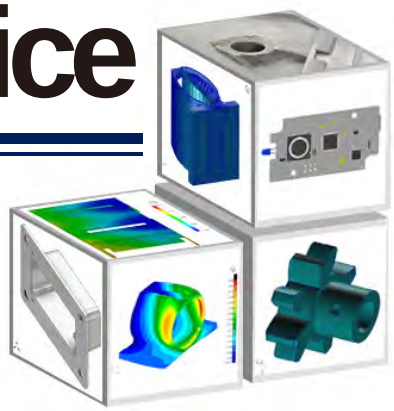
LINE SEIKI

Computer Aided Engineering

CAE Analysis Service



Taking advantage of our many years of product development experience, we perform simulation analysis on your behalf. We provide you with reliable analysis results.

1. Importance of Simulation Analysis

In product design, just theory is not enough for practical use. However, verification using an actual prototype requires a great deal of effort and cost.

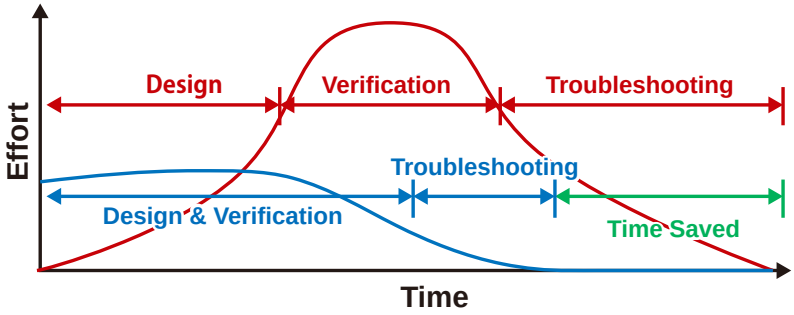
By using simulation, various scenarios can be replicated before implementation. The effects of changing parts and materials are also analyzed in advance, facilitating decision-making related to product design.

Theory
Only for simple problems

Experiment
Expensive

Simulation
Practical

Conventional (RED) VS Simulation-based Engineering (BLUE)



☑ Benefits

- Accurate Predictions
- Design Optimization
- Real-Time Feedback & Iteration
- Reduced Development Time
- Cost Savings

2. Types of Simulation Analysis

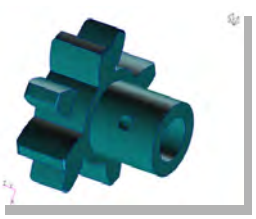
LINE SEIKI utilizes MSC Software, which stands as the gold standard in simulation technology and has a strong track record in various industries, including NASA.

☑ STRUCTURAL / STATIC SIMULATION

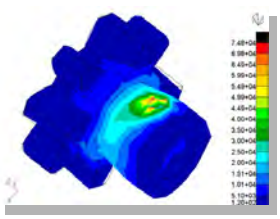
- What is the max stress and its location?
- What is the max deformation?
- Is my part strong enough?

Actual Part

Modeling



Simulation Analysis



More simulations on the next page!

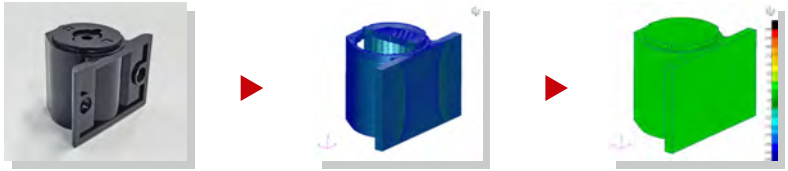
☑ FATIGUE SIMULATION

- How many cycles until components fail?
- What is the max deformation?
- Is my design durable enough?

Actual Part | Modeling | Simulation Analysis

☑ CONTACT ANALYSIS

- What is the interaction between different components in the system?
- How do surfaces deform when in contact with each other?
- Can it be assembled without failure?



☑ VIBRATION SIMULATION

- What are the natural frequencies?
- How does the system respond to different vibrational inputs?
- Will it unexpectedly vibrate excessively?

☑ THERMAL SIMULATION

- What is the temperature distribution?
- What are the thermal stresses and strains?
- Will my part overheat?

☑ BUCKLING SIMULATION

- What is the load at which a structure gets unstable and buckles?
- How do the geometry and material properties influence?
- How can the structure be optimized to prevent buckling?

The following advanced analyses are also available:

☑ EXPLICIT DYNAMICS SIMULATION

☑ MANUFACTURING PROCESSES SSIMULATION

☑ FLUID DYNAMICS SIMULATION

☑ MULTIBODY DYNAMICS SIMULATION

☑ ADDITIVE MANUFACTURING SIMULATION

☑ MULTI-SCALE MATERIAL MODELING

☑ ACOUSTICSIMULATION

☑ DROP SIMULATION

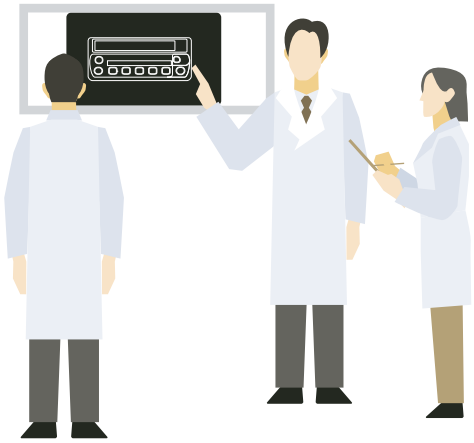
3. Process of the Service

1. Developed Model (Pre-Processing)

Provide us with some information necessary for analysis.

- Import CAD model into CAE software.
- Create a mesh model.
- Define material properties.
- Define boundary conditions.　etc.

2. Type of Analysis (Solver)



Analysis is performed from various aspects.

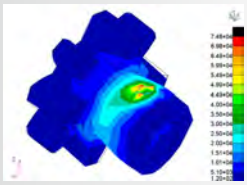
Computation based on the conditions set in Pre-Processing.

3. Results (Post-Processing)

The report of analysis results will be submitted to you.

Process the results of computation for visual perception:

- Stress Distribution
- Deformation　etc.



You can also count on us in product design, prototyping, & development!

LINE SEIKI

Address : 37-7 Chuo-cho, 2-Chome
Meguro-ku, Tokyo 152-0001 Japan
Visit our company website for contact details.
E-mail address : webtrade@line.co.jp
Product page : www.lineseiki.com/cae/