Karadeniz Technical University
Engineering Softwares
Computer Aided Machine Design
ANSYS Electronics Maxwell
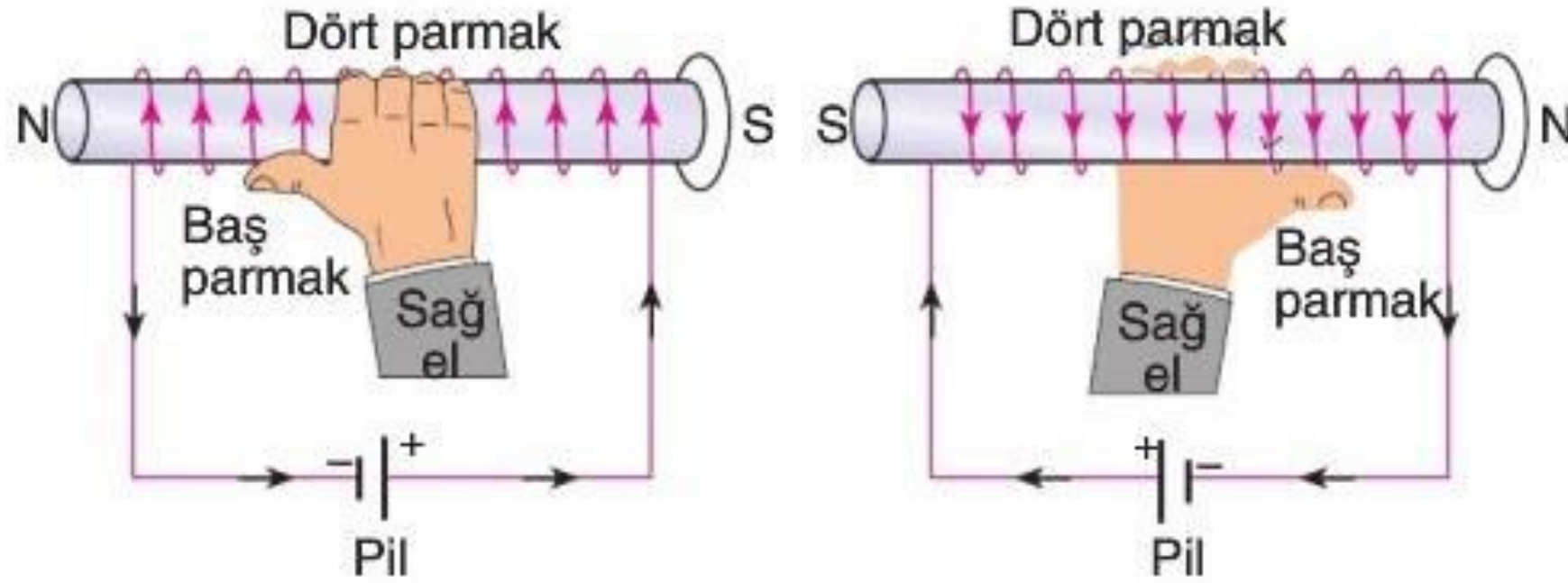
Research Assistant
Furkan Muhammed KIRIKCI

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Contents

- Electrical Laws
- Electrical Machines
- Asynchronous Motor
- Standards Of Machine Design
- Electric Motor Design Process
- Machine Design Companies
- Computer Aided Design
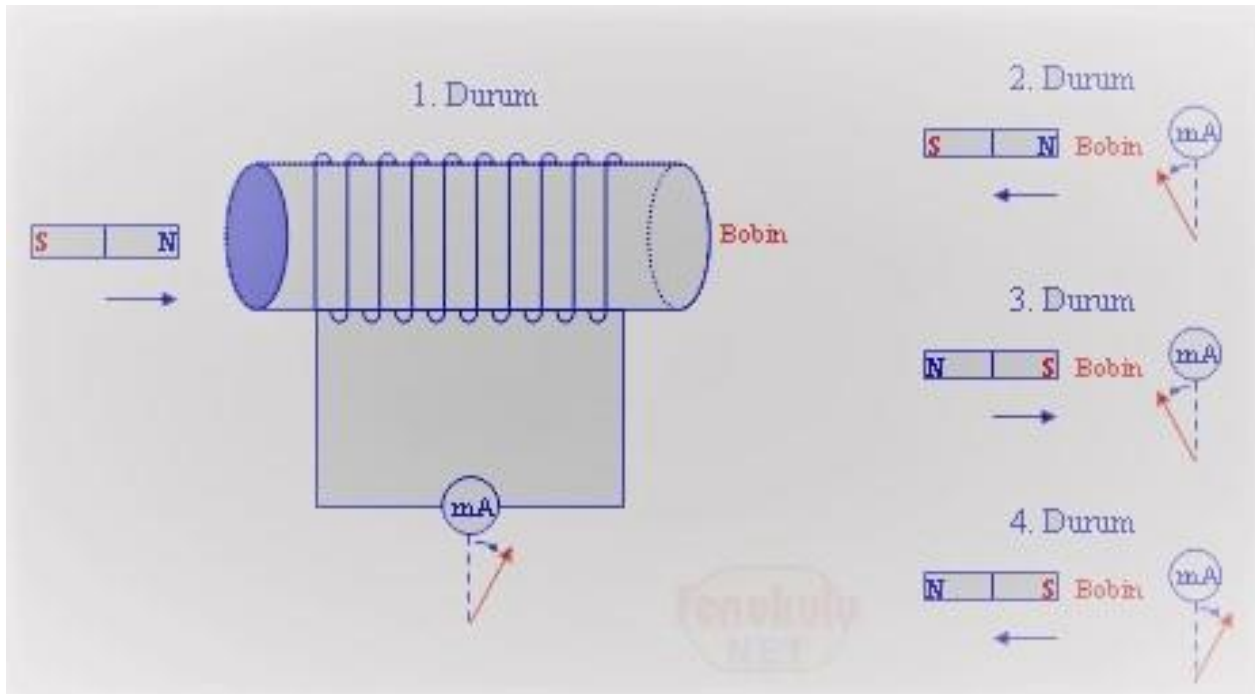- Finite Element Method
- ANSYS Electronics Maxwell
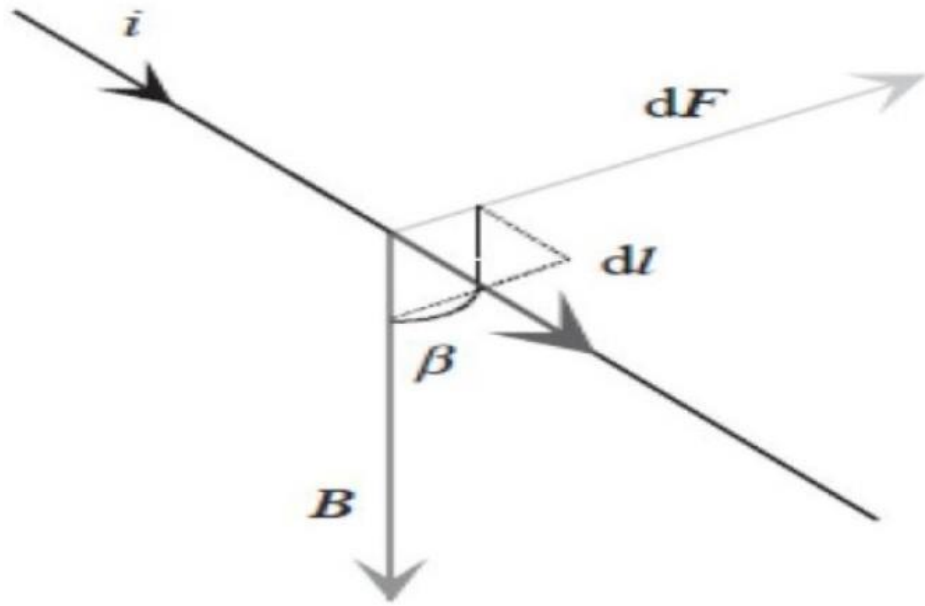
Electrical Laws

Ampere Law

Induction Law

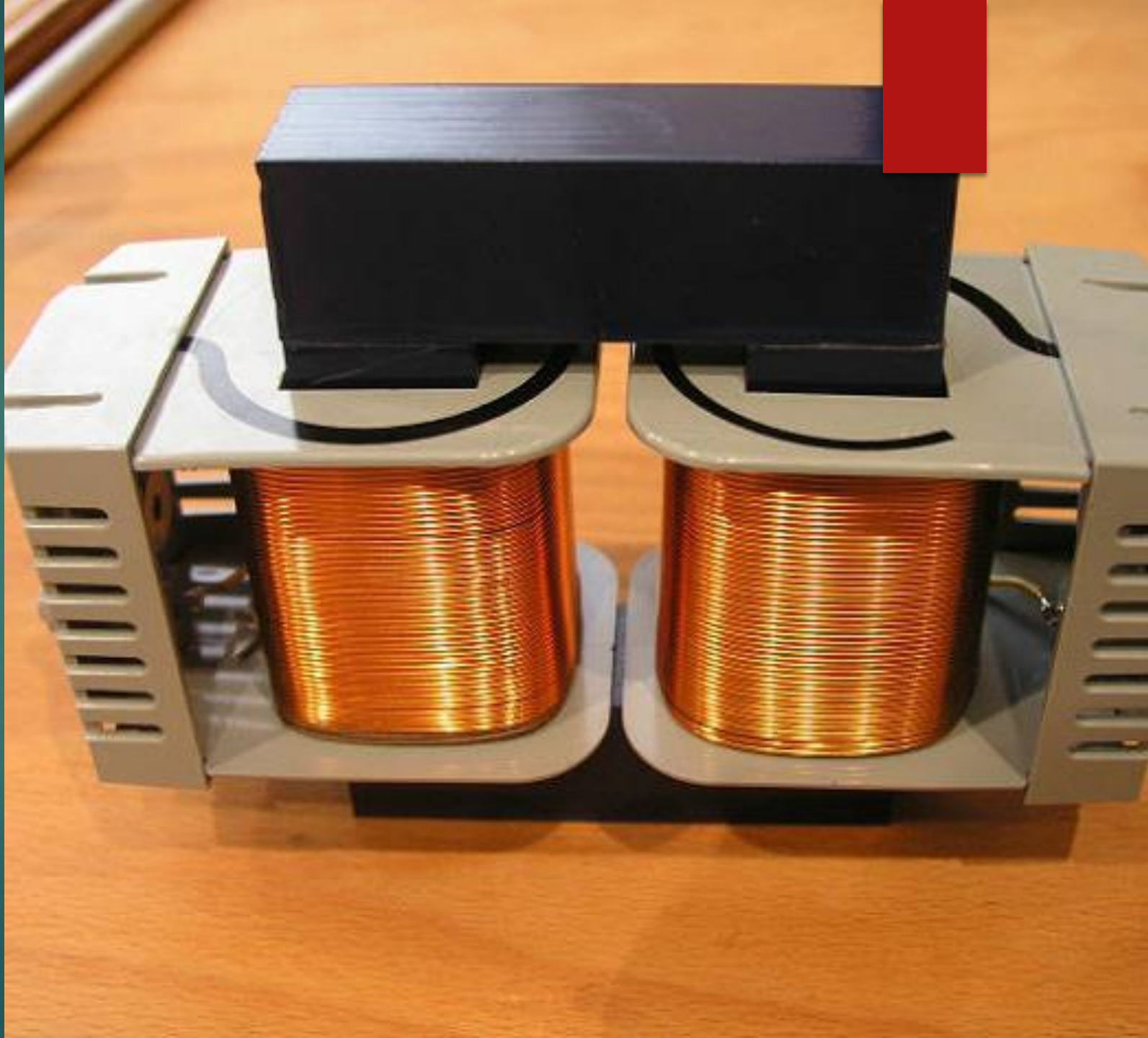Biot-Savart Law

Ampere Law

Induction Law

Biot-Savart Law

Electrical Machines

TRANSFORMERS

ELECTRIC MOTORS
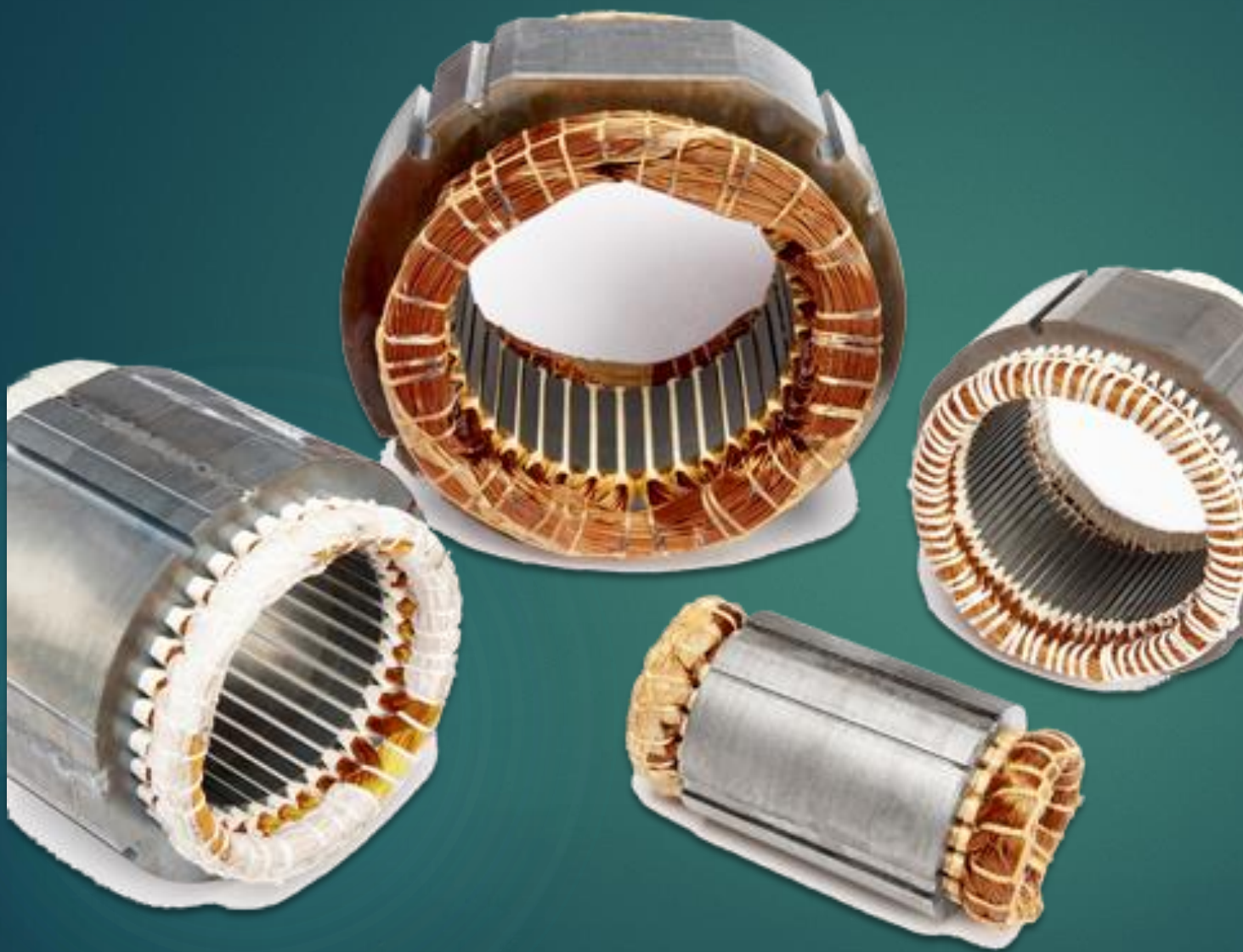
GENERATORS

TRANSFORMERS
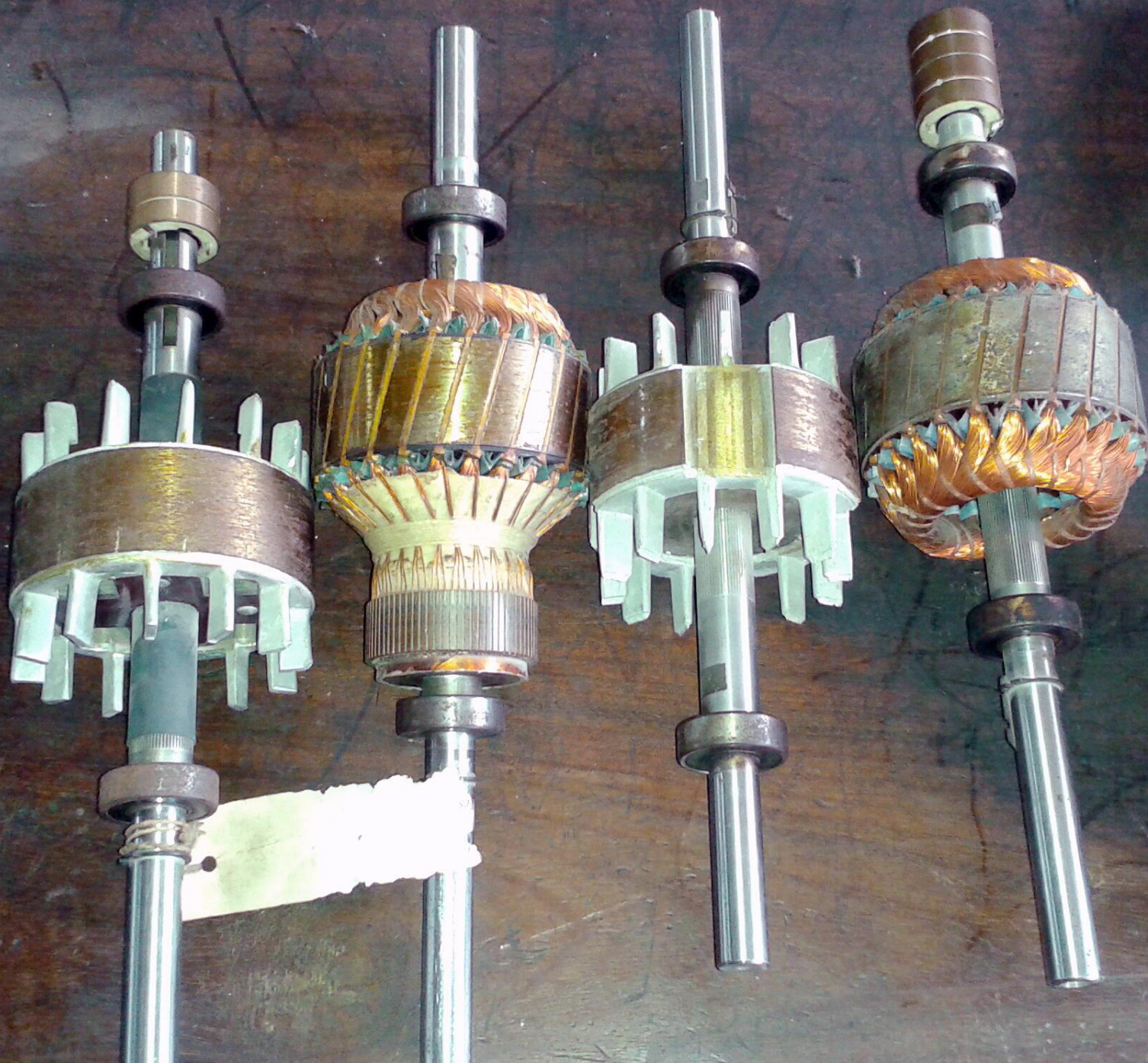
ELECTRIC MOTORS
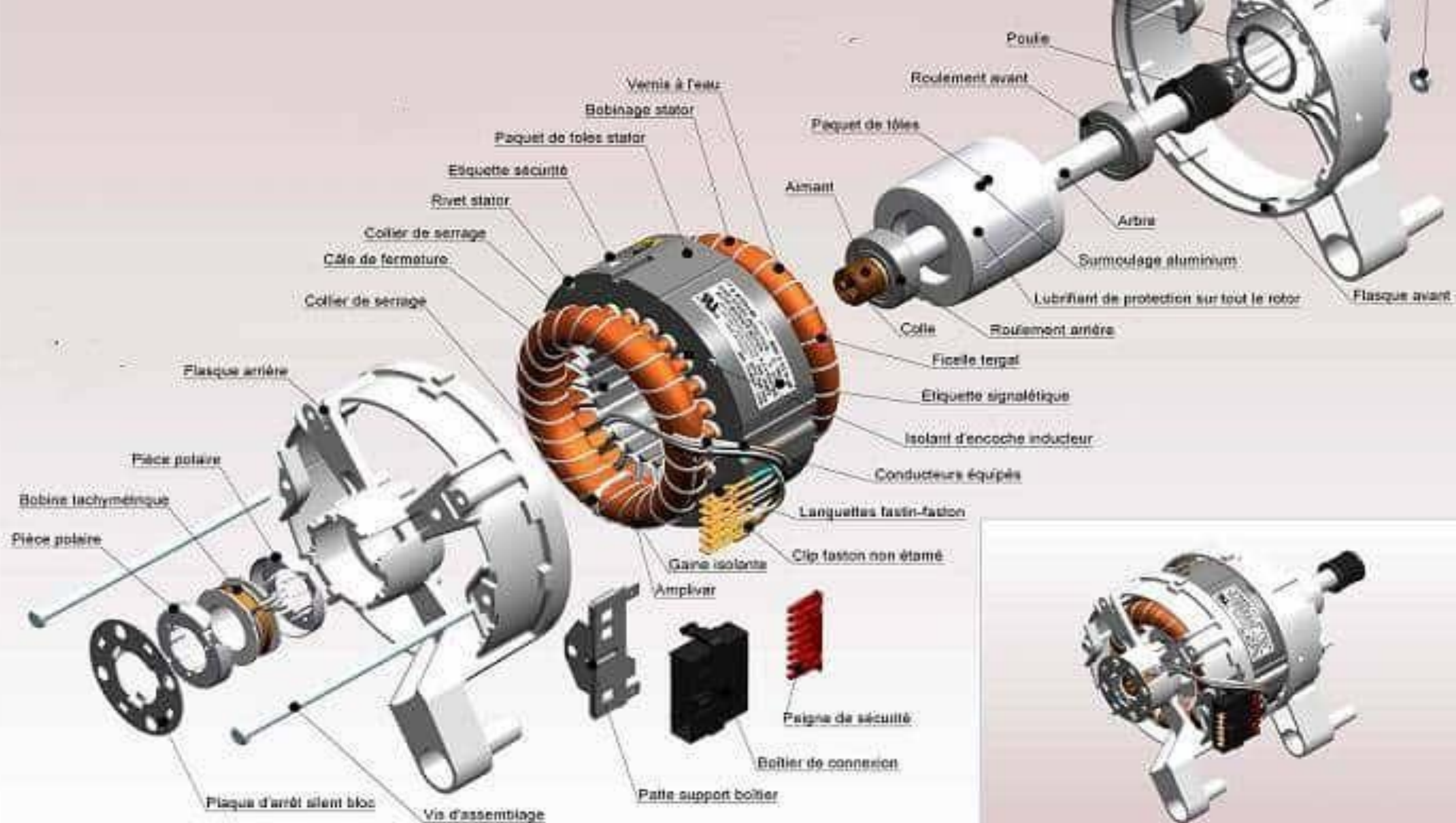
GENERATORS

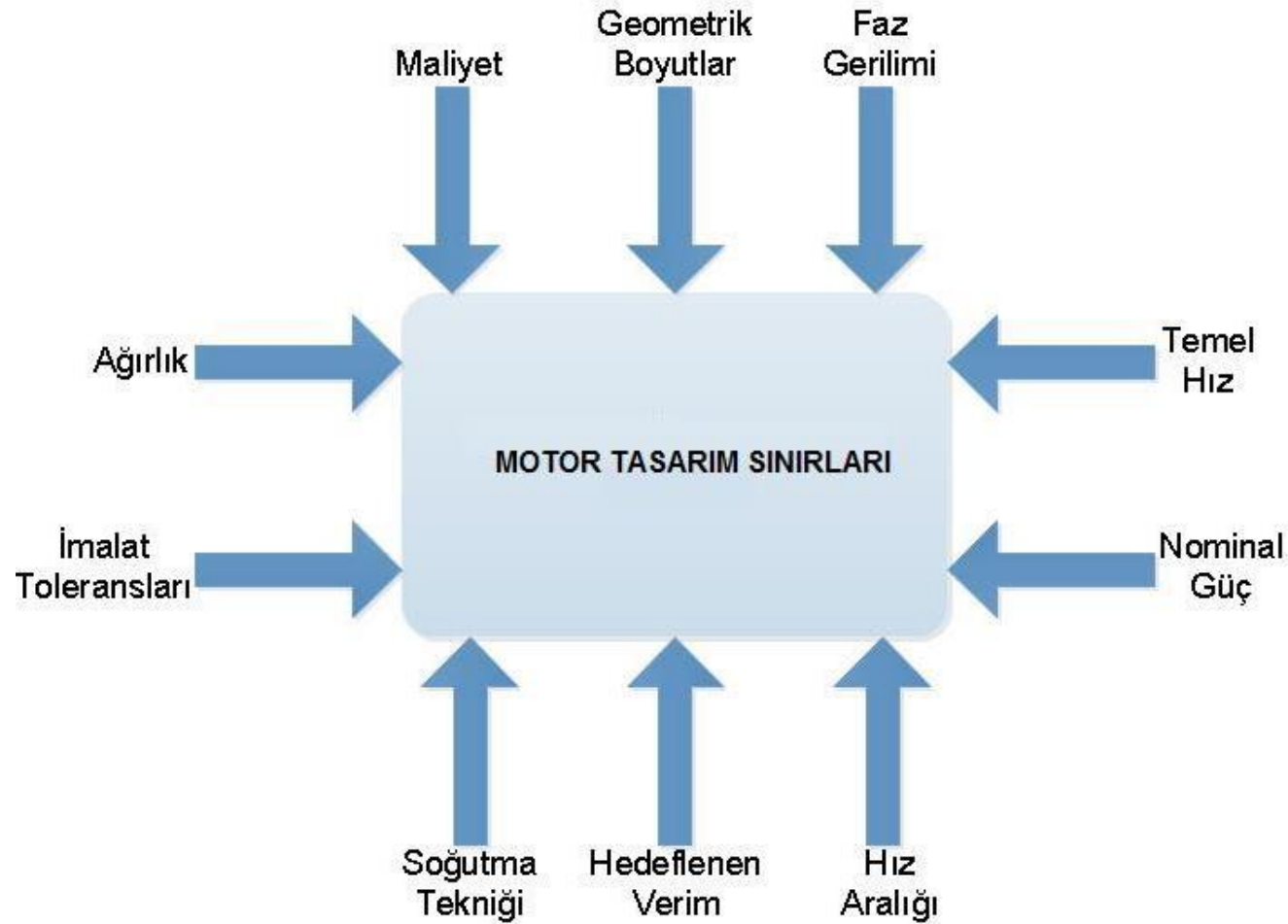# Asynchronous Motor

▶ STATOR

▶ ROTOR

▶ MECHANICAL PARTS

STATOR

ROTOR

Poulie

Roulement avant

Vernis à l'eau

Bobinage stator

Paquet de tôles stator

Etiquette sécurité

Paquet de tôles

Aimant

Arbre

Rivet stator

Collier de serrage

Câle de fermeture

Surmoulage aluminium

Lubrifiant de protection sur tout le rotor

Collier de serrage

Flasque avant

Colle

Roulement arrière

Ficelle tergal

Etiquette signalétique

Isolant d'encoche inducteur

Conducteurs équipés

Flasque arrière

Languettes fastin-faston

Clip faston non étamé

Pièce polaire

Bobine tachymétrique

Gaine isolante

Amplivar

Pièce polaire

Peigne de sécurité

Boîtier de connexion

Plaque d'arrêt silent bloc

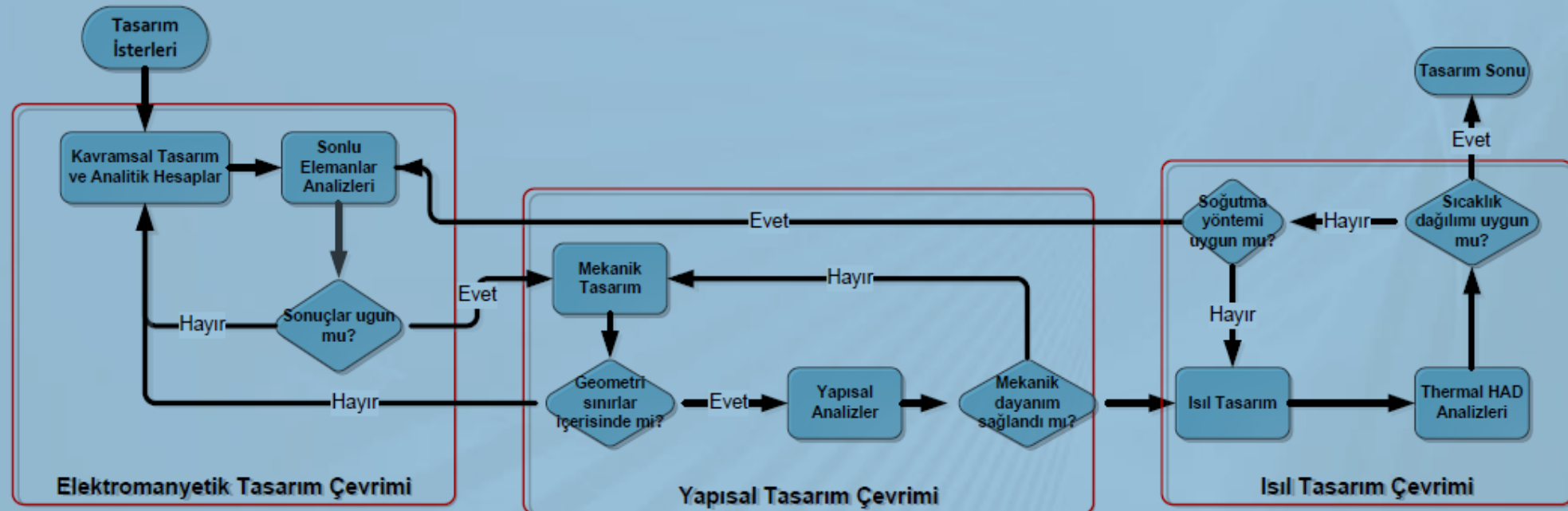Vis d'assemblage

Patte support boîtier

Standards Of Machine Design

Design Aim

- ▸ Motor Type And Configuration
- ▸ Motor Nominal And Maximum Power
- ▸ Supply Voltage Range
- ▸ Motor Starting And Nominal Torque Values
- ▸ Motor Maximum Torque
- ▸ Motor Nominal And Maximum Speed
- ▸ Number Of Poles
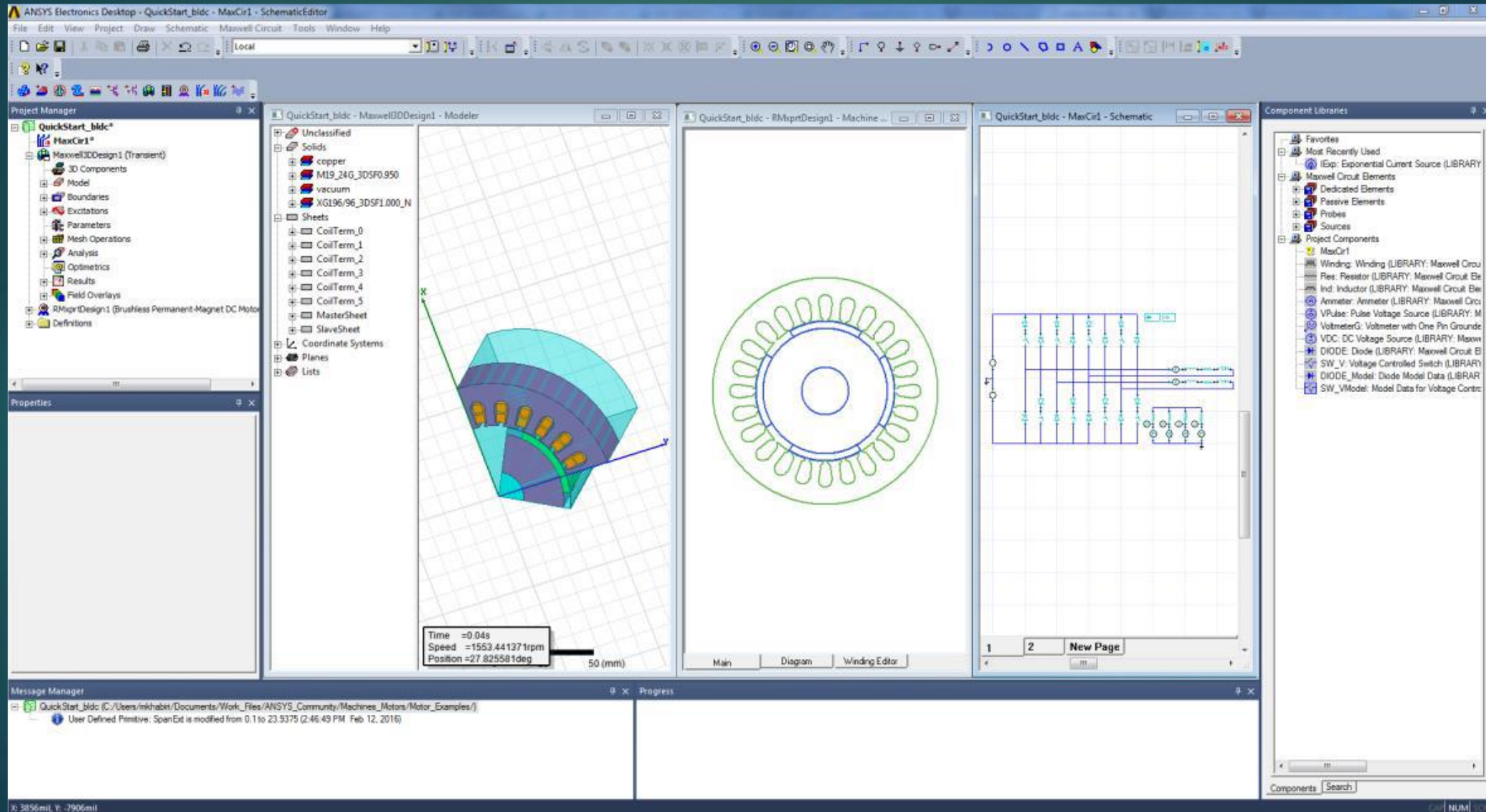- ▸ Motor Target Efficiency
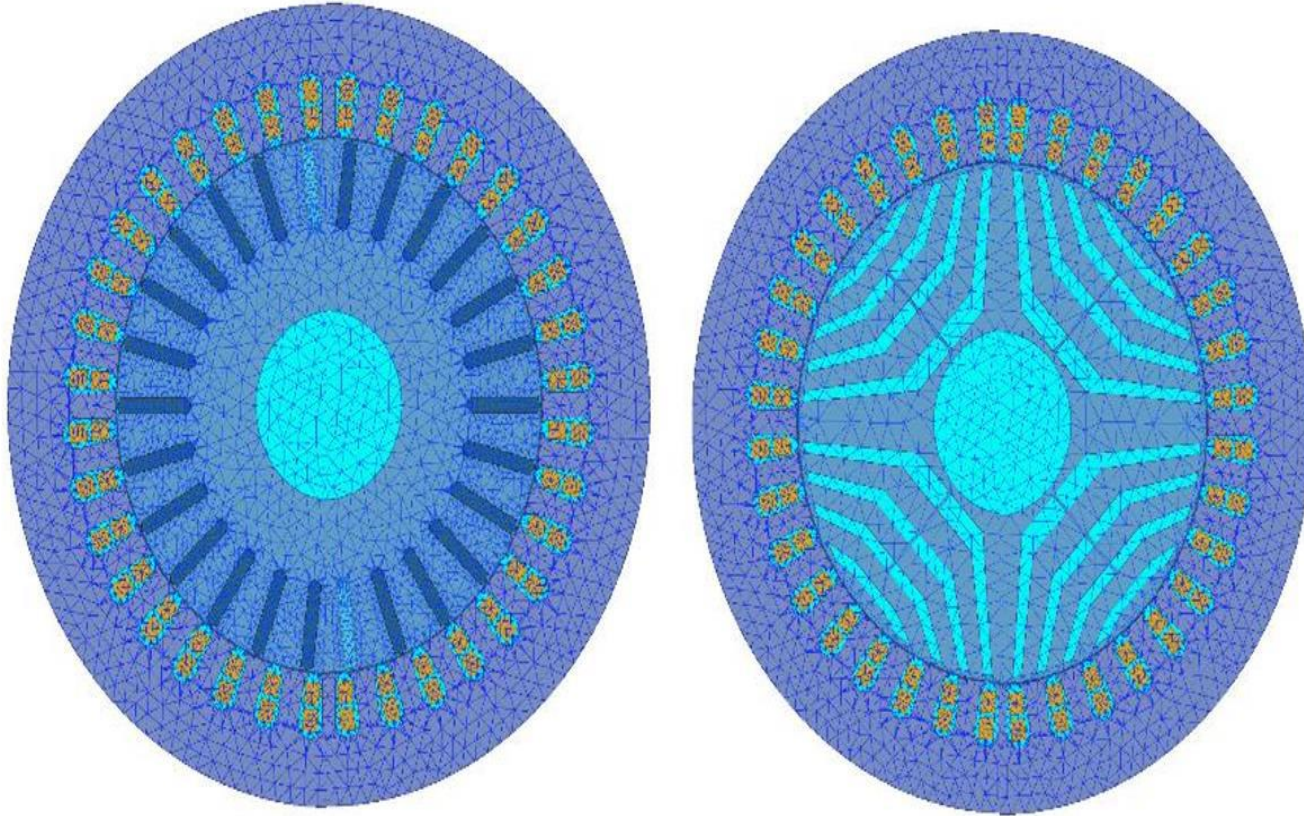- ▸ Target Weight And Volume

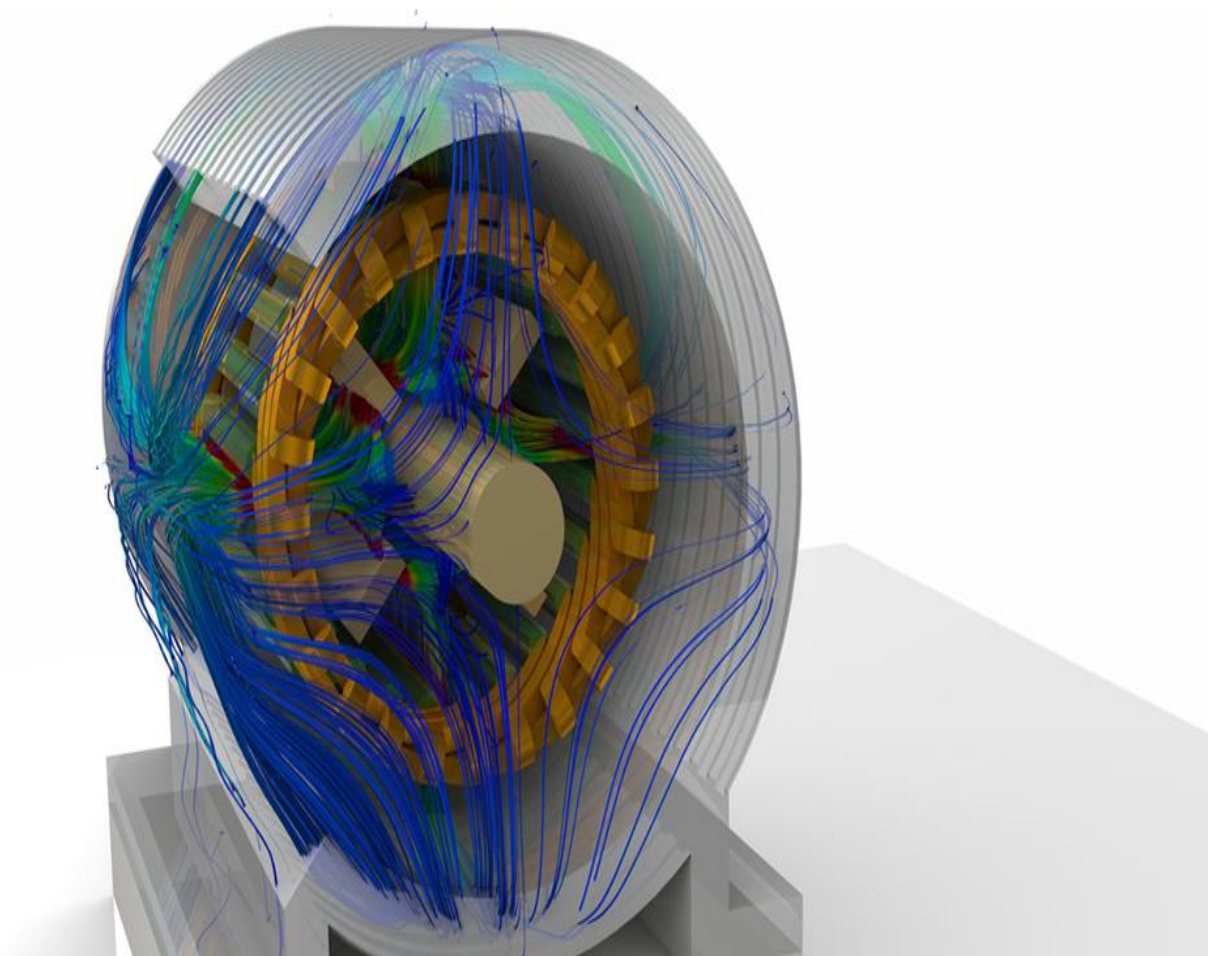# Electric Motor Design Process

Machine Design Companies

Computer Aided Design

Finite Element Method

ANSYS Electronics Maxwell

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