METHODOLOGY / PUBLIC NOTICE OF AUTHORSHIP

Terra Genesis

Digital twins and architect-directed design agents

AUTHORSHIP

Gaurav Vatsa

Founder of Terra Genesis / AERONOVA TIA Consultants

Terra Genesis is a digital-twin-based methodology for generative architecture. Master Architect Gaurav Vatsa is its Chief Controller and human design co-pilot. He directs specialist design agents, explores alternatives with OpenAI models and decides which model-tested scheme advances.

HOW THE METHOD WORKS

The architect turns the brief into design rules and sets up a digital twin of the site. The team develops distinct options against that common model. Each option carries a record of what changed, how it performed and which assumptions still need checking.

The team compares the cost of building and running each option on the same basis. For a revenue-generating project it also tests demand, cash flow and the timing of funding. On a school it can compare pupil capacity with the cost of delivering each phase.

PERSONAL RIGHTS NOTICE

I conceived Terra Genesis and develop it through my independent practice, AERONOVA TIA Consultants. I claim rights in my original writings, design specifications, drawings and software contributions. Project agreements and collaborators' credits apply to their respective work.

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METHOD IN PRACTICE

From site evidence to a design decision

The Chief Controller questions proposals, changes constraints and asks the agents to rerun tests. The design objective is to use the most capable OpenAI model available and validated for each task. The digital twin retains the geometry, quantities and revision history.

01	**Establish the site**	Register the boundary, levels, access, climate, brief and budget. Identify the source and status of each input. The architect accepts the baseline for the design stage.
02	**Generate options**	Set the variables and constraints. OpenAI models can interpret the brief and propose alternatives. Modelling tools build each alternative as a separate revision of the twin.
03	**Test and appraise**	Teams test geometry, circulation, climate, structure, operations and cost. A coordinator brings conflicting findings to the Chief Controller. A missing critical input keeps the affected decision open.
04	**Select and issue**	Gaurav decides which scheme progresses and records his reasons. The team issues drawings, quantities, visualisations and the appraisal from the accepted revision, and rechecks them when the design changes.

ILLUSTRATIVE DESIGN DECISION

A shaded courtyard could bring two classroom wings closer together. The team models a compact and an open arrangement, then measures travel distance, tests daylight and compares the cost of the covered walk. The architect can choose a layout and record which trade-off informed that choice.

THE DECISION RECORD

Record the source of each measurement, the options compared and the reason for the decision. If a survey, authority response or cost estimate changes, reopen the affected test and issue a new revision.

CFCPD GOVERNANCE

Every specialist reports to Master Architect Gaurav Vatsa under his CFCPD Manifesto (Culture, Finance, Community, Planet and Digital).

Manifesto reference / lepress.in/living-lab.html

PORTFOLIO REVISION / 5 NOVEMBER 2026, INDIA

Eight design studies

Gaurav Vatsa identifies the following projects as applications or demonstrations of Terra Genesis. Each entry describes a design question that can be explored in the public studio.

01	**Le Press Phase 3** Lucknow, Uttar Pradesh	How could a rooftop pavilion and terraces connect to the existing courtyards while keeping guest and service routes clear?
02	**Sanjeevani Vann** Nagpur, Maharashtra	How can guests move between wellness facilities, accommodation and shaded walking routes across a two-parcel site?
03	**Raipur school** Raipur, Chhattisgarh	Where can bus and service vehicles turn without crossing the supervised walking route from arrival to classrooms?
04	**Sankadady River Garden Resort** Sankadady, Karnataka	How should the veranda and river terrace meet the landward guest route as flood levels and bank setbacks are established?
05	**Ashiyana heritage resort and club** Lucknow, Uttar Pradesh	Can the central club, lawns and planted berms buffer the quieter western cottages from event arrivals on the eastern edge?
06	**Dubai Marina Tower** Dubai, United Arab Emirates	How can the public arrival and waterfront amenities stay above grade while loading, plant and parking operate below?
07	**BKC Twin Towers** BKC Fringe, Mumbai, Maharashtra	How much space should separate the north and south slabs above the retail podium to serve residents and protect the eastern canopy?
08	**Mukteshwar apartment complex** Mukteshwar, Uttarakhand	What can the related hillside townhouse study, with its private terraces and common deck, teach the apartment design about shared access and views?

EXPLORE THE STUDIES

Open a demonstration workspace from the public project gallery.

terragenesis.aeronovatia.com/pilots/