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SCILAB FREE SOFTWARE FOR NUMERICAL COMPUTATION: A WIND ENERGY EDUCATIONAL TOOL

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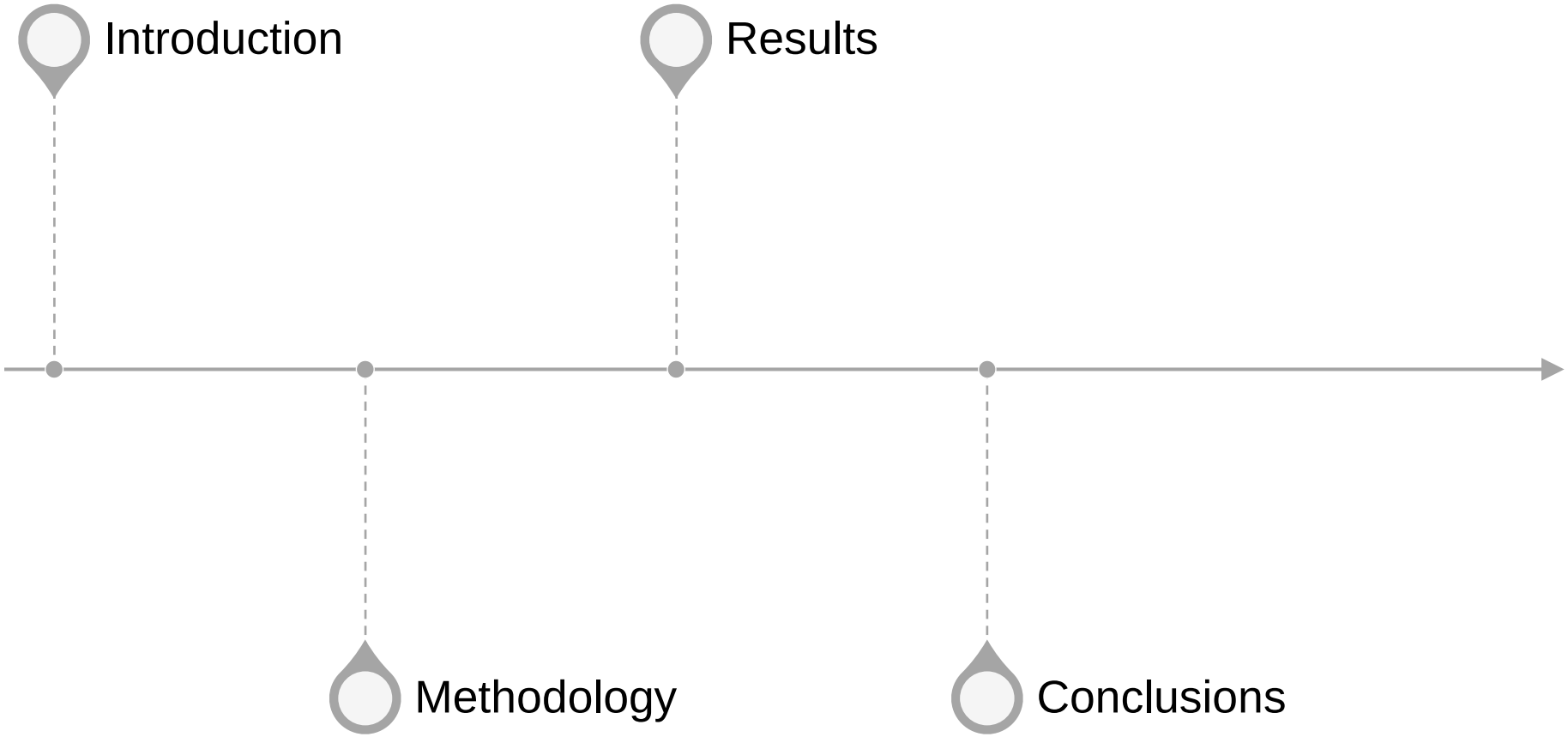
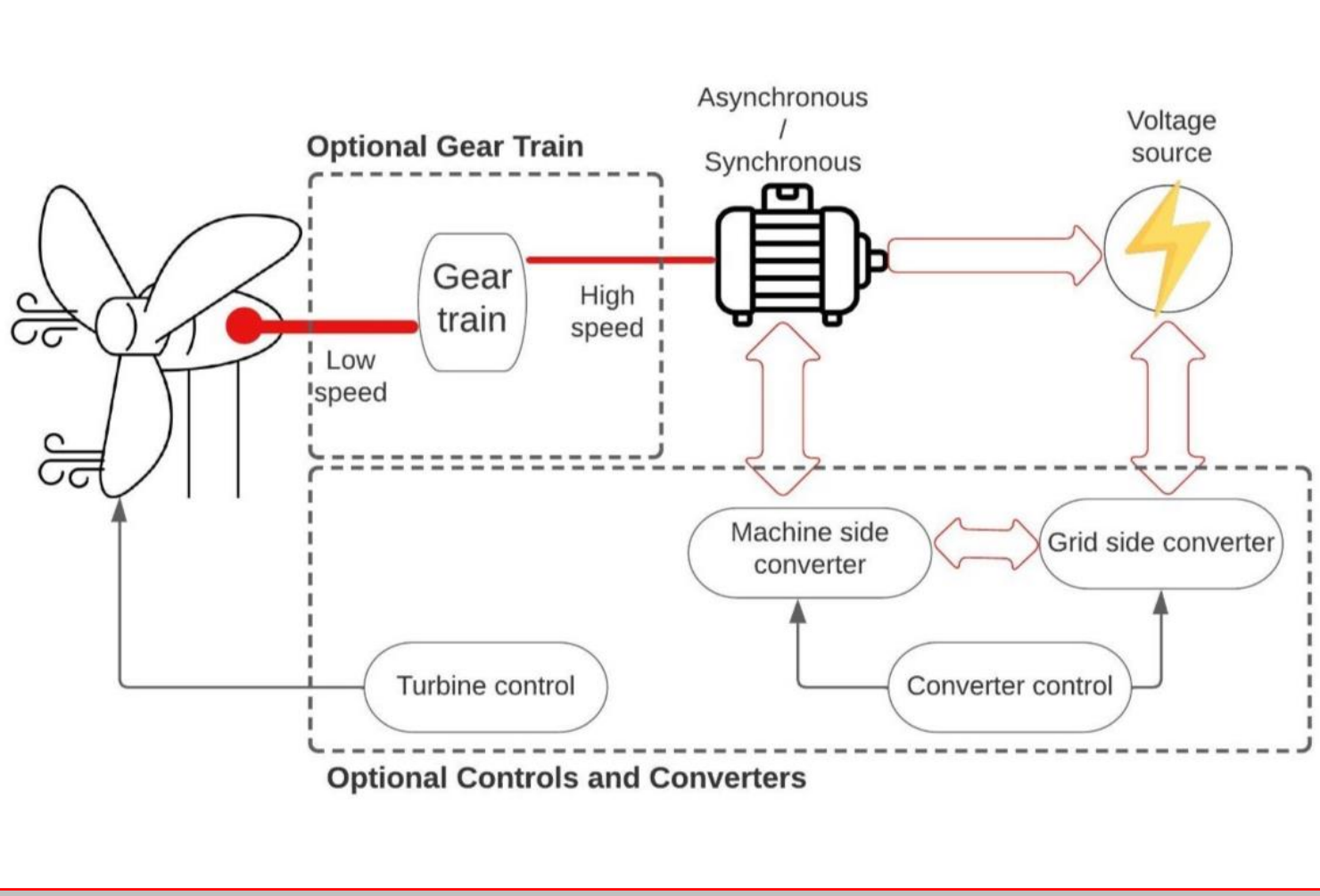

Introduction
Results
Methodology
Conclusions

How can I perform **free** wind turbine **simulations**?

The objective of this work focuses on the **modeling and simulation** of variable speed **wind turbines** in the Scilab software environment, in a **virtual environment** for academic use.

Scilab is a software package under General Public License (GPL)

Implementation. WTG model

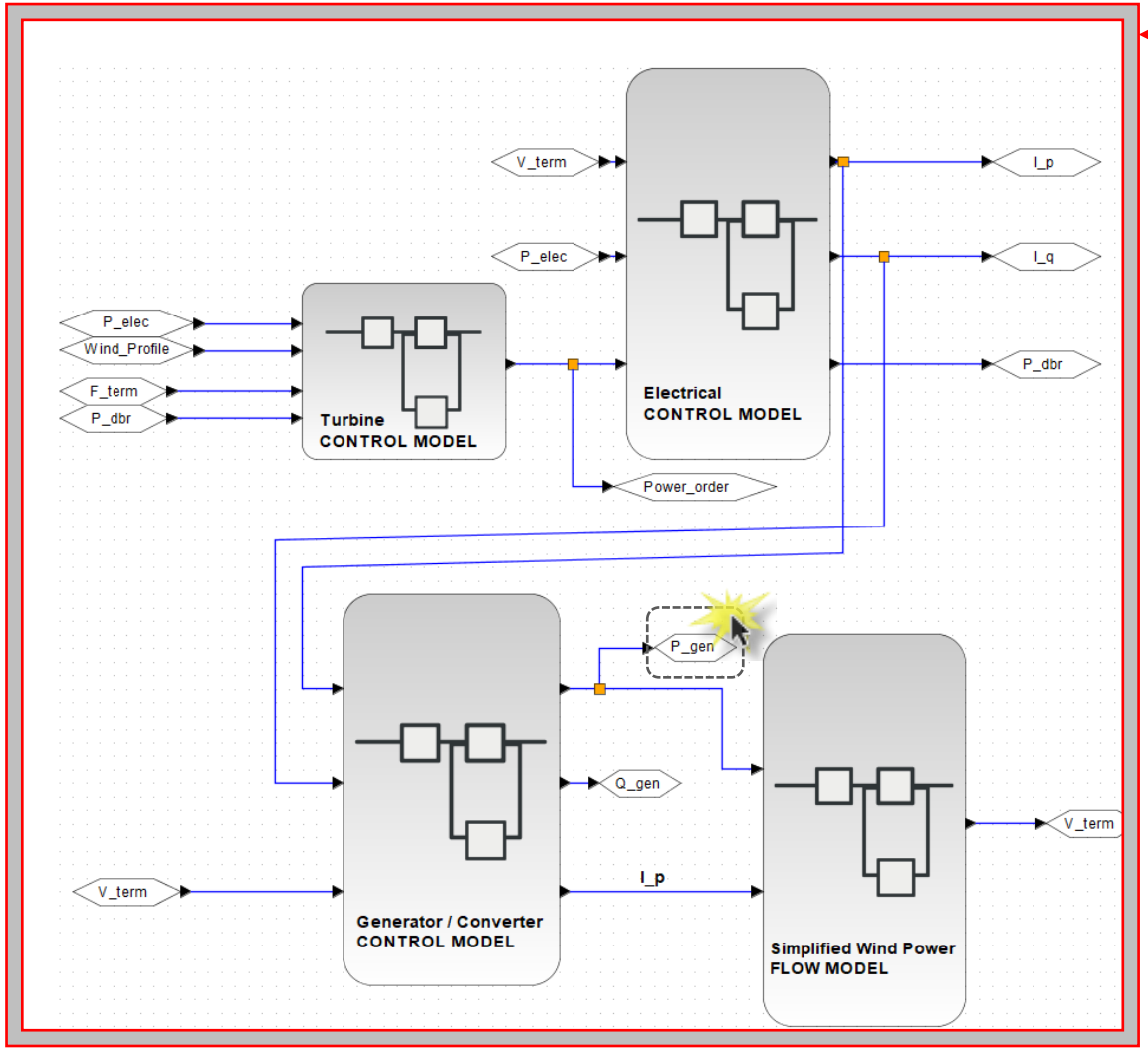


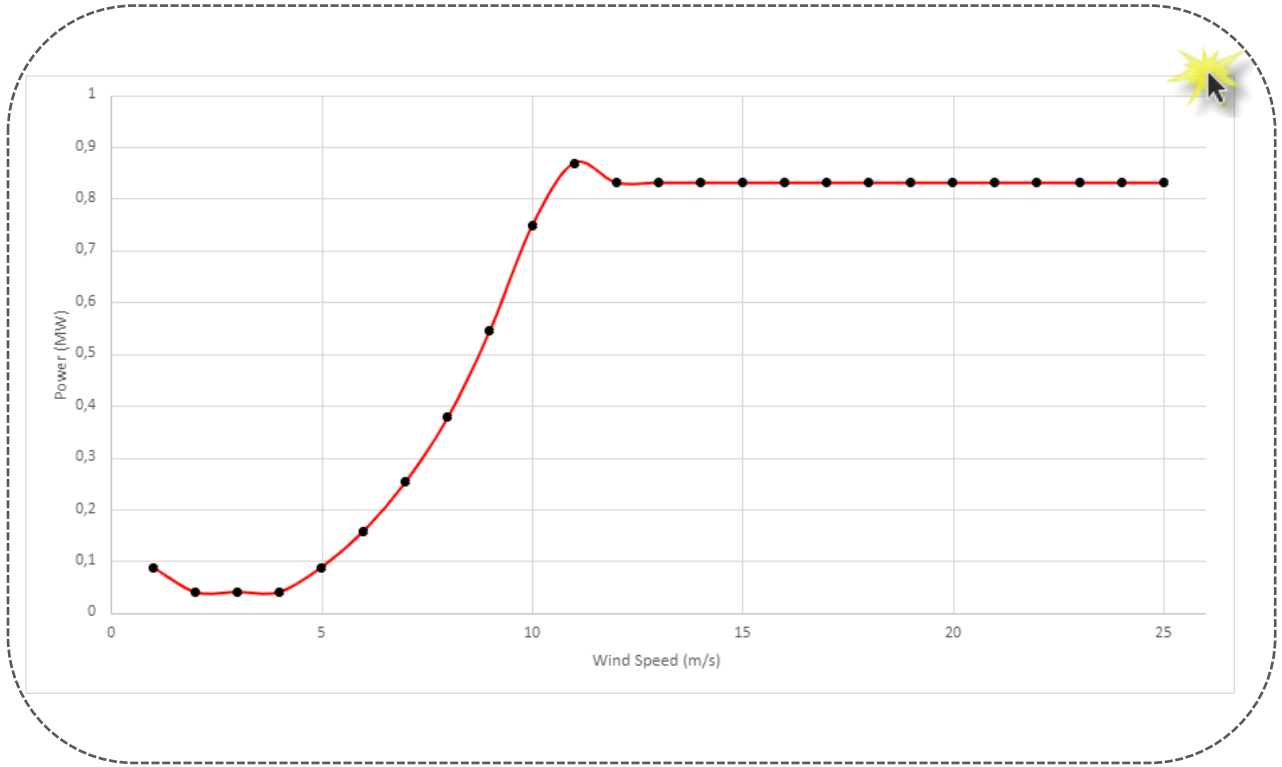
Generator/converter model

Electrical control model

Turbine and turbine control model

I can **graphically analyze** the influence of the main wind turbine **parameters**





Results

An open-source software, Scilab-Xcos, has been proposed and evaluated for wind turbine teaching purposes

Thanks to the model, different simulations can be carried out by the students of the Master of Renewables

The results obtained serve to reinforce the theoretical knowledge obtained previously

As future work, this simulation should be complemented to be accessible from the cloud

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