Information for emergency services

Aarau, 5 May 2025

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High voltage with disturbance / no disturbance

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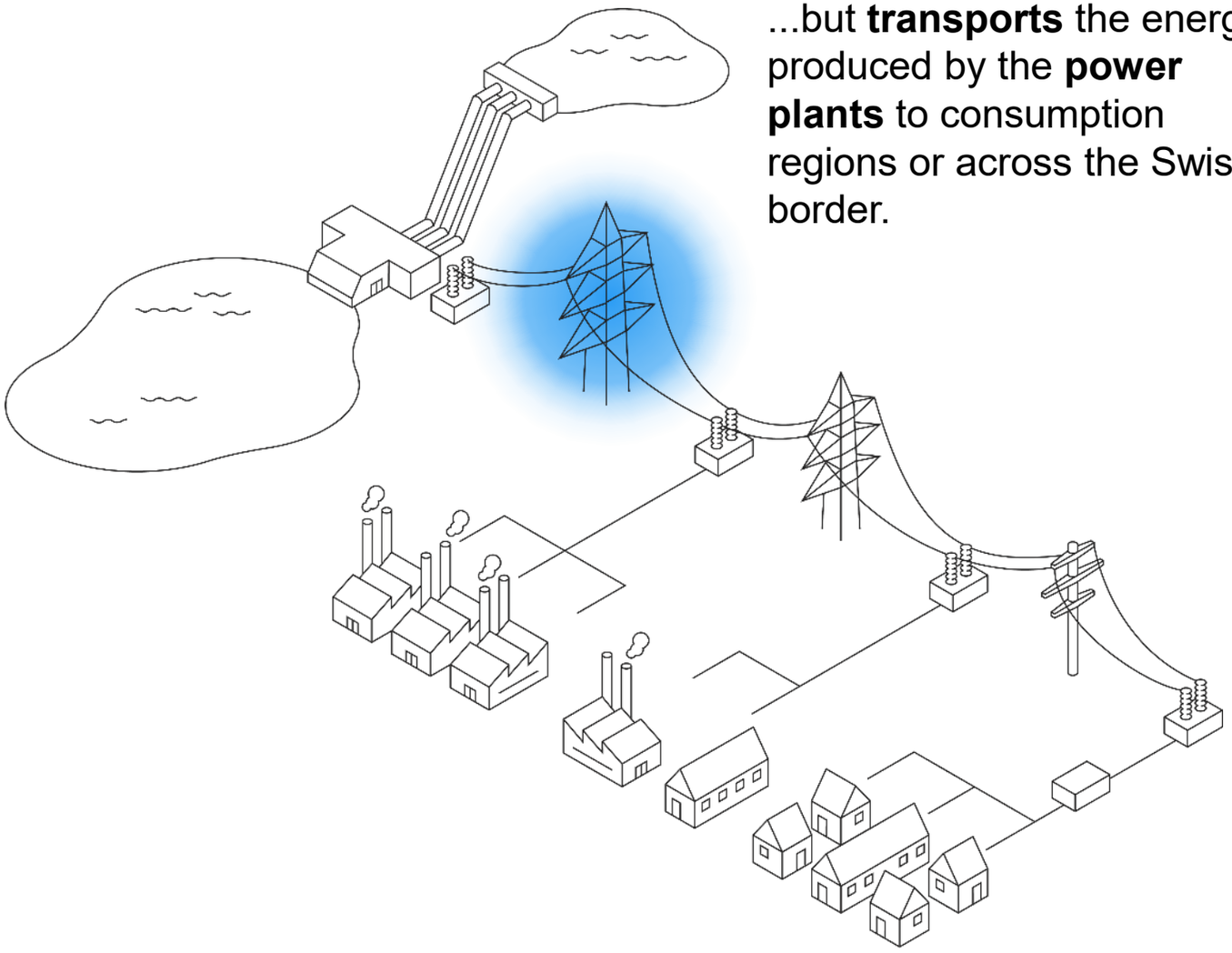
Swissgrid does not produce electricity...



...but **transports** the energy produced by the **power plants** to consumption regions or across the Swiss border.

Generators	
Grid level 1	**Extra-high voltage in the 220/380-kV transmission grid**
Grid level 2	Transformer
Grid level 3	High voltage in the 50 to 150-kV national distribution grid
Grid level 4	Transformer
Grid level 5	Medium voltage in the 10 to 35-kV regional distribution grid
Grid level 6	Transformer
Grid level 7	Low voltage in the 400/230-V regional grid
Consumers	

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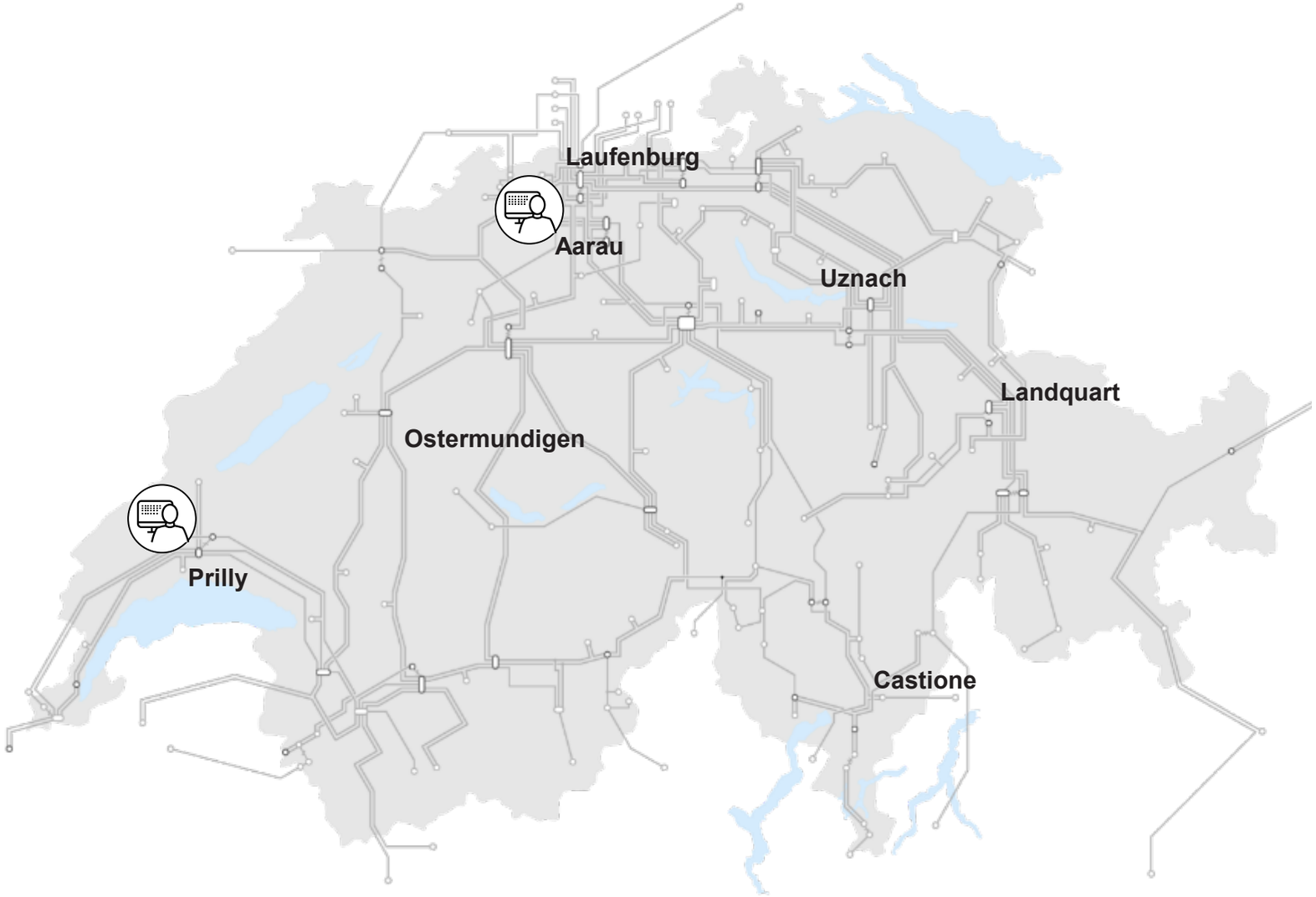
Presence in all regions of Switzerland



- Swissgrid has **seven locations in Switzerland**.
- Swissgrid carries out **project planning and maintenance on site**.
- **One control room** in **German-speaking Switzerland** and one in **French-speaking Switzerland** ensure optimum security of supply.

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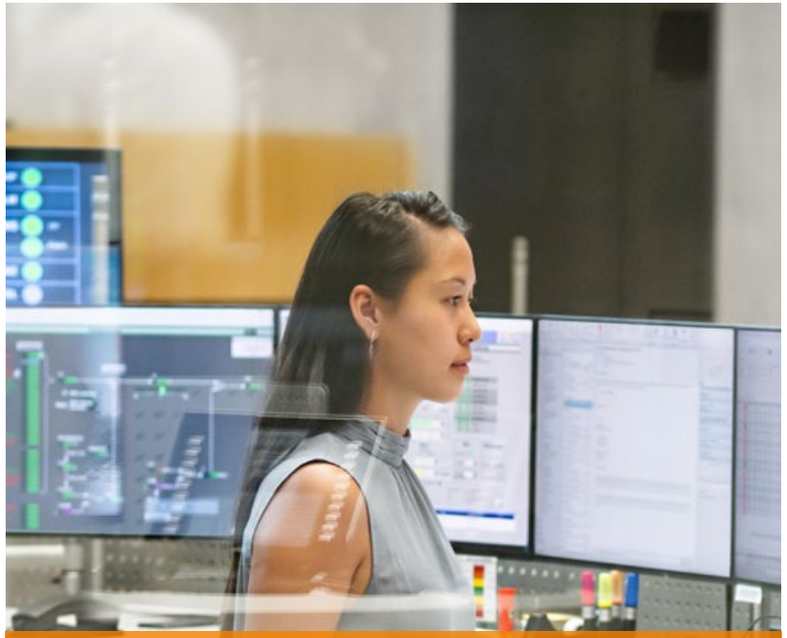
Swissgrid is responsible for the secure and reliable operation of the transmission grid

Grid

Planning, maintenance, repair and modernisation of the entire transmission grid



Operation

Ongoing planning, control and monitoring of the grid – 365 days a year, around the clock

Market

Guaranteeing grid capacity for Swiss electricity market players

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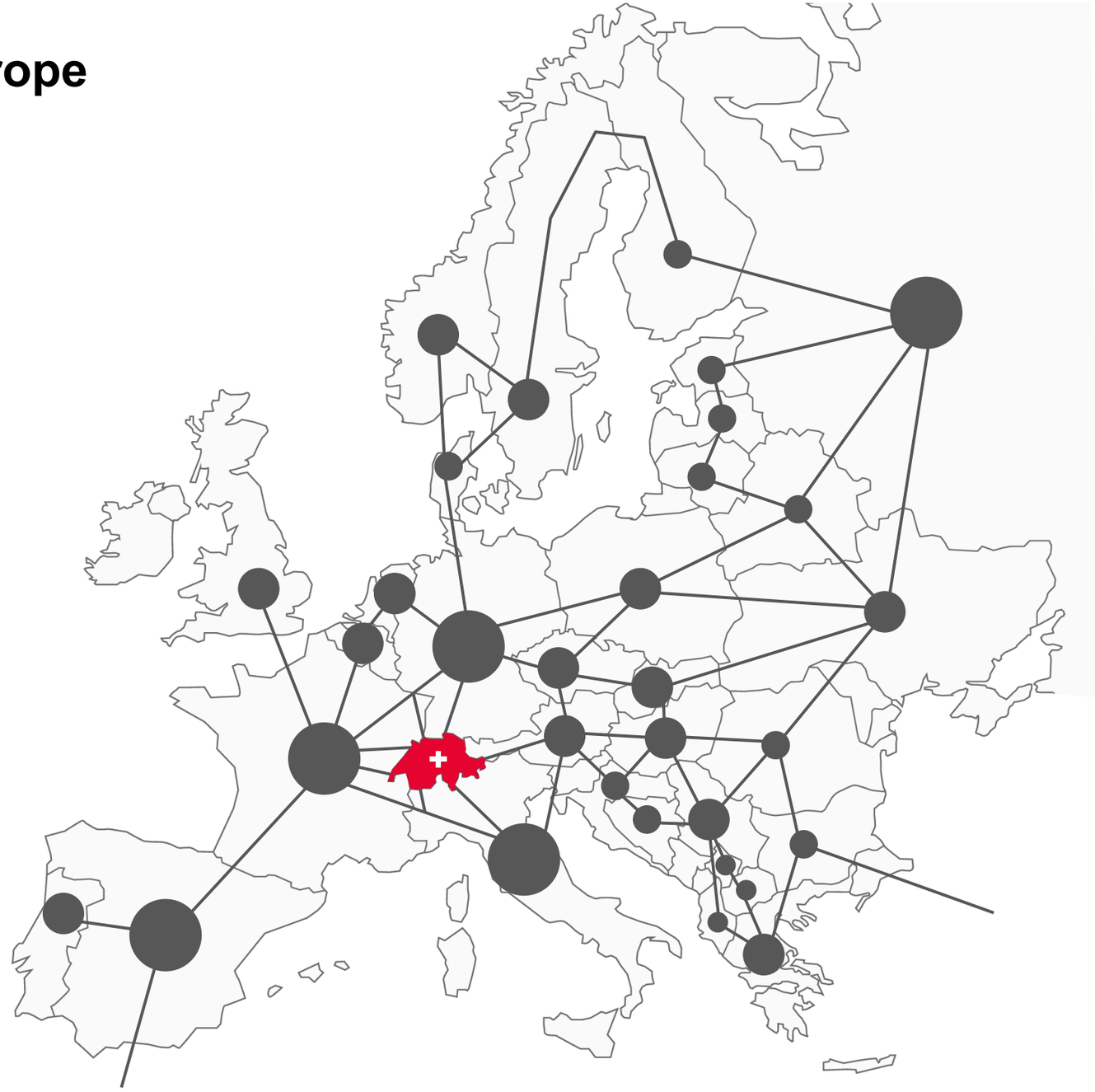
Swissgrid connects Switzerland with Europe

Switzerland is part of the European interconnected grid and is connected to neighbouring countries via **41 lines**.

Swissgrid works closely with the European transmission system operators.



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Our transmission system connects the whole of Switzerland...

32 transformers

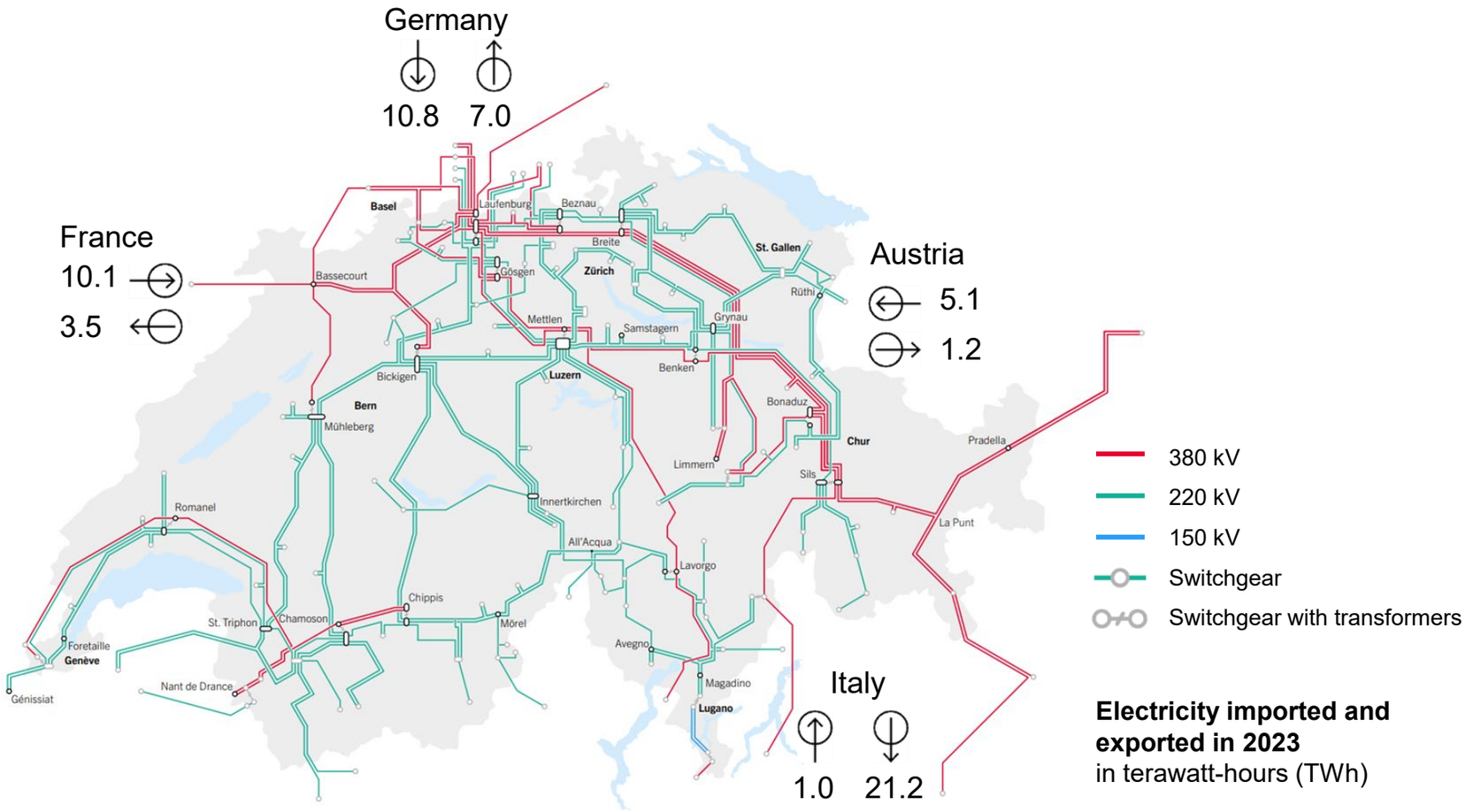
41 cross-border power lines

126 substations

148 switchgear

6,700 km of lines

12,000 electricity pylons



... and Europe – for high grid stability, cross-border electricity exchange and mutual assistance.

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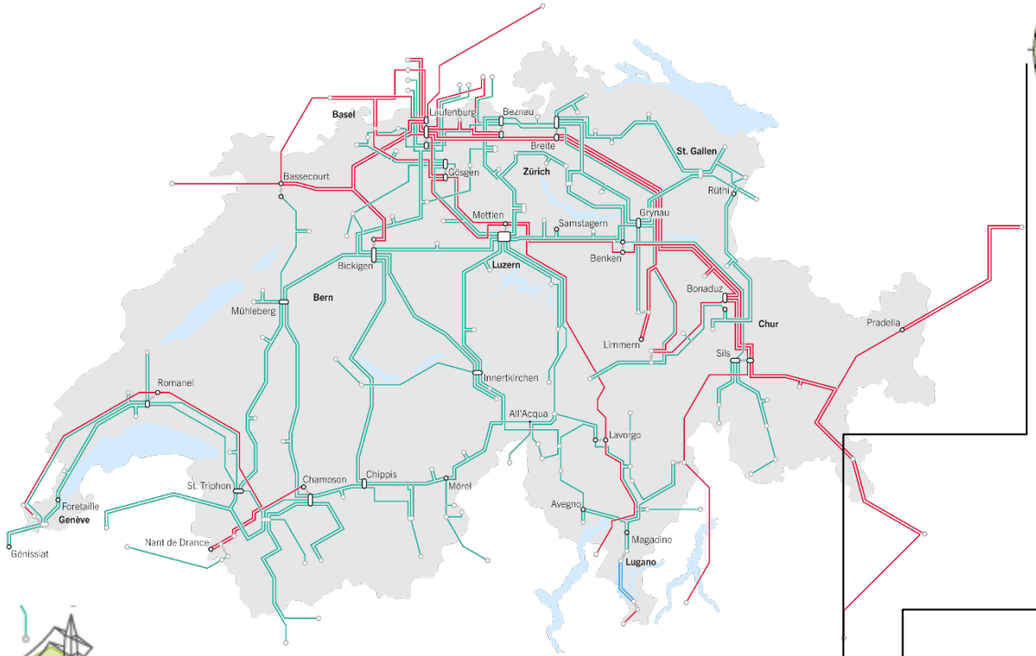
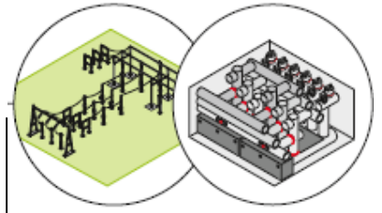
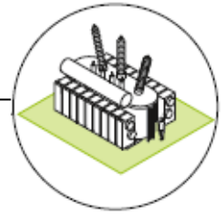
This is the hardware the grid needs

Grid control rooms:
Employees monitor the grid around the clock from here.

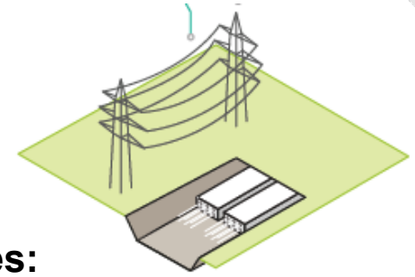




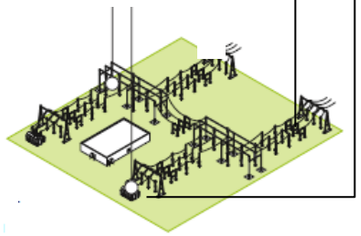
Switchgear:
The lines are interconnected in the switchgear.
The lines can be disconnected and connected from the grid control room.



Transformers:
The transformers connect the 380-kV grid to the 220-kV grid.



Extra-high-voltage lines:
The 380-kV lines are used to import and export electricity, while large Swiss power plants feed their energy into the 220-kV grid.



Substations:
The substations connect different grid levels and are the nodes of the transmission system.

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When must Swissgrid be contacted?

Swissgrid must be contacted in the following cases (non-exhaustive list):

- Disturbance at a high-voltage installation
- Deployment of a high-rise response vehicle / ladder near an extra-high-voltage line / installation
- Fire / flying sparks near a line / installation
- Accident or rescue work near a line / installation

The installation must be considered live until it has been checked for the absence of voltage and earthed on site by the Swissgrid on-call service.

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Dangers
High voltage with disturbance

Discharge voltage patterns

Discharge voltage patterns arise when a conductor is in contact with the ground or if a machine is in contact with a live part.

Entering the discharge voltage pattern can be life-threatening.

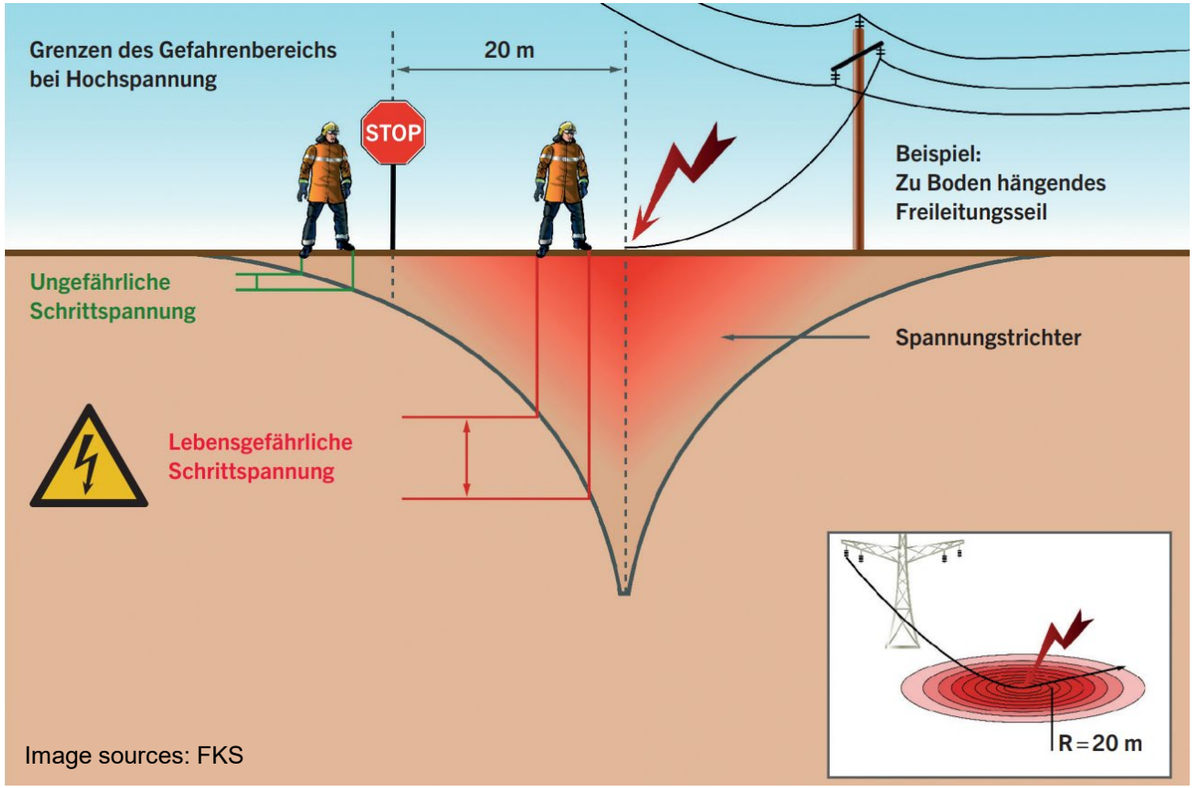

Image sources: FKS

Important

The incident area must be cordoned off at a radius of 20 m around the event and supervised until Swissgrid has confirmed the absence of voltage and **earthing on site**.

- Extra-high-voltage lines can be equipped with an automatic reclosure function that reactivates the line after a certain time!
- Conductors can become dangerously charged by neighbouring systems due to induction!

Special attention should also be paid to the following:

- Falling parts
- Conducting objects
- Metal fences, barriers or other lines (including pipelines) that can transfer the voltage

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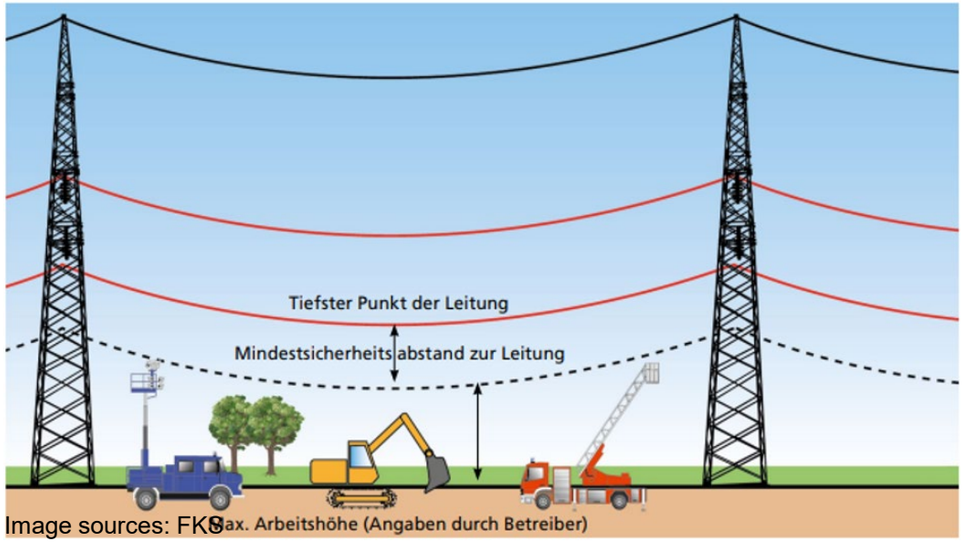
Dangers

High voltage with no disturbance

Distances to be observed between overhead lines and aerial rescue vehicles, aerial ladders, construction machinery, cranes, etc.

The safety distance is equal to a = 7 metres.

Depending on the weather conditions (e.g. wind), the safety distance may need to be increased. Swissgrid must be called out whenever aerial rescue vehicles, turntable ladders, construction machinery, cranes, etc. are used in the vicinity of an extra-high-voltage line.



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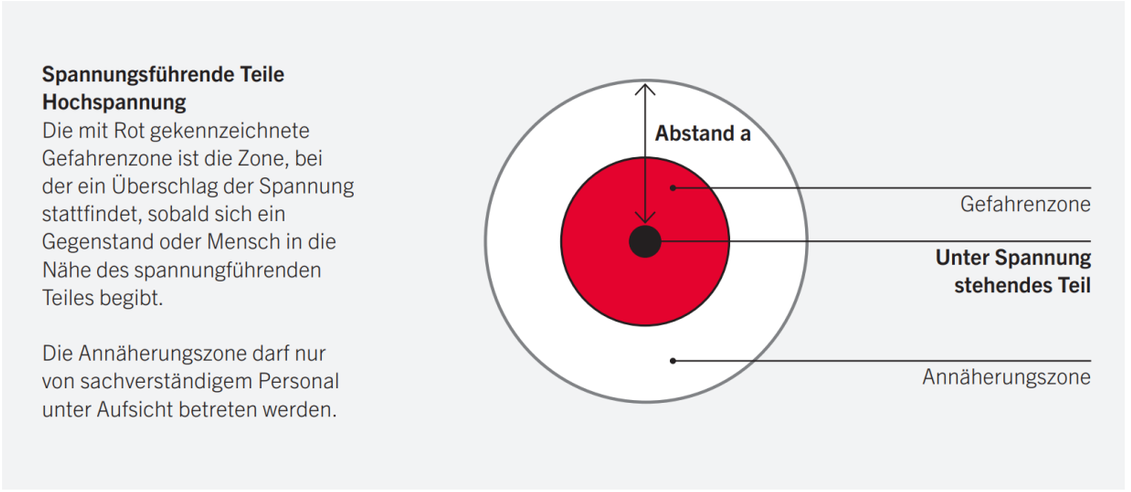

Distances to be observed for extinguishing agents in line with the fire class table Behelf Elektrodienst

Water with full jet:	10 metres
Water spray:	Swissgrid recommendation 7 m
Foam:	Only in voltage-free installations

The specified distances only apply to clean water

Spraying overhead lines must be avoided in order to prevent cable oscillations and resulting short-circuits or other damage.

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How can Swissgrid be contacted?

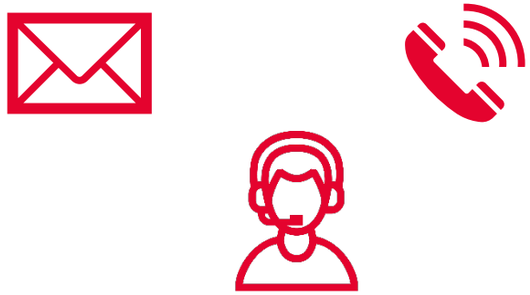
Applies to all high-voltage pylons:

Every pylon on an extra-high-voltage line in Switzerland must be labelled with the following information by law:

- Line owner's initials
- Serial number
- Year of installation
- Warning signs

This means that information about the owner can always be found on the nearest pylon (whilst ensuring your own safety).

In the event of a disturbance to an installation, it is best to refer to a more distant pylon.



- For Swissgrid pylons, the easiest option is to access the pylon webpage via the QR code.
- Swissgrid can be contacted using the emergency call button
- Additional information about the pylon will be displayed to the operator who receives the call at the control centre to give them a better overview of the situation.

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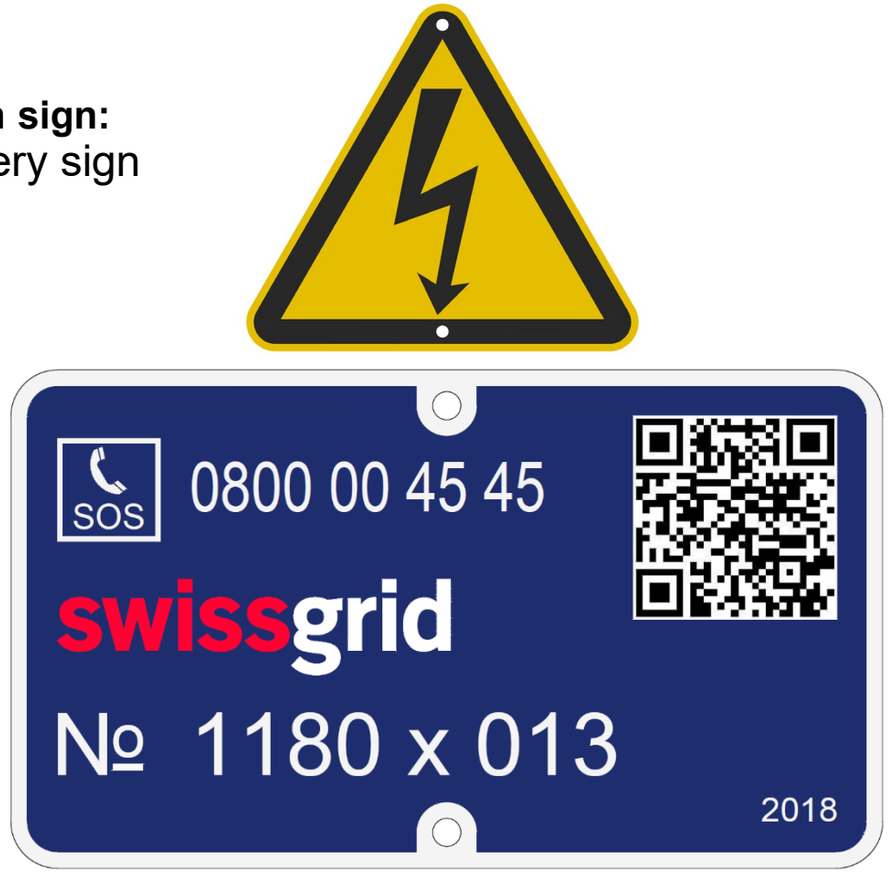
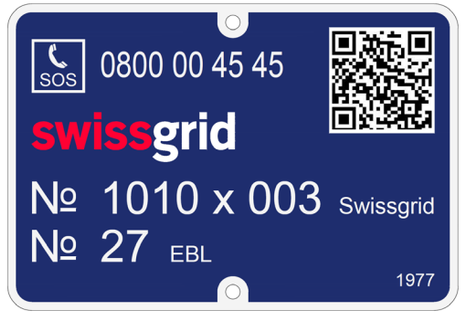
Contents of Swissgrid pylon signs

Information displayed on the pylon sign:

1. Swissgrid fault number on every sign
2. Owner: Swissgrid
3. Supporting structure number
4. Year of pylon construction
5. QR code



Supporting structure number:
The Swissgrid supporting structure number is unique. This makes it possible to identify each pylon clearly and reliably.



Additional information for shared supporting structures:
On lines with partners, the supporting structure numbers of Swissgrid's partners are also shown.

- Partner's pylon number
- The owner's name is always indicated after the pylon number

QR (Quick Response) code:
Each pylon has an individual QR code that leads directly to its own specific information page. This allows emergency services and private individuals to access important information quickly and easily – and make contact in a straightforward manner if necessary.

QR codes and stored information

Link to test

page

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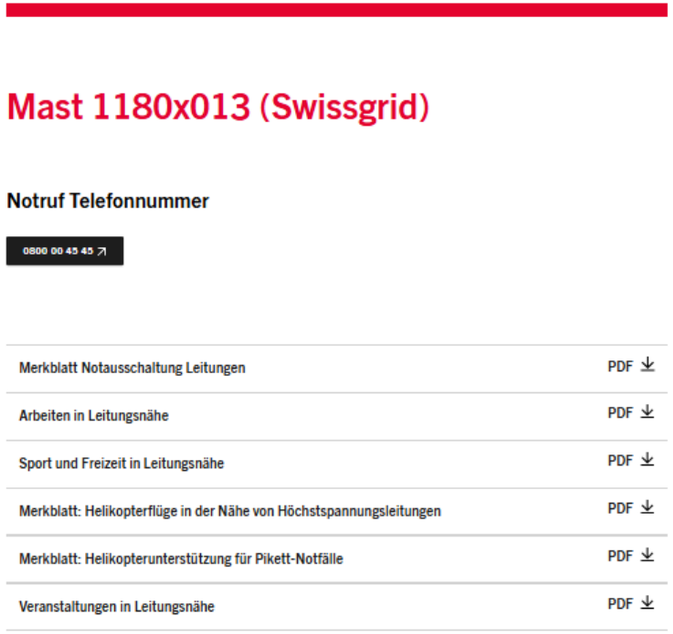
Pylon webpage contents

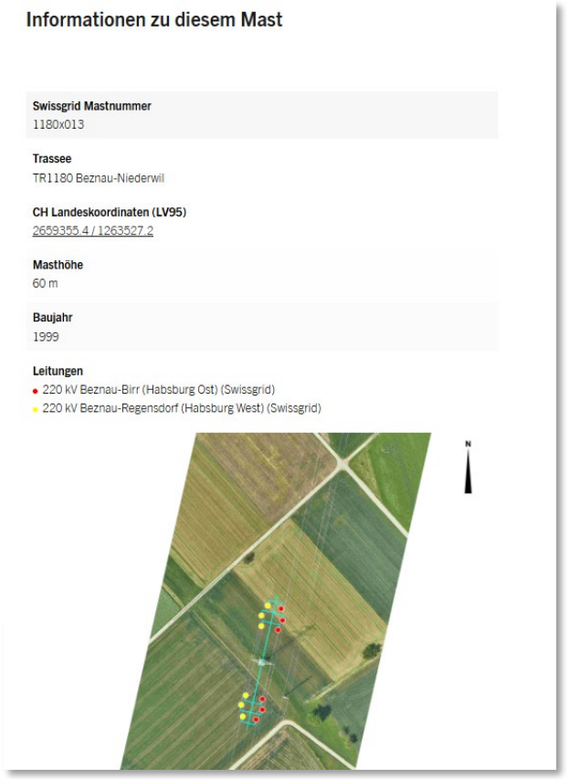
Pylon number

Emergency call button with information made available to the control centre in parallel

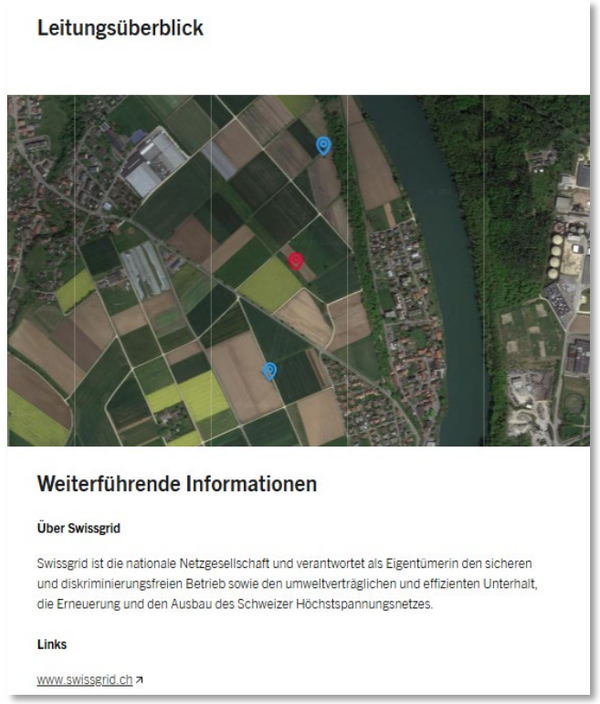
Factsheets (also available at www.swissgrid.ch)



Information about the pylon



Line overview and further information



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Q&A about Swissgrid pylon signs

How can contact be made without a smartphone?

- The emergency number for the Swissgrid control centre is indicated on every Swissgrid pylon sign. The control centre can be reached using a standard telephone.
- The control centre can determine the exact location of the call thanks to the unique Swissgrid pylon number.

How can contact be made for pylons without network coverage?

- Just like normal calls with a mobile phone, the pylon webpage only works if there is network coverage.
- However, the QR code can still be scanned without network coverage. By clicking on the link as normal, the pylon webpage will open as soon as network coverage is available again.
- It is therefore only possible to contact Swissgrid with a functioning mobile/telephone connection, in the same way as with conventional pylon signs.
- The pylon webpage does not contain any data-intensive content. This ensures that it can be accessed quickly, even with poor network coverage.

In which language is the pylon webpage displayed?

- When consulting the pylon webpage, the default language corresponds to the official language of the municipal area in which the pylon is located.
- However, the user can choose between German, French, Italian and English for each supporting structure using the corresponding buttons.
- When a caller places an emergency call to the Swissgrid fault number, they are asked to choose the language of the call (German, French or Italian).

Why is there only one sign with one telephone number for pylons with several owners?

- The telephone number specified on the pylon sign is primarily intended for use by private individuals or emergency services who wish to contact the operator. It would cause unnecessary confusion to have several pylon signs with different telephone numbers.
- Swissgrid is responsible for coordination if an emergency call is received about a shared supporting structure.

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Further information about behaviour near lines

- www.swissgrid.ch/leitungsnähe
- www.swissgrid.ch/proximite-lignes
- www.swissgrid.ch/prossimitalinee
- www.swissgrid.ch/nearlines

Swissgrid will be happy to provide any further information required by the emergency services:
→ info@swissgrid.ch
→ +41 58 580 21 11

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Thank you for your interest

Swissgrid Ltd
Bleichemattstrasse 31
P.O. Box
5001 Aarau
Switzerland

swissgrid