



Bitergia

INSIGHTS REPORT

September 2024

The Organizations Behind Cardano

This Bitergia Insights report dissects the Cardano open source ecosystem to show the organizations that make it possible, including trends in their activity for the last two years.

This report includes a detailed analysis of the top ten contributing organizations in the last 12 months, from August 2023 to August 2024, compared to the previous 12 months ([Link to Dashboard](#), login required). This ranking of organizations was composed taking into account source code contributions (commits), issues, pull requests, and comments on issues and pull requests in the corresponding GitHub repositories from the Cardano Ecosystem.

A key finding is that Input Output (IOHK) plays an important role in the Cardano Ecosystem as a founding member. The analysis reveals the continuing influence of IOHK but also a shift in how IOHK is engaging in the Cardano open source ecosystem (Cardano Ecosystem). IOHK shifted effort away from engineering activities towards community building activities, which reflects the changing nature of the Cardano Ecosystem as more organizations are becoming involved.

This evolution of the Cardano Ecosystem coincided with the publication of CIP-1964 in November 2022. This was expected because CIP-1964 has the goal of changing the dynamics of the open source community. Further, Intersect MBO was formed as a steward to build the Cardano Ecosystem and foster more contributions from diverse organizations. The analysis of the activity showed a noticeable shift in the last 12 months with more companies becoming more involved. This signals the success of Intersect MBO in fostering this growing contributor community.

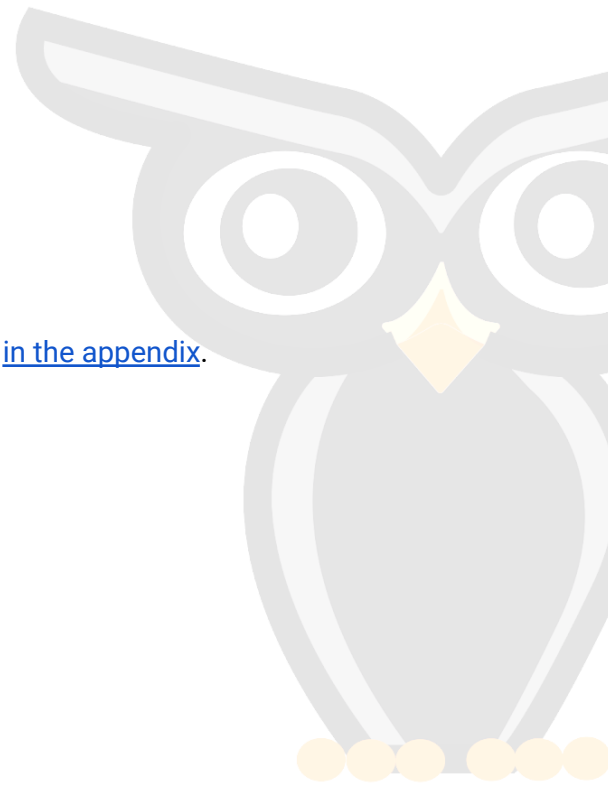


We used Bitergia Analytics to analyze the activity of the top ten organizations in the Cardano Ecosystem:

- [Input Output \(IOHK\)](#)
- [Tweag](#)
- [Cardano Foundation](#)
- [Well-Typed](#)
- [BinarApps](#)
- [Intersect MBO](#)
- [Quviq](#)
- [Sireto Technology](#)
- [Galois](#)
- [TxPipe](#)

The list of projects that were part of this analysis is available [in the appendix](#).

Let's go into the details.



Input Output (IOHK)

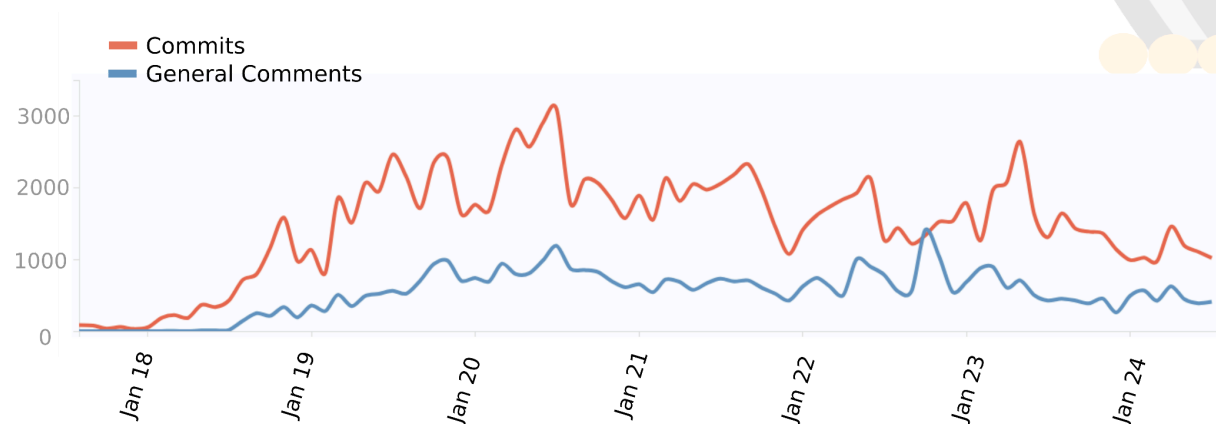
Input Output (IOHK) remains the most significant contributor to Cardano and has been since before our analysis timeframe. IOHK contributed to all parts of the project. When Intersect MBO was formed to diversify the contributor community, IOHK continued its commitment to Cardano by involving more contributors and shifting from purely engineering activities (commits and PRs) to more coordination activities (submitting issues). This shift can be seen as a healthy sign that the contributor community is diversifying and IOHK is successfully making the transition from being the lead contributor to playing well with others.

We see the shift of contributions away from engineering activities (commits and PRs) to coordinating activities (submitting issues). The engagement increased as can be seen by a higher number of people involved in the Cardano Ecosystem.

Commits	Submitted PRs	Review Comments	Submitted Issues
14,746 (-4,972)	4,445 (-193)	27,174 (-429)	1,510 (+468)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
104 (-5)	93 (+2)	91 (+3)	69 (+5)

The raw number of total activity events is declining as the shift from engineering activities to coordinating activities unfolds.



[Link to Source Dashboard](#) (requires login).



Tweag

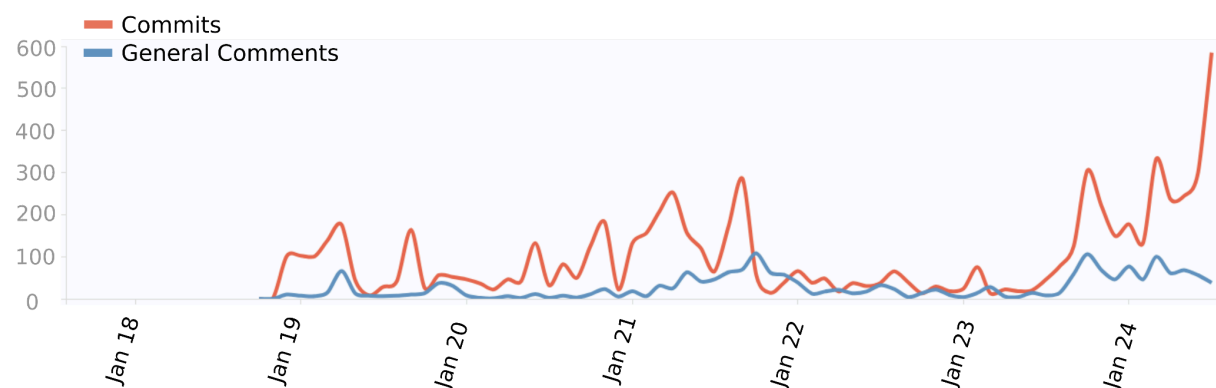
Tweag is the second most active contributor to the Cardano Ecosystem. Tweag joined the community at the end of 2018 and has been consistently engaged with a noticeable increase of activity during the last year. Tweag started its involvement in the *plutus* repositories until shifting focus in 2022 and now is very active in the *ouroboros* repositories (*ouroboros-consensus*, and *ouroboros-network*), and the *cardano-ledger*, *cardano-cli*, and *cardano-api* repositories.

In fact, Tweag is the second most active contributor to the *ouroboros* repositories, not far behind IOHK. Looking at the proportion of review comments, Tweag's reviewers make twice as many comments per commenter than IOHK's. The number of contributions and contributors shows a major increase in activity over the last 12 months compared to the previous 12 months.

Commits	Submitted PRs	Review Comments	Submitted Issues
2,885 (+2,504)	486 (+366)	4,299 (+3,479)	64 (+53)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
11 (+5)	8 (+1)	7 (+2)	6 (+1)

The graph reflects the activity from 2019 to 2022, which was mainly in the *plutus* repositories and since then it shifted in recent years to the *cardano* and *ouroboros* repositories with a valley of low contributions while that shift occurred, increasing significantly since the last quarter of 2023.



[Link to Source Dashboard](#) (requires login).



Cardano Foundation

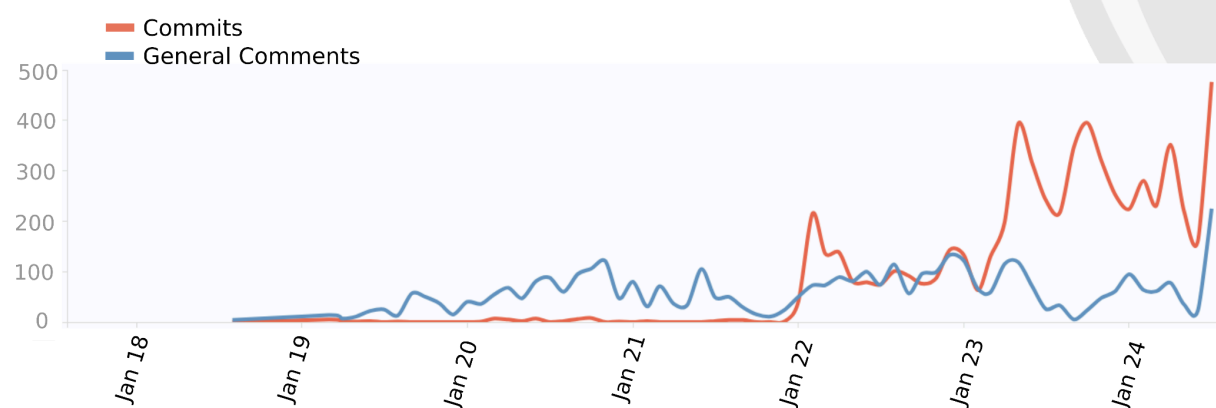
The Cardano Foundation started contributing in August 2018. Cardano Foundation's engagement increased in the second quarter of 2020. The code contributions were focused on the *cardano-node* and the *cardano-cli* repositories, until the second quarter of 2022 when they started to be more devoted to the *cardano-wallet* repository.

This shift in the trend that happened around the end of March 2023 continues to the present day. This effect can be also observed in the increase in the total number of contributions compared to the previous 12-month period. The number of people involved also increased slightly.

Commits	Submitted PRs	Review Comments	Submitted Issues
3,476 (+1,504)	410 (+54)	2,901 (+438)	7 (-9)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
15 (+6)	12 (+3)	12 (+6)	4 (+1)

The chart shows a change in the trend in March 2023, where the code contributions surpassed the number of general comments.



[Link to Source Dashboard](#) (requires login).



Well-Typed

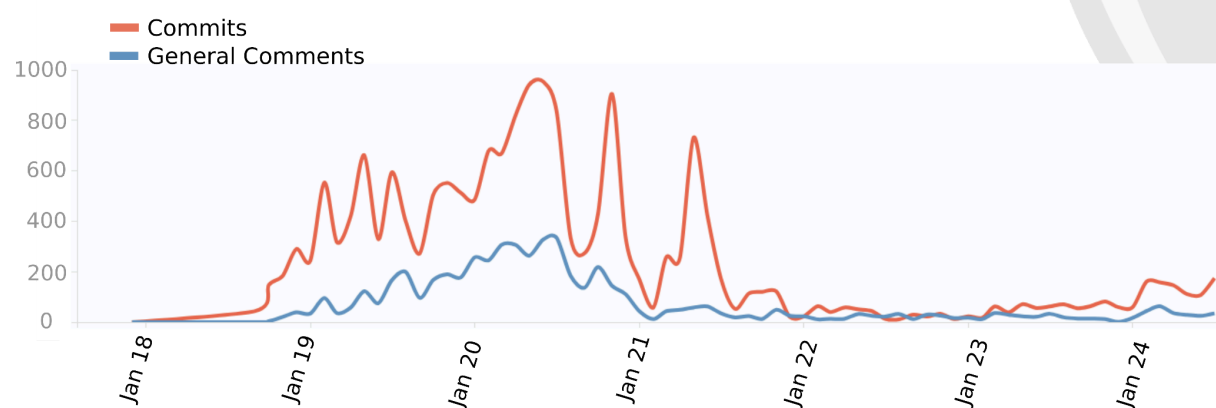
Well-Typed was a very active contributor in the early years of Cardano. Well-Typed reduced its contributions at the end of 2021 and started to become more active again in the last two years, not returning to the same high level of engagement from earlier years. In the last two years, Well-Type was the only committer to the *lsm-tree* repository, effectively owning its development.

The number of contributions shows that Well-Typed increased their contributions by ~200% in the last 12 months compared to the previous 12 months while the number of contributors remained stable.

Commits	Submitted PRs	Review Comments	Submitted Issues
1,248 (+810)	415 (+274)	3,620 (+2,969)	60 (+15)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
7 (+2)	6 (+1)	7 (+1)	5 (+1)

The chart shows a high contribution level between 2018 and 2021, reduced contributions from the end of 2021 onward, and a steady increase in activity during the last two years.



[Link to Source Dashboard](#) (requires login).



BinarApps

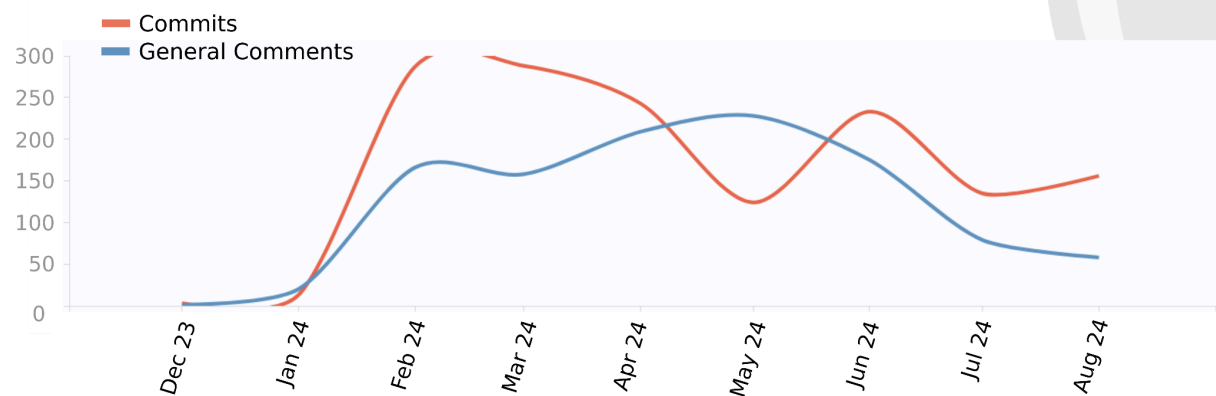
BinarApps started commenting in repositories of the Cardano ecosystem back in Q3 2021, but it wasn't until the last quarter of 2023 that they started contributing significantly to the GovTool project with all types of contributions, becoming the top contributor and the main code maintainer.

This recent change can be seen in the table below too, as all contributions happened in the period between August 2023 and August 2024.

Commits	Submitted PRs	Review Comments	Submitted Issues
1,326 (+1,326)	524 (+524)	1,031 (+1,031)	394 (+394)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
9 (+9)	10 (+10)	9 (+9)	10 (+10)

The chart shows this huge spike between February and March 2024 in the number of code contributions (commits), keeping a regular level of activity since then.



[Link to Source Dashboard](#) (requires login).



Intersect MBO

Intersect MBO is a special case because it was created in 2022 as a facilitator of the Cardano Ecosystem. We expected and found a stark increase in contributions from Intersect MBO because Intersect MBO is a young organization that still needs to be built up and because its declared focus is on building the Cardano Ecosystem. The engagement started in the CIPs repository, until in April 2024 activity started showing up across other Cardano repositories, especially in the number of general comments on the issues and PRs of the GovTool project.

The number of contributions and contributors clearly shows both the growth of Intersect MBO and its growing influence in the Cardano Ecosystem.

Commits	Submitted PRs	Review Comments	Submitted Issues
118 (+90)	41 (+27)	157 (+156)	436 (+414)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
3 (+1)	3 (+1)	3 (+2)	7 (+5)

The graph below shows that since its establishment, Intersect MBO has been consistently growing its engagement in the Cardano Ecosystem. It also shows the growth in the number of general comments since April 2024.



[Link to Source Dashboard](#) (requires login).



Quviq

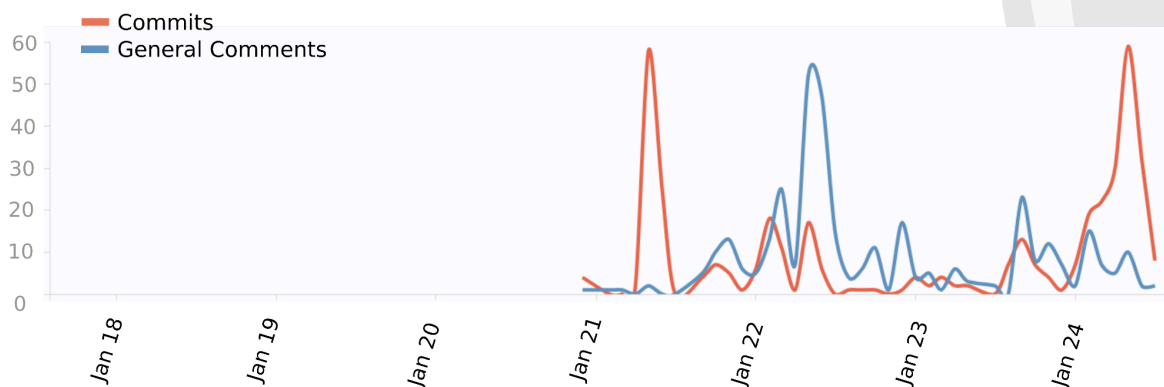
Quviq joined the Cardano Ecosystem at the end of 2021. For the first year, Quviq contributed to *plutus* and *ouroboros* repositories. Over the last year, the contributions shifted to the *cardano-ledger* and *formal-ledger-specification* repositories.

The contributions from Quviq more than doubled in the last 12 months compared to the previous 12 months.

Commits	Submitted PRs	Review Comments	Submitted Issues
209 (+191)	73 (+50)	470 (+312)	11 (+10)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
3 (+1)	3 (+1)	2 (+0)	2 (+1)

Quviq's level of contributions has been steady throughout the years. The spikes are months of high contributions but don't show a significant trend because of the low level of overall contributions.



[Link to Source Dashboard](#) (requires login).



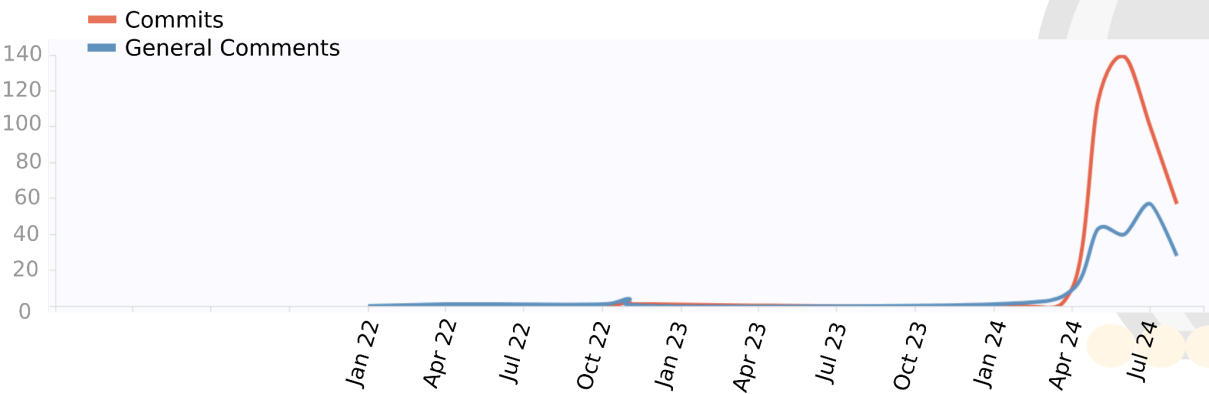
Sireto Technology

Sireto Technology started engaging at the beginning of 2021 by submitting a few issues and posting a few comments. This activity level continued until the second quarter of 2024, when the activity started to grow, especially during May and June 2024. These contributions are happening mostly in the GovTool repository, becoming the second-highest code contributor.

Commits	Submitted PRs	Review Comments	Submitted Issues
363 (+360)	65 (+62)	92 (+42)	81 (+81)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
4 (+3)	5 (+4)	4 (+3)	5 (+5)

The chart below shows the activity focuses more on code contributions (commits), rather than general comments. Nonetheless, the table above confirms this increase in the level of engagement is consistent across all types of contributions.



[Link to Source Dashboard](#) (requires login).



Galois Inc.

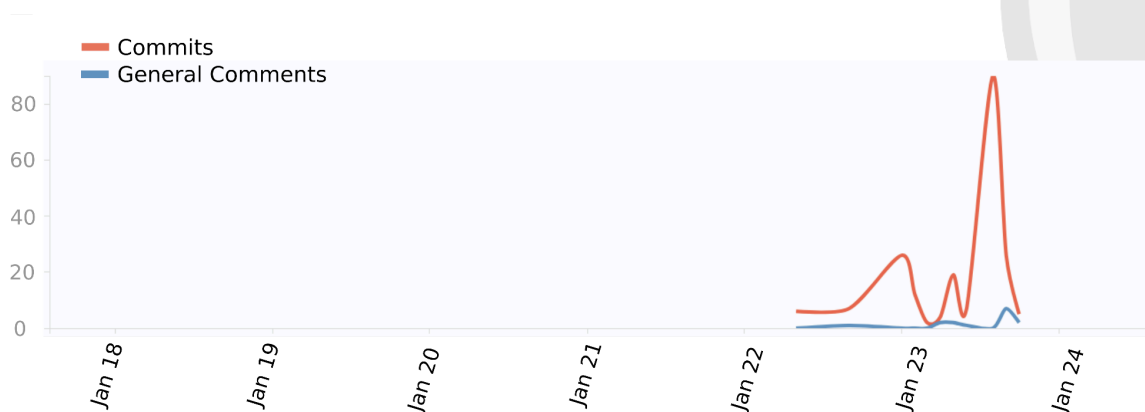
May 2022 is when people from Galois started contributing to the Cardano Ecosystem. Galois mainly submitted code. Although Galois participated in some Core Cardano repositories, most contributions were to the *ouroboros-network* repository, highlighting a peak of activity that happened in August 2023.

The numbers in the tables below need to be put in context though as there have been no new contributions since October 2023.

Commits	Submitted PRs	Review Comments	Submitted Issues
121 (+44)	4 (-2)	0 (+0)	4 (+4)

Commit Authors	PR Submitters	Reviewers	Issue Submitters
2 (-1)	2 (+1)	0 (+0)	1 (+1)

The graph shows that Galois contributed a burst of activity between May 2022 and October 2023.



[Link to Source Dashboard](#) (requires login).



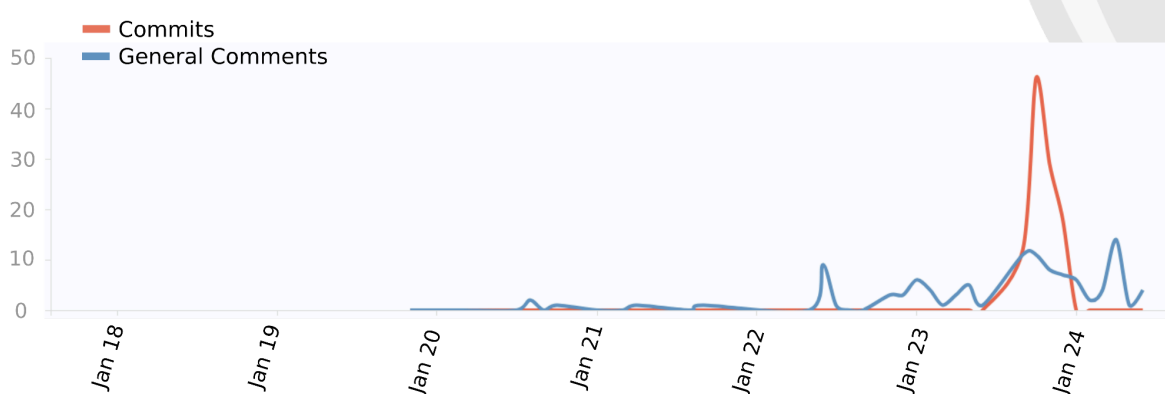
TxPipe

TxPipe started contributing to the community during the last quarter of 2019, by submitting a few issues. Since then, they have continued to submit issues and post general comments in some *Core-Cardano* repositories and the *CIPs* repository. During the second half of 2023, there was a noticeable shift in their activity, as they started sending pull requests and contributing code that was accepted in the *cardaminal* repository.

The increase in commits and PRs is 100% because TxPipe had not contributed to that level compared to the former period of the analysis.

Commits	Submitted PRs	Review Comments	Submitted Issues
105 (+105)	92 (+92)	94 (+58)	72 (+70)
Commit Authors	PR Submitters	Reviewers	Issue Submitters
3 (+3)	4 (+4)	3 (+2)	3 (+2)

The diagram shows the consistent submission of issues over the years. The spike of commits were attributed to the *cardaminal* repository between August and December of 2023.



[Link to Source Dashboard](#) (requires login).



APPENDIX: LIST OF REPOSITORIES

This report shows data from code contributions (commits), issues, pull requests, general comments, and review comments extracted from the GitHub repositories in the project categories listed below.

Core-Cardano

This group category is composed of the following internal repositories:

- [intersectmbo/antaeus](#)
- [intersectmbo/cardaminal](#)
- [intersectmbo/cardano-haskell-packages](#)
- [intersectmbo/cardano-base](#)
- [intersectmbo/cardano-world](#)
- [intersectmbo/libsodium](#)
- [intersectmbo/cardano-crypto](#)
- [intersectmbo/cardano-node](#)
- [intersectmbo/cardano-cli](#)
- [intersectmbo/cardano-api](#)
- [intersectmbo/cardano-node-tests](#)
- [intersectmbo/ouroboros-consensus](#)
- [intersectmbo/cardano-db-sync](#)
- [intersectmbo/lsm-tree](#)
- [intersectmbo/cardano-updates](#)
- [intersectmbo/cardano-test-plans](#)
- [intersectmbo/cardano-prelude](#)
- [intersectmbo/cardano-node-emulator](#)
- [intersectmbo/essential-cardano](#)
- [intersectmbo/cardano-haskell-package-repo](#)
- [intersectmbo/cardano-ledger](#)
- [intersectmbo/formal-ledger-specifications](#)
- [intersectmbo/ouroboros-network](#)
- [intersectmbo/Win32-network](#)
- [intersectmbo/plutus](#)
- [intersectmbo/plutus-apps](#)
- [intersectmbo/plutus-tx-template](#)
- [intersectmbo/plutus-cli-demo](#)
- [intersectmbo/cardano-addresses](#)
- [intersectmbo/bech32](#)
- [intersectmbo/cardano-coin-selection](#)
- [intersectmbo/cardano-launcher](#)
- [intersectmbo/cardano-transactions](#)

GovTool

This group category is composed of the following internal repositories:

- [intersectmbo/govtool](#)
- [intersectmbo/governance-tools-documentation](#)

Cardano Wallet

This group category is composed of the following external repositories:

- [cardano-foundation/cardano-wallet](#)
- [cardano-foundation/cardano-token-registry](#)
- [cardano-foundation/cardano-graphql](#)
- [cardano-foundation/cf-cardano-ballot](#)



Cardano Improvement Proposals (CIPS)

This group category is composed of the following external repository:

- [cardano-foundation/CIPs](https://github.com/cardano-foundation/CIPs)

Catalyst

This group category is composed of the following external repositories:

- [input-output-hk/catalyst-core](https://github.com/input-output-hk/catalyst-core)
- [input-output-hk/catalyst-voices](https://github.com/input-output-hk/catalyst-voices)
- [input-output-hk/catalyst-ci](https://github.com/input-output-hk/catalyst-ci)
- [input-output-hk/catalyst-daedalus](https://github.com/input-output-hk/catalyst-daedalus)
- [input-output-hk/catalyst-engineering](https://github.com/input-output-hk/catalyst-engineering)
- [input-output-hk/catalyst-standards](https://github.com/input-output-hk/catalyst-standards)
- [input-output-hk/catalyst-docs](https://github.com/input-output-hk/catalyst-docs)

