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 to work with tools, not 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

> From trial to traction: this project has turned lessons into systems, failures into frameworks, and ideas into infrastructure.

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

This slide shows that we're not just planning — we're actively building. Technical systems are running, educational content is being delivered, and external partnerships are forming. We're laying the groundwork for scale, credibility, and cross-disciplinary impact.

Agenda

1. VCH Infrastructure (LLM for Students)
2. VCH Infrastructure (General Tooling)
3. VCH Infrastructure (Reproducible Research)
4. Practical AI Use Cases & Workshops
5. AI-Supported Student Projects
6. SupplyLens (formerly Knopenkoning)
7. Experimental Tool Testing (AI Scientist, Far.AI)
8. ClearRoots (SCF NICE Project)
9. ClearPaper (SCF NICE Proposal)
10. Key Collaborations

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

> This project lays the technical foundation for responsible student-AI interaction. It reduces reliance on cloud services and enables advanced, privacy-safe research workflows. With a small investment, we can turn this into a standard part of classroom education.

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

This setup is about lowering the threshold for student experimentation. We now have a local cloud, open AI tools, and a Linux-based desktop system under one roof. With testing and refinement, this becomes a plug-and-play environment for future student-driven supply chain solutions.

3. VCH Infrastructure – Reproducible Research (incl. DAT Linux)

 Goal:

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

 Why:

- Reproduce prior research
- Run simulations
- Build openly on others' work

  AI is most useful in research when workflows are reproducible and verifiable.

 Accomplished:

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

 Next Steps:

- Develop integrated workflows with RStudio
- Learn and apply data stewardship practices

 Help Needed:

- A real past project to rebuild and reproduce in R

- Time to prototype and document workflows
- Support to ensure this path aligns with our research goals

> This is about making research replicable, auditable, and extensible. With this setup, students and researchers can package their work in a form that others can immediately reuse or rerun. It’s a key step toward making our lab academically credible and open-source ready.

More info: - VCH-Infra

4. Practical AI Use Cases & Workshops

 Goal:

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

 Why:

AI is overhyped. In practice:

- It makes mistakes
- Lacks reasoning and contextual awareness
- Struggles with memory and coherence

  Students must learn to test, verify, and control AI systems — not blindly trust them.

 Accomplished:

- Workshop repo created
- First sessions delivered
- Failures (e.g. Knopenkoning, Inchainge) revealed limitations

 Next Steps:

- Translate IBM-based workshop into practical applications
- Teach “data-to-reality” thinking
- Run an ongoing workshop series with feedback loops

 Help Needed:

- Integration and network engineers
- Students and testers to challenge tools
- Regular AI meetups and testing sessions
- Hands-on collaborators to co-build use cases

5. AI-Supported Student Projects

Examples: - VCH-Lithium - VCH-BCM

 Goal:

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

 Why:

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

Instead, we:

- Provide working, end-user-facing tools (not chatbots)
- Focus on prompting, saving, and processing
- Teach integration with commercial and internal systems

  This approach delivers value — not confusion.

 Accomplished:

- Built 2 functional AI-driven websites
- Far surpassed what students could do solo
- Demonstrated how AI mentorship accelerates outcomes

 Next Steps:

- Showcase student outcomes

- Formalize an AI mentorship pathway
- Identify new use cases with real needs

 Help Needed:

- Stop limiting expert-student interaction
- Start providing token budgets for large model usage
- Stop comparing this and Chris to OpenAI — that’s unrealistic
- Start letting external experts interface (e.g. via Discord)
- Start treating Value Chain Hackers as a formal initiative: KvK, domain, mandate
- Start giving Chris a team of IT + business students to scale AI work

6. SupplyLens (formerly Knopenkoning)

Examples: - VCH-Supplylens - Presentation :::::::::::::: {.columns} ::: {.column width="50%"}

 Goal:

Visualize complex supply chains using AI, ESG data, and graph technology.

 Why:

- Supports CSRD/CSDDD compliance
- Enables supply chain risk mapping
- Provides actionable insights into real complexity

 Why Now:

- Lessons learned from previous attempt (Sebastien)
- Renewed clarity and realistic expectations
- Strong community interest
- A grounded, feasible new approach

 Accomplished:

- Architecture and direction redesigned
- Demo + repo available:
  - GitHub

- Demo

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 Next Steps:

- Greenlight to begin ideation
- Hours allocated for focused development
- Permission to form a dedicated Scrum team

 Help Needed:

- Approval to bring in trusted external contributors (free)
- Spin this off as its own initiative (KvK, domain, mandate)
- Budget (< €5K) for prototyping and infrastructure
- Space for experimentation with external partners

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

 Goal:

Explore cutting-edge AI tools that support scientific workflows — including multi-step reasoning and automated experimentation.

 Why:

- Keep Windesheim connected to frontier AI developments
- Investigate tools that can:
  - Simulate cyber attacks
  - Assist in generating PhD-level content
  - Automate complex reasoning chains

    These tools may redefine how we approach research workflows.

 Accomplished:

- Reviewed AI Scientist and Far.AI initiatives
- Identified high-potential capabilities
- Repository bookmarked:
  - GitHub – AI Scientist (aci)

 Next Steps:

- Test 3 key tools to assess research potential

- Identify barriers, limitations, and integration opportunities

 Help Needed:

- Budget for tokens to properly test and evaluate the tools

This initiative keeps us ahead of the curve in research tech. While not production-ready, these experimental tools offer a glimpse into how AI might eventually support fully automated or guided scientific inquiry. We should test now — and decide where to engage deeper.

8. Project Proposal – ClearRoots

Examples: - VCH-ClearRoots :::::::::::::: {.columns} ::: {.column width="50%"}

 Goal:

Build a digital platform to help smallholder cooperatives and EU SME importers comply with EU sustainability laws (CSRD, CSDDD, EUDR).

 How It Works:

- Data collected via a multilingual, offline-capable mobile app
- Time-stamped data stored on AgUnity's blockchain
- App guides users to complete EU-aligned documentation
- Importers receive ready-to-submit compliance dossiers

 Status:

- Core logic and user roles drafted
- Documentation flow + pilot framework outlined
- Initial partners: AgUnity, Windesheim, SCF NICE
- Pitch deck and 1-pager in first draft

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 Why It Matters:

- EU laws demand documentation smallholders can’t provide
- Importers lack accessible tools for compliance
- This platform bridges the gap — without exclusion or greenwashing

 Help Needed:

- Funding or co-development support
- Help turning this into a grant proposal
- A grant writer or partner to help push this forward

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> ClearRoots bridges regulatory pressure with practical tech. It empowers both sides of the supply chain with credible documentation — not token checklists. We’re ready to move, and we’re aligned with real partners. What we need now is momentum and backing.

9. Project Proposal – ClearPaper

Examples: - VCH-ClearRoots :::::::::::::: {.columns} ::: {.column width="50%"}

 Goal:

Create practical, standardized templates to help cooperatives, importers, and other actors comply with EU sustainability laws (CSRD, CSDDD, EUDR).

 Why It Matters:

- No shared definition of "compliant documentation"
- Uncertainty for importers
- Exclusion of smallholders without expert support
- ClearPaper enables trustable, scalable compliance

 Current Status:

- Legal mapping and validation discussions started with Windesheim and SCF NICE

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 How It Works:

Each template would:

- Link directly to relevant EU legal clauses

- Be available in Word, LaTeX, and JSON formats
- Adapt to national implementations and local languages
- Optionally integrate with platforms like AgUnity

 Help Needed:

- Collect feedback to strengthen a grant proposal
- Support turning this into a fundable project
- We need a grant writer

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ClearPaper transforms legal ambiguity into usable tools. It empowers smallholders and de-risks compliance for importers. Without clear templates, compliance is guesswork. This project builds clarity, confidence

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.