Case Study Data Scientist AI "Production Planning and Scheduling

Foreword

- The case study is intended for testing professional and conceptual skills of the evaluated candidates.
- The candidate / applicant will be evaluated on the basis of the presentation and the subsequent discussion.
- Please prepare the answers in the form of a presentation/program code and the applicant will then present them during the interview.
- The oral presentation including discussion lasts a total of approximately 30 minutes.
- Questions can be submitted until Wednesday, 02.08. 12 p.m. to felixkrause@siemens.com will be. They will be answered as soon as possible.
- Both the presentation and the discussion part can be held in German or English.
- Please send the results of the case study no later than Thursday, 03.08.2023 at 12 noon to felixkrause@siemens.com, lothar.wild@siemens.com and tony.alexander@siemens.com to send.

We wish you good luck with the processing!

Case 1: "Prediction of sales unit numbers of a production site".

The commercial plant manager has to adjust his budget planning for the next 24 months. He asks you to provide a forecast of the future material requirements that is as good as possible, since he wants to include the material costs. You will find the consumption figures in the attached file "consumption.csv".

1) Create a program (programming language of your choice) with the help of which a forecast can be created. Two forecast models are to be implemented. Please send it back to us together with your presentation documents.
2) During the introduction round, describe which (programming) concepts and methods you used for the implementation. Also present suggestions for improvement that you were not able to implement due to time constraints.
3) How do you rate the quality of your forecast?
4) How do you explain to the Commercial Plant Manager what they need to consider in budgeting when they use your forecast to do so.

Note: Please remember that source code is subject to copyright.

Case 2 "Production Tour (Factory Tour)"

In the second part of the interview, we will take you on a factory tour. We will show you the technologies and the material flow of our flat modules in our semi-automated electronics production.

Learn about the following manufacturing technologies in preparation for the tour:

1) SMT ("surface mounted technology") manufacturing
2) THT (Through Hole Technology) Manufacturing

During the tour we will ask you questions about possible improvement projects / potentials from the Data Science area.