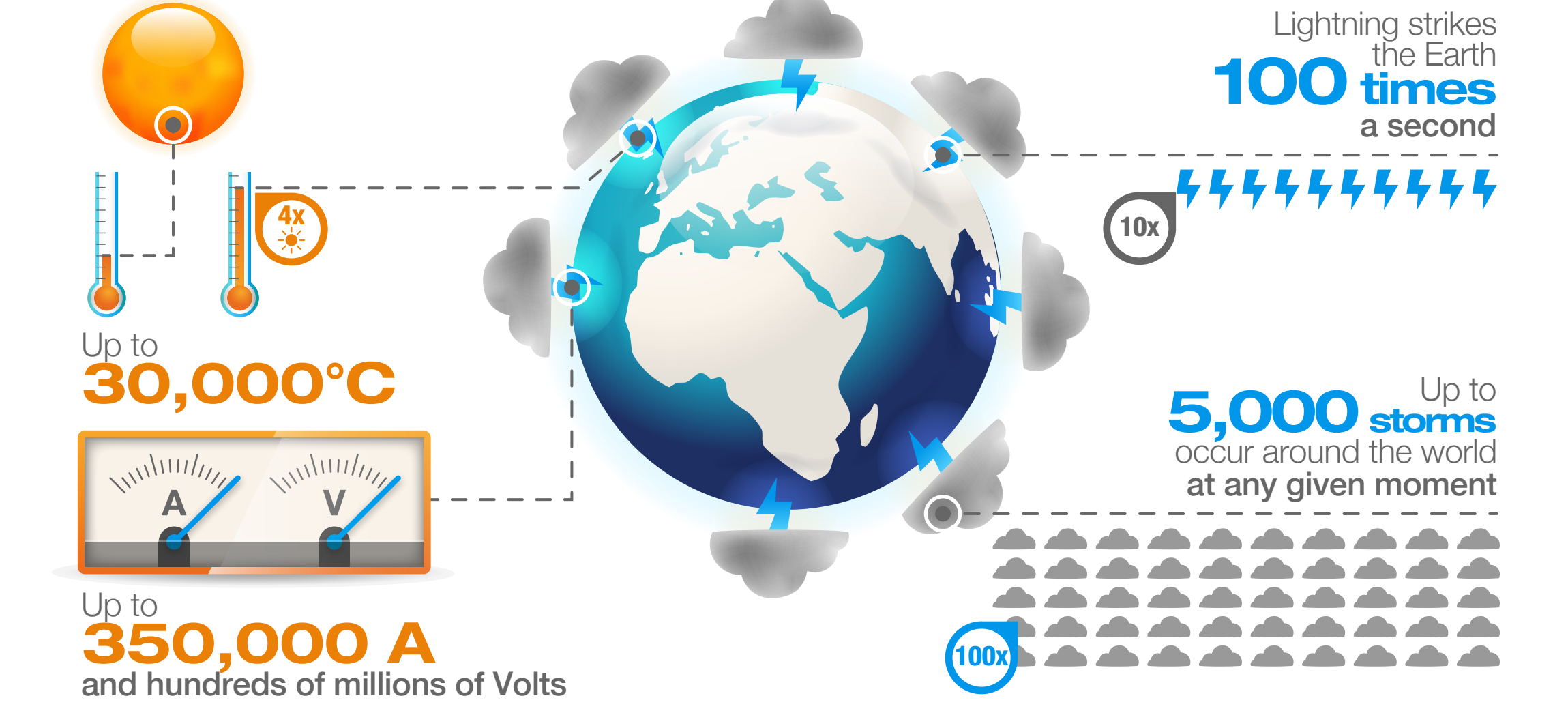




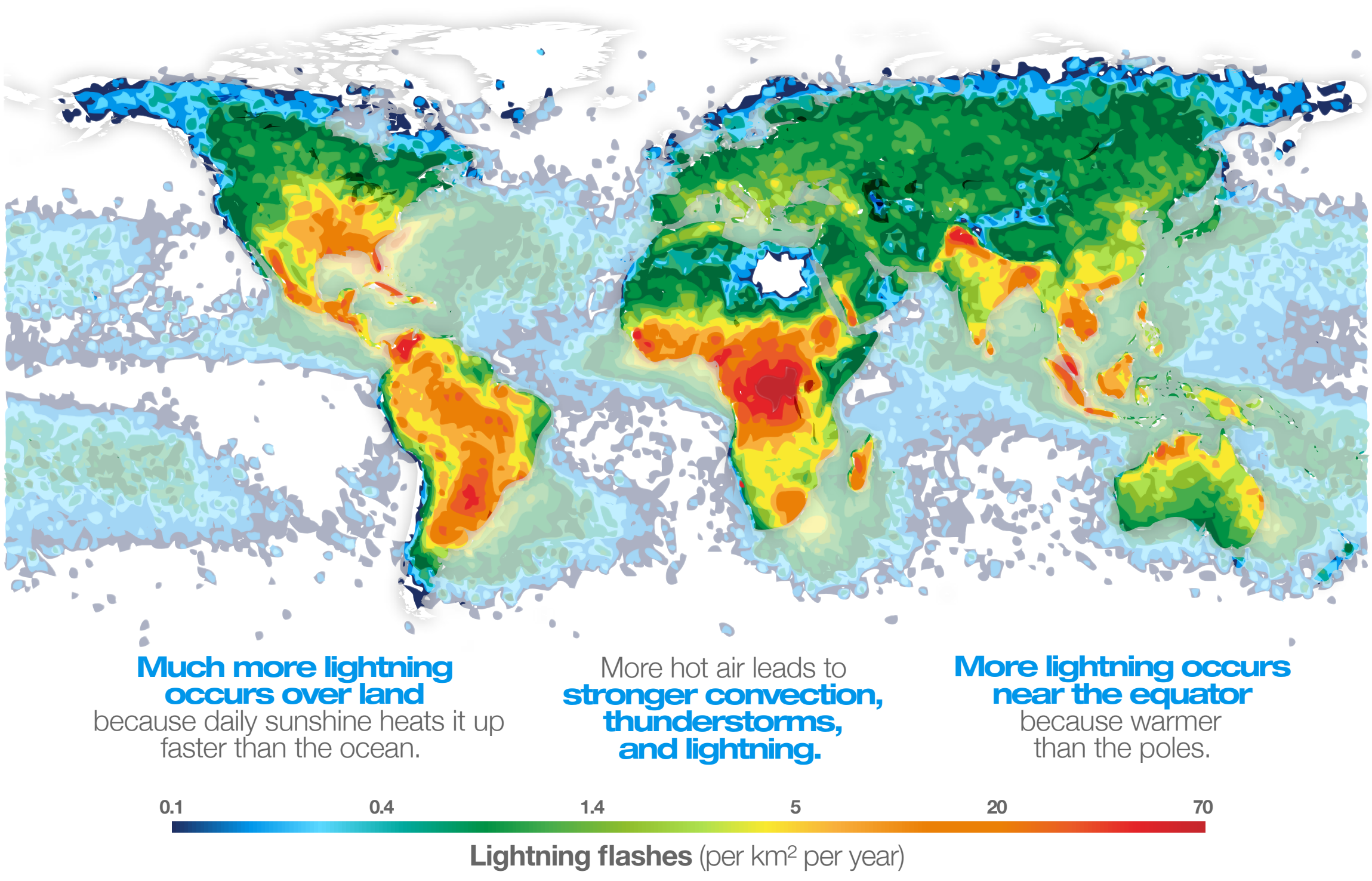
# Lightning protection for electric systems and loads

Protective measures to prevent damage caused by over-voltage

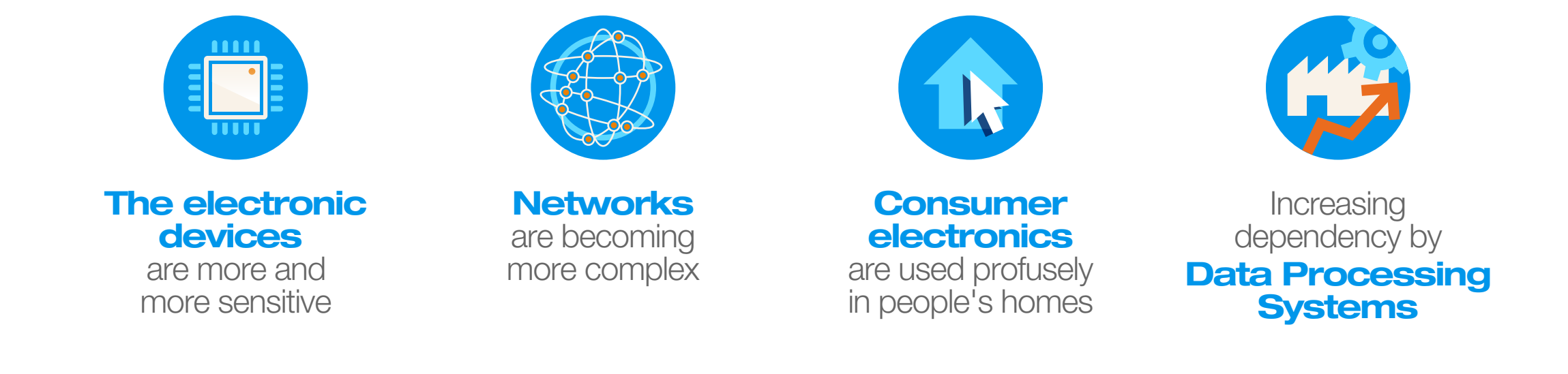
## Global lightning strikes



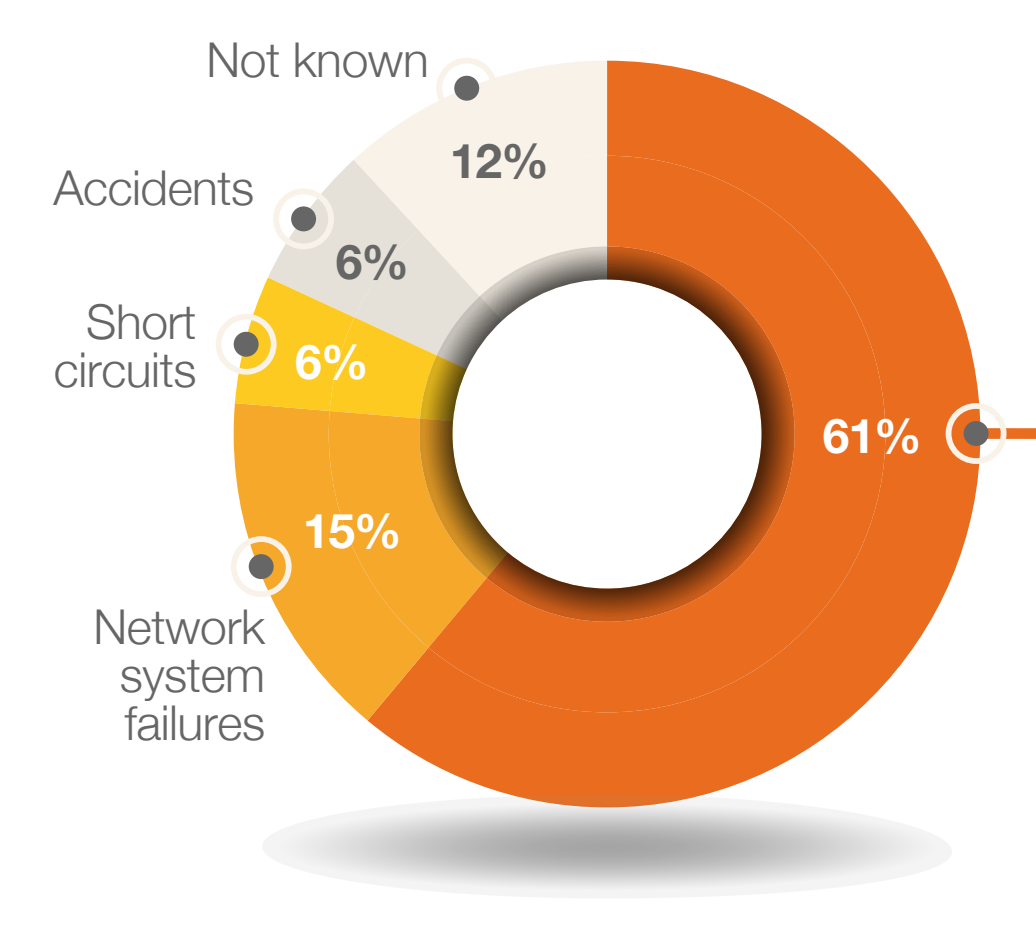
## Lightning is not uniformly distributed across the Earth



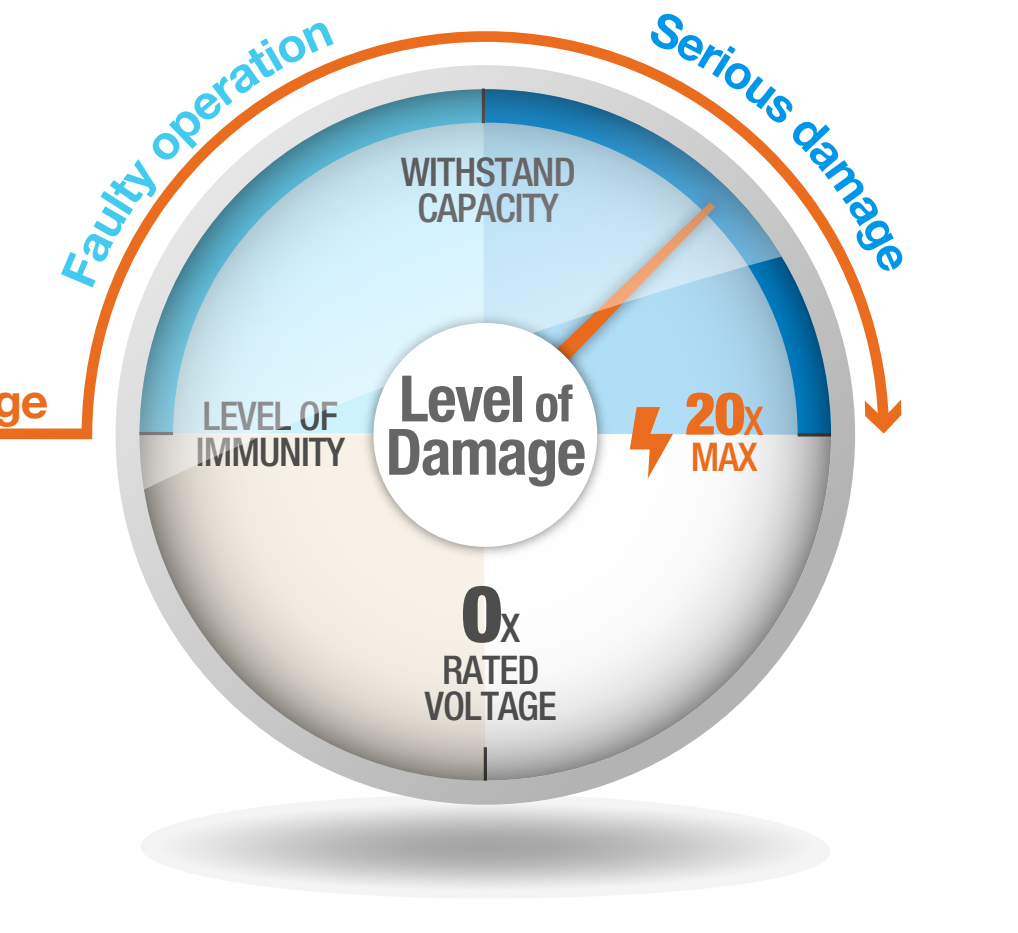
## Why are the damages to electronic apparatus increasing?



### What causes the majority of faults in electronic devices?



### How and why does over-voltage affect the apparatus?



## Why is it best to protect electronic equipment?

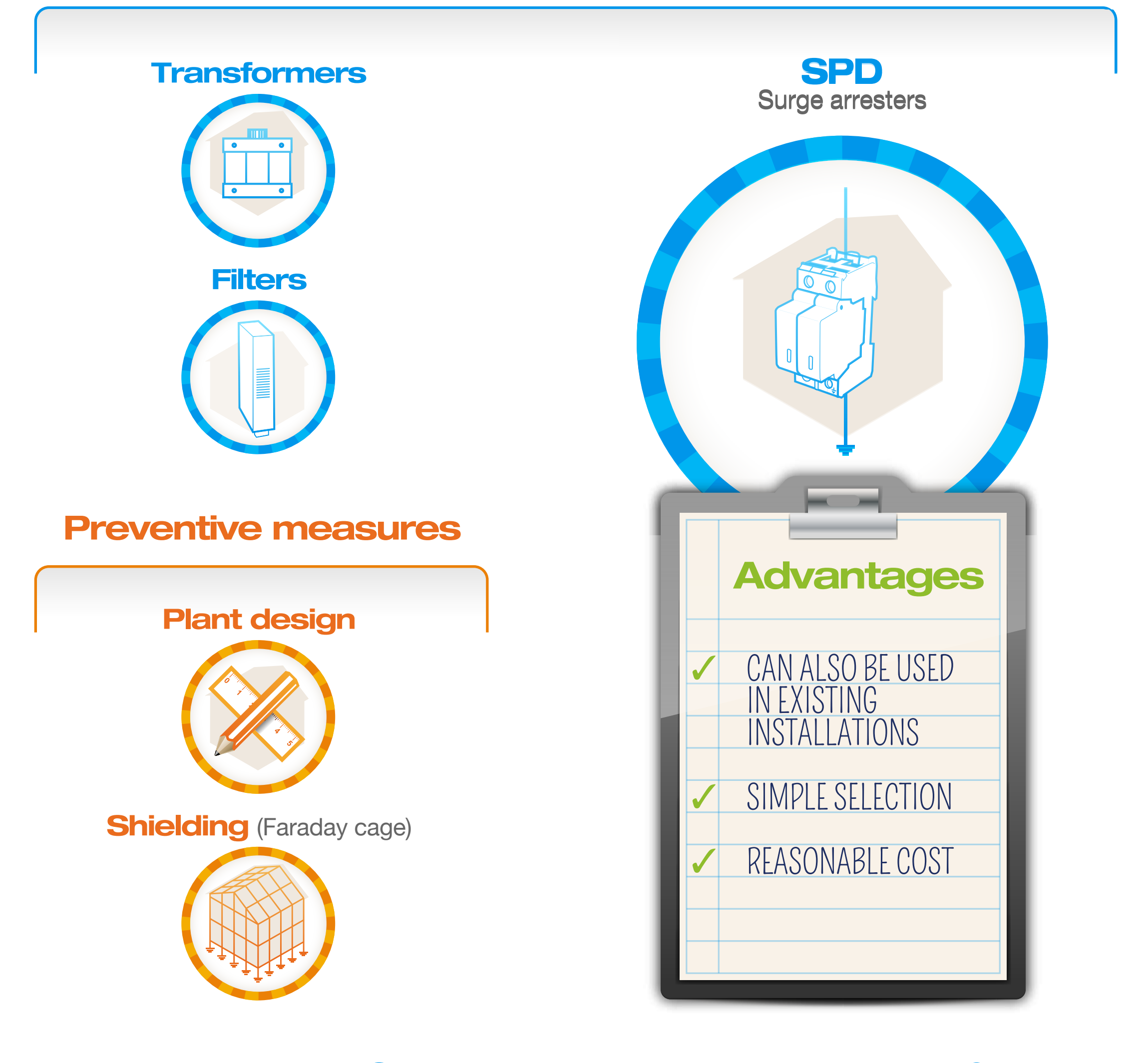
The economic damage caused by over-voltage is comparable to the one caused by theft of private property.

### But the damage is not just economic



## Which are the most effective protective measures?

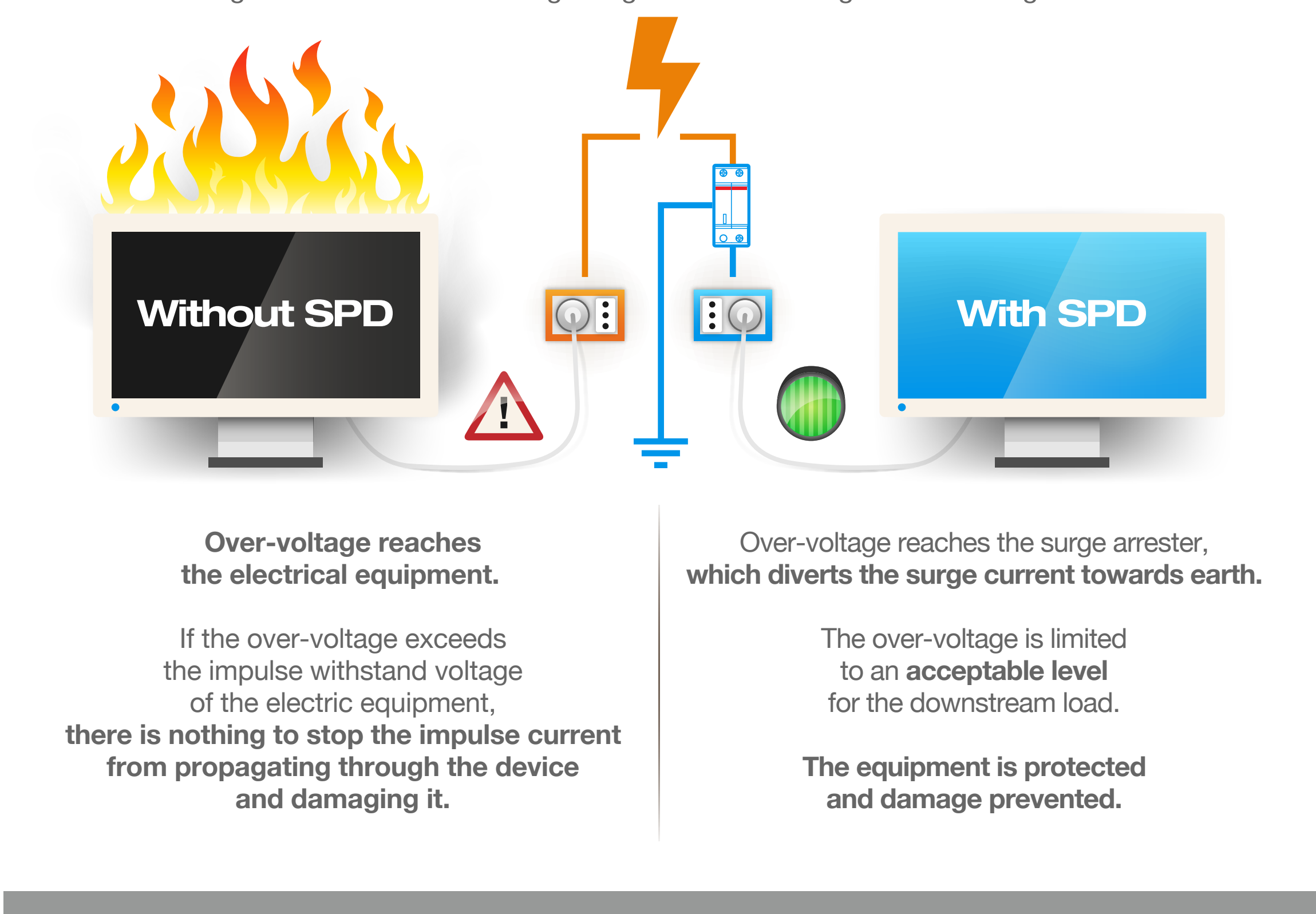
### Repressive measures



## What are SPDs and how do they work?

**SPDs are protective devices that divert the surge or impulse current and limit over-voltage toward load installed downstream.**

They are the most suitable and effective protective devices against direct and indirect lightning strikes in buildings and incoming lines.



## Sources

- "Lightning statistics" [link]
- "Buone pratiche per la prevenzione del rischio fulmini" [link]
- "World Lightning Map" [link]
- "Protezione contro le sovratensioni", G.B. Lo Piparo, G. Carrescia
- "Protezione da sovratensioni negli impianti a bassa tensione", P. Hasse
- "Practical guide for protection against surges" [link]
- "Distribution of lightning" [link]