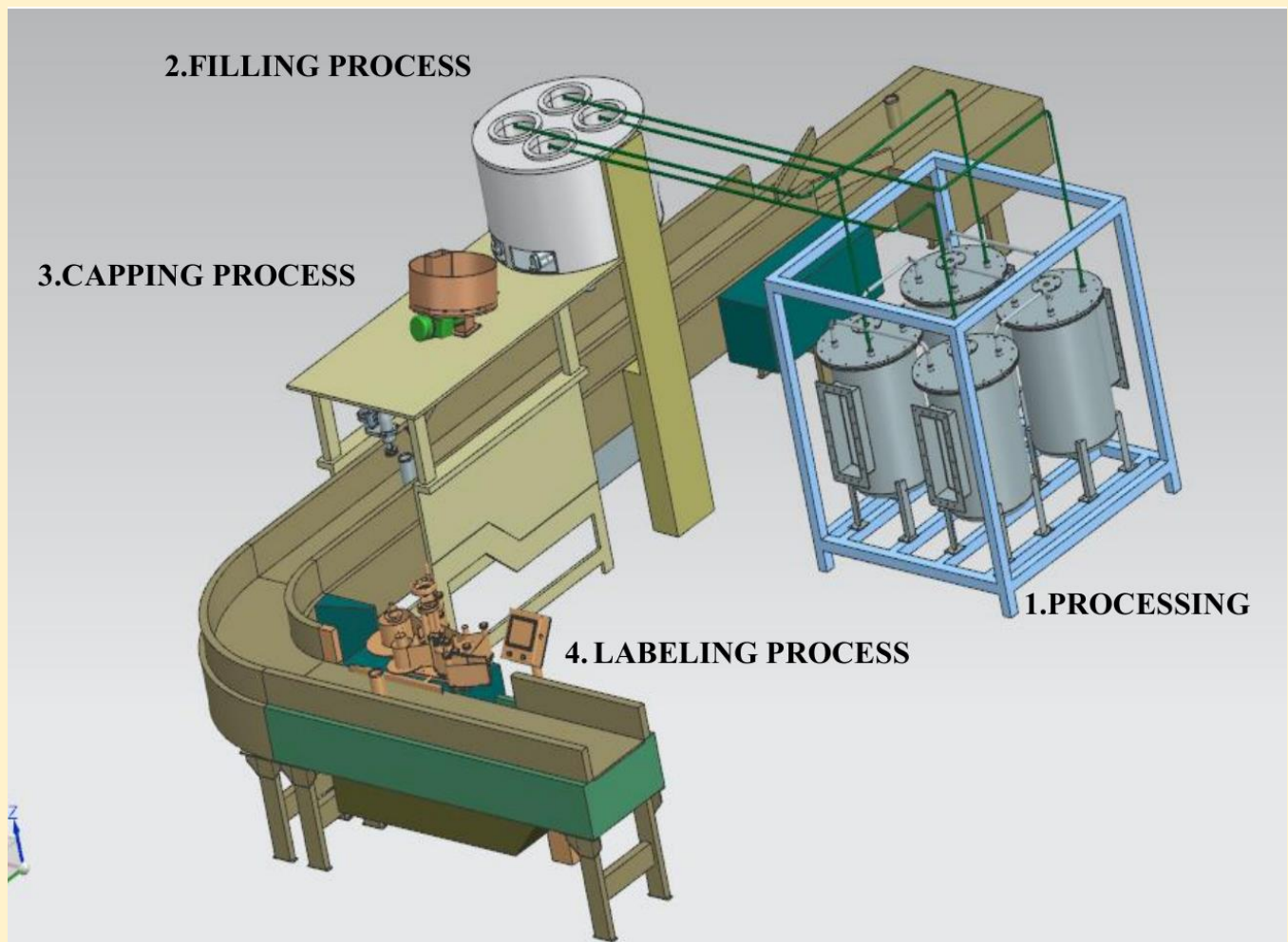


Proposal for Industrial IOT based Dairy Plant with Industry 4.0, Digital Twin, VR & AR

The following Diagram is the proposed Dairy Processing Plant consisting of Filling station, Capping Station, Labelling station. 5+1 Pick and Place Robo can be used to pick up the Milk Bottle and Pack it in a carton box for delivering to customer.

Industrial Automation and IOT are implemented on this Plant using Siemens Software Tools.



The following summarizes the operation and Specifications of this process system.

- The main inlet water is stored in the Fresh Water Tank with a continuously monitored level. The level in the water tank is always maintained at 50%.
- Based on the recipe known quantity of fresh water is taken to the mother liquor preparation tank. The additive is added to fresh water to prepare the mother liquor. Three different types of mother liquor can be prepared.
- The recipes as per the MES request can be prepared in the sequence of operation.
- The mother liquor is mixed homogeneously using a agitator based system for the time duration provided in the sequence of operation.
- The product properties (pH, TDS and Colour) are monitored inline continuously during the mixing process.
- At the completion of the process, the product is transferred to the designated product tanks.
- A cleaning routine is provided for changing the final product type. The liquid is collected in an effluent tank for safe disposal.

The fresh water inlet piping is provided at the process system area. Suitable drain pipes are also provided. The pumps for the draining the effluent from the effluent tank is included in the process system as part of this proposal.

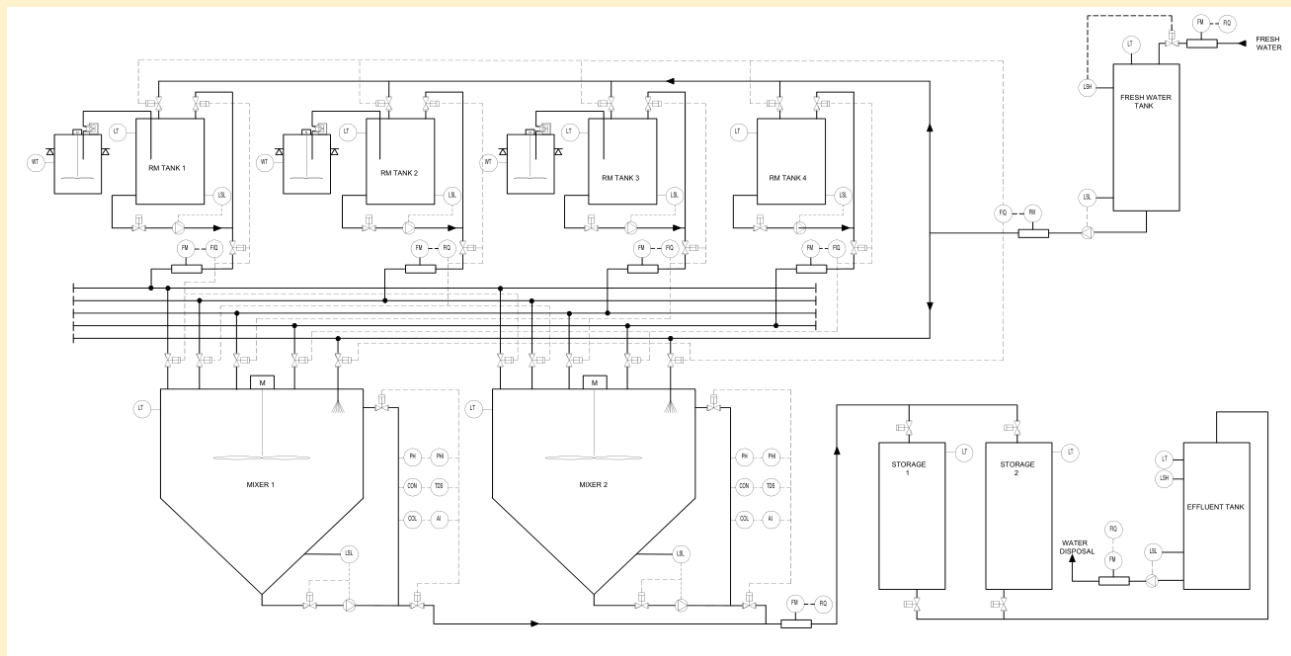
Bottle Filling Station

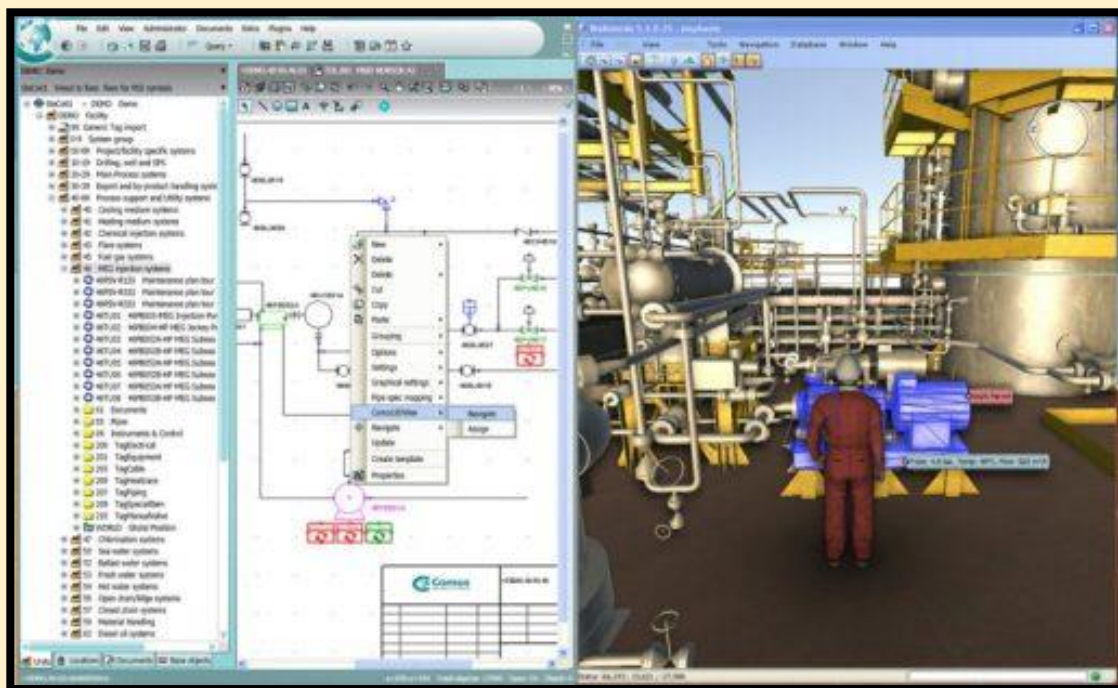
Capping Station

Labeling Station

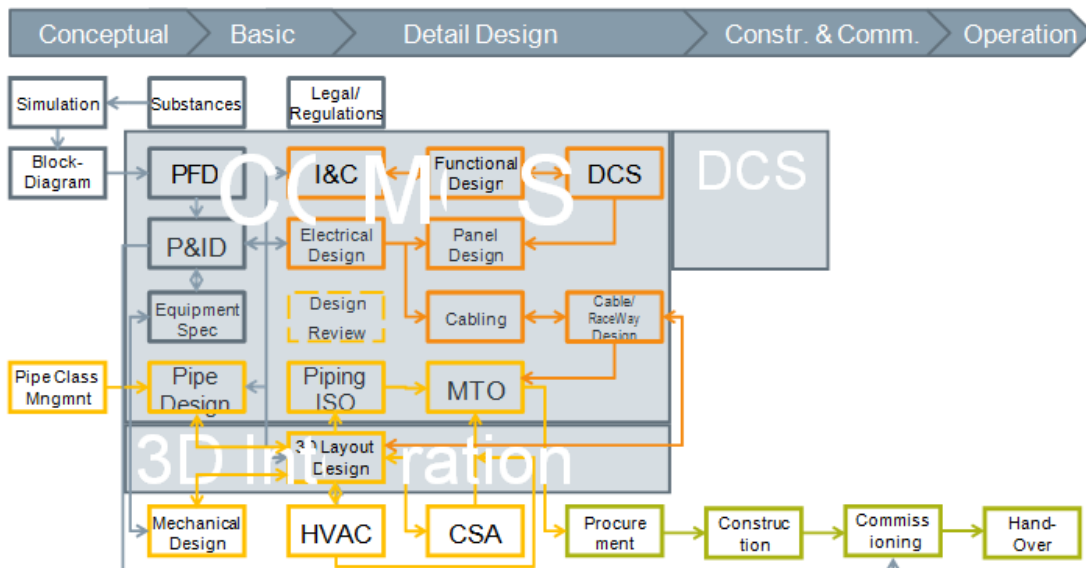
Packing Using 5+1 Axis Robo

P&ID DIAGRAM OF THE PLANT





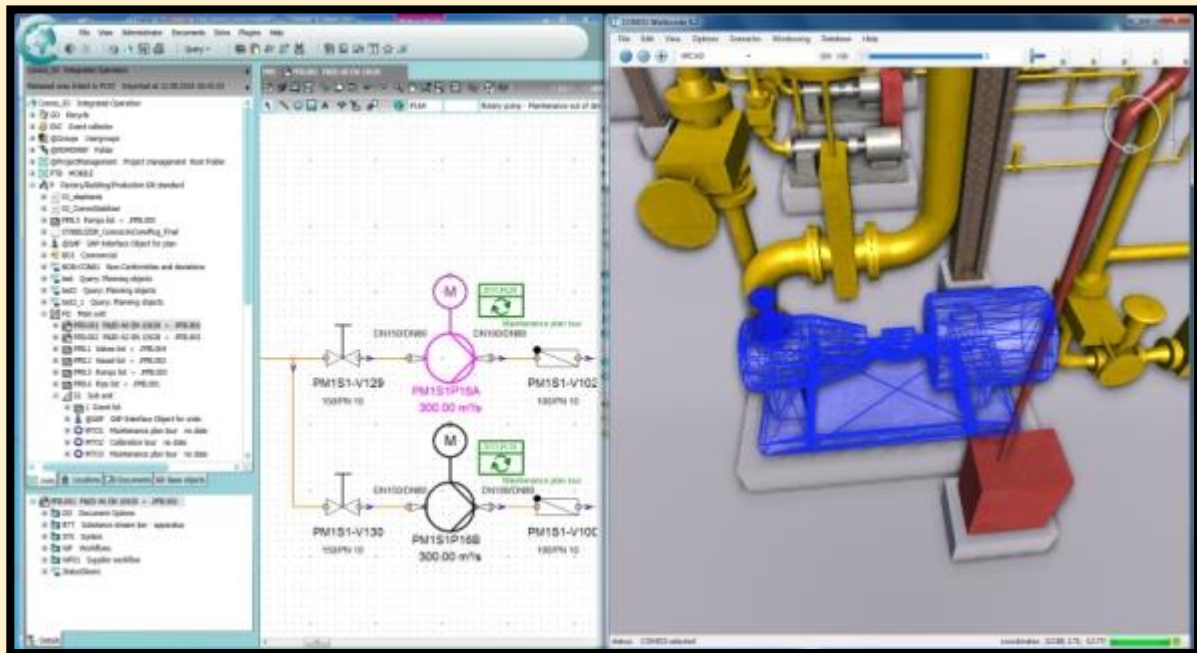
Overall Engineering Business Process



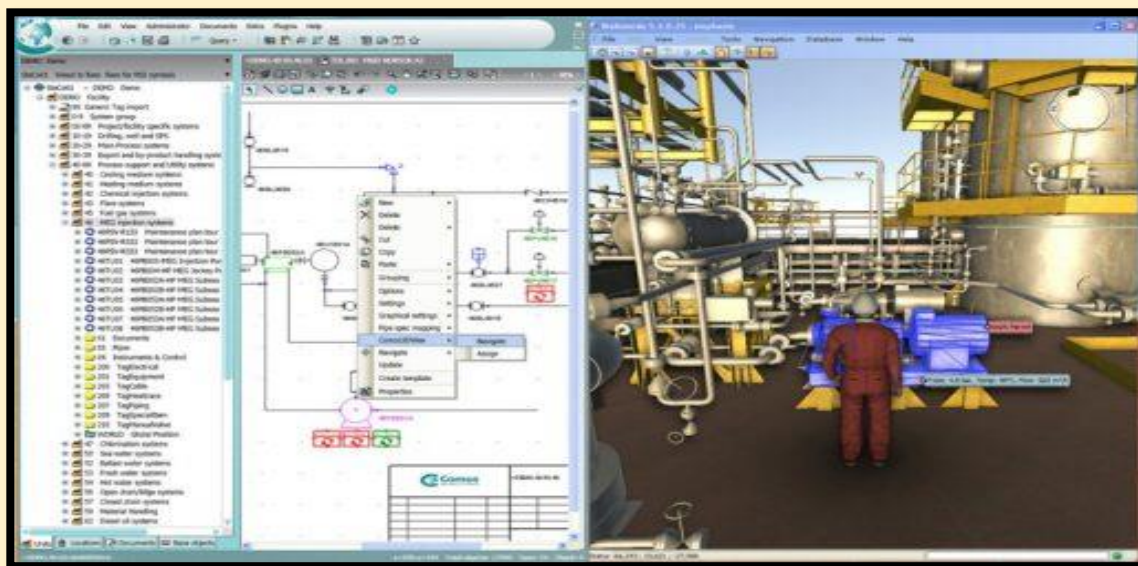
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THE FRESH GRADUATES CAN NAVIGATE FROM P&ID TO 3D WALKINSIDE



DEMONSTRATING 3D WALKINSIDE OF COMOS



OPERATOR TRAINING CAN BE DONE VERY EFFICIENTLY

