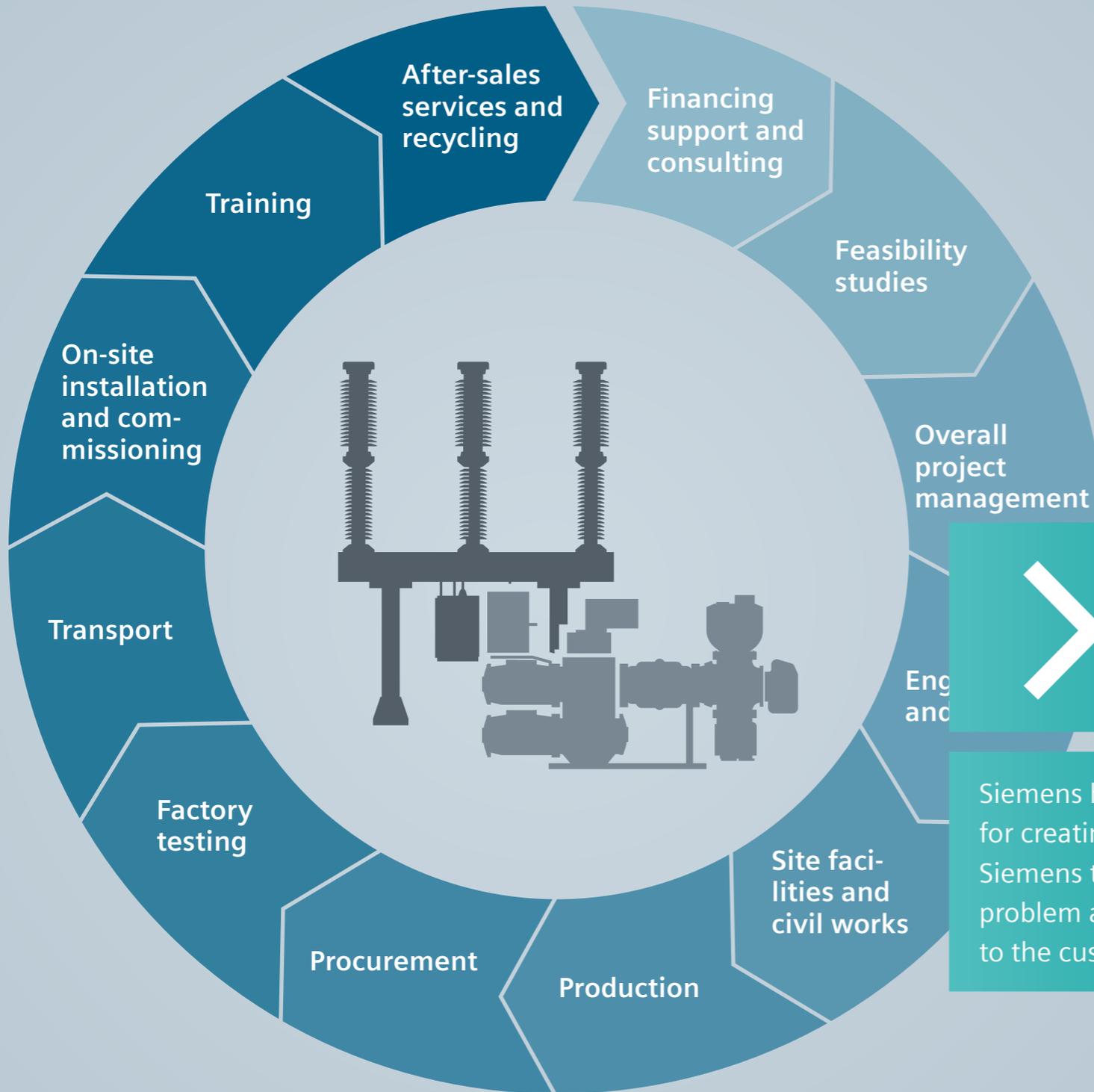


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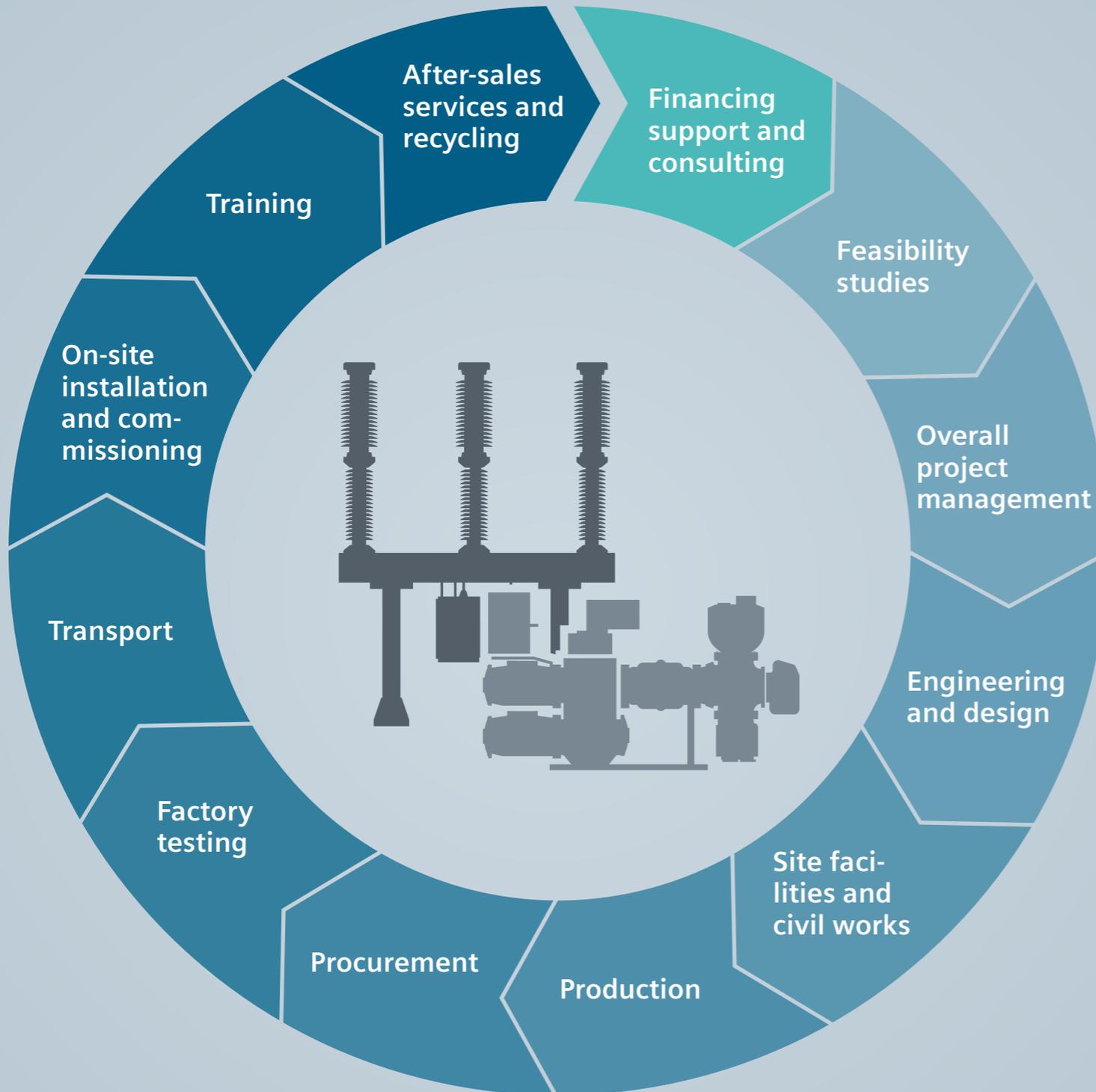
Turnkey solutions

High-voltage substations

Siemens has the necessary know-how and world-wide project experience for creating turnkey substations. Depending on the job to be done, Siemens takes responsibility for the whole power substation project; from problem analysis and finding solutions to commissioning and hand-over to the customer.

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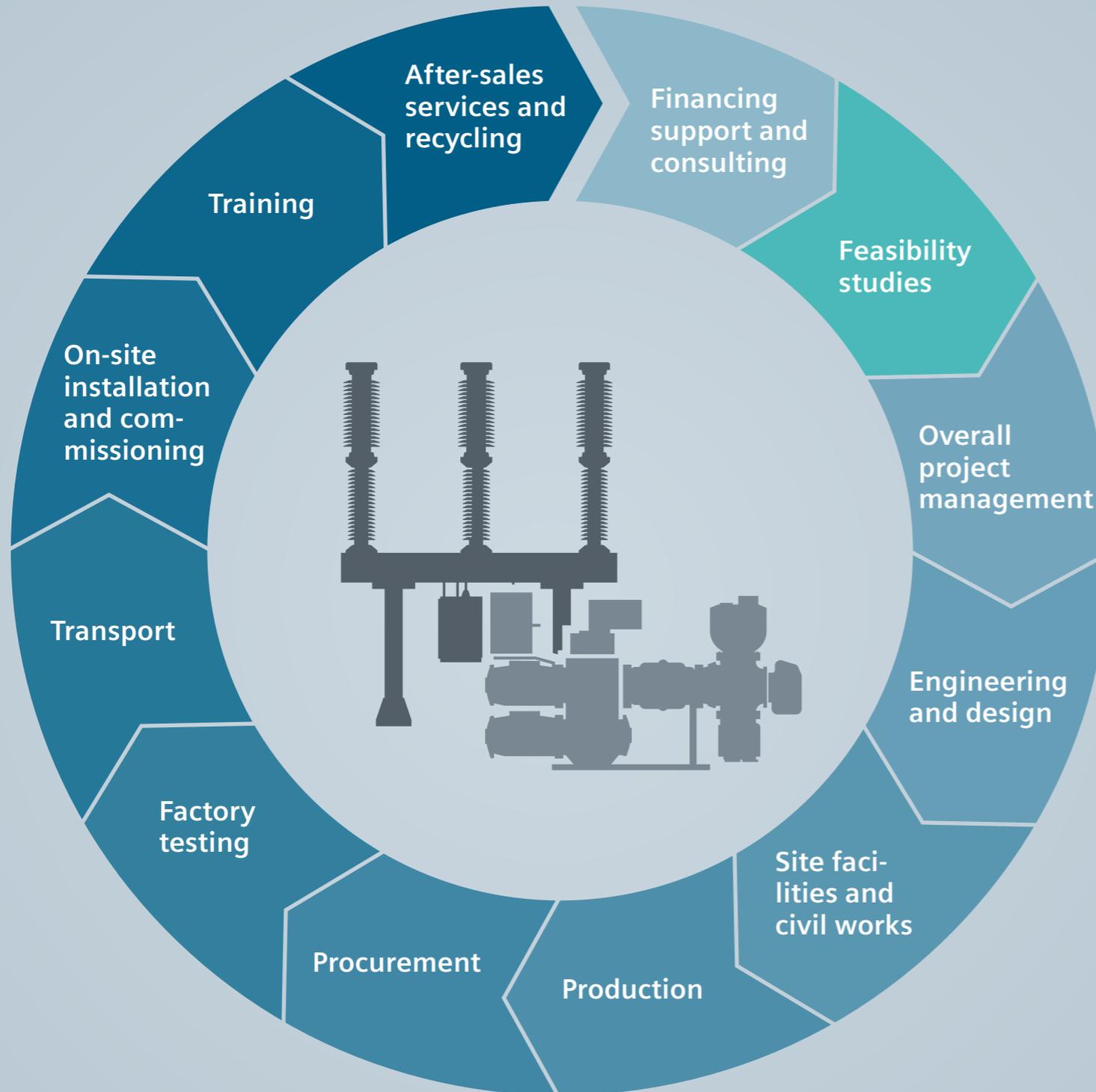


Financing support and consulting

Siemens' financial expertise and industrial know-how help customers finance infrastructure and equipment.

Learn more at:

[➤ Financial services for energy](#)



Feasibility studies

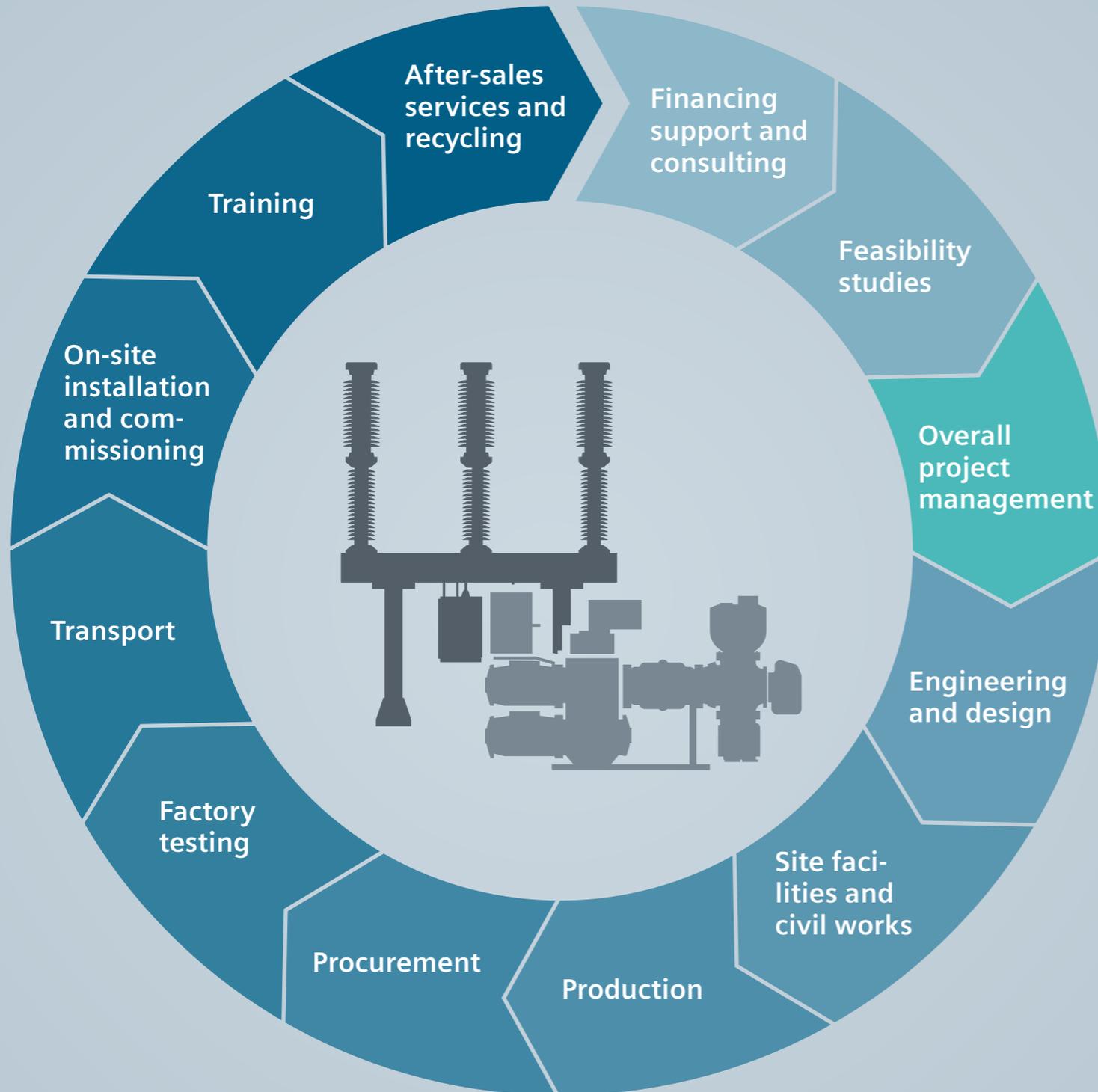
Siemens' comprehensive services start right at the earliest possible project step with feasibility studies to identify the best possible substation setup. This support is even available during the first clarification and design phase, when specific conditions, such as the site's size or location, difficult ground conditions, or urban surroundings call for a particular substation solution, for instance. Other key factors may be short construction periods, difficult site accessibility, or existing installations with the need for special outage planning. Additionally, Siemens experts can perform a thorough analysis of the whole power system upon request. This analysis is the basis for planning, installation, commissioning, operation, and maintenance of your high-voltage substation - all from a single source.

Learn more at:

➤ [Consulting an planning](#)

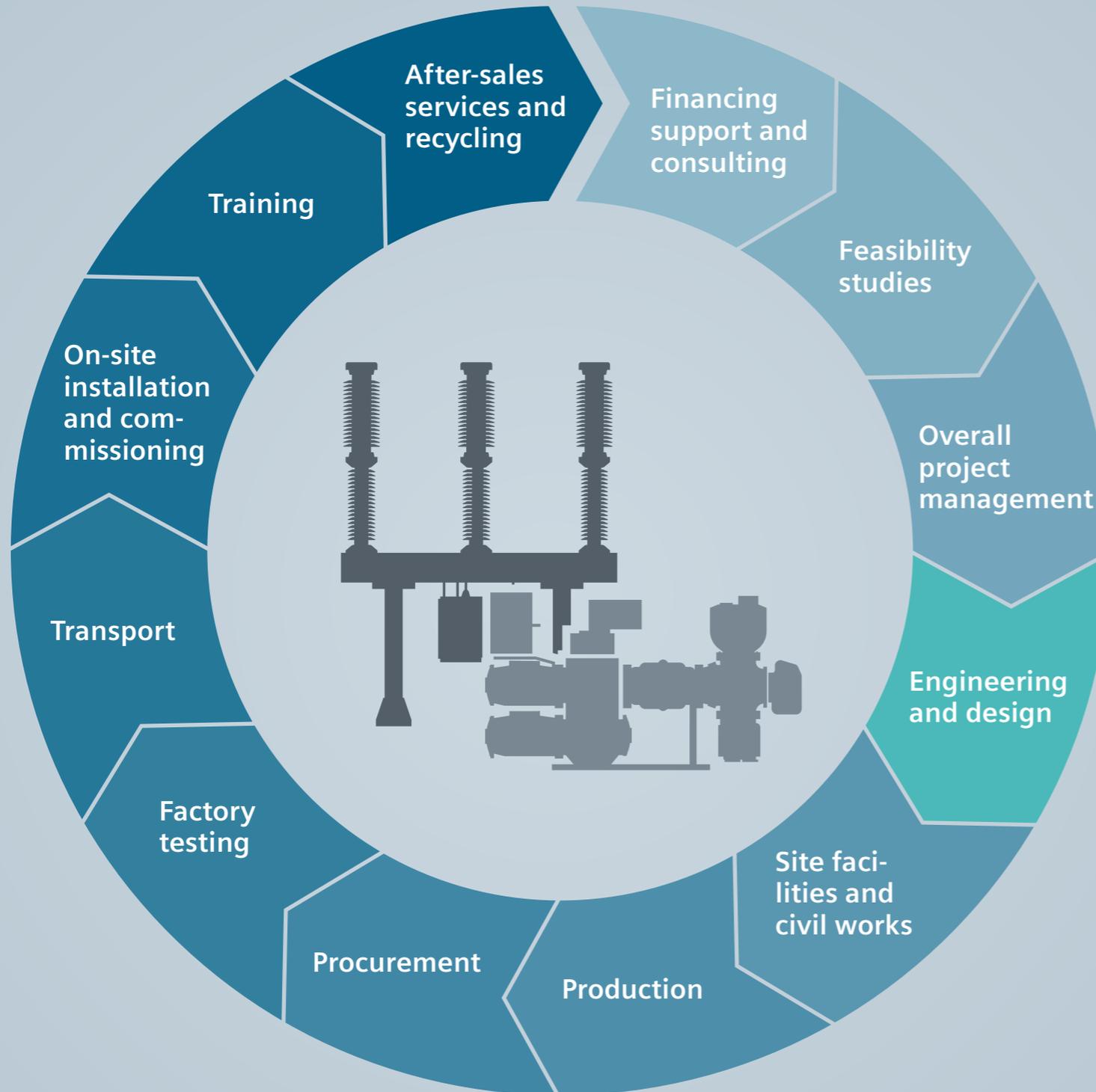
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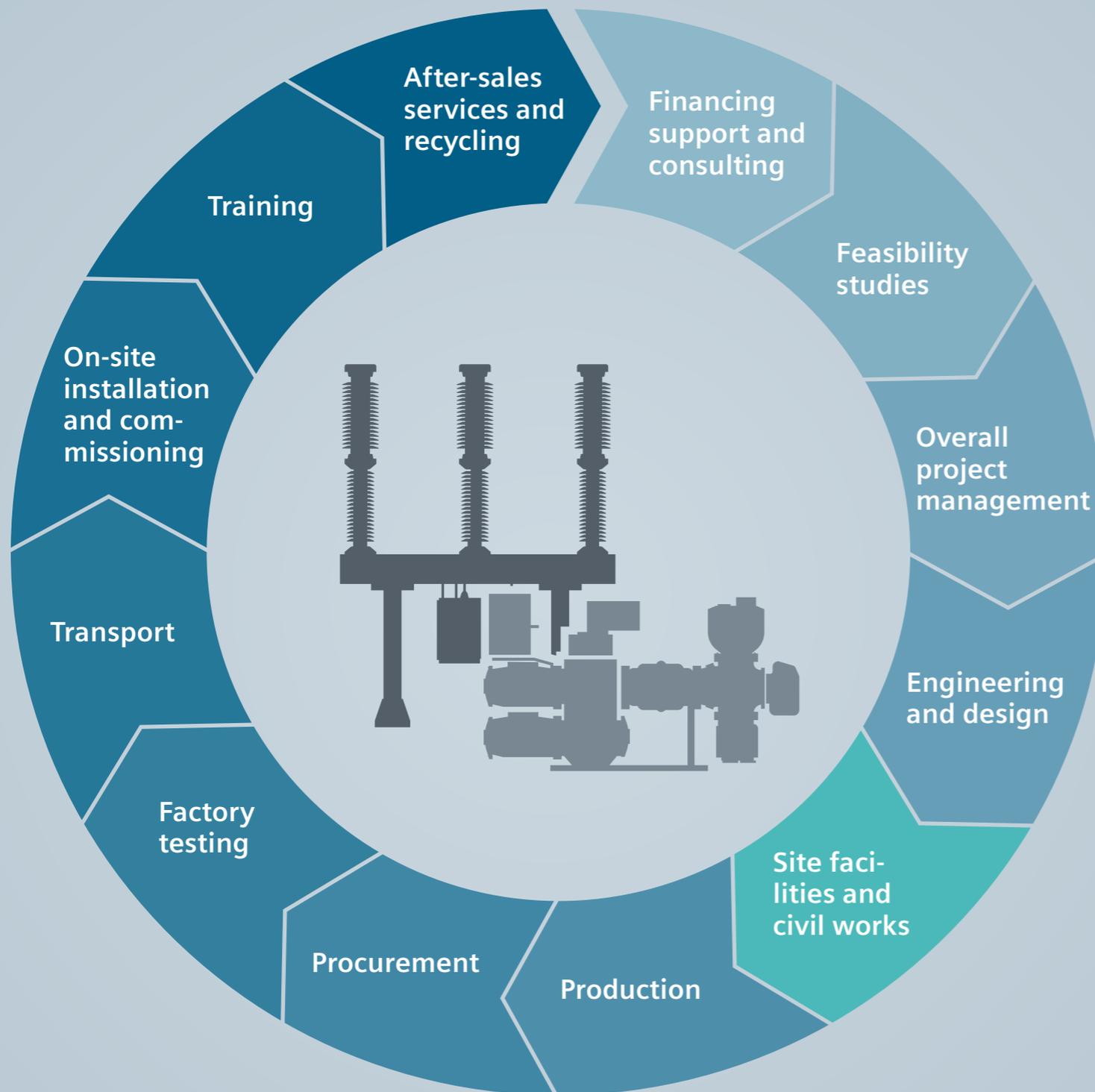
Overall project management

The analysis of the customer's requirements, an integrated approach toward project planning, and the consideration of all general conditions create value for the customer. Siemens' certified project managers handle all your turnkey substation projects systematically and in a professional way to achieve all project goals in terms of time, quality, and budget.



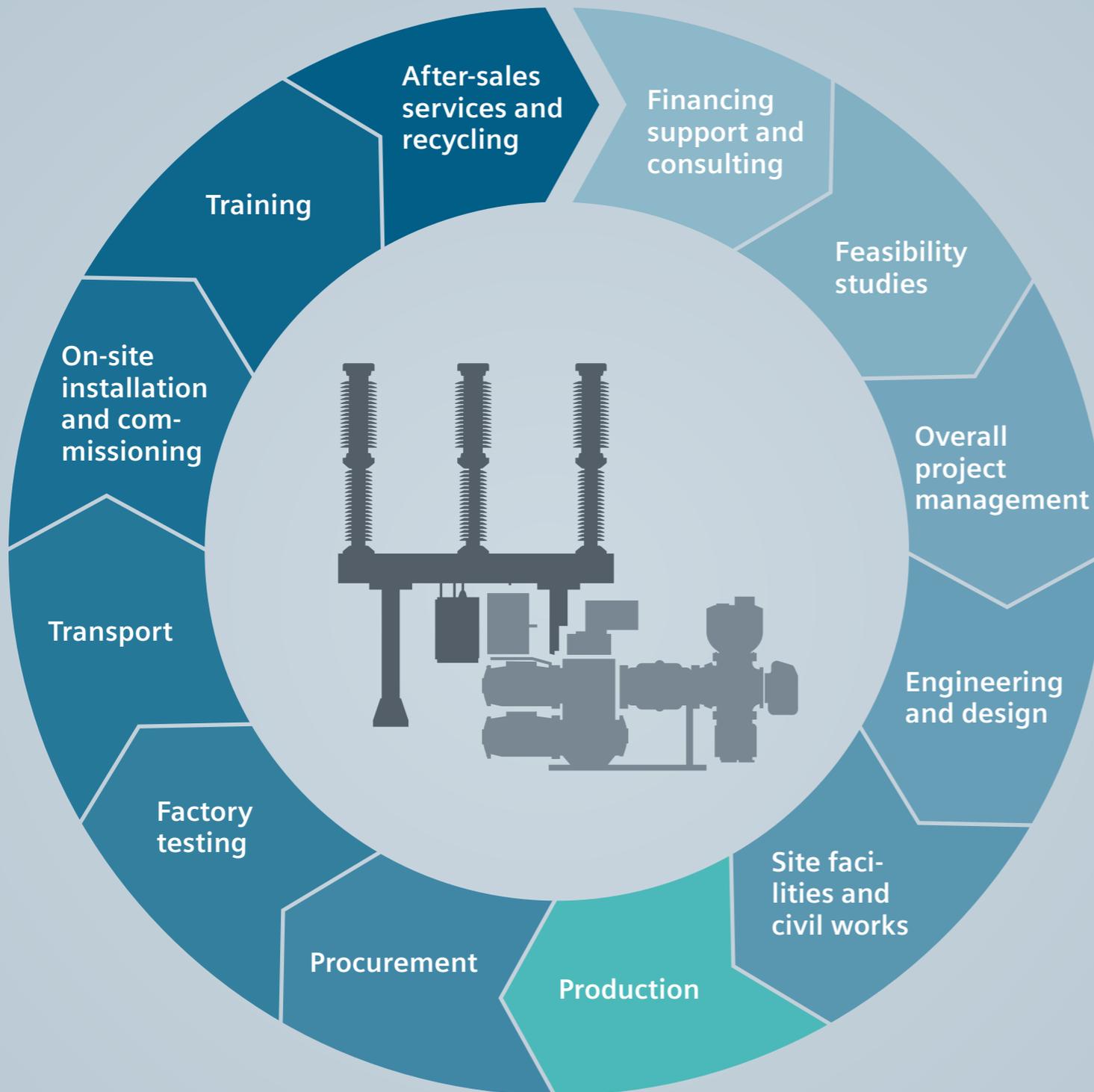
Engineering and design

Engineering and design is a special strengths at Siemens. The company's engineers can perform all studies needed for the construction of a high-voltage substation, including earthing, short-circuit, thermal, and mechanical calculations. Siemens' high standard of engineering applies to all system aspects, such as power systems, steel structures, civil engineering, fire precautions, protection of the environment, and control systems. With the aid of high-performance computer programs, such as the finite element method (FEM), installations can be reliably designed even for extreme stresses like those encountered in earthquake zones. All planning documentation is produced with state-of-the-art CAD/CAE systems, and data exchange with other CAD systems is possible through interfaces.



Site facilities and civil works

From the provision of the site facilities, surveying, soil testing, and soil preparation all the way to civil works comprising foundations, buildings, and even roads, Siemens assumes responsibility for all work required. The experience gained from the construction and commissioning of numerous high-voltage substations worldwide enables Siemens to provide high-quality civil engineering for high-voltage substation projects and to find competent and reliable local partners for all on-site civil works. Moreover, special architectural solutions for particular demands, such as the integration of substations into a certain architectural context - a car park, a residential area, or a historical building - can be delivered.

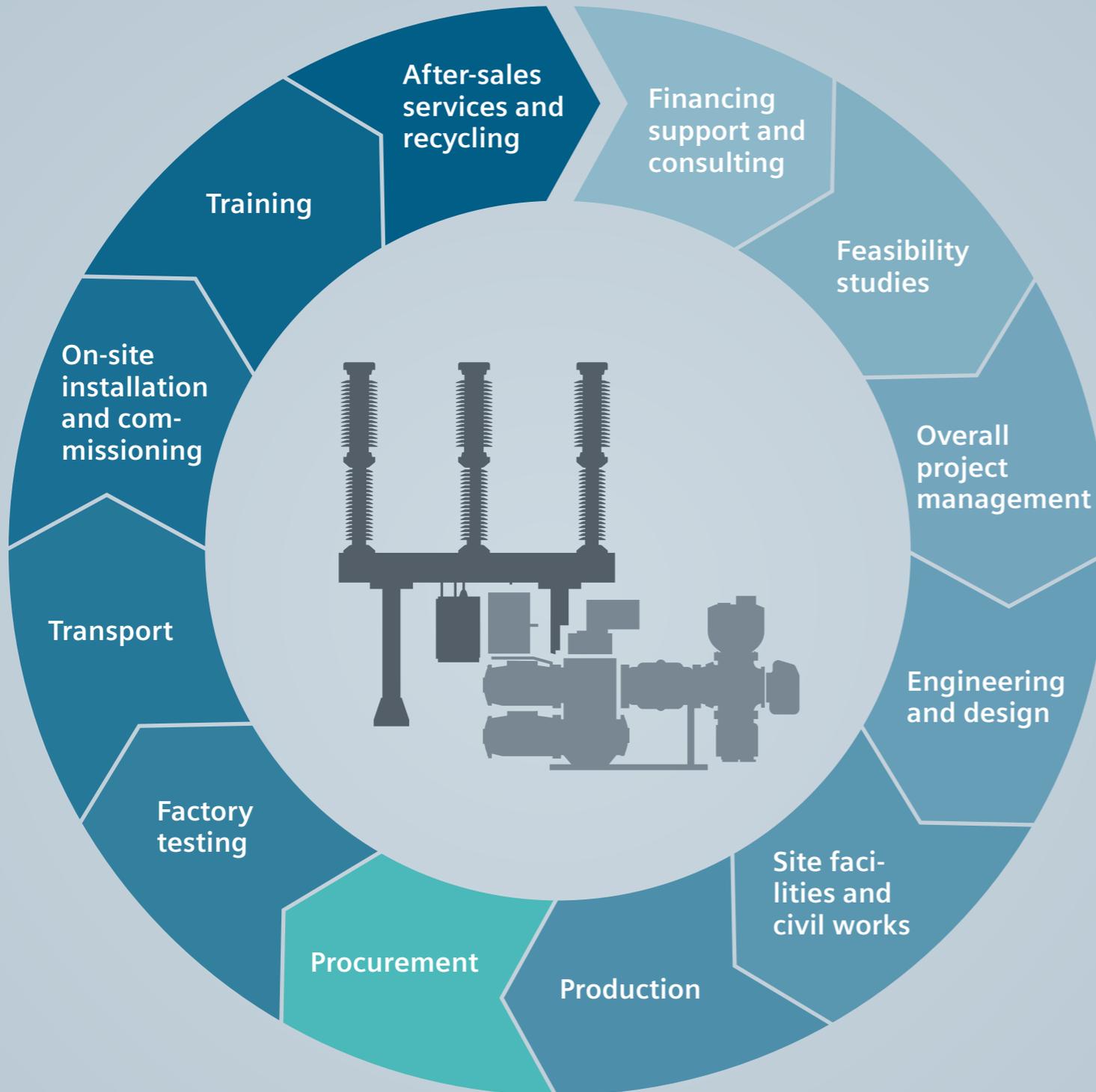


Production

Siemens provides leading technology and components for substation projects: high-voltage products and power transformers, control and protection devices, and auxiliary equipment. Maintaining production sites around the world, Siemens can ensure consistently high quality standards and the consideration of all local requirements.

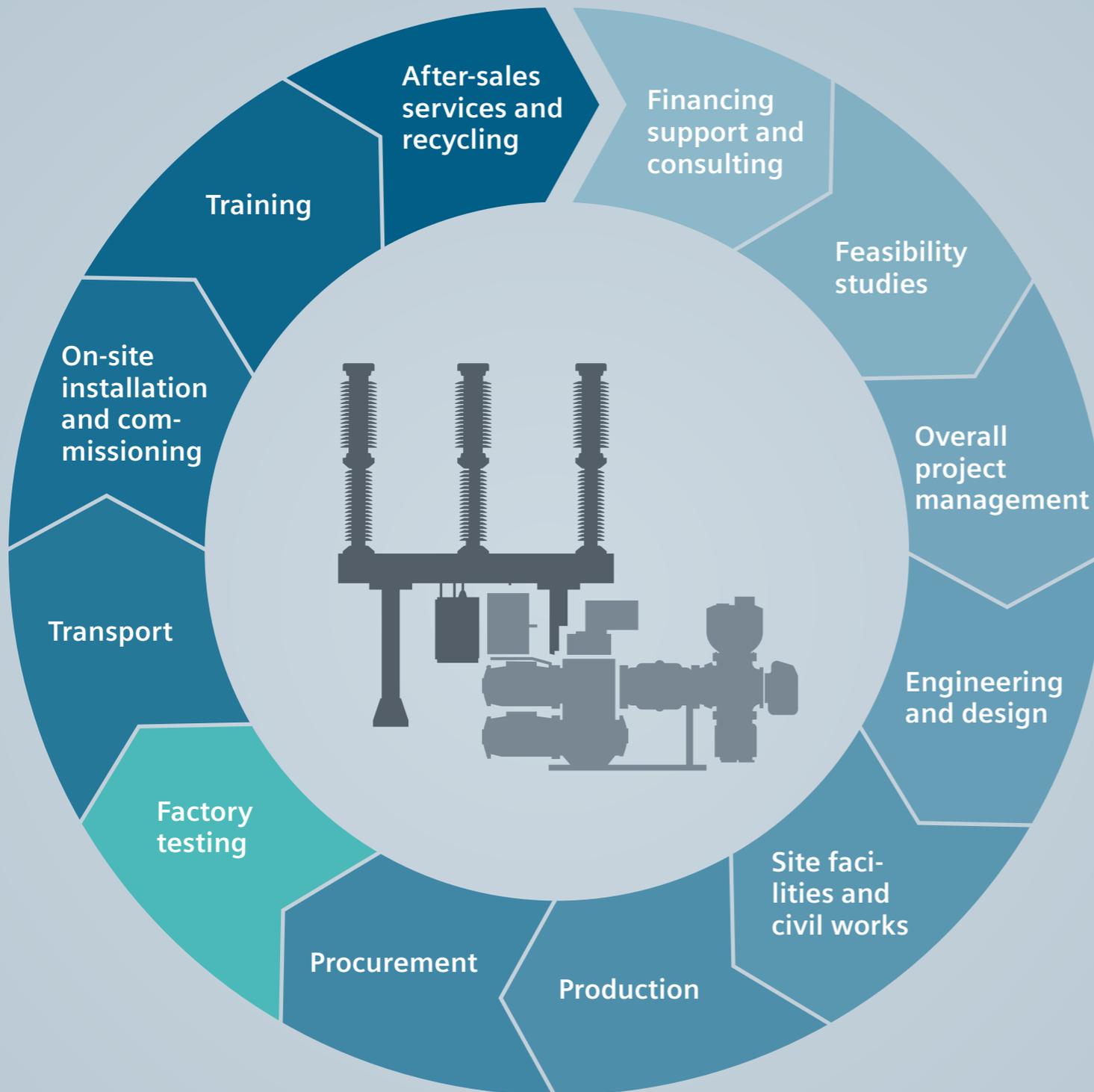
Learn more at:

- [High-voltage switchgear and devices](#)
- [Transformers](#)
- [Energy automation and smart grid](#)
- [Protection equipment](#)
- [Substation automation](#)
- [Medium-voltage - Power distribution](#)
- [Low-voltage - Power distribution](#)



Procurement

Third-party products and services will be used according to the customers' individual specifications. Siemens' extensive procurement experience and expertise enable finding the best suppliers in any case. This worldwide expertise covers major purchasing categories - from heavy equipment sales and leasing to office supplies and all the way to cleaning services.

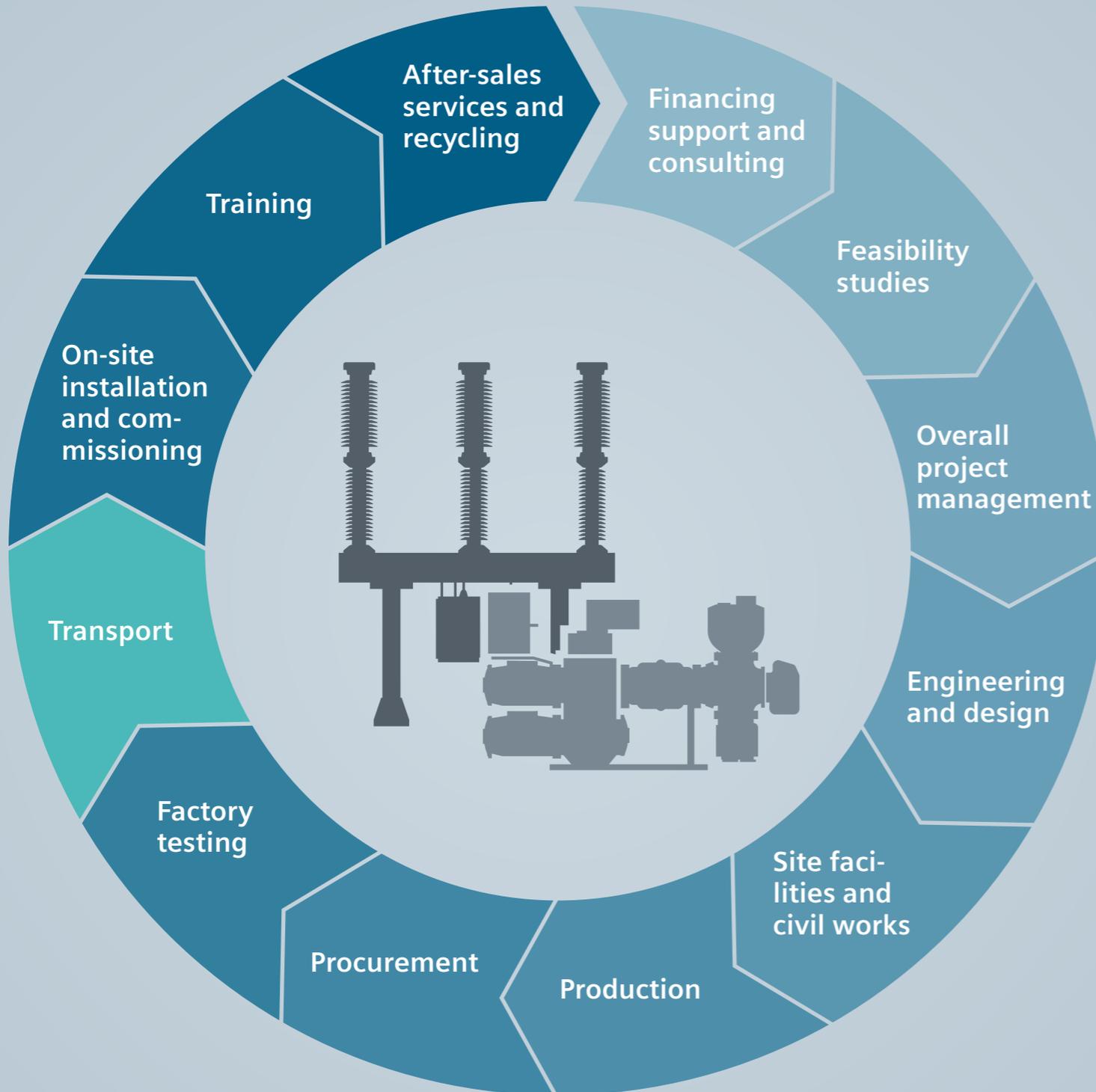


Factory testing

Siemens only uses equipment that complies with the most demanding quality and safety standards to ensure an outstanding degree of operational and personal safety. Factory testing at Siemens production facilities around the world and at certified test labs ensures the high quality and performance of all equipment used in high-voltage substations.

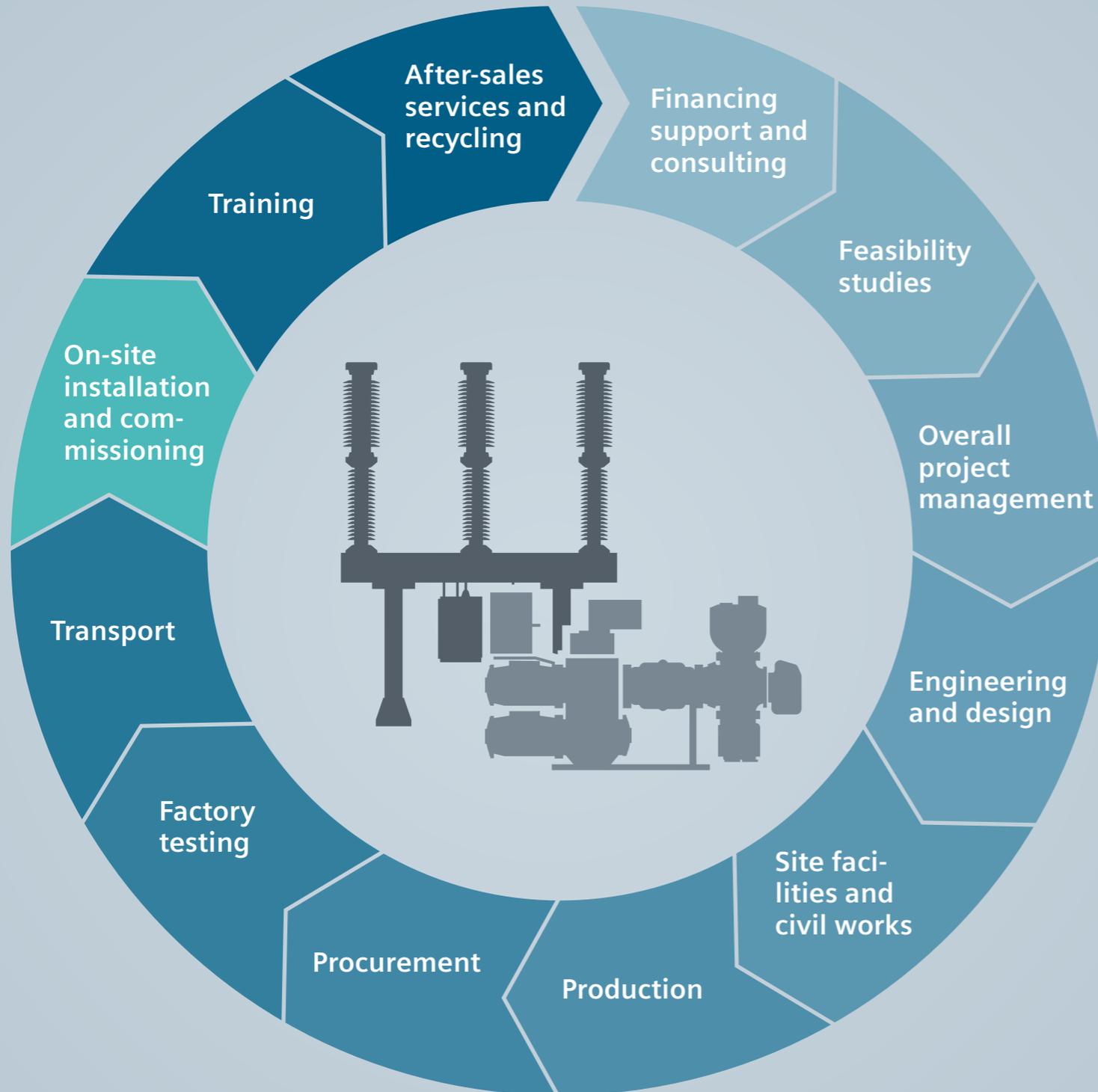
Learn more at:

➤ [Test and Research Laboratories \(Schaltwerk Berlin\)](#)



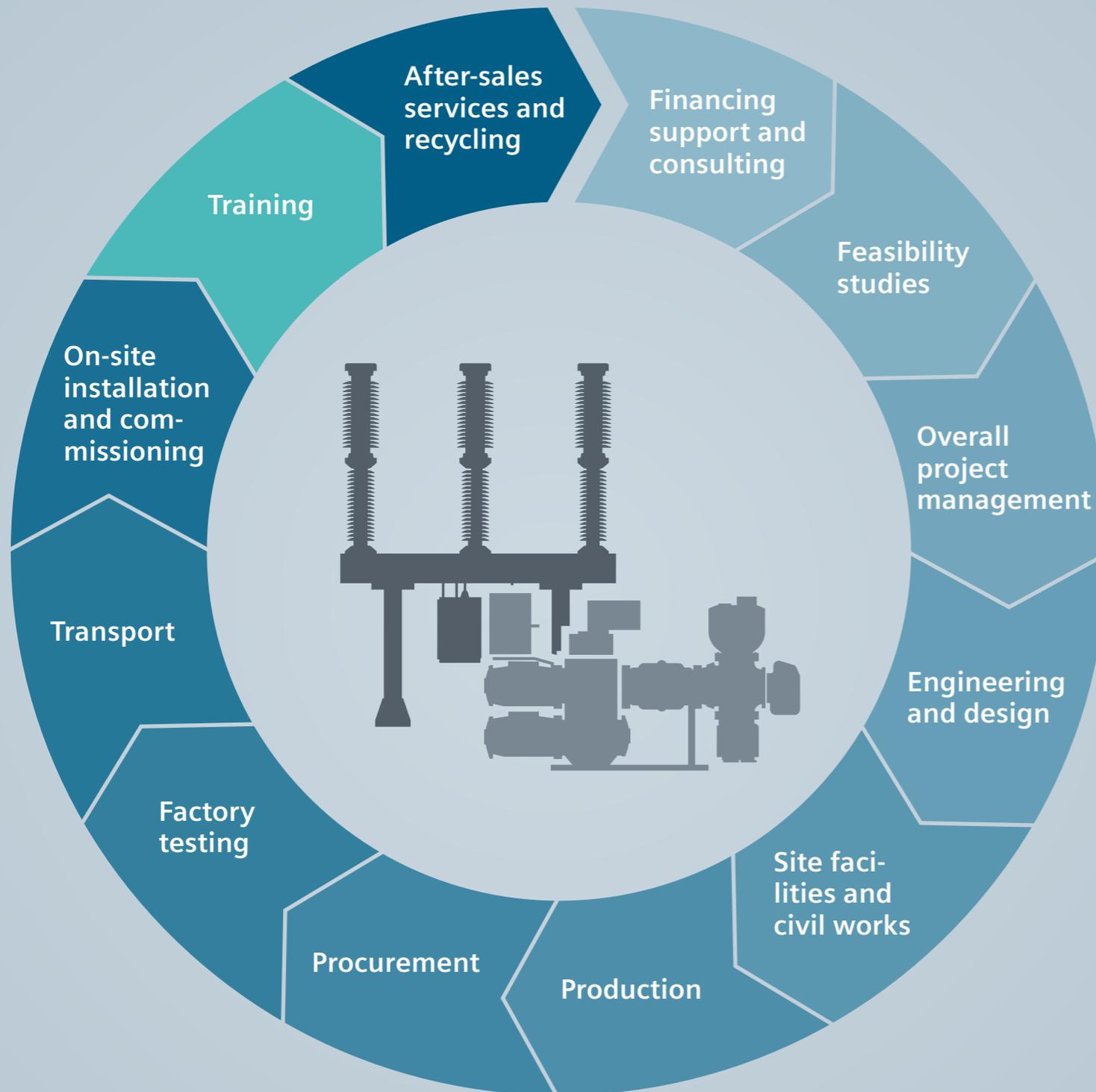
Transport

While some components of a substation may have been produced locally, others may have been shipped from other parts of the world. But wherever the various parts come from, Siemens ensures that they are all delivered to the construction site reliably and on-time. All over the world, the shipping of equipment is generally performed by reliable and trustworthy partners.



On-site installation and commissioning

Siemens experts care for the smooth and timely installation of all components and systems on-site. They also perform all required on-site high-voltage tests to ensure that the substation can be handed over within the shortest possible time and on budget. Certified skills in fields such as SF6 handling or the assembly of gas-insulated switchgear ensure the high level of qualification and professionalism of all Siemens construction and commissioning engineers.

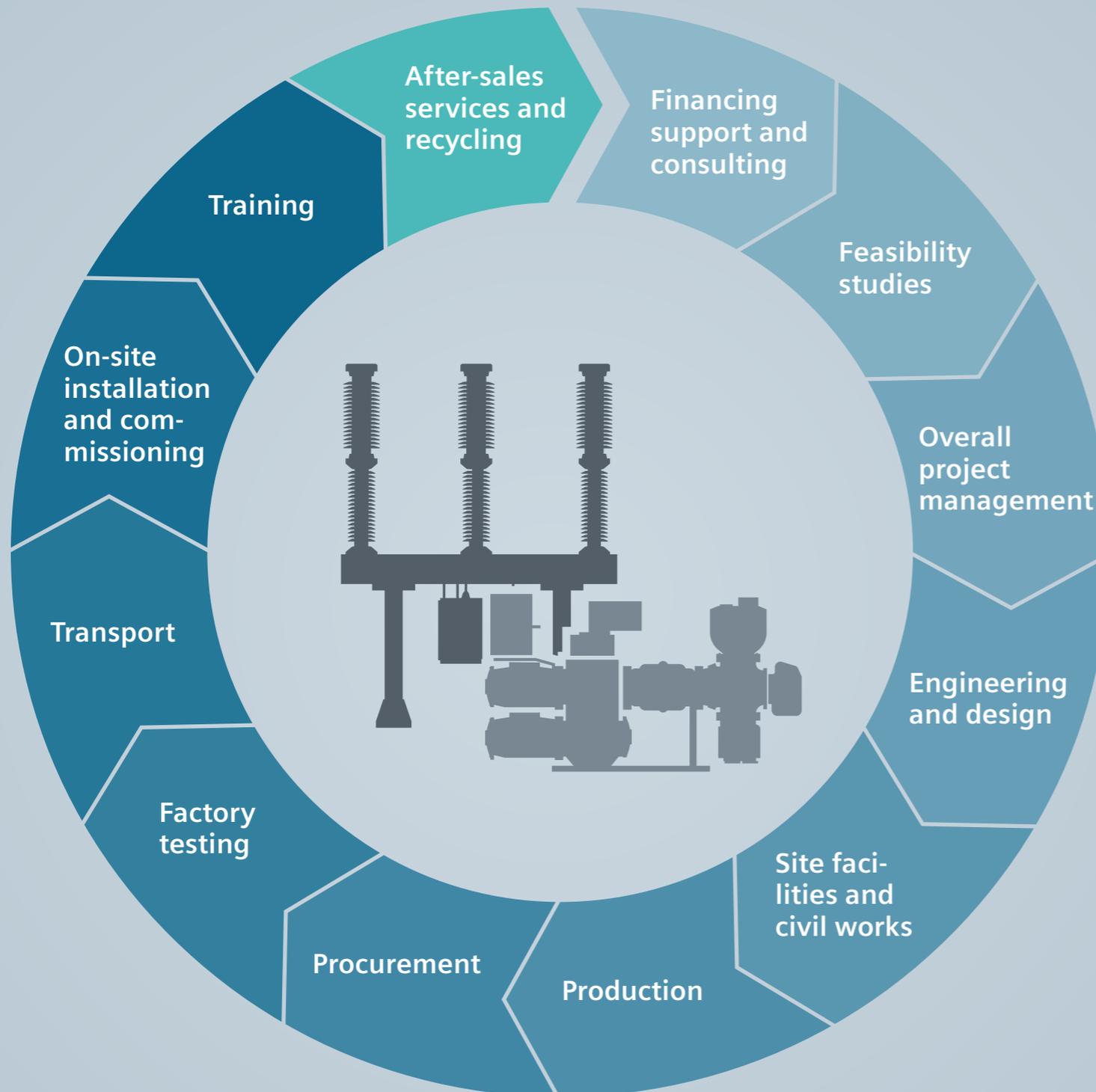


Training

Special customer training sessions all over the world held by seasoned experts ensure an even higher degree of safety, reliability, and environmental compatibility.

Learn more at:

- [Siemens Power Academy TD](#)
- [Local training from a global network](#)



After-sales services and recycling

Siemens remains an experienced partner at its customers' side throughout the entire life cycle of a substation - for servicing and maintenance and even for upgrades or disassembly and recycling. Siemens continuously maintains operator systems through regular inspections including all switchgear and secondary technology. If a malfunction occurs during operation, Siemens is immediately on the job, and support is available 24/7. With the increased use of state-of-the-art online monitoring and remote diagnosis systems, Siemens also offers additional possibilities for keeping operating costs to a minimum.

Learn more at:

➤ [Customer Portal for Power Transmission & Distribution Service](#)