



**FORGE®**

# Starting with FORGE® Hot Metal Forming Premium

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**The time has come for you to discover FORGE®’s Hot Metal Forming Premium module and its range of possibilities. Thanks to this module, run and analyze your warm or hot forming simulations!**

This training is a first approach to using FORGE®’s Hot Metal Forming Premium module. On the first day, you will learn how to configure the data step-by-step, how to launch computations and how to analyze the main results. On the second day, you will learn how to examine a wide range

of results more thoroughly to better interpret the physical phenomena at hand.

Key features such as die analysis, grain flow tracking tools or fold detection will be covered.

## LEVEL

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**Beginner**

## PREREQUISITES

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**There is no prior requirement for this course.**

## GOALS

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- **Knowing how to configure forging simulations (punching / closed die forging)**
- **Analyzing simulation results**
- **Identifying and interpreting forging defects (folds, cracks, etc.)**
- **Viewing grain flow and monitoring physical values (temperature, pressure, etc.)**
- **Predicting die wear and performing die analysis (stress, etc.)**
- **Customizing your working environment**

TRAINING	DURATION	PRICE EXCL. TAX	PARTICIPANTS
In-company	2 days	2800 € per training	1 to 3 people

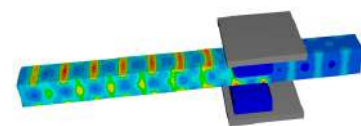
**Contact us to set the course date and location**

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

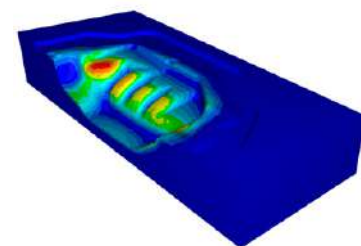
<b>Introduction</b>	<ul style="list-style-type: none"> <li>- Presentation of Transvalor</li> <li>- Course goals</li> <li>- Review of the finite element method</li> </ul>
<b>Data setup</b>	<ul style="list-style-type: none"> <li>- Working environment presentation</li> <li>- Concepts: stores, processes, cases and stages</li> <li>- Import of geometries</li> <li>- Meshing and remeshing procedures</li> <li>- Configuration of kinematics</li> <li>- Rheology, friction, heat transfer, materials database (FPD)</li> <li>- Concept of transition</li> <li>- Application to a tutorial</li> </ul>
<b>Launching computations</b>	<ul style="list-style-type: none"> <li>- Quick launch</li> <li>- Computation manager and chained simulations</li> </ul>
<b>Analyzing results</b>	<ul style="list-style-type: none"> <li>- Display of results, main scalars and vectors</li> <li>- Diagrams, animations, VTFx exports</li> <li>- Multi-window analysis</li> <li>- Handling animations and exporting results</li> </ul>
<b>Data setup for an industrial case</b>	<ul style="list-style-type: none"> <li>- Starting the computation</li> </ul>



Temperature evolution



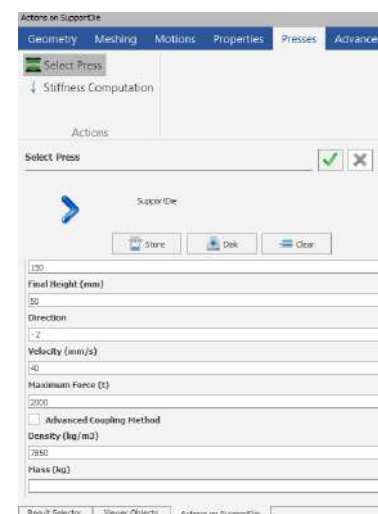
Equivalent strain evolution



Temperature evolution on the lower tool during die analysis with couple approach

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

<b>Analyzing results from an industrial case</b>	<ul style="list-style-type: none"> <li>- Interpreting results</li> </ul>
<b>Additional functions</b>	<ul style="list-style-type: none"> <li>- Marking grid and grain flow</li> <li>- Predefined and post-process sensors</li> <li>- Furnace-to-press initial cooling</li> <li>- Shearing, blanking and flash trimming of workpiece</li> <li>- Import of tooling assembly</li> </ul>
<b>Die analysis</b>	<ul style="list-style-type: none"> <li>- Uncoupled and coupled approach</li> </ul>
<b>Working environment customization</b>	<ul style="list-style-type: none"> <li>- Creating specific models and data sets (materials, presses, friction, etc.)</li> <li>- Custom Keyboard Shortcuts</li> </ul>
<b>Conclusions</b>	<ul style="list-style-type: none"> <li>- Questions and course assessment</li> </ul>



Press configuration