

## Healing the World: Telemetry Systems

Telemetry, derived from the Greek words, tele meaning remote, and metron meaning measure, is the technology of automatic measurement and transmission of information by wire, radio, or other means from remote sources, as from space vehicles, to receiving stations where the data may be evaluated. The primary purpose of telemetry systems is to collect data at a place that is remote or inconvenient, and to transmit the data back to a point where the data is recorded and analyzed. In general, these systems are used in the analysis of moving vehicles such as cars, aircrafts, missiles and orbiting satellites. National Aeronautics and Space Administration (NASA), European Space Agency (ESA) and other space agencies use telemetry systems to gather data from orbiting spacecraft and satellites.

Telemetry systems are a special set of communication systems possessing a wealth of applications. The scope of this article does not allow us to explore all possibilities available for the use of telemetry. Biomedical telemetry is one such application. Biotelemetry provides a means for transmitting physiological or biological information from one site to another for data collection. Technically, it refers to such systems that require no mechanical connection. Biotelemetry studies in the last three decades have permitted many areas of physiological and behavioral monitoring in diverse conditions, both for humans and animals, without the encumbrance and restriction of wires connecting the transmitter and receiver. The most widespread use of biomedical telemetry is the monitoring of biological information from animals and man. This data is analyzed at the receiving station to produce numerous pieces of specific information.

In wildlife study and management, the importance of telemetry systems cannot be overstated. Telemetry permits the tracking of animals and endangered species tagged with such instrumentation, in order to get information on their patterns of movement, dispersal and migrations, and habitat use. The daily positioning of these animals to the scientists, regulators, or other human agencies, coupled with continuous tracking gives an explicit representation of the way they utilize their environment. Telemetry systems are also used as an aid to understand and identify the natural causes that are linked to habitat conditions of wild animals, which in turn alter their behavior, and how such conditions affect their mortality rates. These systems also provide a means to examine and forecast the effects of environmental changes such as thermal, chemical pollution and other geophysical changes. Telemetry is used by meteorologists to help project and predict the weather. Have you noticed how the weather predictions over the years have become more accurate than they used to be?

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### About the Author

Keith Londrie II is a well known author. See the site at <http://www.telemetry-info.info/> for a wealth of information. You may also want to visit keith's own web site at <http://keithlondrie.com/>