FORGE®

New Functionalities of FORGE® NxT 4.1

Do you want to further increase your productivity? Learn how to use the new features in FORGE® NxT 4.1 and make them work for you!

By the end of this course, you will be able to use all new features in FORGE® NxT 4.1 and work with the best practices to configure data and analyze results.
FORGE® NxT 4.0 provided a new user experience thanks to the optimization module freshly implemented in its interface. With FORGE® Nxt 4.1, we go a step further, new actions are available, linked parameters are available among other new features. You will also benefit from the reduction of computation times in 2D. The implementation of local remeshing in 3D improves the quality and accuracy of the solutions. It is now possible to model the steady state in cold rolling. This approach reduces the computation time. The new heat treatment functionalities will also be covered in this course.

LEVEL

Intermediate

PREREQUISITES

A first experience with FORGE® software is required.

GOALS

- **Mastering the new features in FORGE® NxT 4.1**
- **Taking advantage of the new features of the interface to configure data and analyze results faster**
- **Increasing the predictive quality of your simulations with more realistic data setups**
- **Gaining experience based on practical case studies**

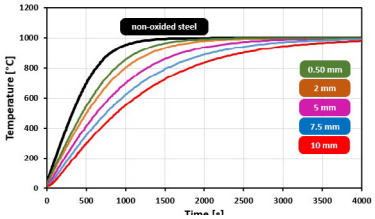
OTHER RECOMMENDED COURSES

- FORGE® - Mastering the software
- FORGE® - Heat treatment of steel and aluminum

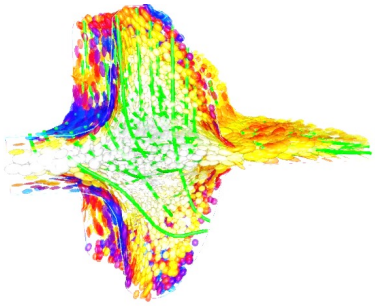
TRAINING	DURATION	PRICE EXCL. TAX	PARTICIPANTS
In-company	1 day	€1400 per training	1 to 3 people

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

Introduction	• Presentation of Transvalor • Course goals
New features	• Meshing improvements • Result Analysis • 2D CAD • Visualization of tensors and vectors • Custom legends • Results grouped by categories • Customizable display
Automated Optimization	• Explanation of core concepts (individuals, generations, minimizables, constraints, parametered actions) • Case study • Linked parameters • New actions available • Direct definition of rules
Material Data Tool	• Graphical User Interface • View and edit JMatPro files, point-to-point files, the FPDBase database, TTT files
Python API	• Introduction to the Python API to setup and analyze automatically your simulation • Python recorder • User interaction • Real time Output Display
Heat Treatment	• Model of scale thickness as a function of heating time in the furnace (prediction and damage, influence on friction and wear) • Model of tempered martensite • Materials - Two aluminum alloys - Several TTT files for bimaterial systems • Extended quenchants database • Induction - Thermomechanics in inductors - Exporting Lorentz forces - Second-order time integration scheme - Mesh R-adaptation for induction • Self-radiation • Addition of Concentrator object template
Cold Stationary Rolling	• New stationary approach for cold rolling simulations • Support of EVP rheologies • Elastic unload taken into account • CPU time reduction vs. Incremental approach • New adaptative and iterative remesher
Shearing process	• Data setup • Advantages of Phase Field approach
Flow forming	• 2.5D approach
Conclusions	• Questions and course assessment



Influence of scale thickness on time required to homogenize the temperature at the center of the billet



Visualization of a tensor and a marking grid (cylinders in green)