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**O/Ref :** CL-18/09/210


**Subject:** Endorsement of the *ExtremeEarth* preparatory project.

Dear Dr. Bauer,

With this letter, the European Centre for Research and Advanced Training in Scientific Computation (CERFACS) wishes to express its strong support for *ExtremeEarth*, a proposed project for an FET Flagship. There is no doubt that *ExtremeEarth* provides a unique opportunity to revolutionize Europe's capability to predict and monitor environmental extremes and their impact on society, and that the steps required to achieve this objective will result in far-reaching scientific and technological breakthroughs.

CERFACS is a leading institute in the development of software, algorithms and modelling techniques for solving large-scale simulation and optimization problems on high-performance computers. CERFACS research activities are organized into five strategic axes: data-driven modelling (data assimilation, uncertainty quantification, data science), linear algebra, numerical methods, coupling, and exascale computing. These core research activities are driven by the needs of applications of both industrial and societal interest, including Earth system modelling and prediction (ocean, atmosphere, and coupled ocean-atmosphere), and environmental monitoring and security (hydrology and hydraulics, wildfire propagation, atmospheric composition). For these reasons, CERFACS is especially interested in the core developments proposed by *ExtremeEarth* and would look forward to contributing to the success of the project should it be funded.

Yours sincerely,



Catherine LAMBERT  
Director