AEC Hackathon

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Project cases

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

AEC Hackathon 2026
Team: Repurposed.ch

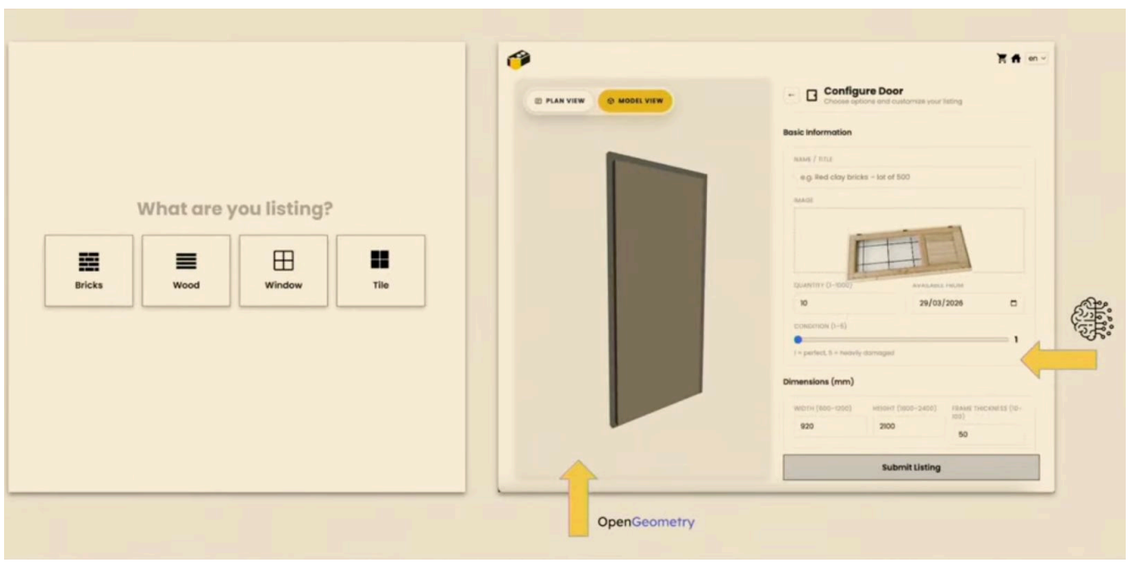
Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

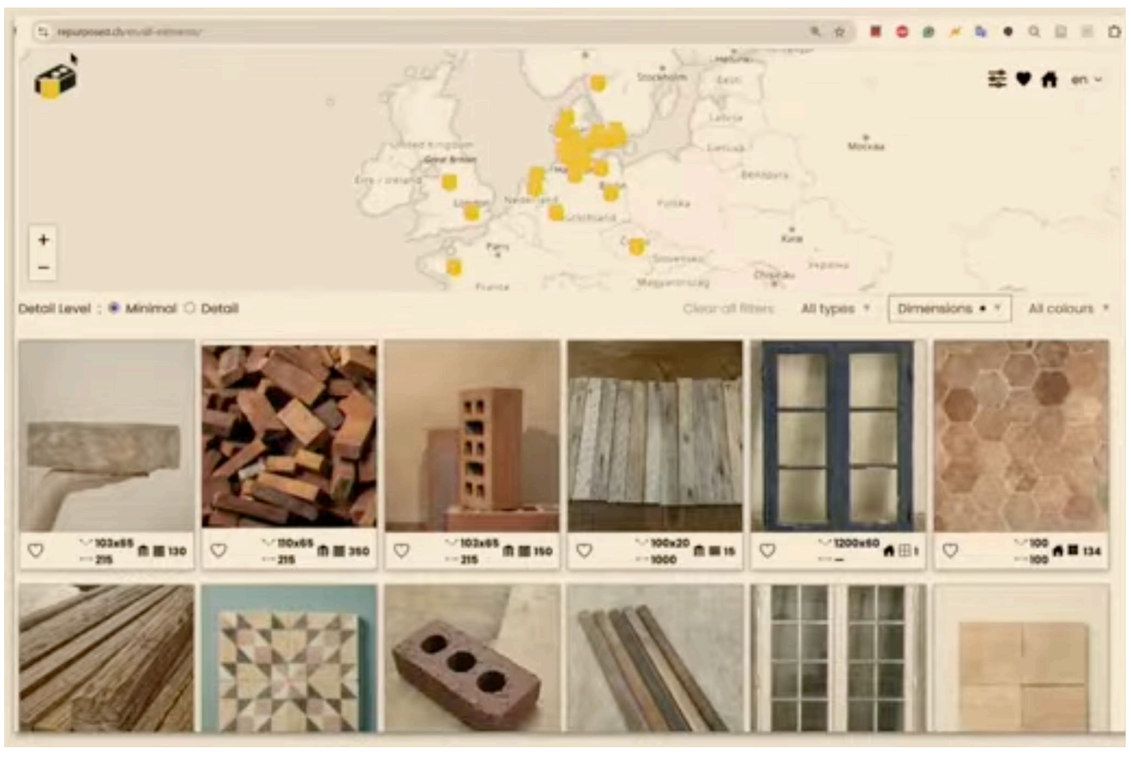
Youtube: 2:35:01 | **Winner: Solves a big problem** | **Website**

Challenge: The construction industry lacks a unified platform. Supply and demand are disconnected, and suppliers often lack resources to provide sufficient data.

Solution: An overarching marketplace platform that standardizes data exchange, using material passports, availability tracking, and fact-checking to better match supply and demand.

This construction material reuse platform is designed to make it easy for suppliers to list available materials, while enabling clients and designers to seamlessly verify and integrate them directly into their design workflows.





Team members:
Amir Hossein Rezaei, Associate Researcher, *EDEK*
Edyta Baran, Project Manager in Climate Tech, *Enter*
Jonas Ward Van den Bulcke, Consultant, *Design-to-Production*
Vishwajeet Mane, Graphics Engineer, *Autility*

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Team: Bridge the gap

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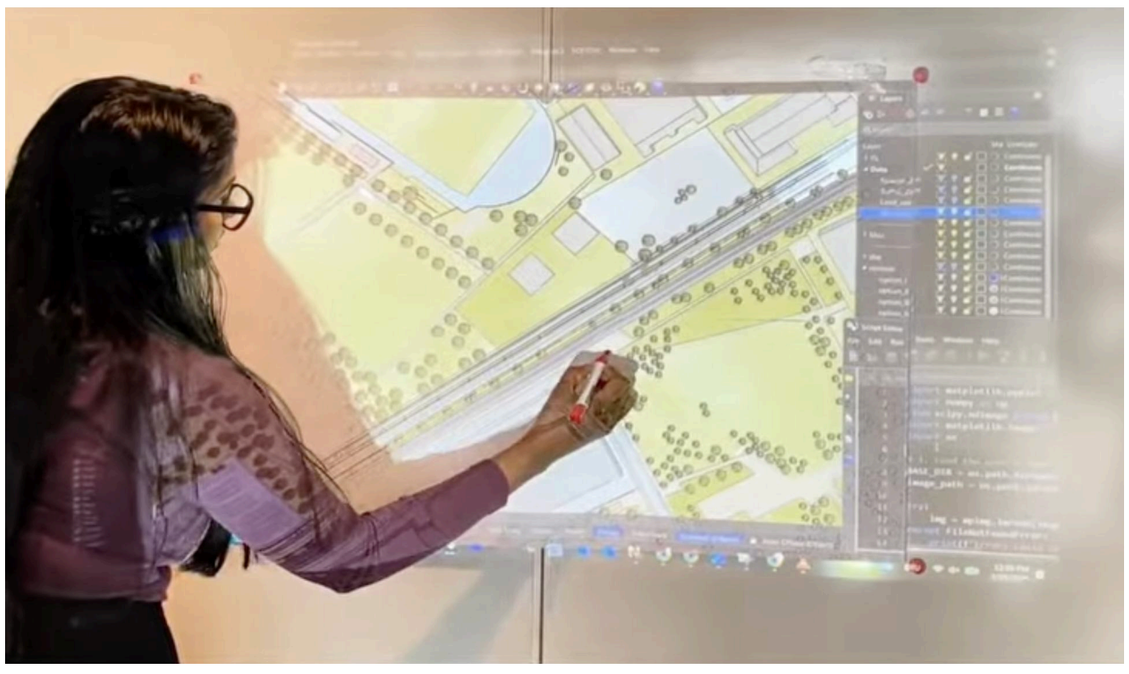
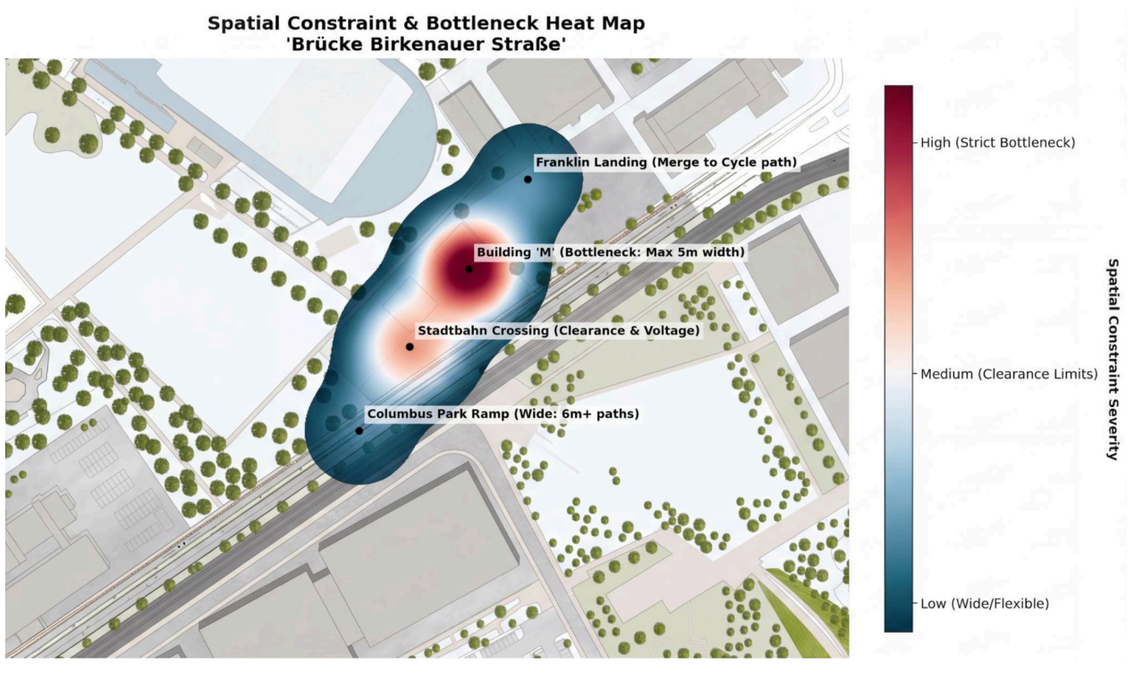
Youtube: 3:19:02 | **Honorable mention**

Challenge: Bridge design is often based on static assumptions, while real human movement patterns are dynamic and difficult to capture. As a result, infrastructure such as bridges may be poorly aligned with actual pedestrian flows, leading to underuse and inefficient design.
Understanding and integrating movement data into planning remains complex and inaccessible.

Solution: The team developed a tool that analyses pedestrian flow data to identify how people move through urban spaces.

By visualising these movement patterns, the tool helps determine optimal bridge placement, highlighting where crossings naturally occur and where connections are most needed. This enables more intuitive, data-informed design decisions that align infrastructure with real human behaviour.





Team members:
Keerthana Udaykumar, Computational Architect, *Schlaich Bergermann Partner sbp*
Diana Caceres, Co-founder, COO, and CDO, *Lensior.io*
Niclas Brandt, Bridge Engineer, *Rambøll*

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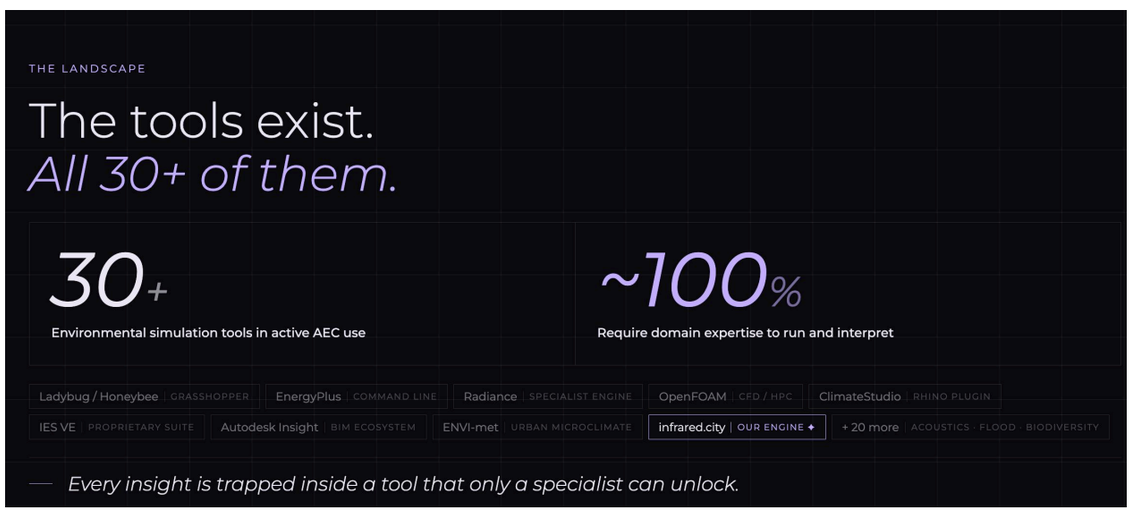
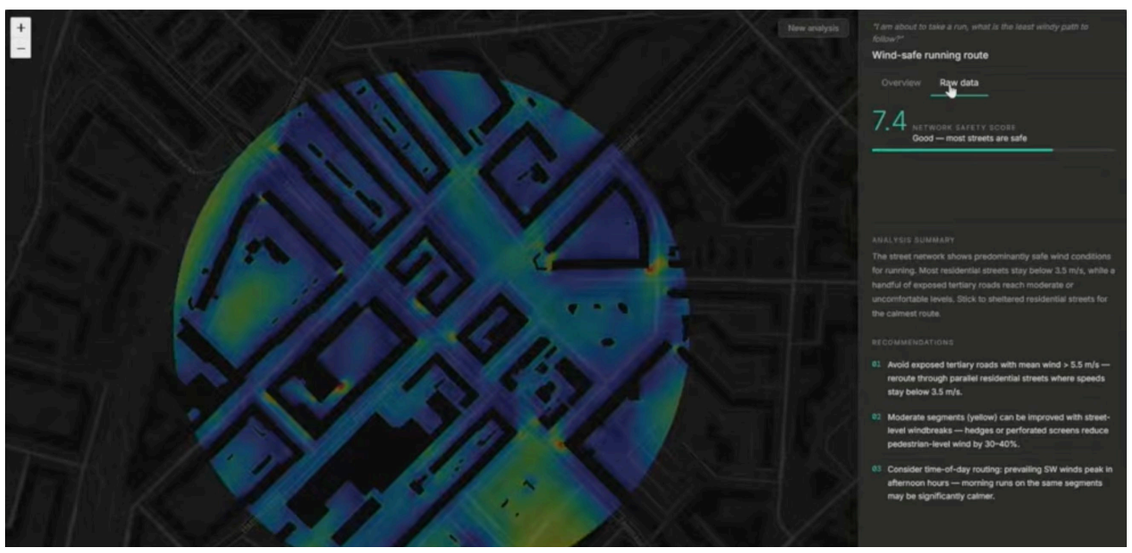
Team: KoordLM

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 1:24:55 | **Winner: Hack for Humans**

Challenge: Environmental data is hard to access due to complexity, fragmented tools, and high learning barriers. Why should knowing wether your street is safe, cool or liveable require a spcial degree?





Solution: An AI-powered interface where users (such as residents, a city planners, and other stakeholders) can ask questions and receive answers based on simulations and open data, with transparent data sources.

This eliminates the need for specialist software and/or complex dashboards.
You can for example ask a question such as:
"I am about to go on a run. What's the least windy route to follow?"

In order to give the best answer possible three AI agents work in sequence:

- an Interpreter that reads the persona and intent behind the question
- an Orchestrator that plans and runs the right environmental simulations via the infrared.city API
- a Synthesizer that translates the results into accessible, persona-tailored responses.

The results to the question are then displayed as seen on the here.

Team members:
Vasiliki Fragkia, Head of Research, *infrared.city*
Razi Sasikaran, Computational Designer, *Link Arkitektur*
Jonas Schoene, Student Assistant, *Rambøll*
Maria Andrakakou, Senior Solutions Architect, *Ørsted*
Alessandro Grossi, Lead Computational Developer, *mentalENVI*

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Team: Clash Hero

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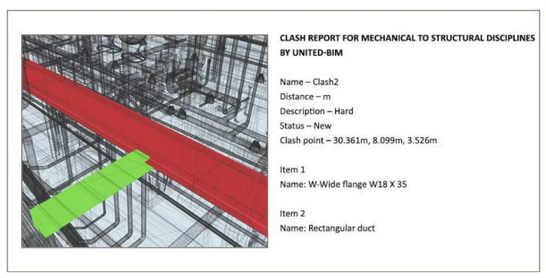
Youtube: 18:48 | **Winner: Best Startup** | **Presentation**

Challenge: Clash detection refers to identifying conflicts between models from different disciplines.

In large organisations with thousands of employees, only a small group have the expertise required to handle clash detection and resolution effectively.

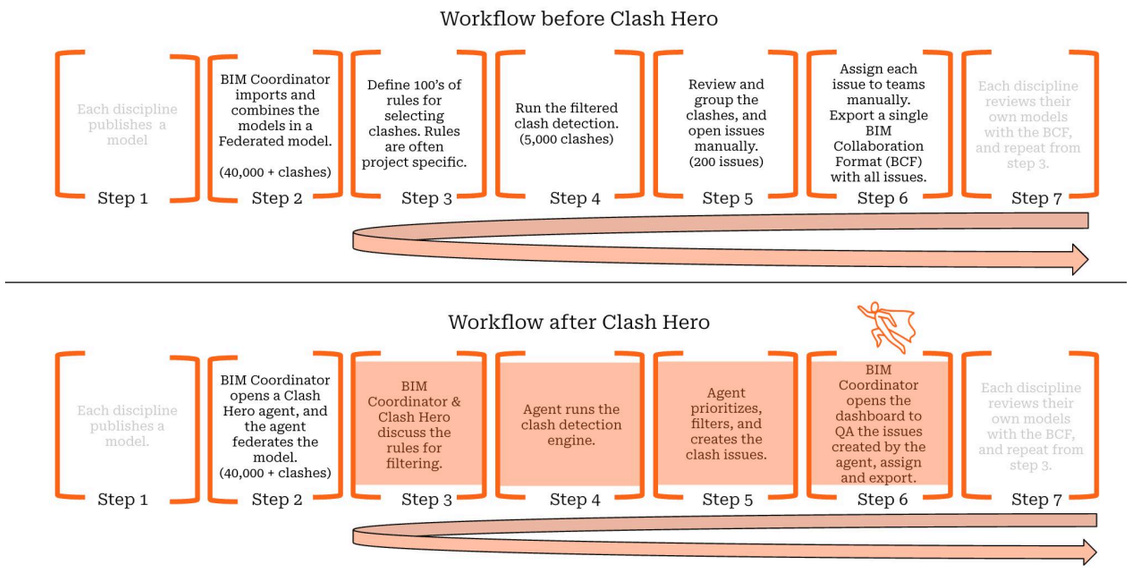
The goal is to broaden access to clash detection workflows.



SOLIBRI
Clash Detection

.... 40,000 times.

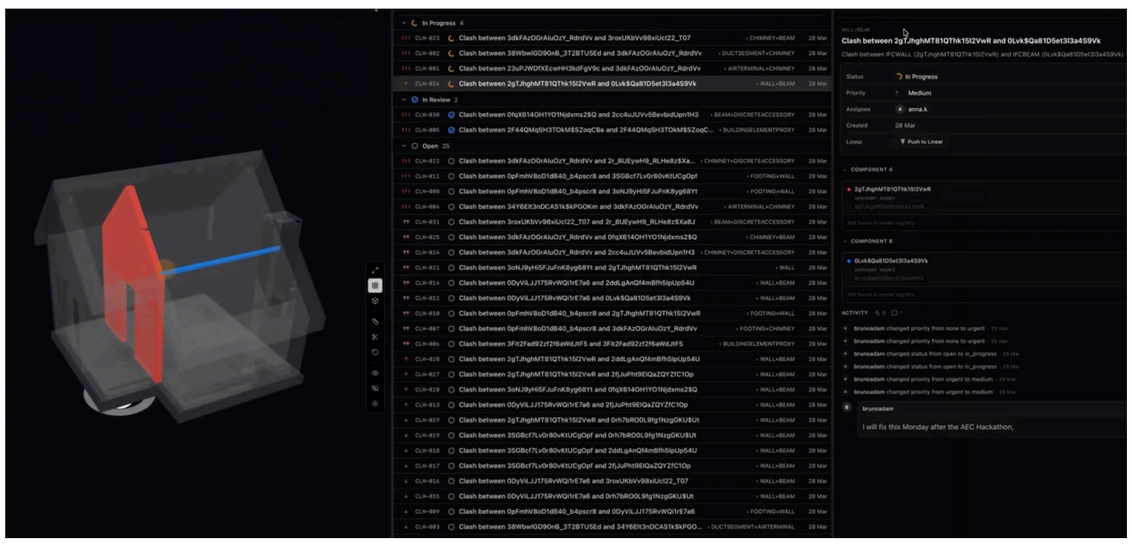
How will Clash Hero save the day?



Solution: A tool that automates clash detection by processing IFC files and identifying conflicts across models. Results are displayed in on interactive web.

This is a BIM clash detection tool orchestrated by the Model Context Protocol (MCP) from Claude that allows the user to engage with clash detection workflows by chatting with the agent. The solution includes a CLI for clash detection written in Rust and a webapp for browsing and managing clashes while interacting with the IFC model.

In short: you talk to Claude, it runs clash detection on your IFC models based on rules you define together with Claude, and you get a clean dashboard to review everything.



Team members:

Alexander Matthias Jacobson, Live Cycle Specialists Team Lead, *Rambøll*
Andreas Sørensen, Senior Digital Lead in Sustainability, *Rambøll*
Bruno Adam, VDC Coordinator, *Per Aarsleff A/S*
Christian Kongsgaard, Founder, *Christian Kongsgaard ApS*
Simeon Nanev, Structural Designer, *Rambøll*

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Team: KL4UDIU5H

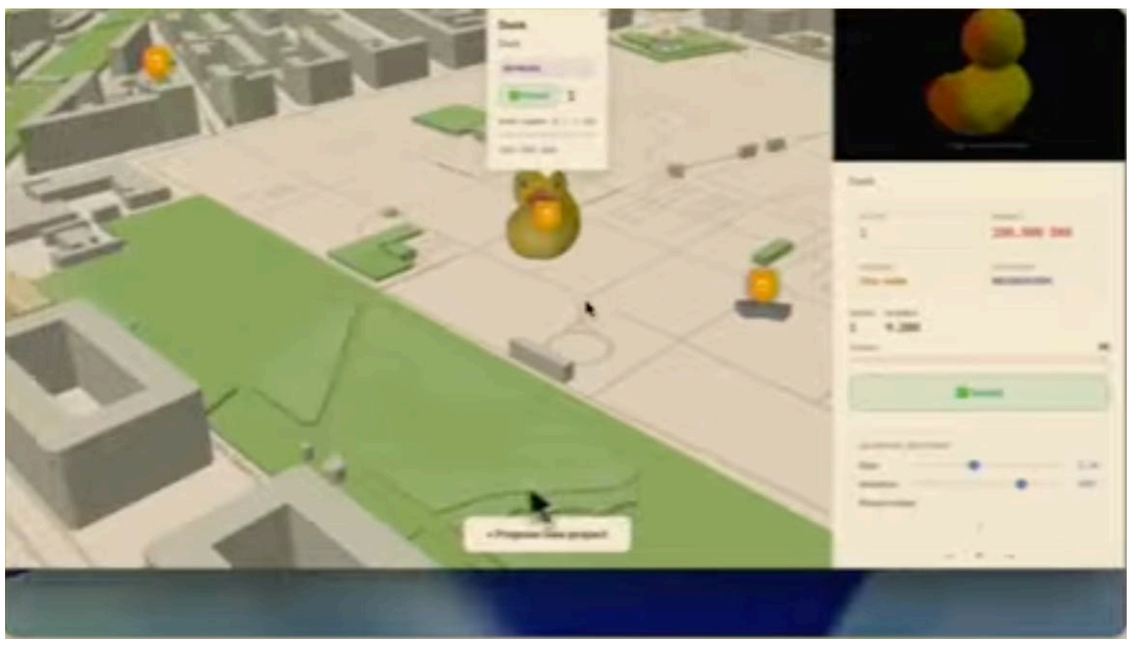
Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 13:30 | Timing Champions | Presentation

Challenge: Citizens often lack access to urban development data in a way that is clear, engaging, and actionable.

As a result, participation in planning and budgeting processes remains low, and decision-making feels distant and opaque.

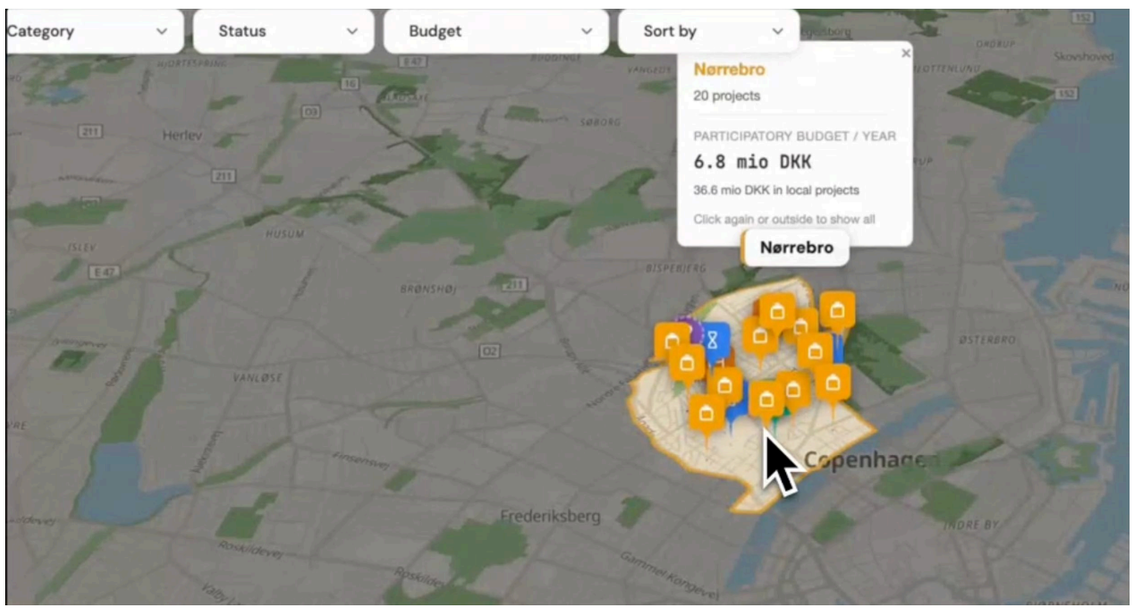
The challenge is to make city data accessible and interactive, enabling meaningful citizen involvement.



Solution: A platform that maps public city data and projects, allowing users to explore, give feedback, and participate in budgeting decisions.

This civic engagement platform visualises urban projects through an interactive 3D map. Residents can explore developments, give feedback, vote on proposals, and submit their own ideas, turning static data into a participatory experience.

The concept was tested through simulation and has since moved toward real-world application through dialogue with local polish government partners.



Team members:
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Jan Sachse, AI and Automation Specialist, *Asseco Data Systems*
Maciej Sachse, Project Manager, *Architekton GDA*
Adam Bączek, Master Student, M*BA and Digital Business*

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Team: Biodiversify

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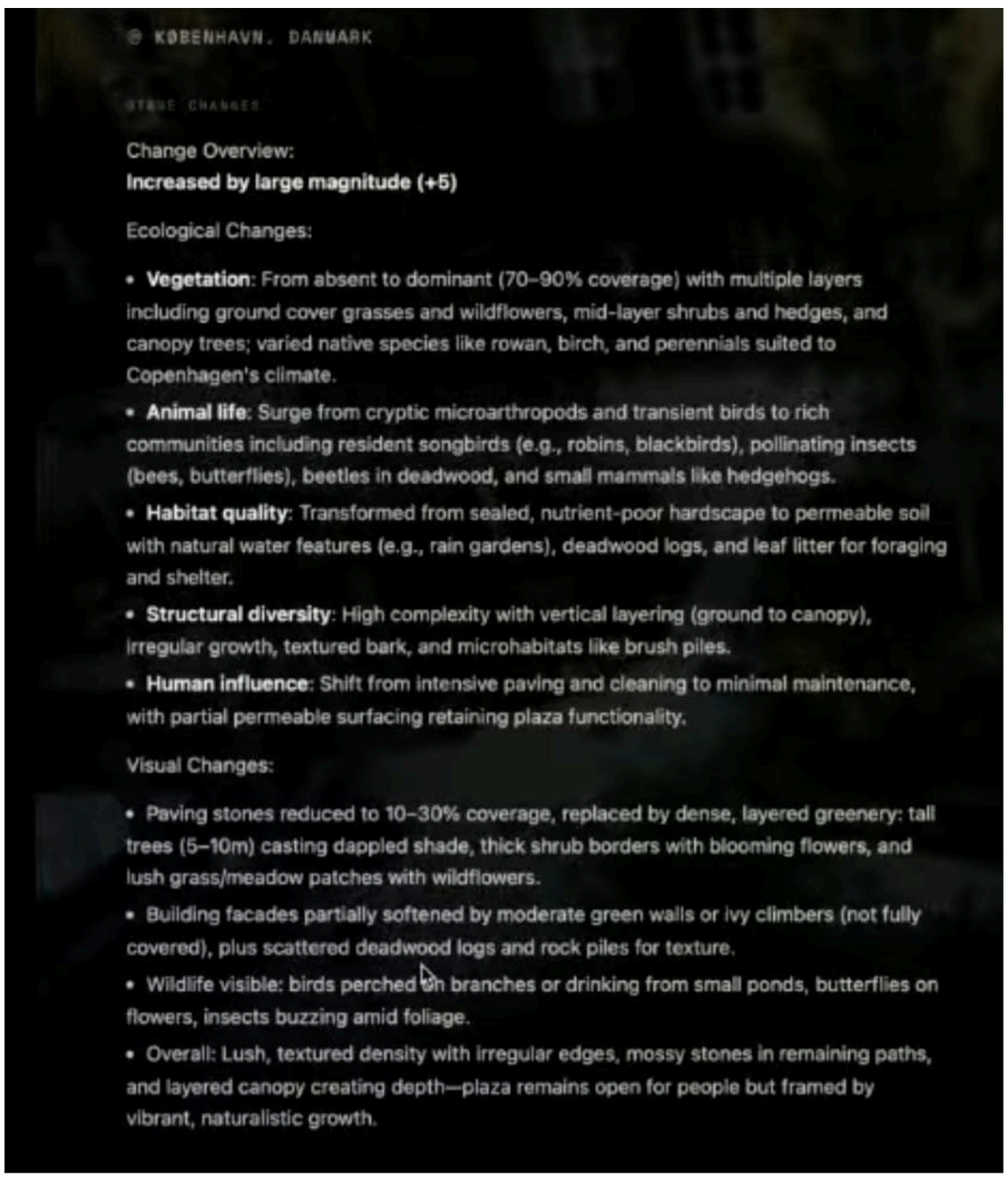
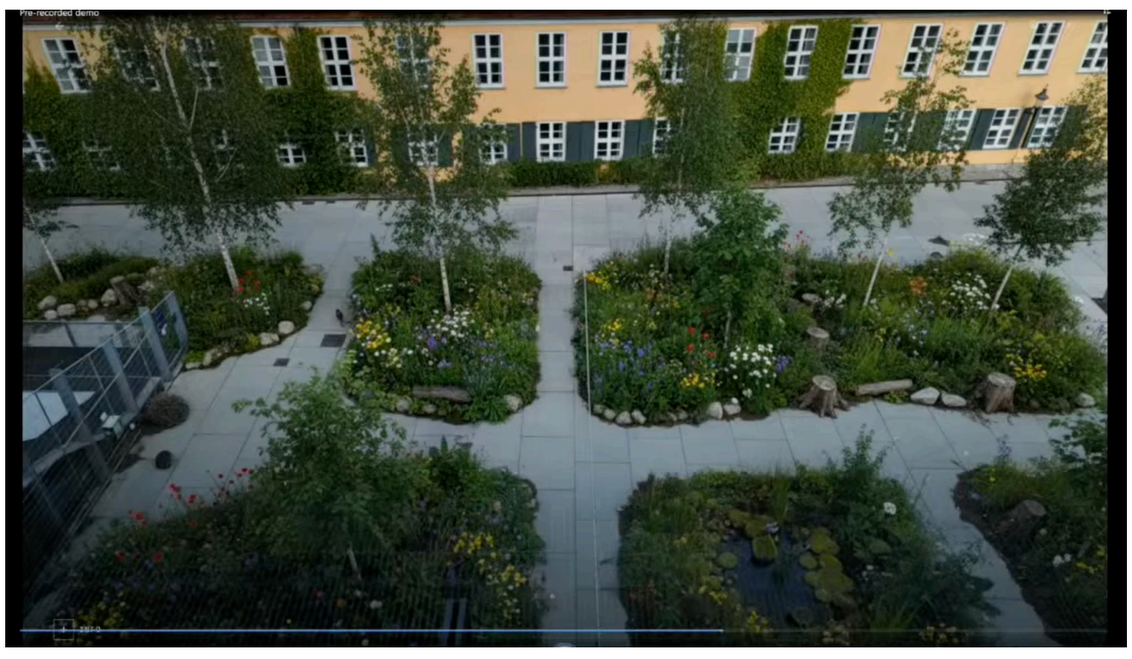
Youtube: 30:37

Challenge: Biodiversity is often overlooked in construction and urban design, partly because it is difficult to assess and visualise in existing environments. This makes it harder to prioritise and integrate nature-positive solutions in planning processes

Solution: An AI-based tool that analyses urban environments and suggests ways to enhance biodiversity. By visualising improvements directly, the tool makes it easier for both professionals and citizens to understand potential interventions—lowering the barrier to imagining and advocating for more biodiverse urban spaces.





Team members:
George Langridge Gould, Founder, *The Next Ecology*
Jonas Hoyer, BIM Specialist, *Hild und K*

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Team: SubLayer

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Youtube: 2:04:33 | **Winner: Best Overall**

Challenge: Subcontractors capture large amounts of valuable on-site information, through photos, messages, and calls, but this data remains informal and fragmented.

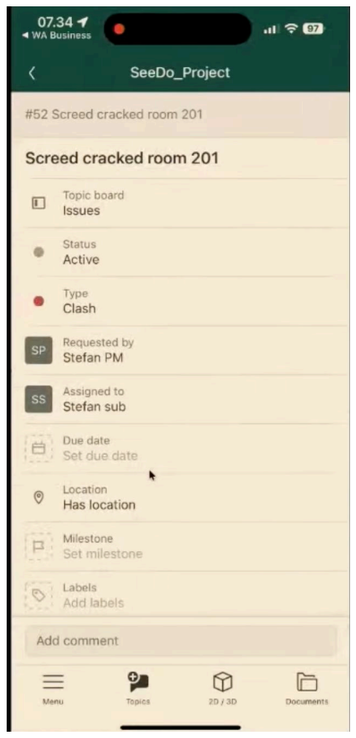
Existing construction platforms (CDEs) are often complex, require training, and disrupt workflows, leading to low adoption and “platform fatigue.”

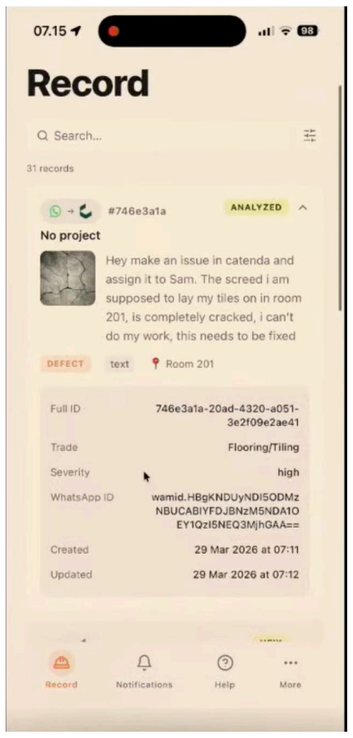
As a result, critical information is not structured or integrated into project systems, creating inefficiencies and placing additional burden on main contractors.

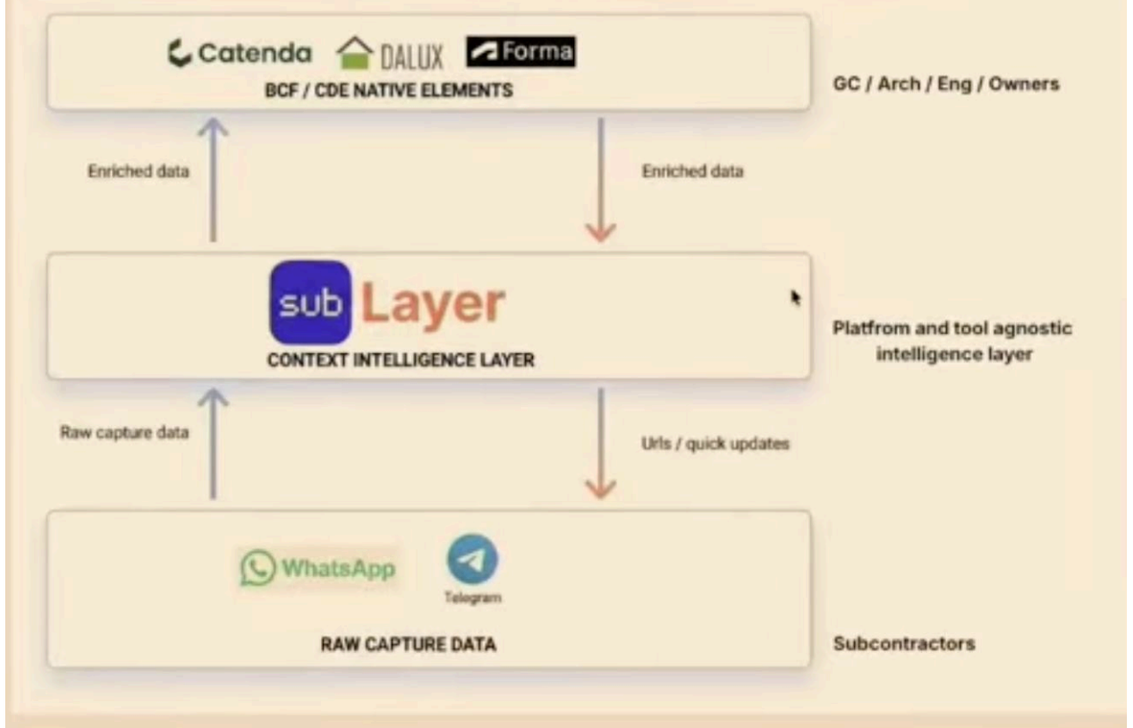
Solution: Sublayer acts as a context intelligence layer that bridges informal site communication and formal construction platforms.

By capturing inputs from tools subcontractors already use (e.g. WhatsApp), the system enriches and translates this information into structured, platform-ready data, aligned with project context, history, and system requirements.

This enables seamless documentation without disrupting workflows, making project data more accessible, accurate, and scalable across stakeholders.







Team members:
Stefan Plugaru, Principal Project Manager, *Catenda*

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Team: The cities we deserve

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Youtube: 41:43 | **Winner: Best Mashup**

Challenge: Urban planners are often asked how new developments will impact a city, such as energy demand, mobility, land value, and quality of life.

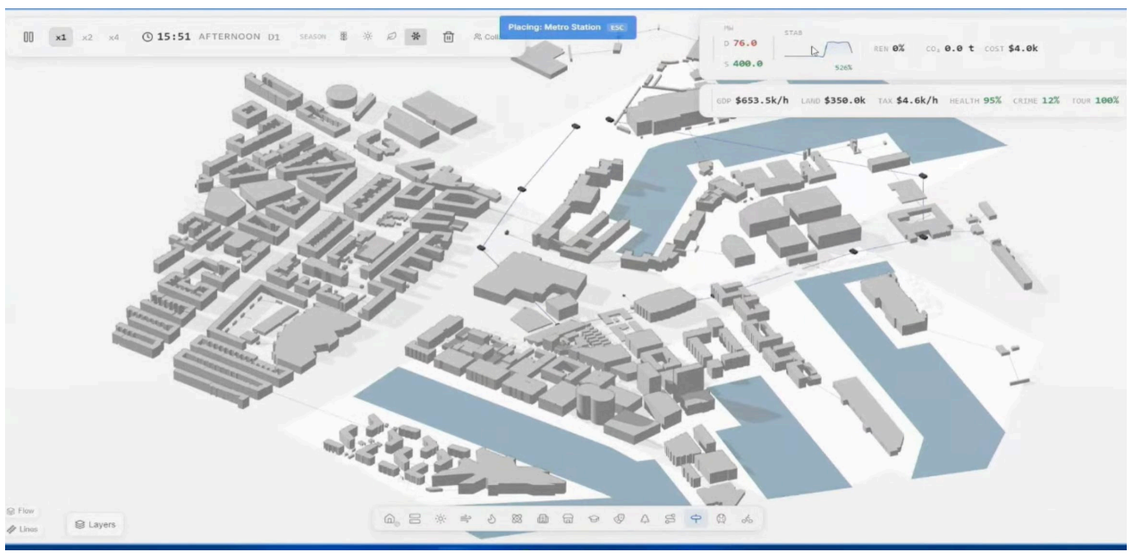
However, these effects are complex, interconnected, and difficult to communicate clearly to decision-makers and citizens.

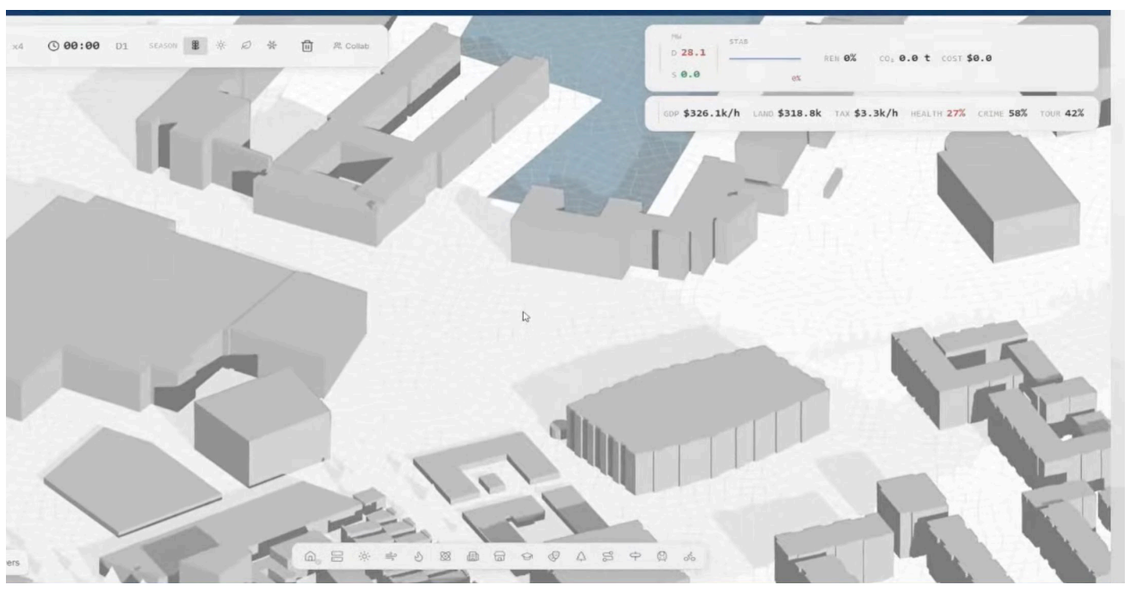
Current tools tend to be static or overly technical, making it hard to explore scenarios and understand the real consequences of planning decisions.

Solution: The team developed an interactive, simulation-based tool that allows users to model urban development scenarios in real time.

By placing buildings, infrastructure, or energy systems into a city model, users can immediately see the impact on factors such as energy demand, population flows, GDP, and land value.

The tool transforms complex systems into an intuitive, game-like experience, making it easier to explore trade-offs, test ideas, and support more informed decision-making.





Team members:
Cristofor Mamaliga, Bygningskonstruktør (VVS/Fire Sprinkler), *Wicotec Kirkebjerg A/S*
Ashkan Rezaee, Computational Design Specialist, *Henning Larsen*
Andy Andor, BIM og IKT Leder, *Kemp Laurizen A/S*
Iman Warsame, Technical Product Lead, *Rambøll*

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Team: Brunelleschi.ai

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

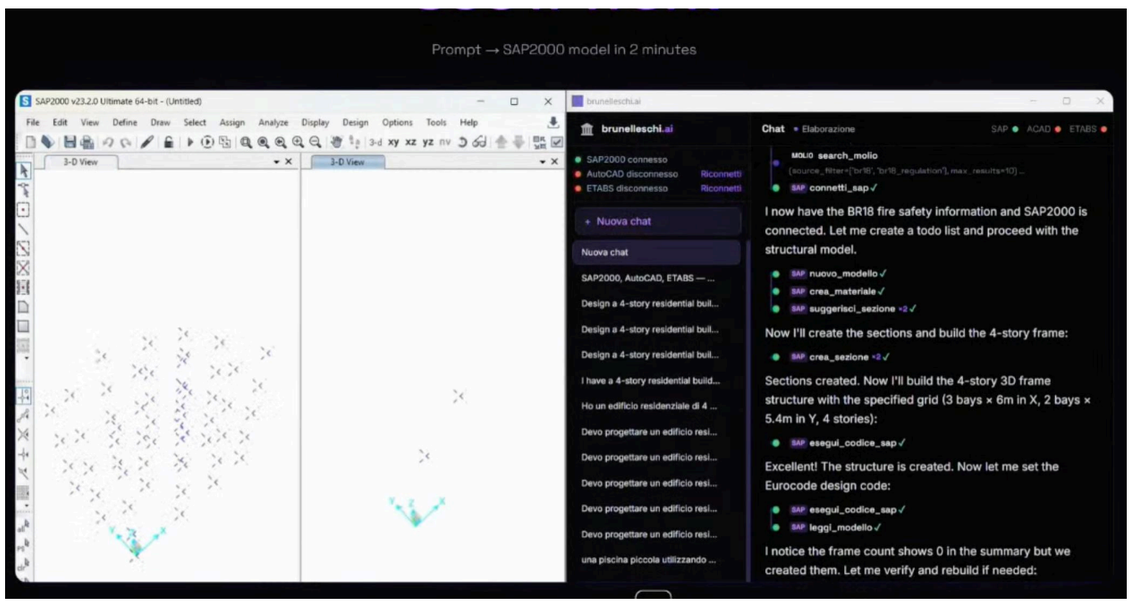
Youtube: 1:14:27

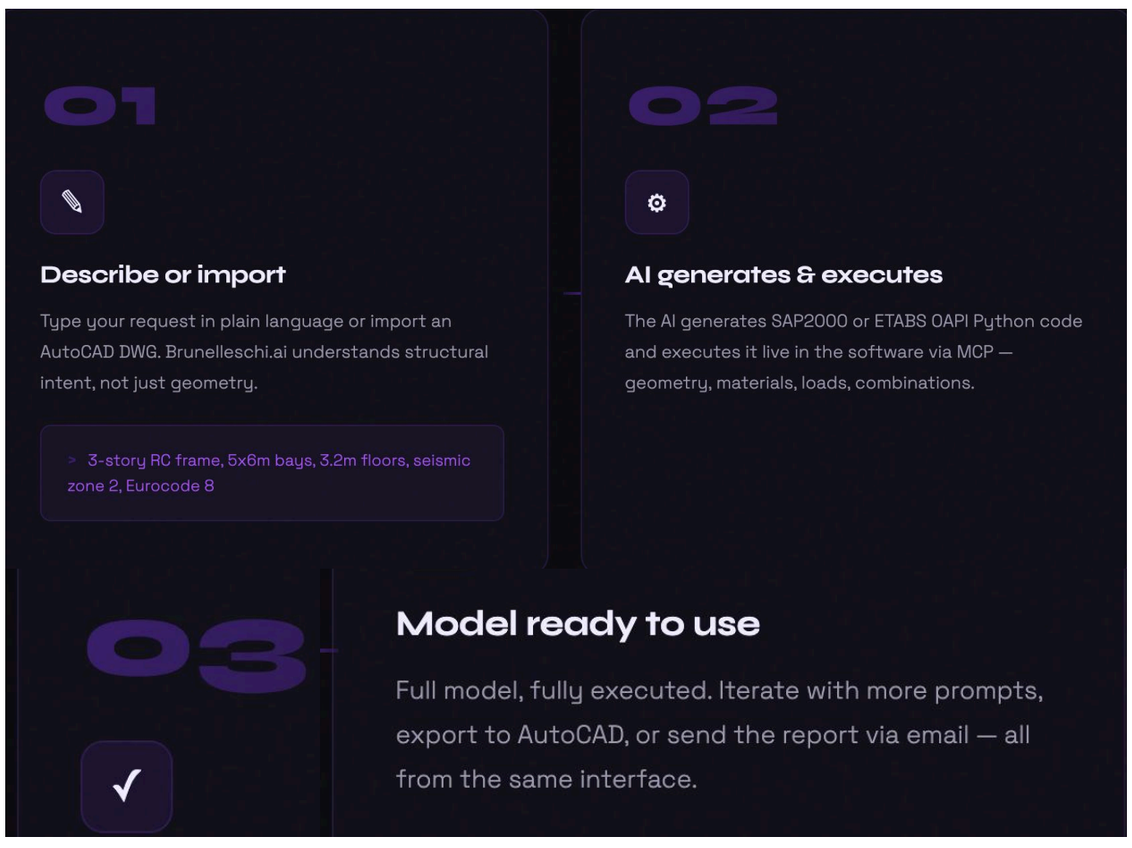
Challenge: Construction projects often generate unnecessary CO_2 emissions, delays, and material waste due to suboptimal decisions made early in the planning phase.

These decisions are typically made under uncertainty, with limited ability to compare alternatives or understand long-term impact.
Despite large amounts of available data, teams lack tools that translate this into clear, actionable guidance, leading to inefficient outcomes.

Solution: The team explored an AI-driven guidance tool that supports decision-making in the early stages of a project.

By analysing project inputs and comparing different scenarios, the system highlights more efficient approaches, helping teams reduce waste, time, and environmental impact.
This enables a shift from reactive adjustments to proactive, data-informed planning, where better decisions can be made before they become costly to change.





Team members:
Edoardo Mancinelli, *CTO, Emotion Srl*
Francesco Antonelli

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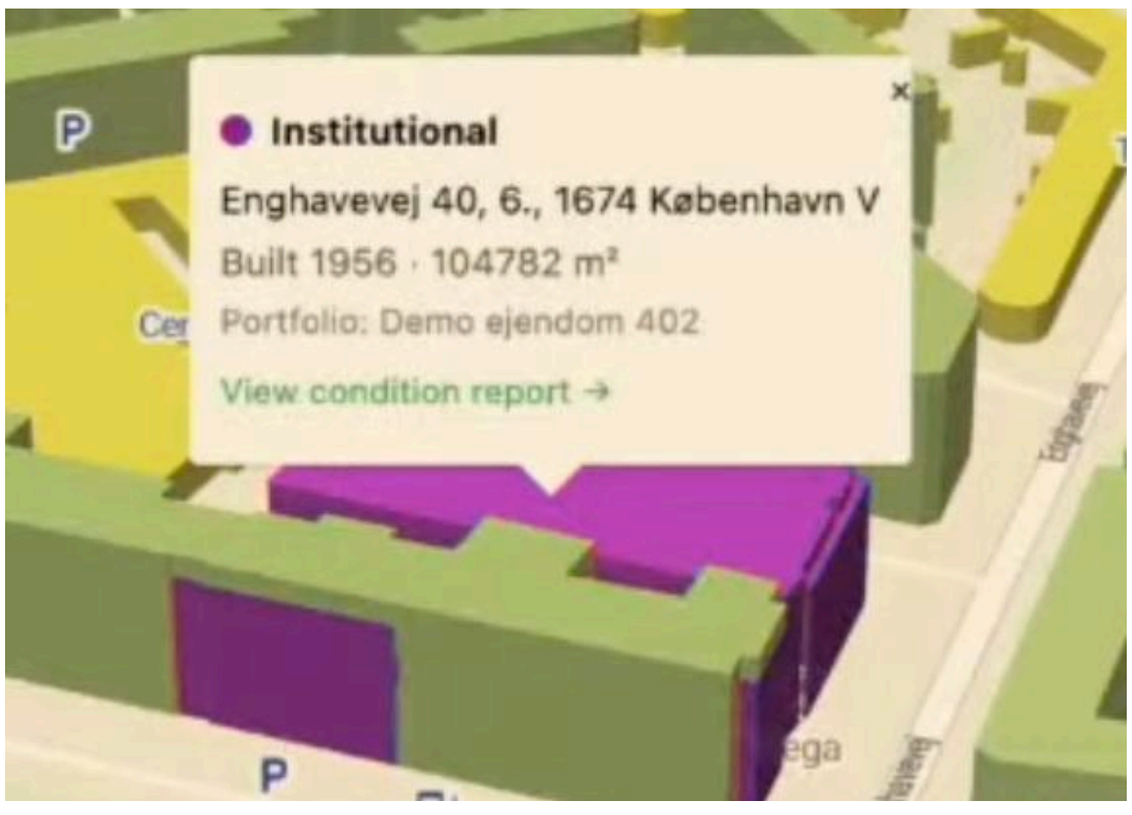
Team: Go Wombat

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 53:01

Challenge: Cities like Copenhagen have extensive, high-quality urban data across multiple sources, covering energy performance, biodiversity, infrastructure, and more.
However, this data is fragmented across systems, difficult to access, and largely unusable for non-technical users.

As a result, valuable insights remain hidden, limiting data-driven decision-making for city managers, planners, and citizens.



Solution: The team developed an AI-powered digital twin of Copenhagen that integrates multiple data sources into a single, interactive 3D environment.

Users can explore the city visually and query data through natural language, allowing the system to retrieve and display insights, such as energy performance, solar potential, green infrastructure, and risk indicators, directly on buildings.

By combining data integration, visualisation, and AI interaction, the tool makes complex urban data accessible, intuitive, and actionable for a wide range of users.

Team members:
Oksana Shipilova, Head of Partnerships, *Go Wombat*
Stanislav Drahun, Data Scientist, *Go Wombat*
Stanislav Kramar. Head of AI, *Go Wombat*

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Team: Concrete Clauses

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 1:03:33

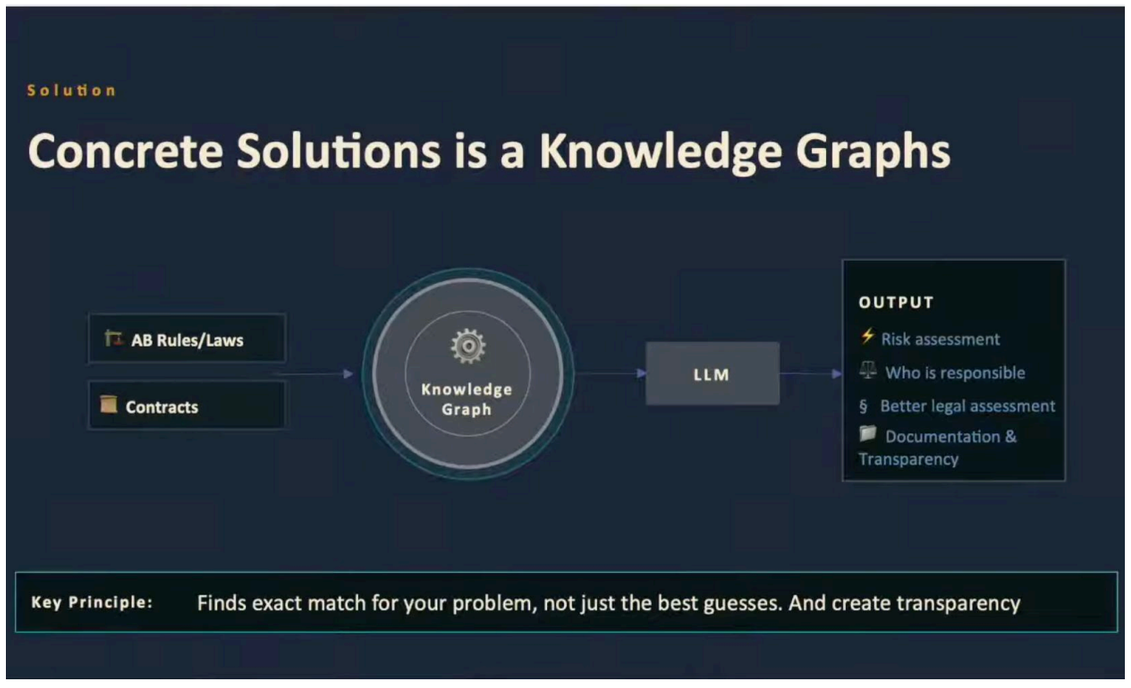
Challenge: Construction regulations are complex, fragmented, and difficult to navigate without specialised legal expertise. Clauses are highly structured but hard to interpret in practice, creating a lack of overview for many stakeholders.
This leads to, Misinterpretation of requirements, Increased risk of errors and disputes, Significant financial losses and project delays

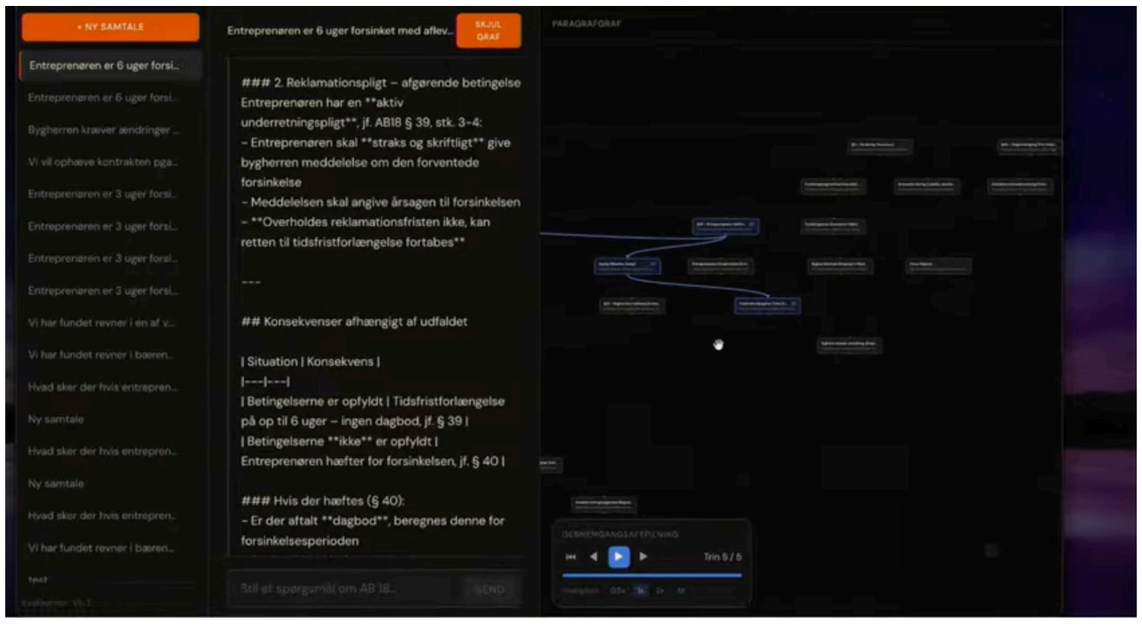
Access to regulatory knowledge is therefore limited, even though it is critical to project success.

Solution: This AI-powered tool translates construction regulations into a structured knowledge graph, mapping relationships, conditions, and dependencies between rules.

When users ask a question, the system navigates this structure to identify relevant regulations. If information is missing or unclear, it actively asks follow-up questions, ensuring context is correct before generating a response.

The final output is delivered through a language model, translating complex legal requirements into clear, actionable guidance, making regulatory knowledge more accessible and reducing the risk of costly errors.





Team members:
Andreas Houmølle, Product Owner and Co founder, *Affecture*
Andreas Gustavsen, Software Engineer, *Costumers 1st*
Victor Thyboe, Student

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Team: EscapeVelocity

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 3:07:55

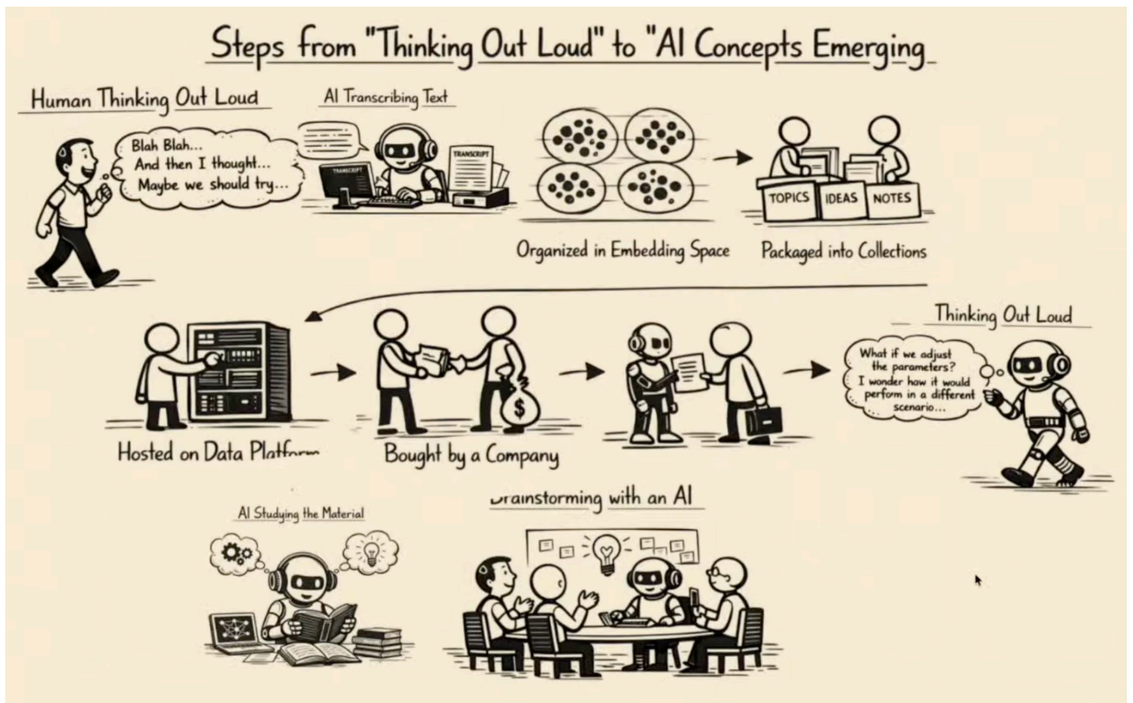
Challenge: AI systems often struggle to generate truly novel ideas, as they are limited by patterns in their training data. This makes it difficult for AI to move beyond established assumptions and produce genuinely innovative concepts.

As a result, creative exploration remains constrained—especially in fields like the built environment, where many solutions follow inherited ways of thinking (e.g. building from the ground up).

Solution: This system captures and structures human reasoning processes to support more creative AI outputs.

By recording “thinking out loud” and translating it into structured input, the system provides AI with new conceptual pathways—helping it challenge default assumptions and explore alternative approaches. For example, instead of starting from traditional ground-based construction, the system can prompt ideas such as suspended or elevated structures, rethinking how space is used in relation to nature.

In this way, human insight is used to guide and expand AI’s creative potential—enabling more original, boundary-pushing solutions through a combination of intuition and AI-driven iteration.



Team members:
Mathias Torp, Sci Fi Author

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Team: Urban Eyes

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 07:52	Henning Larsen Challenge	Website

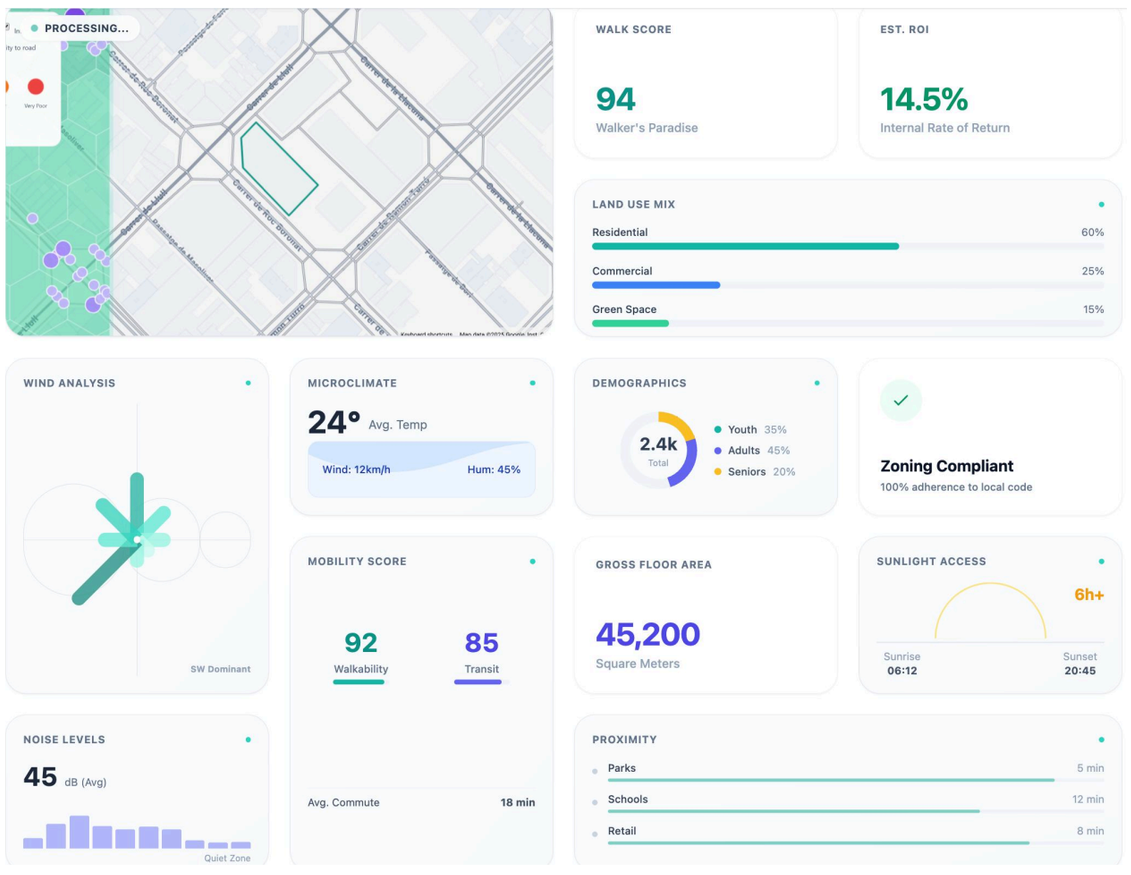
Challenge: Urban data is highly fragmented across tools and formats, from GIS systems to zoning documents and environmental data, making it difficult to gain a clear, holistic understanding of a site.

This creates “analysis paralysis,” where architects, planners, and developers spend significant time gathering and interpreting data before they can begin designing.

Solution: UrbanEyes is an urban intelligence platform that consolidates diverse data sources into a single, interactive digital twin.

Users can explore and layer contextual data, such as proximity, environmental conditions, and urban dynamics, while running real-time simulations (e.g. wind, solar, thermal comfort) to understand how a site performs before design begins.

An integrated “urban buddy” assistant supports navigation and insight generation, helping translate complex data into clear, actionable inputs for design decisions.



Team members:
Vinayak Tiwari, Product Developper, *Urban Eyes*,
Chavisha Arora, Product Developper, *Urban Eyes*

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AEC Hackathon 2026
Team: Build Better Bim

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

Youtube: 2:56:48 | **RIB Software Challenge**

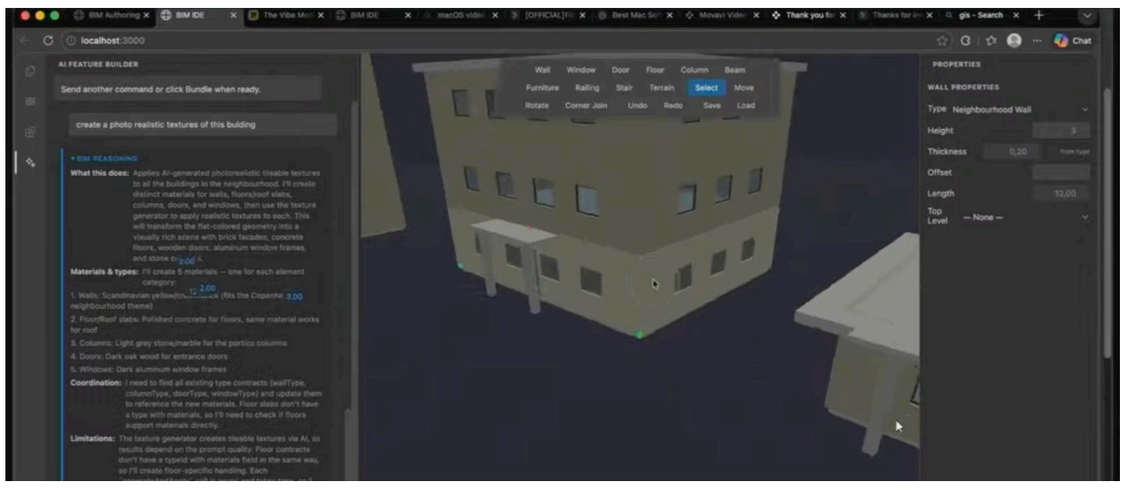
Challenge: The construction industry lacks a unified platform, it relies on fragmented and often closed BIM systems, where data is difficult to share and constrained by vendor-specific tools.

At the same time, supply and demand across the ecosystem remain disconnected, and many stakeholders lack the resources to structure and manage data effectively. This limits innovation, creates inefficiencies, and makes it difficult to adapt tools to user needs.

Solution: The team explored an open-source, AI-enabled BIM platform designed as a flexible foundation rather than a fixed tool.

Instead of relying on predefined features, users can define their own rules, workflows, and functionalities, allowing the system to evolve based on real industry needs. By structuring BIM data in a way that is accessible to AI, the platform enables new types of interaction, automation, and tool development.

Rather than replacing existing tools, the approach creates a shared, community-driven layer that supports the next generation of BIM ecosystems, reducing dependency on closed systems and enabling more adaptable, user-defined workflows.



Team members:

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Thomas Kjær, *RIB Software*
Marius Vaideli, Digital Consultant, *Ørsted*
Christian Aspsköld, Product Manager, *RIB software*
Elena Vang Pirtac, BIM Bygningskonstrultør, *DOMINIA Rådgivende Ingeniøre*
Kim Vang Pirtac, Junior BIM og IKT leader, *Kemp Lauritzen*
Dmytro Kravchyna, Lead Software Developer, *Netminds*

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Team: Layer 0

Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

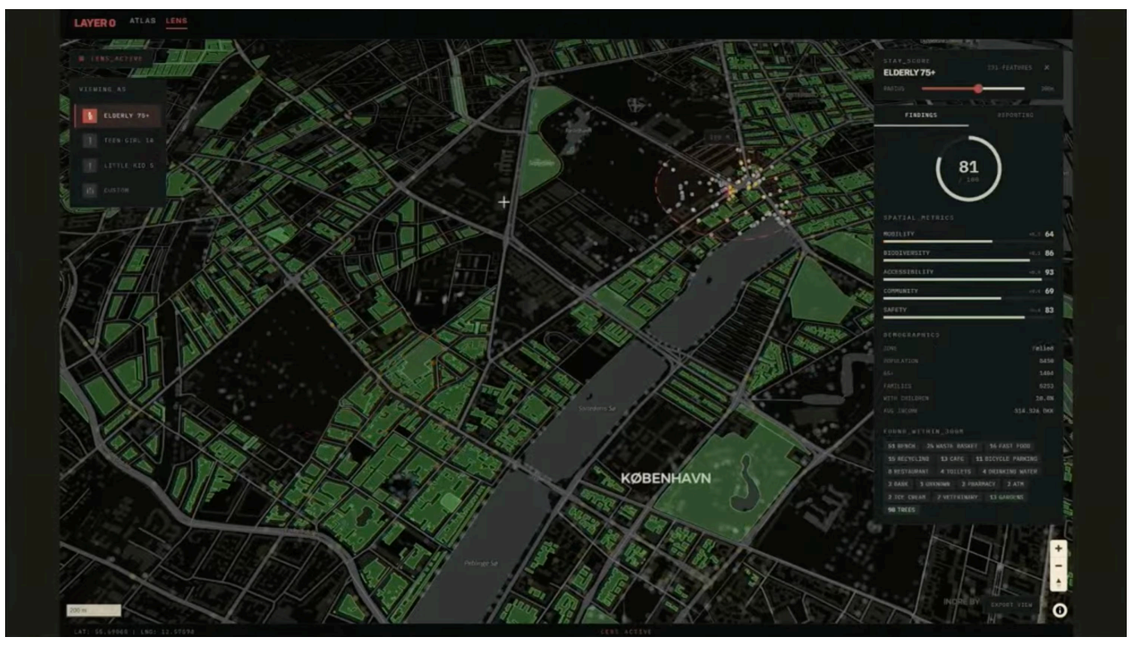
Youtube: 1:52:57 | **Henning Larsen Challenge**

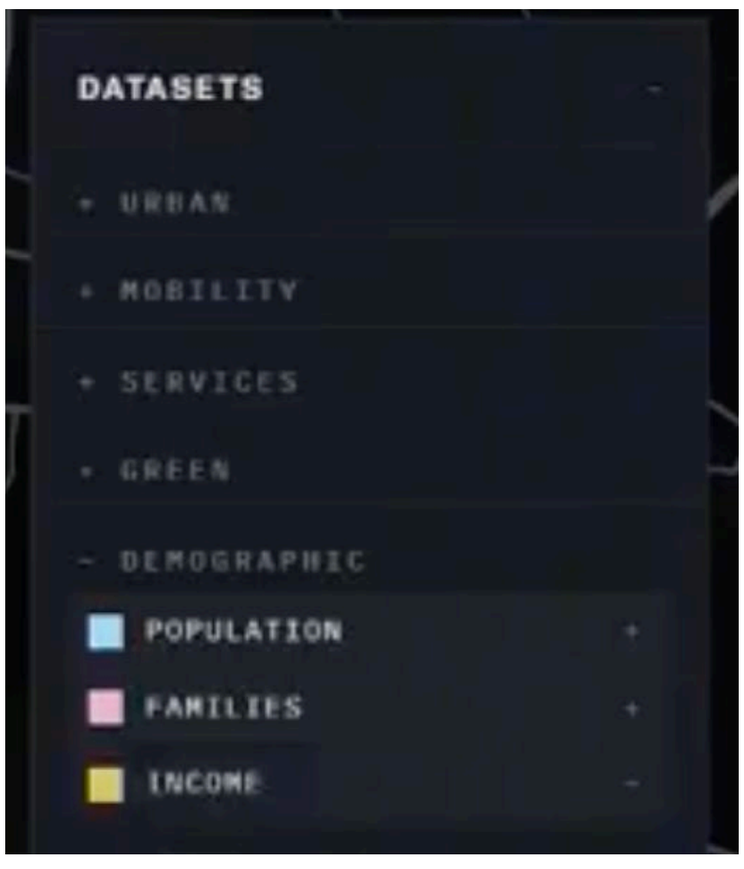
Challenge: Urban data is fragmented, and existing tools struggle to connect quantitative metrics (e.g. demographics, mobility) with qualitative insights such as safety perception and user experience.

As a result, it is difficult to understand how different groups actually experience a city, limiting more inclusive and human-centred design decisions.

Solution: Layer 0 is an interactive spatial analysis tool that combines quantitative and qualitative data into a single, map-based interface.

By applying demographic personas (e.g. young, elderly), users can explore how urban conditions vary across groups, generating tailored liveability insights and summaries. This enables a more nuanced understanding of the city, supporting data-informed, human-centred urban design.





Team members:

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Vasco Calheiros, BIM Architect
Petr Müller, Engineer, *Rambøll*
Giulio Dini, Digital Design Manager, *Park Associati*
Marco Antonini, PHD Researcher, Università di Roma
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Florencia Ramirez, Technical Digital Building Designer, *MapsPeople*
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Bahara Attaii, Platform Development and Digital Support, VELUX
David Chuchuca, Student
Marta Szabelewska, Computational design intern, *Henning Larsen*

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AEC Hackathon 2026
Team: Citylens.dk

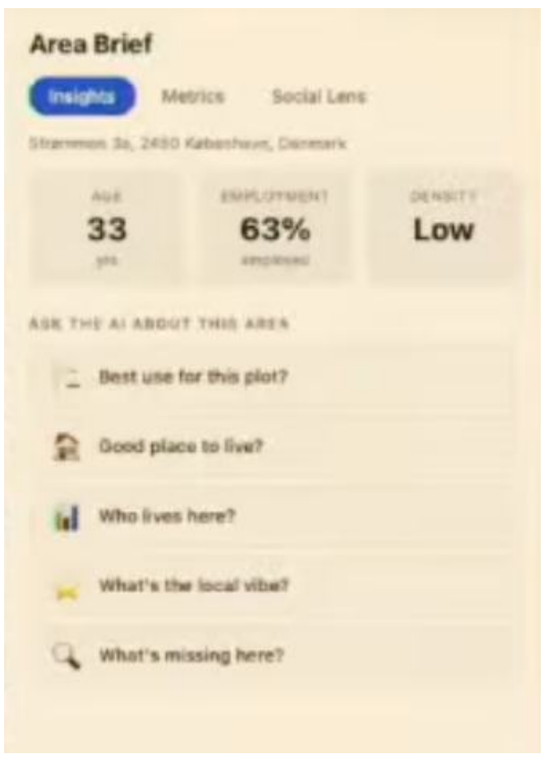
Tech & AI to Build CO^2-Neutral, Biodiverse, and Engaged Communities

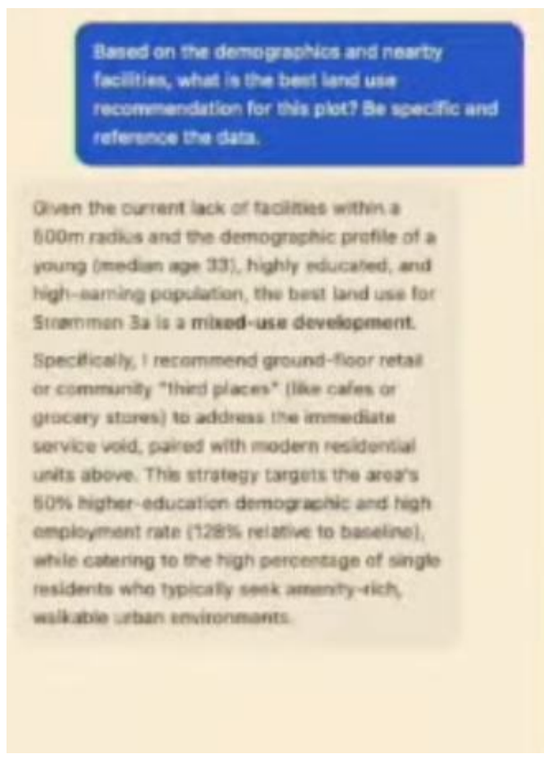
Youtube: 2:45:53 | **Henning Larsen Challenge**

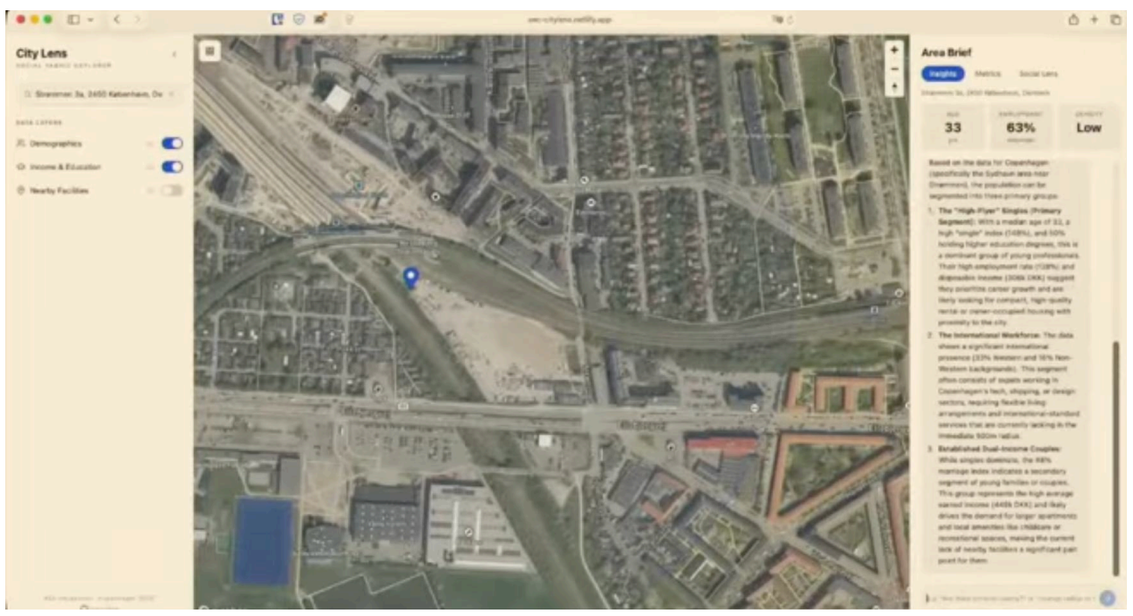
Challenge: Urban planners and NGOs face fragmented data sources and slow analysis processes, making it difficult to generate and communicate clear insights for decision-making.

Solution: The team developed a chatbot-driven platform that enables users to query urban data through natural language and instantly visualise results on a map.

By combining conversational interaction with real-time visualisation, the tool translates complex datasets into clear, actionable insights, supporting faster and more informed planning decisions.







Team members:
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