Sigma Technology:

SIGMA Technology is a software company in the private sector which operates in the field of numerical optimization for complex technical systems.

The company is located in Moscow (Russia).
The main goals are:

- the development of optimization strategy and software (IOSO Technology algorithms family)
- real-life optimization problems solution in cooperation with other companies

SIGMA Technology was founded in 2001 on the basis of IOSO Technology Center . Developments of the company are based on 25 year operational experience in the fields of Turbomachinary and Aerospace.

The core development team has about 20 highly qualified employees, some of them are well-known scientists in the world (5 Doctors of science (engineering) and 8 PhDs).

Sigma Technology:

Sigma has a tremendous experience of using the IOSO Technology in developing and improving real-life systems in various fields of science and technology: aerospace; automotive; technological processes; optical systems; biotechnology, oil & gas and so on.

IOSO Technology was used for solving practical problems for the following companies:

Pratt & Whitney
A United Technologies Company

Snecma
SAFRAN Group

UTA

NASA

AIRBUS

BOEING
Forever New Frontiers

MAN

НПО САТУРН

LADA

GAZPROM

KLIMOV

ЦАГИ
CENTRAL AEROHYDRODYNAMIC INSTITUTE

SUKHOI

Sigma Technology:

IOSO Technology (**I**ndirect **O**ptimization based on **S**elf-**O**rganization) is developed in Russia under direction of Professor I. N. Egorov.

The technology is approved by leading scientific and technical and industrial organizations of Russia and all over the world while deciding many practical problems.

It is well known and has the international recognition (it has been repeatedly presented at leading scientific forums - **ASME, AIAA, ISABE, ISSMO, ESSM, WCCM, ASMO-UK, IPDO, ECCOMAS, ISIP, EUROGEN, etc.).**

It is available more than 50 publications in well known international editions, including in the co-authorship with leading world experts and scientists.

In Russia it was published more than 250 works, including 2 books.

ASME TURBO EXPO LAND, SEA & AIR 2002

AIAA

IGTI

ANSYS

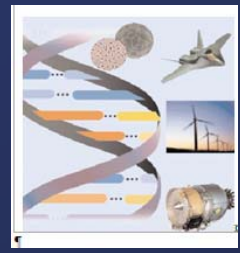
MSC SOFTWARE
SIMULATING REALITY

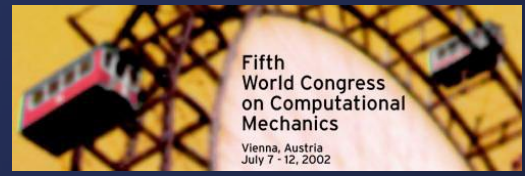
OPTIMISATION in Industry III

MAO

10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference

Aug. 30 - Sept. 1, 2004 - Albany, New York





ISOABE

WCCM V

ASMO-UK

ISIP2003

International Symposium of Inverse Problems in Engineering Mechanics 2003

February 18-21, 2003

Mielparque Nagano, Nagano City, Japan

ECCOMAS

NUMECA INTERNATIONAL

Engineous Software Inc.

SIGMA technology

Invited lections Prof. Egorov

USA

- Boeing
- GE Aircraft Engines
- GE Nuovo Pignone
- GE Power Systems
- Pratt & Whitney jet
- United Technology Research Center (UTRC)
- NASA
- Lockheed Martin
- Engenious Inc
- Synaps, Inc
- Georgia Institute of Technology
- Vanderplaats Research & Development, Inc
- University Taxis Arlington
- Florida International University
- University of Connecticut at Storrs
- University of Rhode Island
- University Orlando

Europe

- EADS
- Airbus
- Nuovo Pignone
- Rolls-Royce
- MAN Turbo
- KEMA Nederland
- Elecctricite de France (EDF)
- AVL
- ONERA
- von Karman Institute for Fluid Dynamics (VKI)
- MSC
- CENAERO
- INRIA
- Dassault-Aviation
- Genova University

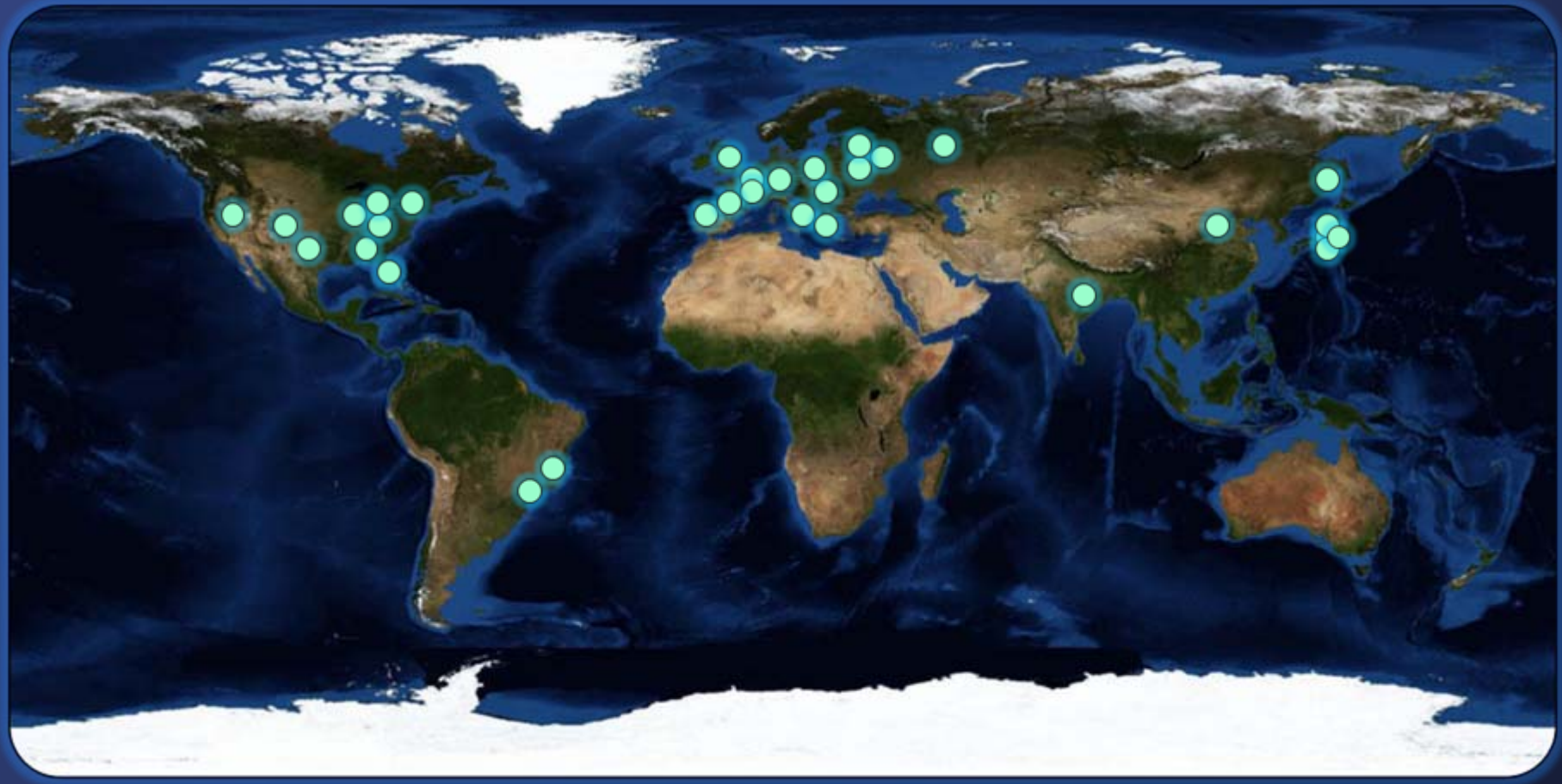
ASIA

- National Aerospace Lab (Japan)
- Toyota
- Ebara Research
- University of Tokyo
-Okayama University
-Center of Innovative Design Optimization Technology
-The Russian - Indian center of computer researches

UK

- Rolls-Royce
- Airbus UK
- Bradford University
- Leeds University
- Oxford University
-Imperial College of London

Invited lections Prof. Egorov



European Project

Participants

- NUMECA
- AIRBUS-UK
- ALENIA Aeronautical
- QINETIQ
- CIMNE
- Dassault Aviation
- German Aerospace Center DLR
- INRIA
- ONERA
- NPO SATURN
- **SIGMA Technology**
- ESTECO
- MAN Turbo
- University of Trieste o
- Delft University of Technology
- Vrije Universiteit Brussel
- Atkins Consultants Limited

The NODESIM-CFD project is composed of the following action lines:

1. The identification and probabilistic quantification of the most significant uncertainty sources, related to CFD and multidisciplinary based simulations, of aeronautical components (wings, aircraft and engines).
2. The development and incorporation of efficient non-deterministic methodologies into the CFD simulation systems in order to produce reliability bounds of the predictions (mean and standard deviations of relevant design quantities) in a rational way.
3. Application and evaluation of the developed methodologies to the non-deterministic analysis of aeronautical components for industrial relevant configurations.
4. The development and application of **robust CFD-based** design methodologies incorporating the non-deterministic based simulations, enabling rational estimates of probabilities of failure.