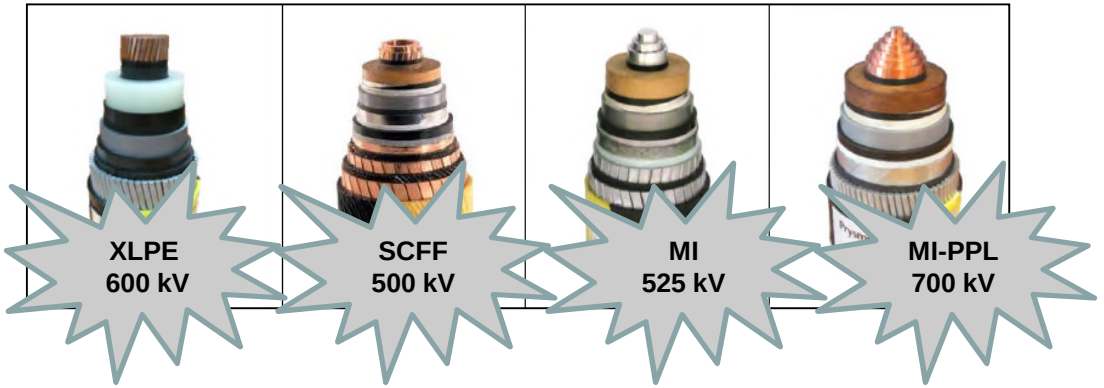
Jicable HVDC'16 Workshop
Topic 2

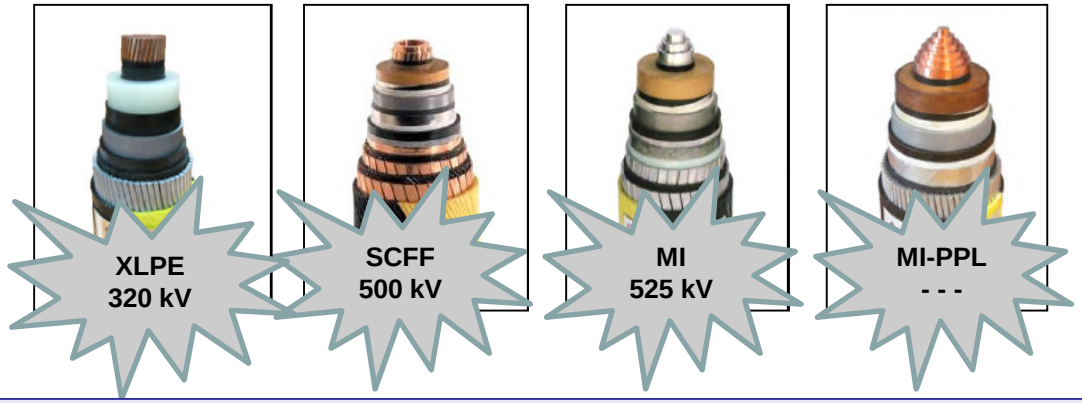
RECENT ADVANCEMENTS IN HVDC

Christian Rémy – Prysmian PowerLink

“state-of-the art” = “qualified systems”:

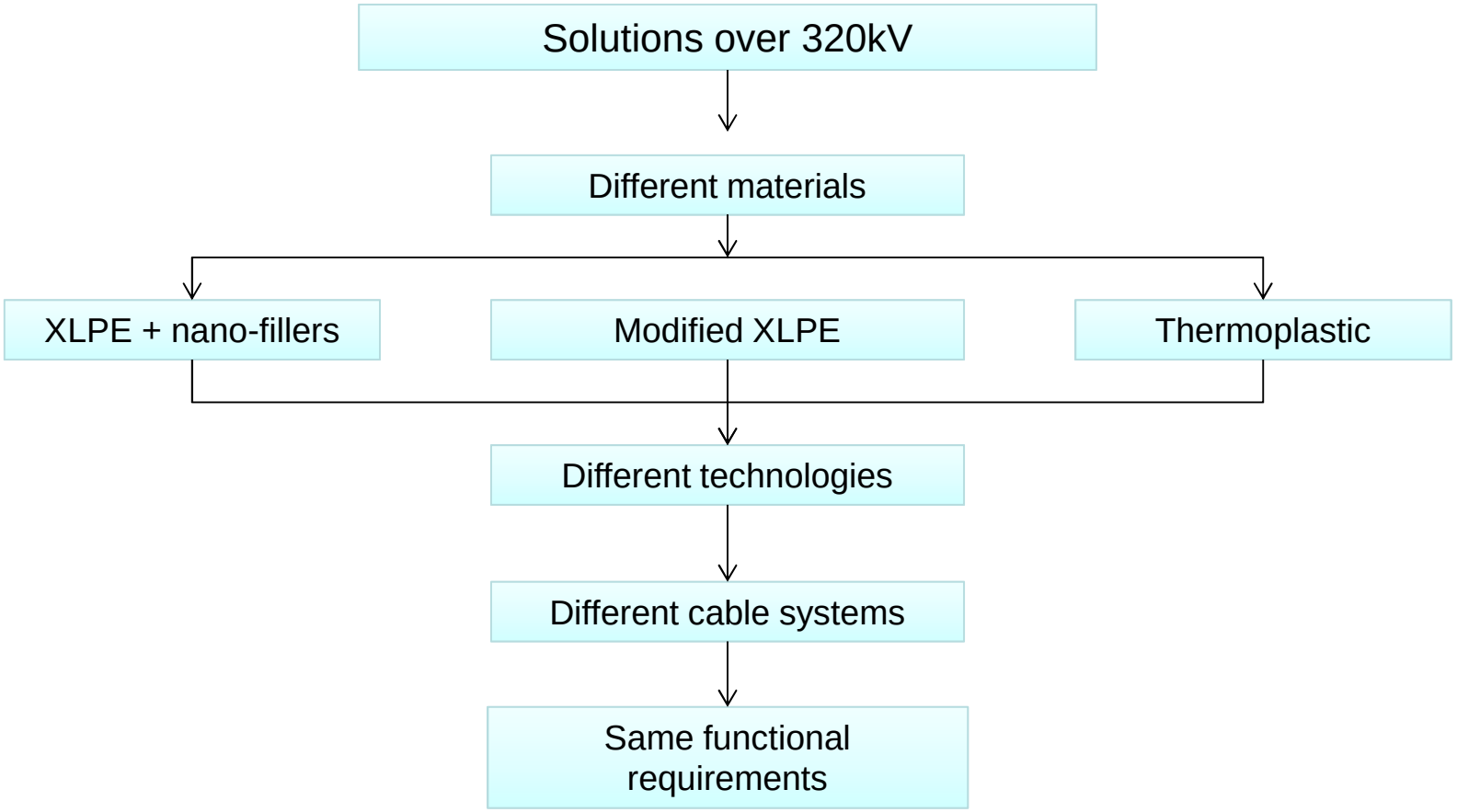


“state-of-the art” = “in operation systems”:



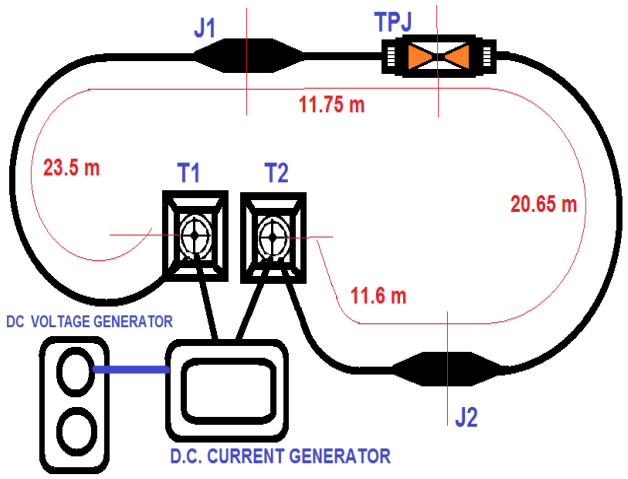
The way of the development of HVDC cables system is in continuous and pressing evolution.

The actual technological development axes pursued by main Cables Manufacturers and Compounds Suppliers:



XLPE cable systems

The feasibility of XLPE cable systems operating at 600 kV has been demonstrated following Cigré TB496 for VSC systems. This innovation will enable a massive increase of transmissible power by HVDC systems up to more than 3 GW



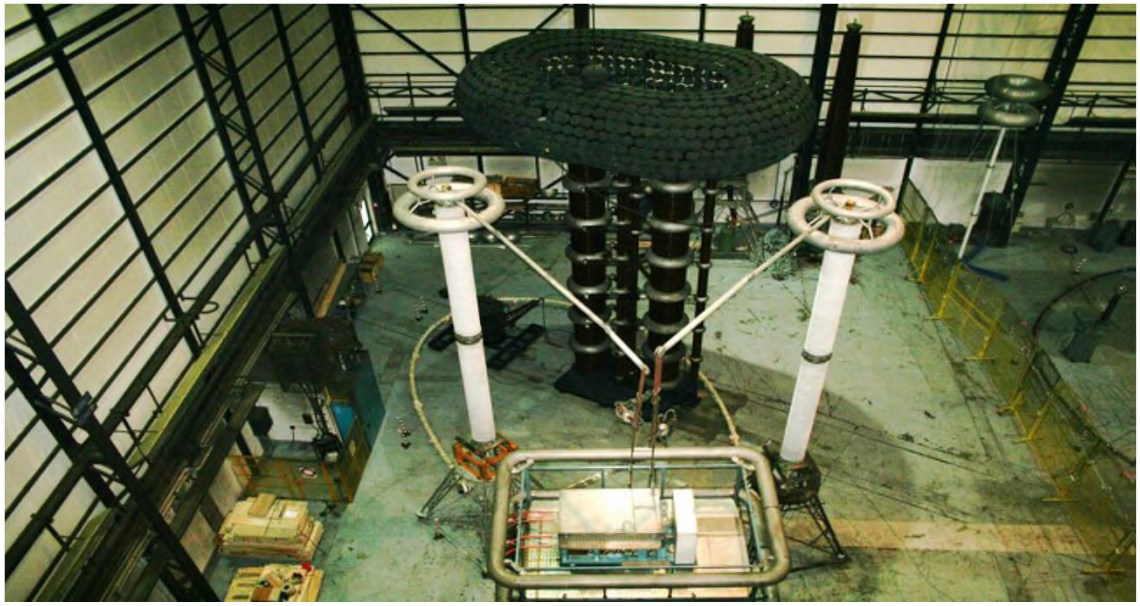
HPTE cable systems

A very recent development demonstrated the feasibility of 525 kV DC cables systems made with HPTE (High Performance Thermoplastic Elastomers) technology, according to VSC test protocol defined by Cigré TB496. This technology permits to produce a HVDC thermoplastic:

- with lower environmental impact;
- without chemical reactions to achieve the properties required for long term electrical integrity of HVDC insulation systems.

PPL cable systems

A very recent result demonstrated the feasibility of a 700 kV PPL insulated HVDC cable system. This achievement confirmed the robustness and reliability of PPL technology for HVDC applications to the highest voltage levels and represents a further confirmation of the intrinsic potential of this technology.



Thank You for Your Attention !