Machinarium
Regenerative urban catalyst and textile production, Pretoria, South Africa

Main author
Heidi van Eeden, master’s student, South Africa

Summary by the jury
The 21st century, frequently termed the post-industrial era, is marked by the devastating consequences of unsustainable industrial production, unlimited consumption, and boundless waste. The proposed scheme from Pretoria, redefines understandings of industry by proposing a new system of resource exchanges between specific production processes. The submitted design, for example, explores synergies between a textile manufacturing facility, agricultural fields, and a sewage treatment plant to create what the author calls a “Machinarium” of mutually interrelated systems and subsystems, all working together to create a sustainable environment. The project thereby explores new architectural typologies which may transform the future of cities. Industry becomes a regenerative urban catalyst that blurs present-day distinctions between social, productive, and natural space.

Appraisal by the jury
The jury admired the freshness of the scheme’s underlying hypothesis as well as its translation into architecture. Particularly valued was the project’s bold proposition to understand the city as a type of “self-sustaining” machine in which one component feeds the other – a collection of superimposed eco-systems in a state of equilibrium. Notwithstanding its utopian facets, the design proposal frames a valuable discussion on potential forms of relationship between the constructed and natural environment, offering the grounds for understanding the art of building as a practice in symbiotic relation with nature.

Project data
Context Architecture, building and civil engineering
Client Daspoort Sewage & Wastewater Treatment Plant
Background Research project

Further authors
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Image 3: Reclaiming the wasteland: Re-programming latent industrial infrastructure on site.

Image 4: Extending ecological habitat by creating a “living” architectural façade.

Image 5: Alternative Waste Water Treatment: Wetland-based systems blur boundaries between industry and nature.

Image 6: Sustainable Energy: Steam powers textile machinery and regulates internal humidity and thermal control.

Image 7: Skills training and fashion workshops encourage community participation and cultural expression.

Image 8: Investigation of program and context to identify potential resource exchanges and spatial interaction.

Image 9: A proposed urban vision defines the mill as a regenerative urban catalyst within its context.


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