

YEAR OF GLASS

On 18th of May 2021, the UN General Council announced that the year 2022 shall be marked as the International Year of Glass. The prime objective behind this promising move was to highlight the overarching role of glass on modern science and technology landscape and its future prospects in mankind's pursuit towards environment-friendly materials for achieving sustained economic progress.

Glass and glass-based materials played a significant part in scientific and technical breakthroughs in recent times due to its versatility and technical attributes. Right from the early Bronze era, glass has been an integral part of art, architecture and culture. In the historical perspective, glass accounted for a major role in packaging industry by virtue of its inherent chemical inertness, allowing for storage of chemicals without alternation in quality for longer durations coupled with several other positive attributes.

Of late, technological advancements helped to enhance the properties of glass viz., surface treatment/ modification in order to impart promising characteristics such as self-cleaning, chemical resistance, controlled optical and heat transmission, electrical behaviour, and mechanical properties.

In Information & Communication Technology arena, a vital sector of present times, glass is considered as the backbone, strengthened by a number of innovations, including glass based optical fibres and photonic components. Thinner and highly toughened crack-resistant glasses have become an unassailable part of touch screen feature of electronic gadgets, including mobile phones.

The development of high quality optical mirrors and lenses brought about a transformational change in the field of astronomy where it aided researchers' efforts to explore the universe more accurately.

The photovoltaics (PVs) and concentrated solar power applications cannot be realized without the development of suitable glasses. New advancements in glass would contribute immensely to the development of systems for energy generation to energy storage.

In the highly vibrant domain of nuclear energy, glass continues to be the most appropriate medium for containment and disposal of diversified forms of radioactive wastes.

Corrosion-resistant borosilicate glasses are the material of choice for making of COVID-19 vaccine vials. In medical science, bioglass/ glass ceramics are being used increasingly because of their ability to integrate with human bone mass resulting in healing of wounds considerably. In tissue engineering, bioglass has found enough applications to address bone and skull related issues, etc. Development of glass micro/ nanosphere would aid efforts to produce highly efficient life-saving drugs in radiation therapy.

In a nutshell, Glass is one of the most recyclable materials and is suitably poised to address greenhouse gas emissions to enable a cleaner and better world for future generations of mankind.

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UN International

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A proposal for an International Year of Millets (2023) was brought forward by the Government of India and endorsed by Members of FAO Governing Bodies, as well as by the 75th Session of the UN General Assembly.

