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## CARBONE LORRAINE

## Carbone Lorraine invents a smart fuse protecting against lightning

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Carbone Lorraine has broken new ground in protecting rail networks against lightning strikes.

Lightning arrestors for rail networks protect stationary equipment and rolling stock from the electrical surges caused by lightning.

After several lightning strikes, a lightning arrestor tends to lose its insulating power and allows current to leak through to the network. As a result, operations may be disrupted, requiring traffic on the line to be halted. Detecting defective lightning arrestors is a very difficult task because SNCF, the French national rail operator, has close to 20,000 of them.

To address this problem, Carbone Lorraine has developed, in close partnership with SNCF, a new solution featuring a lightning arrestor combined with a "smart" fuse.

This highly advanced solution helps to insulate the defective lightning arrestor as soon as current starts leaking through and reports the malfunction to the operator thanks to a micro switch incorporated in the fuse device.

This innovation will help SNCF to harness substantial synergies on its maintenance operations and offer its customers higher service standards.

The market for this smart lightning arrestor-fuse system is estimated at €20 million over ten years in France, with even greater potential outside France.

Carbone Lorraine, a partner for innovation, contributes to the success of its customers by participating in the services they provide to end users.



Carbone Lorraine is a worldwide specialist in advanced materials for extreme environments and in mission-critical electrical components for industry. The Group holds leadership positions in its core businesses:

Advanced Materials and Technologies: - World #1 in graphite anti-corrosion equipment

- World #2 in high-temperature applications of graphite

- World #1 in brushes for electric motors

Electrical Components:
 World #1 in brushes for electrical Components:
 World #2 in industrial fuses

The Group is listed on the Premier Marché of the Paris Stock Exchange and is a constituent of the CAC Mid100 and Next 150 indices.

For further information, please visit our web site at www.carbonelorraine.com.

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