In this talk I shall discuss the recent initiative of broadening the present CERN research programme by including a new component exploiting a novel concept of the light source. The proposed, partially stripped ion beam driven, light source is the backbone of the Gamma Factory initiative. It could be realized at CERN by using the infrastructure of the already existing accelerators. It could push the intensity limits of the presently operating light-sources by at least 7 orders of magnitude, reaching the flux of the order of $10^{17}$ photons/s, in the particularly interesting gamma-ray energy domain of 0.1 — 400 MeV. The partially stripped ion beams, the unprecedented-intensity energy-tuned gamma beams, together with the gamma-beam-driven secondary beams of polarized positrons, polarized muons, neutrinos, neutrons and radioactive ions constitute the basic research tools of the Gamma Factory. A broad spectrum of new research opportunities, in a vast domain of uncharted fundamental and applied physics territories, could be opened by the Gamma Factory. Examples of new research opportunities and the initial steps of the project development, will be presented in this talk.