FORGE®

# Mastering the Software

**Increasing the scope of your knowledge of FORGE® and especially taking on board the latest functionalities, is what you are looking for!**

After this course you will have developed in-depth expertise on the newly redesigned graphic interface, one that speeds up data setup and result analysis. This will bring you enhanced knowledge of the very latest solver functions. You will discover how the multiproject mode works, techniques related to sensors and marking grids as well as how to customize the data stores. Regarding computing, emphasis will be placed on features like 'bi-mesh' in open die forging, anisotropic remeshing and heat treatment processes.

## LEVEL

**Intermediate - Users looking for support when moving to the 'NxT' version and who are willing to learn its functionalities.**

## PREREQUISITES

**A first experience with FORGE® software is required.**

## GOALS

- **Performing your data setup in line with the new 'workflow' set-out by the new graphic user interface**
- **Launching 'step by step' or 'entire process' computation**
- **Understanding and analyzing the results**
- **Customizing your working environment**

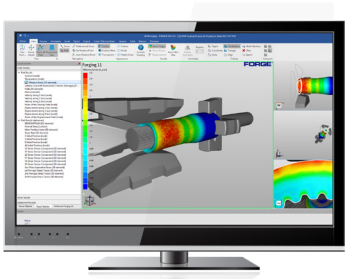
## OTHER RECOMMENDED COURSES

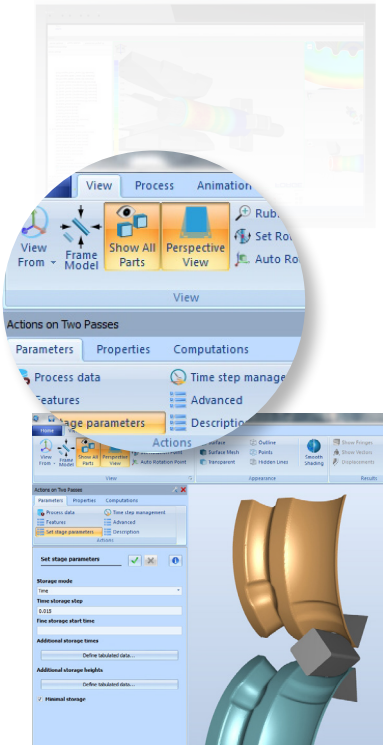
- FORGE® - Automatic optimization
- FORGE® - Heat treatment of steel and aluminum
- FORGE® - Die analysis

| TRAINING | DURATION | PRICE EXCL. TAX | PARTICIPANTS |
|---|---|---|---|
| In-company | 2 days | €3000 per training | 1 to 3 people |

## DAY 1 > 8.30 a.m. to 12.00 p.m. & 1.30 p.m. to 5.00 p.m.

| | |
|---|---|
| **Introduction** | • Presentation of Transvalor<br>• Course goals |
| **Data setup** | • Process, case, stage and store concepts<br>• Importing geometries, mesh quality, local and global surface repairs<br>• Mesh parameters: advanced options, mirror, surface export<br>• Object transformation: offset, flipping, gravity adjustment<br>• Flow stress data: stress curves in tabulated format, importing JMatPro files<br>• Local definition of friction or heat transfers<br>• Advanced definition of press kinematics: press definition for rolling, floating die, stiffness<br>• Checking data with 'Setup Status' |
| **Launching computation** | • Launching a stage or a complete case<br>• Optimum number of cores for a simulation |
| **Analyzing results** | • Identification of usual forging defects: underfill, folds, cracks<br>• Graphs: forces and stresses<br>• Comparing projects using the multi-project view tool |
| **Advanced functionalities** | • Sensors: point tracking and defect identification with reverse engineering<br>• Marking grids: monitoring the central area and the sheared surface |
| **Customizing the environment** | • Customize data stores and setup<br>• Create your own process or setup stage<br>• Familiarization with the store<br>• Recording macros to automate setup |



## DAY 2 > 8.30 a.m. to 12.00 p.m. & 1.30 p.m. to 5.00 p.m.

| | |
|---|---|
| **Numerical aspects** | • Managing time increments<br>• Remeshing and mesh adaptation techniques<br>• Auto-adaptive anisotropic remeshing<br>• Analytical and smoothed tools |
| **Advanced functionalities** | • Forming<br>- Transition: forming in a multiple cavity mold<br>- Implementation: reducer rolling, cross rolling, bending<br>- Self-contact, gas and lubricant trapping<br>- Multi-pass file (MPFx)<br>- Bi-mesh technique<br>• Metallurgy<br>- Phase transformation<br>- Recrystallization and grain size<br>• User routines<br>- General concept<br>- Selecting preset variables |
| **Conclusions** | • Questions and course assessment |