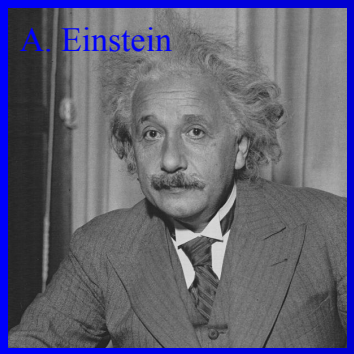
What does CERN and its particles, accelerators and detectors have to do with everyday life?

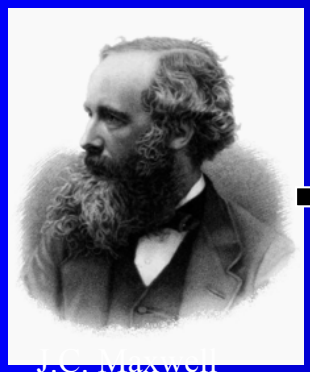
Fundamental research has always been a driving force for innovation



Relativity

100% SCIENCE

For GPS to work, we have to take into account the correction due to time dilation. Otherwise, there would be a position error of around 10m after just 5 minutes of travel-time!



Electromagnetism

100% SCIENCE

Telephones use electromagnetic waves to communicate

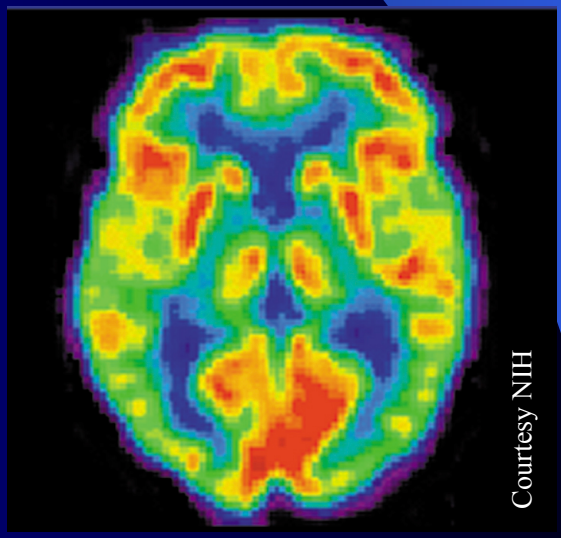
Accelerators: developed in physics labs & used in hospitals

Around 9000 of the 17000 accelerators operating in the World today are used for medicine.

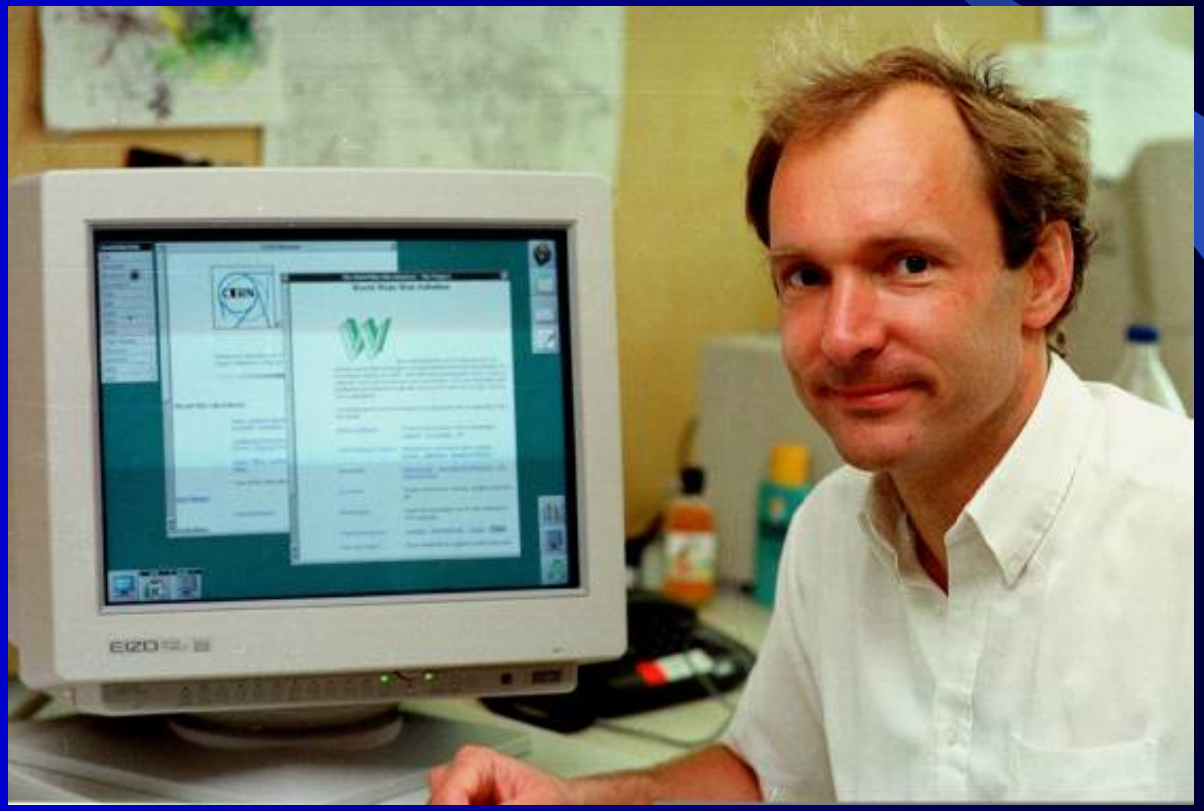
Hadron therapy is a growing method of treating tumours

Detectors: developed in physics labs & used for medical imaging

PET (Positron Emission Tomography) uses antimatter (positrons).

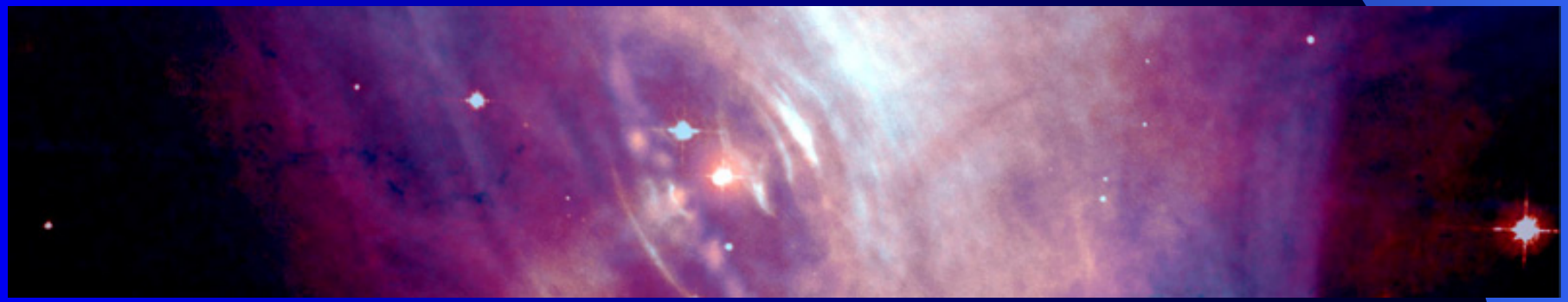


Other spinoffs include… WWW >20 years old!



The Truth is Out There

- The CMS Experiment at the Large Hadron Collider brings physics into unexplored territory.
- New processes and particles could change our understanding of energy, matter and space. We can learn about the basic forces that have shaped our Universe since the beginning of time and that will determine its fate.



Thank You!