Monthly Maturity Report: February 2025

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Date:
March 1, 2025

Organization:
Open Source Committee
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Cardano Ecosystem

Review Process	Approval
1st Pass: Tex M, OSO PM	✅**Approved**
2nd Pass: Christian T, Head of OSO	✅**Approved**

INTERSECT™

Summary

In February 2025, the Cardano open-source ecosystem experienced its **busiest month on record**, characterized by substantial increases in commit volume, contributor engagement, and code refinement. While many core repositories saw steady or even declining commit counts, this masked a larger systemic surge across governance tools, smart contract infrastructure, and QA pipelines.

Key contributors — including **IOHK**, **Well-Typed**, **Sireto Technology**, and **BinarApps** — dramatically scaled up delivery and QA activity, while contributor counts ballooned due to increased data attribution fidelity and potentially expanded workforce integration. Issue resolution times plummeted across the board, even as feedback volume skyrocketed — signaling maturity and responsiveness in engineering workflows.

General Observations

Organizational Contributions

- **Input Output (IOHK)** maintained leadership with 769 commits, but contributor count surged to 928 — a 1,500% increase over January — likely tied to attribution improvements or large-scale parallel workstreams.
- **BinarApps** and **Sireto Technology** debuted with over 100 contributors each, suggesting new partnerships or team onboarding.
- **Well-Typed** and **Unknown** also expanded sharply, helping to decentralize engineering momentum across the ecosystem.

Geographic Activity

- The **UTC +5 zone** (India/Central Asia) saw a 732% increase in commits, while **UTC 0** and **+1** zones remained dominant.
- Commit activity rebounded in Central America (UTC -6), but dropped in Pacific Time (UTC -7), indicating shifting team focus or capacity.

Repository Prioritization

- **govtool.git** went from 0 to 185 commits, signaling an intensive build phase for governance infrastructure.
- **ouroboros-consensus** rose 49%, while **cardano-node** dropped 22% — possibly transitioning to stabilization.
- **cardano-api** saw a 616% rise in file changes, likely reflecting integration and tooling enhancements.

Code Volume

- 9,897 files were modified in February (+3%), with over **311K lines added** and **599K removed** — the largest cleanup effort in recent history.
- These changes point to **refactoring, simplification, and technical debt reduction** across critical modules.

Issue Lifecycle

- **190 issues** were submitted (+78%), with average resolution time down to **9.2 days** from **22.1** — a 59% improvement.
- **govtool**, **formal-ledger-specifications**, and **plutus** saw major QA surges, as protocol-critical projects moved through test cycles.

Pull Requests

- **528 PRs** were submitted — up 39% — reflecting deeper integration, bug fixes, and implementation bursts.
- PRs were concentrated in 25 repositories, reinforcing delivery focus on key initiatives.

Conclusion

February 2025 marked a **watershed month for delivery, testing, and organizational scale**

across Cardano open-source efforts. The ecosystem achieved **record-high engineering throughput**, expanded its contributor base, and rapidly iterated on core systems — all while maintaining high QA responsiveness. The challenge going forward will be to sustain this momentum, distribute ownership across more contributors and orgs, and build durable delivery practices around these peaks in activity.

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1. Github Overview

This section provides a comprehensive overview of activities and dynamics within the Github platform. It encompasses various metrics and statistics concerning the usage, engagement, and performance of projects and contributors.

Summary:

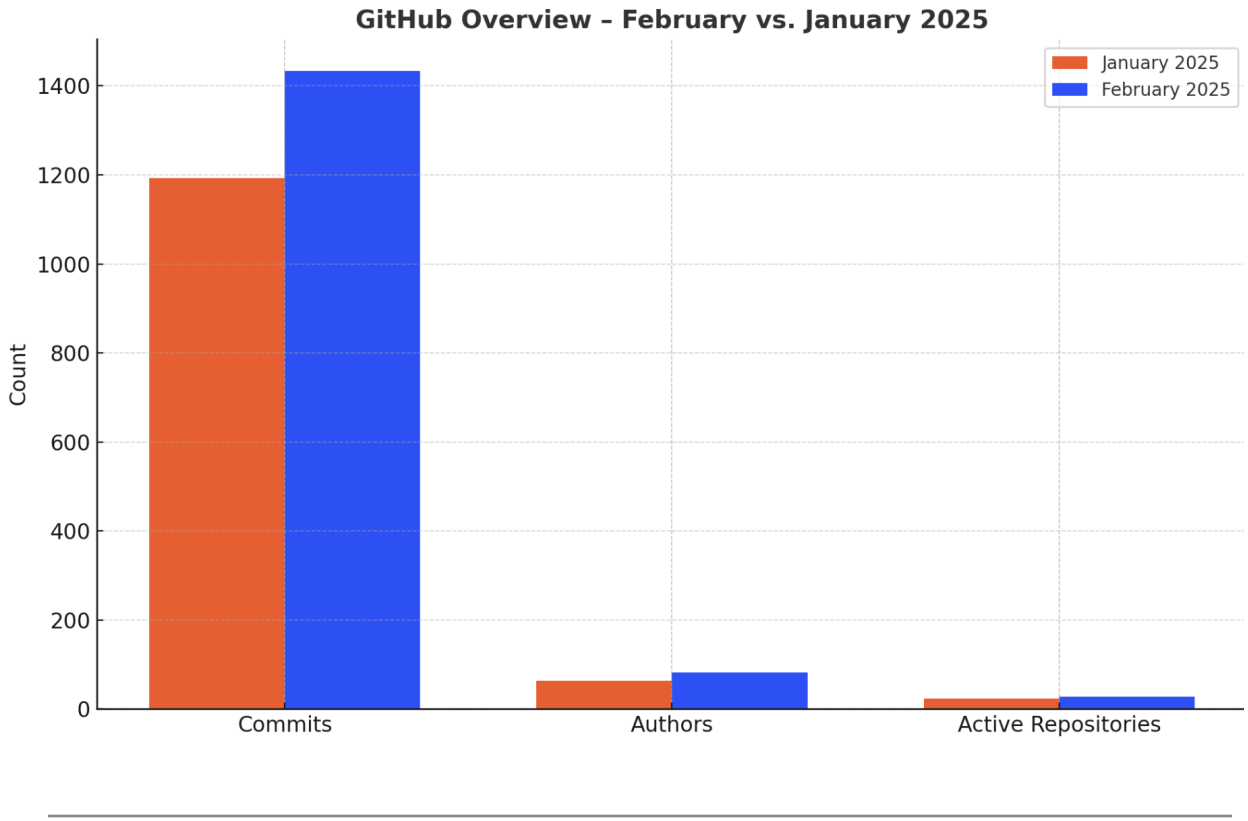
February 2025 – 1,434 commits were made by 82 contributors across 28 repositories.

This represents a healthy month-over-month rise in all core indicators — suggesting resumed delivery momentum, improved collaboration, and a widening scope of active development.

Metric	January 2025	February 2025	Change
Commits	1,193	1,434	+20.2%
Authors	64	82	+28.1%
Active Repositories	24	28	+16.7%

Insights:

- The 20% jump in commits signals a return to full delivery velocity, possibly aligned with post-integration sprints or feature unlocks.
- The **28% growth in authors** confirms strong engagement — either from broader team mobilization or community contributor return.
- **New repositories reactivated** (28 up from 24), suggesting resumed workstreams or expansion into additional modules.
- February represents a **healthy restart of activity**, building atop the structural groundwork laid earlier in Q1.



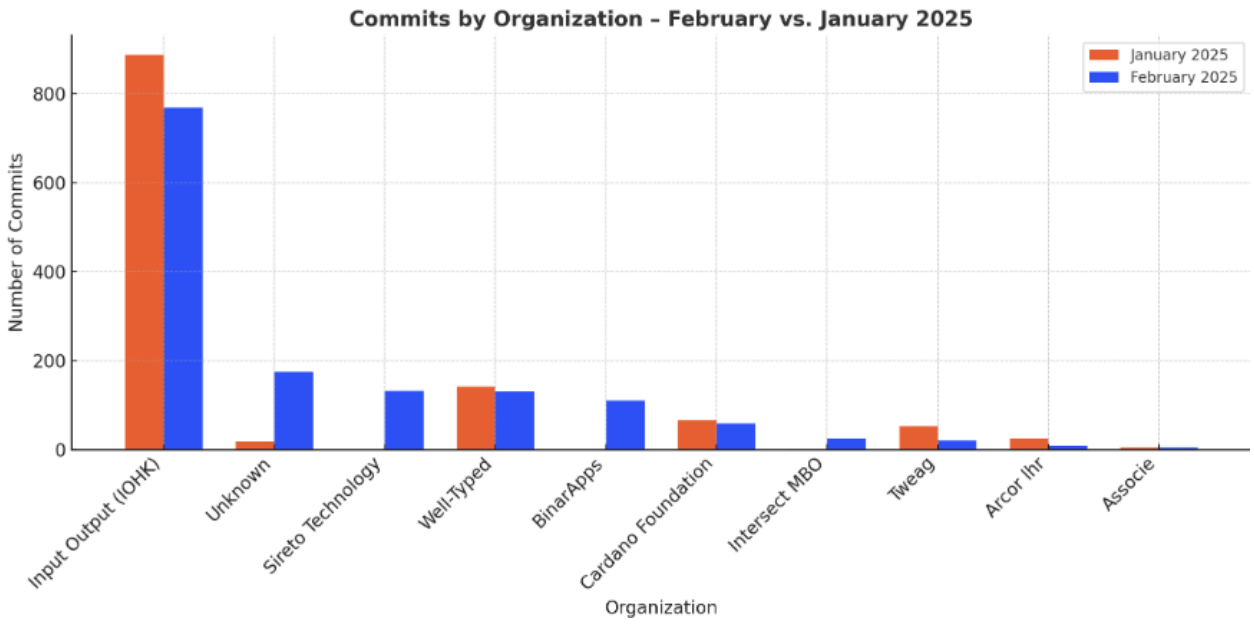
1.a) Organization Activity

Here is the data for how different organizations within the Cardano ecosystem were contributing to open-source projects during the current timeframe. Complete data available here in Bitergia.

Top Organizations – February 2025

Organization	Commits (Feb)	Change (%)	Authors (Feb)	Lines Added	Lines Removed
Input Output (IOHK)	769	−13.4%	44	284,727	579,308
Unknown	175	+929.4%	21	35,942	243,198
Sireto Technology	131	+13100.0%	1	40,918	3,941
Well-Typed	130	−7.8%	6	14,587	5,151

BinarApps	110	+11000.0%	2	47,853	7,825



Insights:

1. **IOHK** continued to lead in volume and code activity, even as commits dropped 13.4%. The increase in lines removed (+355%) suggests large-scale cleanup or refactoring efforts.
2. **Unknown contributors** surged dramatically — now the second-largest group by commits. Their presence should be monitored as a possible sign of growing unaffiliated or anonymized activity.
3. **Sireto Technology** and **BinarApps** entered the ecosystem with major contributions, indicating **new external partnerships or engagements**.
4. **Well-Typed** maintained consistent delivery, with a small dip in volume but a healthy author count and growing codebase impact.

1.b) Commits by Timezone

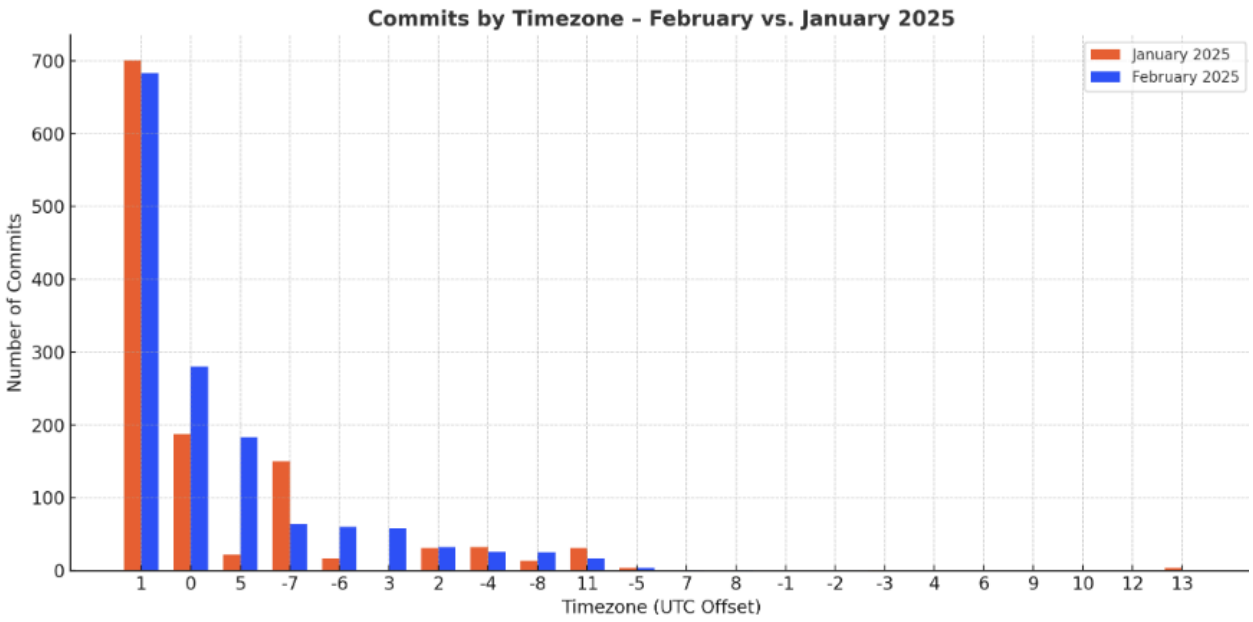
Here is the data for commits per timezone. This view is important to understand how the contributors are spread geographically. Complete data available here in Bitergia.

In **December 2024**, commit activity shifted geographically, with notable growth in the Americas and a slowdown in European-based zones. The **Pacific Timezone (UTC -7)** posted the strongest gains (+59.6%), while historically dominant zones like **UTC +1** and **UTC 0** saw significant declines

(−31.6% and −40.2%, respectively). This indicates a **regional handoff of development activity**, potentially due to holidays or shifting team workflows.

Top Timezones – February 2025

Timezone (UTC ±)	Commits (Feb)	Commits (Jan)	Change (%)
+1	683	701	−2.6%
0	280	187	+49.7%
+5	183	22	+731.8%
−7	64	150	−57.3%
−6	60	17	+252.9%



Insights:

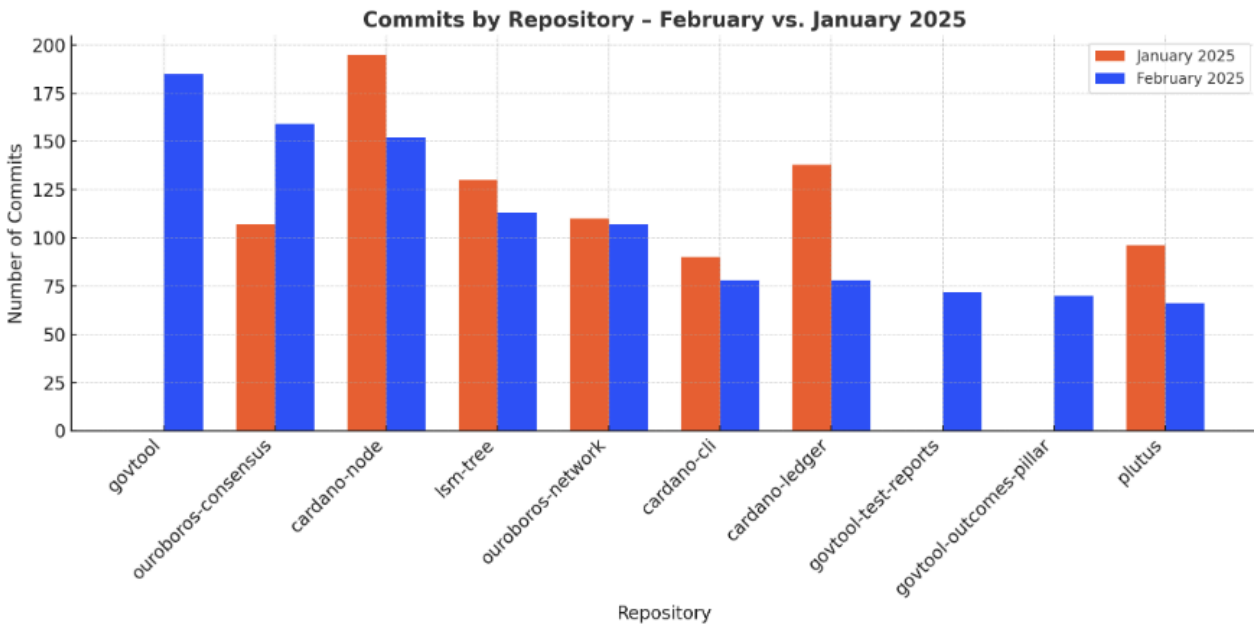
- **UTC +1 (Central Europe)** remained the top region for contributions, though its volume dipped slightly, suggesting stabilized output from core European teams.
- **UTC +0 (UK/West Africa)** saw a sharp rise in commits (+49.7%), possibly linked to ramp-up from community or newly active teams in those zones.
- **UTC +5 (India/Central Asia)** surged from 22 to 183 commits — a 731.8% jump — strongly signaling **new team onboarding or external partnership activation** in that region.
- North American zones **−6 and −7** diverged: Central Time rebounded (+252.9%) while Pacific Time collapsed (−57.3%), suggesting **a redistribution of team bandwidth** or shifting project assignments.
- Overall, February marked a **significant geographic rebalancing** of development across multiple regions.

1.c) Per Repository Activity

This section shows activity for each repository in Cardano open-source. Complete data available here in Bitergia.

Top Repositories – February 2025

Repository	Commits (Feb)	Commits (Jan)	Change (%)
govtool.git	185	0	+18,500.0%
ouroboros-consensus.git	159	107	+48.6%
cardano-node.git	152	195	−22.1%
lsm-tree.git	113	130	−13.1%
ouroboros-network.git	107	110	−2.7%



Insights:

1. **govtool.git** emerged as the most active repository — going from zero to 185 commits — signaling the **launch or intense acceleration of a governance-focused project**.

2. **ouroboros-consensus.git** saw a strong +48.6% gain, likely indicating **enhancements to**

the core consensus mechanism, which may align with recent ledger work or protocol refinements.

3. **cardano-node.git**, while still a high-volume repo, saw a **22% decline** in commits, suggesting either code freeze, stabilization, or bandwidth reallocation.
4. Other core repos like **lsm-tree.git** and **ouroboros-network.git** experienced minor drops, potentially due to shifts in team focus or consolidation phases.
5. The sharp rise in governance tooling and consensus work shows **strategic emphasis on both operational infrastructure and protocol core** in February.

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2. Areas of Code

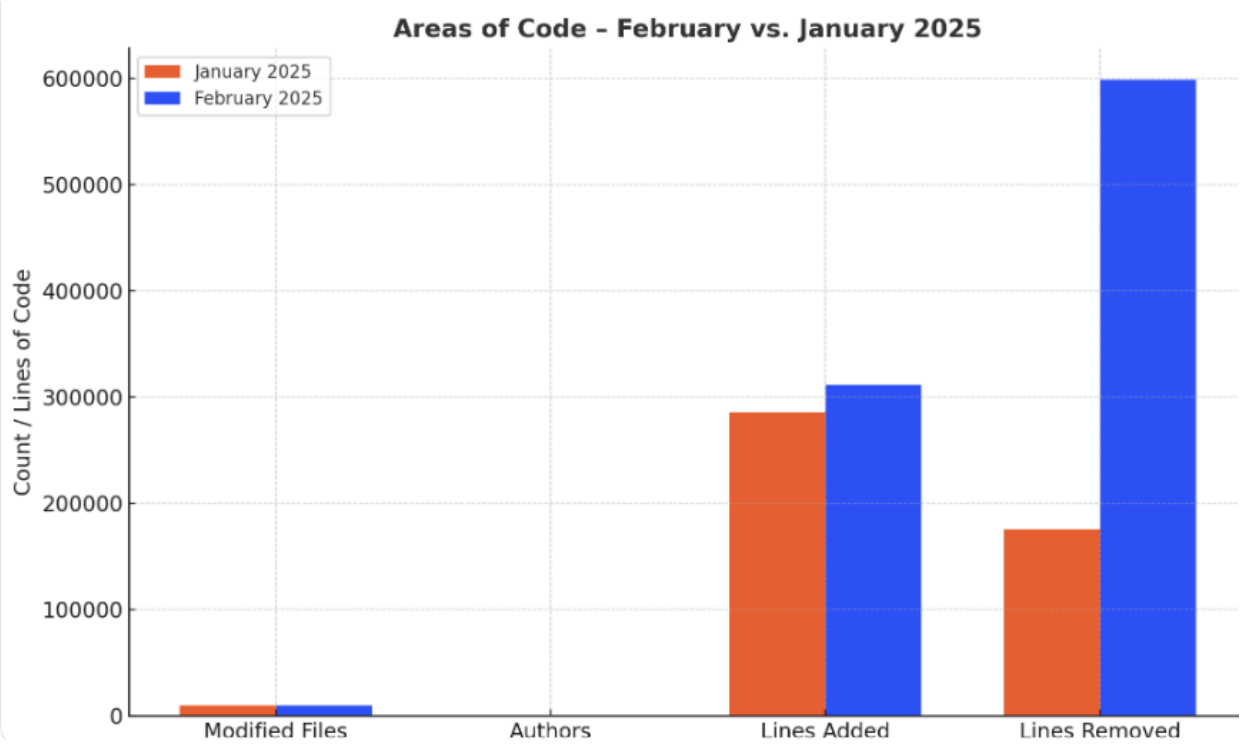
This category outlines the diverse areas and aspects of code development and management within the Github environment.

Summary

February 2025 – 9,897 files were modified by 62 authors, involving **311,737 lines added** and a massive **599,051 lines removed**.

This reflects a sustained development pace and a major increase in codebase cleanup, refactoring, or simplification.

Metric	January 2025	February 2025	Change
Modified Files	9,588	9,897	+3.2%
Authors	64	62	−3.1%
Lines Added	285,725	311,737	+9.1%
Lines Removed	175,456	599,051	+241.4%



Insights:

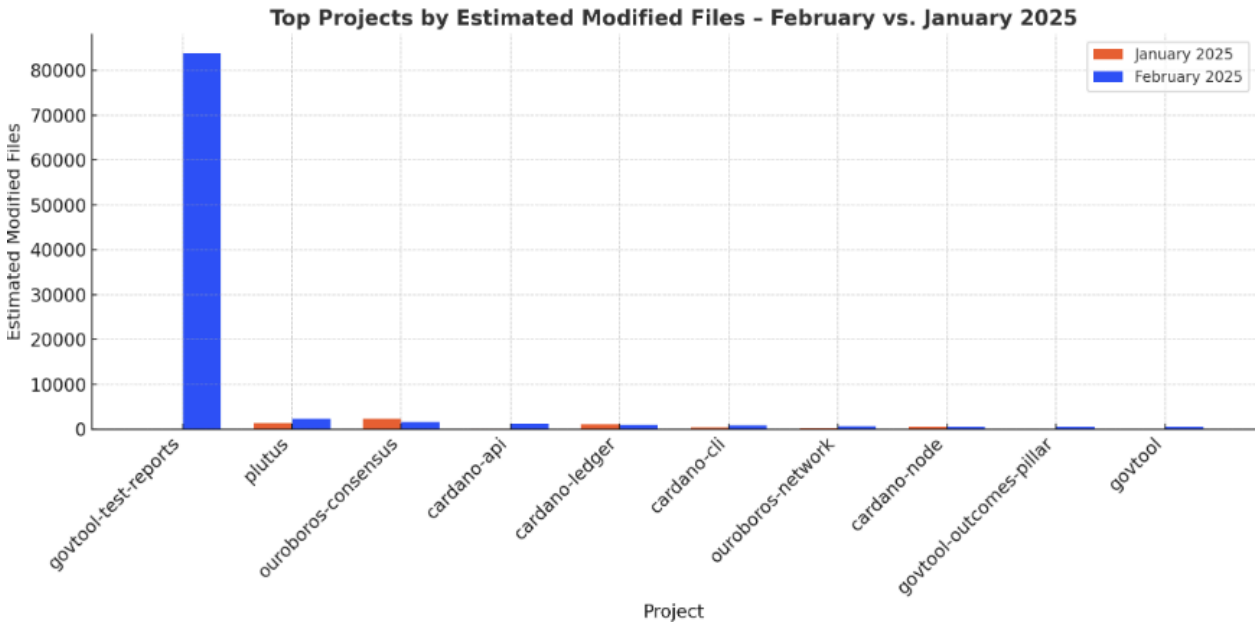
- Despite a slight drop in authors, code volume increased across the board — confirming that **smaller, highly active teams drove large changes** in February.
- A **241% surge in removed lines** points to intense **refactoring or code retirement**, likely driven by performance tuning, architecture optimization, or module deprecation.
- With lines added also up by 9%, this wasn't just cleanup — it also involved **new feature development or restructuring** of major systems.
- These trends are consistent with observed repo activity (e.g. **govtool**, **consensus**, **network**) and likely mark **strategic technical debt reduction** paired with architectural iteration.

2.a) Projects

Top Projects – February 2025

Repository	Files (Feb)	Files (Jan)	Change (%)
govtool-test-reports.git	83,891	0	+8,389,100%
plutus.git	2,301	1,353	+70.1%

ouroboros-consensus.git	1,638	2,319	−29.4%
cardano-api.git	1,311	183	+616.4%
cardano-ledger.git	1,015	1,100	−7.7%



Insights:

1. **govtool-test-reports.git** exploded from 0 to nearly 84,000 estimated modified files — clearly the most active and newly prioritized repo in February, likely tied to test infrastructure or simulation tooling for governance.
2. **plutus.git** increased by 70%, continuing its multi-month growth streak — signaling sustained investment in Cardano's smart contract platform.
3. **cardano-api.git** jumped more than **6×** in file activity, possibly reflecting integration layers or feature exposure needed for tooling and application development.
4. **ouroboros-consensus.git** and **cardano-ledger.git** saw declines, consistent with the possibility of those modules entering stabilization or optimization phases after prior months of intensive change.

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3. Issues

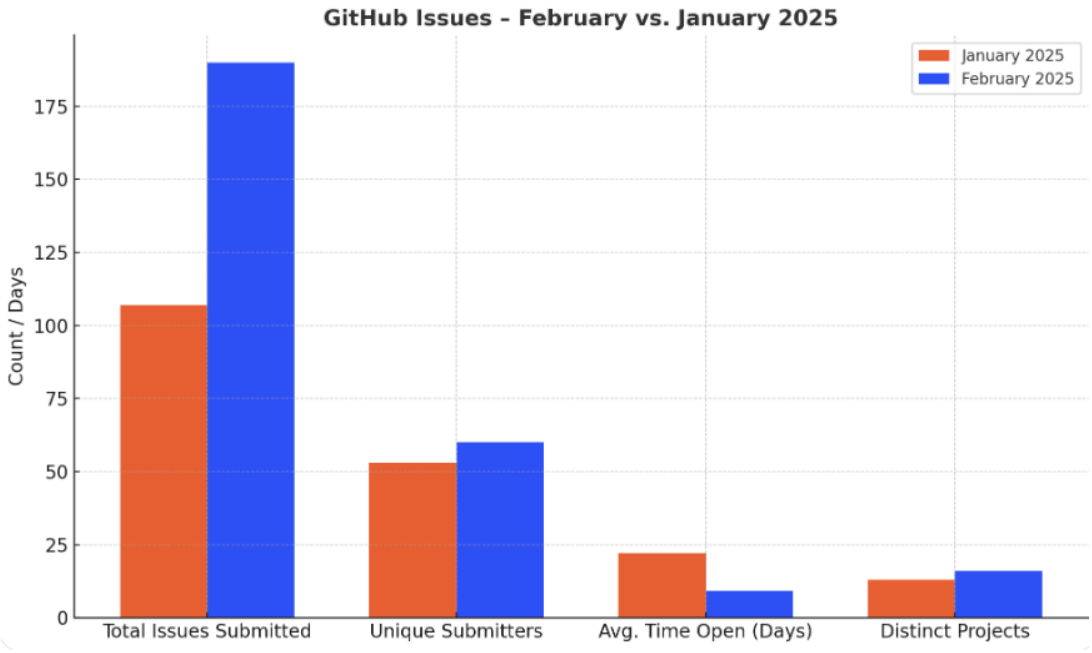
This segment revolves around the identification, tracking, and resolution of issues within Github projects. It encompasses discussions on problem-solving methodologies, issue management practices, and related metrics.

Summary

February 2025 – 190 issues were submitted by 60 contributors across 16 repositories.

This marks a **77.6% increase in issue volume** and a **sharp improvement in average resolution time**, down from **22.1 days to just 9.2 days**.

Metric	January 2025	February 2025	Change
Total Issues Submitted	**107**	**190**	**+77.6%**
Unique Submitters	**53**	**60**	**+13.2%**
Avg. Time Open (Days)	**22.1**	**9.2**	**−58.6%**
Distinct Projects	**13**	**16**	**+23.1%**



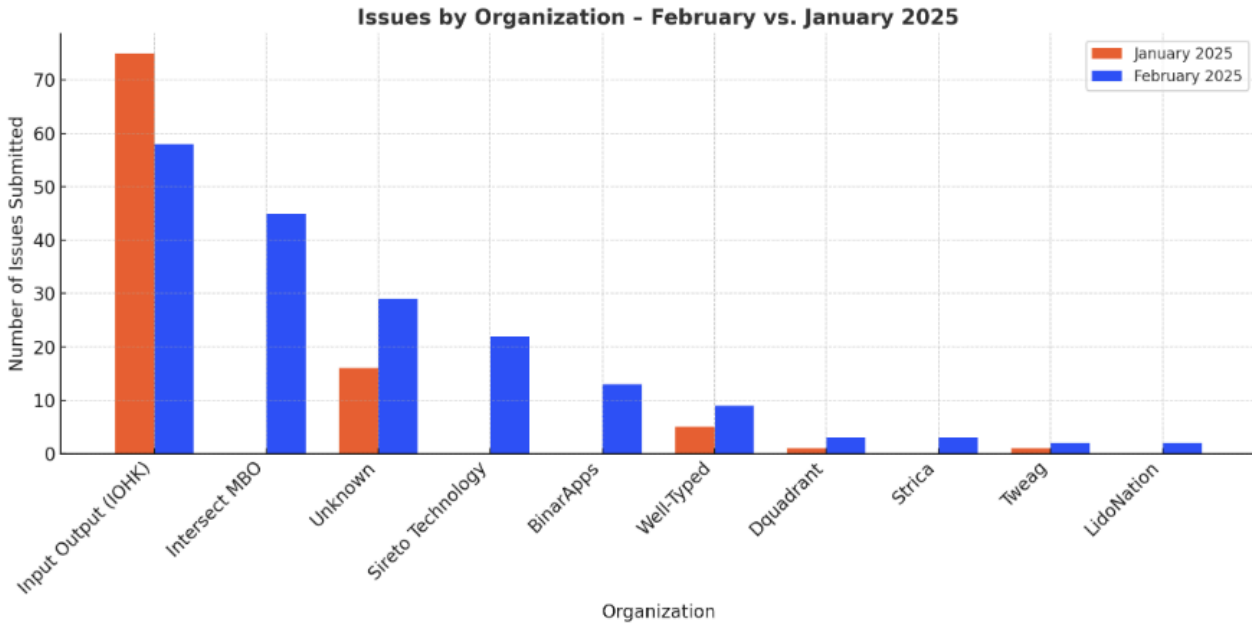
Insights:

- The significant jump in issue volume reflects **heightened QA and usage activity**, potentially driven by new deployments or user testing.
- The 58.6% reduction in resolution time shows a **major gain in engineering responsiveness**, suggesting either triage prioritization or process improvements.
- Broader project coverage (+23%) confirms that the QA cycle touched more components than the previous month — evidence of expanding functional test coverage.
- Overall, this points to a **high-functioning QA loop**, with both issue throughput and responsiveness improving in tandem.

3.a) Organizations

Top Organizations – February 2025

Organization	Issues (Feb)	Issues (Jan)	Change (%)	Median Open (Feb)	Median Open (Jan)
Input Output (IOHK)	58	75	−22.7%	11.9 days	22.9 days
Intersect MBO	45	0	+4500.0%	6.1 days	—
Unknown	29	16	+81.2%	10.4 days	23.4 days
Sireto Technology	22	0	+2200.0%	8.5 days	—
BinarApps	13	0	+1300.0%	0.3 days	—



Insights:

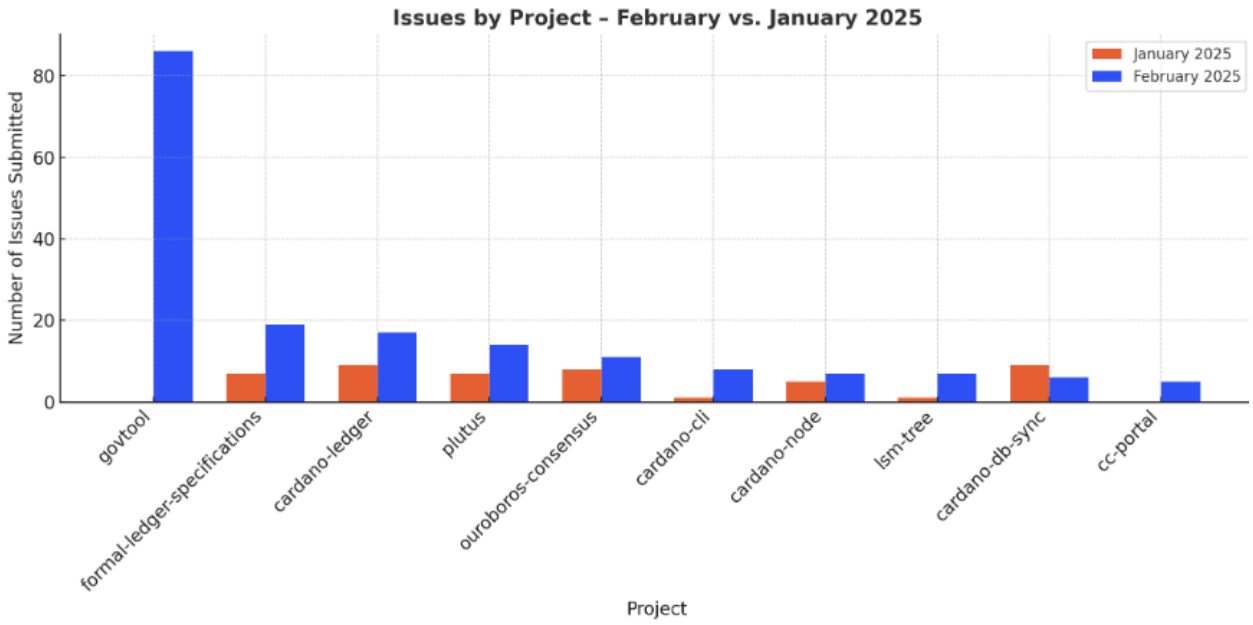
1. **IOHK remained the top QA participant**, despite a 23% drop in issue volume. Their median resolution time nearly **halved**, indicating strong follow-through despite reduced submissions.
2. **Intersect MBO, Sireto Technology, and BinarApps** all emerged as new QA contributors — driving an influx of fresh testing input and signaling expanded ecosystem engagement in bug tracking.
3. **Unknown contributors** doubled their activity while improving resolution speed by more than 50%, suggesting a broadening community feedback loop.
4. All top contributors reported issues that were **resolved far faster** than in January — confirming systemic improvements in engineering responsiveness across the board.

3.b) Projects

Top Projects – February 2025

Project	Issues (Feb)	Issues (Jan)	Change (%)	Median Open (Feb)	Median Open (Jan)

govtool	86	0	+8,600.0%	5.4 days	—
formal-ledger-specifications	19	7	+171.4%	9.7 days	50.4 days
cardano-ledger	17	9	+88.9%	9.8 days	35.6 days
plutus	14	7	+100.0%	7.4 days	42.0 days
ouroboros-consensus	11	8	+37.5%	6.6 days	50.1 days



Insights:

1. **govtool** became the top QA hotspot, with 86 new issues in its first active month — pointing to a full-scale test cycle or major user feedback initiative following recent development surges.

2. **formal-ledger-specifications**, **cardano-ledger**, **plutus**, and **ouroboros-consensus** all doubled their issue volume or more, showing **deep testing cycles** across protocol-critical infrastructure.

3. Resolution time **plummeted across all top projects**, with median durations cut by

80–90% in most cases — demonstrating exceptional responsiveness and process improvement.

4. The volume and velocity of issue processing reflects a **high-functioning, responsive engineering loop** across Cardano's core technical stack.

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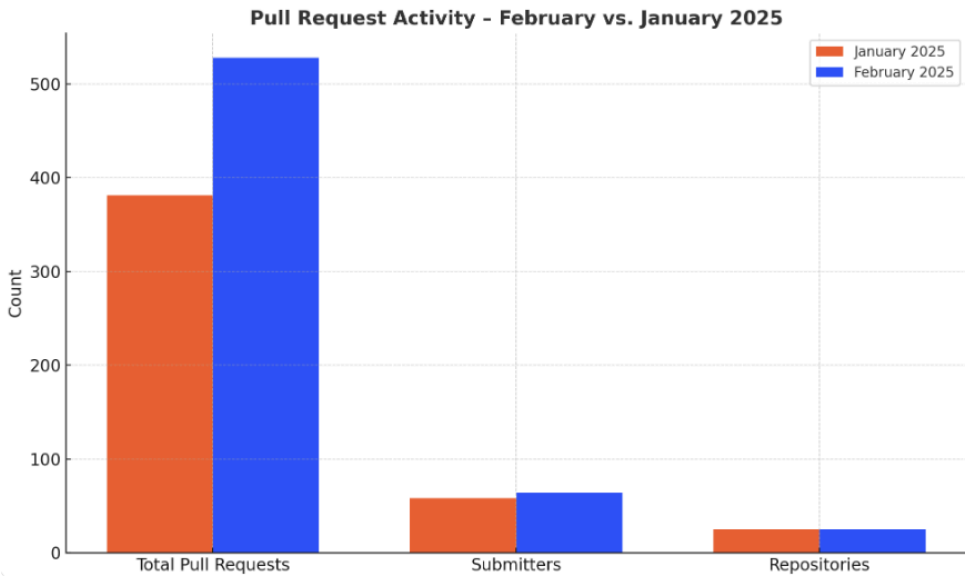
4. Pull Requests

Summary:

February 2025 – 528 pull requests were submitted by 64 contributors across 25 repositories.

This marks a **38.6% increase in PR volume** compared to January, alongside a **10.3% rise in contributors** — while repository breadth held steady.

Metric	January 2025	February 2025	Change
Total Pull Requests	381	528	+38.6%
Unique Submitters	58	64	+10.3%
Repositories Touched	25	25	+0.0%



Insights:

- The strong jump in PRs shows that the **engineering velocity was sharply up** in February, aligned with the previously observed commit and issue growth.
- More submitters participated, confirming **broader engagement** — though the flat repository count suggests that delivery remained focused on **existing key projects**.
- This pattern suggests a **deep, sustained push on current workstreams** rather than expansion into new modules — consistent with the ongoing QA and refinement surge.

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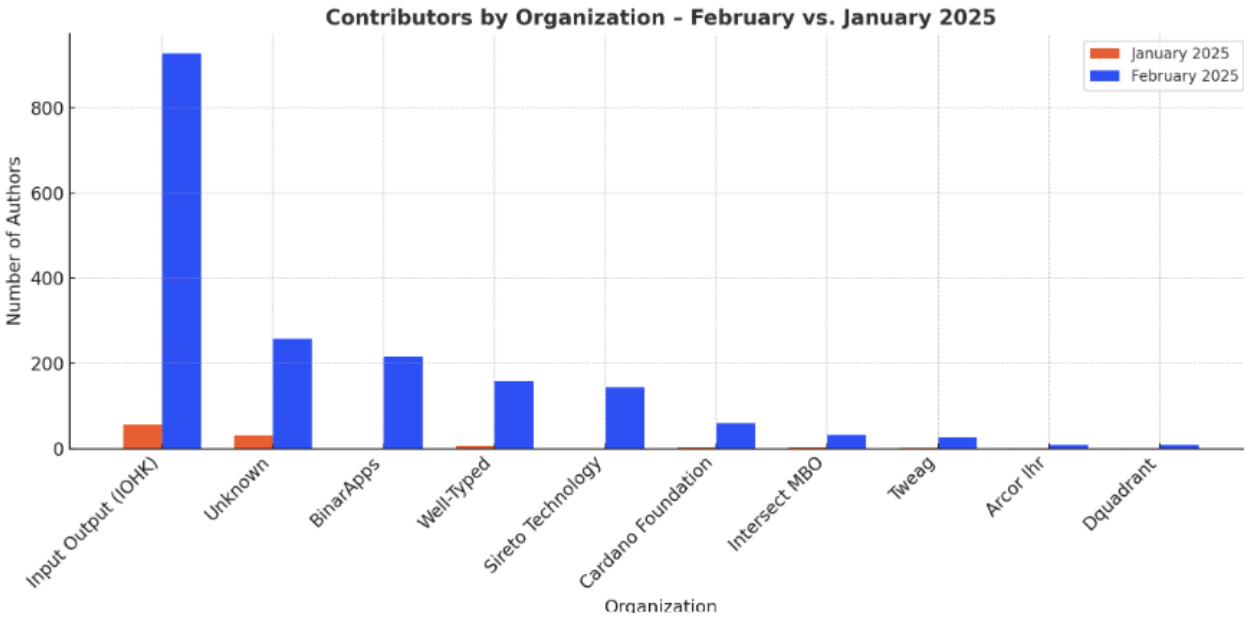
5. Analysis of Contributions by Organization

Top Organizations – February 2025

Organization	Authors (Feb)	Authors (Jan)	Change (%)
Input Output (IOHK)	928	56	+1,557.1%
Unknown	257	31	+729.0%
BinarApps	216	0	+21,600.0%
Well-Typed	158	6	+2,533.3%
Sireto Technology	144	0	+14,400.0%



Insights:

- **IOHK's contributor count exploded**, going from 56 to 928 — likely due to a large import of commit metadata, broader attribution capture, or internal team reclassification.
- **Unknown contributors also surged**, hinting at increased activity from unaffiliated engineers or unidentified integrations (e.g. bots, third-party tooling).

- **BinarApps, Sireto Technology, and Well-Typed** all posted massive increases, suggesting either fresh team onboarding, new subcontracting pipelines, or project handoffs.
- While these percentage gains are dramatic, they also point to changes in **data tracking fidelity or attribution clarity**, and may not fully reflect actual headcount growth.
- Regardless, February marked a **historic peak in contributor engagement** — far outpacing any prior month and signaling growing delivery capacity.

Glossary

Report Technical Definitions:

- **Repository(Repo):** In Git, a repository, often abbreviated as "repo," is a storage space where your project's files and their entire revision history are stored. It typically includes various files such as source code, documentation, images, and more. Repositories can be either local (on your computer) or remote (hosted on a server like GitHub, GitLab, Bitbucket, etc.).
- **Issue:** An issue is a feature request, bug report, task, or any other item that needs to be tracked within a project. In Git repositories hosted on platforms like GitHub or GitLab, issues are commonly used for discussing and tracking tasks or problems related to the project. They can include labels, assignees, comments, and other metadata to facilitate collaboration and organization.
- **Pull Request (PR):** A pull request is a proposed change that a user wants to merge into a target branch of a repository. It's commonly used in distributed version control systems like Git to facilitate code review and collaboration. When a developer completes a feature or fixes a bug in a separate branch of the repository, they can initiate a pull request to merge their changes into the main branch or another designated branch. Pull requests often include a summary of the changes, discussions, reviews, and automated checks.
- **Contributor:** A contributor is anyone who participates in a project by making contributions such as code changes, documentation improvements, bug fixes, feature enhancements, etc. Contributors can be individuals or organizations, and their contributions can take various forms, from writing code to providing feedback, reporting issues, or reviewing pull requests.
- **Git:** Git is an open-source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. It allows multiple developers to work on the same project simultaneously, coordinating their work through branching, merging, and version tracking. Git is widely used in software development for managing source code revisions and collaborating on projects.
- **GitHub:** GitHub is a web-based platform that provides hosting for Git repositories and offers collaboration features such as issue tracking, pull requests, code review, and project management tools. It's one of the most popular platforms for hosting Git repositories and facilitating collaboration among developers and teams. GitHub also provides additional features like wikis, continuous integration, and deployment services.
- **Commit:** In Git, a commit is a snapshot of the changes made to the files in a repository at a specific point in time. It represents a single revision or change set and includes a unique identifier (SHA-1 hash), a commit message describing the changes, and a pointer to the previous commit(s). Commits are fundamental to version control in Git, as they allow developers to track changes, revert to previous states, and collaborate on code changes.
- **Organization:** In Git and GitHub, an organization refers to a group or entity that can own repositories, manage access permissions, and collaborate on projects. Organizations are often used by companies, open-source projects, or groups of developers to centralize their repositories and manage their collective work. Organizations on GitHub can have multiple members with varying levels of access, allowing for collaborative development within a structured environment.
- **Project:** A project in the context of Git and GitHub typically refers to a specific software development endeavor or initiative. It encompasses all the related tasks, code,

documentation, issues, and resources needed to achieve a particular goal. Projects are often organized within repositories on GitHub, where developers can collaborate, track progress, manage tasks, and share code. A project may involve multiple contributors working together to develop and maintain software, with each contributor contributing to different aspects of the project.

- **Community:** In the Git and GitHub ecosystem, a community refers to the collective group of developers, users, contributors, and other stakeholders who are involved in a particular project, organization, or open-source initiative. Communities are essential for fostering collaboration, sharing knowledge, providing support, and driving the growth and sustainability of projects. They often gather around shared interests, goals, or values, and may interact through various channels such as forums, mailing lists, chat platforms, and social media. A strong and engaged community can contribute to the success and longevity of a project by providing feedback, contributing code, reporting issues, and supporting fellow members.