As a recognized worldwide market leader in the design and manufacture of components for severe environments, Exxelia has developed several dedicated product series for the railway market. Exxelia’s wide selection of products for rolling stock are commonly used on high-speed trains, subways and tramways around the world and service all functions of the train, from powering the passenger cabin to the traction inverter.

Performance, lifetime, reliability and resistance to extreme mechanical environments are the key criteria guiding the development of these products.

**SNAPSIC HV**
- 16 · 500 V<sub>DC</sub>
- 47 µF · 2 200 µF
- –55°C + 105°C
- 8 000h @ 105°C

**ROTARY WIREWOUND POTENTIOMETER**
- Resistance 1000Ω ± 10%
- Linearity ± 0.5%
- Power Rating 6W
- –55°C + 125°C
- Vibrations CEI 61373

**DUAL TRANSFORMER**
- Ventilation channel - 2 x 125 kVA
- 125kW - 4 kHz
- 500V / 940V
- 1132 x 348 x 500 mm
- Weight 190kg

**FELSIC HV**
- 160 · 450 V<sub>DC</sub>
- 1 500 µF · 47 000 µF
- 200,000h @ 70°C
- –55°C + 105°C

**CTS 21**
- Solid tantalum capacitors
- Hermetic metal cases
- 6.3 · 50 V<sub>DC</sub>
- 5.6 µF · 330 µF
- –55°C + 125°C

**FELSIC HV**
- 160 · 450 V<sub>DC</sub>
- 1 500 µF · 47 000 µF
- 200,000h @ 70°C
- –55°C + 105°C
### TYPICAL APPLICATIONS

- CVS, HVAC
- Cockpit electronics
- Automation and safety control
- Traction and auxiliary inverters
- Train detection
- Pantograph
- Break and speed handles
- Relays

### ON-BOARD

- High-speed trains: French TGV, German ICE, Korean KTX
- Subways: Hong-Kong, London, Hyderabad and many more

### WRFT 4 Series

**Wide Band RF Transformer**
- Impedance ratio 50:50
- Bandwidth 0.35 - 200MHz
- 1dB: 2.50
- Weight 1g

### TFPP TRANSFORMER

- Frequency 50Hz
- Primary 100V
- Secondary 5V
- Weight 0.43kg
- Norm. UL94V0

### STANDARD MAGNETICS

**Inductors & Transformers**
- Toroid, PQ32/30 package
- Powder core, Ferrite core, Tape wound core available

### PP series

**Metallized PP**
- 300 - 4 000 VDC / 120 - 2 000VAC
- 0.1 µF - 300 µF
- –40°C +100°C
- Flame retardant resin

### PLP Series

**PP / Paper**
- 160 - 10 000 VDC
- 75 - 3 600VAC
- 22nF - 30 µF
For more than 50 years, Exxelia has become a trusted name by major railway equipment manufacturers as well as signaling and infrastructure companies. Signaling is often related to safety and Exxelia’s capacitors and magnetics products are designed to offer the best compromise between technology, safety, reliability and cost. They can be found at key functions such as switch controls, cross-roads and train detection systems.
**TYPICAL APPLICATIONS**

- Track Communications
- Train Positioning Sensing
- Train Detection Beacons
- Cross-roads
- Switch Controls
- Safety systems
- Anomaly detection
- Relays

**CH/SH Series**
**HiQ Ceramic Capacitors**
- P100 & NPO dielectrics
- 25 - 1 500 V<sub>DC</sub>
- 0.1pF - 1 000pF

**30 S4 Series**
**Class 1 & 2 dielectrics**
- Safety capacitors
- 40 - 100 V<sub>DC</sub>
- 470pF - 560nF

**FP Series**
**EMI-RFI Filters**
- 50 - 1 000 V<sub>DC</sub>
- 50 - 115V<sub>RMS</sub>
- Max current 0.1 - 15A
- IL @50Ω 0.5 - 100dB
- Glass or resin sealed

**AUDIO-FREQUENCY TRACK CIRCUIT**
- Self 63.6 µH - 48A 3kHz
- Selfs 2.5mH,
- Format RM5 64 µH
- Transformer Vprim 0.2V - 2kHz

**STANDARD MAGNETICS**
**Inductors & Transformers**
- RM, ETD, EQ, ER, EP package
- –40°C + 100°C

**CA Series**
**Silver coated mica**
- 63 - 5 000 V<sub>DC</sub>
- 4.7pF - 100nF
Exxelia has a long heritage in the supply of aerospace and defense power solutions. Most of the solutions are available in space qualified versions. The group has gained a strong recognition in the design of custom products according to electrical, mechanical and environmental requirements.

Thus Exxelia can adapt a widely used technology according to specific technical requirements, giving no reason for compromise.
TYPICAL APPLICATIONS
- Engine Controls
- TRU, Actuators power supplies
- Landing Gear, Flight Control
- Electrical Thrust Reverser
- Cabin Lighting
- Satellite bus
- Rotary Systems
- Military grade power supplies
- Ignition systems and radars
- Ground vehicles, shelters

ON-BOARD
- Airbus A320 family, A380, A350
- Boeing B737, B777, B787
- Bombardier C-series
- Rafale, F35, F18
- Typhoon, Apache

GROUND POWER INDUCTOR
- 70µH - 200A @ 400Hz
- Ripple 20A @ 10kHz
- CuFoil winding, AMCC core
- 50x150x200mm - 24kg

CCM Series
Inductors, transformers
- 30% more power density
- 2x6 to 2x10 outputs

SESI Series
SMD Power Inductors
- Low profile
- Good thermal dissipation

CUBISIC LP
High Energy density for Aerospace
- Compact
- 10V - 400V
- Up to 68 000 µF
- Vibrations up to 20g

VACSIC & VACSIC 150
- 145°C and 45g
- 10V - 450V
- Up to 6 800 µF

POWER SLIP RINGS
- Up to 2000A
- Up to 10kV

PIF Series
HEMP Protection Filters
- 2 or 4 lines per tube
- MIL 188 125 1&2 Qualified
Exxelia leverages the know-how gained in high-reliability applications and adjusts it to demanding industrial applications so that these products still show excellent reliability and longevity while being cost-effectively produced in mid to high volumes.

The portfolio shows a whole range of standard series as well as custom designs or build-to-print platforms.
TYPICAL APPLICATIONS

- Wind Turbines
- Utility scale solar inverters
- Heavy duty industrial machines (welding, coating…)
- Drilling tools
- Power monitoring
- On-shore & off-shore seismic acquisition
- Nuclear controls

FELSIC HV
160 - 450 V<sub>DC</sub>
1 500 µF - 47 000 µF
200,000h @ 70°C
−55°C +105°C

PM 98 - PM 980
300 - 1 200 V<sub>DC</sub>
40 - 250 V<sub>AC</sub>
25 µF - 1 600 µF
−55°C +85°C

SNAPSIC CAPAX
16 - 100 V<sub>DC</sub>
33 µF - 47 000 µF
−55°C +105°C
10 000h @ 85°C

FELSIC CAPAX
10 - 500 V<sub>DC</sub>
100 µF - 2 200 000 µF
15 000h @ 85°C
−55°C +85°C

HIGH TEMPERATURE
Chips and Stacks up to 250°C
Stacks available for higher capacitance
Voltage: up to 3kV
Exxelia

Presentation

Exxelia is a global designer and manufacturer of high-reliability passive components and electromechanical solutions. Exxelia was born in 2009 from the merge of several long-established companies with complementary activities and know-hows.

This powerful alliance of expertise enables the Group to provide a unique and complete product portfolio commonly used for power electronics, power generation, energy storage, and signal filtering functions in harsh environments.

Expanding product portfolio

From standard to custom designs

Exxelia has earned international recognition in designing and manufacturing custom passive components that deliver the required performance for any application. As a high-end supplier, Exxelia is involved in most major programs in space, defense and civil aviation industries.

7 Markets

Civil aviation  Space  Defense  Transport & Energy  Telecom  Medical  Industry

10 Companies, 1 Brand

Eurofarad ............................................................. Exxelia Technologies
Microspire ............................................................. Exxelia Magnetics
N’Ergy ................................................................. Exxelia Magnetics
Firadec .............................................................. Exxelia Tantalum
Sic-Safco ............................................................ Exxelia Sic Safco
Temex Ceramics ................................................ Exxelia Temex
Asterna .............................................................. Exxelia Maroc
Dearborn ........................................................... Exxelia Dearborn
Raf Tabtronics ..................................................... Exxelia Raf Tabtronics
DeYoung Mfg ...................................................... Exxelia DeYoung

is now
Exxelia is a global company with manufacturing sites strategically located to cover every continent. Three assembly plants are established in competitive manufacturing countries, enabling the group to provide cost-effective solutions. Thanks to an extensive sales network covering more than 30 countries, Exxelia is able to provide prompt in-depth technical expertise throughout a project and remain close to its clients at all stages from design to production.

Our approach
Exxelia focuses its know-how on challenging markets that require high level of technicity and reliability. Our approach is based on three key principles:

FOCUS: serving a limited number of defined markets to deeply understand the needs of those markets.

INNOVATION: Provide new and creative value propositions combining the right products with the expected level of service.

RESPONSIVENESS: Anticipate the markets’ needs and respond very quickly.