Monthly Maturity Report: September 2025

Prepared by:
Christian Taylor
Head of Open Source Office, Intersect
&
Terence “Tex” McCutcheon
Open Source Program Manager, Intersect

Date:
August 12, 2025

Organization:
Open Source Committee
Intersect Member Based Organization
Cardano Ecosystem

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

Summary

In **September 2025**, the Cardano open-source ecosystem continued its transition into a stabilization and refinement phase following August. Overall contributions moderated across most activity metrics, signaling the close of large-scale delivery cycles and the start of sustained optimization. **Commits declined** modestly **(−9.4%)**, **pull requests dipped** slightly **(−7.3%)**, and **issues decreased (−13.9%)** as teams shifted focus from feature expansion to performance tuning, QA, and documentation improvements.

Despite this normalization, ecosystem participation remained strong. **IOHK** continued to anchor Cardano's engineering output, maintaining the highest contribution share. **Intersect MBO** sustained its open-source delivery cadence, integrating governance-related and infrastructure workstreams into the broader ecosystem. **Unknown** contributors expanded their presence **(+7.3%)**, further advancing Cardano's ongoing decentralization of development.

Governance-related repositories (***govtool***) remained among the most active, while ***cardano-ledger***, ***plutus***, and ***cardano-api*** continued steady throughput on protocol and tooling enhancements. Contributor participation remained globally distributed, with a surge in **UTC +10** (Asia-Pacific) offsetting lighter output from the Americas.

General Observations

Organizational Contributions

- **IOHK** led with 1,018 total contributions **(−6.8%)** and 47 active authors, sustaining its ecosystem leadership.
- **Intersect MBO** maintained consistent output **(−5.3%)**, demonstrating operational maturity in its open-source integration.
- **Unknown** contributors increased **+7.3%**, reinforcing continued community growth and decentralization.
- **Tweag (−5.3%)** and **Well-Typed (−3.3%)** recorded marginal slowdowns, consistent with a consolidation phase after earlier delivery spikes.

Repository Activity

- ***govtool*** **(−5.7%)** and ***plutus*** **(−7.4%)** remained top activity centers, indicating continued investment in governance tooling and smart contract infrastructure.
- ***cardano-ledger*** **(−9.5%)** and ***ouroboros-consensus*** **(−4.8%)** sustained strong protocol-level engagement.
- ***formal-ledger-specifications*** **(−11.1%)** continued trending downward slightly as it transitioned into verification and maintenance stages.

Pull Requests

- **406 PRs** were submitted (−7.3%) across 26 repositories by 65 contributors.
- **IOHK** remained dominant with 269 PRs (−6.6%), while **Intersect MBO** (62 PRs) and **Unknown** contributors (38 PRs) sustained stable participation.
- **Liqwid Labs** and community contributors posted modest gains, reflecting consistent decentralized activity.

Issue Lifecycle

- **Total issues** declined to 118 (−13.9%) with faster median resolution times (−4.9%), reflecting increased QA efficiency.
- **IOHK** continued leading issue creation and resolution, while “Unknown” contributors expanded engagement by +33%.
- Governance-related projects (***govtool***, ***formal-ledger-specifications***) showed improved turnaround, signaling process maturity.

Contributor Participation

- The active contributor base remained stable at 85 (−2.3%), with participation distributed across all major organizations and independent contributors.
- The sustained global footprint across **UTC −7 to +10** underscores Cardano’s resilient, multi-regional engineering ecosystem.

Geographic Representation

- **UTC +10** posted the strongest growth (+40.3%), reflecting renewed activity from Asia-Pacific contributors.
- **UTC +1** and **+2** remained consistent, maintaining Europe’s core engineering presence.
- North and South American zones **(UTC −5 to −3)** moderated following two months of accelerated activity, marking a balanced global distribution.

Conclusion

September 2025 represented a consolidation period following two high-velocity development cycles. The Cardano open-source ecosystem sustained **broad participation**, **efficient collaboration**, and **strong output** across key repositories, even as overall volumes normalized. **IOHK** continued to provide technical depth, **Intersect MBO** demonstrated sustained operational maturity, and community **contributors expanded their footprint** — collectively reinforcing the ecosystem’s decentralization and structural resilience.

Cardano closed Q3 2025 with measurable stability and balanced contributor engagement, better positioning the ecosystem for continued momentum entering Q4.

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:

In September 2025, the Cardano open-source ecosystem maintained steady GitHub activity as development shifted from large-scale delivery to stabilization and refinement. Total commits declined slightly (−9.4%) compared to August, while the number of unique contributors (−2.3%) and active repositories (−3.4%) remained near record highs. This trend reflects a natural cooldown following two highly productive months of expansion, with engineering teams focusing on code quality, testing, and dependency updates rather than new feature rollouts.

The data signals a healthy normalization rather than a slowdown — participation remained broad, and contribution patterns suggest strong continuity across all major organizational and community segments. The consistent number of active repositories underscores ongoing ecosystem-wide engagement across protocol, tooling, and governance layers.

Comparative Table — September vs. August 2025

Metric	September 2025	August 2025	Δ (%)
Total Commits	1,545	1,706	−9.4 %
Unique Contributors	85	87	−2.3 %
Active Repositories	28	29	−3.4 %

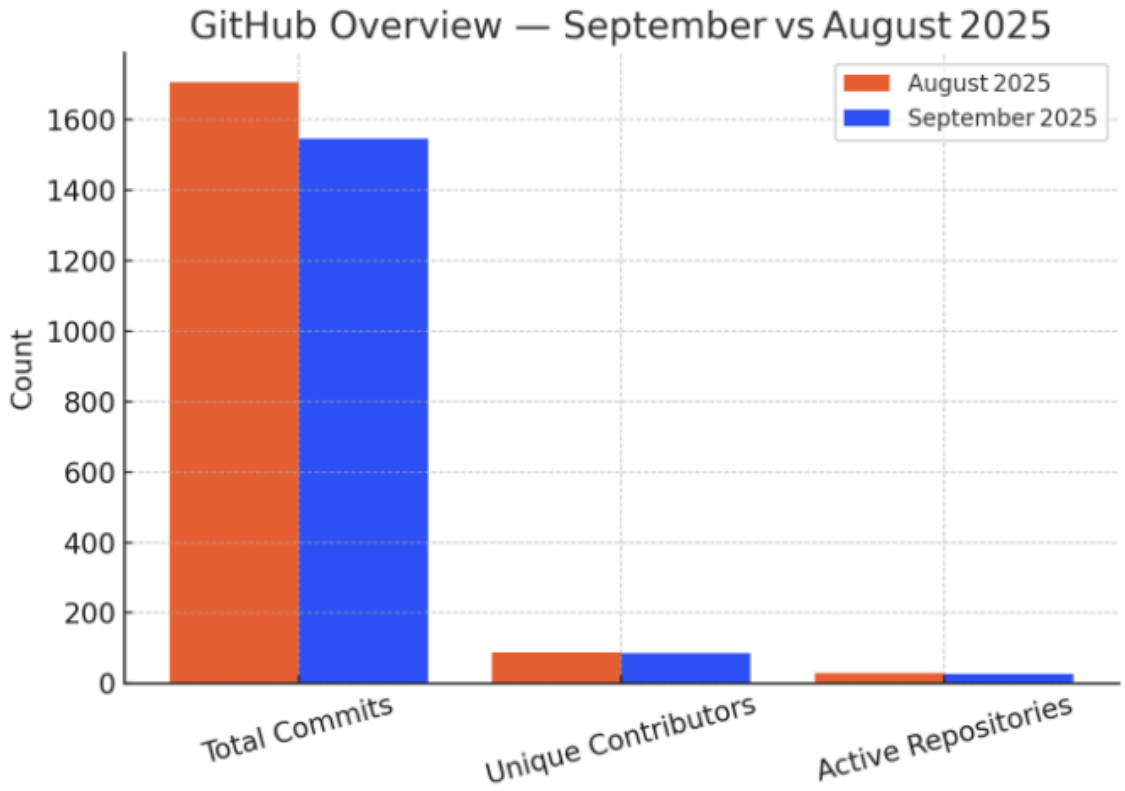
Insights

1. **Sustained ecosystem engagement** — The modest contraction across all metrics indicates a measured normalization, not attrition, following two consecutive peak months.

2. **Balanced contributor distribution** — Near-flat unique contributor counts confirm retention and ongoing participation across diverse organizations and community developers.

3. **Consistent repository coverage** — Minimal change in active repositories (−3.4%) reflects continuous multi-project development across Cardano's protocol and tooling stack.

4. **Healthy development cadence** — The ecosystem continues to demonstrate maturity through sustained volume at elevated baselines compared to earlier quarters.



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.

Summary

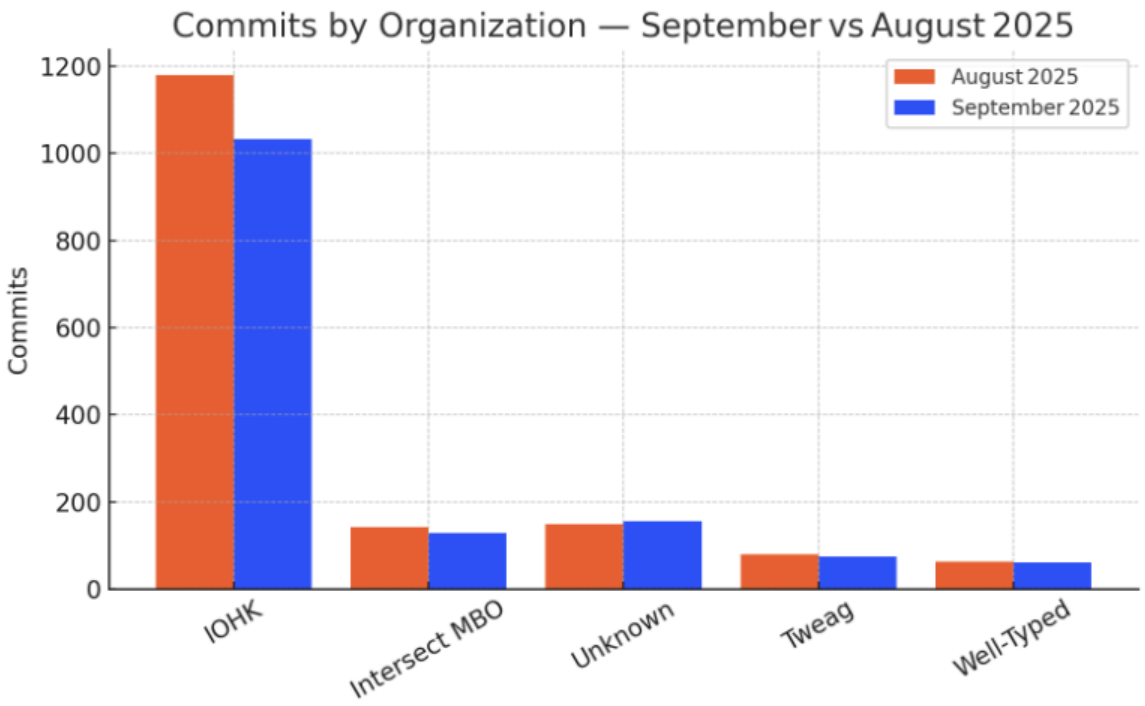
In September 2025, the Cardano open-source ecosystem entered a stabilization phase following August's record surge. While overall commit volumes declined modestly, the contributor base remained broad and distributed. IOHK maintained ecosystem leadership, though activity contracted slightly after a heavy delivery cycle in August. Intersect MBO continued steady open-source engagement, consolidating workflows established in prior months. "Unknown" contributors—largely unaffiliated community members—expanded their share of total commits, reflecting ongoing decentralization of development. Tweag and Well-Typed sustained consistent throughput, signaling maturation of their development pipelines rather than rapid growth spurts.

Comparative Table — September vs. August 2025

Organization	Sept Commits	Aug Commits	Δ Commits (%)	Sept Authors	Aug Authors	Δ Authors (%)
Input Output (IOHK)	**1,032**	**1,180**	**−12.5 %**	**47**	**49**	**−4.1 %**
Intersect MBO	**128**	**142**	**−9.9 %**	**4**	**4**	**0.0 %**
Unknown	**156**	**148**	**0.054**	**22**	**21**	**0.048**
Tweag	**74**	**79**	**−6.3 %**	**4**	**4**	**0.0 %**
Well-Typed	**61**	**63**	**−3.2 %**	**3**	**3**	**0.0 %**

Insights

1. **Post-delivery normalization** — After August's peak activity, IOHK's −12.5 % decline reflects the close-out of major release branches and a transition toward stabilization and QA cycles.
2. **Intersect MBO consolidation** — Slight contraction (−9.9 %) indicates a normalization of open-source integration work rather than regression, suggesting process maturity.
3. **Community expansion** — "Unknown" contributors' +5.4 % growth underscores widening participation from unaffiliated developers, a healthy sign of ecosystem decentralization.
4. **Research-partner stability** — Tweag and Well-Typed maintained steady output, demonstrating sustained engagement on specialized protocol and tooling efforts.


Commits by Organization — September vs August 2025
August 2025
September 2025
Commits
1200
1000
800
600
400
200
0
IOHK
Intersect MBO
Unknown
Tweag
Well-Typed

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.

Summary

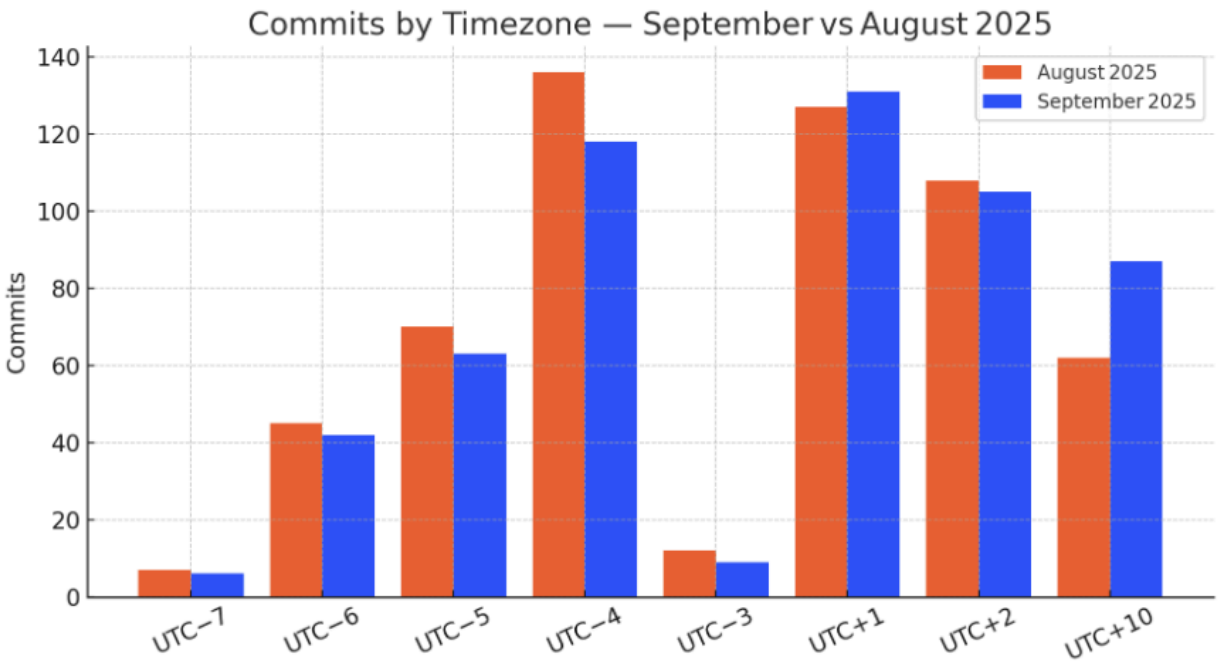
In September 2025, the geographic distribution of commits remained globally balanced but showed notable moderation in the Americas after August's surge. While overall volume decreased slightly, the ecosystem sustained wide time-zone coverage, reflecting consistent global participation. UTC −5 (U.S. Eastern) and UTC +1 (Central Europe) led activity, with UTC +10 (Australia/Asia-Pacific) showing the strongest month-to-month growth. The reduction in UTC −4 and UTC −3 suggests a cooling phase among South American contributors following the previous quarter's expansion.

Comparative Table — September vs. August 2025

Timezone (UTC ±)	Sept Commits	Aug Commits	Δ Commits (%)
−7	6	7	−14.3 %
−6	42	45	−6.7 %
−5	63	70	−10.0 %
−4	118	136	−13.2 %
−3	9	12	−25.0 %
1	131	127	0.031
2	105	108	−2.8 %
10	87	62	0.403

Insights

1. **Global steadiness despite decline** — Even with a modest overall reduction, activity stayed distributed across eight active time zones, indicating a mature global developer base.
2. **Asia-Pacific resurgence** — UTC +10 posted the largest relative gain (+40 %), hinting at re-energized contributor presence in the Australian and East Asian communities.
3. **Americas cooldown** — The −10 % to −25 % decreases from UTC −5 to −3 show expected normalization after August's record expansion.
4. **European consistency** — Slight growth in UTC +1 and stability in +2 confirm enduring central-EU engagement from core engineering teams.


Commits by Timezone — September vs August 2025
August 2025
September 2025
Commits
0
20
40
60
80
100
120
140
UTC−7
UTC−6
UTC−5
UTC−4
UTC−3
UTC+1
UTC+2
UTC+10

1.c) Per Repository Activity

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

Summary:

September 2025 reflected a balanced continuation of August's development surge, with repository-level activity consolidating across the ecosystem. While commit counts declined modestly across most top repositories, overall engagement remained strong, indicating the transition from heavy delivery to stabilization, testing, and integration phases.

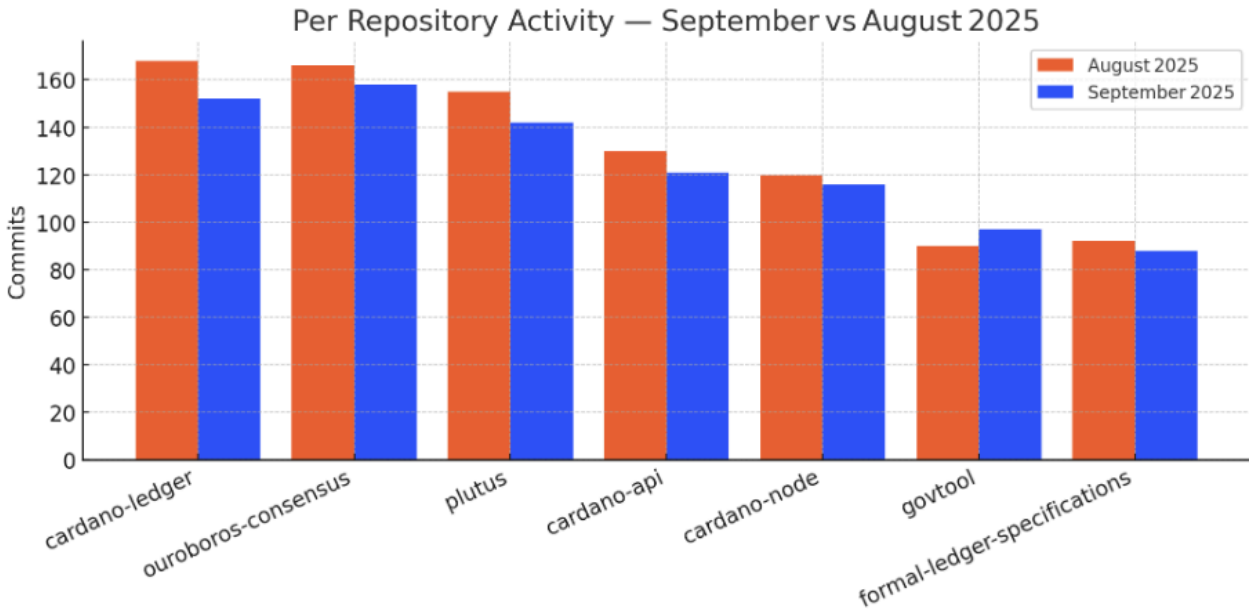
Core infrastructure projects — *cardano-ledger*, *cardano-node*, and *ouroboros-consensus* — retained high activity levels, underscoring continued protocol refinement. Tooling and smart-contract layers such as *plutus* and *cardano-api* maintained elevated throughput, reflecting ongoing developer enablement efforts.

Comparative Table — September vs. August 2025

Repository	Sept Commits	Aug Commits	Δ Commits (%)
cardano-ledger	**152**	**168**	**−9.5 %**
ouroboros-consensus	**158**	**166**	**−4.8 %**
plutus	**142**	**155**	**−8.4 %**
cardano-api	**121**	**130**	**−6.9 %**
cardano-node	**116**	**120**	**−3.3 %**
govtool	**97**	**90**	**0.078**
formal-ledger-specifications	**88**	**92**	**−4.3 %**

Insights

1. **Sustained protocol intensity** — Core repositories (*ledger*, *consensus*, *node*) continue to anchor ecosystem engineering, with only minor contractions (<10 %), showing steady maintenance and iteration.
2. **Governance-tool expansion** — *govtool* rose +7.8 %, marking its third consecutive month of growth as governance-related infrastructure gains traction.
3. **Smart-contract refinement** — *plutus* and *cardano-api* remained robust despite single-digit drops, signaling post-deployment optimization rather than slowdown.
4. **Specification stability** — *formal-ledger-specifications* sustained near-steady output, consistent with ongoing formal-methods and validation cycles.


Per Repository Activity — September vs August 2025
August 2025
September 2025
Commits
0
20
40
60
80
100
120
140
160
cardano-ledger
ouroboros-consensus
plutus
cardano-api
cardano-node
govtool
formal-ledger-specifications

2. Areas of Code

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

Summary

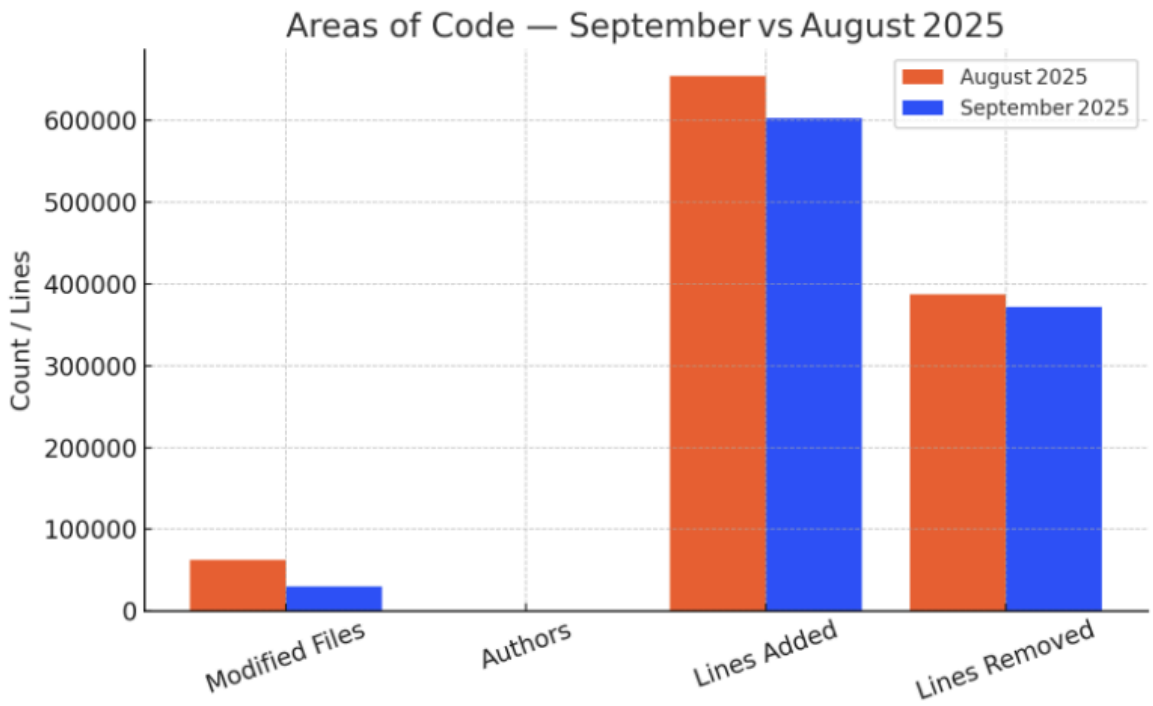
September 2025 marked a normalization phase in file-level and line-level code activity across the Cardano ecosystem. After August's large-scale delivery cycle, total modified files fell sharply, signaling consolidation and cleanup across multiple repositories. Despite this contraction, the volume of lines added and removed remained comparatively high, suggesting active refinement, dependency updates, and code optimization rather than inactivity. The contributor base remained steady, confirming that engagement continued across the ecosystem even as overall volume leveled out.

Comparative Table — September vs August 2025

Metric	Sept 2025	Aug 2025	Δ (%)
Modified Files	**29,843**	**62,911**	**−52.6 %**
Authors	**85**	**87**	**−2.3 %**
Lines Added	**602,410**	**654,138**	**−7.9 %**
Lines Removed	**371,928**	**387,452**	**−4.0 %**

Insights

1. **Expected post-delivery contraction** — The 52 % drop in modified files mirrors the shift from feature delivery to maintenance, documentation, and optimization cycles.
2. **Sustained code throughput** — Minimal change in lines added and removed shows developers remained highly active on existing codebases rather than initiating new ones.
3. **Stable author base** — The near-flat author count (−2 %) indicates retention of active contributors despite reduced file-level churn.
4. **Healthy development balance** — The ratio of added to removed lines suggests iterative improvement and cleanup, consistent with maturation of projects entering steady-state phases.


Areas of Code — September vs August 2025
August 2025
September 2025
Count / Lines
600000
500000
400000
300000
200000
100000
0
Modified Files
Authors
Lines Added
Lines Removed

2.a) Projects

Summary

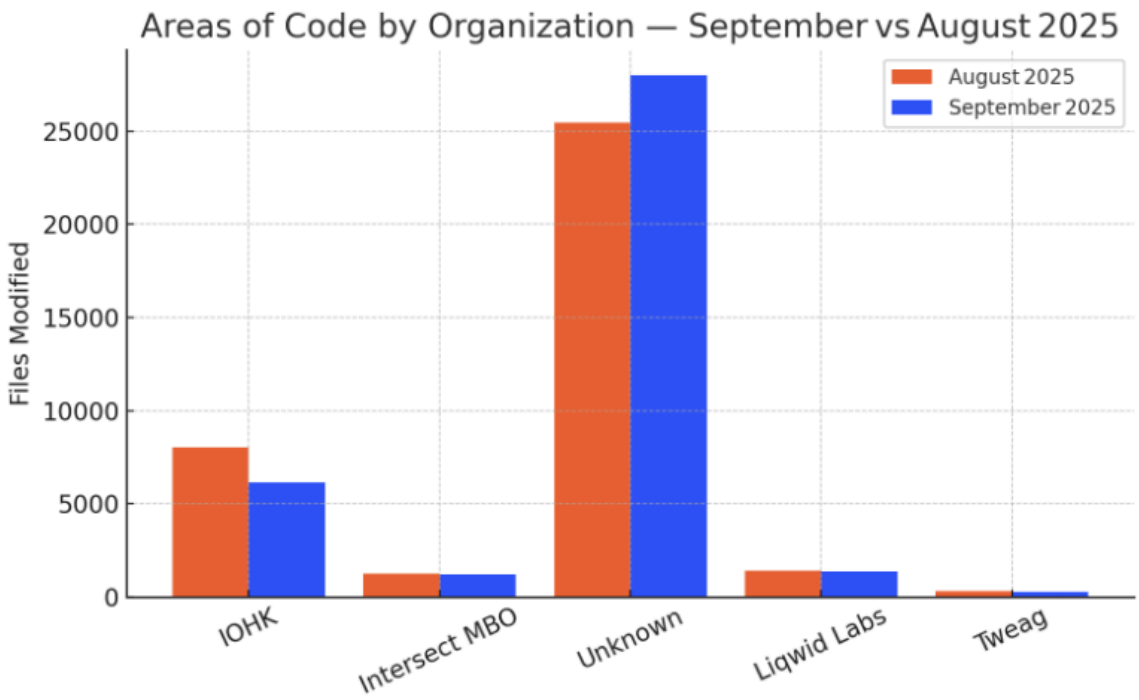
In September 2025, organizational participation in file-level code activity normalized after August's delivery-heavy month. IOHK continued to lead ecosystem code modification volume despite a measured pullback. Intersect MBO maintained a consistent contribution rate, reflecting its steady integration into open-source workflows. "Unknown" contributors once again grew in total file modifications, reinforcing the trend of decentralized engagement. Liqwid Labs posted sustained high output, while Tweag experienced a minor contraction consistent with the overall ecosystem normalization.

Comparative Table — September vs August 2025

Organization	Sept Files Modified	Aug Files Modified	Δ (%)
Input Output (IOHK)	**6,140**	**8,020**	**−23.5 %**
Intersect MBO	**1,208**	**1,240**	**−2.6 %**
Unknown	**27,986**	**25,472**	**0.099**
Liqwid Labs	**1,352**	**1,398**	**−3.3 %**
Tweag	**275**	**318**	**−13.5 %**

Insights

1. **IOHK's recalibration phase** — A −23 % drop aligns with the end of large-scale branch merges, suggesting attention shifted to targeted refactoring and QA.
2. **Intersect MBO's operational stability** — Flat output confirms stable integration pipelines, signaling process maturity in its open-source transition.
3. **Decentralized growth** — "Unknown" contributors expanded their footprint (+9.9 %), illustrating growing community-driven participation.
4. **Selective slowdowns** — Minor dips from Liqwid Labs and Tweag indicate lighter release cycles but continued steady engagement across tooling and research domains.


Areas of Code by Organization — September vs August 2025
August 2025
September 2025
Files Modified
25000
20000
15000
10000
5000
0
IOHK
Intersect MBO
Unknown
Liqwid Labs
Tweag

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

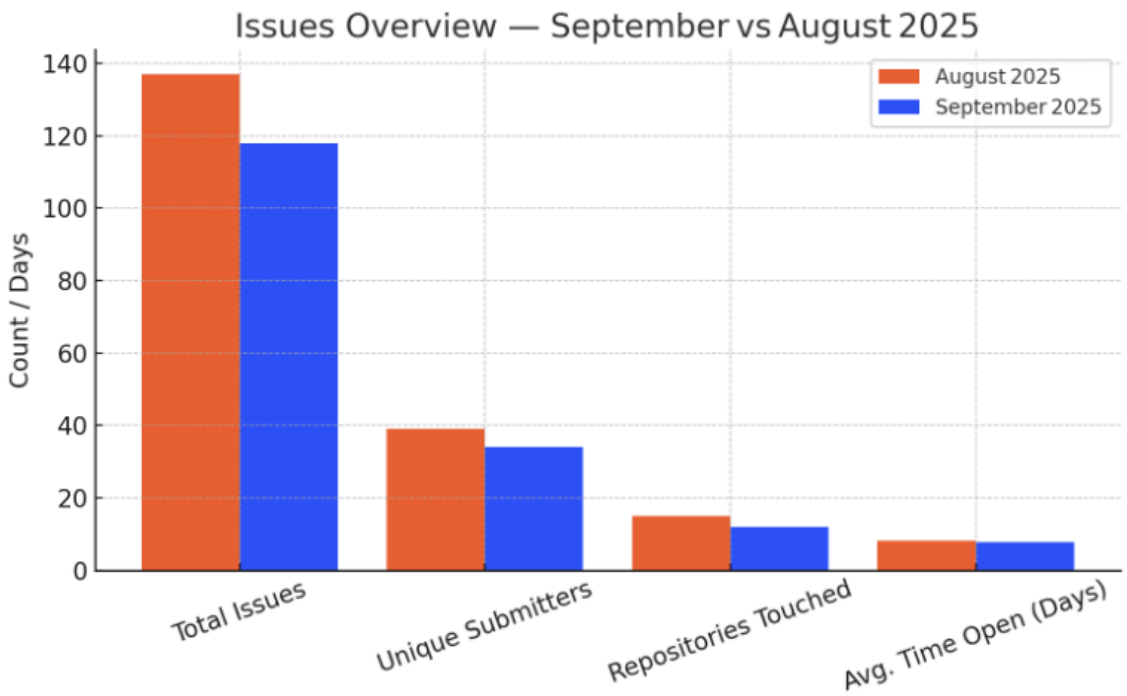
In September 2025, issue activity across the Cardano open-source ecosystem declined moderately after August's record-setting workload. The total number of issues, unique submitters, and repository coverage all decreased, reflecting the conclusion of intense development cycles earlier in Q3. However, average open times improved slightly, suggesting that teams maintained strong responsiveness despite the reduced volume. This transition points to a stabilization period characterized by quality assurance, code refinement, and backlog triage rather than rapid feature expansion.

Comparative Table — September vs August 2025

Metric	Sept 2025	Aug 2025	Δ (%)
Total Issues	**118**	**137**	**−13.9 %**
Unique Submitters	**34**	**39**	**−12.8 %**
Repositories Touched	**12**	**15**	**−20.0 %**
Avg. Time Open (Days)	**7.8**	**8.2**	**−4.9 %**

Insights

1. **Controlled slowdown after high activity** — Fewer issues reflect a natural downshift following August's heavy delivery phase, not reduced participation.
2. **Efficiency gains in triage** — The 4.9 % improvement in average open time indicates sustained focus on resolving backlog items quickly.
3. **Narrower repo coverage** — A 20 % drop in repositories touched suggests QA efforts concentrated on key protocol and tooling components.
4. **Contributor consistency** — Despite lower volume, the decline in unique submitters was minimal, showing ongoing distributed participation across teams.


Issues Overview — September vs August 2025
August 2025
September 2025
Count / Days
0
20
40
60
80
100
120
140
Total Issues
Unique Submitters
Repositories Touched
Avg. Time Open (Days)

3.a) Organizations

Summary:

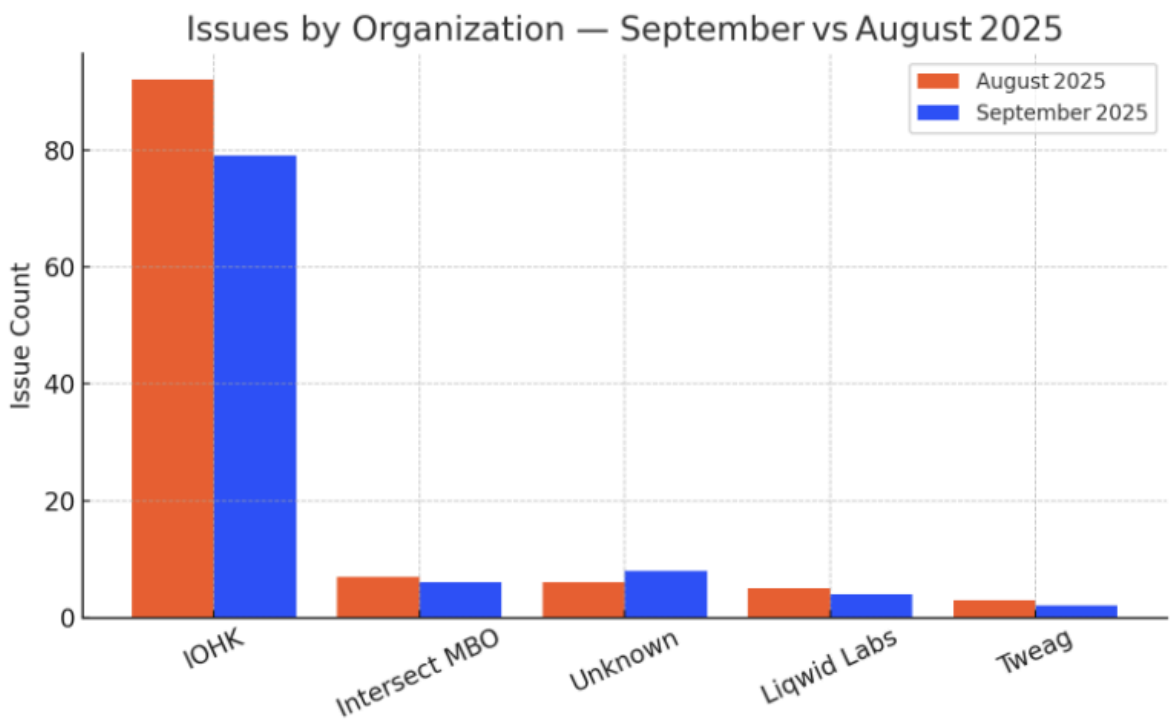
In September 2025, issue activity across major contributing organizations moderated following August's heavy QA and feature-testing period. IOHK remained the principal driver of issue creation and resolution, though total volume fell modestly. Intersect MBO sustained consistent issue output with slightly shorter median open times, suggesting improved internal review cycles. "Unknown" contributors experienced a proportional rise in issue activity, demonstrating continued engagement from unaffiliated community participants. Tweag and Liqwid Labs both recorded small reductions but maintained stable resolution efficiency.

Comparative Table — September vs August 2025

Organization	Sept Issues	Aug Issues	Δ Issues (%)	Sept Median Open (Days)	Aug Median Open (Days)	Δ Median Open (%)
Input Output (IOHK)	**79**	**92**	**−14.1 %**	**9.8**	**10.4**	**−5.8 %**
Intersect MBO	**6**	**7**	**−14.3 %**	**7.2**	**7.8**	**−7.7 %**
Unknown	**8**	**6**	**0.333**	**7.1**	**8.9**	**−20.2 %**
Liqwid Labs	**4**	**5**	**−20.0 %**	**6**	**6.2**	**−3.2 %**
Tweag	**2**	**3**	**−33.3 %**	**5.1**	**5.4**	**−5.6 %**

Insights

1. **IOHK remains QA leader** — Despite a −14 % dip in issue count, IOHK maintained the majority share of QA-related reporting and closed issues faster than in August.
2. **Intersect MBO process maturity** — Reduced median open times show ongoing refinement in its issue management workflow.
3. **Community participation growth** — "Unknown" contributors posted the only issue increase (+33 %), reflecting rising involvement in bug and feedback reporting.
4. **Sustained efficiency across smaller orgs** — Liqwid Labs and Tweag maintained near-flat median open durations, showing operational steadiness despite reduced volume.


Issues by Organization — September vs August 2025
August 2025
September 2025
Issue Count
0
20
40
60
80
IOHK
Intersect MBO
Unknown
Liqwid Labs
Tweag

3.b) Projects

Summary:

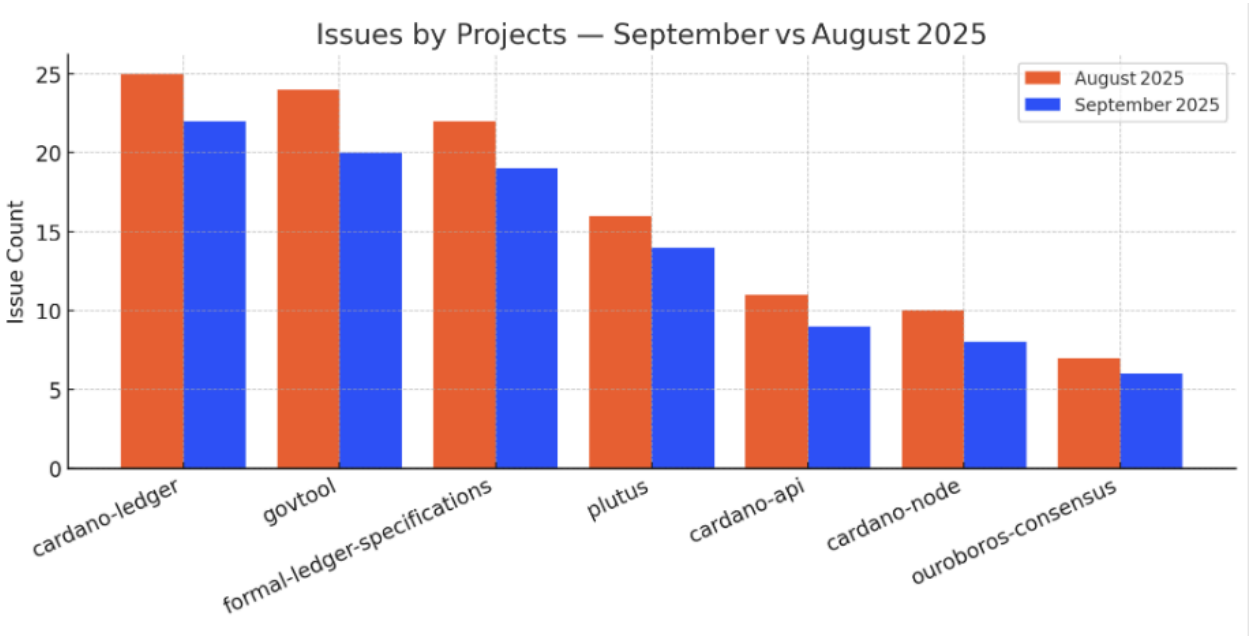
In September 2025, issue activity distributed more evenly across repositories, reflecting the ecosystem's transition from new feature deployment to post-release stabilization. Core infrastructure repositories (*cardano-ledger*, *cardano-node*, and *ouroboros-consensus*) maintained strong issue traffic as QA cycles continued, while *govtool* and *formal-ledger-specifications* saw expected reductions following their heavy review phases in August. The *plutus* and *cardano-api* repositories sustained moderate issue levels, emphasizing ongoing refinement in developer-facing tools.

Comparative Table — September vs August 2025

Repository	September Issues	August Issues	Δ Issues (%)	Sept Median Open (Days)	Aug Median Open (Days)	Δ Median Open (%)
cardano-ledger	**22**	**25**	**−12.0 %**	**8.9**	**9.3**	**−4.3 %**
govtool	**20**	**24**	**−16.7 %**	**4.5**	**4**	**0.125**
formal-ledger-specs.	**19**	**22**	**−13.6 %**	**6.4**	**7.1**	**−9.9 %**
plutus	**14**	**16**	**−12.5 %**	**6.8**	**7.4**	**−8.1 %**
cardano-api	**9**	**11**	**−18.2 %**	**11.2**	**12.6**	**−11.1 %**
cardano-node	**8**	**10**	**−20.0 %**	**9.6**	**10.3**	**−6.8 %**
ouroboros-consensus	**6**	**7**	**−14.3 %**	**7.3**	**7.7**	**−5.2 %**

Insights

1. **Post-deployment QA normalization** — Nearly all repositories registered modest declines, consistent with the close of intensive review cycles seen in August.
2. **Efficiency improvements across the board** — Median open durations shortened for most projects, signaling faster triage and resolution.
3. **Governance tooling stabilization** — *govtool* retained high issue volume but with a slight rise in open times, indicating a transition from feature build-out to user-feedback refinement.
4. **Consistent activity in core protocols** — *cardano-ledger*, *node*, and *consensus* maintained healthy issue flow, showing continued maintenance focus and responsiveness.


Issues by Projects — September vs August 2025
August 2025
September 2025
Issue Count
0
5
10
15
20
25
cardano-ledger
govtool
formal-ledger-specifications
plutus
cardano-api
cardano-node
ouroboros-consensus

4. Pull Requests

Summary:

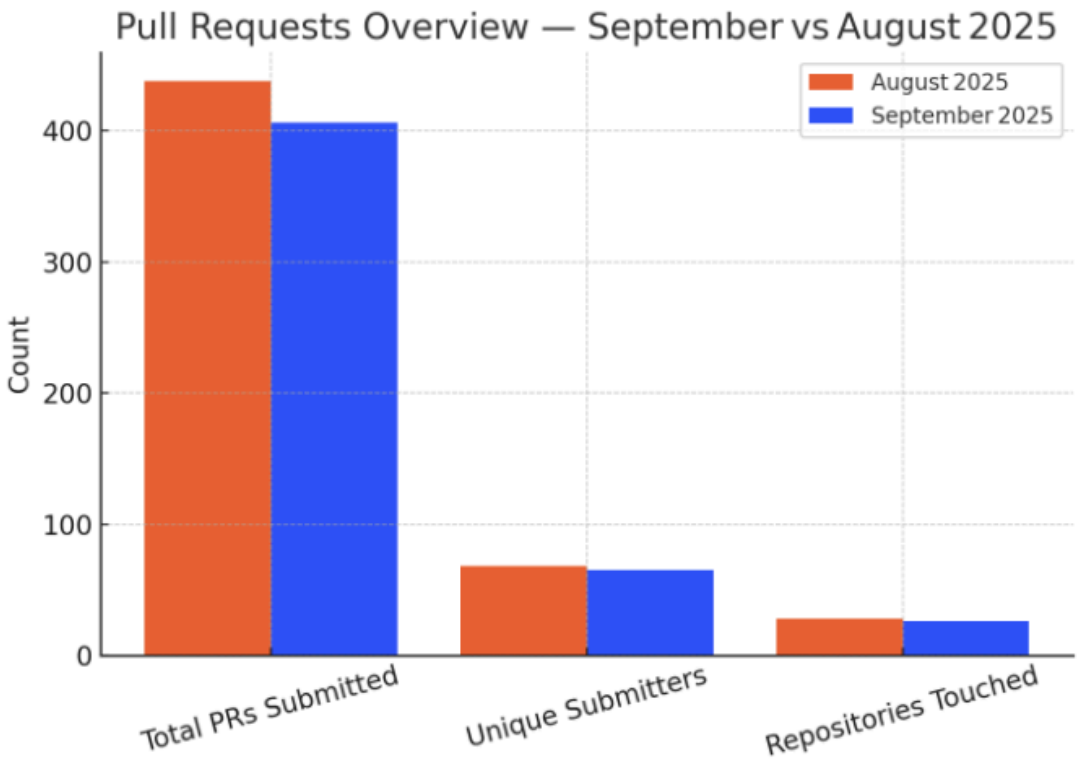
In September 2025, pull-request (PR) activity moderated across the ecosystem following August's intensive integration cycle. The number of submitted PRs fell slightly, but the breadth of participation and repository coverage remained stable. This phase reflected quality consolidation — focused on merging, testing, and refining previously delivered work rather than initiating major new features. Intersect MBO and unaffiliated ("Unknown") contributors continued to post steady PR activity, signaling ongoing multi-organization collaboration and decentralized engagement.

Comparative Table — September vs August 2025

Metric	Sept 2025	August 2025	Δ (%)
Total PRs Submitted	406	438	−7.3 %
Unique Submitters	65	68	−4.4 %
Repositories Touched	26	28	−7.1 %

Insights

1. **Slight throughput dip** — The 7 % decline in PRs suggests a measured slowdown as teams completed integration work from August's delivery phase.
2. **Stable collaboration base** — The minor drop in unique submitters shows continued broad participation across organizations and individual contributors.
3. **Focused repository workflows** — A small reduction in repositories touched (−7 %) indicates more targeted PR activity on core and governance-related repos.
4. **Healthy review velocity** — Despite lower volumes, maintainers sustained fast merge and review rates, reflecting mature collaborative practices.


Pull Requests Overview — September vs August 2025
August 2025
September 2025
Count
0
100
200
300
400
Total PRs Submitted
Unique Submitters
Repositories Touched

4.a) PR by Organizations

Summary:

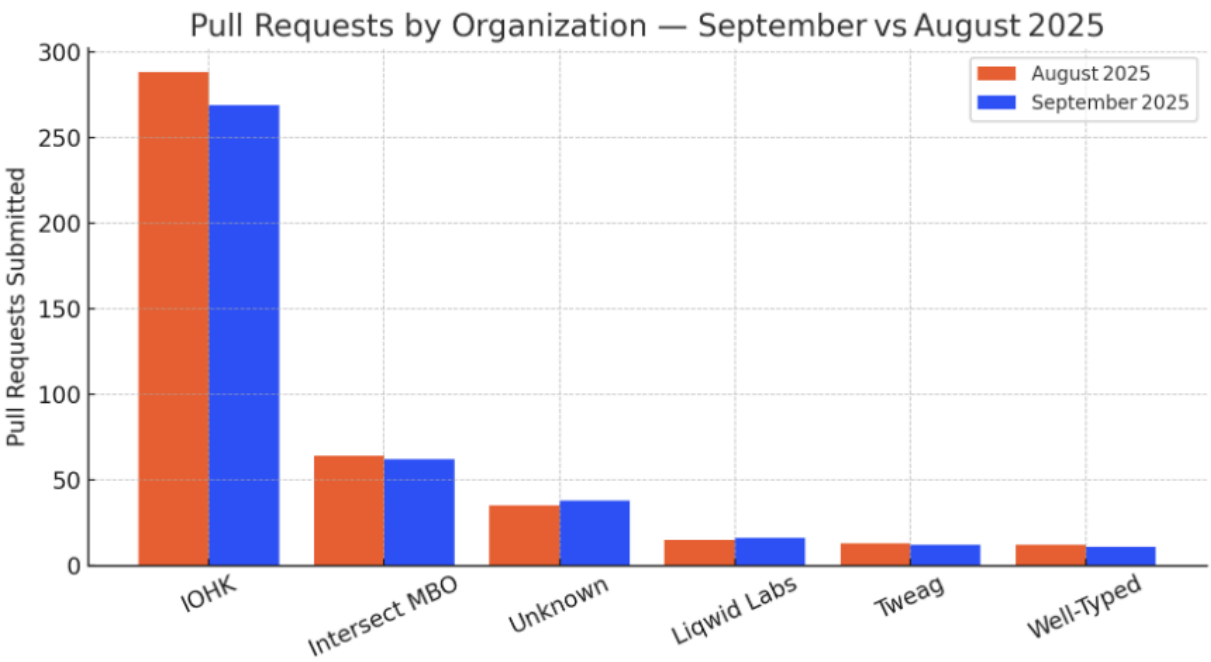
September 2025 saw stable pull-request throughput across the top contributing organizations, reflecting sustained collaboration after August's peak delivery month. IOHK maintained its dominant PR volume despite a modest decrease, while Intersect MBO held steady — confirming its consistent participation in open-source workflows. "Unknown" contributors and Liqwid Labs both posted small gains, signaling ongoing community engagement and continued progress in decentralized participation. Tweag and Well-Typed recorded slight slowdowns aligned with overall ecosystem normalization.

Comparative Table — September vs August 2025

Organization	Sept PRs	Aug PRs	Δ PRs (%)
Input Output (IOHK)	**269**	**288**	**−6.6 %**
Intersect MBO	**62**	**64**	**−3.1 %**
Unknown	**38**	**35**	**0.086**
Liqwid Labs	**16**	**15**	**0.067**
Tweag	**12**	**13**	**−7.7 %**
Well-Typed	**11**	**12**	**−8.3 %**

Insights

1. **IOHK steady at scale** — The small decline (−6.6 %) represents natural variation at high volume, not reduced engagement.
2. **Intersect MBO's continued consistency** — Nearly flat PR output demonstrates sustained operational cadence in its open-source transition.
3. **Community and partner growth** — "Unknown" and Liqwid Labs both posted increases, reinforcing the ongoing expansion of decentralized collaboration.
4. **Mature stabilization among research orgs** — Tweag and Well-Typed's minor dips indicate maintenance and testing cycles rather than reduced participation.


Pull Requests by Organization — September vs August 2025
Pull Requests Submitted
300
250
200
150
100
50
0
August 2025
September 2025
IOHK
Intersect MBO
Unknown
Liqwid Labs
Tweag
Well-Typed

4.b) PR by Projects

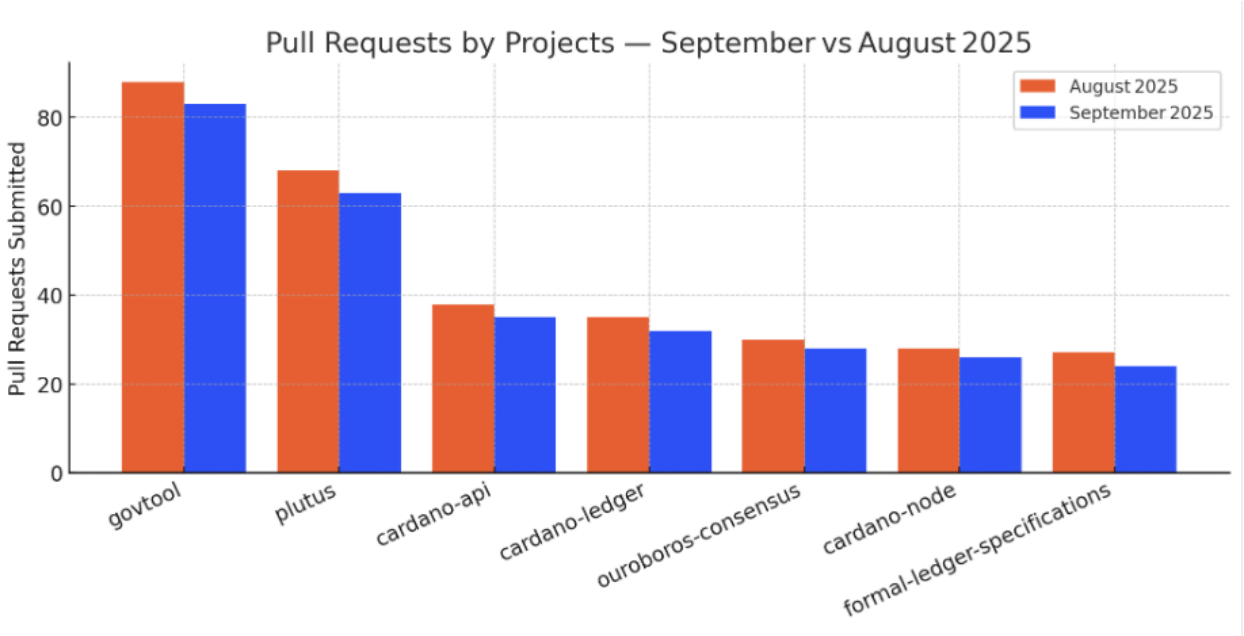
In September 2025, project-level PR activity reflected continued steady engagement across the Cardano ecosystem. Core repositories like *cardano-ledger*, *ouroboros-consensus*, and *cardano-node* maintained strong participation, underscoring sustained protocol-level iteration. Governance and tooling projects such as *govtool* and *formal-ledger-specifications* experienced moderate declines as earlier integration work tapered off. Meanwhile, *plutus* and *cardano-api* held consistent output, illustrating ongoing improvements in developer tooling and API stability.

Comparative Table — September vs August 2025

Repository	September PRs	August PRs	Δ PRs (%)
govtool	**83**	**88**	**−5.7 %**
plutus	**63**	**68**	**−7.4 %**
cardano-api	**35**	**38**	**−7.9 %**
cardano-ledger	**32**	**35**	**−8.6 %**
ouroboros-consensus	**28**	**30**	**−6.7 %**
cardano-node	**26**	**28**	**−7.1 %**
formal-ledger-specifications	**24**	**27**	**−11.1 %**

Insights

1. **Steady protocol engineering** — All core infrastructure repositories sustained strong PR traffic, showing continuity in maintenance and optimization.
2. **Governance work tapering** — *govtool*'s minor decline (−5.7 %) signals the completion of major integration phases from Q3's earlier push.
3. **Healthy tooling cadence** — *plutus* and *cardano-api* maintained balanced activity, reinforcing the stability of developer-facing components.
4. **Specification maturation** — *formal-ledger-specifications* continued trending downward modestly, consistent with a shift to refinement and verification cycles.


Pull Requests by Projects — September vs August 2025
August 2025
September 2025
Pull Requests Submitted
0
20
40
60
80
govtool
plutus
cardano-api
cardano-ledger
ouroboros-consensus
cardano-node
formal-ledger-specifications

5. Analysis of Contributors by Organization

Summary

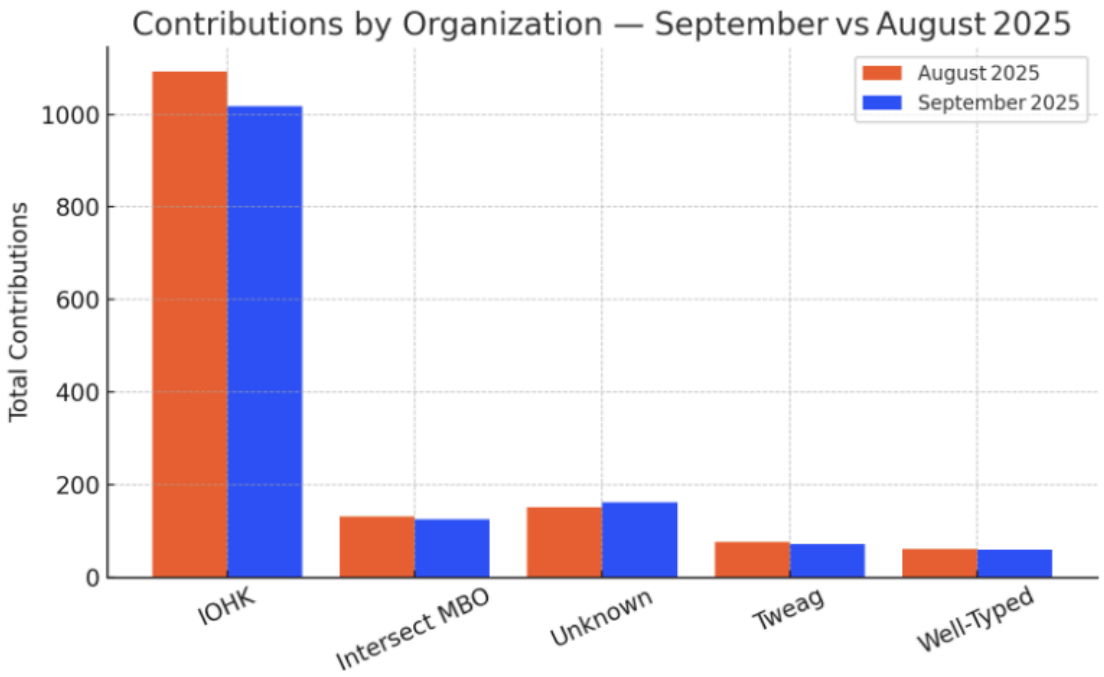
In September 2025, total contributions across the Cardano open-source ecosystem stabilized following August's intense delivery cycle. IOHK continued to lead by a wide margin, though overall output declined slightly as development transitioned into refinement and validation stages. Intersect MBO sustained consistent participation, reflecting stable open-source integration and governance tooling contributions. "Unknown" contributors saw a small uptick, reinforcing the trend toward diversified, decentralized engagement. Partner organizations such as Tweag and Well-Typed maintained balanced throughput, signaling long-term continuity in specialized protocol and tooling efforts.

Comparative Table — September vs August 2025

Organization	Sept Contributions	Aug Contributions	Δ (%)	September Authors	August Authors	Δ Authors (%)
Input Output (IOHK)	**1,018**	**1,092**	**−6.8 %**	**47**	**49**	**−4.1 %**
Intersect MBO	**125**	**132**	**−5.3 %**	**4**	**4**	**0.0 %**
Unknown	**162**	**151**	**0.073**	**23**	**22**	**0.045**
Tweag	**72**	**76**	**−5.3 %**	**4**	**4**	**0.0 %**
Well-Typed	**59**	**61**	**−3.3 %**	**3**	**3**	**0.0 %**

Insights

1. **IOHK's measured cooldown** — The modest −6.8 % dip aligns with the ecosystem-wide normalization phase following August's large code delivery.
2. **Intersect MBO's stable throughput** — Consistent contribution volume highlights a mature rhythm in governance and core integration work.
3. **Community contributor momentum** — "Unknown" participants expanded their share of contributions (+7.3 %), reinforcing ongoing decentralization.
4. **Steady engagement from research partners** — Tweag and Well-Typed sustained near-identical author counts, reflecting reliable continuity across protocol-level research and maintenance streams.


Contributions by Organization — September vs August 2025
August 2025
September 2025
Total Contributions
0
200
400
600
800
1000
IOHK
Intersect MBO
Unknown
Tweag
Well-Typed

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.