Online Life-Cycle Assessment

The EIT is a body of the European Union

Life Cycle Assessment

- Life Cycle Assessment (LCA) is a “cradle-to-grave” analysis of the environmental costs associated with a given product.
- LCA models are used to predict the direct and indirect environmental impacts associated to the production of a product
- LCA models are commonly used for supporting decisions of policymakers as well as for assessing impacts and costs of any production process.

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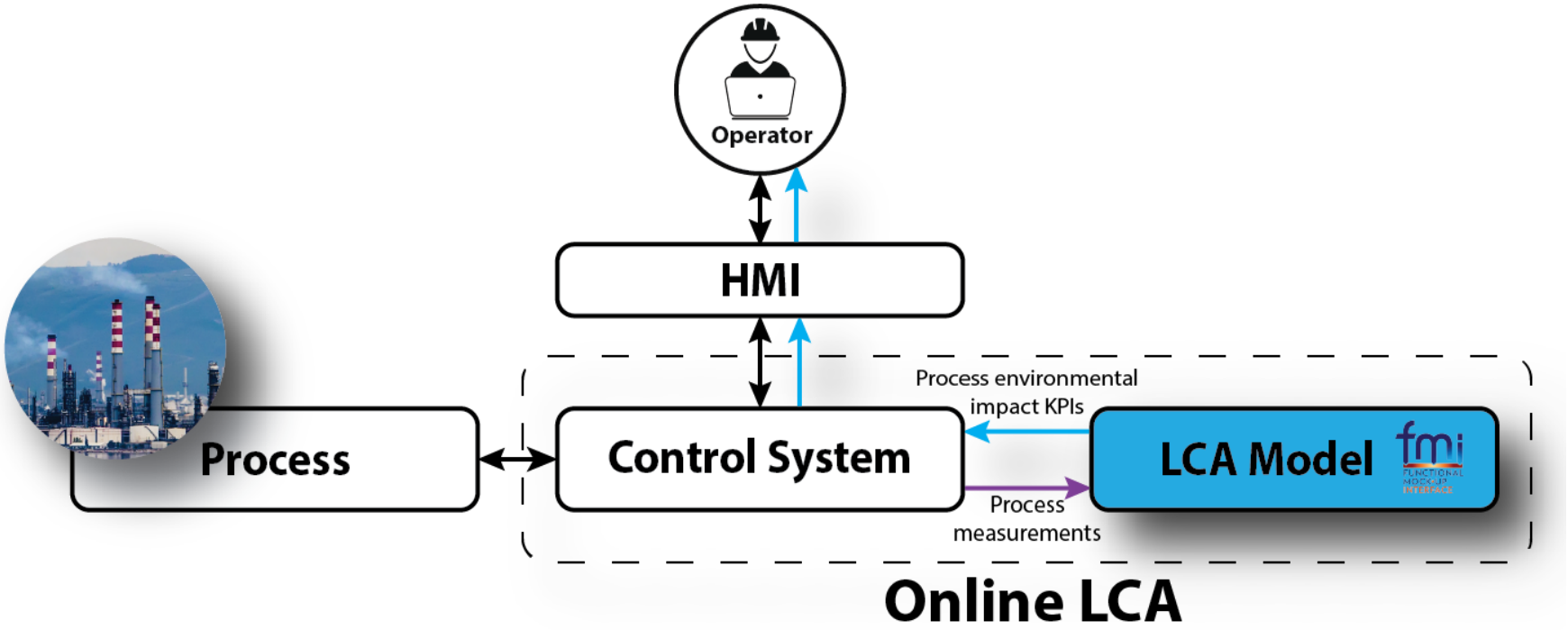
Online LCA Concept

- Online LCA focuses on continuously calculating the LCA model results based on real-time measurements collected from the process control system.



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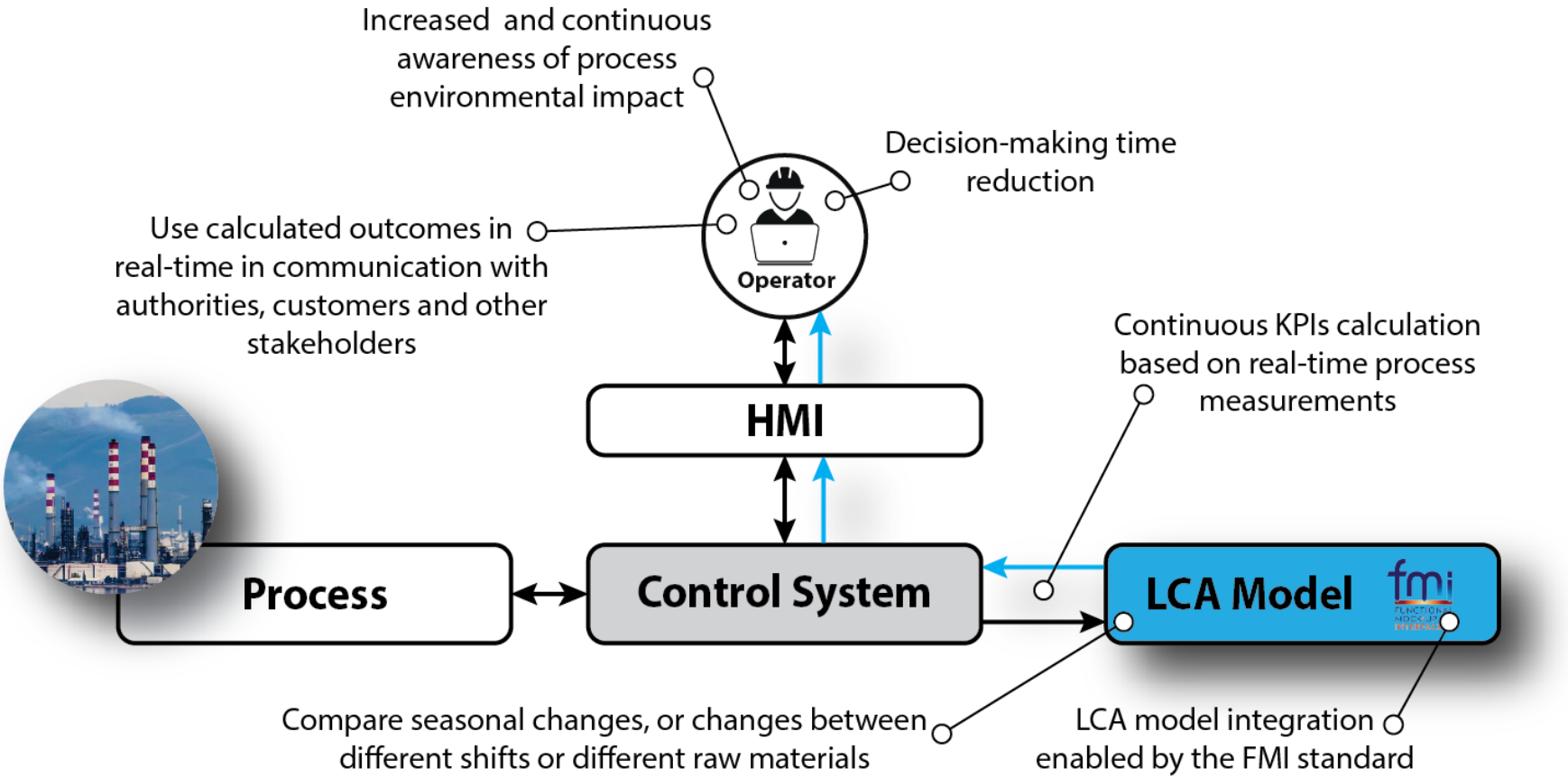
Online LCA Benefits



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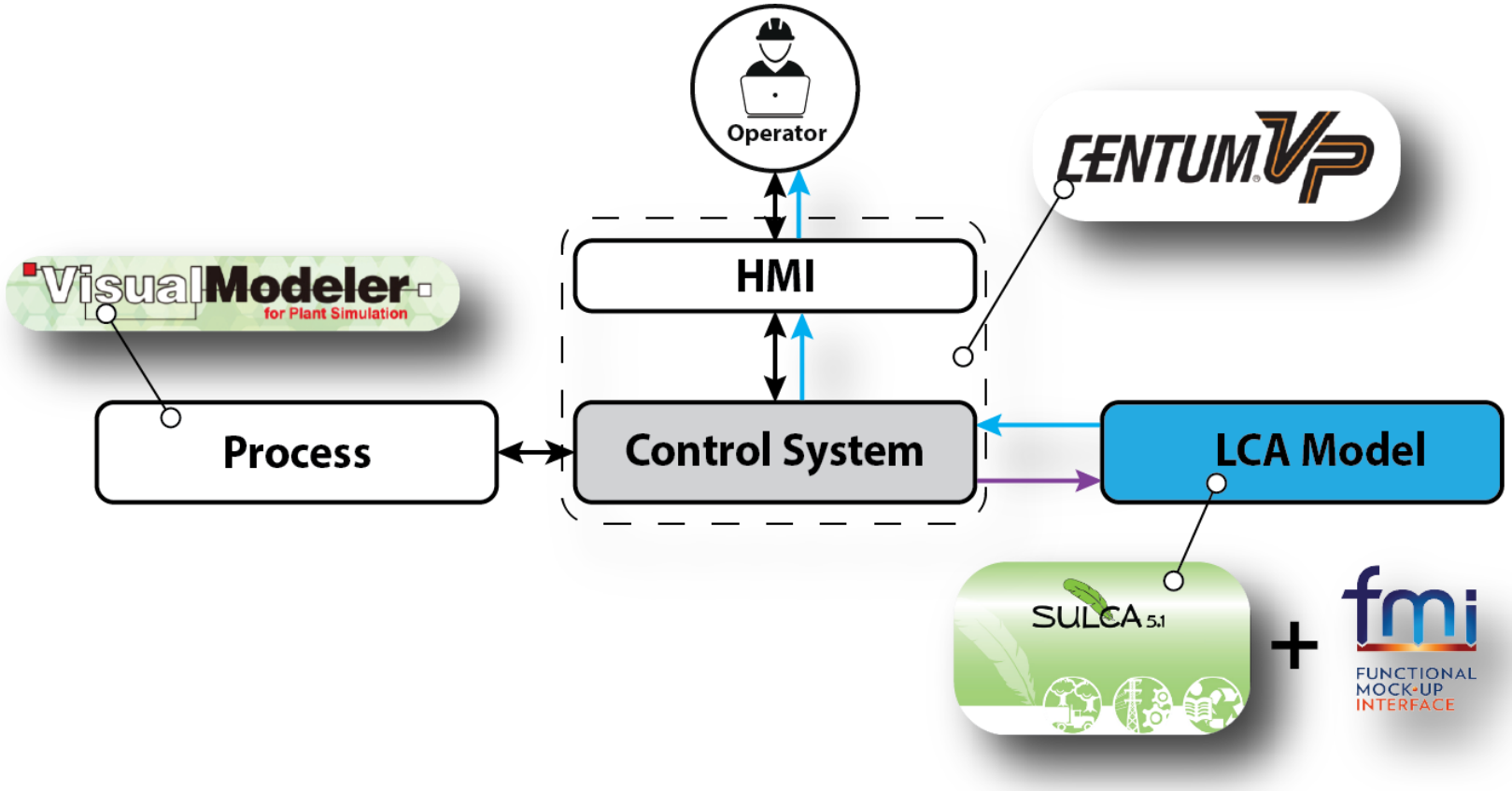
Online LCA Demo: Enabling Technologies



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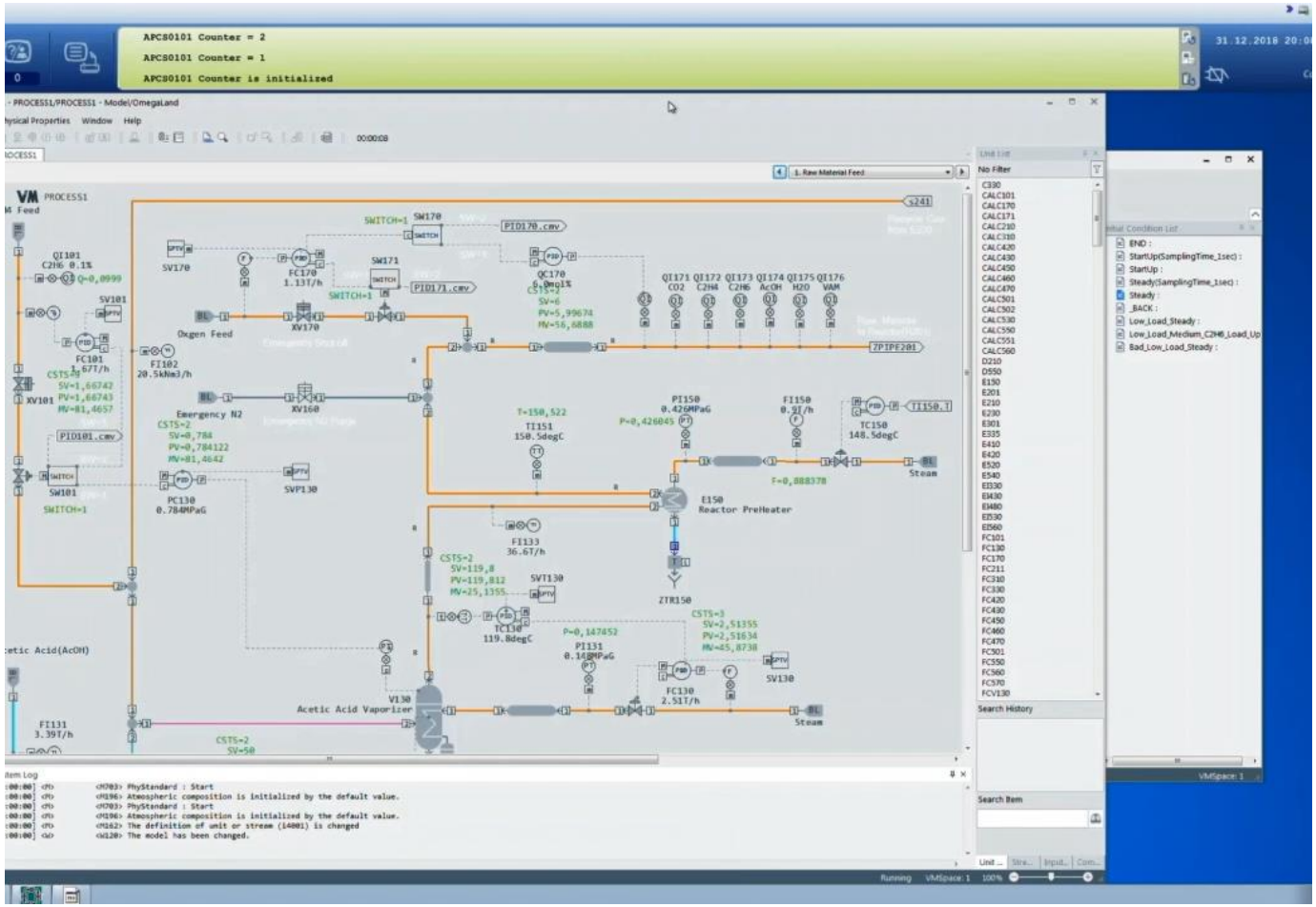
Demonstration



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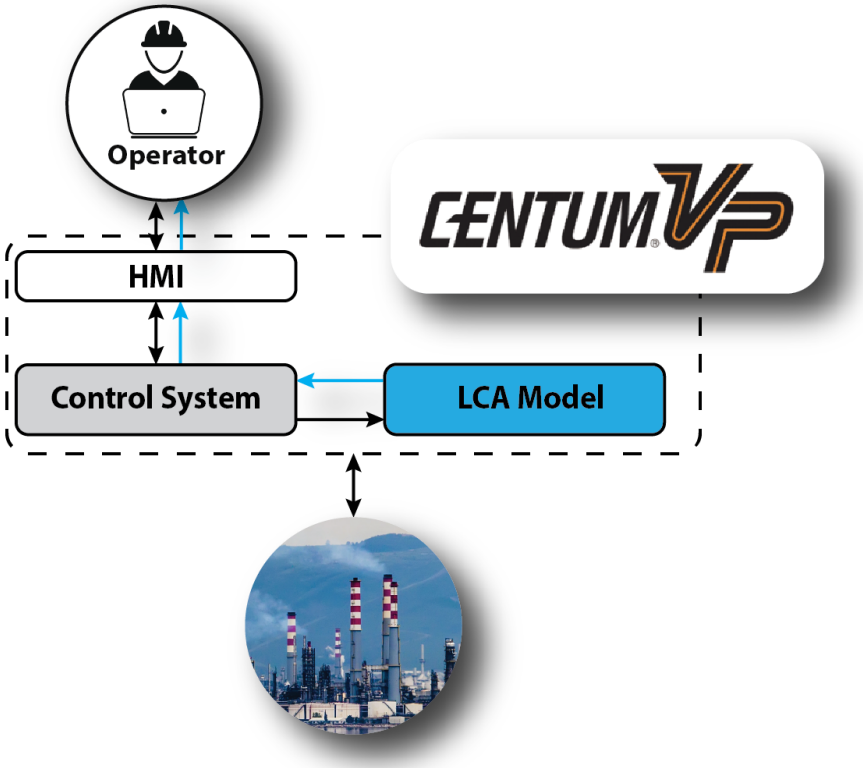
Business Case

Current implementation allows Centum VP to calculate process environmental impact in real-time of the example process. This information can be used for:

- Taking short and long-term operation actions for reducing the process environmental impact.
- System-wide optimization targeted to maintain process efficiency while keeping process emissions within the limits stablished by environmental policies
- Leverage on other Online LCA benefits.



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Business Case

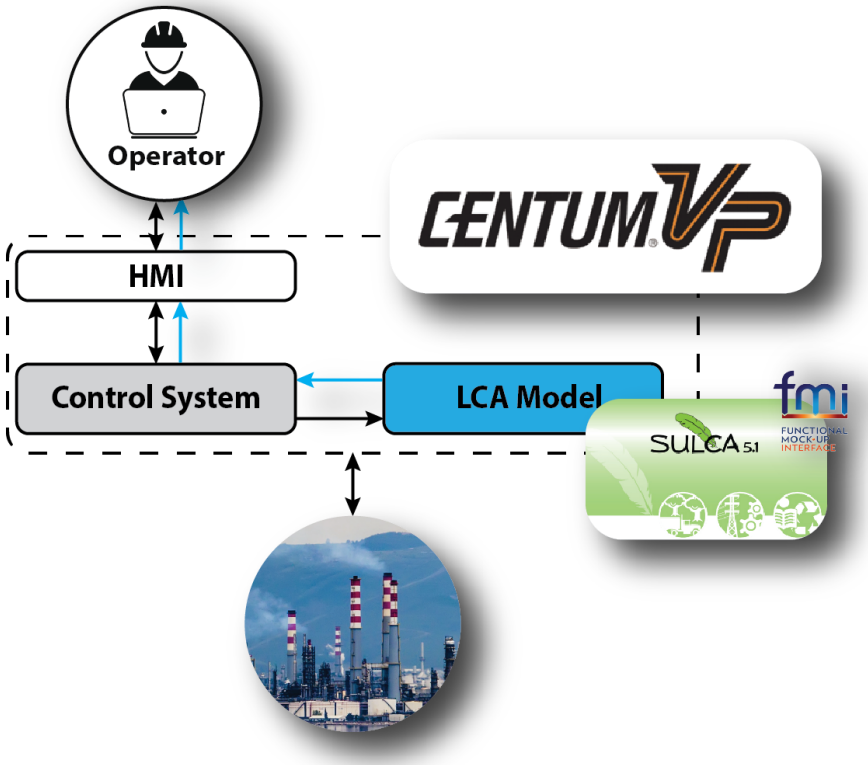
FMI standard enabled efficient integration of the SULCA model with Centum VP control system.

- This approach can be followed for other processes.

- Efficient LCA model generation is key for this application.

❑ "LCA Model Broker" could be utilized to achieve faster and cost-efficient LCA model generation based on process information.

❑ Manual LCA model configuration could be followed for highly complex cases.



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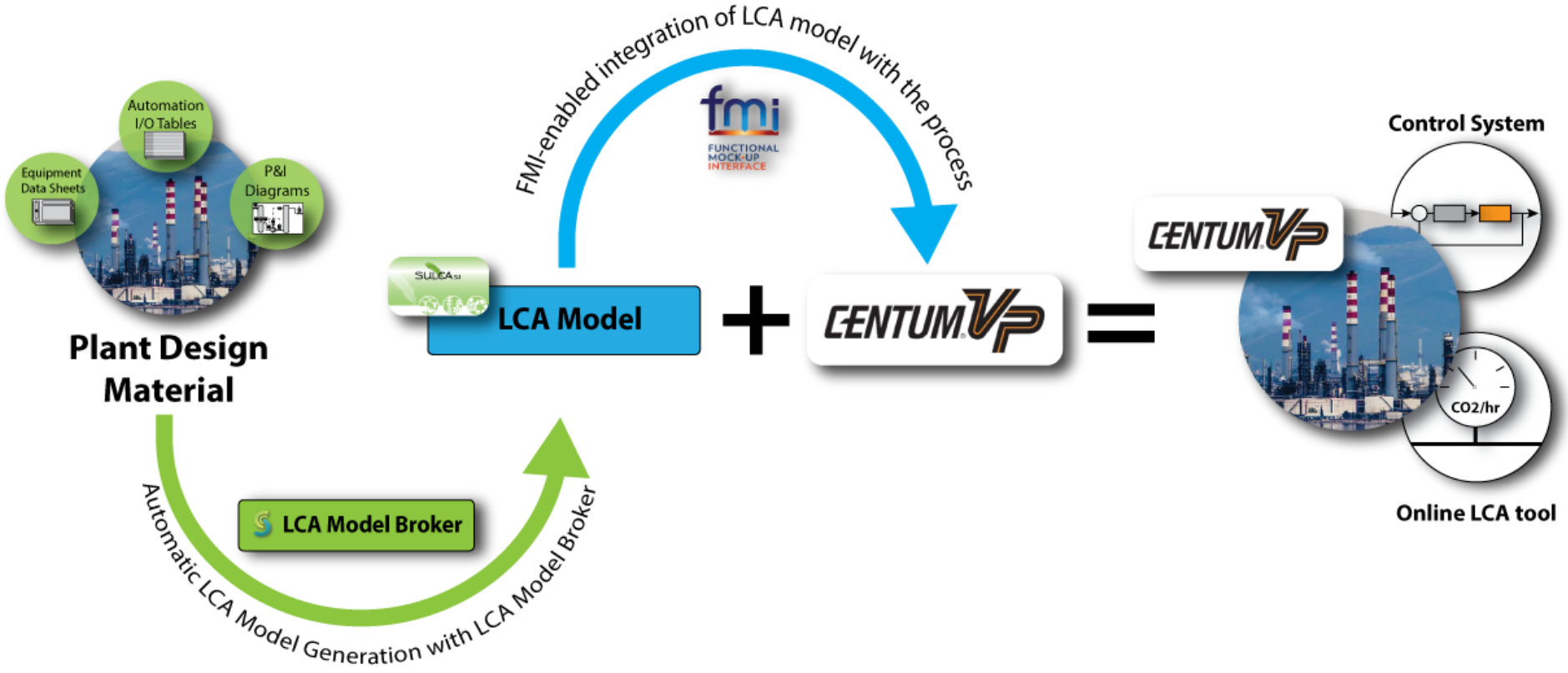
Business Case



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