TECHNIP ENERGIES

Cyx Volta

A robotic system for safe live overhead power line maintenance





Value for grid operators

Reduced HSE Risks

Maintenance on energized overhead electrical lines exposes personnel to serious hazards, including burns, electrocution, and fallsfrom height. Cyx Volta eliminates these risks through use of remotely operated robotics arms.
The remote control station has been carefully engineered for ergonomic comfort, allowing the operator (pilot) to work efficiently with reduced physical strain and improved overall control during extended operations.

Lower OPEX

The manpower required to perform safe maintenance on overhead lines is significantly reduced, lowering operational cost.

Improved availability

Intervention without de-energizing the overhead line becomes possible, unlocking productivity gains while ensuring continuous power to the network.

MODULAR DESIGN

The system can be installed on standard vehicles, optimizing CAPEX and avoiding the addition of extra assets to the operator's fleet.

Easy Adoption

The electric robotic dexterous arms are highly maneuverable, enabling ease of use and rapid adoption by field teams.

KEY USE CASES

- Brushing cables
- Equipment replacement
- Shunt maintenance
- Vegetation pruning





Main System Features

The Cyx Volta:

- An isolated basket with:
- 2 dexterous electric arms
- Customizable tooling
- Electric dexterous arm controller
- Customizable carrier (e.g., spider robot, standard truck or other vehicle)
- Remote control command station powered by Cyxense Commander, a T.EN Marseille technology

Optional features and services:

- Virtual guide
- Digital twin
- Training
- Collision avoidance
- Wind monitoring
- Support and maintenance

Electrical arm characteristics:

- Payload: 25kg
- Payload / Weight ratio: 0,24 (one of the highest on the market)
- Static torque:
- Axis 1: 490 Nm
- Axis 2: 600 Nm
- Axis 3: 550 Nm
- Axis 4: 150 Nm
- Axis 5: 150 Nm
- Axis 6: 150 Nm
- IP 65 rating
- Force feedback and Cartesian mode

Track record

2025

Deployment in France
Brushing, shunt, bird protection

2026

Deployment in Portugal
Jumpers management, replacement of connectors and insulators, and application of power line cover

T.EN Marseille,
A Technip Energies subsidiary
Technopôle de Château-Gombert
306, Rue Albert Einstein – BP 94
13382 Marseille Cedex 13
Standard : + 33 (0)4 91 21 77 77

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