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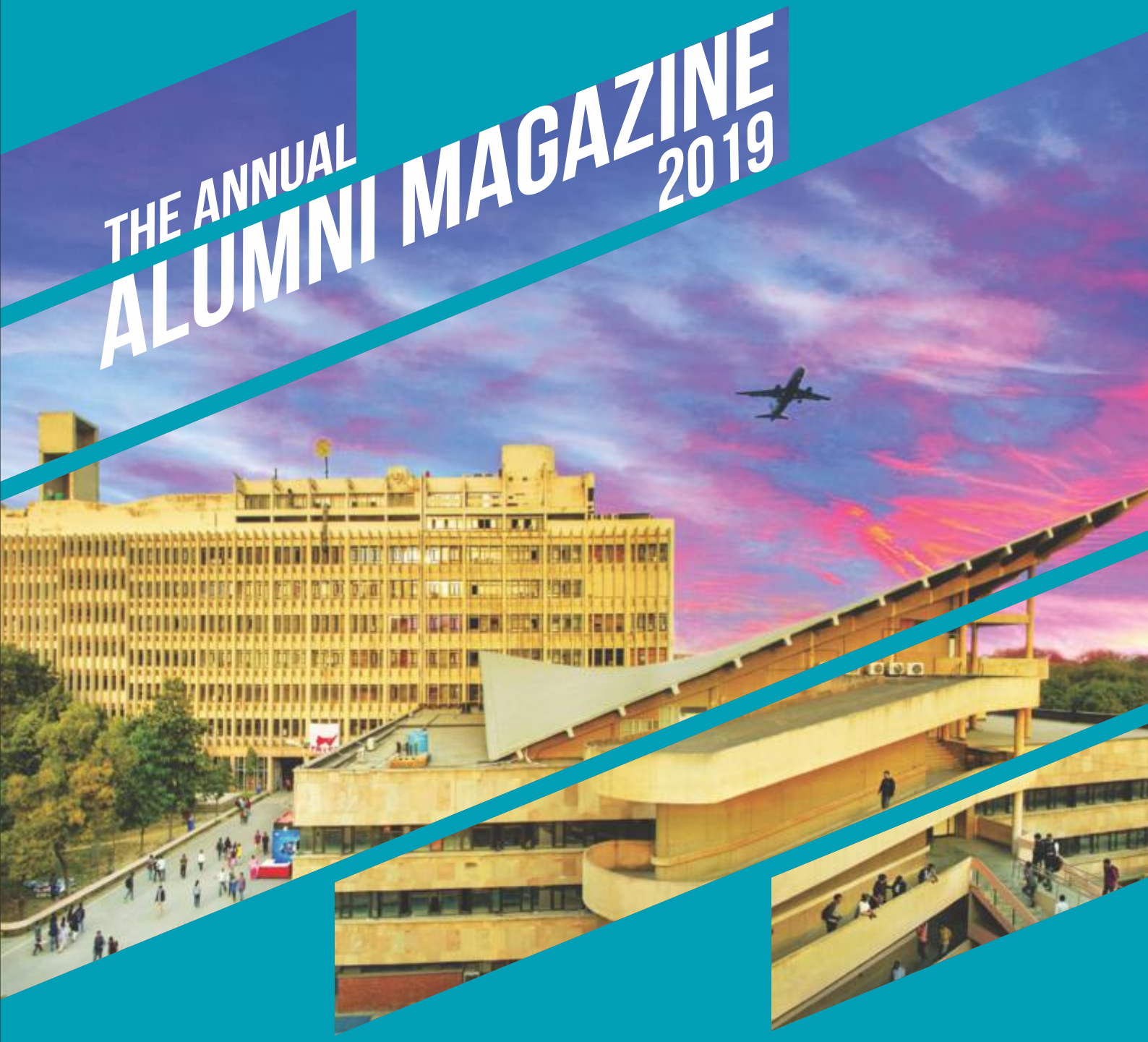

भारतीय प्रौद्योगिकी संस्थान दिल्ली
INDIAN INSTITUTE OF TECHNOLOGY DELHI

ALUMNI ASSOCIATION
iiT DELHI

ENGINEERED VERTICAL LANDFILLS FOR SOLID WASTE DISPOSAL

Narendra Dalmia
B.Tech: Chemical Engineering **Batch:** 1977
IIT DELHI

Solid waste management is inarguably one of the biggest ecological disasters being faced and unscientific disposal of this waste ends up affecting the ground water, is prone to fires (creating massive air pollution) and exposes people to a large number of diseases. As urbanization increases in India, scientific waste disposal will be a major challenge and will need sophisticated waste management techniques.

Strata introduced the concept of engineered vertical landfills which are scientifically designed to contain solid waste for more than a century while overcoming several drawbacks of existing systems and reduces urban land requirements. The first such landfill was built in Vapi, Gujarat for containing toxic industrial waste.

The conventional method of containing solid waste with earth dykes requires a large earthen base for stability. Strata's creative design utilizes reinforced soil structures as containment, which have a smaller footprint and still facilitates building vertically. Vertical expansion is made possible with **StrataGrid™** geogrids and **StrataBlock™** modular precast concrete blocks without the need for voluminous earth retaining structures. This allows better utilization of the air space above a landfilled area and reduces the land required. Apart from the expansion, utilizing modern geosynthetic materials (made of polymers) in place of naturally occurring construction materials (such as clay, aggregate etc.) allows significantly higher quality control, precision in construction and improving the life of such structures. These materials help contain the waste in the designated area and do not allow any leachate to flow out. Once the landfill is filled to its brim, it can be capped permanently. The concrete blocks prevent the need for any regular maintenance and reduce any potential damage. Due to the vertical containment, the surrounding areas do not get affected and overall air quality is maintained.

Such technologies are actively used across the world and with due attention in India, it can create an improved waste disposal system (and consequently healthier environments) for future generations.