Engineering & Design Consultancy

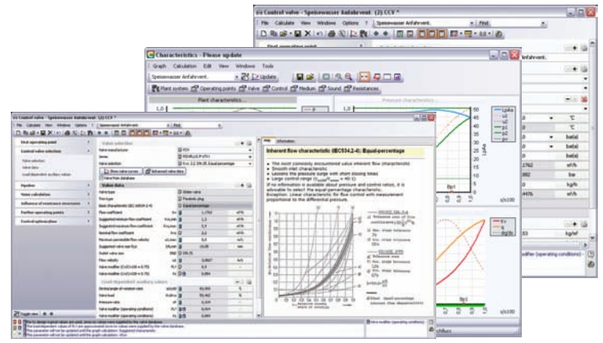
Drawing on a unique knowledge base of performance data, Score's Engineering and Design Consultancy (EDC) provides clients with independent support at every stage of a project, from Front End Engineering through to commissioning and operation.

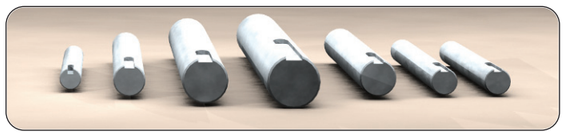
Score's specialist engineering team utilise industry best practice and unique empirical data from continuous operational feedback to assist with selection, design, failure analysis and product enhancement.

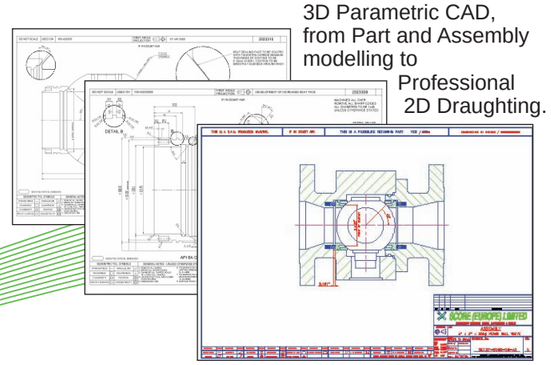
This, coupled with involvement in international bodies and leadership in industry initiatives, makes Score's EDC the only resource of its kind tailored to solve valve and actuator related problems.

Expertise & Facilities Available at Score's EDC

- **Engineering Calculations**
- **Mathematical Modelling**
- **Standards verification & validation**
- **Condition Monitoring & Instrumentation**
- **Data Logging**
- **Software Writing & Programming**



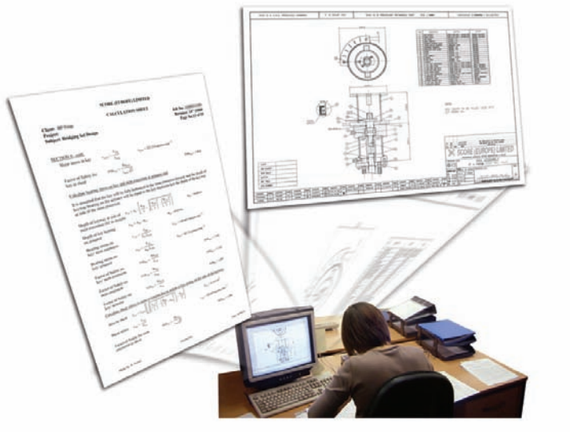




3D Parametric CAD, from Part and Assembly modelling to Professional 2D Draughting.

Specialist Services Provided by the EDC

- **Prototyping**
- **Feasibility Studies**
- **Expediting**
- **Technical Support**
- **Product Enhancement**
- **Investigation and Failure Reports**
- **Technical Bid Evaluations**
- **Detailed Product Design Reviews**



Score *Group plc*

Intelligent Valve and Gas Turbine Solutions™

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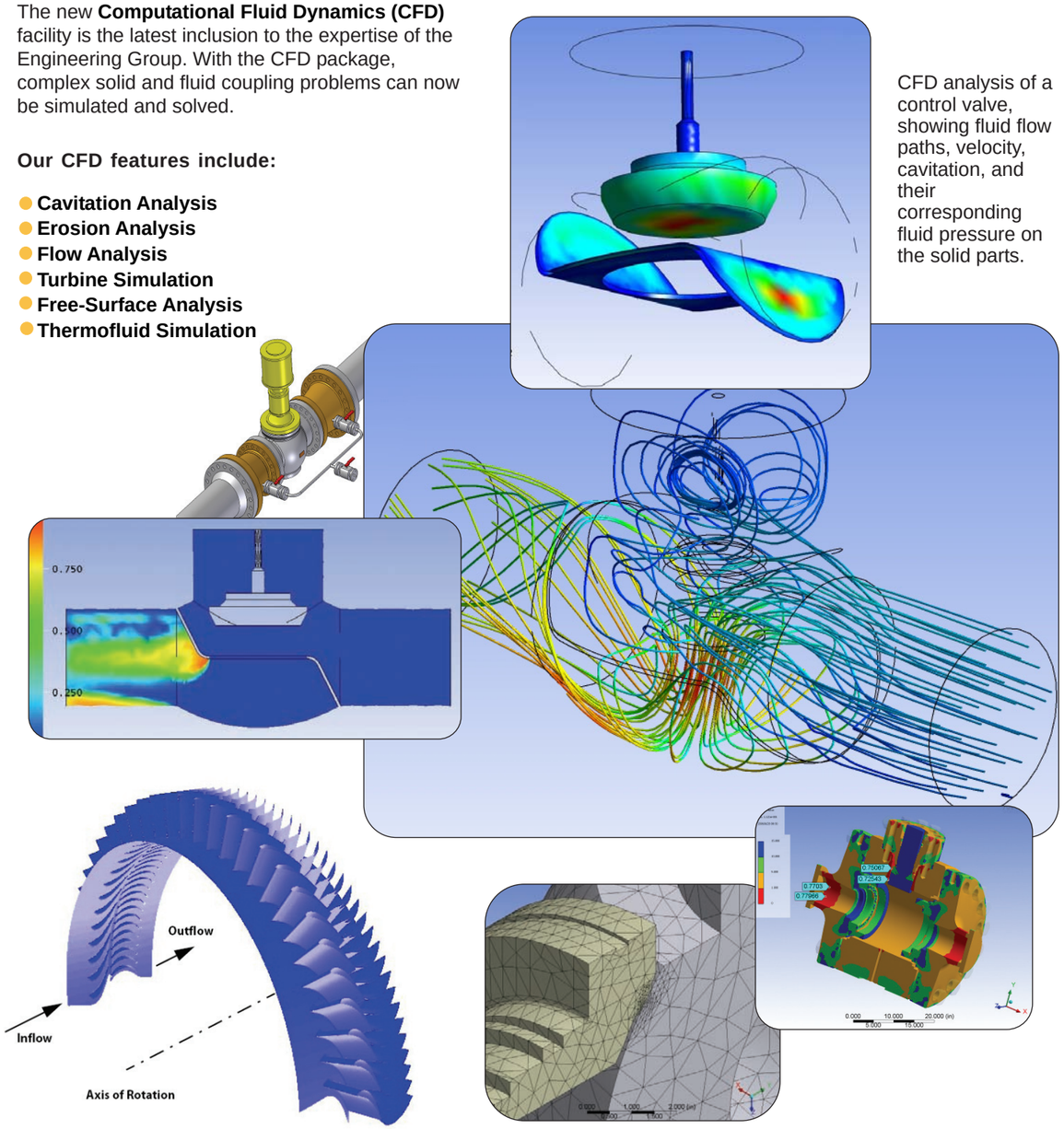
The new **Computational Fluid Dynamics (CFD)** facility is the latest inclusion to the expertise of the Engineering Group. With the CFD package, complex solid and fluid coupling problems can now be simulated and solved.

Our CFD features include:

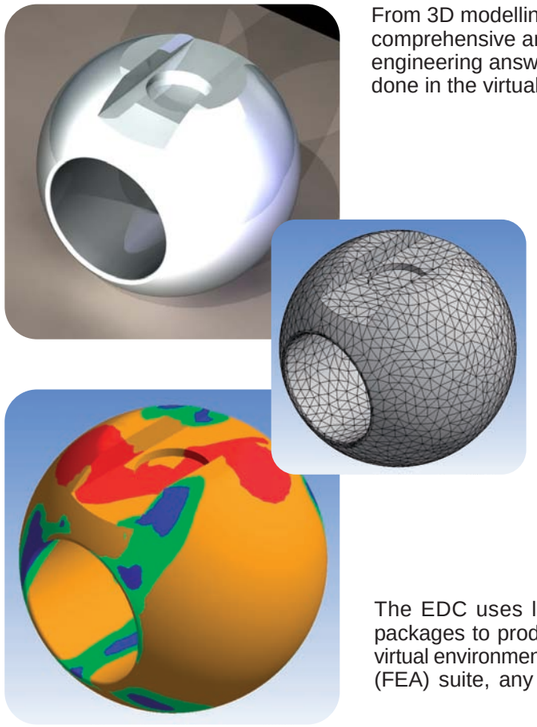
- **Cavitation Analysis**
- **Erosion Analysis**
- **Flow Analysis**
- **Turbine Simulation**
- **Free-Surface Analysis**
- **Thermofluid Simulation**



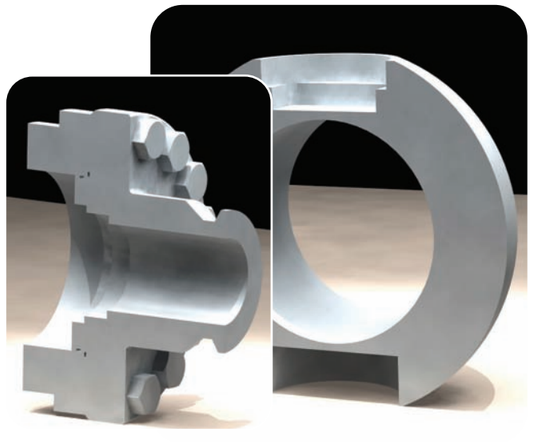
CFD analysis of a control valve, showing fluid flow paths, velocity, cavitation, and their corresponding fluid pressure on the solid parts.

Turbine blade simulation using CFD to determine efficiency, and also to analyse blade stress and deformation.

Coupled with the EDC's experience in Finite Element Analysis and 3-D Parametric Modelling, the complete physics behind an engineering problem can be tackled.



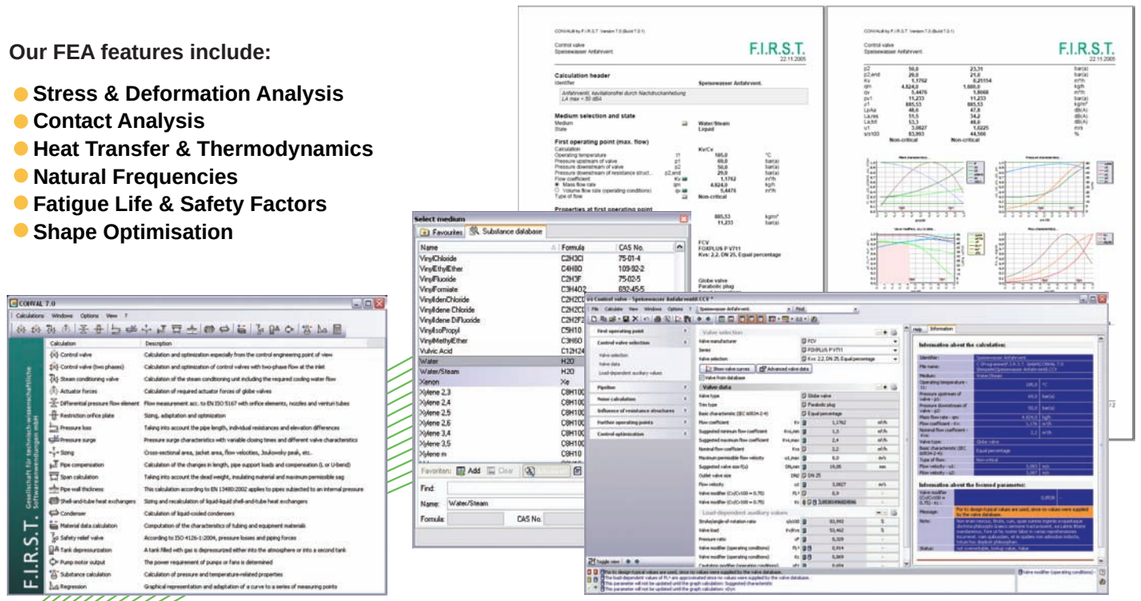
From 3D modelling to finite-element meshing to solutions: the EDC's comprehensive array of high-tech software is able to provide accurate engineering answers without the need for prototyping and/or actual lab tests – all done in the virtual environment, thus significantly cutting costs.



The EDC uses leading-edge 3D Parametric Computer-Aided Design (CAD) packages to produce extremely accurate models of parts and assemblies in the virtual environment. Coupled with this is our state-of-the-art Finite Element Analysis (FEA) suite, any 3D model parts and assemblies from CAD can be analysed.

Our FEA features include:

- **Stress & Deformation Analysis**
- **Contact Analysis**
- **Heat Transfer & Thermodynamics**
- **Natural Frequencies**
- **Fatigue Life & Safety Factors**
- **Shape Optimisation**



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