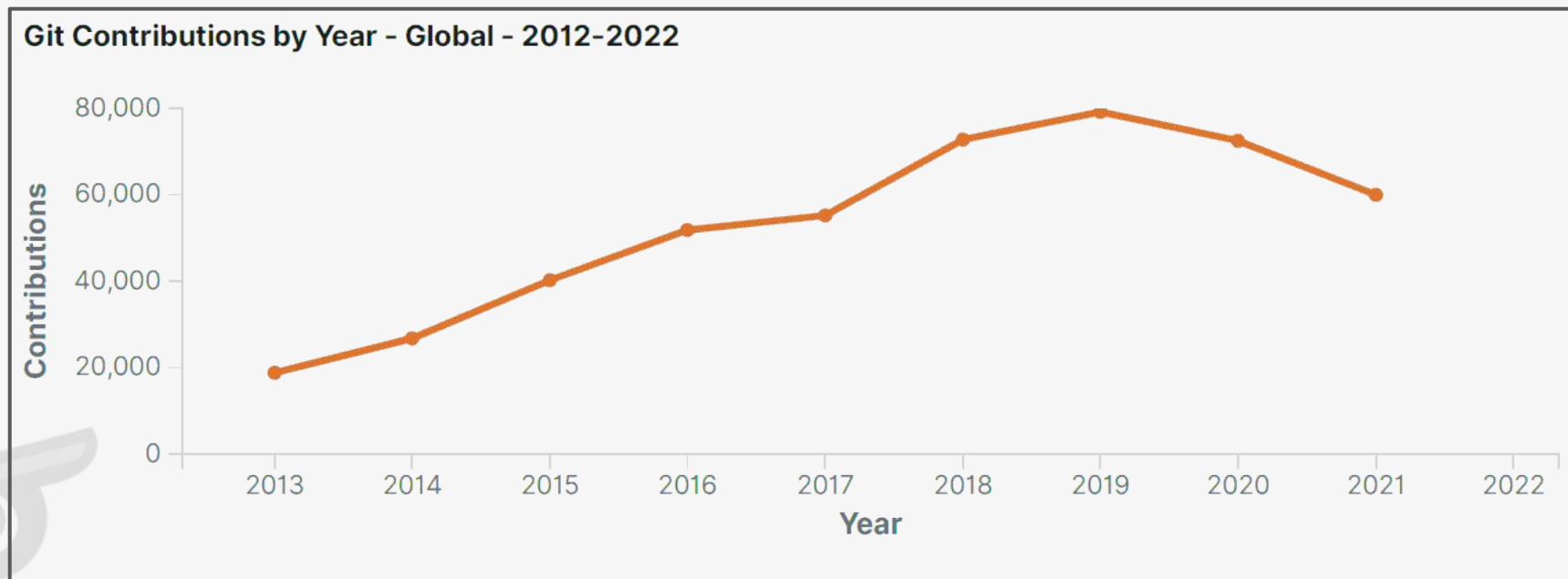
IoT Projects in FLOSS Foundations

A report based on community data

<https://iotfloss.biterg.io>

Matt Cantu Snell,
Communications and DEI Expert

Effect of the pandemic on IoT open source projects



Two-year snapshots

4,837
Authors

2018 - 2020

→
↓13%

4,216
Authors

2020 - 2022

IoT Open Source Projects are Staying Strong

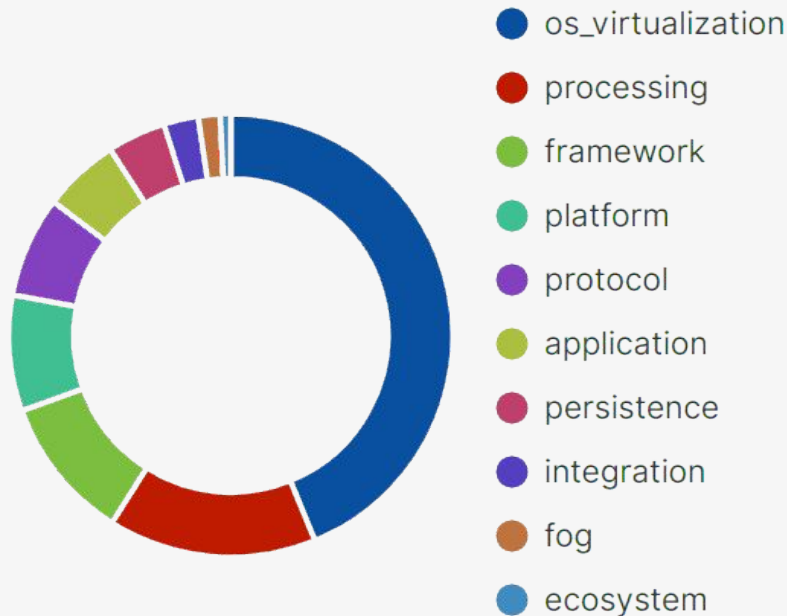


Categories

Categories

- OS & virtualization
- Protocol
- Integration/Gateway
- Processing
- Persistence
- Framework
- Platform
- Application
- Fog
- Ecosystem

Git Contributions by Category, 2020-2022




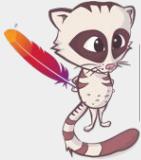



Category Context

Categories

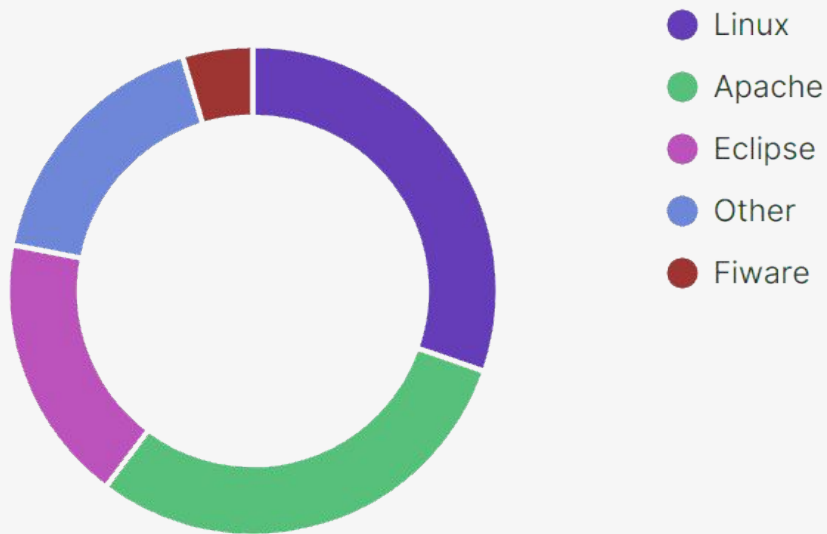
- Every project provides unique value
- The categories help us understand the value

Top Projects by Category

	OS & Virtualization 	Processing 	Framework 
	Platform 	Protocol 	Application 
Persistence 	Integration 	Fog 	Ecosystem  Catalogue

Foundations

Git Contributions by Foundation, 2020-2022



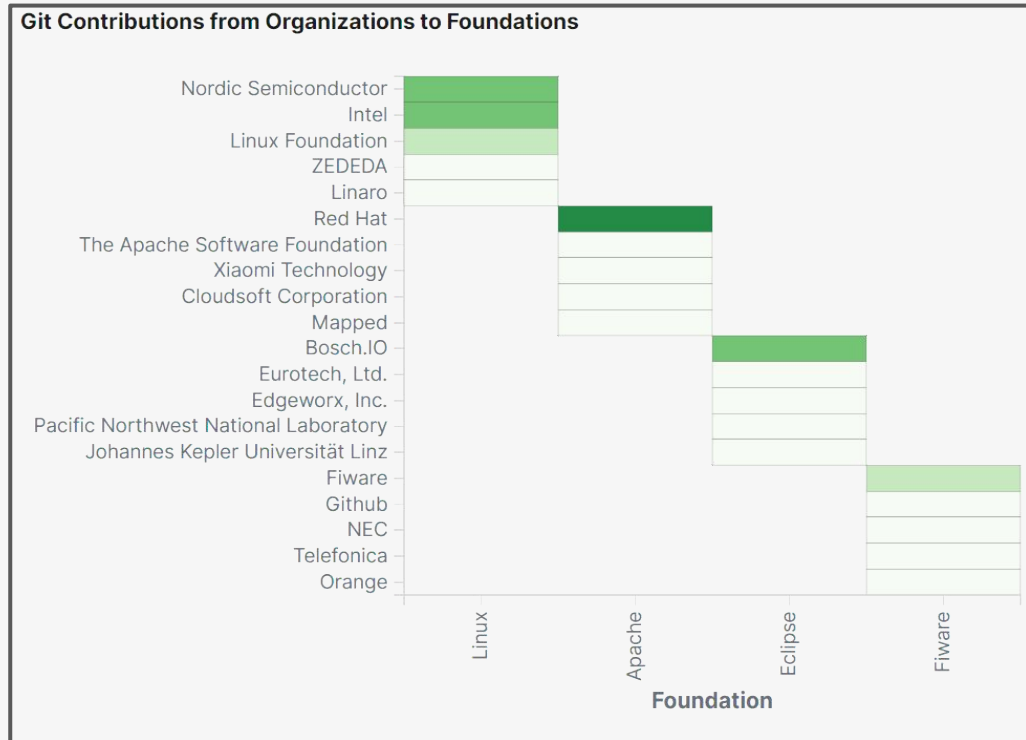
Foundation niches

Category	Leading Foundation
OS & Virtualization	Linux Foundation
Framework	Linux Foundation
Processing	Apache Software Foundation
Persistence	Apache Software Foundation
Ecosystem	Fiware
Integration/gateway	Fiware & Eclipse Foundation
Platform	Eclipse Foundation
Application	Eclipse Foundation
Protocol	Eclipse Foundation
Fog	Eclipse Foundation

Foundations and organizations

Summarized Findings

- Organizations focus on one foundation at a time
- This practice causes strong bonds between partners
- It can also hinder cross-collaboration

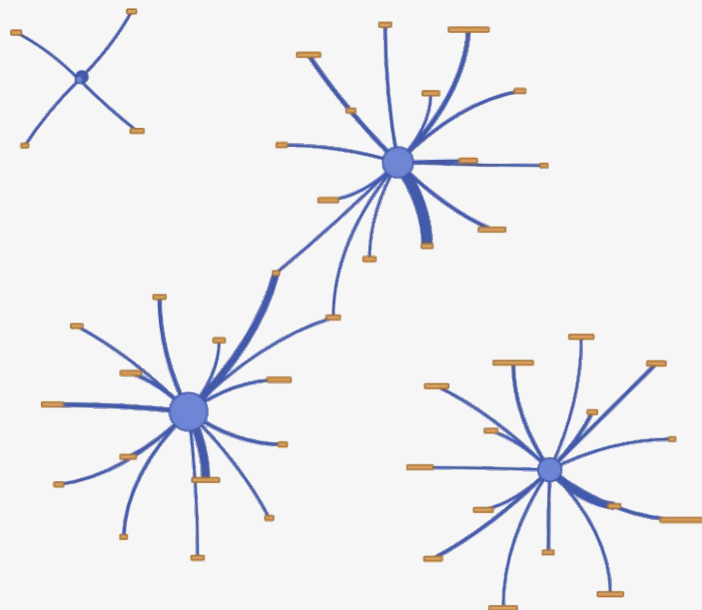


Cross-collaboration

Summarized Findings

- Silos built from strong business relationships
- Little cross-collaboration between foundations in git contributions
- This could be improved

15 Most Active Organizations engaging in Foundations, 2020-2022



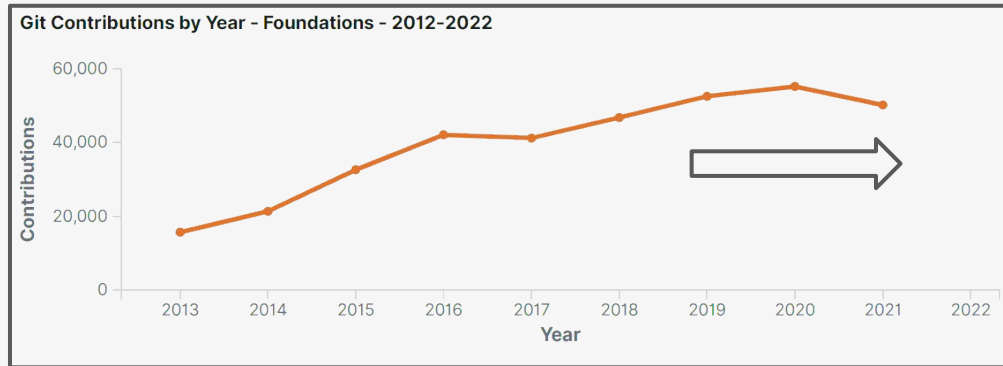
Foundation-Supported IoT Open Source is Stronger



Contribution Trends with Foundations

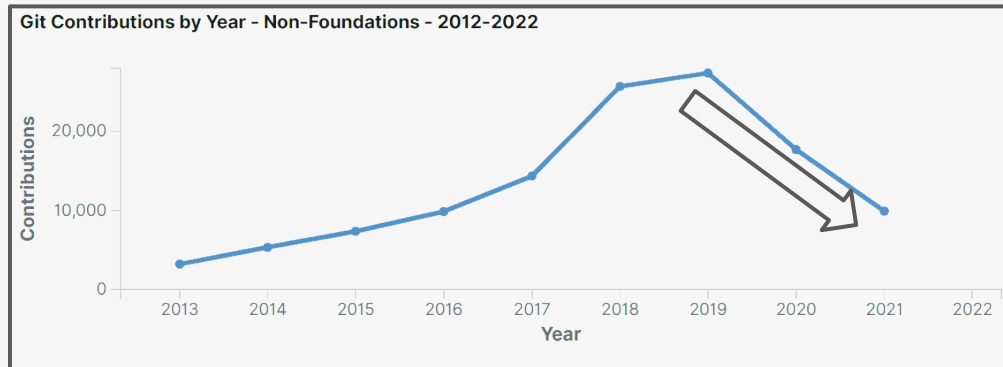
Projects with Foundation Support

- More stable and resilient



Other projects

- Hit harder by lockdown

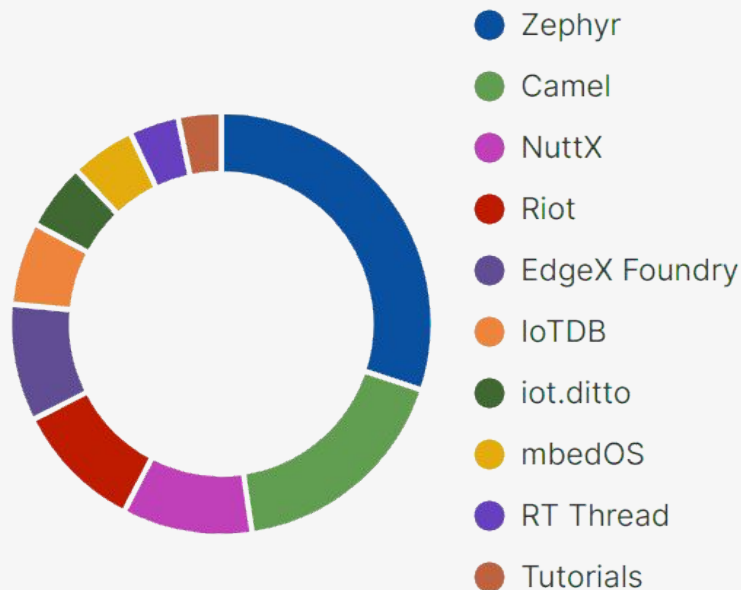


Projects

Summarized Findings

- Zephyr is the leader
- Apache Camel is growing
- New player: NuttX

Git Contributions by Project, 2020-2022

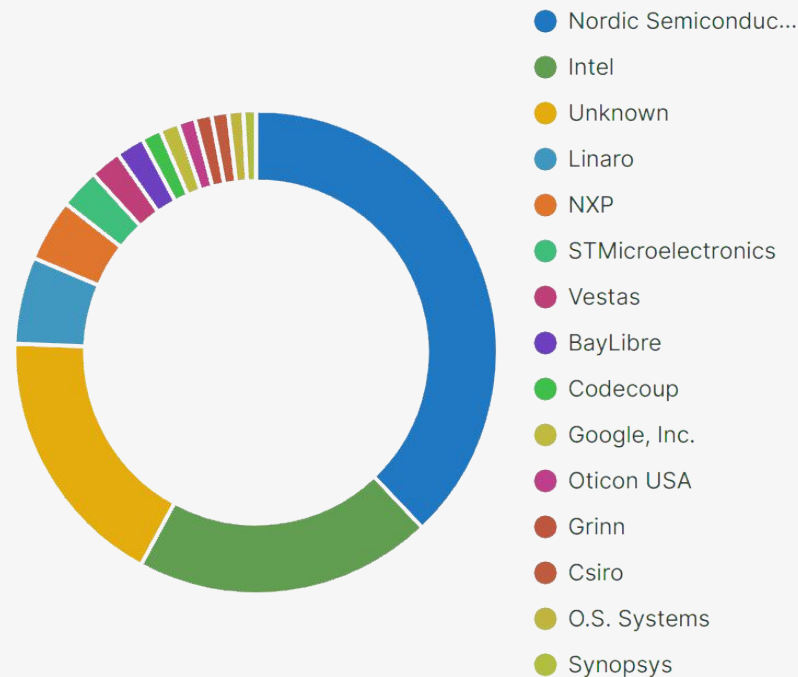


The Zephyr Project

Summarized Findings

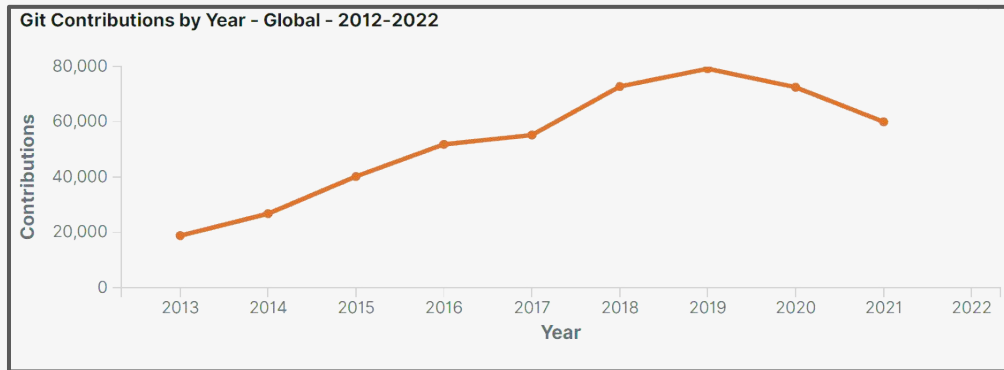
- Leading its category (OS)
- Many organizations are active
- Steady stream of commits
- Substantial growth over 2 years

15 Most Active Organizations with Zephyr, 2020-2022

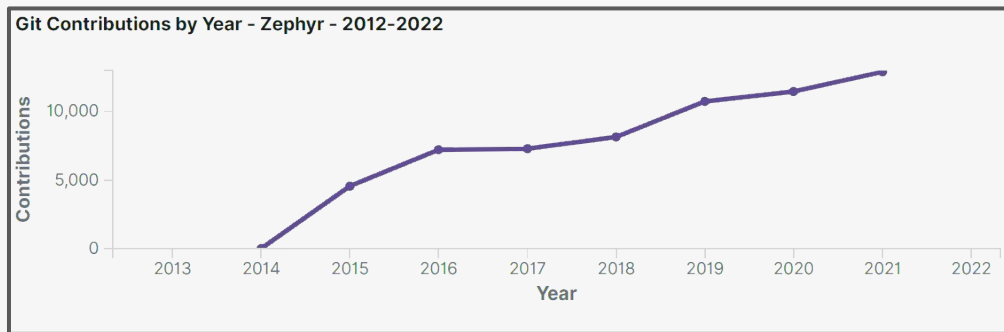


Zephyr is strong despite the pandemic

Global



Zephyr



Two-year snapshots

4,837
Authors

2018 - 2020

Global
→
↓13%

4,216
Authors

2020 - 2022

610
Authors

Zephyr
→
↑49%

908
Authors



How was it done?

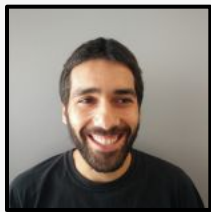
It's no secret!

- Dashboard made with Bitergia Analytics
 - GrimoireLab FLOSS toolset for software development analytics.
 - Part of CHAOSS, a Linux Foundation project:
 - <https://chaoss.github.io/grimoirelab>



Acknowledgement

The metrics and categories stay the same,
but the **data** is **refreshed**



Valerio Cosentino



Álvaro del Castillo

FOSDEM'20



Explore the data

- Ask Bitergia as needed
- Access dashboard:



Hopeful for the future

We have already overcome!

- The work is still happening
- The projects are still growing
- The future looks bright for open source IoT



Questions

Gut check - does the data make sense?

- Gut check - does the data make sense?
- How can we make cross-connections?
- Can data help you with these issues?





Thank You!

Matt Cantu Snell

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Bitergia

Celebrating 10 years of software
development analytics!