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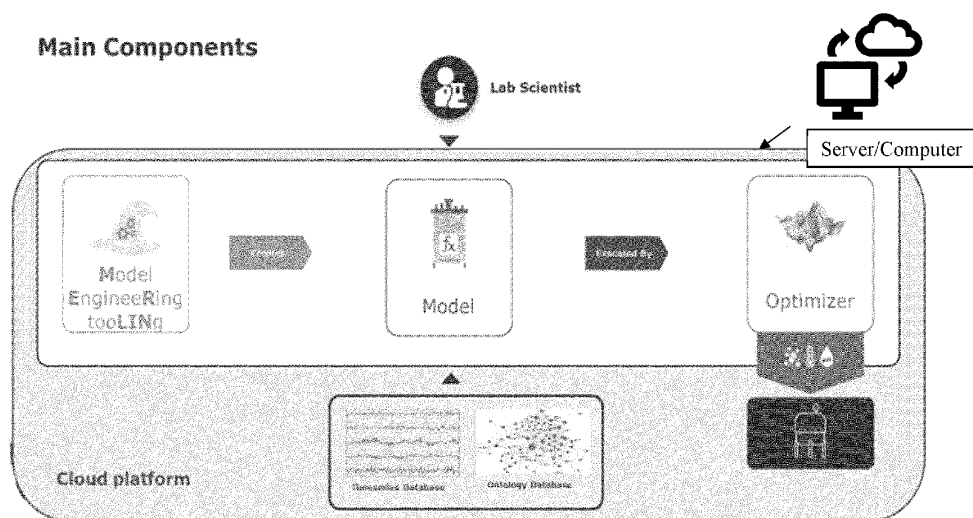
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(54) Title: GENERATION OF ON-DEMAND SOFTWARE BASED MODELS FOR PRODUCTION PROCESS APPLICATIONS

Main Components



(57) Abstract: Method for establishing and calibrating a on-demand software-based model for simulating a production process via a software-based Model Builder Module on a computer, wherein the Model Builder Module is connected to an ontology database that contains different domains, such as a bioprocessing data domain, a numeric simulation domain, and a mathematical model domains for the Model Builder Module, comprising the following steps of Defining the goal of the software based model, including information about the process the model describes, in particular process steps, cell line, molecule produced, variables the model predicts and threshold values of required model quality indicators; Selecting experimental data required for the calibration and the validation of the model in form of a list of experiments selectable in the Model Builder Module, wherein the context of the experiment data, which is stored in the ontology database matches the defined goal of the model; Composing the software-based model using the toolset proposed by

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the Model Builder Module which is specific to the respective process step the model describes; Calibrating the created software-based model with provided experimental data via the Model Builder Module; and Checking the validity and quality of the software-based model by performing a quality check of the Model using different mathematical analysis.