

Next Generation Engineering Design Software

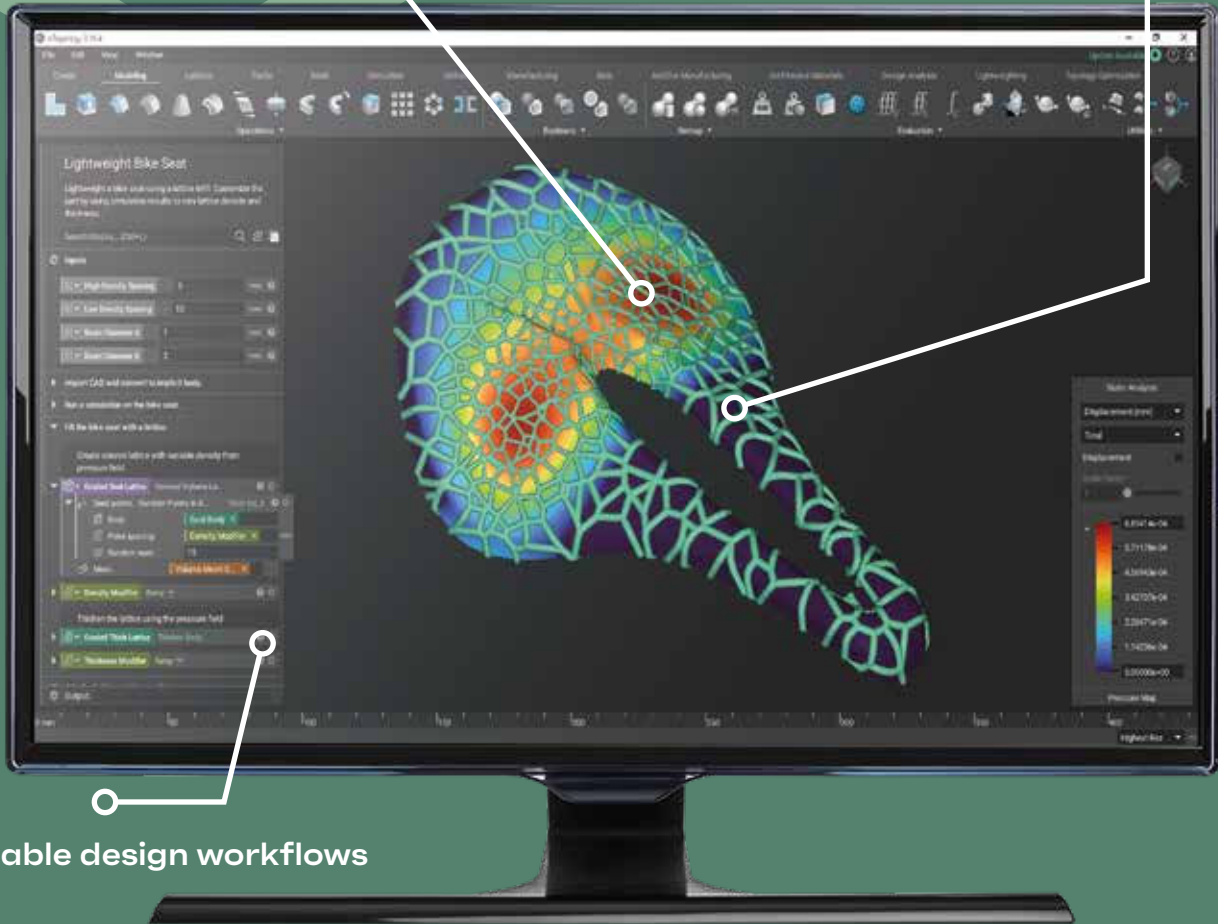
Accelerate your design and engineering process
with nTopology.



The world's leading next generation engineering design software.

Field driven design

Unbreakable Geometry



Reusable design workflows

Field driven design

Within nTopology, every physical quantity can be described as a field: the geometry of a solid body, the value of a design parameter, simulation results, experimental measurements, engineering or manufacturing data... nTopology gives you the unique capability to overlay different types of fields and use them to generate complex part geometry with complete control.

Unbreakable Geometry

At the core of nTopology lies an implicit modelling engine. In implicit modelling, every solid body is described by a single mathematical equation. nTopology's unbreakable geometry engine enables lightning-fast design iterations and eliminates design bottlenecks in advanced product development.

Reusable design workflows

No need to begin from scratch every time you start a new project. Create reusable design processes that automate repetitive tasks and capture engineering knowledge and design intent. Create a custom design workflow. Package it in a version-controlled custom block. Rerun it using new inputs. Share it with your team and distribute knowledge in your organisation.



— nTopology

The future of engineering design

nTopology was founded in 2015 to enable engineers and designers to generate any geometry, no matter how complex, to meet the engineering demands that high-performance products require.

The award-winning, nTop Platform, is used from research through to production to create breakthrough processes and products for the aerospace, automotive, medical, and consumer industries. These customers depend on the generative design capabilities to take advantage of new hardware and optimise parts where performance is critical and traditional CAD tools fail to perform.

At the core of nTopology lies its unbreakable implicit modelling engine; a technology that nTopology pioneered for applications in engineering design. It enables lightning-fast design iterations and eliminates the bottlenecks of traditional modelling technologies.

In the world of Advanced Manufacturing, machines, materials and expertise have ramped up significantly in recent years.

However, engineers are still designing parts with traditional software, aimed at traditional manufacturing techniques. This has created a situation where engineers have the potential to manufacture parts that are far more complex and varied than can currently be designed with traditional tools.

nTopology is closing this gap and allows designers and engineers to really leverage the benefits of Additive and Advanced manufacturing, especially in the areas of Lightweighting, Architected Materials, Thermal Management, Industrial Design, Mass-customisation and Manufacturing/Tooling.

Forbes

MachineDesign

DesignNews



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Lightweighting

Lightweighting means “doing more, with less” and offers benefits beyond just material reduction. A lighter component leads to improved performance, increased energy efficiency, reduced manufacturing costs and greener products. Engineers can very quickly apply lightweighting techniques using nTopology’s optimisation tools at lightning-fast speeds, enabling enormous weight savings across a vast range of different parts.



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Architected Materials

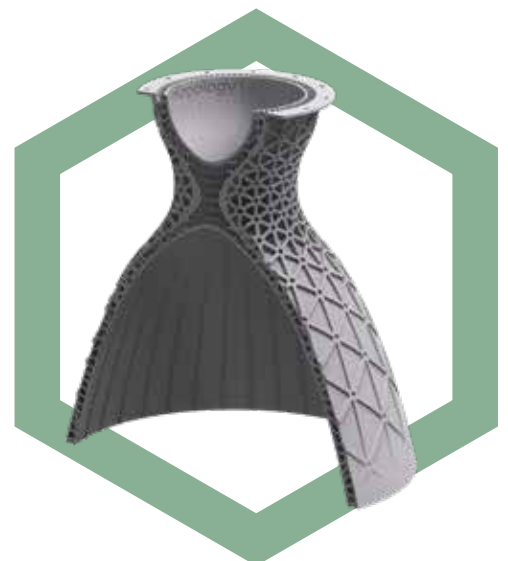
Architected materials can achieve previously unattainable material properties and design structures with a targeted physical response. Helmets and impact protection are excellent applications, their high customisability and low density allow for highly tuneable crush responses optimised for the relevant impact conditions.



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Tooling & DfAM

As additive manufacturing has shifted focus from prototype to full scale production there is now a need for software to ensure that parts are efficiently designed for AM. nTopology achieves this in a number of ways with self-supporting lattice structures for hollowed parts and heat exchangers, the ability to fine tune overhanging faces within topology optimisations, build preparation features to create support structures, and the ability to slice directly from Implicit models.



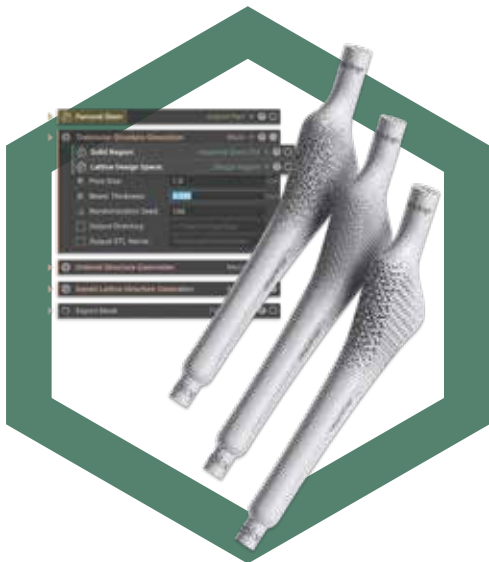
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Industrial design

With additive manufacturing, the boundaries of design are no longer limited to the manufacturing process determining the intricacy of a product. nTopology's field driven design allows users almost unlimited possibilities within a design, and the ability to very quickly generate and analyse huge numbers design iterations.



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Patient Specific Devices & Mass customisation

Accelerating or automating the design processes can give companies a distinct advantage over their competitors. nTopology's ability to create reusable workflows drastically reduces the users time to market. More important, however, is the life changing impacts this can have when a patient requires a specific implant, custom cranial plate or bespoke orthotic.



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Thermal Management

Take heat exchanger design to the next level with advanced and high performance geometries fully optimised using data from fluid flow analysis and heat maps to create the most efficient, compact and lightweight design possible. In one example nTopology was able to unlock a 300% increase in heat transfer surface area whilst also delivering a 25% weight reduction.



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Products

MSL combine decades of engineering experience with industry-leading manufacturing partners to help improve manufacturing workflows and processes. Together, we help bridge the gap between design, manufacturing and inspection.

Projection

- Virtek IRIS 3D
- Virtek IRIS SPS
- Virtek IRIS Activetrack

Scanning

- GOISCAN 3D
- HandySCAN 3D
- MetraSCAN 3D
- Maxshot 3D
- SmartDent

Metrology

- Coord 3 CMM
- Kreon Technologies
- Cube-R
- MetraSCAN-R
- HandyPROBE
- RoboSCAN-R

Software

- Metrolog X4
- Silma-X4
- nTopology
- VX-Model
- VXinspect
- VX-Scan-R



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