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(57) Abstract :
Solar Print is a novel 3D printing system powered entirely by solar energy, designed to offer a sustainable and cost-effective alternative to traditional manufacturing methods. The system comprises solar panels that capture sunlight and convert it into electrical energy, which is then stored in an energy storage system for use during non-sunny periods. A power management system distributes this stored energy to a 3D printer, enabling the additive manufacturing process. The system includes a control unit to manage and optimize the printing process, and cooling and heating systems powered by solar energy to maintain optimal printing conditions. Solar Print reduces reliance on non-renewable energy sources and minimizes environmental impact, making it a significant advancement in eco-friendly manufacturing technology.

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