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# (54) Title of the invention : A GENERAL FRAMEWORK FOR THE MODELING AND SIMULATION OF SUPPLY CHAINS

#### (57) Abstract :

[05] In this work, we have presented a general framework for the modeling and simulation of a supply chain. Developed in C #, the main sites have been described using UML language. The modeling and simulation framework has been developed to allow an assessment of the various performance indicators of the supply chain. Attributes as well as possible behaviors of the different sites (supplier, factory, distribution center, customer and transport connection) were modeled in classes. These classes allow dynamic modeling of classic logistics chains. One of the perspectives of our modeling is to deepen the description of the sites and add new decision rules related to the different activities of the chain (supply, production, storage and distribution). These rules can be placed in independent modules, and allow the optimization of different decisions. These studies will allow us to have a more realistic and dynamic simulation of the logistics chain without human intervention.



### FIG. 6. Various events observed during the processing of a production order

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