

The Syntagma Platform

Layer model of a free research infrastructure — from the basement lab upward, docking on instead of building twice

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STATUS & VERIFICATION

Working state. Statements on external infrastructures (section 2, references) reflect the documented state 2025/2026; Octopus was re-verified currently, the others are to be checked against the project sites before a publication version. No completeness of the landscape is claimed.

1 THE CLAIM: AN INTERFACE THAT DOES NOT EXIST AS SUCH ---

Research costs — time, equipment, access, knowledge of the paths. Who can afford it still depends substantially on parental home, title and institution. The Syntagma platform is directed against exactly this dependence: **a connecting point between academics and non-academics, between disciplines, sectors, hobby, private, trade and industry** — without affiliation requirement, without paywalls, without secret knowledge, all on the same level. Independent as a workshop, at the same time umbrella and background service for others: research input, networking, mediation, advice, advocacy for open science. Generalists seek specialists and other generalists; DIY research is connected with institutions instead of set against them. Radically open — and strictly legal: diamond open access instead of circumvention, disclosure instead of head start.

2 HONEST LANDSCAPE: MUCH ALREADY EXISTS – AND THAT IS GOOD ---

Whoever designs a free research platform must first acknowledge what the open-science world has already built, and must not duplicate it:

- **Identity:** ORCID gives every person a free, persistent researcher identifier — without an institution.
- **Archive & DOI:** Zenodo (CERN) accepts every research object free of charge and issues citable, versioned DOIs, for everyone.

- **Open metadata:** OpenAlex provides the catalogue of world research as a free database with an open API.
- **Modular work chain:** Octopus (Jisc/UKRI-funded) publishes research as eight linked units — problem, hypothesis, method, data, analysis, interpretation, application, review — free of charge, in any language, via ORCID login and explicitly open to researchers outside academia. It is the closest relative of the master chain conceived here.
- **Workflow & lab notebook:** OSF (Center for Open Science) for projects and preregistration; eLabFTW as an open-source, self-hostable electronic lab notebook; protocols.io for methods.
- **Open hardware & community labs:** the GOSH movement and the CERN Open Hardware Licence for instruments; community labs such as Genspace (New York) as proof that safe, public lab work outside institutes works.
- **Assessment reform:** DORA and CoARA against metric fixation; PREreview for open review including by the non-established.

Consequence as building principle: dock on instead of building twice. Identity, DOIs, metadata, publication chain — all of this is used, not rebuilt.

3 WHAT THE OWN WORKSHOP ALREADY COVERS

In parallel there exists an own, open-source tool family with a shared exchange format — individual instruments that already map onto the stages of the master chain:

STAGE	EXISTING EXTERNALLY	OWN TOOLS	GAP
Access / literature	OpenAlex, DOAJ	WissensHof (OA meta-search, 8 APIs), research workflow tool	–
Theory / analysis	Octopus (problem/hypothesis)	PRISM, ADP lens, pattern library	–
Experiment	eLabFTW, protocols.io, GOSH	–	connect, do not rebuild
Evaluation / checking	PRereview, Octopus review	ETHOSLAB, WertKompass, NOSCERE, iteration checker	–
Fine-tuning / feedback	versioning (Zenodo, Git)	workshop control loop, concordance method	–
Data / database	Zenodo, Dataverse	work register, checksum practice	–
Connection / relations	citation graphs (intra-field)	Myzel / knotenwerk	cross-discipline relations
Participation / reputation	–	RETURN (protocol), reputation module (in progress)	does not exist externally
Interface academia↔DIY	only fragments	Syntagma as a whole	the actual gap

4 THE REAL GAP

Honestly examined, three fields remain that no existing platform occupies:

1. **The overall interface.** There is open identity, open archives, open publication chains — but no place that connects academia and DIY, hobby and industry, all disciplines and languages *as one continuous chain*, with translation and intelligibility as acceptance criterion. The parts exist; the connecting point is missing.
2. **Participation upon monetisation.** No existing system couples free use with a fixed backflow once money is earned (RETURN, thesis paper P3) — the open-source world debates sustainability but has

no discretion-free participation mechanism.

3. **Relations instead of citations.** Citation graphs connect papers within the scholarly world; the knotenwerk connects heterogeneous works — theory, device, dataset, manual — across discipline and format boundaries as explicit, consultable relations.

5 THE LAYER MODEL

From this follows the architecture: at the base the **transdisciplinary main layer** — open access for all, the layer of mutual understanding; above it the **master chain** theory → experiment → evaluation → fine-tuning → data/database, feedback-coupled; across it the two binding layers **connection** (knotenwerk, translation) and **participation** (RETURN, reputation); beneath, the **docking points** to the open world. Specialisations and refinements grow layer by layer on top — following the questions' needs, not a plan.

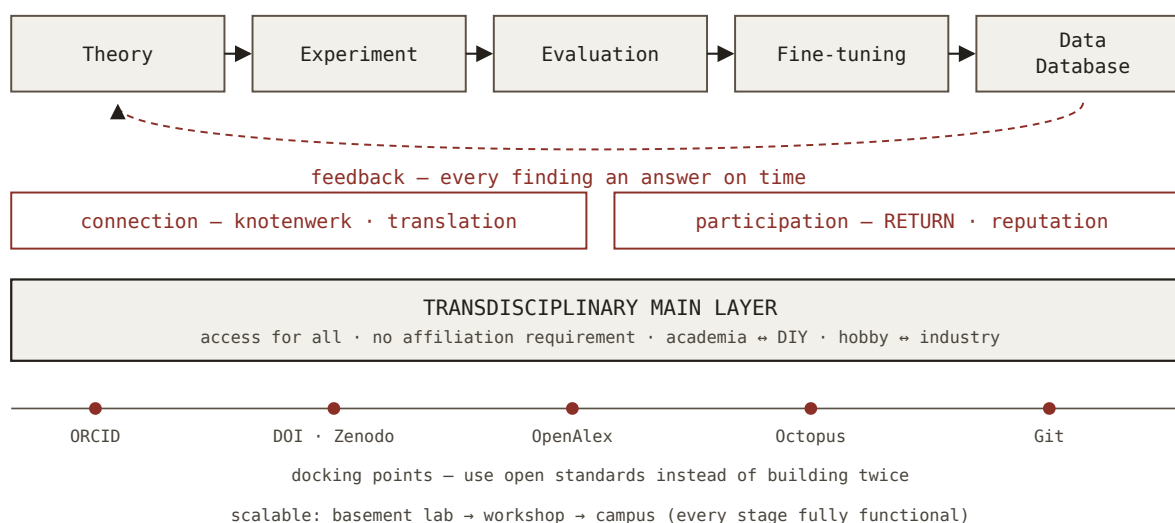


Fig. 1 – The layer model: master chain feedback-coupled, binding layers connection and participation, transdisciplinary main layer, docking points onto open standards.

Scaling without a break: the same structure carries from the basement lab through the shared workshop to an own campus. Every expansion stage is fully functional — only the reach grows, never the access barrier. Capital accumulates differently here: not as the head start of a few, but as a common stock of instruments, data, works and skills, openly accounted — input and output transparent.

- **Dock on instead of duplicating:** ORCID for identity, Zenodo for DOIs, OpenAlex for metadata, the Octopus model for the modular work chain, Git for versions.
- **Portable and sovereign:** statically generatable, self-hostable, EU-suitable, without lock-in; every module replaceable and forkable (AGPL).
- **No information advantage:** everything the platform knows, everyone knows — instructions, budgets, failures included.
- **Intelligibility as sign-off:** what only one discipline understands is unfinished (system paper §3).
- **Limits:** no paywalls, no arms — not via partners either.

→ FURTHER

The operating order behind this model: [system paper "The Syntagma System"](#) · the usage order: [thesis paper "The Order of Sharing"](#).

§ REFERENCES (SELECTION, STATE 2025/2026)

Octopus – octopus.ac (Jisc & Octopus Publishing CIC; 8 linked publication types, ORCID login, free, language-open).

Zenodo – zenodo.org (CERN; free DOIs and versioning for all research objects).

OpenAlex – openalex.org (open research catalogue with free API).

ORCID – orcid.org (free, persistent researcher identifier without institutional binding).

OSF – osf.io (Center for Open Science; projects, preregistration).

eLabFTW – elabftw.net (open-source, self-hostable lab notebook) · protocols.io (methods).

GOSH – openhardware.science · CERN OHL – ohwr.org (open hardware).

Genspace – genspace.org (community lab, New York).

DORA – sdfora.org · CoARA – coara.eu (research assessment reform) · PREReview – prereview.org.