



ENGINEERING SIMULATION SOLUTIONS

Physics-based numerical modelling developed, corrected or extended to answer a defined engineering question with documented, technically defensible results.



PHYSICS-BASED APPROACH

Scientific modelling grounded in fundamental engineering principles.



TECHNICAL RIGOR

Structured methods, verification and validation for reliable results.



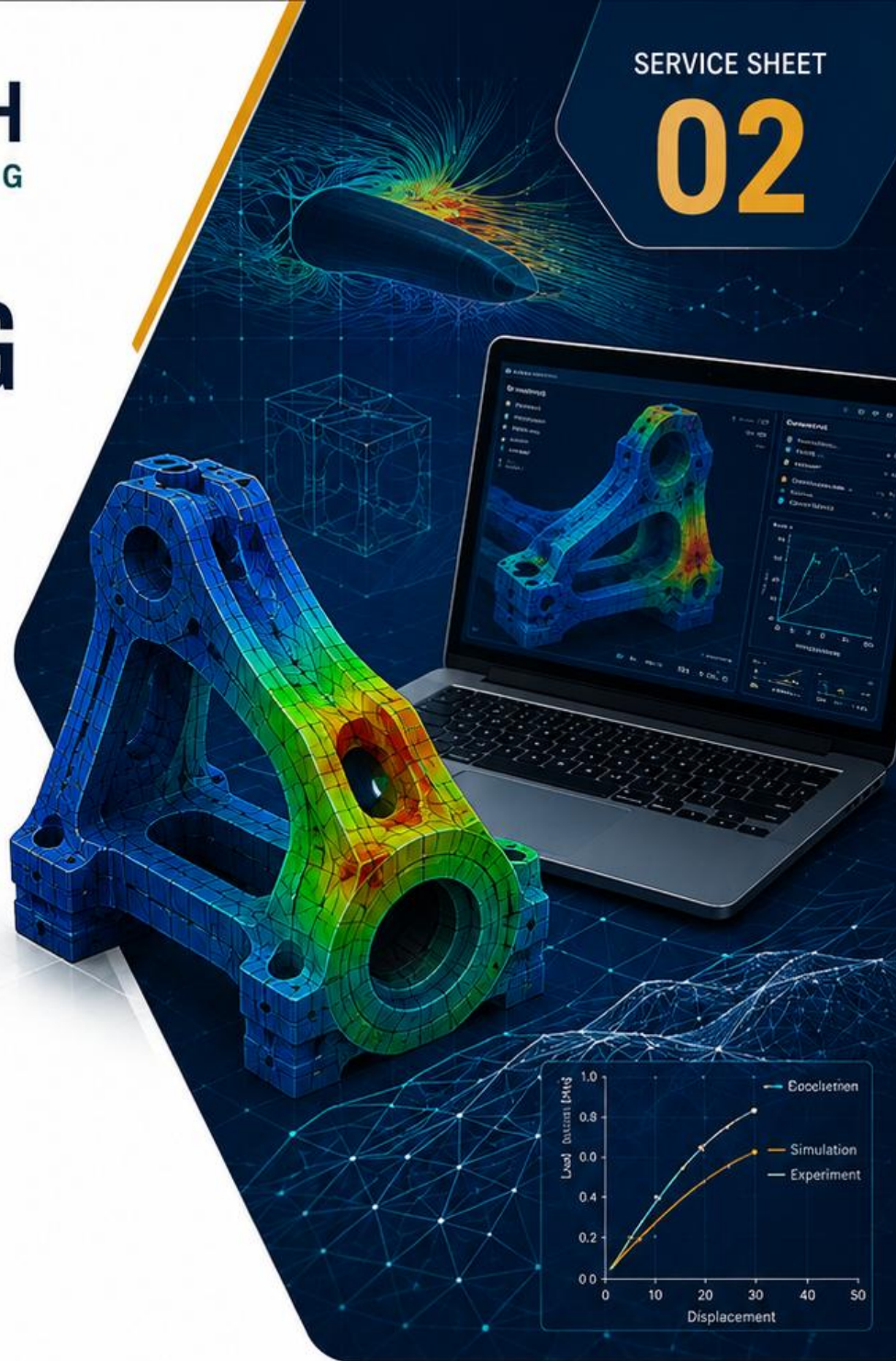
ACTIONABLE INSIGHTS

Engineering interpretation that supports confident decisions.

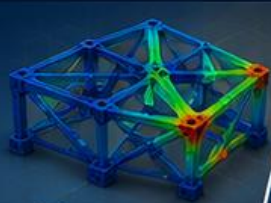


TAILORED TO YOUR QUESTION

Models and analyses designed specifically for your engineering objectives.



MULTIDISCIPLINARY SIMULATION CAPABILITIES



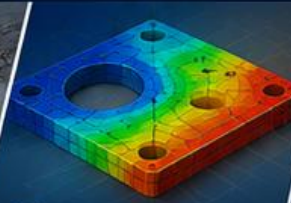
**STRUCTURAL
ANALYSIS**



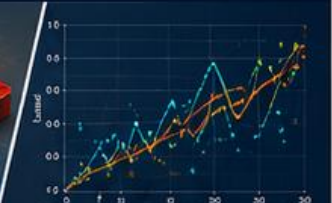
**CFD & FLUID
MODELLING**



**FRACTURE &
FATIGUE**



**THERMAL &
COUPLED ANALYSIS**



**VERIFICATION &
VALIDATION**



ENGINEERING-FIRST

Focused on solving real engineering problems.



TECHNICALLY RIGOROUS

Quality controls aligned with project risk and complexity.



REPRODUCIBLE

Transparent workflow and traceable technical evidence.

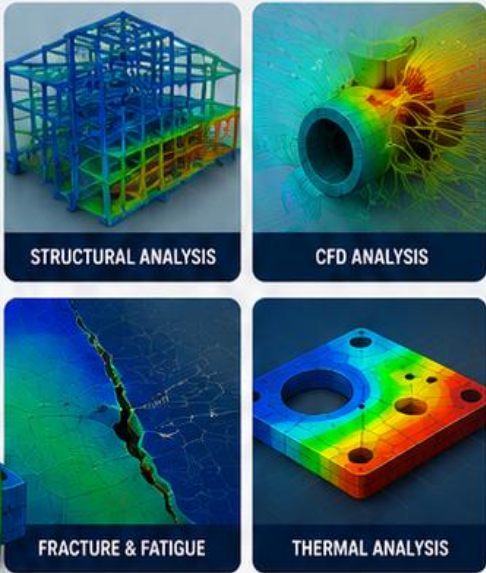


DECISION-RELEVANT

Deliver insights that support confident technical decisions.

ENGINEERING SIMULATION SOLUTIONS

Physics-based numerical modelling developed, corrected or extended to answer a defined engineering question with documented, technically defensible results.



TYPICAL CLIENT CHALLENGES



A new engineering analysis is required but specialist simulation capacity is limited.



An existing model must be corrected, extended or reformulated using a more appropriate modelling strategy.



Nonlinear response, fracture/fatigue, CFD, thermal-fluid or coupled behaviour requires specialist numerical treatment.



Multiple operating/design cases must be compared systematically.



A model requires stronger verification, validation, sensitivity assessment or engineering interpretation.

PHYSICS-BASED MODELLING	MULTIDISCIPLINARY EXPERTISE	TECHNICAL RIGOR	ACTIONABLE INSIGHTS	DECISION SUPPORT
SCOPE OF SUPPORT				
Capability	Typical support			
 FEA & STRUCTURAL SIMULATION	Linear and nonlinear structural response, contact, material nonlinearity, load-case analysis and engineering interpretation.			
 CFD & FLUID/THERMAL MODELLING	Engineering flow, hydraulic, thermal-fluid and related CFD analysis where appropriate to the project scope.			
 FRACTURE & FATIGUE	Cracked-component assessment, fracture-mechanics workflows, fatigue/damage analysis and related numerical studies.			
 PARAMETRIC & SENSITIVITY STUDIES	Structured variation of model/design parameters to quantify response trends and decision sensitivity.			
 VERIFICATION & VALIDATION	Mesh/discretization and convergence checks, benchmark comparison, sensitivity assessment and validation evidence where suitable reference or experimental data exist.			



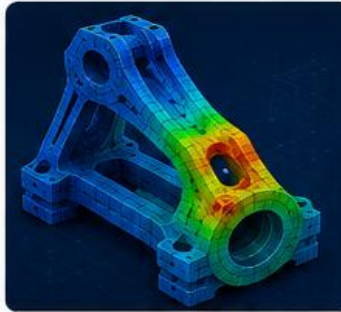


TYPICAL TECHNICAL WORKFLOW

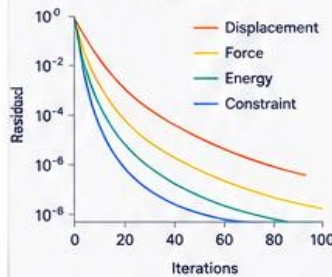


TYPICAL DELIVERABLES

- Model/input files and computational setup where included in the agreed scope.
- Documented assumptions, material/loading/boundary-condition definitions and modelling strategy.
- Results plots, tables and decision-relevant engineering interpretation.
- Verification, validation and/or sensitivity evidence appropriate to the assignment and available data.
- Concise technical report or results memorandum.
- Clarification support and reproducibility notes aligned with the agreed engagement.



Convergence Example



TECHNICAL QUALITY FOCUS

- Correct engineering problem definition before numerical complexity.
- Appropriate discretization, solver controls, convergence/stability checks and sensitivity assessment where technically warranted.
- Transparent assumptions and limitations.
- Verification against analytical/numerical benchmarks and validation against experimental or trusted reference data where available and relevant.
- Interpretation of physical meaning rather than uncontextualized solver output.



BEST SUITED FOR



Engineering companies, technical startups, consultants and R&D teams needing specialist simulation capacity for a defined engineering question.



TYPICAL CLIENT INPUTS

- | | |
|----------------------------------|---|
| Geometry / CAD | Target outputs |
| Material & constitutive data | Experimental / benchmark data |
| Loads / operating conditions | Applicable standards or internal requirements |
| Boundary conditions | Project constraints |
| Existing models (where relevant) | Required reporting depth |



SCOPE BOUNDARIES

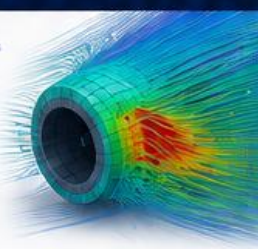
- Additional load cases, design variants or parametric sweeps are included only when stated in scope.
- CAD reconstruction, experimental testing, extensive data generation, optimization, software deployment or other activities outside the defined simulation scope are separate unless explicitly specified.
- Regulatory certification, stamped design approval and licensed professional sign-off are not implied by a simulation engagement.



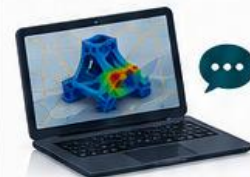
REPRESENTATIVE TECHNICAL FOUNDATION

- Structural and nonlinear analysis
- Fracture and fatigue
- Offshore and marine computational engineering
- CFD and hydraulic modelling
- Numerical methods
- Engineering interpretation

Representative technical experience spans multiple disciplines and industries, supported by validated methodologies and real-world complex projects.



START A TECHNICAL CONVERSATION



Send the engineering problem, available inputs, required analysis cases and target outputs. AriyaTech can assess technical fit and, where suitable, prepare a clearly scoped simulation proposal.



ENGINEERING-FIRST

Focused on solving real engineering problems.



TECHNICALLY RIGOROUS

Quality methods, verification and validation.



REPRODUCIBLE

Transparent workflow and traceable results.



DECISION-RELEVANT

Insights that directly support confident engineering decisions.