Media Contacts:

Agnes Bellini
CADLM, President, Marketing & Sales
agnes.bellini@cadlm.com

Keisa Allen
ETA, Marketing Manager
kallen@eta.com

FOR IMMEDIATE RELEASE

CADLM Announces the New Release of ODYSSEE.Lunar 4.1 and the New Release of ODYSSEE.Quasar 2.1

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As a pioneer in implementing AI/ML/ROM technology in engineering computer aided design (CAE), CADLM, editor of the ODYSSEE platform, is proud to announce the new release of ODYSSEE.Lunar (4.1.0) and the new release of ODYSSEE.Quasar (2.1). ODYSSEE.Lunar is the ODYSSEE package dedicated to machine learning and reduced order modeling (ROM). ODYSSEE.Quasar is the AI solver for ODYSSEE while ODYSSEE.Nova (2.1) is the stand-alone optimization package.

ODYSSEE, is an innovative and powerful platform, allowing the user to process data from multiple sources and to easily build customer specific tools. The immense features include; machine learning, data handling, signal and image processing & recognition, data compression and fusion, which are available in the Quasar module. For robust analyses it is suggested to use the optimizer Nova, coupled with Quasar, which include the unique and ingenious entropy based indicators.

ODYSSEE includes the following applications:

- Real-time Predictive Modeling and Optimization
- Image Based Compression, Classification, Learning, and Prediction
- Fault Prediction (Sensor Data)

ODYSSEE.Lunar utilizes machine learning and reduced order modeling techniques based on algebraic or fusion solutions for reducing the volume of data while preserving the most important parts of the information contained within that data. Such techniques allow for creating on-board and real-time applications based on existing experimental or simulation results (ex. finite elements (FEM)). Typical applications include optimization, parametric sensitivity analysis and robustness.
In addition to the previous version's readily available options; DOE generation, prediction of global time responses, parametric studies, sensitivity analysis, optimization and reconstruction of the animation snapshots in real time, ODYSSEE.Lunar 4.1 now provides an intelligent DOE generation (Adaptive DOE tool, with the capability to improve an existing design manually or automatically with detection of poorly sampled zones and automatic improvement). Additionally, Lunar can now manage a unique project with multiple output as well as optimization of multi-constraints and multi-objectives all in real time.

Many of the available Quasar scripts support the users automation needs in order to evaluate the quality of parameters and of the DOE, and to determine the best algorithm for a given application (per output). ODYSSEE.Lunar can predict and optimize results for any physics (crash, statics, dynamics, acoustics, fluid, mold injection or other process, thermal, acoustics, aerodynamics, multi-bodies dynamics, etc. Many examples are available for various applications which may also be shared with additional users.

"Our pioneer solution, ODYSSEE.Lunar, helps our customers to reach the following strategic challenges:

1. *Simulations and optimization in real-time which contributes to reduction of design cost, including time dependent physics.*
2. *'Investigation of digital twin concept via evaluating and visualizing the impact of change or uncertainty on the final product' said Dr. Ing.***"**

- **Kambiz Kayvantash, CTO and CEO of CADLM**

ODYSSEE.Quasar, the AI solver of ODYSSEE, is a very powerful tool and can provide readily available solutions for the following techniques; data mining, process discovery, data fusion, pattern recognition, automation, machine learning & model reduction, image or CAD compression, identification, learning, prediction etc. Which can all be managed by the user friendly GUI's through simple scripting, programing or via encapsulation using other software (external or custom applications for design, manufacturing , production, validation and verification etc.) based on very low memory and CPU. The CADLM application library can help users reach very efficient algorithms without extensive programming and can be connected to individual software libraries (via an embedded memory sharing API). In addition to integrating with Nova, the user can propose a very efficient solution, spending less than 10% of the simulation effort usually required by traditional response surface methods.

"Our choice to develop a dedicated language in Quasar has been strategic and has proved to be very efficient for the development of proprietary algorithms and vertical applications in AI for different objectives and markets without any dependence on low reliability or low confidence in the following web-based solutions:

- Big data and machine learning: Real time analysis of large data bases via web application or support for diagnostics in healthcare using images, simulations and expertise.
- CAE applications: Real-time predictive modeling and optimization of time dependent processes using few simulations or measurements with customized applications for designers.
- Health monitoring: Data and Image applications, data fusion to predict stochastic scenarios for autonomous vehicles and image-based predictions.
- Manufacturing: Applications in machining, injection, 3d printing etc."

- Kambiz Kayvantash, CEO and CTO, CADLM

About CADLM

Founded in 1989, CADLM specializes in engineering, simulation, optimization and industrial reliability analysis. It has developed specific know-how in data analysis and IA, especially for the automotive, aeronautics, biomedical and civil engineering sectors. Precursor of the technologies it masters (data analysis, prediction, scale models, optimization, artificial intelligence), CADLM publishes and markets its software under the ODYSSEE platform and offers high value-added services, with a commitment to time and results. For more information on CADLM and its products, please visit cadlm.com

About ETA

Advanced product development engineers working as structural analysts for the world's largest automotive manufacturers established ETA in 1983. ETA's expertise in providing product design & development solutions from concept to production, along with supplying research and innovation using CAE, CAD and optimization tools (Durability, Vehicle Dynamics, NVH, Crash/Safety, Die System Structure and Manufacturing Processes). Proactive in the creation and implementation of new technology and software, ETA's products include; ACP OpDesign™*, Dynaform, PreSys® and VPGSuite™.

For further information about ETA and its products, please visit eta.com or call 248.729.3010

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