

## Electrical arcs characterization platform

With various triggering conditions, the emulation of multiple network topologies, in addition to direct damage to the components, this platform allows to record the geometrical behavior of the plasma, the thermal effects and their relation with the electric waveforms.

### Market & needs

Arcs can occur on electrical wires or electrical distribution boxes due to various faults. With more and more embedded electrical components, the need to further optimize integration, the risk represented by the arcs must be thoroughly assessed to design and validate robust components so as passive and /or active protection systems.

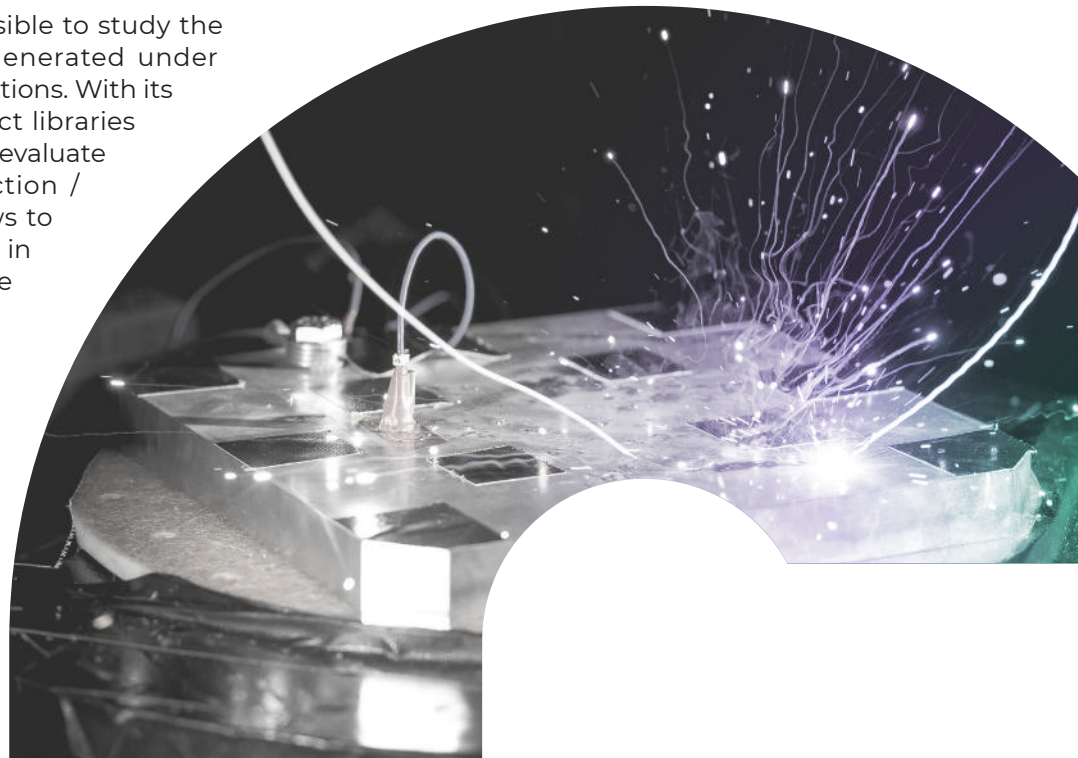
### Technological offers

This platform makes it possible to study the damage caused by arcs generated under very wide, tailor-made conditions. With its recording capabilities, defect libraries can be built to develop and evaluate the effectiveness of detection / protection systems. It allows to test components or systems in conditions as close as possible to those of end-use.



### Generation and characterization of electrical arcs

- Up to 400Vrms, 570Vdc, 62.5kVA
- Shaker for emulation of shaffing, triggering by wet conditions, foreign object debris
- High speed camera Photron FASTCAM SA4 : up to 3600fps with a resolution of 1024x1024
- Signal recorder Hioki MR8847-2 : 14 fully isolated electrical channels, 2 temperature channels, up to 20MS/s




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## Programmable AC source

- 400Vac, from 0 to 800Hz, 62.5kVA
- Internally designed rectifier for tests emulating DC networks up to 540V, 115A



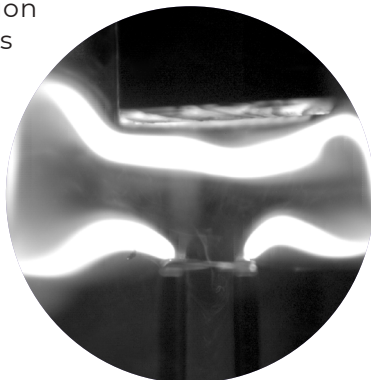
## Electrical harness

- Emulation of various power factors
- Resistive loads up to 60kW
- 27kW active load to reproduce no linear waveforms



## High-speed camera

- Up to 3600 frames / seconds @ 1024x1024
- Recording of the plasma path
- Recommendation of safety distances



## Next step

- Increase of the source power up to 180kVA
- Altitude chamber (down to 10mbars / 26000m / 85000ft) for representative tests in non-pressurized aircraft areas
- DC voltage levels up to 3000V

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