

Aug 30, 2026

Askbeevs - Farming special.

Summary

Meeting participants reviewed digital twin applications for energy efficiency and beef cattle farm economic optimization through AI.

Energy Digital Twin Utility

Digital twin software establishes household energy consumption baselines and financial metrics. This tool generates actionable recommendations for tariff adjustments and capacity upgrades to minimize overall costs.

Beef Cattle Simulation Construction

Agricultural digital twin development utilizes AI to model pasture growth and herd lifecycles. This simulation reveals that immediate sale of weaners currently yields higher profitability than growing cattle out.

Strategic AI Business Integration

Agentic AI systems decompose complex problems into actionable research tasks and logical structures. These advanced tools consolidate traditional business models into high-value solutions by identifying specific cost and revenue drivers.

Decisions

Aligned

- **Farm digital twin strategy defined** The team agreed to develop a digital twin of a farm using AI to generate prompts and research data rather than relying on initial assumptions.
- **Beef cattle farm domain selected** The digital twin project is set to model a beef cattle enterprise located in Victoria, Australia.

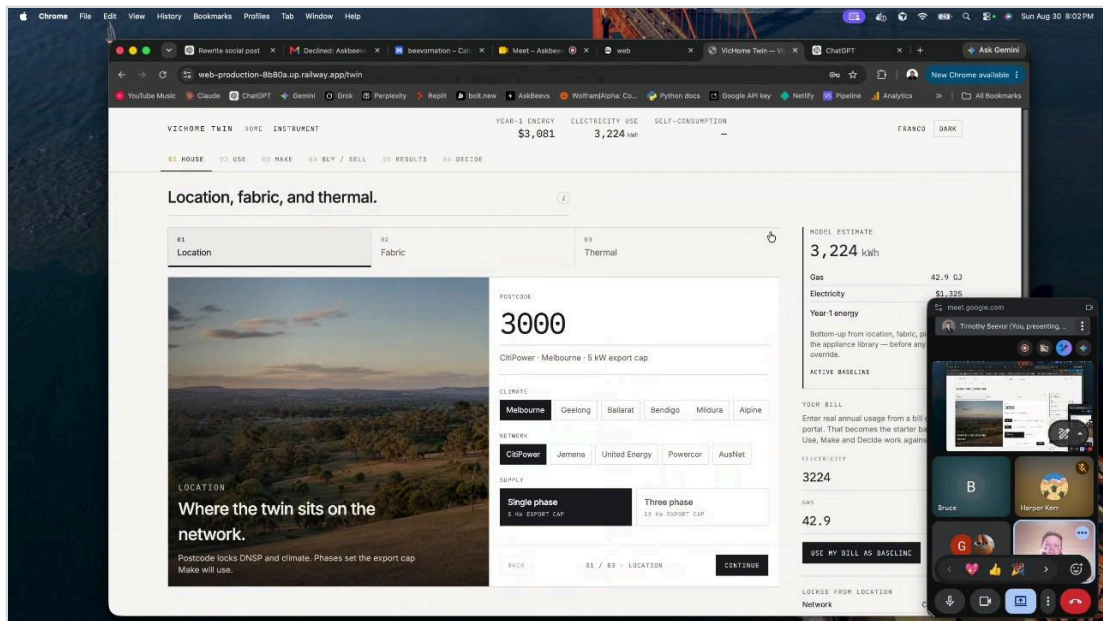
- **Farm twin baseline parameters established** The digital twin configuration is set to an 85-hectare property in Yara Glen with 800mm annual rainfall, 12 paddocks, and an initial herd of 80 Angus cows.
- **Prioritize simple visual for class presentation** The project focus is shifted to prioritize a simple visual output for the class presentation, deferring further engine module plumbing.
- **Continue development of cattle application** The development of the cattle production application will continue in the background with the goal of building a functional app interface.

Next steps

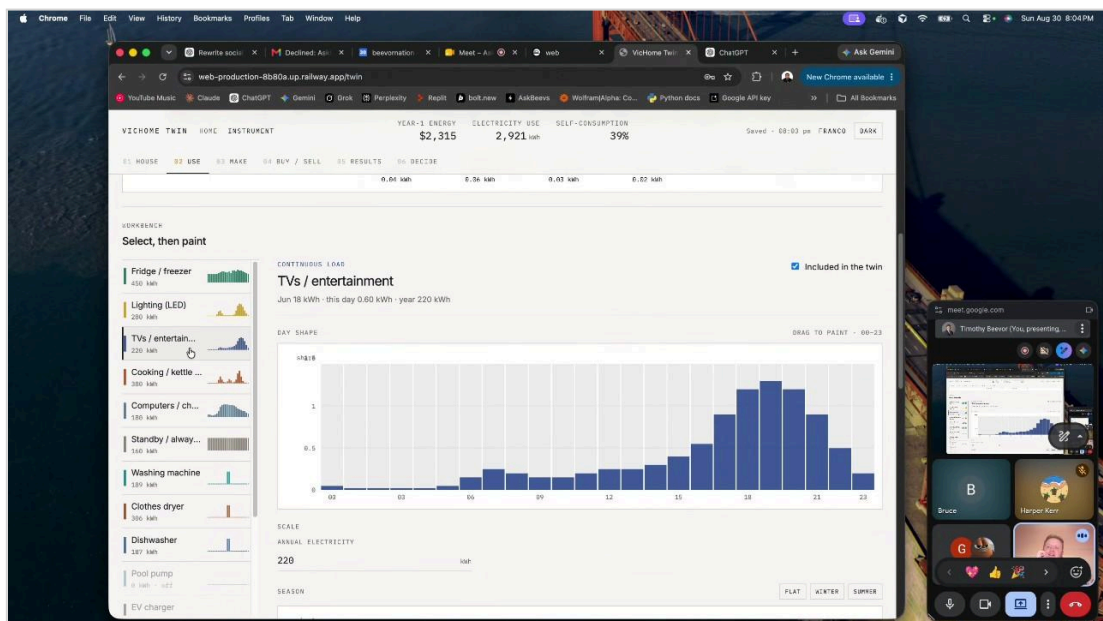
- ☐ [Timothy Beevor] Check Canvas Skills: Verify the Canvas skill and existing results to enable the creation of a simple visual output for the class.
- ☐ [Timothy Beevor] Load Comparison Data: Load the comparison numbers and the canvas component to display slides alongside the chat interface.
- ☐ [Timothy Beevor] Send Report: Monitor the model performance and send the resulting report to Bruce.

Details

- **Energy Use Digital Twin Overview:** Timothy Beevor presents a digital twin application designed for analyzing energy usage within homes in Victoria, Australia. The application allows users to input specific variables—such as location, meter type, occupant count, home size, and insulation quality—to establish a baseline for electricity and gas consumption.

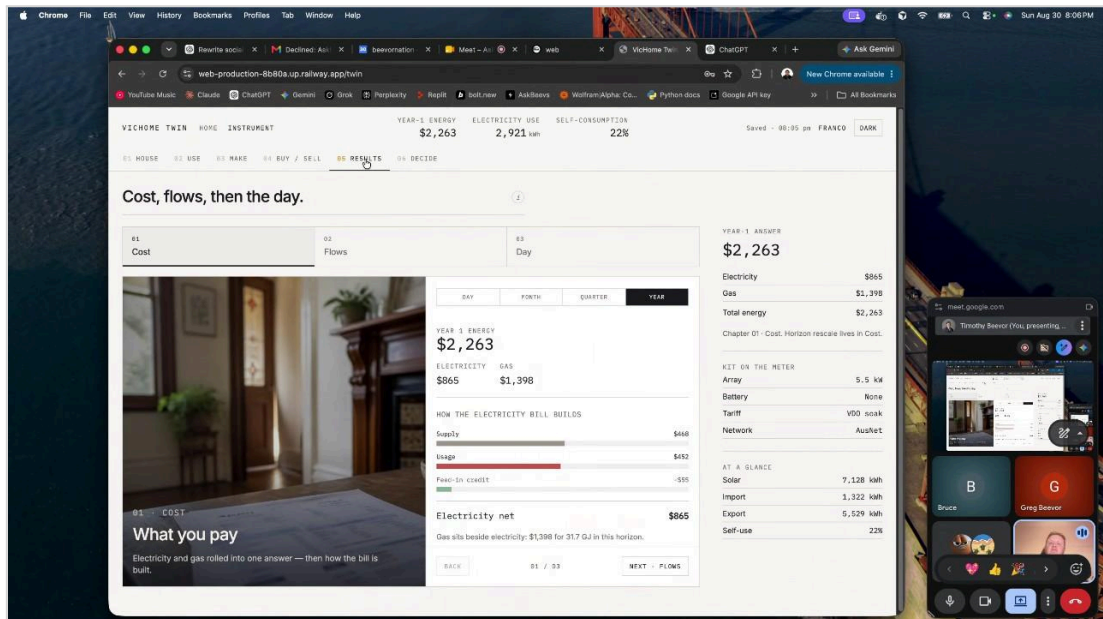


- Energy Application Functionality:** The application provides an interface for users to input real energy figures or rely on system estimates. It simulates typical daily consumption across various appliances, such as refrigerators, freezers, and heating systems, and allows users to adjust settings for different seasons to model how energy patterns shift throughout the year.



- Energy Financial Analysis:** The tool models energy production from solar panels alongside consumption data. Greg Beevor and Timothy Beevor discuss how the app calculates daily financial outcomes based on buying and selling electricity. The application provides recommendations for optimizing

costs, such as switching to a flat rate tariff or installing additional capacity like a battery, without requiring complex capital investment.

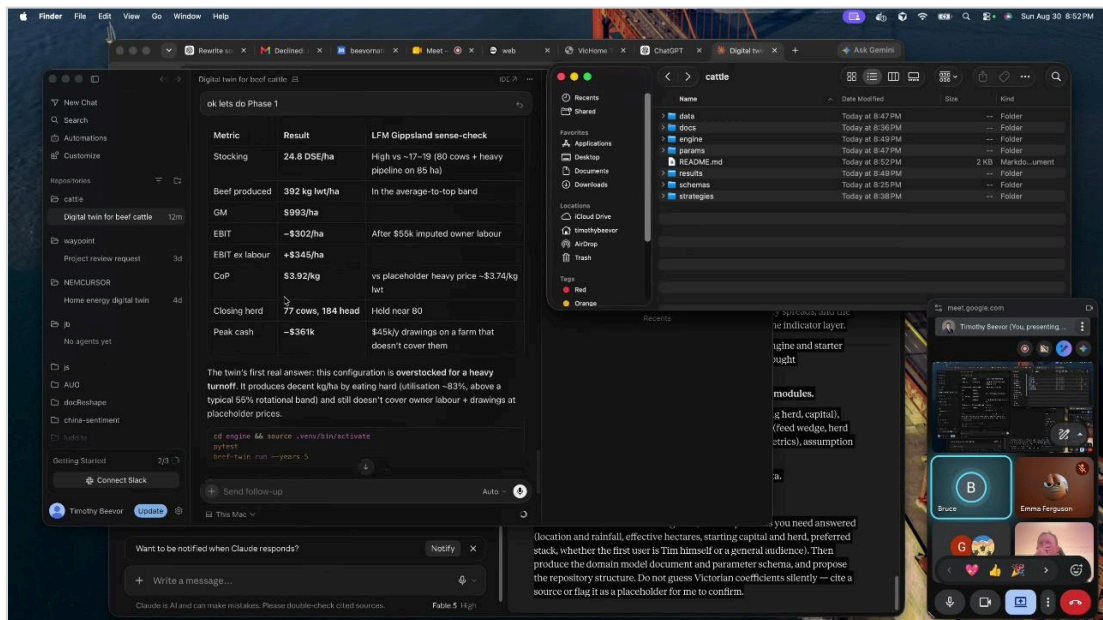


- **Digital Twin Development Methodology:** Timothy Beevor explains that building such a digital twin requires a multi-layered approach rather than simple prompt engineering. This process involves researching constants and data logic, creating a structured system of mechanisms—including house profile, usage, production, and financial results—and utilizing tools like Cursor to generate code and synthetic graphics.
- **Planning a Beef Cattle Farm Digital Twin:** The group decides to build a digital twin for a beef cattle farm in Victoria. They aim to avoid pre-existing assumptions, instead working with the AI to define the prompt and data sources. The discussion includes brainstorming essential value drivers such as land parameters, stock purchases, seasonality, breeding strategies, cattle health, feed management, and market pricing.
- **Utility of Digital Twin Models:** Timothy Beevor emphasizes that the goal is not just to build an app for sale, but to create a decision-support tool. By modeling variables that impact outcomes, the digital twin helps users understand the underlying mechanics of their profession, whether in farming or physics, to improve their decision-making capabilities.
- **Implementing the Farm Digital Twin:** Timothy Beevor uses Fable for design and Cursor for the coding execution. They generate a prompt requesting a genuine simulation engine rather than a chatbot, focusing on physical and economic systems. The AI successfully begins building the file

structure, covering components like livestock physiology, growth curves, and farm defaults.

- **The Convergence of Business Models:** Timothy Beevor argues that AI is consolidating traditional business models—software, consulting, and education—into single products. By identifying specific cost and revenue drivers within a business, AI can be used to decrease expenses or increase income, which allows for premium pricing because it provides a tangible, high-value solution for the client.
- **Inputting Farm Parameters:** The group provides specific inputs for the beef farm simulation: a location in Yarra Glen, 800 mm of annual rainfall, 85 hectares, 12 paddocks, an initial herd of 80 Angus cows, and a "heavy trade steers" business strategy. The objective is to use this simulation to improve the enterprise's earnings before interest and taxes.
- **Advanced AI Integration in Operating Systems:** Timothy Beevor discusses the "Maraki" operating system, which is a Linux distribution integrated with an AI agent that can directly modify the system's code to perform user tasks. They explore the potential for this type of agentic technology to be applied to various sectors, such as healthcare and operational management.
- **AI Problem Solving Capabilities:** Timothy Beevor notes that modern AI does not merely generate text; it breaks down complex problems into research tasks and logical structures. The AI iterates to ensure mathematical consistency, creating a model that is traceable and inspectable by the user, which offers a reliable way to approach decision-making.
- **Beef Farm Model Construction Progress:** The AI engine continues development by establishing modules for pasture, feed, herd lifecycle, and a five-year profit and loss statement. The model incorporates specific data points, such as an initial standing dry matter of 1500 kilograms and deterministic rainfall modifiers, to ensure the simulation remains grounded in realistic farming constraints.
- **Ethical and Practical Discussions on AI:** Bruce and Timothy Beevor discuss societal attitudes regarding AI, specifically addressing concerns about water usage in data centers. They clarify that these facilities often use recycled water in closed-loop systems. They also share positive sentiments regarding the use of AI to foster a renewed interest in learning and problem-solving, despite some public resistance.

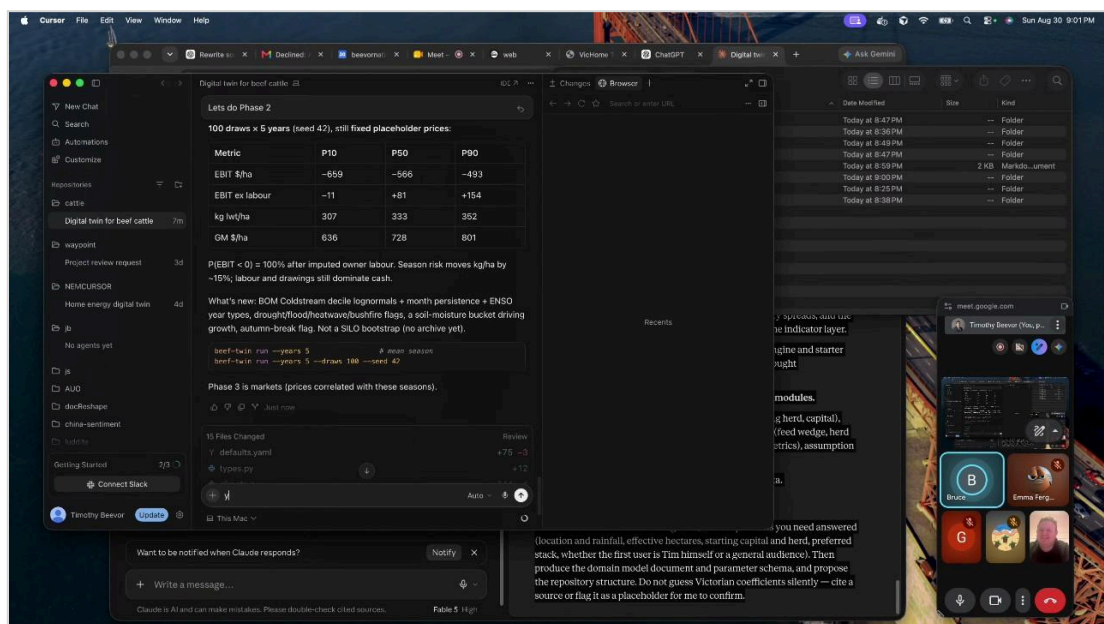
- Model Optimization and Farming Experience:** The group reviews the AI's progress as it tunes the mathematical relationships within the farm model. Bruce reflects on his personal farming experience, noting that while traditional knowledge takes a lifetime to acquire, tools like this provide an informed baseline for decisions. The AI identifies issues, such as herd shrinkage, and proactively modifies the code to optimize the simulation.



- Future of Recursive AI Development:** Timothy Beevor highlights the significance of agentic AI that can self-test and recursively improve its own capabilities. He suggests that such systems will soon be able to operate autonomously to complete multi-phase projects without needing constant human oversight.
- Innovative Learning Techniques:** Timothy Beevor concludes the meeting with an anecdote about teaching phonics. Instead of rote learning, they associated each letter with a specific word (e.g., "C" for "cow"). This strategy resulted in immediate success, suggesting that changing the learning method can be more effective than traditional approaches.
- Phonetic Communication:** Bruce and Timothy Beevor discuss the utility of using the phonetic alphabet—such as Alpha, Bravo, and Charlie—when speaking with telemarketers to improve clarity. They note that some telemarketers fail to understand standard phonetics, which leads to communication frustrations during these interactions.
- Managing Unsolicited Calls:** Timothy Beevor expresses frustration with the frequency of unwanted calls and considers deleting their phone number.

Bruce and Timothy Beevor recount strategies for dealing with scammers claiming to represent technical support, such as engaging them in long conversations to waste their time. Timothy Beevor mentions previous involvement in a competition to keep scammers on the phone for the longest duration, sometimes exceeding 45 minutes.

- **Telemarketing and Internet Connectivity:** The participants discuss current trends in telemarketing, noting that many calls are related to government programs, solar services, or hot water systems rather than legitimate businesses. Timothy Beevor shares that they decline National Broadband Network offers by stating they use Starlink because it is reliable and operational on Sunday evenings, despite the higher cost.
- **Market Simulation Project:** Timothy Beevor outlines a new project focused on reviewing how market prices and indicators are interconnected. This involves modeling the cattle cycle price path and correlating it with seasonal samples, sales inventory, hay, and an indicator layer to potentially build a useful application for producers.



- **Land Value and Agricultural Economics:** Bruce and Timothy Beevor reflect on the challenges facing cattle producers, noting that land values have risen far beyond the potential profitability of cattle farming. Timothy Beevor suggests that the situation has been exacerbated by the financialization of land, where it is treated as a derivative rather than a productive asset.
- **Autonomous Vehicle Economics:** Timothy Beevor discusses the Tesla Cyber Cab, noting that autonomous vehicles could revolutionize transport by

reducing costs, such as the expense of travel per kilometer. They explain that the cost reduction is driven by four factors: the affordability of the vehicle, increased electricity efficiency, the removal of the driver, and the potential for vehicle sharing. Timothy Beevor emphasizes that mass adoption of these vehicles could change the unit economics of transport, potentially handling significant volumes of urban traffic.

- **Infrastructure and Tunneling:** Timothy Beevor discusses the Boring Company, noting their efforts to build tunnels in locations like Las Vegas, Los Angeles, and Texas. The strategy targets construction costs under \$10 million per kilometer by utilizing deep, stacked tunneling, which offers a significantly cheaper alternative to traditional surface road construction.
- **Full Self-Driving Experience:** Timothy Beevor shares their experience using Full Self-Driving for a 55-kilometer commute, stating that they find it comfortable and stress-free. They describe instances where the car proactively changed lanes to avoid potentially unsafe drivers, such as one traveling in the emergency lane at excessive speeds, demonstrating the safety benefits of the technology.
- **Coding Tools and Strategy Architecture:** Timothy Beevor discusses transitioning from Replit to Cursor for coding tasks, noting that the \$20 plan offers generous token limits and provides sufficient value for their projects. They highlight the intention to extend the strategy schema, Yet Another Markup Language files, and runner systems to avoid reinventing the infrastructure.
- **AI as a Reasoning and Educational Tool:** Timothy Beevor reviews their use of AI tools like Perplexity, ChatGPT, and Google Workspace, noting that ChatGPT is particularly effective for social media content creation. They argue that AI should be viewed not just as a coding tool, but as a reasoning tool that can help build an "agriculture brain" by synthesizing vast amounts of data, such as rainfall and location records, to assist in solving complex problems.
- **Labor Dynamics and AI Integration:** Timothy Beevor and Bruce discuss how AI might shift employment and organizational structures. Timothy Beevor suggests that while AI may reduce the number of staff required for certain tasks, it could enable the creation of more, smaller niche enterprises by allowing them to achieve organizational goals with fewer resources.
- **Presentation Strategy for Class:** Timothy Beevor discusses the challenge of teaching complex AI topics within a 90-minute timeframe. They decide to

prioritize displaying simple, ready-to-view visuals in class before implementing the complex engine plumbing later, ensuring the content is accessible for students like Harper Kerr.

- **Simulation Output Analysis:** The participants examine simulation outputs regarding cattle farming, noting data points such as a loss of approximately \$498 per head when growing out heavy cattle. Bruce observes that the simulation indicates it is more profitable to sell weaners immediately than to grow them out, although they discuss the need to clarify financial assumptions, such as the breeding life cycle of the self-replacing Angus cows, which are modeled as having a 10-year lifespan.
- **Project Conclusion and Future Outlook:** Timothy Beevor agrees to finalize the simulation demo, add proxy data, and send the report to Bruce. Bruce and Timothy Beevor conclude the meeting by discussing the broader implications of land value and food security, noting that while the simulation results suggest selling the farm might be a logical financial decision, the value of domestic food production remains a significant societal concern.

You should review Gemini's notes to make sure they're accurate. [Get tips and learn how Gemini takes notes](#)

How is the quality of **these specific notes**? [Take a short survey](#) to let us know your feedback, including how helpful the notes were for your needs.