Bearer of data- optical fiber

Either you see fireworks or carriers of billions of binary digits, we agree with you!

Ever wonder how you get an email or a set of information from a place that's on the other side of the planet? What is the building block of internet? How are we all getting to connect with our friends and family who are far away? Some might think that everything is wireless with no solid substance used for channelling it, but there is. Optical fibers are the carriers of data that cover long distances deep under the oceans to connect people. Let's get to know one of the greatest inventions that affected our lifestyles.

The idea is as old as two centuries when a French engineer Claude Chappe invented an "optical telegraph". Alexander Graham Bell later tried to take a step further his invention of the telephone by patenting an optical telephone system in 1880. It was in 1902 when John Logie Baird along with Clarence. W. Hansell patented their unique innovation of using sequences of rods that were transparent that could easily transmit images for televisions. It was later in 1954 when Abraham van Heel of the Technical University of Delft in Holland and Harold. H. Hopkins and Narinder Singh Kapany of Imperial College in London separately announced imaging bundles. Charles Kuen Kao, Nobel laureate in physics of 2009, is known as the "father of fiber optic communications" for his discovery in the 1960s of certain physical properties of glass, which laid the groundwork for high-speed data communication.

An optical fiber is a flexible, transparent fiber mostly made of drawing glass (silica) or plastic. Having a diameter slightly thicker than that of a human hair, optical fibers have index of refraction close to ideal, meaning a signal travels with a speed of two-thirds of that of light. It works on the principle of total internal reflection, which reduces the loss of data or signals by a very high factor. Apart from telecommunication and networking, it's used in sensors, power transmission, medical fields as well as decoration and toys.

Ann optical fiber cable can have as few as two strands or as many as several hundred.

With the telecommunication companies acing setting up intercontinental connections, optical fibers are being highly produced for the purpose. These are enveloped in protective skin while maintaining the tension in the hair-like wires. It takes about a month of planning the routes of the cables through the seabed after which when they end up on the land of the other

side of the world, merge with the existing network. While wireless network is replacing physical communication channels, the latter still stands to be the fastest way of transferring data which is becoming prominent with the revolutionary optical fiber. As it is well said by Jayne Stowell, who oversees construction of Google's undersea cable projects, “People think that data is in the cloud, but its not. It’s in the oceans.”