

# World of simulation

# 6 Reality predicted

Simulation power for a better world

# 11 Reordering chaos

Applied mathematics improves products, industrial processes and operations

#### 16 Simulation Toolbox

Dielectric and thermal design of power devices

## 22 Resisting obsolescence

The changing face of engineering simulation

# Energy simulations

#### 27 Opening move

30 times faster than the blink of an eye, simulating the extreme in HVDC switchgear

### 34 Switching analysis

Simulation of electric arcs in circuit breakers

#### 39 Picture perfect

Electromagnetic simulations of transformers

#### 44 Head smart

Strengthening smart grids through real-world pilot collaboration

# Movement, pressure and control

#### 47 Making sense

Designing more accurate and robust sensors through system and multiphysics simulation

# 54 Feeling the pressure

Simulating pressure rise in switchgear installation rooms

# 61 Robot design

Virtual prototyping and commissioning are enhancing robot manipulators and automation systems development

#### 65 Integrated ingenuity

New simulation algorithms for cost-effective design of highly integrated and reliable power electronic frequency converters

#### 72 Molding the future

Polymers processing enhanced by advanced computer simulations

# 77 Shake, rattle and roll

Helping equipment to withstand earthquakes and reduce noise with design simulations