

AI Agent Research Notebook Automation System

AAA-RNS

Installation & User Guide

Training material for users at newly licensed companies and institutes

Document no.

AAA-RNS-UG-200

Applies to

v2.0 · August 2026

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Audience

Authors · Reviewers · Data Custodians

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02	Project setup	Upload · review · system generation
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04	Records & support	Ledger · backup · troubleshooting · legal notice

What this software does

STEP 01

Upload the project documents

R&D plans, proposals, KPI tables. PDF, DOCX, XLSX, HWPX, CSV and TXT are read.

STEP 02

A dedicated workspace is built

The project name, period, work packages and KPIs are analysed into a Sprint grid with note slots.

STEP 03

Note drafts are written

Upload lab logs and measurement data, and Work Performed, Result Data and Interpretation are drafted automatically.

No internet — all processing finishes inside this PC.

Zero dependencies — parsers, document writers and charts are all built in-house.

Three languages — 한국어 · English · 日本語 for the screen and the output files.

Official output — sealed notes download as DOCX and XLSX.

Four design principles

A system that cannot write falsehood – blocking comes before generating.

01 No evidence, no entry

Every narrative sentence must map to an Evidence ID [E#] in the ledger. A sentence without evidence cannot be entered.

02 No contradiction with the past

A new note is checked against every sealed note. Overlapping periods, conflicting values and regressions are caught.

03 All gates must pass

G1 evidence mapping · G2 longitudinal consistency · G3 numeric audit · G4 compliance. The four gates are blockers.

04 Immutable once sealed

A sealed note cannot be edited. Changes are made only by issuing a revision (-R#), and the SHA-256 hash chain exposes tampering immediately.

Verification result

1,206,006

Total simulation runs

12 / 12

Cycles executed — cap fully spent

3

Real product defects — all fixed
(analyser · PDF parser · gate)

PASS

Final verdict — approved for
official use

The method is a repeated simulate-find-fix cycle plus end-to-end verification in a real browser. Each cycle runs at least 100,000 iterations, and seeding means the same cycle number reproduces the same result.

Seventeen categories — date and number arithmetic, CSV/DOCX/XLSX round-trips, parser fuzzing, analyser ground-truth checks, adversarial document formats, planted gate defects, hash chain, storage concurrency, auto-drafting, the multilingual dictionary, and the end-to-end pipeline. An automated end-to-end run across every screen and procedure in all three languages also passed with zero defects.

01

Installation & registration

Unzip → start the program → choose a language → activate the license → first-run setup

Requirements · installation · first launch · language · license activation · name, PIN and storage

System requirements

Operating system	macOS 12 or later, or Windows 10 or later
Browser	Chrome or Edge (latest version recommended) – the team Shared Folder feature works only in these two
Extra software	None – Mac uses its built-in Python, Windows its built-in PowerShell
Disk space	About 1 MB for the program, plus record data (proportional to the uploaded originals)
Network	Not required – fully offline (only the optional AI polishing feature contacts an AI service)

Installation

01 You receive two things

The installer AAA-RNS_v2.0.zip, and a license key — one long string or a .lic file.

02 Unzipping is the installation

Extract it wherever you like and you are done. No installer and no administrator rights are needed.

The program on each PC, the records in one folder on the company shared drive — that is the standard setup. What a team shares is the record data, not the program.

WHAT THE ARCHIVE CONTAINS

start_mac.command	Mac launcher — double-click
start_windows.bat	Windows launcher — double-click
sample_docs/	Sample documents to try
docs/	User manual · verification report · installation guide
index.html · js · css · agents	The program itself — do not modify

Starting the program

MAC OS

start_mac.command

Double-click it.

The first time, an “unidentified developer” warning may appear — right-click the file, choose Open, then click Open again.

WINDOWS

start_windows.bat

Double-click it.

If SmartScreen warns you, click More info and then Run.

The browser opens automatically

The address is `http://localhost:8777` .

This server runs only inside your PC and is never exposed externally.

Caution — do not close the server window

The black window that opens alongside is the system's engine.

Leave it open while you work.

Language

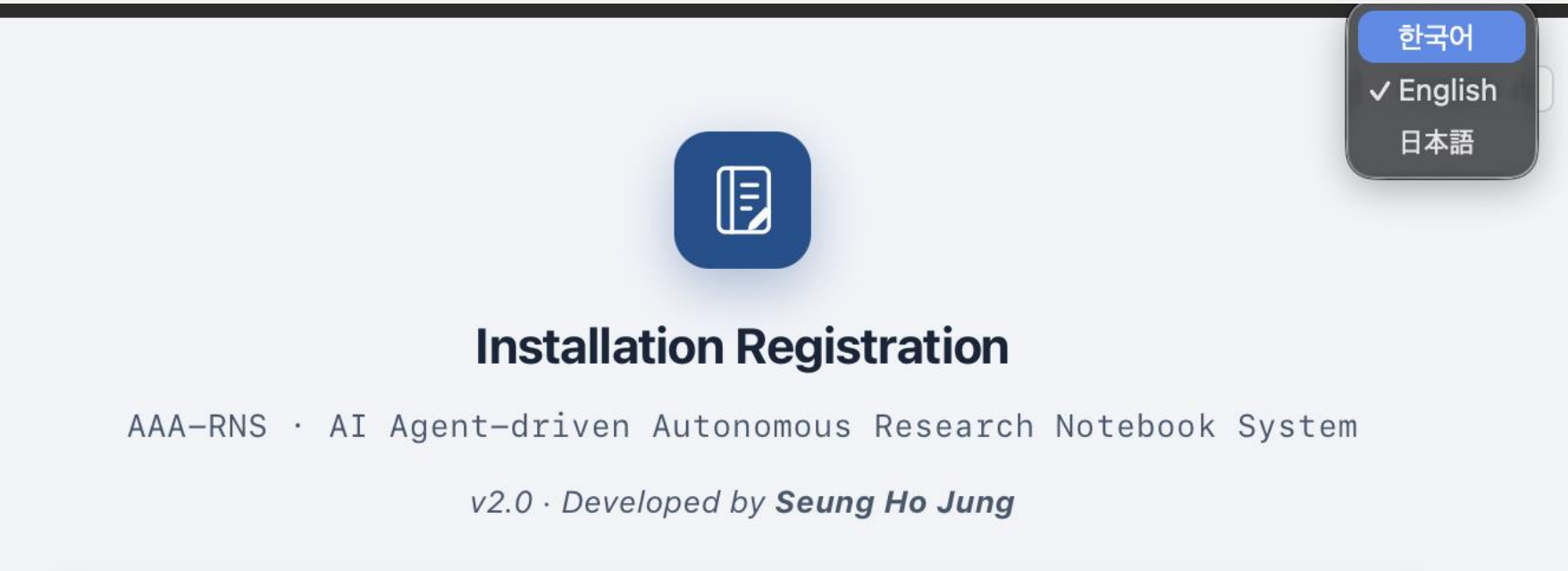


Figure 1 — the language picker at the top right of the first screen
(한국어 / English / 日本語)

Languages

한국어 · English · 日本語. On first run the browser language is detected and selected automatically.

Switching on the first screen

Use the picker at the top right of the license screen — the only way to switch before you enter the app.

Switching while working

Switch any time from the picker at the top right. The choice is saved on this PC.

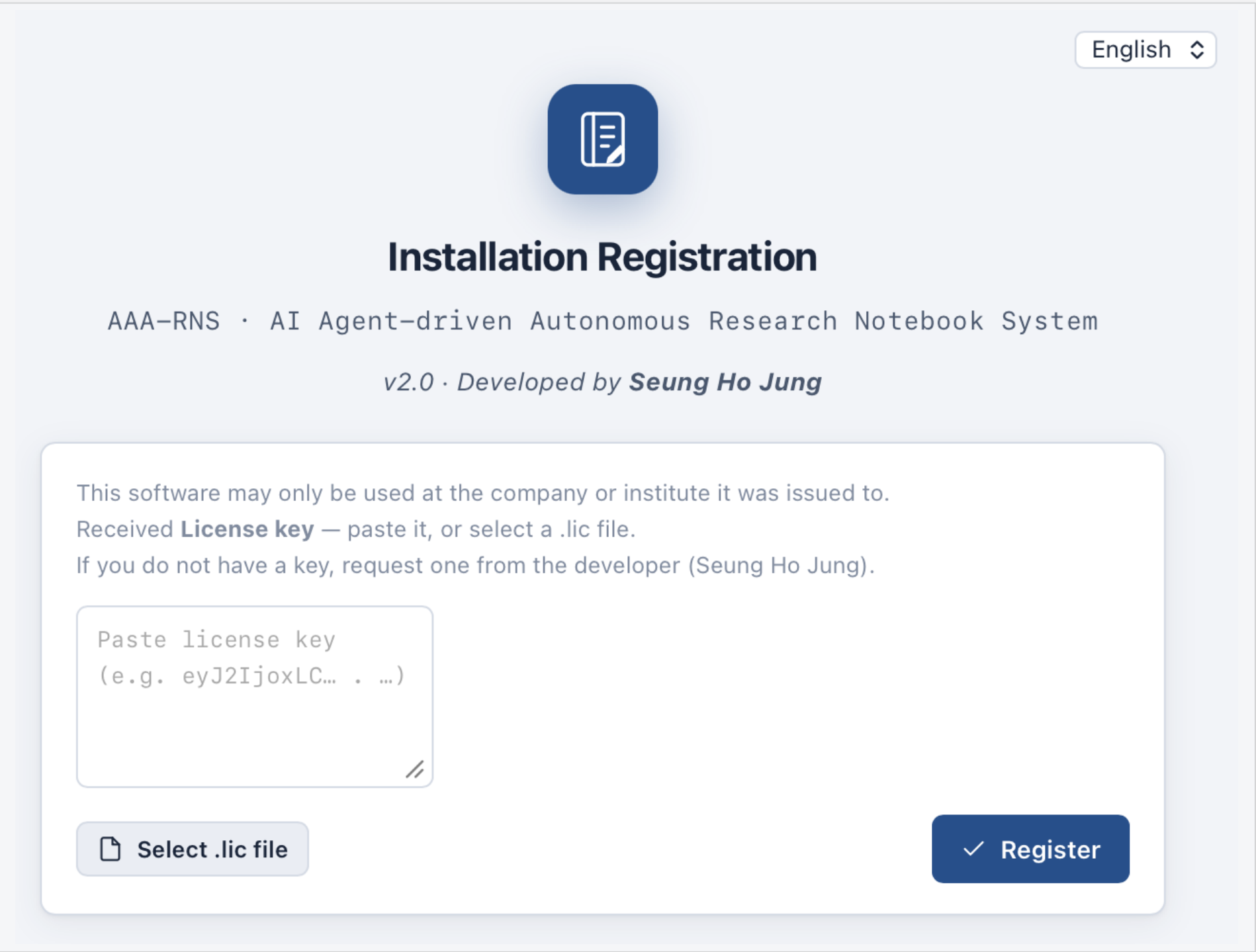
Output files

Field names in the official DOCX and XLSX data follow the selected language too.

Caution

Company data — project names, organisations, people's names, evidence text — is not translated. The originality of the record comes first.

License activation



- 01** Paste the key string into the field, or click **Select .lic file** to pick the key file. Stray spaces and line breaks are cleaned up automatically.
- 02 Register** — click it. Verification by digital signature finishes instantly; no internet connection is needed.

Note

One license = one project. The moment the first project is created the key is bound to that project code; another project needs a new key.

Figure 1 — the license activation screen shown on first launch

First-run setup

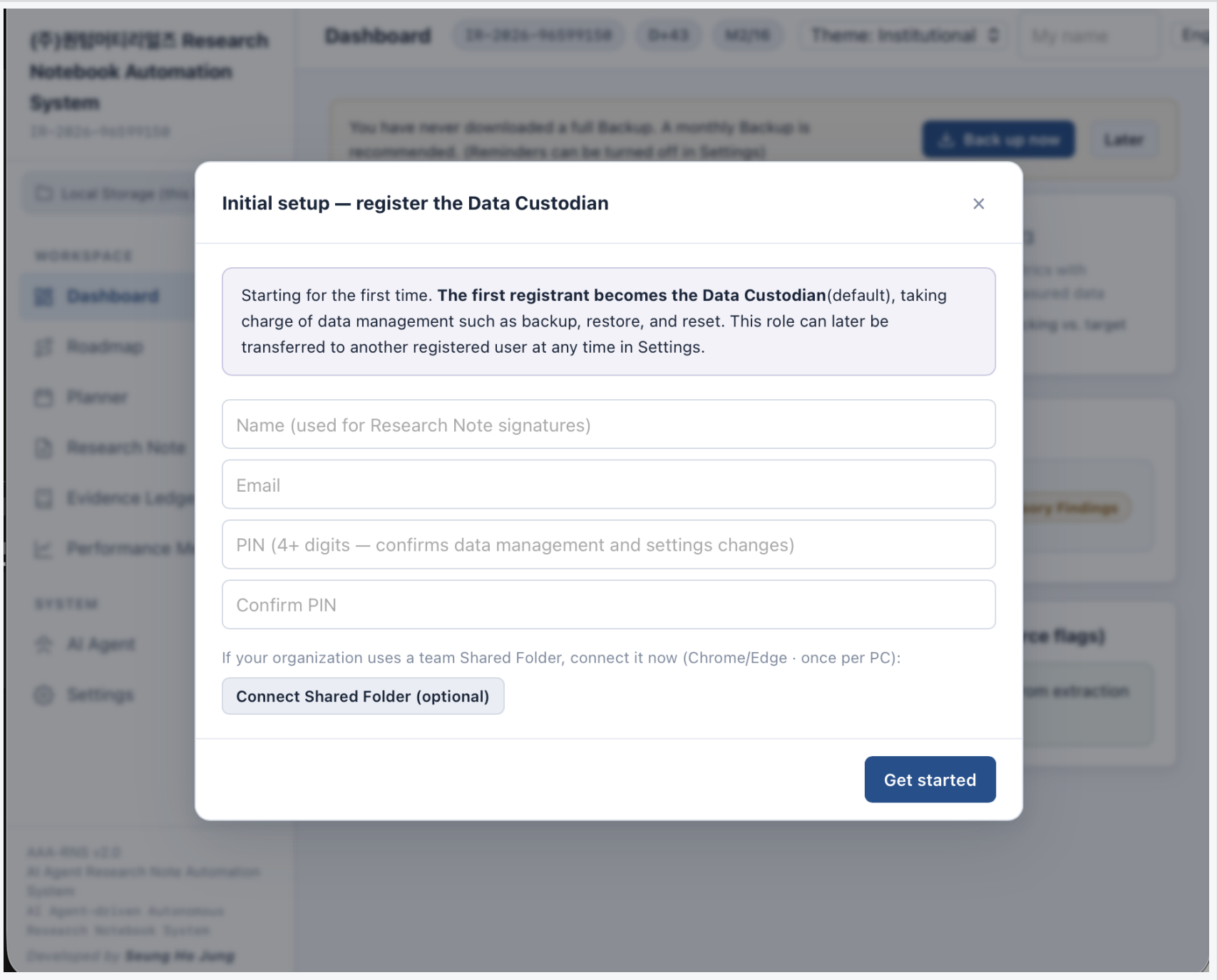


Figure 2 — The first-run setup dialog.
The first registrant automatically becomes Data Custodian

Name • email • PIN

Register the name and email used for note signatures, plus a confirmation PIN of at least four digits.

First registrant = Data Custodian

They hold the backup, restore and reset rights. Later registrants join as researchers.

Shared Folder

If your company works as a team, point this at a folder on the shared drive now — once per PC. The connected storage is always shown at the top left.

02

Project setup

Upload documents → deep analysis → review the extraction → generate the system

The system decides nothing on its own — every extracted value is confirmed by you

Onboarding in four steps

01

Upload documents

Drag plans, proposals, schedules and KPI tables onto the dashed box. Several files at once are fine.

02

Deep analysis

Project name, code, organisation, period, budget, work packages, KPIs, milestones and staff are extracted. Each value carries its source and a confidence level.

03

Review the extraction

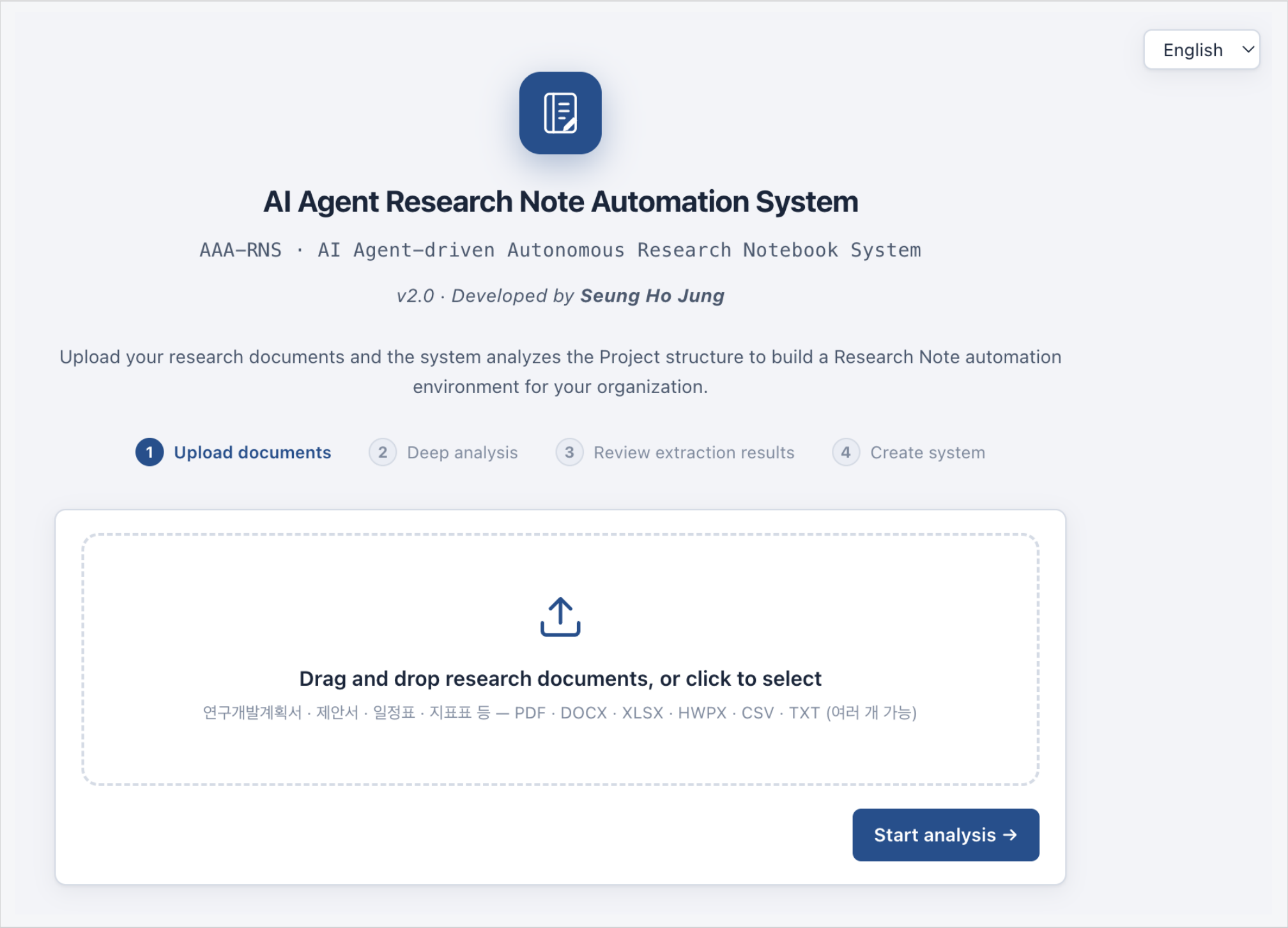
Check and correct each item before continuing. Anything not extracted is marked “needs confirmation”.

04

Generate the system

The research period is broken into biweekly or weekly Sprints, with one note slot per Sprint.

Document upload



What to upload

Documents that describe the project – the R&D plan, the proposal, the schedule, the KPI table.

Formats

PDF · DOCX · XLSX · HWPX · CSV · TXT

Note

To try it first, upload the two sample documents in sample_docs/. Real documents can be uploaded later, after a system reset.

Figure 3 — the upload step. Registered files appear in the list

Review the extraction

AI Agent Research Note Automation System

AAA-RNS · AI Agent-driven Autonomous Research Notebook System

v2.0 · Developed by Seung Ho Jung

Upload your research documents and the system analyzes the Project structure to build a Research Note automation environment for your organization.

✓ Upload documents

✓ Deep analysis

3 Review extraction results

4 Create system

Extracted project info

The system decides nothing on its own — review and edit each item before proceeding.

Project name

High confidence

초정밀 박막 공정 기술 개발

Project Code

High confidence

RS-2030-38354655

Organization (company name)

High confidence

대한정밀화학

Agency / Ministry

High confidence

산업통상자원부

Start date

High confidence

2030-07-01

End date

2032-08-31

Research Note cycle

Biweekly (recommended)

Work Packages (WP) · 5

ID	Name	Extraction confidence
WP1	표면 처리 검증	High confidence

← Choose document again

Create system with this →

The system decides nothing on its own. You are the one who confirms.

What is extracted

Project name · project code · organisation · research period · budget · work packages · KPIs · milestones · staff

Confidence

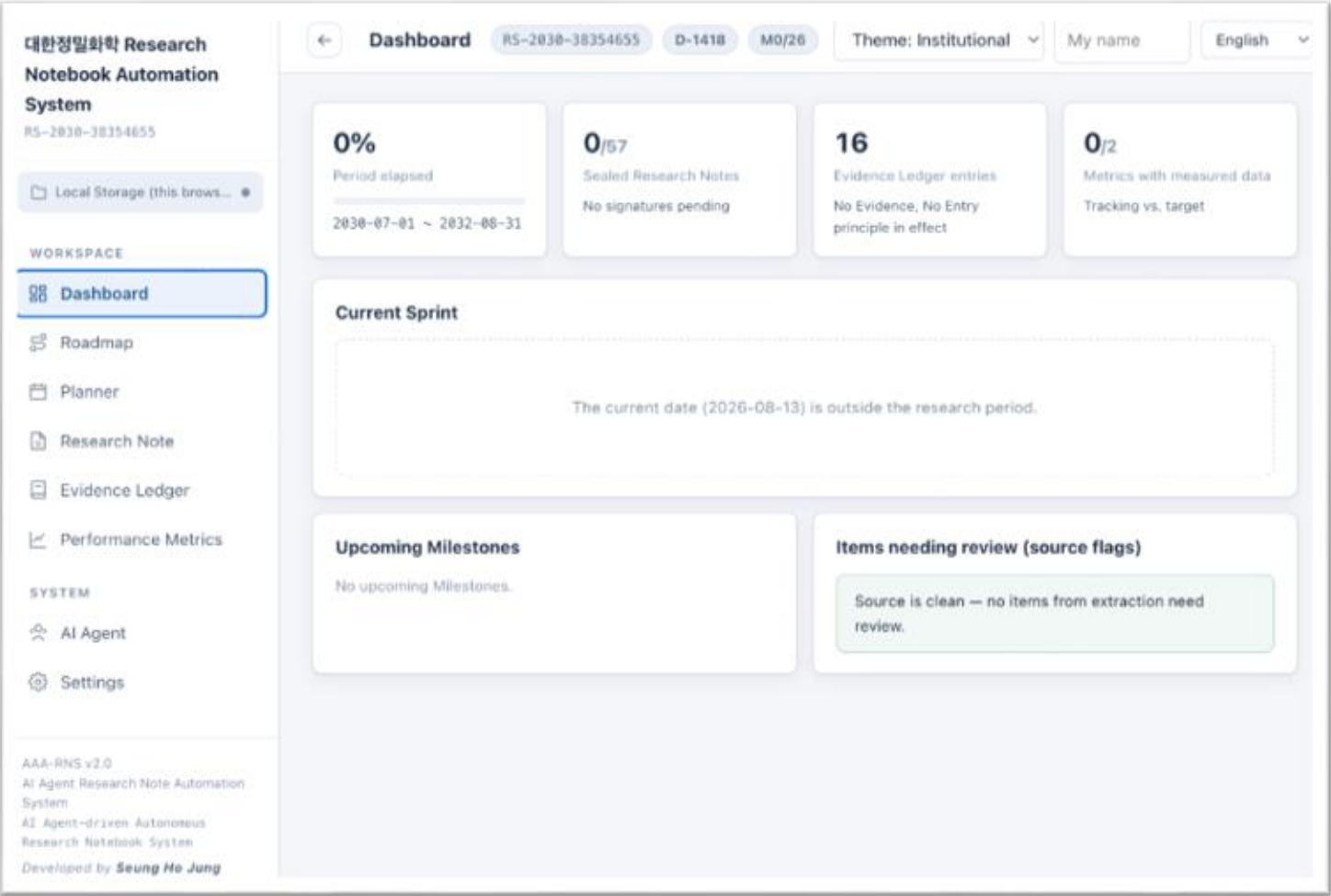
Each item shows high, medium or unconfirmed, with its source (document, location, quotation). Correct anything wrong on this screen.

Next

Press “Create system with this” and the Sprint grid, note slots, KPI dashboard and agent roster are complete. It takes well under a minute.

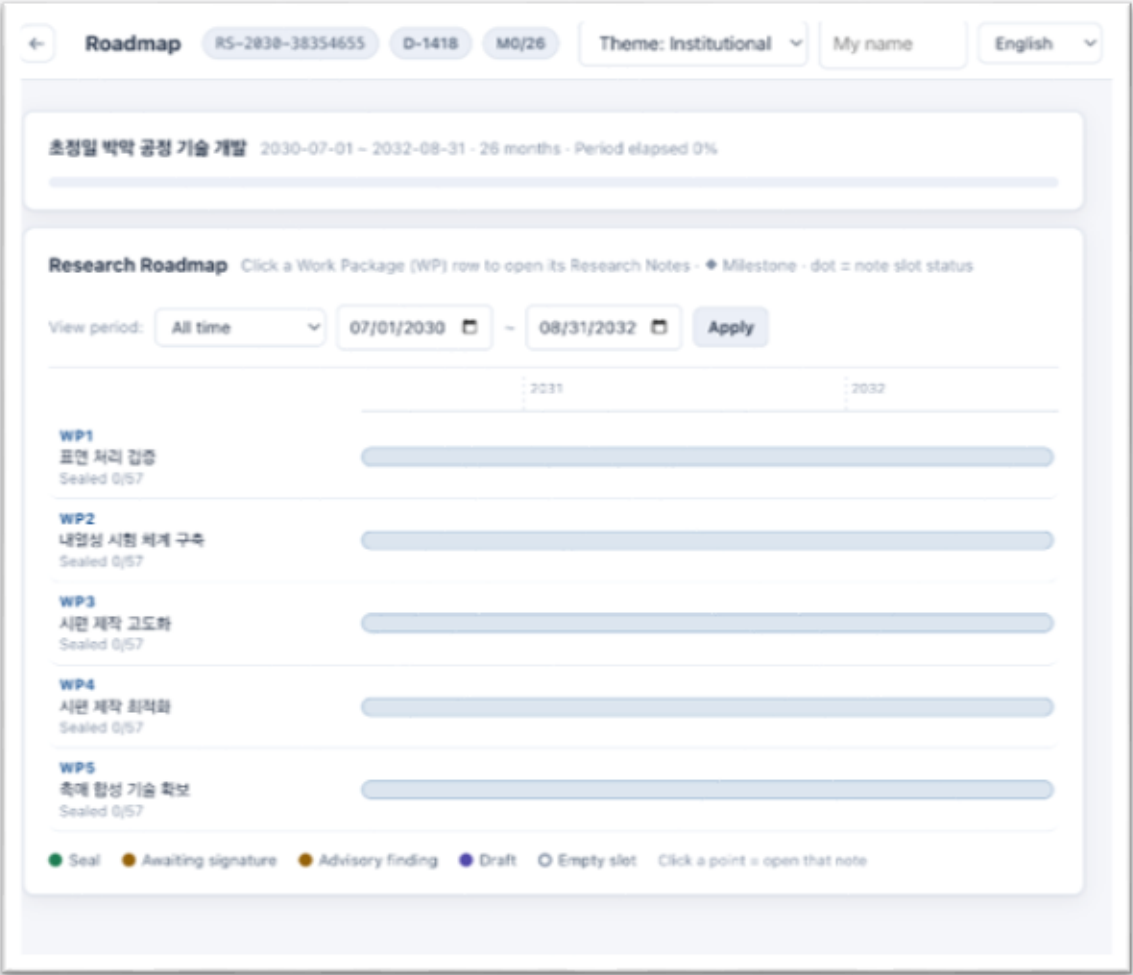
Figure 4 — low-confidence items are badged and require confirmation

The generated workspace



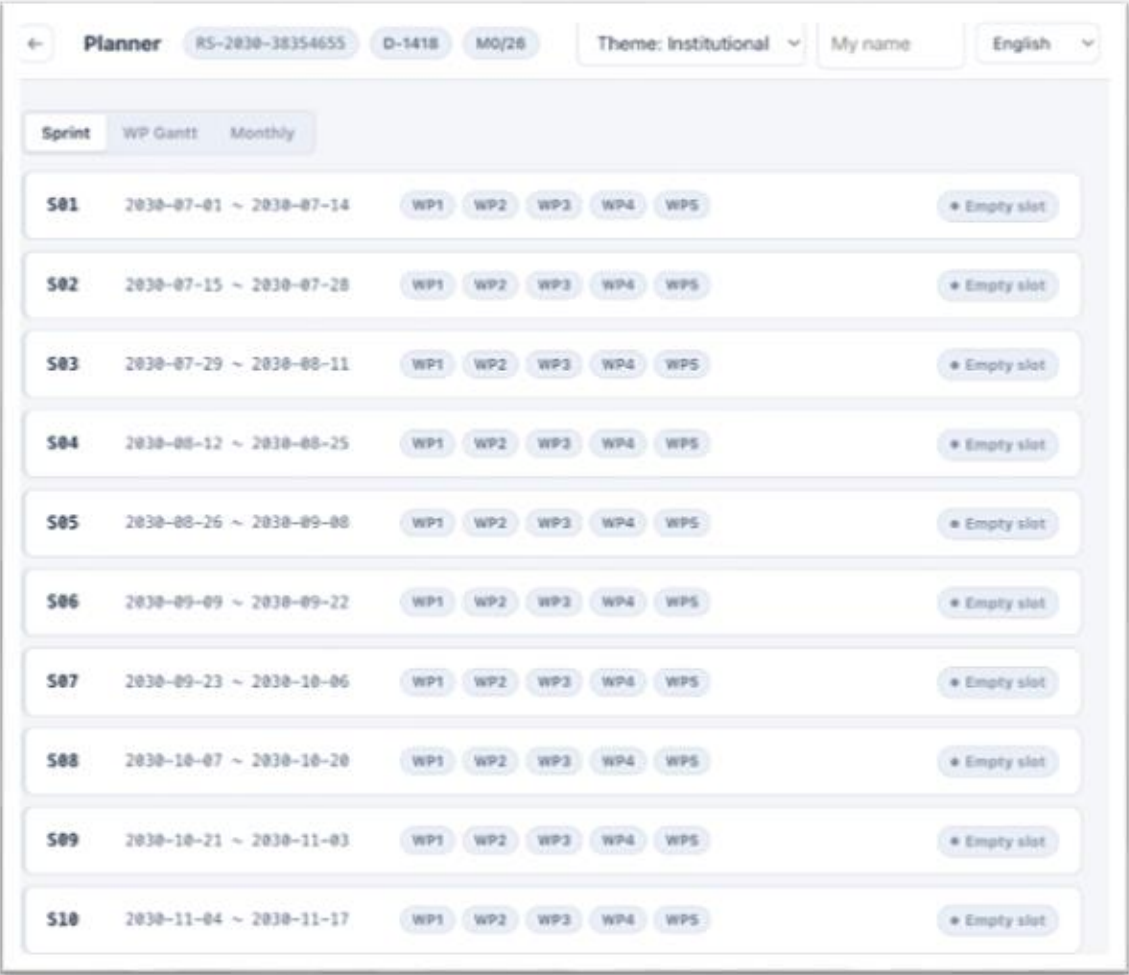
Dashboard

Elapsed period, sealed notes, notes awaiting signature, ledger entries, upcoming milestones and the current Sprint.



Roadmap

Note-status dots sit on each work package's bar — green sealed, amber awaiting signature, navy draft. ♦ marks a milestone, the red line is today.



Planner

The Sprint list. Click a row to open that period's note — one is created if it does not exist.

03

Writing a note

Upload material → register evidence → auto-draft → run the gates → sign → seal

Sentences come only from the evidence text — nothing is invented or summarised

The writing flow

01 Open the note slot

Select that period's Sprint in the Planner or the Roadmap.

02 Register evidence

Upload files to register evidence candidates (each gets an [E#]), or enter a direct statement – a direct statement carries “low” evidence strength.

03 Body and measurements

Cite an [E#] at the end of every sentence, and link measurements to the KPI catalogue and to evidence.

04 Run the gates

Run G1 to G4 for a verdict. Findings are shown with location, reason and remedy.

05 Signing & sealing

The author signs, then the reviewer gives final approval. Self-approval is blocked.

06 Official output

Download or print the official DOCX and the XLSX data.

The order cannot be changed – evidence must be registered before a sentence can exist.

The note editor

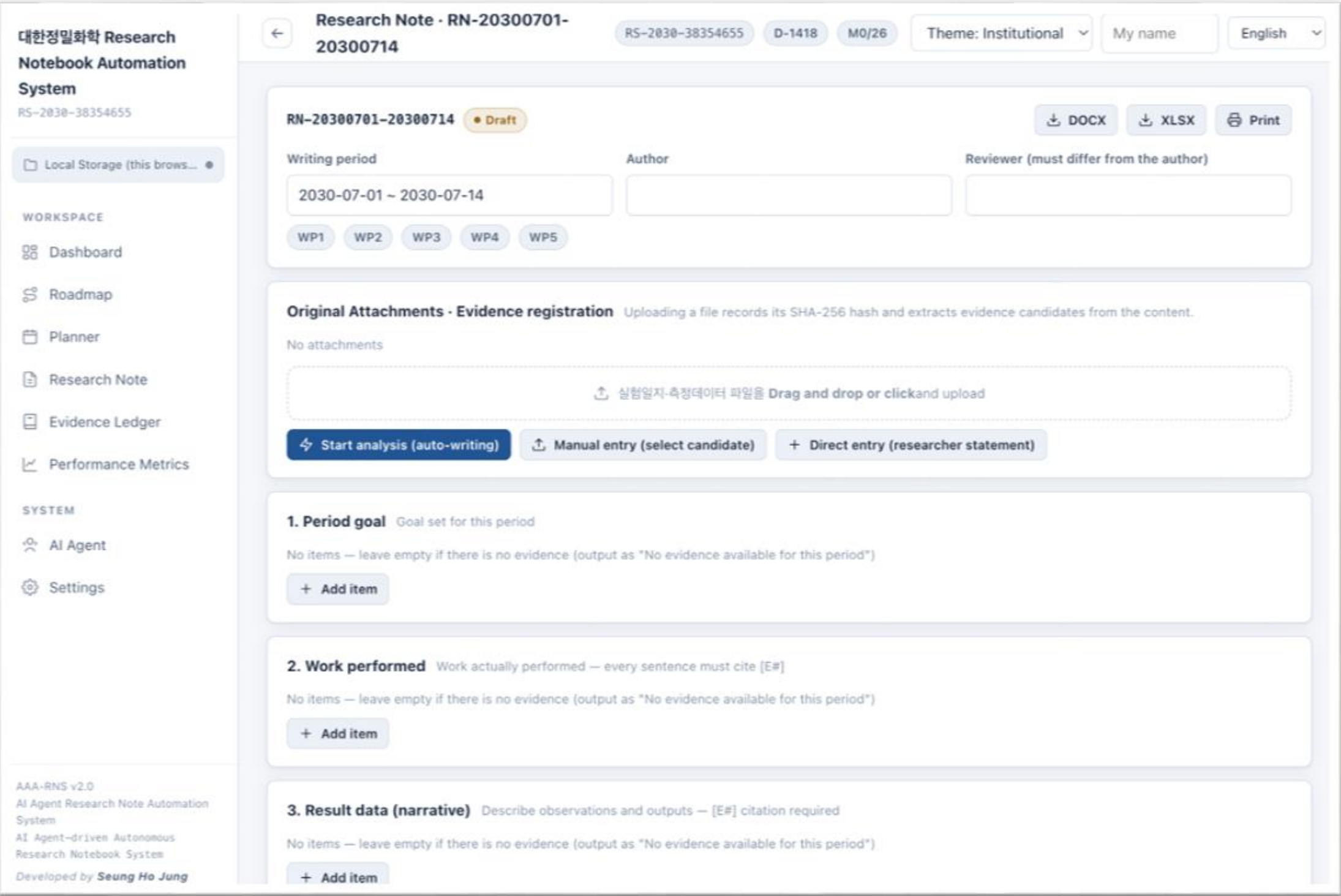


Figure 5 — the note editor. The dashed upload box and “Start analysis” are the way into auto-drafting

Check the period

The Sprint period is shown at the top. That period is the acceptance test for auto-drafting.

Author and reviewer

The reviewer must differ from the author. The system blocks one person from doing both.

Body sections

Work Performed · Result Data · Interpretation. Every sentence ends with an [E#].

Automatic drafting



Figure 6 — auto-drafted Work Performed. The linked evidence number is shown beside each sentence

Work

Performed

Dated activity records inside the period are turned into sentences (+[E#])

Result Data

Measurements are mapped to the KPI catalogue as rows (+evidence links)

Interpretation

Only the arithmetic comparison of measurement against target — no achievement verdict

Rule

Sentences come only from the evidence text. Measurements are never adjusted. If a record's date falls outside the period, the system finds and offers the note for that period — and registered evidence stays in the ledger either way.

Validation gates G1–G4

G1 Evidence mapping	Sentences without an evidence number, citations of IDs not in the ledger, speculative or inflated wording (“successfully”, “about N”, “is judged to”)
G2 Longitudinal consistency	Period overlap with sealed notes, conflicting values for the same KPI at the same time, cumulative KPIs going backwards
G3 Numeric and unit audit	Recomputed totals and ratios, unit notation, percentage range, direction against target, unsupported claims of “achieved”
G4 Compliance	Mandatory e-notebook fields, author = reviewer (self-review), missing attachment hash, body hash mismatch

Two modes	Advisory (default) — the note saves even with findings, which are kept as “items to address”. Required — a single finding sends it back. Switch modes in Settings.
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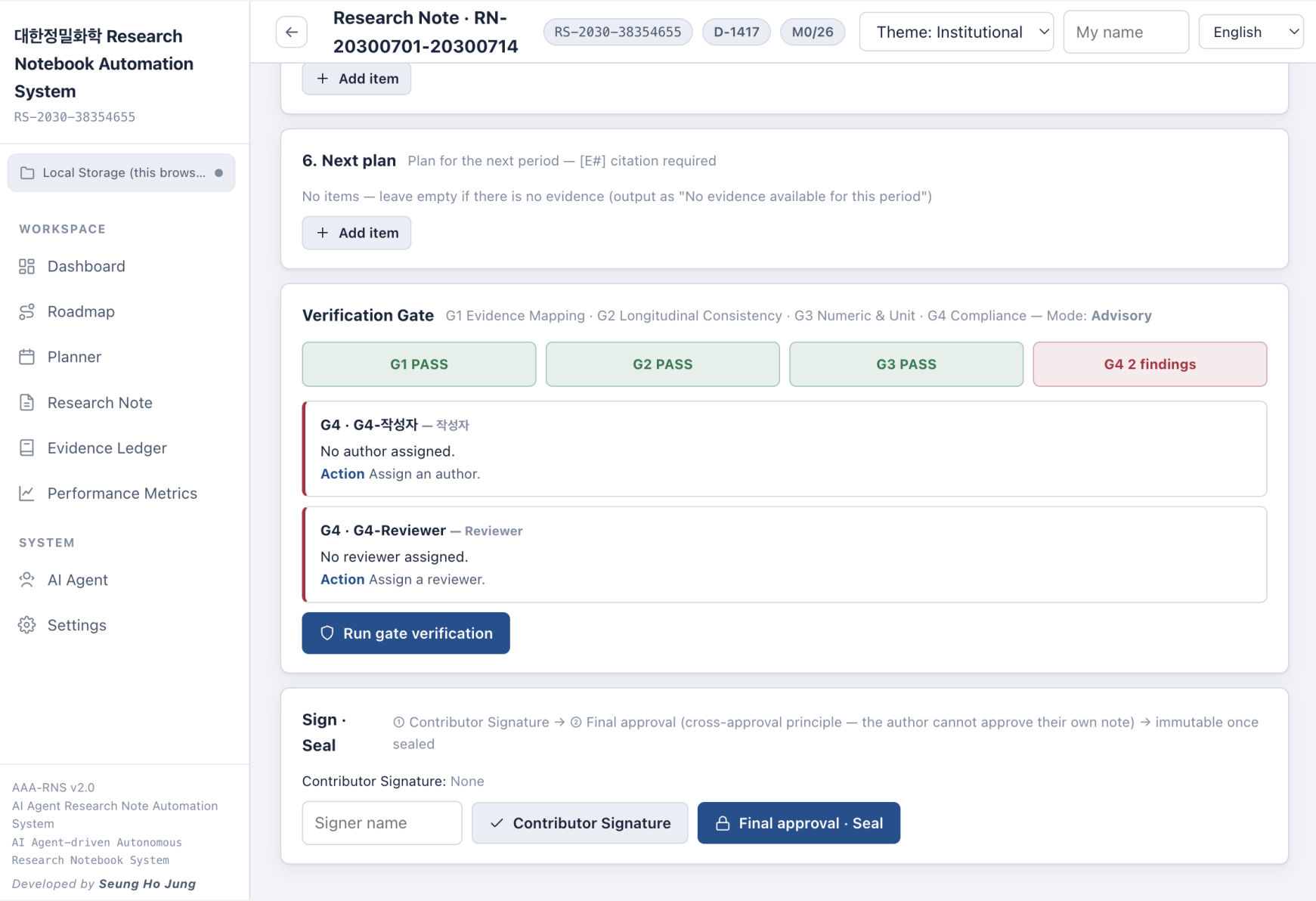
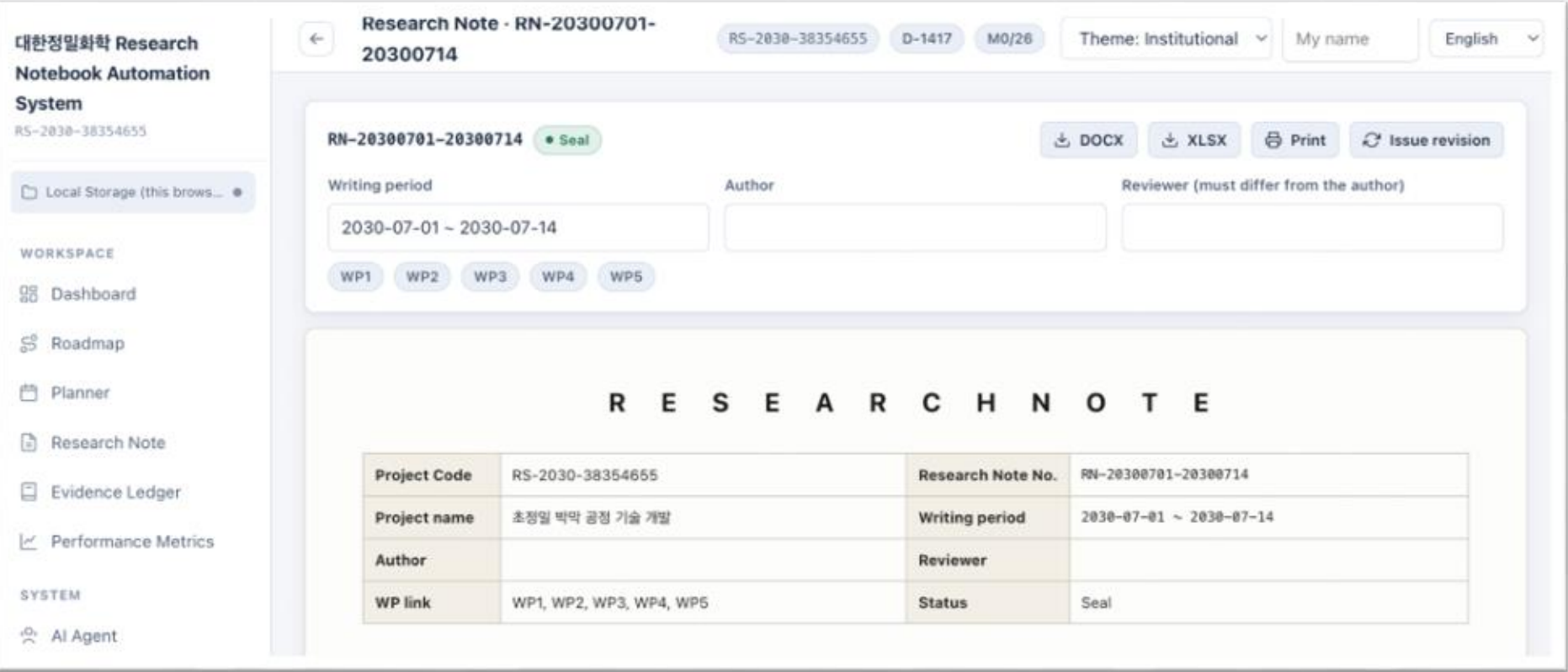


Figure 7 — Three of four gates passed. Findings appear as cards with location, reason and remedy

Signing & sealing



- 01
- The author adds a **Contributor Signature**.
- 02
- Under their own name the reviewer gives **Final approval · Seal** . If the author tries to approve their own note it is refused under the cross-approval principle.

After sealing

No edits — changes only by issuing a revision (-R1, -R2...).

The original JSON and the official DOCX are archived automatically in archive/.

The note's hash is chained to the previous sealed note's hash, so any later tampering shows up in verification.

7. Original attachment list		
File name	Size	SHA-256
실험일지_1주차.txt	1.0 KB	5baa138c378df6de05567e60...
8. Signatures		
Stage	Signer	Time
Contributor	test	2026-08-14T00:52:30.658Z
Final approval	test final sig	2026-08-14T00:53:14.900Z

This document's integrity is verified by SHA-256 hash (not a PKI identity proof).

본문 해시 6e5a2b207f1aea792949f3ae4ed597c1fc6b03090da474fcf1719b6ac382ec9e

확정 해시 8baa2197a768269695a7b105b8b8fc4575245a11dc60f85087ce4631d7db3783

Figure 8 — the official view of a sealed note. DOCX and XLSX download, printing and revision are available here

04

Records & support

Evidence Ledger · KPIs · AI agents · storage and backup · troubleshooting · legal notice

An audit starts at the Evidence Ledger; integrity rests on the hash chain

Evidence Ledger & KPIs

대한정밀화학 Research Notebook Automation System

RS-2030-38354655

Local Storage (this brows... ●)

WORKSPACE

Dashboard

Roadmap

Planner

Research Note

Evidence Ledger

Performance Metrics

SYSTEM

AI Agent

Settings

← Evidence Ledger

RS-2030-38354655

D-1417

M0/26

Theme: Institutional ▾

My name

English ▾

No Evidence, No Entry — Every narrative sentence in a Research Note must map to at least one Evidence ID [E#] in this ledger. Accepted sources: uploaded originals · sealed past notes · proposal extracts.

ID	Type	Content	Source · Location	Register
E31	Statement	2030-07-11 — 반복 측정으로 재현성 확인 작업을 수행하였다	실험일지_1주차.txt Paragraph 15	(Unassigned) 2026-08-13
E30	Statement	2030-07-09 — 시료 3종 준비 작업을 완료하였다	실험일지_1주차.txt Paragraph 13	(Unassigned) 2026-08-13
E29	Statement	2030-07-09 — 1차 측정 및 원시데이터 기록을 수행하였다	실험일지_1주차.txt Paragraph 12	(Unassigned) 2026-08-13
E28	Statement	2030-07-08 — 중간 결과 검토 회의를 진행하였다	실험일지_1주차.txt Paragraph 11	(Unassigned) 2026-08-13
E27	Statement	2030-07-07 — 장비 교정 및 사전 점검을 수행하였다	실험일지_1주차.txt Paragraph 9	(Unassigned) 2026-08-13
E26	Statement	2030-07-05 — 반복 측정으로 재현성 확인 작업을 수행하였다	실험일지_1주차.txt Paragraph 8	(Unassigned) 2026-08-13
E25	Statement	2030-07-05 — 장비 교정 및 사전 점검을 수행하였다	실험일지_1주차.txt Paragraph 7	(Unassigned) 2026-08-13
E24	Statement	2030-07-03 — Measurement conditions 편차 원인 분석을 수행하였다	실험일지_1주차.txt Paragraph 5	(Unassigned) 2026-08-13

대한정밀화학 Research Notebook Automation System

RS-2030-38354655

Local Storage (this brows... ●)

WORKSPACE

Dashboard

Roadmap

Planner

Research Note

Evidence Ledger

Performance Metrics

SYSTEM

AI Agent

Settings

← Performance Metrics

RS-2030-38354655

D-1417

M0/26

Theme: Institutional ▾

My name

English ▾

에너지 효율

● 진행 중

50.3 %

target 63% · Higher is better · 2 measured

63.3

56.6

50.0

M1

M26

특허 출원

● Target met

2 items

Target 2 items · higher is better · actual 1 items

3.0

2.0

1.0

M1

M26

actuals are **Only from measured values in sealed Research Notes** accumulated automatically. No interpolation or extrapolation — missing data is never plotted.

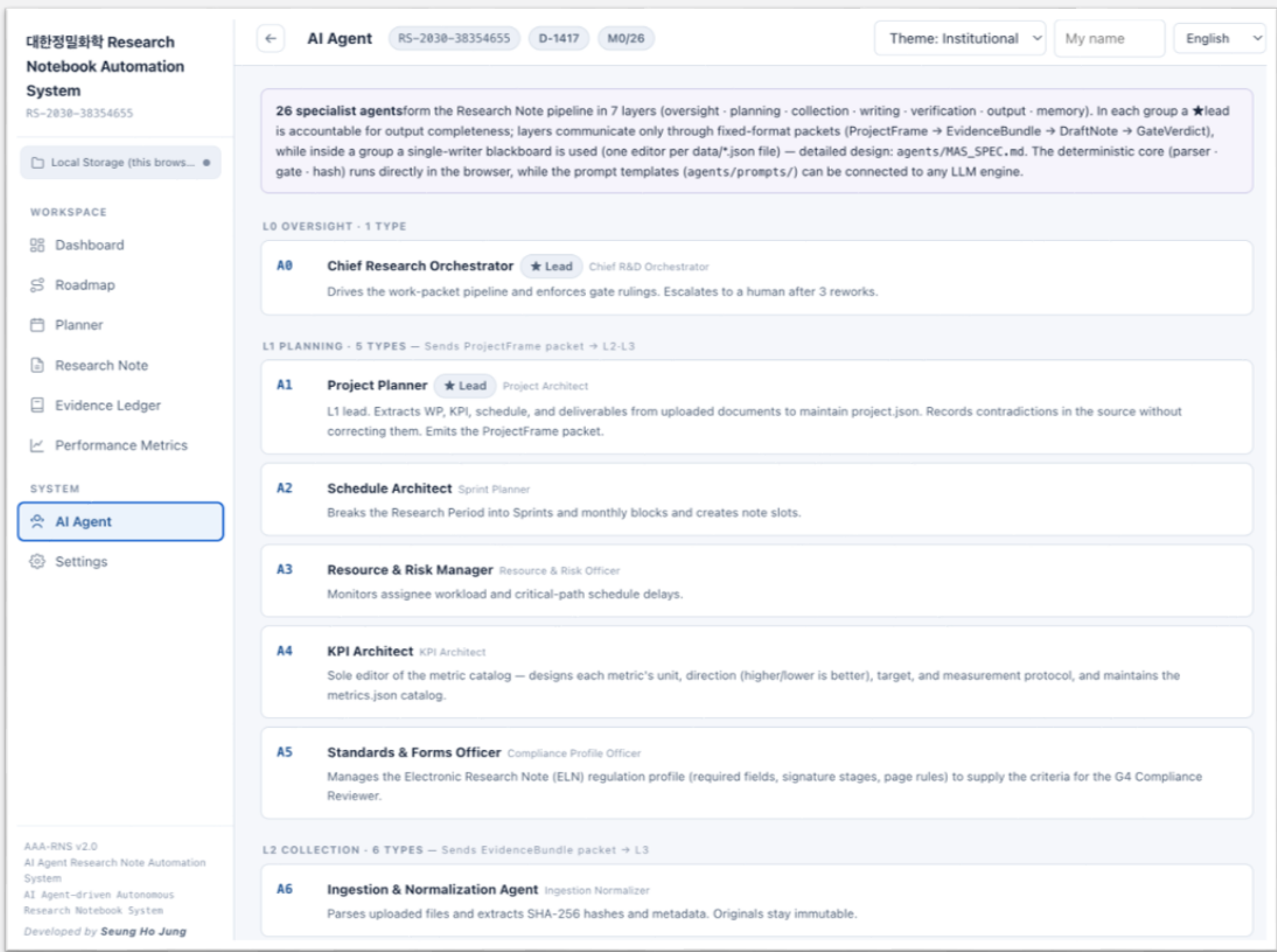
Evidence Ledger

Every fact extracted from uploaded material is registered with an [E#]. Each entry records its kind (measurement, statement, reference), source file, location and hash, so any sentence can be traced back to what supports it.

KPIs

Each time a note is sealed its measurements accumulate per KPI and are plotted against target. Every point is a measured value from a sealed note; nothing is interpolated or extrapolated.

The 26 AI agents



5

Planning

4

Verification

6

Collection

2

Output

6

Writing

2

Memory

Seven layers including one oversight agent. Each group has a lead accountable for the completeness of its output, and layers talk only in fixed-format packets.

The deterministic core (parsers, gates, hashes) runs in the browser without any LLM. Connecting an AI engine is optional, and anything the AI polishes is re-checked by the gates — the authority to block a record always stays with the deterministic core.

Figure 9 — the agent roster. The detailed design is in agents/MAS_SPEC.md

Storage & backup

Local mode (default)

This browser's internal storage. Enough for personal use and trials.

Shared Folder mode (recommended)

All records are stored as real files in the folder you choose. For team work and production use. Handle actual access control through the folder's sharing settings.

Storage layout (identical in both modes)

data/	Project structure · planner · KPIs · audit log (append-only)
notes/	Research notes — status, signatures and hashes
notes_files/	Uploaded original files
ledger/	Evidence Ledger
archive/	Permanent copies of sealed notes — never rewritten by the app

Full backup (.zip, originals included)

A per-file SHA-256 list travels with it. A restore begins only after every file passes an integrity check; if a single byte is corrupt, existing data is left completely untouched.

Frequency

Because every sealing leaves an automatic archive, a monthly ZIP backup is enough. Thirty days after the last backup the Dashboard reminds you. Keep the backups on separate media — an external disk or internal NAS.

Permissions & security

Backup, restore and reset are shown only to the Data Custodian and ask for the PIN again. Fully offline operation (CSP connect-src 'self'), hash-chain tamper detection and an append-only audit trail are standard.

A system reset erases every local record — always take a full

Troubleshooting

SYMPTOM

WHAT TO DO

The browser does not open by itself	Type http://localhost:8777 directly into the address bar.
“Cannot open port” error	Check whether a server window is already running and use that one.
The screen looks wrong or shows an old version	Hard reload — Windows Ctrl+Shift+R / Mac Cmd+Shift+R
The Shared Folder button does nothing	Check that you are using Chrome or Edge. Other browsers do not support folder connection.
Auto-drafting produced nothing	Check that the record dates fall inside the note's period. If they do not, the system offers the right note.
Final approval is refused	Check that the approver's name differs from the author's. Self-approval is blocked by the cross-approval principle.
The license key is reported invalid	Check that the whole key was copied, and if it keeps failing ask the developer to reissue it.

Legal notice

Distribution

This program is public software distributed under the Apache License 2.0. Copyright © 2026 Seung Ho Jung.

Liability of developer and distributor

The developer and distributor bear no damages and no legal liability arising from the use or inability to use this program.

As Is

The software is provided “as is”, without warranty of any kind.

Responsibility of the user organisation

Managing, backing up and securing the record data, and complying with applicable regulations, are the responsibility of the user organisation and its users.

Getting started – the first 30 minutes

0-5 MIN

Install and activate

Unzip → double-click the launcher → choose a language → activate the license → register name and PIN

5-10 MIN

Create the project

Upload sample_docs → review and correct the extraction → generate the system

10-20 MIN

First note draft

Open a Sprint in the Planner → upload the lab log and measurement CSV → auto-draft

20-30 MIN

Seal and export

Check the gate verdicts → sign → cross-approve and seal → download the official DOCX

Further reading

docs/Installation_and_User_Guide.pdf – every step, with real screen captures · docs/User_Manual.md · docs/Verification_Report.md

Contact

For license issuance or reissuance and technical questions, contact the developer, Seung Ho Jung.