We propose a discussion on the science case for a mission to study high-energy particles in the solar atmosphere in the time frame after 2020. With a series of new technological developments and many open questions, it is timely and possible to undertake a new approach to understand the role of the Sun as a particle accelerator, ranging from suprathermal particles in the apparently quiet solar atmosphere to relativistic protons, ions and electrons during large eruptive events. This discussion intends to gather ideas and critical questions, and to progress towards the identification of a research community interested by a response to the upcoming ESA call for new M class space missions.