
Research Project Fact Sheet

Title of Project	Emissions Soot ModEl
Project Acronym	ESTiMatE
Funding Program	H2020-EU.3.4.5.5.
Project Identifier	H2020-CS2-CFP07-2017-02
Total Budget	1799875 €
Starting – Ending Date	11/2018-10/2021
Consortium	<ol style="list-style-type: none">1. Barcelona Supercomputing Center, Spain, Coordinator2. Technische Universität Berlin, Germany3. Universitat Polytechnica de Valencia, Spain4. Technische Universiteit Eindhoven5. Technische Universität Darmstadt, Germany6. Karlsruher Institut für Technologie, Germany7. Universität Stuttgart, Germany
Project Objectives	<p>The main objective of ESTiMatE is to develop a modelling strategy using CFD simulations for the prediction of soot in terms of chemical evolution and particle formation in conditions relevant to aero engine operation. The model developments are based on the use of detailed chemical kinetics for kerosene surrogates, and advanced combustion and spray models validated with reference experiments. ESTiMatE develops an advanced methodology based on advanced soot prediction models integrated into high-fidelity simulations. It includes the development of efficient algorithms for the coupling of soot particles with gas phase dynamics allowing the use of large-scale applications with high computational efficiency. ESTiMatE will contribute to the characterization and prediction of the combustion process and subsequent emissions, to increase the predictivity and reliability of soot predictions in the aeronautical sector.</p>
Work Packages	<p>WP1 Coordination and Management WP2 Development of soot models WP3 Coupling soot models into different combustion WP4 Assessment of soot models WP5 Soot validation experiments WP6 Modelling of primary spray WP7 Exploitation and dissemination</p>
External References	https://estimate.bsc.es/
