VCH overview

Project Overview

Lessons Learned:

- Structure matters more than ambition
- Constraints reveal priorities
- Students need working AI-tools, not systems
- Students need active support, not just a workshop
- Failures teach if documented
- Local infra works, but needs support
- Collaboration drives progress

Skills & What’s Working:

- Full AI stack deployment (OpenWebUI, Qdrant, n8n)
- Reproducible R workflows (RStudio, Docker)
- Real-use workshops + mentorship
- Proposal writing and stakeholder engagement
- Active collaborations gaining traction

Current Workstreams and Collaborations

□ Infrastructure:

- VCH LLM stack (OpenWebUI, Qdrant, n8n)
- DAT Linux for reproducible setups
- Nextcloud for shared docs
- RStudio workflows in progress

□ Education & Workshops:

- AI workshops based on real failures
- Mentoring students with ready-to-use tools
- Focus on prompting over building
- Toward an AI learning track

□ R&D:

- Tool testing (Far.AI, AI Scientist)
- R-based reproducibility pilots
- Mapping AI for research workflows

□ Collaborations:

- AgUnity (Clearroots) Stefan

- Thomas Mazuiri (VCH-Infra),
- Torsten Raudssus (Supplylens), Thomas Dik
- SCF NICE (grant/pilot) Luka Westergeest

Agenda – VCH Lab Update

1. □ LLM Infrastructure for Students
2. □ General Tooling & Self-Hosted Stack
3. □ Reproducible Research Environment
4. □ Practical AI Workshops & Use Cases
5. □ AI-Supported Student Projects

1. □ SupplyLens – Supply Chain Mapping Tool
2. □ Experimental AI Tool Testing (Far.AI, AI Scientist)
3. □ ClearRoots – Compliance Platform (SCF NICE)
4. □ ClearPaper – Template Proposal (SCF NICE)
5. □ Key Collaborations & Workstreams

1. VCH Infrastructure – LLM for Students

▯ Goal:

Enable students to use local LLMs for assignments, feedback, and learning.

▯ Why:

A local LLM stack enables:

- Secure research with real data
- No reliance on cloud services
- Independent student experimentation

▯ Accomplished:

- Running OpenWebUI-based LLM environment
- Hosted on a local-controlled server
- Integrated tools: Qdrant, n8n, pgvector, dashboards

▯ Now Possible:

- Memory-enabled AI workflows

More info:

- VCH-Infra

▯ Next Steps:

- Broader student adoption
- Classroom integration
- Real use case development

▯ Help Needed:

- Budget for TOKENS to run larger models
- Personal costs are unsustainable
- Need focused hours to maintain and improve
- Requesting support and validation of direction

2. VCH Infrastructure – General Tools

 Goal:

Provide infrastructure with built-in tools so students can quickly ideate and prototype.

 Why:

A seamless environment helps students move from ideas to experiments without technical barriers. Accomplished:

- AI stack fully deployed
- Nextcloud environment live
- DAT Linux system in full testing

 Next Steps:

- Tighter integration of AI tools with DAT Linux
- Enable AI features inside Nextcloud
- Launch a documentation server using Nextcloud

 Help Needed:

- Hands-on testing of tools and flows
- Feedback on missing functionality
- Time to improve reliability
- Support to validate that this is the right direction

3a. Reproducible Research – Infrastructure & Purpose

 Goal:

Enable researchers to build, test, and share repeatable experiments — data, code, and results.

 Why:

- Reproduce prior research
- Run simulations
- Build on each other's work

  AI is only useful in research when workflows are reproducible.

 Accomplished:

- Stack deployable with DAT Linux, Docker, systemd
- RStudio Server tested and running

 More Info:

VCH-Datasharing GitHub

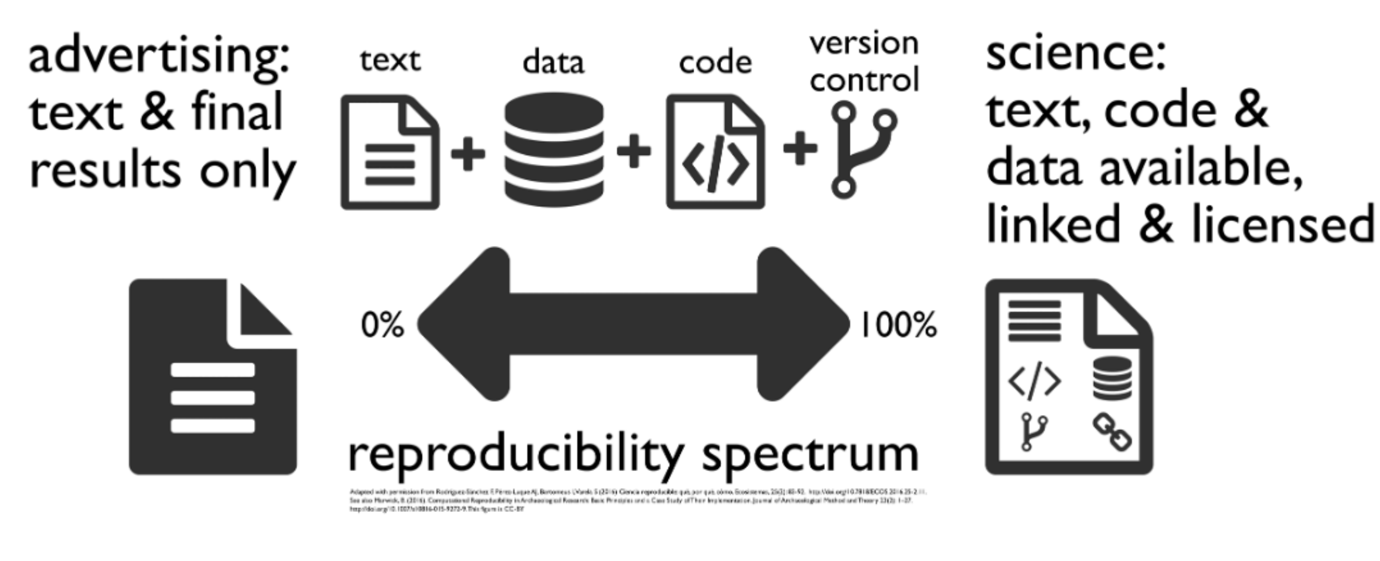
3b. Reproducible Research – What's Next

 Next Steps:

- Build integrated workflows with RStudio
- Apply data stewardship practices

 Help Needed:

- A real research case to reproduce
- Time to document and test
- Support and validation to proceed



4a. Practical AI Use Cases & Workshops

 Goal:

Teach students how to use AI tools effectively — with a clear view of their limitations.

 Why:

AI is overhyped. In reality:

- Makes mistakes
- Lacks reasoning & context
- Struggles with memory & coherence

  Students must learn to test and contain AI — not trust it blindly.

 Accomplished:

- Workshop repo created
- First sessions delivered
- Failures (Knopenkoning, Inchainge) used as learning cases

- Summarizing large volumes of literature
- Generating and refining hypotheses from data
- Automating data cleaning and preprocessing
- Drafting sections of reports or papers
- Running simulations or optimizing parameters

4b. Practical AI Workshops – Next Steps

 Next Steps:

- Translate IBM-based material into practice
- Teach “data-to-reality” translation
- Establish recurring feedback-driven workshops

 Help Needed:

- Integration & network engineers
- Student testers
- AI meetup facilitators
- Co-builders for use case development

Figure 1. Workflow

5a. AI-Supported Student Projects

Goal:

Support student-led projects by giving them AI tools that just work — not expecting them to build infrastructure.

Why:

As Maxime noted: most students can't build their own AI pipelines.

Instead, we:

- Provide end-user-facing tools (not just chatbots)
- Focus on prompting, saving, processing
- Teach how to integrate internal and external tools

Examples:

- VCH-Lithium
- VCH-BCM

Accomplished:

- Built 2 full AI-driven websites
- Went beyond student-only capacity
- Showed AI mentorship accelerates outcomes

5b. AI-Supported Student Projects – What's Needed

Next Steps:

- Showcase student outcomes
- Build an AI mentorship track
- Identify and guide new use cases

Help Needed:

- Allow expert-student collaboration
- Fund tokens for large models
- Stop comparing local to OpenAI
- Let trusted externals connect (e.g. Discord)
- Formalize Value Chain Hackers: KvK, domain, mandate
- Build a student team around AI dev

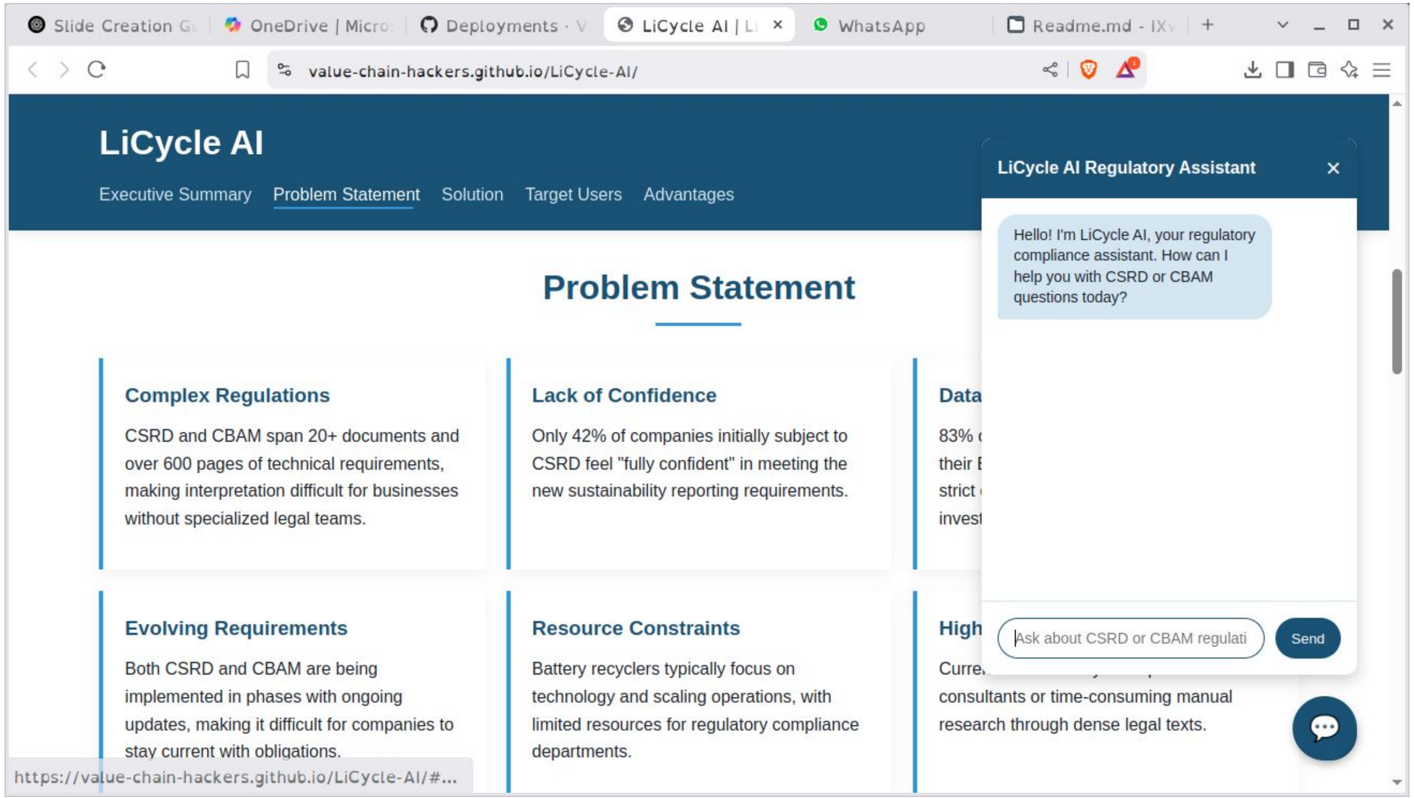


Figure 2. Licycle, a generated website for the students with CLINE

6. SupplyLens (formerly Knopenkoning)

 Goal:

Map complex supply chains using AI, ESG data, and graph tech.

 Why:

- CSRD/CSDDD compliance
- Risk mapping & traceability
- Real insight into supply chain complexity

 Why Now:

- Lessons learned (Sebastien)
- New, realistic architecture
- Community and AI support

 Next:

- Approval to start
- Time for focused dev
- Scrum team permission

 Needed:

- OK to involve external contributors
- Spin-off status (KvK, domain)
- Small budget (< €5K)
- Space to test with externals

7. Experimental Tool Testing – AI Scientist, Far.AI

Goal:

Explore cutting-edge AI tools for scientific workflows — like multi-step reasoning and automated research tasks.

Why:

- Keep Windesheim on the frontier of AI
- Explore tools that can:
    - Simulate cyber attacks
    - Generate PhD-level outputs
    - Automate reasoning chains

      These tools could reshape how research is done.

Next Steps:

- Test 3 tools for research potential
- Document barriers & integration paths

Help Needed:

- Budget for tokens to evaluate properly
- Time to explore experimental edge cases
- Space to collaborate with research teams

Accomplished:

- Reviewed AI Scientist & Far.AI
- Identified promising capabilities
- Repo bookmarked:
    - GitHub – AI Scientist (aci)

8. Project Proposal – ClearRoots

 Goal:

Support smallholders and importers in complying with EU laws (CSRD, CSDDD, EUDR).

 How:

- Mobile app collects local field data
- Data stored via AgUnity blockchain
- Auto-generates EU-compliant documents
- Importers get ready-to-submit dossiers

 Status:

- System logic + pilot flow drafted
- Partners: AgUnity, Windesheim, SCF NICE
- First pitch deck + 1-pager ready

 Why:

- Smallholders lack tools
- Importers lack clarity
- Solves both without greenwashing

 Needed:

- Funding or co-dev support
- Help writing grant proposal
- Grant writer or funding partner

ClearRoots fills a legal-tech gap with real partners and real field logic. It’s ready to move — with the right support.

9. Project Proposal – ClearPaper

▯ Goal:

Create standardized templates to help actors comply with EU laws (CSRD, CSDDD, EUDR).

▯ Why:

- No shared definition of “compliance”
- Importers face uncertainty
- Smallholders are excluded

  ClearPaper bridges that gap.

▯ Status:

- Legal mapping started (Windesheim, SCF NICE)
- Concept aligned with ClearRoots

▯ How:

- Link templates to EU clauses
- Formats: Word, LaTeX, JSON
- Adaptable to national/language needs
- Optional AgUnity integration

▯ Needed:

- Feedback to shape grant proposal
- Help making it fundable
- We need a grant writer

Bi-Ronald: Automated Survey Reporting Platform

 Purpose:

Streamline survey workflows by automating response collection, analysis, and personalized report generation using open-source tools on self-hosted infrastructure.

 How It Works:

- Participants complete a multi-step survey.
- Responses are securely stored in a local database.
- Automated workflows generate customized reports (PDF/HTML).
- Reports are emailed to participants.
- Data is prepared for structured analysis via dashboards or custom analytics.

 Why It Matters:

- Eliminates manual data processing and report generation.
- Ensures data privacy by avoiding external cloud services.
- Enhances efficiency in research and educational settings.

 Repository:

- GitHub – Bi-Ronald

Bi-Ronald offers a scalable solution for automating survey processes, providing immediate, personalized feedback to participants while maintaining data control and privacy.

11. Key Collaborations

- Thomas Dik – AI tooling and cloud architecture
- Ronald de Boer – Business Intelligence, Power BI integration
- Luka Westgeest – SCF, ClearRoots & ClearPaper
- Stefan Barrett (AG-Unity CTO) – Document processing logic
- Iivo Salmi & Raul Raus – Trusted EU infrastructure research - Finland.