# Purpose of the document

This document contains minimal bullet-point style documentation to the free open-source Matlab library SMEKlib.

For more theoretical background information, please check out the ICEM’18 paper ‘[A High-Performance Open-Source Finite Element Analysis Library for Magnetics in MATLAB](https://www.researchgate.net/publication/328520595_A_High-Performance_Open-Source_Finite_Element_Analysis_Library_for_Magnetics_in_MATLAB)’.

# What is SMEKlib?

SMEKlib, named after the Finnish word for electromechanics *SähköMEKaniikka*, is an open-source Matlab library primarily tailored for analysing and designing rotating electrical machines.

Originally, SMEKlib was developed in the Aalto University Research Group of Electromechanics, between 2013 and 2019. Since March 2019, it is primarily supported by SMEKlab Ltd, a boutique motor design company based in Finland.

## Who can use SMEKlib?

SMEKlib is published under a permissive open-source license called MIT license. It is free to use for both academic and industrial work, as long as the license conditions are followed.

Many SMEKlib examples also use the open-source mesh generator *gmsh*. However, *gmsh* is a separate software published under its own license. It is not coupled with SMEKlib or vice versa, and any SMEKlib user can opt to use any other mesh generator of their choice.

## Where to get support?

# Important bullet points

## Meshing and pre-processing

## Simulation

## Post-processing

# Where to get support, again?