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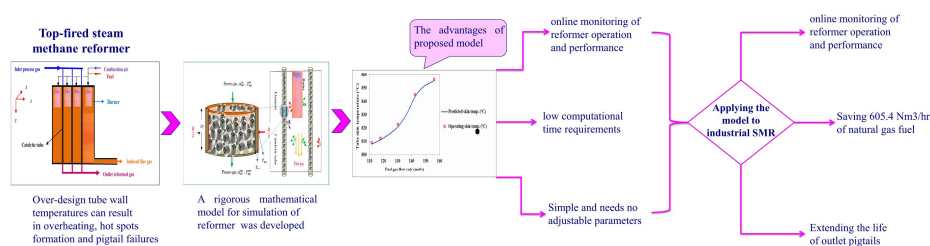
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## Graphical abstract



## Highlights

- A rigorous online model in an industrial SMR has been presented.
- The model predicts the most important design variables in the reformer.
- Comparison of model results with operating data of SMR showed a well compability.
- Skin temperature reached a maximum of 905°C at 2.6 m from top of tube length.
- Adjustment of tube skin temperature resulted in 605.4 Nm<sup>3</sup>/hr of fuel gas saving.

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