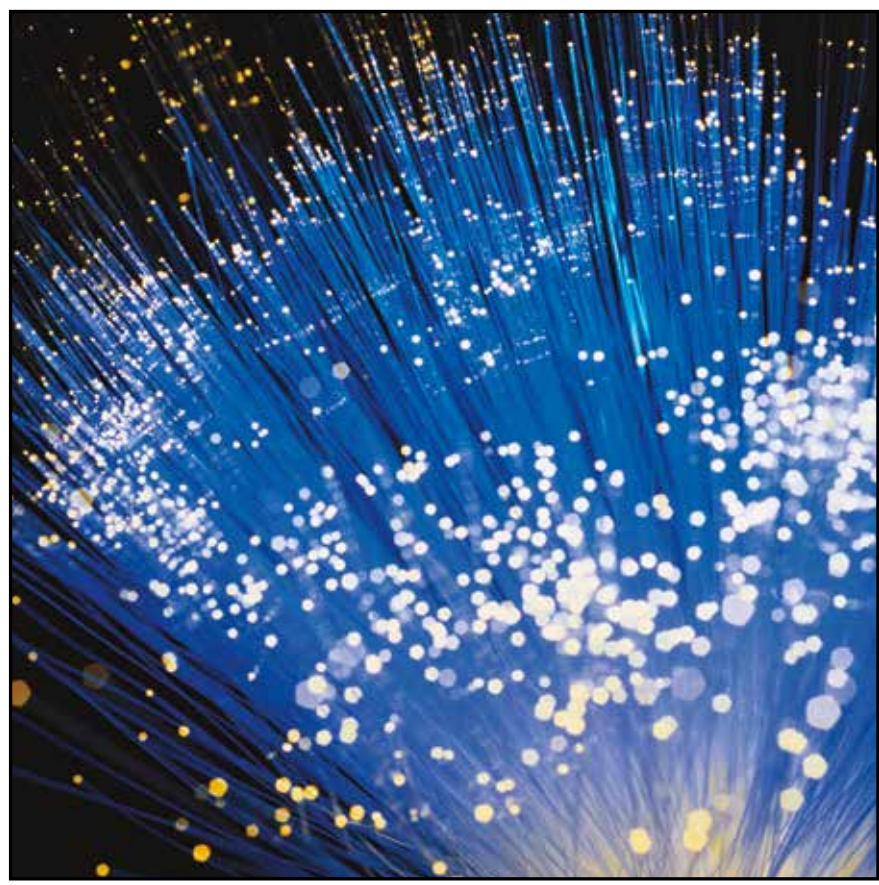


# Why Is Helium Important?



Fiber optics



Cutting and welding



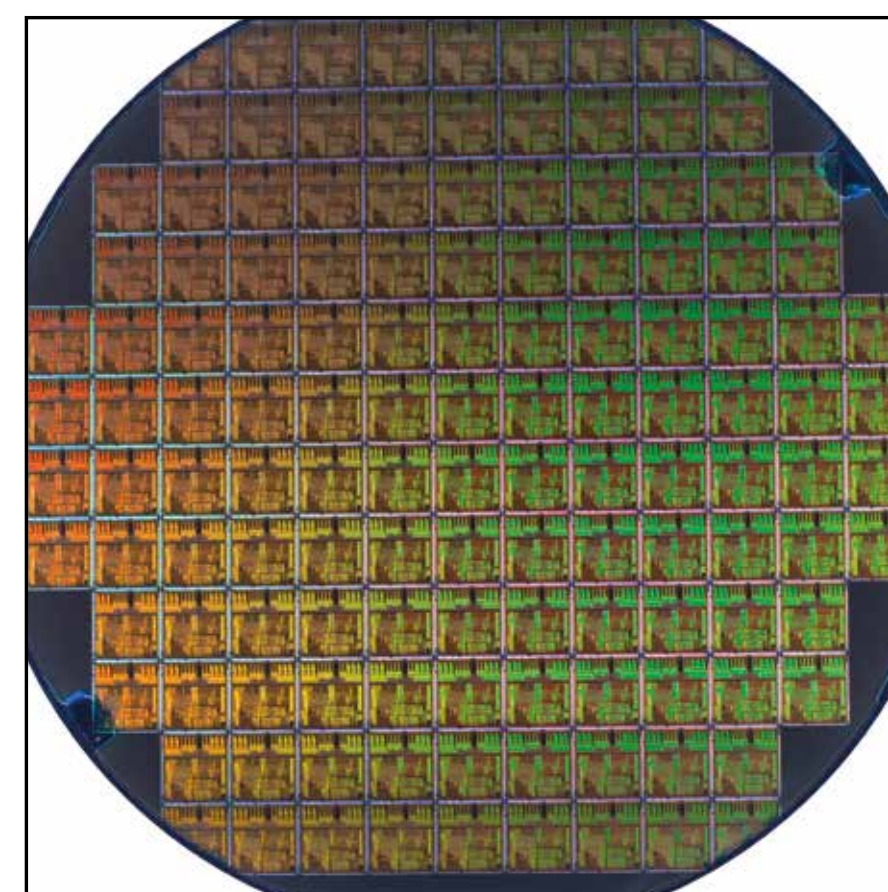
Pressurizing and purging



Medical imaging (MRI)



Diving



Electronics



Lifting

## Properties of helium that make it useful

Unique Chemical/Physical Property of Helium	Beneficial Use
Second lightest element; lighter than air	Used in airships, balloons and military communications and surveillance equipment
Small elemental size	Ideal for high-tech leak detection
Chemically inert and non-reactive	Premier carrier gas for analytical testing and protective gas for controlled temperatures used in semiconductor manufacturing
Liquid helium is coldest substance on earth	Keeps electrical coils in magnetic imaging machines (MRI) cold and is used in special low-temperature scientific research
Low liquefaction point	Used in space launches, where gaseous helium is used to pressurize and purge the flammable liquid hydrogen fuel
Highest ionization potential	Gas of choice for high-tech metal and plasma arc welding
Very low solubility	Used to replace nitrogen in diving gas tanks used by deep sea divers
High specific heat and thermal conductivity	Gaseous cooling of fiber-optic cable and nuclear reactors

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