# A picture paints more than a petabyte of data

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In the age of the petabyte, we all need help digesting and understanding massive amounts of information. In this month's *Physics World*, a series of features celebrates the ascendance of visual methods that are being used to make meaning of the mountains of scientific data.

Scientific visualizations can play a key role in fundamental physics, particularly when it comes to depicting the outcome of particle collisions at CERN's massive new Large Hadron Collider, but they can also shed light on much more everyday research.

A feature written by Cesar A Hidalgo, a physicist at the Centre for International Development, Harvard University, US, explains why 'network science' could be a useful tool in both national economic planning and in medical research.

In medical research, a database of medical records from a large population of elderly US citizens has been used to build a 'disease network' to show how various disease associations are distributed and, among other things, alert doctors to health risks closely associated to any particular ailment.

A similar project, called the Product Space produced in collaboration with a team of economists, maps out the kind of tradeable products that tend to emerge together in national economies and highlights areas where economies may have great difficulty diversifying.

On providing easily understandable information that deals with very

complex subjects, Barry Sanders, iCORE chair of quantum information science and director of the Institute for Quantum Information Science at the University of Calgary, Canada, writes about the work he has undertaken with a team of researchers and animators to produce a "movie" that explains how quantum computers work, Solid state quantum computer in silicon.

Acknowledging the need to delicately balance scientific accuracy and aesthetic appeal, Sanders writes, "Visualization of scientific knowledge is not easy or cheap, but it is rewarding and useful. Animated films are valuable tools for explaining difficult, abstract concepts such as quantum computing in the classroom."

Source: Institute of Physics