

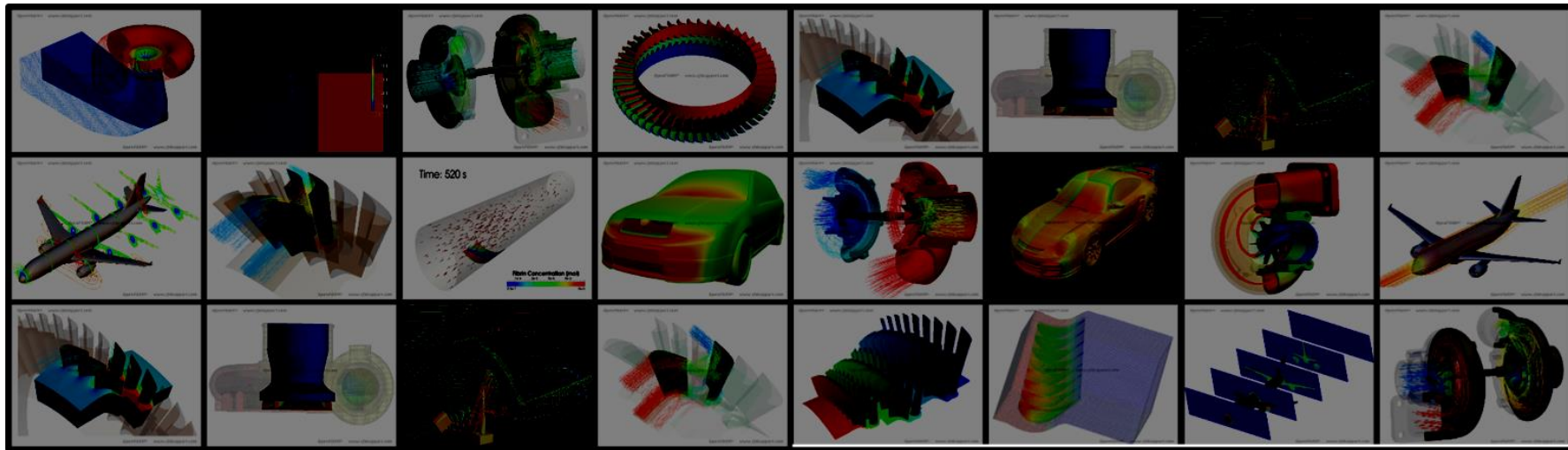
Introduction to CFD Support and Turbomachinery CFD

— — —

*Lubos Pirk1, CFD Support
October 27, 2017, Ningbo*



CFD = Computational Fluid Dynamics



CFD Support = CFD Consulting



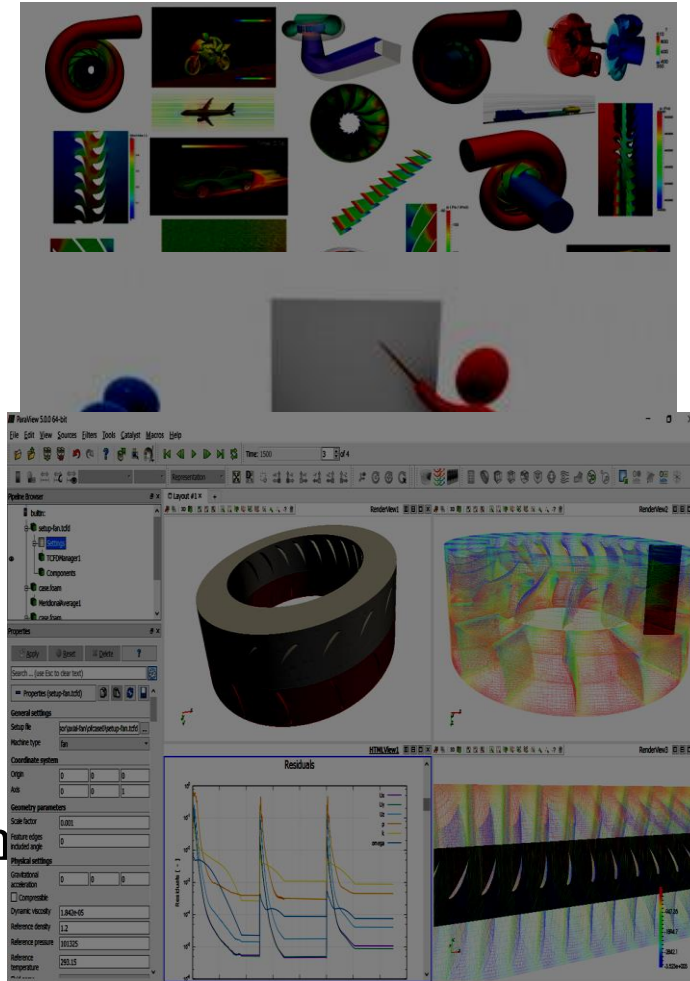
*“At CFD Support we build bridges
between top class development and real industrial practice”*

CFD Support – Services

- CFD Engineering Projects
- OpenFOAM Training
- OpenFOAM support & development



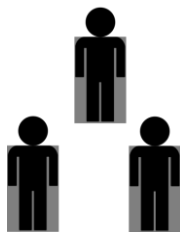
= Turbomachine



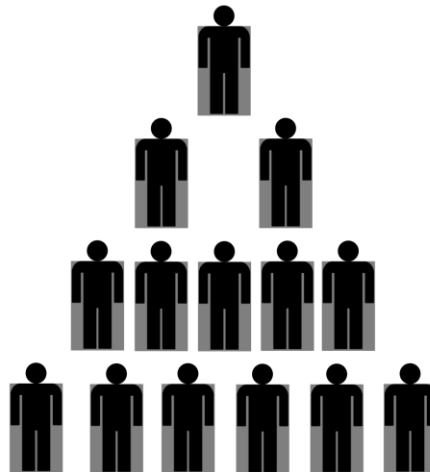
Democratization of CFD:

More people is getting involved

Past



Future

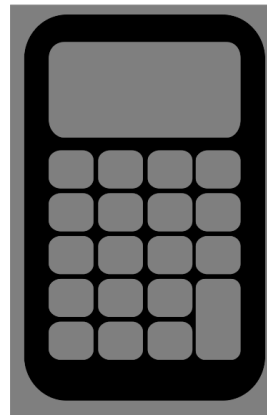


Automation: Workflow is changing rapidly

Past

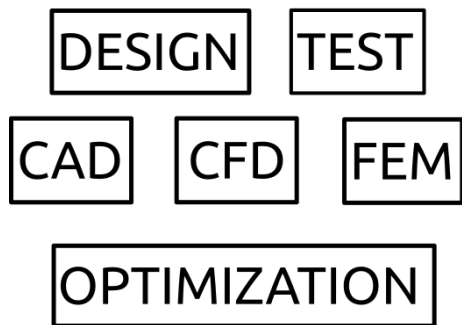


Future



Engineering: Software Integration

Past



Future

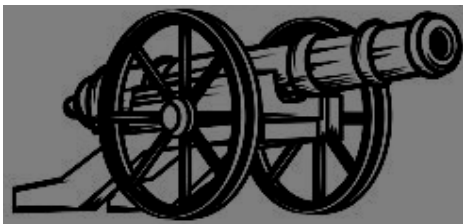


Gamechanger in CFD:

Optimization

Past

➤ CFD used to give us one answer on one question

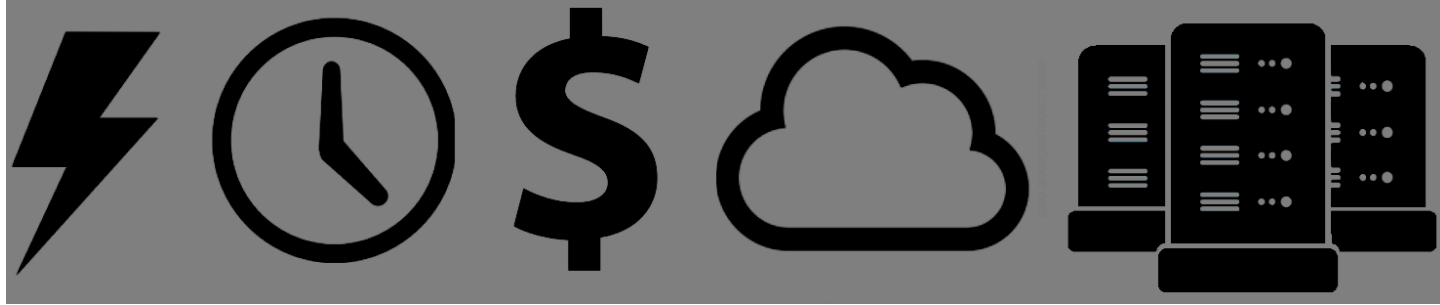


Future

➤ CFD tells us what is the best option



Optimization, Automation,
Democratization, Integration



Speed, Time, Costs, Clouds, GPU, AI,
CAD Embedding, Scalability, ...

CFD Support

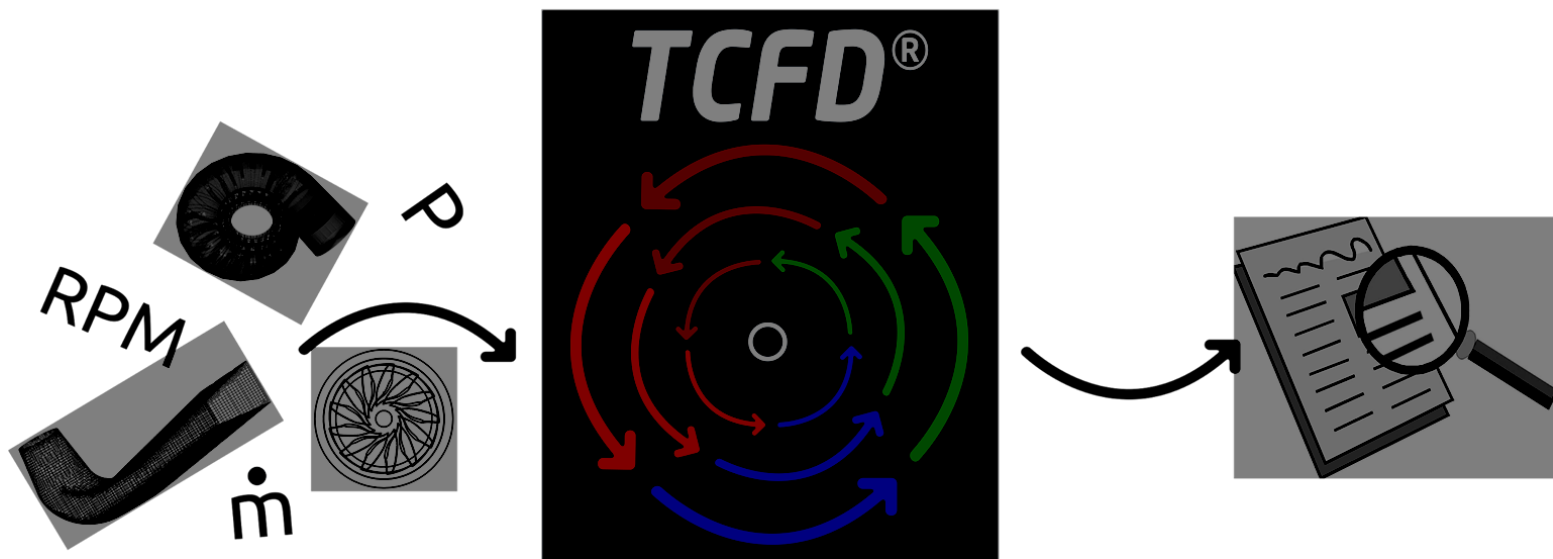
- We follow the latest trends in CFD
- We reflect the engineering needs
- We always innovate
- We are always on the way



TCFD[®] Turbomachinery CFD Software

- CFD simulation software
- For All Rotating Machinery
- Radial & Axial, Incompressible & Compressible
- Independent & Compatible Workflow

TCFD[®] Turbomachinery CFD Software



TCFD® Unique Value

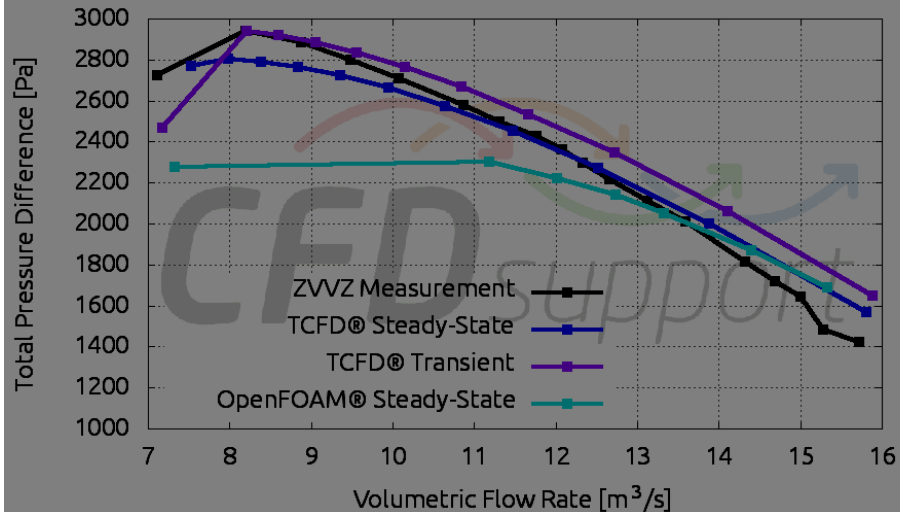
- No Licensing = perpetual, unlimited users jobs and cores
- Fully Automated = extremely effective
- Technical Support = flexible, custom approach
- Real Tutorials = best practice settings

TCFD® Important Technical Details

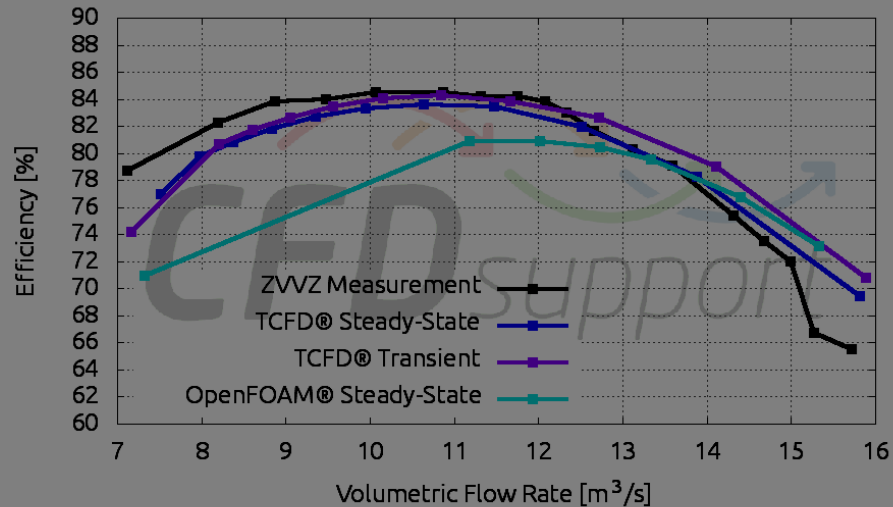
- Windows and Linux
- 100% workflow in GUI
- Automated meshing
- External meshes
- Demo Available
- Real Tutorials
- Run-time HTML Report
- Turbo PostProcessing
- Python Scripting
- All Resources Available On-line
- GPL parts are open-source
- As a library

TCFD® Case Study Radial Fan

Radial Fan Benchmark - Total Pressure Difference

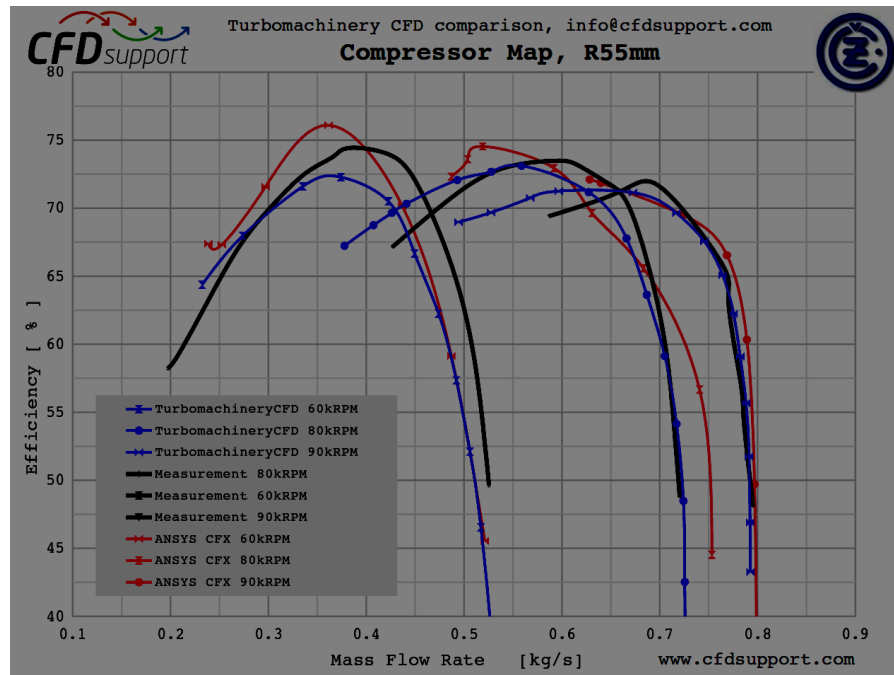
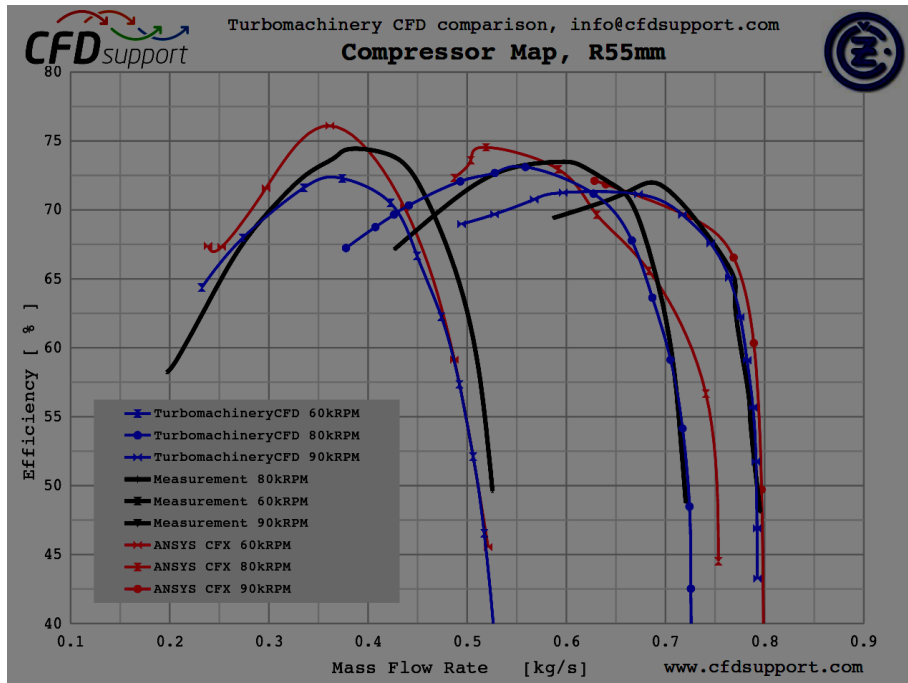


Radial Fan Benchmark - Efficiency



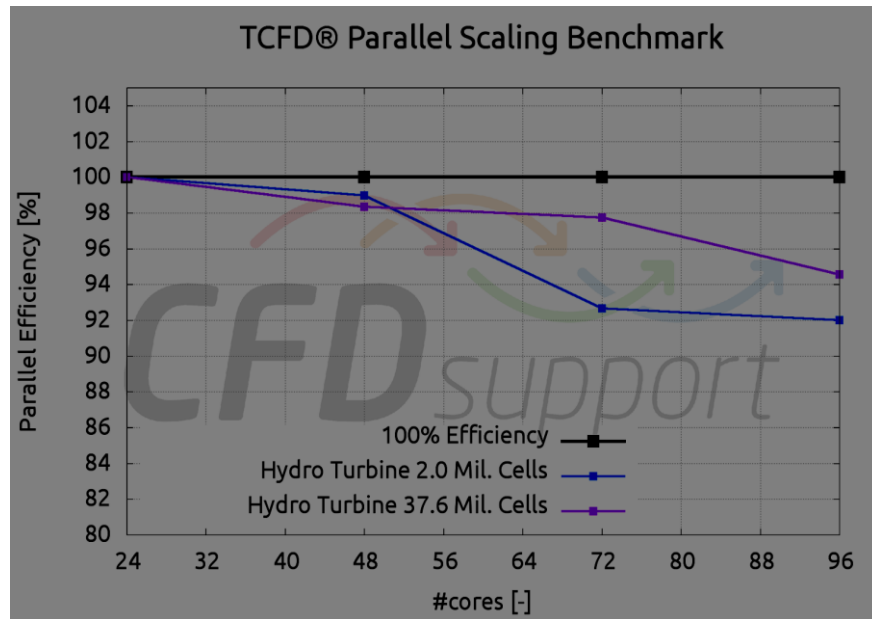
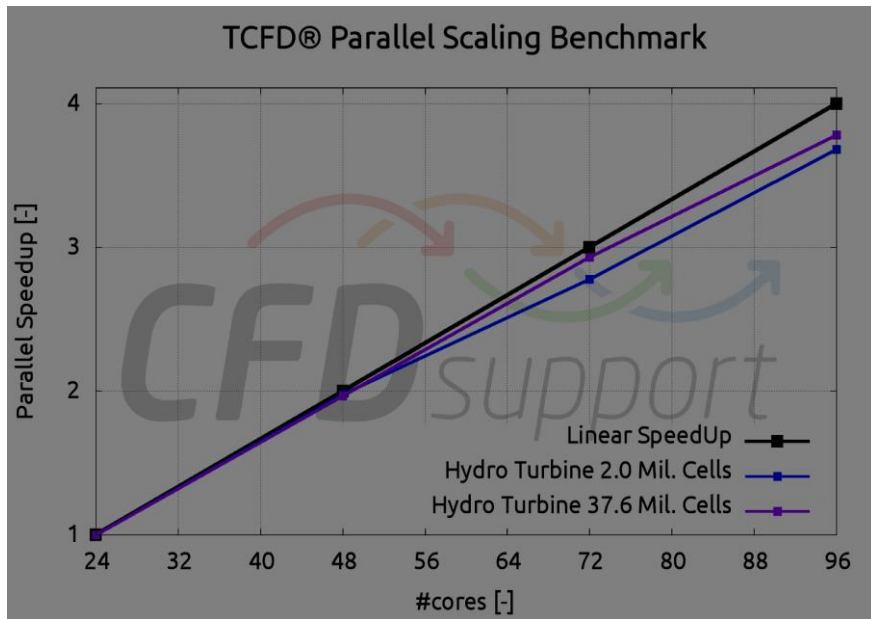


Case Study Radial Compressor





Parallel Scaling Case Study



TCFD[®] Soon Available Features

- Periodic AMI – transient periodic cases
- Aeroacoustics module
- Optimization module
- New Tutorials
- Anything else? You say it.
- Remember: We are always on the way

Thank you for your attention!

info@cfdsupport.com

