

Europacable recommendations to enhance the security & resilience of critical subsea and underground power cables infrastructures

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Europacable, the voice of Europe's leading cable systems manufacturers, calls on the EU and member states to work closely with industry and operators to ensure that Europe retains and maximises its capacity to design, manufacture, install, monitor, maintain and repair its critical power cable grid infrastructures.

Maintaining a strong European cable systems manufacturing industry is a prerequisite to achieve a resilient power grid infrastructure in Europe. Indeed, the future European ability to repair or produce and stock components for the electricity grid presuppose innovation and adequate power cables production in Europe.

Strengthening the security and resilience of the power grid require trusted supply chains with a coherent European approach using readily available technology solutions covering prevention, monitoring, preparedness and rapid repair.

Europacable recommends for the following aspects to be considered to further enhance the security and resilience of Europe's power cable assets:

- 1) Enhance coordination and cooperation among stakeholders to maximise security benefits of available technologies;**
- 2) Create a dedicated legislative framework to enhance the security & resilience power cables;**
- 3) Integrate security & resilience requirements for power cables in a mandatory European Preference for infrastructure equipment in the EU Public Procurement Act.**

Secure and resilient underground and subsea power cables are essential to Europe's stability, prosperity and strategic autonomy. Serving as the core backbone technology for Europe's future transmission and distribution grids, they are a strategic net-zero technology, empowering Europe's energy security.

Europe is home to the world's leading cable system manufacturers: Represented through Europacable, European cable systems producers not only have the technology, the know-how and the capacity to supply the cables Europe needs, made in Europe for Europe. The industry also has various technologies and market models readily available to enhance the security and resilience of power cable systems, both on- and offshore.

In light of recent attacks on critical infrastructures, the EU and member states must strengthen network security, accelerate grid investments, and avoid dependence on non-European suppliers for critical components. To do so, Europacable recommends for the following aspects to be considered to further enhance the security and resilience of Europe's power cable assets:

1) Enhance coordination and cooperation among stakeholders to maximise security benefits of available technologies

The European cable systems industry has a variety of technologies and market solutions readily available to minimise possible threats to cable assets, to detect incidents as well as to respond to them and to rapidly repair damaged cable infrastructure. Europacable urges the EU and member states to empower asset owners to make full use of these available technical and market solutions that encompass monitoring, preventive and corrective maintenance technologies, rapid repair capabilities and services.

Enhancing the cooperation between transmission system operators, public authorities and industry will be key to strengthen Europe's energy security. This enhanced cooperation should be routed under a more holistic approach combining security of supply, physical security and cybersecurity, while strengthening coordination across sectors, the EU and member states.

As Europe rapidly expands its onshore and offshore grids, protecting power cables from accidental damage, hybrid threats and deliberate sabotage becomes increasingly important. Europacable member companies stand ready to support.

Europacable recommends that:

- ***Operators should define and regularly update the specific security needs and associated level of performance they consider relevant for their specific assets. This should be done in active and close cooperation with the European cable industry so that these performance requirements will be met thanks to then available technologies and market solutions;***
- ***OPEX compensation and/or incentive schemes at national level via national regulators should be foreseen to compensate operator's expenditures supported by EU level where possible to enhance the level of performance available on the market;***
- ***If necessary, existing performance service level agreements may reflect specific performance needs based on regional alignment. These should be developed and implemented in active and close cooperation with the European cable systems industry.***

2) Create a dedicated legislative framework to enhance the security & resilience power cables

Europacable recommends creating a dedicated legislative framework to improve security and resilience of power cables systems notably including the following:

a. European cable systems manufacturers to be recognised as “critical entities” all across EU legislation

As strategic net-zero technology providers, European cable systems manufacturers play a critical role in strengthening the security and resilience of Europe's electricity networks. In particular, they provide essential manufacturing, maintenance and repair capabilities that enable the rapid restoration of critical electricity infrastructure, including through the production and repair of power cables and associated components. The strategic importance of European cable systems manufacturers should therefore be consistently recognised across the relevant EU security and resilience framework.

- ***Europacable recommends explicitly recognising European cable systems manufacturers as critical entities under the upcoming Energy Security***

Regulation and ensuring their inclusion within the scope of the Critical Entities Resilience (CER) Directive.

b. Mandatory pre-qualifying security screening of non-trusted third country cable suppliers

Mandatory security screening of non-trusted third country cable suppliers should be consistently applied to control and limit access of non-trusted third country suppliers across all legislation, regulation, public procurement, private tenders, auctions and to projects receiving EU funds, including EU grants and EIB loans and/or credits. The mandatory security screening must be implemented by relevant national authorities on a regular basis, e.g. every three years. The assessment should not only be of the supplier's owner but also of each production facility. An owner headquartered in a non-trusted country might have production units in non-trusted countries making it vulnerable and insecure as a supplier. While security clearance is a national prerogative, information sharing through the EU Commission could be useful to improve integration of the internal energy market and lower transaction costs of enhancing security.

Moreover, high-voltage power jointers, who perform the most crucial task in laying or repairing power cables, must undergo obligatory security clearance by the relevant host national authorities through a pre-approval, white-list system.

- ***Europacable recommends the introduction of mandatory pre-qualifying security screening of non-trusted third country cable suppliers both in public procurement, private tenders, auctions as well as in EU funded projects.***

c. “Security by Design” approach for operators mandating Smart Cable deployment & retrofitting older power cables

Power cables should be designed and deployed as “Smart Cables” by equipping them with state-of-the-art monitoring technologies. Early warning, intelligence and detection of power cable damages can be enhanced through cable design, installation and burial techniques, as well as sensing and monitoring systems.

Furthermore, a harmonised European framework for monitoring, alarming, data management and exchange would facilitate retrofitting and integration of existing and future technologies, reduce dependency on individual suppliers, and ensure continuity of monitoring throughout the asset lifecycle. It would also support risk-based inspection, maintenance and repair

through seamless information exchange between monitoring systems, asset assessment and operational response.

Sensing and monitoring technologies are available that can be retrofitted on existing assets, designed to operate for at least 40 years, allowing for comprehensive assets monitoring. Furthermore, Europacable recommends creating unified data governance at EU level enabling secured sharing and processing of data between operators, industry and authorities.

Europacable recommends that:

- ***A “Security by Design Approach” should be developed with the active cooperation of the EU, member states, operators and the European cable industry. It should mandate the deployment of Smart Cables via EU legislation and make it applicable for public and private tendering in coordination with unified EU-wide data governance;***
- ***Europe’s leading cable manufacturers are empowered to continuously drive innovation of “Smart Cables” further. To be able to do so, the European Union and***

member states should consider allocating financial support to continued R&D initiatives driven by European industry;

- *Retrofitting existing subsea power cables with sensing and monitoring technologies to enable a coherent protection of all existing and future assets in European water;*
- *Creating a harmonised European framework for monitoring, alarming, data management and exchange should ensure interoperability and accelerate deployment of “Smart Cables”;*
- *Dedicated funding under CEF, the future EU Defence Fund and national defence plans, should be made available to enhance the security of existing and future grid infrastructure.*

d. “Resilience by design” should guide technology choices for Europe’s land grid buildout

Europe’s future transmission grid must be designed to withstand hybrid threats, extreme weather and supply-chain disruptions. Underground cables, including state of the art 525 kV HVDC or 320 kV HVAC cable technologies, offer protection against such external threats.

Developed and manufactured in Europe by leading cable producers, they not only contribute to make the grid more resilience by design but also reduce dependence on non-trusted non-European suppliers.

- *Europacable recommends that underground cables shall be considered as a complementary technology option from the very outset of any project planning.*

e. Mandatory repair service agreements to ensure fast repairs

Already today, repair service agreements ensure rapid repair of subsea power cable assets to minimise downtimes. However, in view of the increased risks, maintenance and repair service agreements between operators and suppliers need to be reviewed and upgraded. Given the complexities of repair execution, which depend on availabilities of vessels, certified staff, spare parts, permitting and weather conditions, mandatory long-term repair service agreements should mirror today’s increased security needs and associated performance levels as defined by operators.

- *Europacable recommends that repair service agreements are to be made mandatory, reviewed and upgraded to meet new realities.*

f. Strategic stockpiling of grid essentials

The availability of tailor-made cable and grid components is decisive to ensure fast repairs in case of damage. Accordingly, already today, operators, asset owners and/or suppliers keep stock of power cables deployed in existing assets. Power cables and systems, notably at high (HV) and extra high voltage (EHV) levels, are bespoke to respond to the specific needs of the individual project specifications. Also, whilst for lower voltages, universal joints are available for Alternating Current (AC) assets, EHV Direct Current (DC) projects require tailor-made cable solutions and hence bespoke jointing.

- *Europacable recommends for operators, asset owners and supplying industry to review current spare part stockage practices to assess whether minimum requirements should be regulated per asset at EU or member state level.*

3) Integrate security & resilience requirements in a mandatory European Preference for infrastructure equipment in the EU Public Procurement Act

Public Procurement is a strategic tool to support important sectors and reinforce the EU's key competitiveness priorities and decarbonisation ambitions in leading net-zero technologies, such as grid equipment manufacturing. The development of a dedicated "European Preference Principle" would ensure European competitiveness in supplying sustainable cable systems and promote the strategic autonomy of European manufacturing of this critical technology.

- ***Europacable recommends introducing a mandatory "European Preference Principle" under the European Procurement Act proposal for particularly critical electricity infrastructure equipment with a minimal of 30% evaluation in public tenders allocated to mandatory criteria covering security, resilience, and ESG.***

Europacable is committed to working closely with the European Commission, member states, regulators and operators to enhance the security and resilience of subsea and underground power cable infrastructures.

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About Europacable

Europacable is the voice of Europe's leading wire and cable producers. High-quality, sustainable power and telecommunication cables, produced by our members in Europe, empower the electrification and digitalisation of our societies. Founded in 1991, Europacable represents the largest cable makers in the world providing global technology leadership, as well as highly specialized small- and medium sized businesses from across Europe. With our future being ever more electrified and digitalised, cable technology will be the core backbone of Europe's energy and telecommunication infrastructures. Sustainable, low-carbon manufacturing and high-performance cables are essential to achieve Europe's climate neutrality objectives by 2050. Europacable is committed to the principles of free enterprise and fair trade. Our members employ over 80.000 people of which more than 50% in Europe, generating a worldwide turnover over € 70 billion in 2025.

Europacable is a member of Orgalim, RGI, WindEurope and a partner of CENELEC and EUEW. Europacable is listed in the European Commission's Transparency Register under 453103789-92. www.europacable.eu