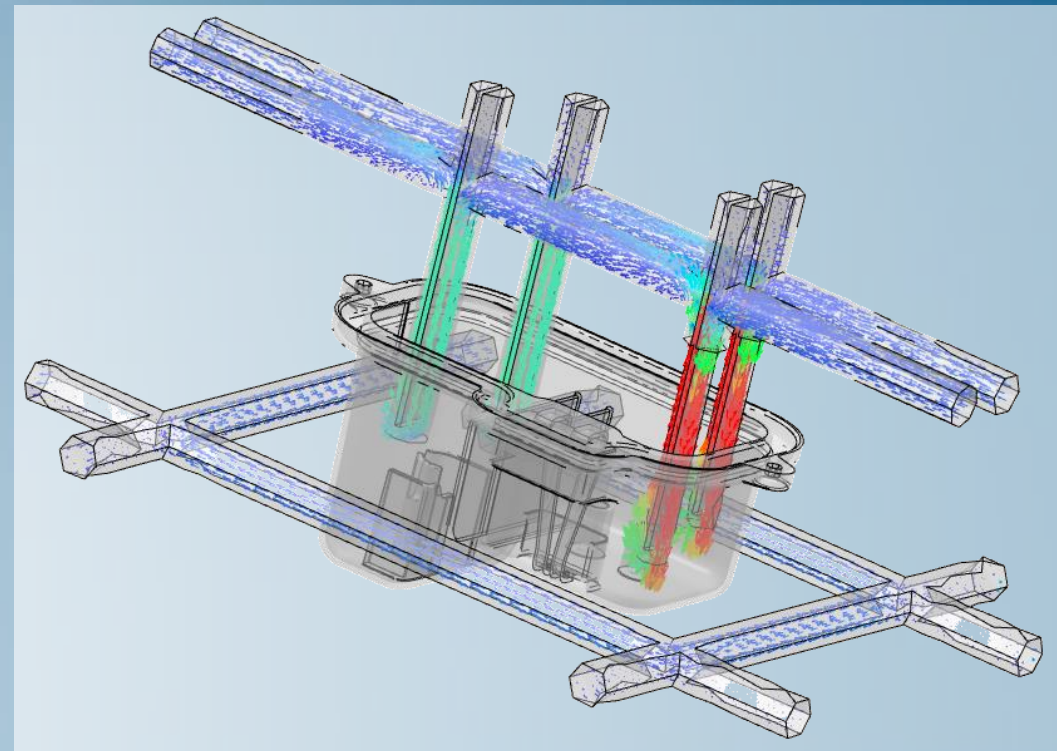


# Plastic Mold Injection Essentials

R2018x



**3DEXPERIENCE®**



# About this Course

## Course objectives

Upon completion of this course you will be able to:

- ▶ Perform injection molding simulations
- ▶ View and evaluate simulation results

## Targeted audience

This course is intended for the following role:

- ▶ Plastic Injection Mold Engineer

## Prerequisites

None.



4 hours

# Day 1

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- ▶ Lesson 1 Introduction
- ▶ Lesson 2 Simulation Setup for Injection Molding
- ▶ Workshop 1 Simulation Setup for a Smoke Alarm Cover
- ▶ Lesson 3 Postprocessing
- ▶ Workshop 2 Smoke Alarm Simulation, Postprocessing and Modification
- ▶ Workshop 3 Simulation of an Electronic Cover with Inserts
- ▶ Workshop 4 Simulation of an Electronic Cover with Mold Cooling

## Additional Material

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- ▶ Appendix 1      Cloud-based Simulation Roles

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# Revision Status

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Lesson 1	8/18	New for R2018x
Lesson 2	8/18	New for R2018x
Lesson 3	8/18	New for R2018x
Appendix 1	8/18	New for R2018x
Workshop 1	8/18	New for R2018x
Workshop 2	8/18	New for R2018x
Workshop 3	8/18	New for R2018x
Workshop 4	8/18	New for R2018x



# Lesson 1: Introduction

## *Lesson content:*

- ▶ Introduction
- ▶ Plastic Part Design Rules
- ▶ Insert Molding
- ▶ Mold Cooling
- ▶ **3DEXPERIENCE** Platform Basics
- ▶ Geometry for Simulation



1 Hour

# Lesson 2: Simulation Setup for Injection Molding

## *Lesson content:*

- ▶ Plastic Mold Injection Overview
- ▶ Parts
- ▶ Materials
- ▶ Process Settings
- ▶ Conditions
- ▶ Feature Manager
- ▶ Meshing
- ▶ Simulate
- ▶ Workshop Preliminaries
- ▶ Workshop Files



1 hour

# Workshop 1: Simulation Setup for a Smoke Alarm Cover

In this workshop, you will create a simulation setup for the three-dimensional model of the Smoke Alarm top cover shown below.

After completion of this exercise, you will be able to:

- Create the simulation setup steps for Plastic Mold Injection
- Define an injection location.
- Set up a mesh for a given model



30 minutes

# Lesson 3: Postprocessing

## *Lesson content:*

- ▶ Job Monitoring
- ▶ Results Visualization Basics
- ▶ Injection Molding Results
- ▶ Simulation Modifications



1 hour

## Workshop 2: Smoke Alarm Simulation, Postprocessing and Modification

In this workshop, you will run, monitor and postprocess the Smoke Alarm top cover simulation. After reviewing the simulation results you will modify the scenario and re-run the simulation to examine the effect of the changes.

After completion of this exercise, you will be able to:

- Run a simulation for Plastic Mold Injection.
- View the results.
- Modify the scenario and compare results.



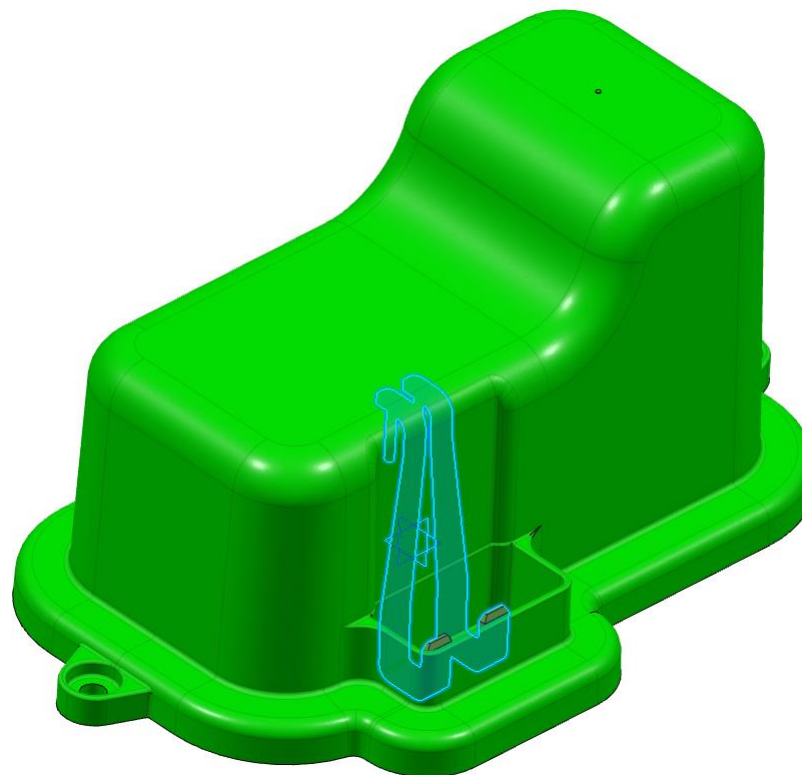
30 minutes

# Workshop 3: Simulation of an Electronic Cover with Inserts

In this workshop, you will create and postprocess an insert molding simulation for the three-dimensional model of the Electronic Cover shown below.

After completion of this exercise, you will be able to:

- Create the simulation setup steps for Plastic Mold Injection, including insert parts.
- Define an injection location.
- Set up a mesh for a given model.
- Run the simulation.
- Examine the warp results.



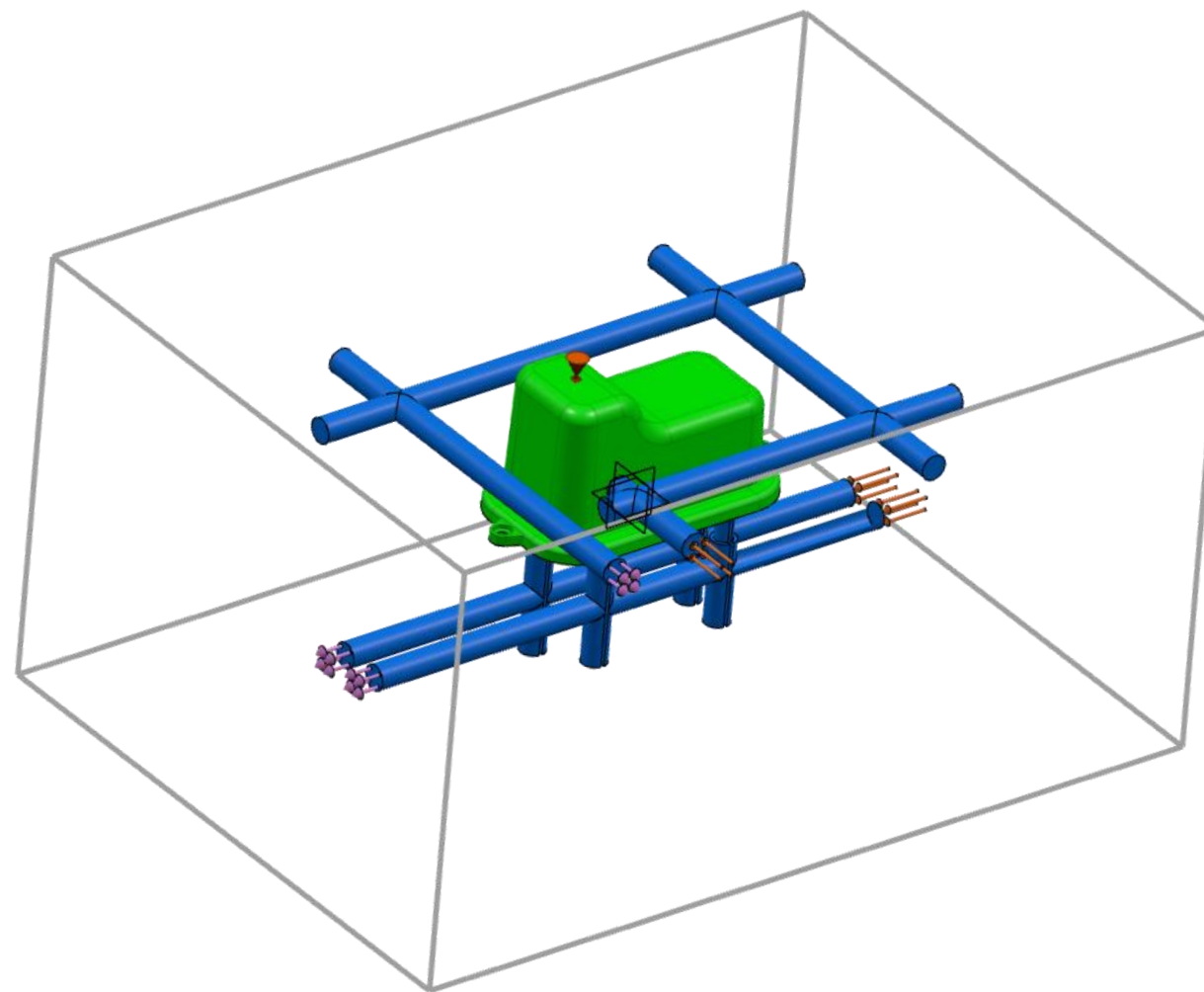
30 minutes

# Workshop 4: Simulation of an Electronic Cover with Mold Cooling

In this workshop, you will create and postprocess a molding simulation for the three-dimensional model of the Electronic Cover shown below, including a virtual mold with cooling lines.

After completion of this exercise, you will be able to:

- Create the simulation setup steps for Plastic Mold Injection, including a virtual mold with cooling lines.
- Set up a mesh for a given model.
- Run the simulation.
- Examine the results.



30 minutes



# Appendix 1: Cloud-based Simulation Roles

## *Appendix content:*

- ▶ Cloud-based Simulation Roles



15 minutes