CAE Value

Leverage the value of simulation driven development

Automating CAE
using Python

Description

Automation in its various forms has been changing how people work and how business-es are run for quite a long time. And with the advent of dig italization and AI technologies, the transformation is spreading to areas and tasks that so far were considered as only feasible by highly skilled and experienced humans. In this course, we combined our collective knowledge and experience in Computer-Aided-Engineer-ing, process automation, software development and project management to provide you with a comprehensive set of practices, skills and tools that will enable you to get the most out of this opportun ity. After taking this course we believe that your organization and yourself will work better, faster and smarter.

Objectives

Explaining how automation can be used in CAE

Learning how to model and evaluate your processes

Identifying processes suited for automation

Choosing the right automation strategy and tools

Programming for automation

Skills covered

Automation

Process modeling and evaluation

Python

Agenda

Introduction to Automation

What is Automation?
Uses of Automation in CAE
Automation tools

Automation procedure

Process modeling and evaluation
Automation strategies and considerations
Adapting the process (KRAC method)
Estimating the gains (ROI)

Automating using Python (Hands-on)

Python basics
Programming best practices

Automating using Python

Pre-processing

Files and f olders manipulation
String manipulation

Processing

Terminal commands and subprocesses
Creating a wrapper

Post-processing

Parsing results files
Creating plots and figures using matplotlib
Generating reports

Creating a master script