FLUX

Next level
magnetics for power solutions.

Defence and Space
eMobility/Automotive
Industrial
Renewable energy

Knowledge, dedication and expertise in high-mix/low-to-medium volume magnetics

Magnetic components to power your projects

Flux is a leading expert in the development and production of magnetic components for power supplies. Our core emphasis is on providing customizability and innovation for our customers.

We specialize in the development of magnetic components for high-mix/low-to-medium volume production for industrial electronics, defence, aerospace, eMobility, transportation and renewable energy. Flux' products power our customer's projects through our in-depth knowledge and expertise from four decades of experience with every process in designing and producing state-of-the-art magnetics.

From development and prototyping through production and documentation – Flux handles every aspect of the process, delivering solutions of high complexity and quality on time and on budget.

Flux is part of discoverIE Group plc.

→ *Søren Lau Jensen, CEO*

← *Lars Gregersen, Defence and Space Sales and engineering*

↓ *John Willum, Industrial and eMobility Sales and engineering*

Power magnetics are critical components hidden deep in the core of power supplies in electronic equipment. They control and feed the power to your electrical car, your PA system, your pumps – even your booster rockets and satellites. They must never fail.

When small components make a big difference

Unlike magnetic parts in your Bluetooth speaker or your smartwatch, this type of component cannot malfunction, or the mission may fail, or the car may stop working. Flux delivers components that are the result of dedicated product development – and while we have the production setup to scale quickly to a run of thousands of identical components, mass-produced standard power magnetics are not our game. Our game is your game. The harder, the better.

Dedication for dedicated customers

Flux designs and produces critical components for advanced power solutions: Inductors, filters, transformers and chokes.

Our magnetic components are found in power solutions for eMobility, renewable energy applications, drives and the automotive industry.

We work with dedicated customers who are looking for a partner with exceptional experience and knowledge, not just when it comes to the components themselves, but in the applications as well.

As an ESA Qualified Manufacturer by Technology Flow Qualification in combination with decades of heritage designing and building inductive components to MIL-STD-981, Flux supply mission critical components to worldwide Space projects – and the dedication and perfectionism that is a must in this industry is a core value for us, no matter the application. In the automotive industry, we hold an IATF 16949 certification, and in all the other industries we serve, our dedication to quality, testing and documentation is every bit as relentless as it is in our Defence and Space projects.

Power magnetics for the most demanding applications on Earth.

And in space.

Defence and Space

Flux is one of only five ESA Technology Flow Qualified Manufacturers in the world. Our magnetic components are found in booster rockets, satellites, and in advanced deep-space missions such as ESA Solar Orbiter and the James Webb Space Telescope.

Flux has also been supplying components for flight management systems, power supplies and air-conditioning to major commercial airliners for 3 decades. Our components are built to last throughout the expected lifetime of the aircraft.

eMobility

Flux works with leading manufacturers of charging station systems and power supply systems for electrical vehicles, producing magnetics that power the future of mobility. We offer full IATF 16949 certification for our processes and AEC-Q200 for our products.

Industrial

Pumps or PA systems, robotics or drives – our inductors, chokes and transformers find their way into the heart of advanced and demanding industrial products of all sorts. When industrial robots need to be capable of stopping in a fraction of a second, producers rely on our magnetics to make this happen.

Renewable energy

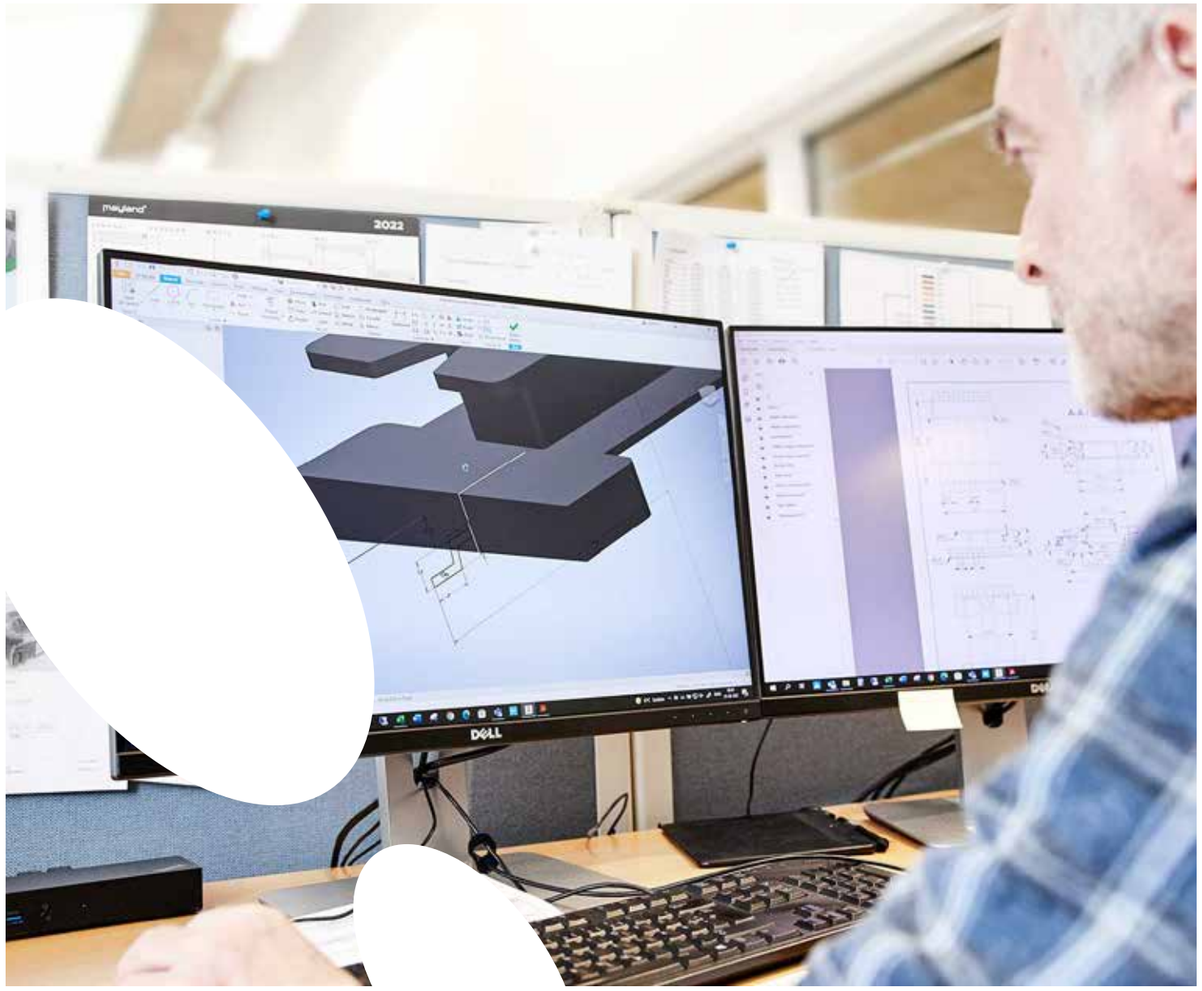
Renewable energy – wind, wave, solar and energy storage – requires advanced power solutions for signal transmission, power conversion and many other applications. Our magnetics help transform the way we produce, store and consume energy in a sustainable fashion.

Development and engineering

At our headquarters in Asnæs, Denmark, teams of dedicated engineers are ready to work closely with our customers in designing power magnetics for your projects.

You can approach us with a finished topology and trust in our expertise when it comes to optimizing materials, production design or product layout. You can also approach us with a series of requirements for your upcoming power solution project and leave the design process to us.

Our engineering department has extensive experience in the optimization of power magnetic components – not just when it comes to the topology and the design-for-manufacturing aspects of the components, but especially in terms of the materials used. In most cases, a transformer or a choke will need to be built into a larger component such as a complete power supply, and the individual components will need some form of plastic or resin encasement. This, too, is part of our core expertise. Working with trusted local and international raw material suppliers, we develop and produce every single part of the power magnetics component and scale production as needed.



Production in Denmark and in Thailand

While our components are designed in Denmark, most of our production takes place at our dedicated facility in Bangkok, Thailand.

Our IATF 16949 certified factory and warehouse facility in Bangkok, Thailand, covers an area of 2,650 square meters. This is where we place the production of all volume production of electrical components, and this is also where we carry out fast prototyping - close to our production and close to our raw material suppliers of wire, plastic casings and other components. The production in Bangkok runs 6 days a week and is partly manual, partly based on semi-automatic taping and winding machines. In Bangkok, we also offer automatic electrical testing, co-planarity inspection and tape/reel packing systems.

From Asnæs to deep space – all in the hands of experienced production staff

All components for traditional and scientific Space projects are designed, manufactured and tested in the Danish Space facility by ESA Certified operators to either MIL-STD or ESCC requirements and strict internal procedures.

Low volume and ITAR restricted HiRel Defence products are manufactured in Denmark as well. Higher volume HiRel and Defence products are manufactured in a secluded part of the industrial plant in Thailand. HiRel Defence products are produced in accordance with IPC-A610 Class 3 inspection criteria.

Both HiRel facilities manufacture products for Commercial Space programs.

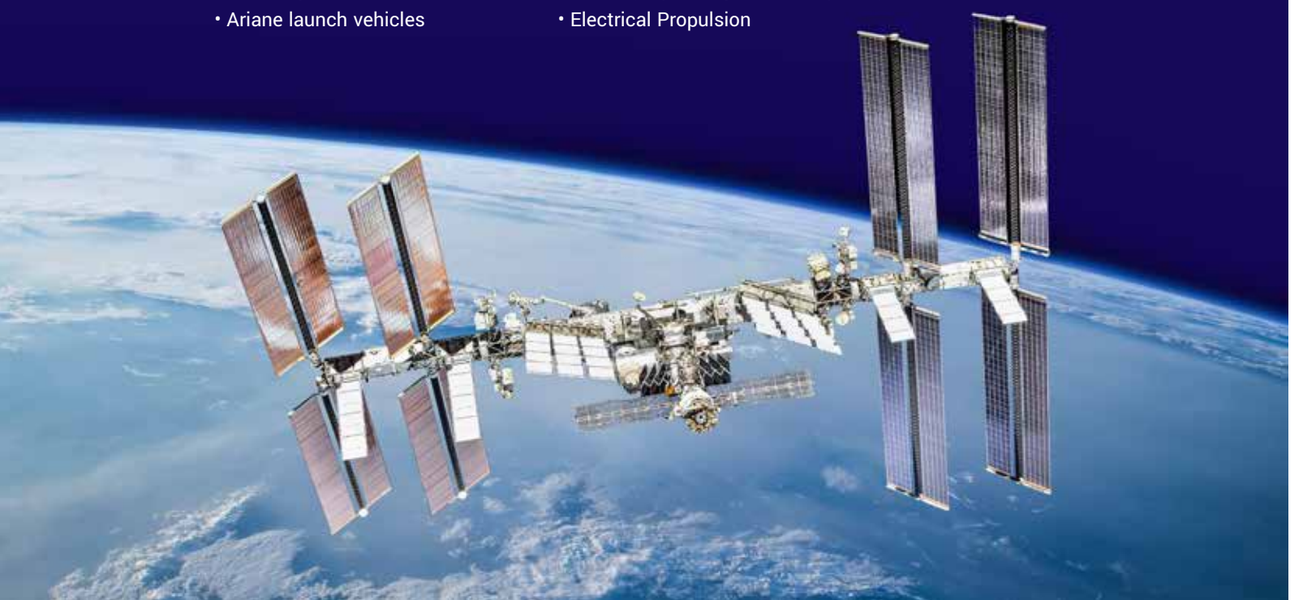
Testing

Rigorous testing and visual inspection of every single component – in every single stage of production – is a must in the space industry. For components that go into Space, we perform a series of highly documented and design specific tests to ensure that the components never, ever fail. All designs made to receive ESCC Qualified status are approved by our ESCC Technical Review Board based on documentation, production and test results of a Proto Flight Model (PFM).

In industrial and automotive applications, our testing regime is among the most demanding in the industry. In short, we never release a product that has not been tested to the limit, guaranteeing smooth and safe operation of your equipment for the entire lifespan of the final product.

Examples of missions involving
Flux components are:

- Solar Orbiter
- James Webb Space Telescope
- Galileo
- Mars Express
- Ariane launch vehicles
- Iridium Next
- Inmarsat
- OneWeb Commercial Constellation
- JUICE (JUpiter ICy moons Explorer)
- Electrical Propulsion



For decades, we have worked closely with the European and American Defence and Space industry, private as well as governmental. Flux is an ESA Technology Flow Qualified Manufacturer - one of only six such approved companies and the only one manufacturing inductive components.

Booster rockets, satellites or
deep-space missions:

If it carries the ESA logo, it carries our magnetics on board

This means that we can develop, manufacture and test magnetic components that live up to the highest standards imaginable – with a 0 % fail-rate and with stringent testing of all materials and finished products.

Our products are used for power units, motor controls, interfaces, star-trackers, science equipment, gyro, and docking systems etc.

In Aerospace and Defence, Flux has been supplying components for flight management systems, power supplies and air-conditioning for major fighter jets and commercial airliners for 3 decades.

Flux ensures that the magnetic components supplied to this industry meet or exceed the industry's stringent requirements in terms of function, reliability and non-flammability.

All our power magnetics for Space and Defence applications are manufactured in dedicated facilities according to the strictest standards of testing, quality and craftsmanship imaginable, and we place great emphasis on developing components that are capable of multiple functionalities in order to save precious space and weight.

Ion-drive motors powered by Flux

Electrical propulsion of satellites is one of the technical revolutions taking place right now – instead of launching a satellite with thousands of pounds of fossil fuel on board, satellites can now carry a few hundred pounds of electronic equipment that powers ion-drive engines. The benefits in terms of payload and launch cost are enormous. Flux is one of the world's leading pioneers in the development and production of bespoke power solutions for this novel propulsion type, working closely with leading producers of electrical space propulsion systems.

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Magnetic components for eMobility and EV charging

Electric vehicle (EV) charging stations are becoming part of the urban landscape all over the world - and a vital part of our infrastructure now and in the future. EV charging stations provide electric energy for automotive batteries - for cars, buses, trucks, possibly very soon even for planes and boats. The charging stations are standardized according to IEC 61851 and must be capable of delivering the output power and the short charging times required for charging various types of EV or PHEV (plug-in hybrid vehicle) battery.

Flux develops and manufactures magnetic components for eMobility and for charging systems for electric vehicles, such as chokes for drivetrain, high-frequency filter chokes for motor controls and inductors and transformers for charging stations and on-board charges.

Our production is IATF 16949 certified since 2020, and we offer complete PPAP documentation including IMDS + AEC-Q200 testing capabilities.

Renewable energy and Greentech

Participation in improving the global climate

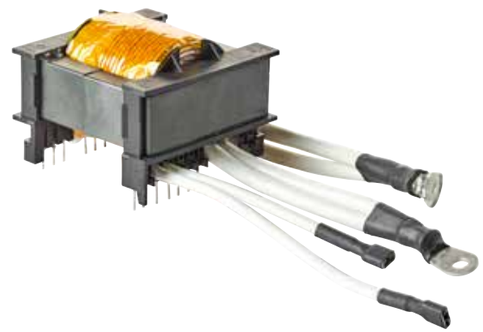
Renewable energy and Greentech are transforming the face of the planet – quite literally. Over a few decades, wind turbines have gone from being fringe technology to being everywhere, especially offshore, where the conditions are harsh, and servicing is difficult. This is why wind turbine manufacturers rely on components that will last for years and not fail.

As the wind sector has grown, the technology has matured, and advanced systems such as signal processing are now an integral part of every wind turbine. This requires sophisticate and reliable magnetic components, and Flux delivers such components to most wind turbine producers around the world.

But other technologies are emerging, too. Solar energy is booming and finding its way into new and exciting places – built into windows and roofs, or on cars and ships. Wave energy is being constantly explored, and this requires the development of durable electronic components all the time.

The energy produced in these ways needs to be stored – and energy storage requires sophisticated components to harness and process the energy.

Flux delivers magnetic components for producers of energy systems such as chokes, transformers and inductors. We bring decades of experience to the table and will be capable of adding value to your design process from the early stages of your product development all the way to production and operation of the individual systems.



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Large scale quantities to industrial applications

Flux develops, designs and manufactures custom made and standard-range magnetic components for all types of industrial applications. Our main expertise is within robotics, drive systems and large-scale audio systems such as PA and concert sound systems. In the booming field of robotics, producers of industrial robots and collaborative robots rely of Flux to deliver solenoids for emergency stop systems for robotic arms, where reliability and safety are paramount.

Flux develops and manufactures transformers, inductors and chokes for switch-mode power supplies used in industrial drives and pumps.

Our design services act quickly and can help you develop or perfect any topology in terms of size, form factor, performance and materials. You can approach us with a clearly defined product topology, or you can ask us to develop the component from the bottom up - we will almost always be capable of optimizing any design and finding a better way to produce quickly and cost-effectively in quantities up to 1 million components. We apply our extensive knowledge about materials, standards, production methods and topologies to deliver an optimized solution for you.

Flux delivers high performance components in large-scale audio systems such as PA and concert sound systems.

discoverIE Group provides application-specific components to original equipment manufacturers ("OEMs") internationally. By designing components that meet customers' unique requirements, which are then manufactured and supplied throughout the life of their production, a high level of repeating revenue is generated with long term customer relationships.

With a focus on key markets driven by structural growth and increasing electronic content, namely renewable energy, medical, transportation and industrial & connectivity, the Group aims to achieve organic growth that is well ahead of GDP and to supplement that with targeted complementary acquisitions.

The Group has an ongoing commitment to reducing the impact of its operations on the environment, while its key markets are aligned with a sustainable future.

The Group's continuing operations employs c.4,500 people and its principal operating units are located in Continental Europe, the UK, China, Sri Lanka, India and North America.

The Group is listed on the Main Market of the London Stock Exchange and is a member of the FTSE250, classified within the Electrical Components and Equipment subsector.

Part of an international group of companies designing innovative components for electronic applications

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