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HelyX OS

The Market Leading Open-Source GUI for OpenFOAM®

Introducing the new Version of the Open Source GUI HELYX-OS

Paolo Geremia

Stefano Valeri

Davide Ciani

info@engys.com | Tel: +44 (0)20 32393041 | Fax: +44 (0)20 33573123 | ww.engys.com

Contents

- Introducing HELYX-OS
- Key Features v2.4.0
- Future Developments
- Live Demo

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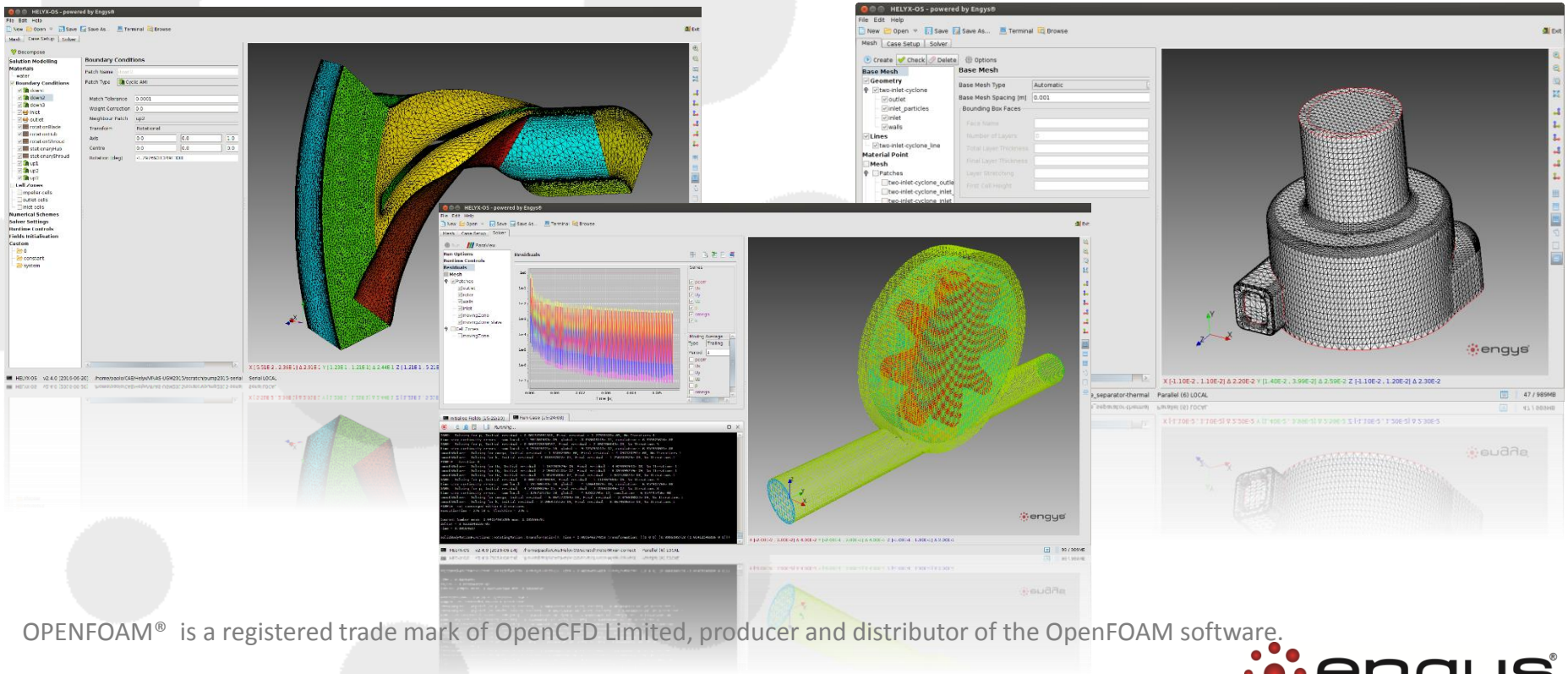
Introduction

- HELYX-OS is an open-source Graphical User Interface (GUI) for OpenFOAM® developed by ENGYS

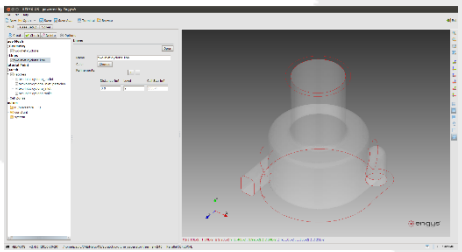
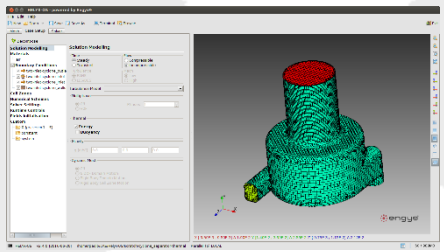
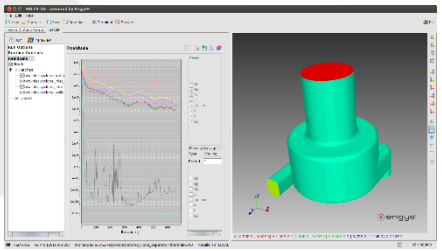
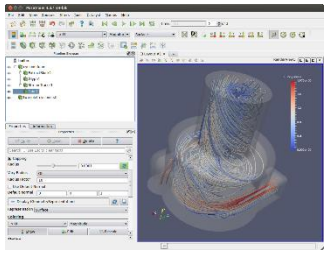


HelyX OS | Introduction

- Development platform: Java+VTK
- Free to download via GitHub

  → http://engys.github.io/HELYX-OS/

Mesh → CaseSetup → Run → Post-processing

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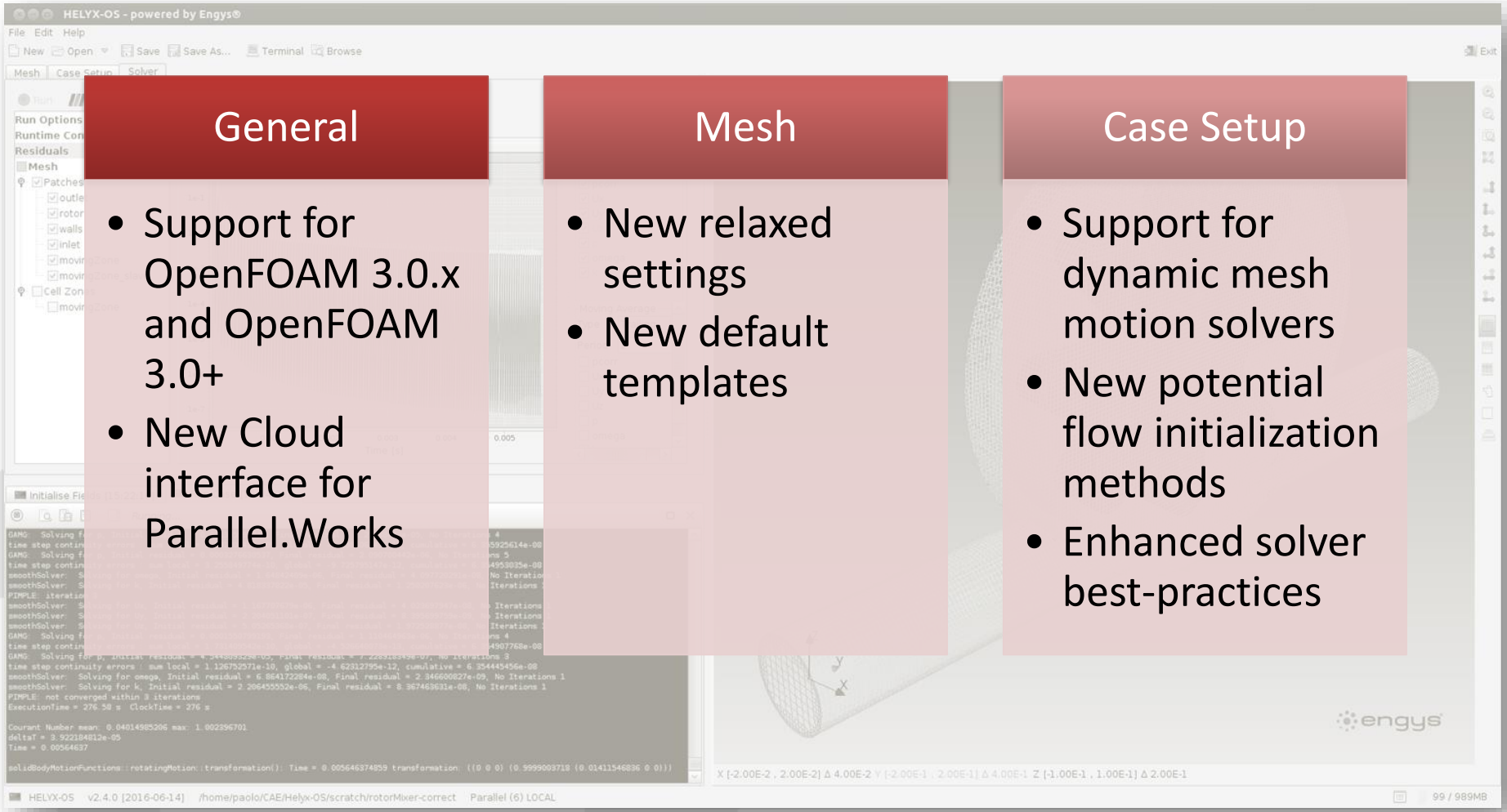
Helyx OS | Key Features v2.4.0



General

- Support for OpenFOAM 3.0.x and OpenFOAM 3.0+
- New Cloud interface for Parallel.Works

Mesh

- New relaxed settings
- New default templates

Case Setup

- Support for dynamic mesh motion solvers
- New potential flow initialization methods
- Enhanced solver best-practices

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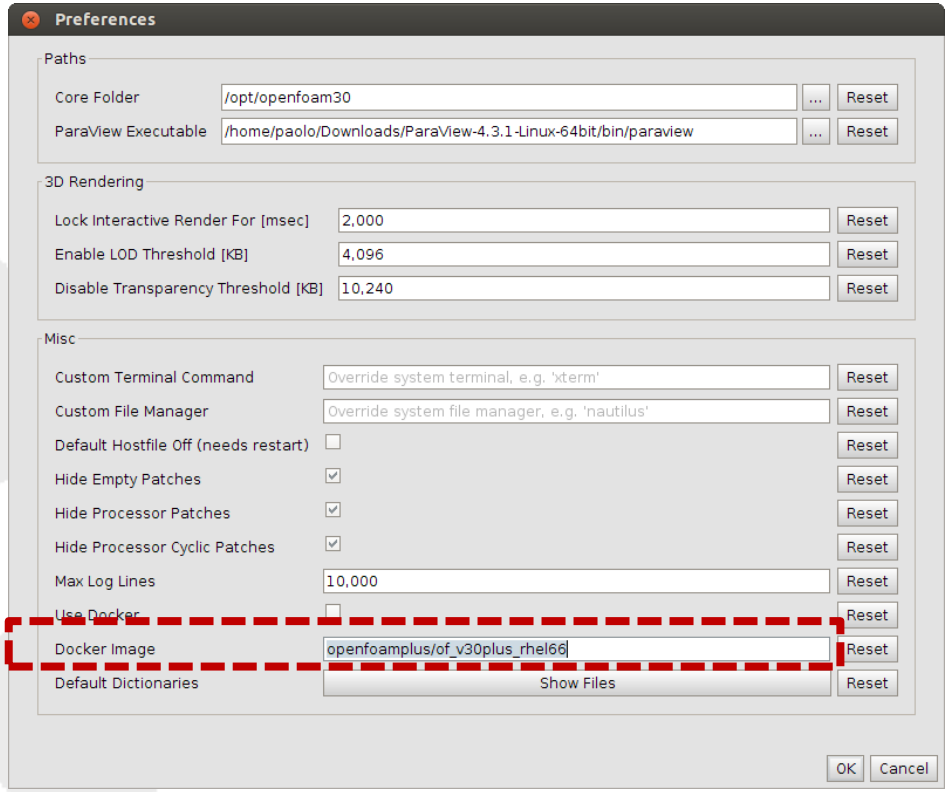
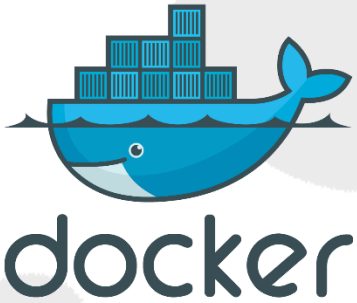
OpenFOAM® Support

- v.3.0.x
- v3.0+

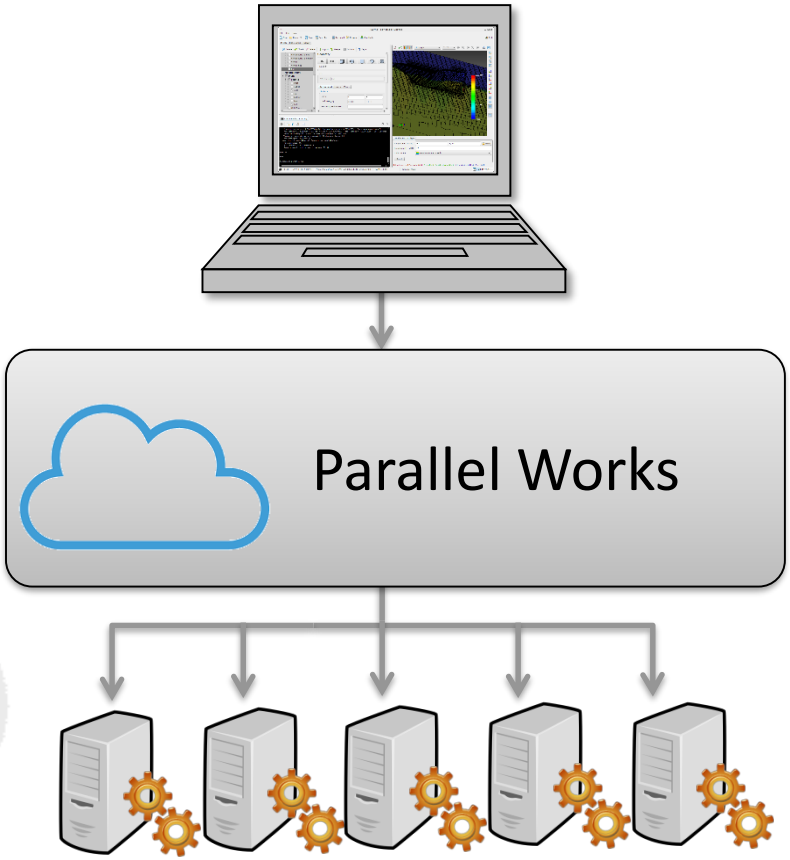
- Support for OpenFOAM® Docker images





Cloud Computing

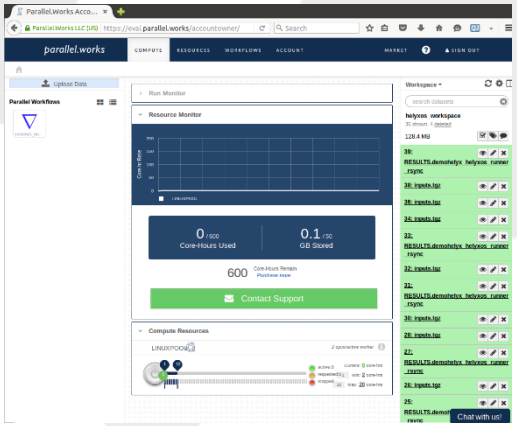
- New interface for Parallel Works
- HPC on-demand services
- Secure data transfer
- Remote case execution
- Local and remote post-processing

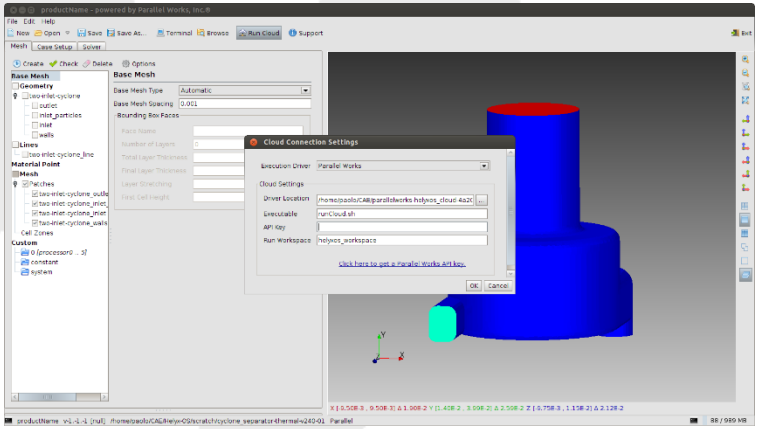


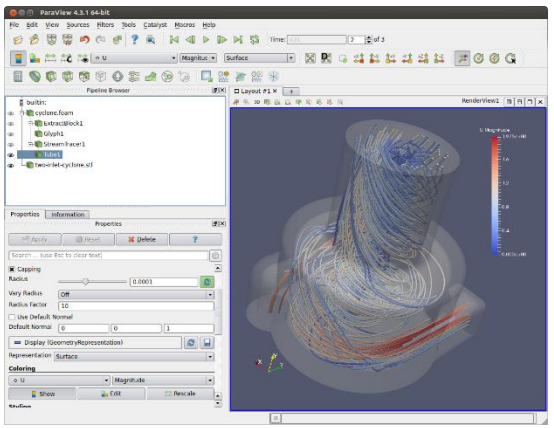
Cloud Computing

- New interface for Parallel Works

Account Setup → Case Creation and Run → Post-processing







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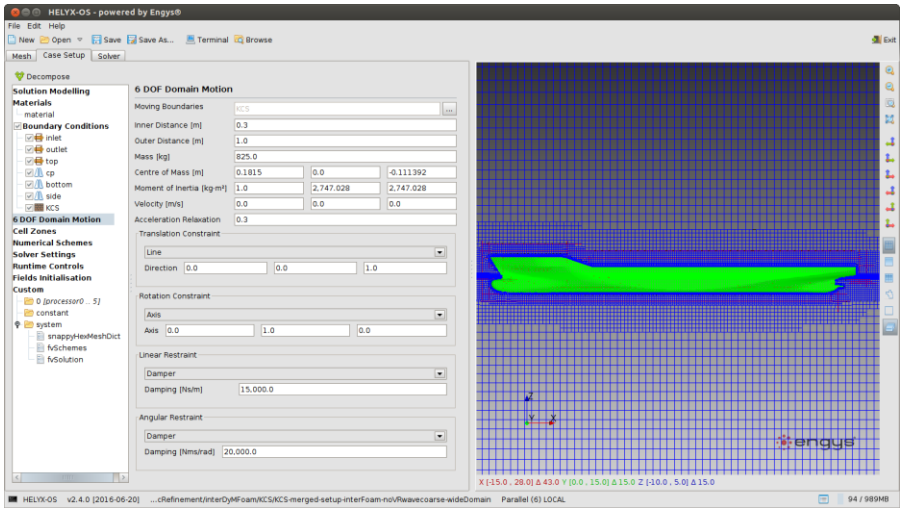
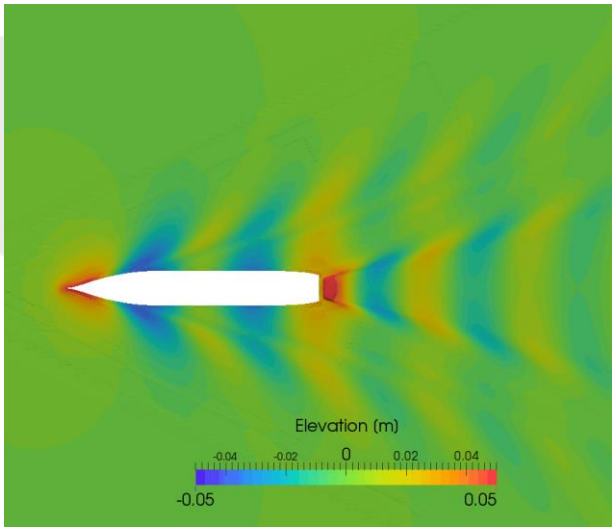
HelyX OS | Key Features v2.4.0

Dynamic Solver Interface

- 6DOF Rigid Body Motion
- Multiphase applications
- Allows calculation of sinkage and trim for marine applications





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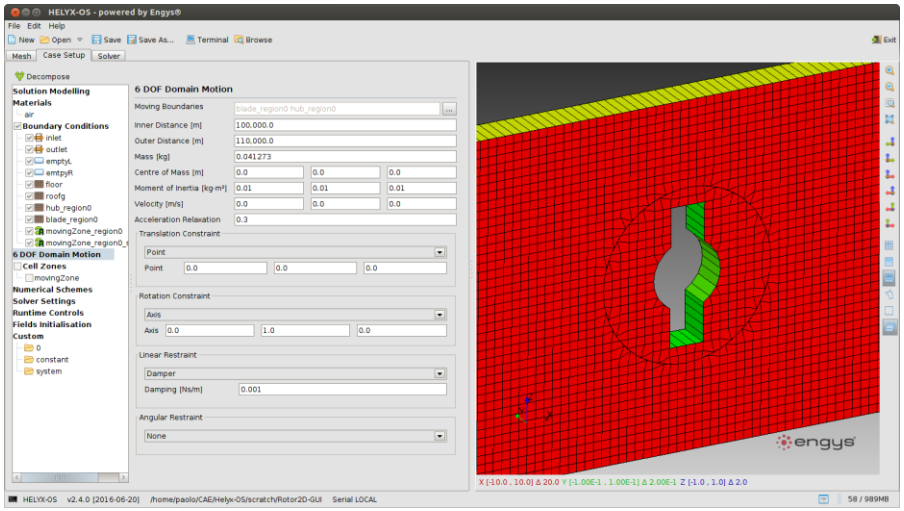
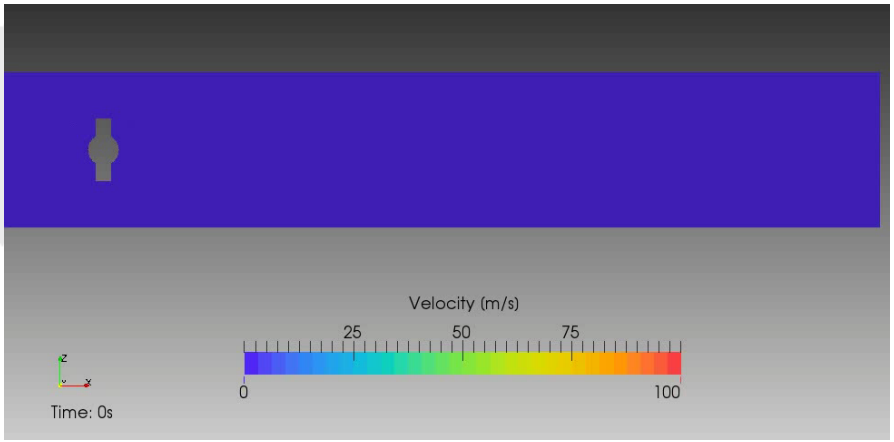
Dynamic Solver Interface

- 6DOF Rigid Body Motion
- Single-phase applications, e.g. free-spinning rotor, turbines, etc.





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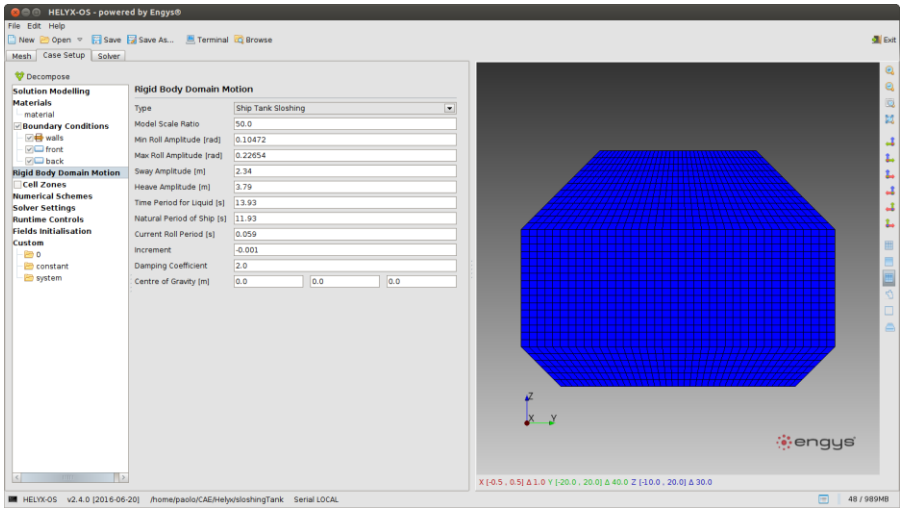
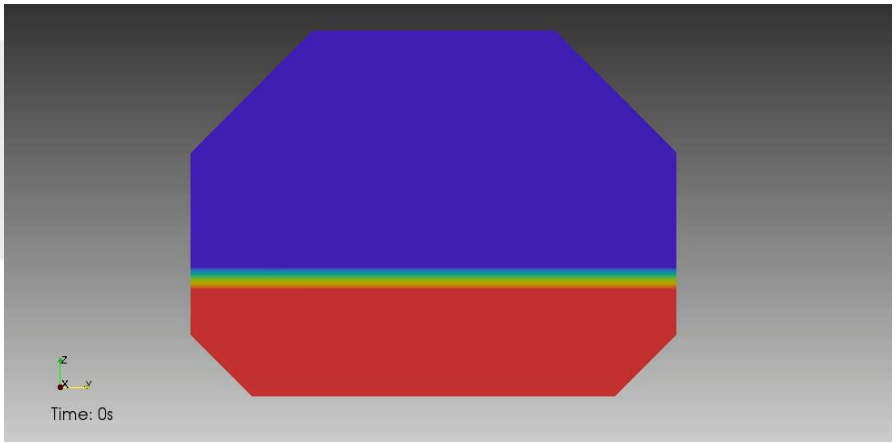
Helyx OS | Key Features v2.4.0

Dynamic Solver Interface

- Ship Tank Sloshing
- Linear Motion
- Rotating Motion
- Axis Rotating Motion
- Oscillating Linear Motion
- Oscillating Rotating Motion





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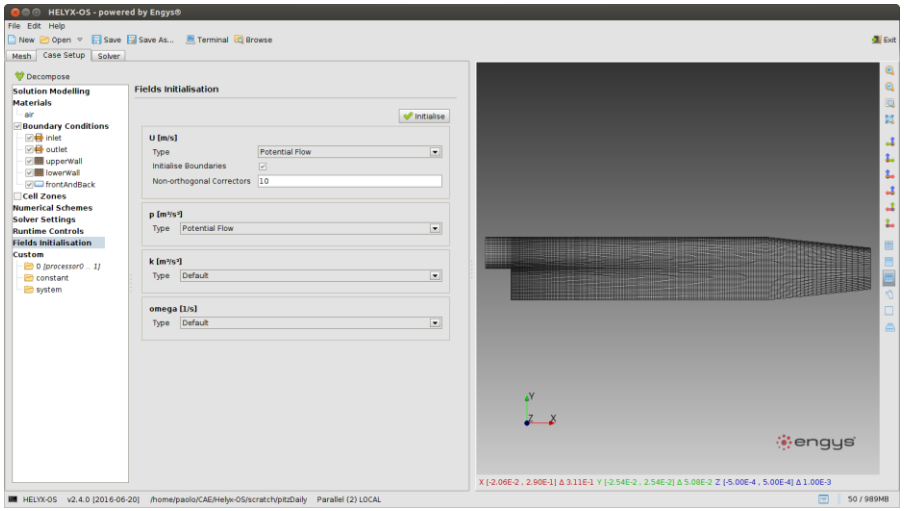
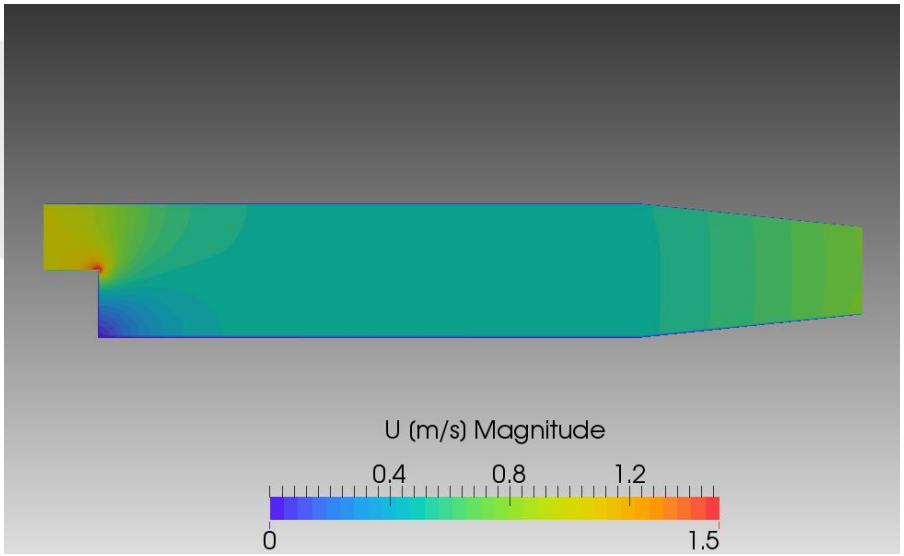
Key Features v2.4.0

Other Features

- Potential Flow initialisation method
- Enhanced best-practices for mesh and case setup





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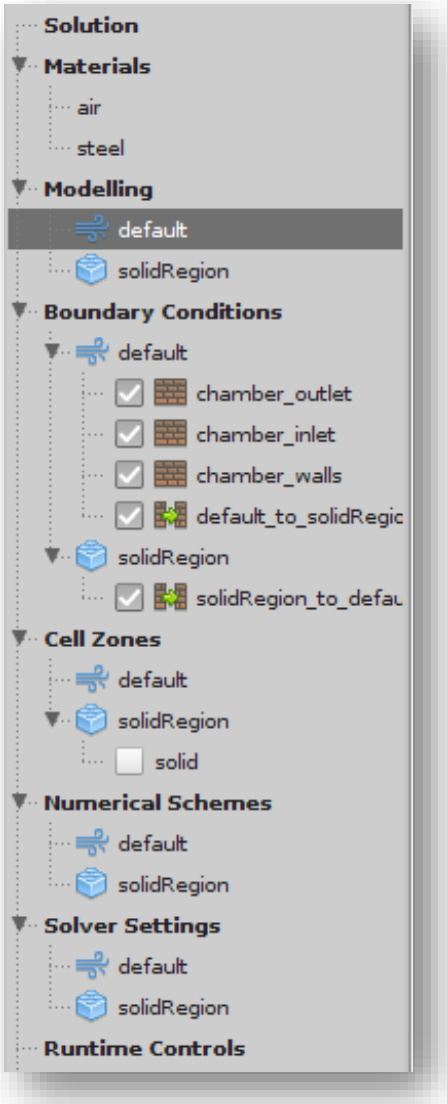
Multi-Phase Euler-Euler Solver

- Phases interface:
  - Diameter model
  - Sigma
  - Interface compression
  - Virtual Mass
  - Drag Model
- Multi-phase boundary conditions and fields initialisation

Conjugate Heat Transfer (CHT) Solvers

- Full support in the GUI of ENGYS Coupled CHT solver
- Multi-region handling in the GUI
- Solid-fluid material library database



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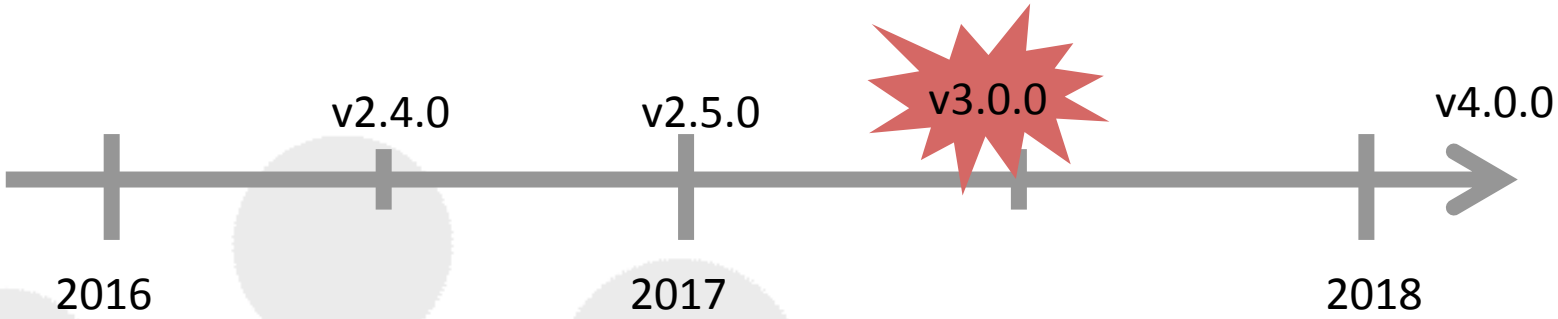
Future Developments



- v2.5.0:
  - Maintenance Release
- v3xx:
  - Multi-phase Euler-Euler
  - Support for Conjugate Heat Transfer (CHT) Solvers
  - New solvers

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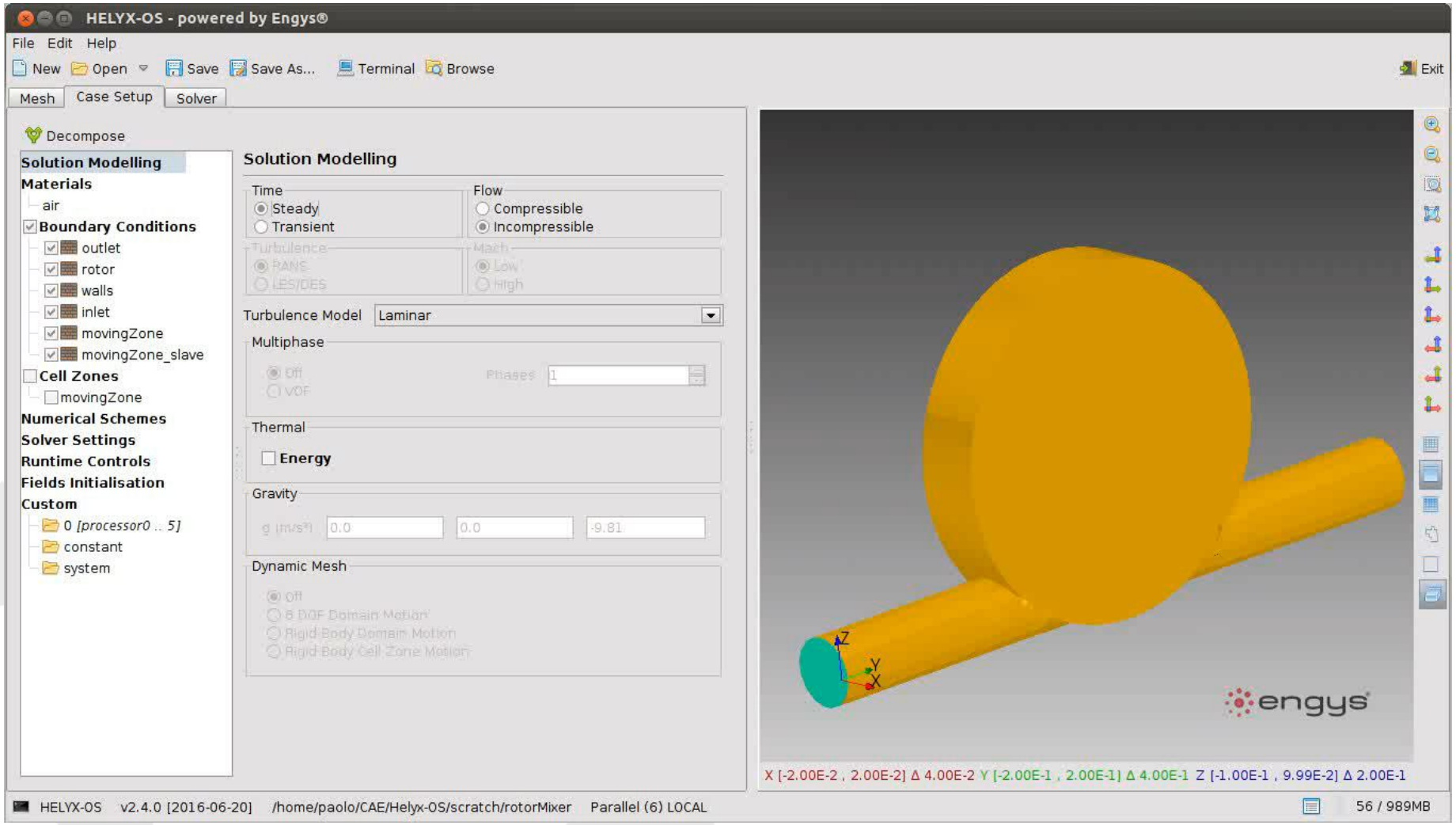

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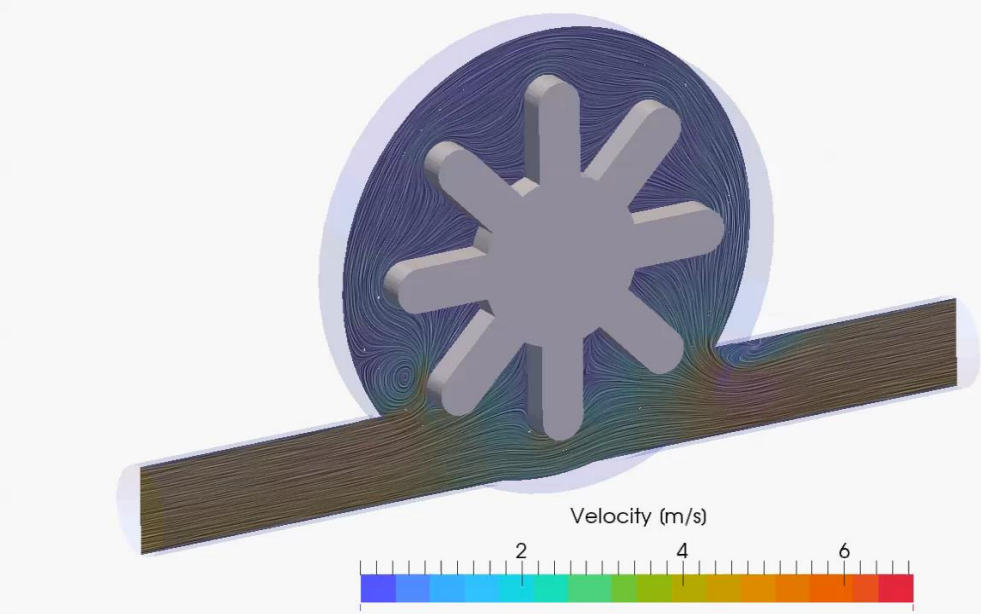
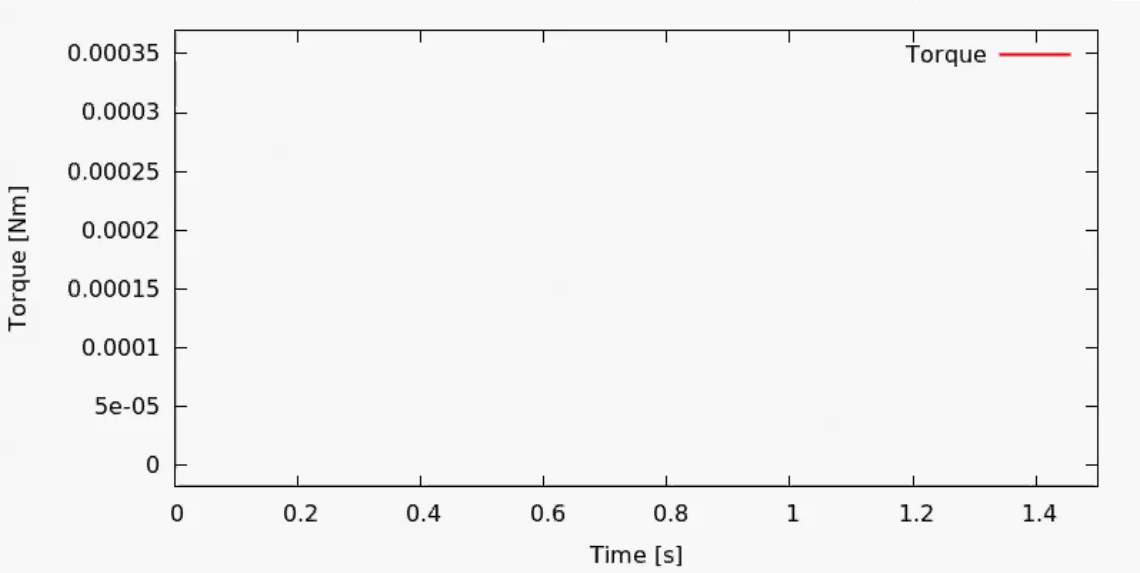
HelyX OS | Questions?





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