



COSMOS+

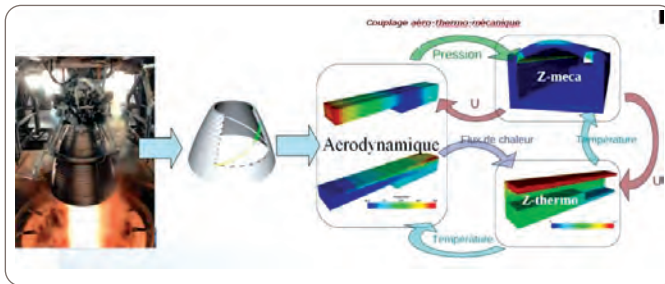
Couplage d'Outils de Simulation Multiphysique pour l'aéronautique et l'espace



Development of an open and modular coupling environment for multi-physics simulation targeting massively parallel computing. One of the key objective of COSMOS+ is to allow spatial and aeronautic industries as well as research partners to tackle what today remain great scientific computational challenges requiring both interdisciplinarity and state of the art modeling of each physic involved. This will enhance both the fidelity and trustability of design studies done early in the conception cycle of new and competitive products.

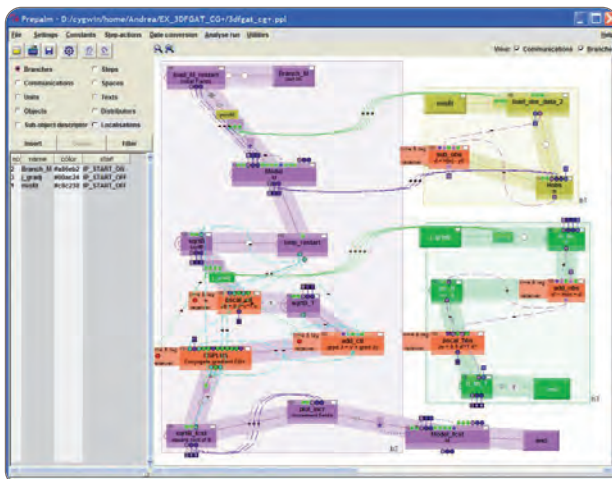
TECHNOLOGICAL OR SCIENTIFIC INNOVATIONS

Ability to develop, test and optimize new coupling algorithms with full control of the strategy. Development and integration of advanced interpolation methods allowing the coupling of all possible mesh elements like arbitrary polyedra in CFD. Adaptation of the coupler to massively parallel computational architectures. Graphical User Interface to set up a new coupled simulation. Provide unprecedented insight through simulation in industrial problems involving physics with very heterogeneous time and length scales.



STATUS - MAIN PROJECT OUTCOMES

- ▶ First version of OpenPALM including developments from both CERFACS and ONERA available
- ▶ On-going implementation of "OpenPALM"-plugins in softwares of interest



CONTACT

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PARTNERS

Large companies:
EADS IW, SAFRAN (SNECMA, TURBOMECA, SPS)

Intermediate size enterprises:
SAMTECH

SMEs:
ANDHEO, CENAERO FRANCE, PARALGO, STILOG IST

Research institutes, universities:
ARMINES, CERFACS, CNES, ONERA

PROJECT DATA

Coordinator:
SAFRAN

Co-label:
ASTECH, AEROSPACE VALLEY

Call:
FUI12

Start date:
August 2012

Duration:
36 months

Global budget (M€):
3

Funding (M€):
1.1

Related Sytematic project(s):
CSDL