

## Sandia-approved MOU

Sandia MOU number 11-S-588

**MEMORANDUM OF UNDERSTANDING**  
**between**  
**Sandia Corporation**  
**and**  
**The Erlangen Graduate School in Advanced Optical Technologies (SAOT)**  
**University of Erlangen-Nürnberg**

**SUBJECT:** Joint collaboration to further the understanding of complex chemical and physical processes occurring in engine combustion systems through the use of advanced optical and laser diagnostics.

### INTRODUCTION

Sandia Corporation (Sandia) is a Delaware Corporation that operates Sandia National Laboratories (SNL) pursuant to Contract No. DE-AC04-94AL85000 with the United States Department of Energy (DOE). The Erlangen Graduate School in Advanced Optical Technologies (SAOT) at the Friedrich-Alexander University (FAU) of Erlangen-Nürnberg is a major research and educational institution located in Erlangen, Germany.

- (a) Background. The Combustion Research Facility (CRF) at Sandia National Laboratories, is the Department of Energy's premier center for combustion science and technology. Founded by the Office of Science and funded principally by the Office of Science and the Office of Energy Efficiency and Renewable Energy, the CRF leads the US and the world in the revealing the complex scientific underpinnings of combustion and linking this scientific understanding to technology development to internal combustion engines.

SAOT in close collaboration with the FAU-Institute of Engineering Thermodynamics (LTT – Lehrstuhl für Technische Thermodynamik) is a leading German institution which investigates the fundamentals of chemical and physical processes in internal combustion engines using optical diagnostic for each step of the engine combustion process. SAOT further develops new and unique diagnostic capabilities for performing these investigations.

- (b) Purpose. This Memorandum of Understanding (MOU) documents the relationship and collaboration activities between the parties to further the goals in research and development of cleaner, more efficient internal combustion engines. Parties are expected to have flexibility in the application of the Collaboration Activities based on availability personnel and financial resources. This MOU is not a DOE Reimbursable Agreement, Cooperative Research and Development Agreement, or procurement.

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### **COLLABORATION ACTIVITIES**

- The parties shall identify specific areas within engine combustion research and optical diagnostic development for engaging in collaborative engine research projects.
- Exchange of personnel (staff and students) for research collaboration as mutually agreed to and permitted by each institutions sponsors
- Participation of personnel in scientific conferences and seminars held by either of both institutions
- Mutual information exchange of results of each partner as published in scientific journals

### **FUNDING**

This MOU shall not be used to obligate or commit funds or as the basis for the transfer of funds. Activities of collaboration are subject to availability of funds and the approval of each party.

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### ADMINISTRATION.

- (a) Patent and Technical Data. Parties shall retain exclusive right, title, and interest to their individual underlying technologies. Neither party warrants that any information or technology disclosed to the other party shall be merchantable or fit for a particular purpose or free of claims of infringement from third parties.
- (b) Release of Information. Production or release to news media, to the general public, or any third party regarding the existence, nature, or purposes of this MOU shall require mutual written agreement of all parties prior to its release.
- (c) Conditions for Sandia Participation.
  - (1) It is understood that any work done or actions taken by Sandia must be in accordance with the terms and conditions of the prime contract between Sandia and the DOE for the operation of SNL; and must be in accordance with any successor contracts for the operation of SNL. In the case of any conflict between this MOU and the prime contract for the operation of Sandia, the prime contract shall take precedence.
  - (2) It is further understood that Sandia is required by the DOE to include certain terms and conditions in all implementing agreements it enters into with third parties. To the extent applicable to this MOU, such terms and conditions shall be included in such implementing agreements.

### IMPLEMENTING AGREEMENTS.

The details of the levels of support to be furnished to one organization by the other with respect to funding will be developed in specific implementing agreements subject to availability of funds. Agreements or project plans that set forth specific arrangements for program implementation shall be separately developed and agreed to in implementing agreements facilitated by this MOU. Specific funding and tasking will be established under such implementing agreements. Appropriate patent and other intellectual property provisions shall be included in implementing agreements entered into by the parties.

The DOE patent and intellectual property policies shall apply to any such work performed by a contractor (including any subcontractors) that is funded in whole or in part by DOE under the implementing agreements. No claims for consequential damages, incidental damages, claims for lost profits, or other indirect damages arising out of or resulting from the work conducted under implementing agreements facilitated by this MOU shall be allowed.

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**MISCELLANEOUS.**

- (a) The terms of this MOU shall be governed by the laws of the State of California
- (b) A party may not transfer or assign its interest in this MOU without the previous written consent of all participants. Any such attempt to transfer or assign shall be null and void. Either party may assign or transfer its interest in this MOU to any parent, subsidiary, or successor corporation without the consent of the parties.
- (c) Claims for damage of any nature whatsoever shall be limited to direct damages only.
- (d) No provision of this MOU is intended to conflict with any law, and the provisions should be construed in a manner that will uphold their validity. In the event that any provision is found to be contrary to any law, it shall be deemed unenforceable, and the parties (or the Court) shall substitute a lawful provision in its place that is equitable and which, to the extent possible, reflects the original intent of the parties. Unless it would be inequitable to do so, all other provisions of this MOU shall remain in full force and effect.
- (e) This MOU shall remain in full force and effect for a period of 5 years from the date of the MOU. Either party may withdraw from this MOU in its sole discretion upon thirty (30) days written notice to the other parties.

**SANDIA CORPORATION**

By: *Robert W. Carling*  
Typed Name: Robert W. Carling  
Title: Director  
Date: June 8, 2011

**[OTHER PARTY]**

By: *Alfred Leipertz*  
Typed Name Prof. Dr.-Ing. Alfred Leipertz  
Title: Director SAOT and Chair LTT  
Date: June 9, 2011