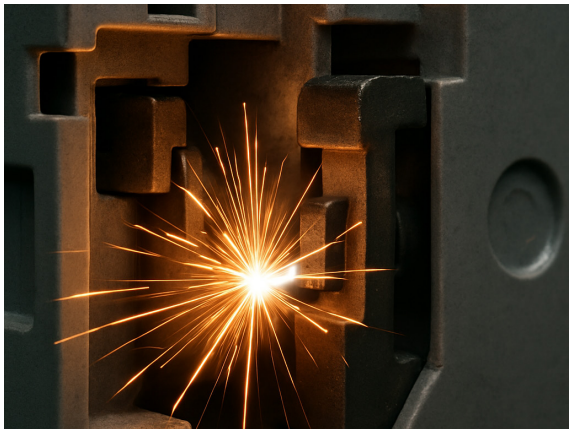
EMA

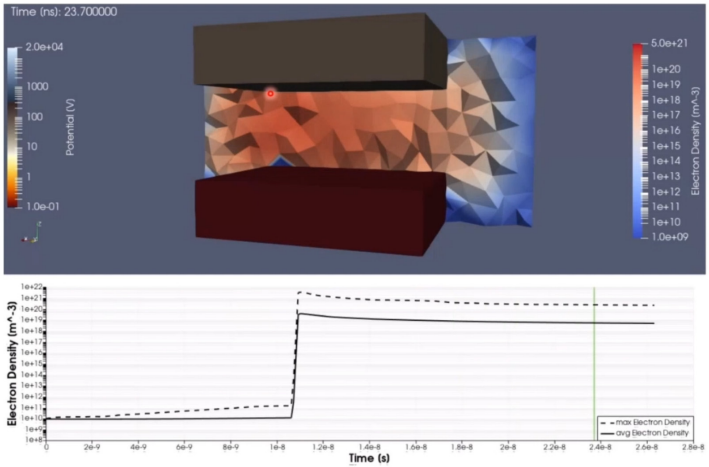
Arcs & Switches

EMA offers comprehensive services for the design of products that rely on arcing in various gases including current interruption devices like breakers and switches. Our expert team can integrate electromagnetic effects, fluid dynamics, kinematic effects, and gas-phase chemical reactions to model all relevant phenomena.

Use cases:
- Switch breakers and switches
- Overvoltage protection
- Ionic wind devices



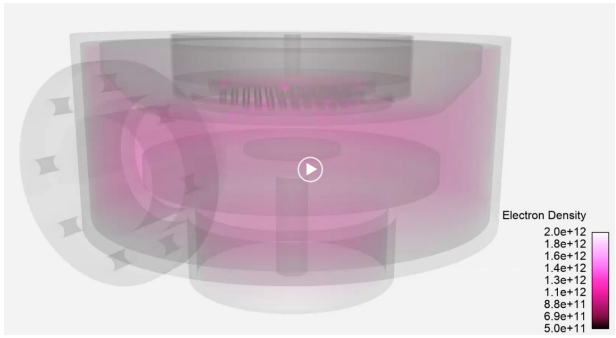
Industries:
- Medical equipment manufacturers
- Aerospace & automotive
- Semiconductor producers



Electron density results seen in Ansys Charge Plus.

EMA uses Ansys Charge Plus simulation to model the entire lifecycle of an arc, including:
- Initiation of the arc through gas breakdown processes
- Plasma and air heating
- Buoyant forces in air
- Forces on charged particles from electric and magnetic fields

Ansys Charge Plus can also be used to simulate the plasma enhanced chemical vapor deposition (PECVD) process used in semiconductor manufacturing. Simulation results can be seen on the right.



Head to ema3d.com to learn more.