

Press release, 26 September 2022

spherene shapes the future of additive manufacturing with Autonomous Design

Participation in the Formnext fair and trial packs for printing ADMS structures

Zurich-based software company spherene brings its ADMS technology to the public. At this year's Formnext in November – considered the world's largest meeting place for the professional scene around additive manufacturing –, spherene will present their latest development, which allows the benefits of ADMS technology to be applied to users' models. Also, trial packs with three models to test the cutting-edge technology are now available for any 3D printer.

Last year, the spherene team was already part of Formnext, RAPID + TCT 2022 and other various industry-specific, international events and trade fairs in the field of additive manufacturing. Now, from November 15-18, the engineers will present their latest developments at **Formnext** in Frankfurt/Main, **Booth 12.0 - B81N**, thus furthering the company's goal of advancing 3D printing and enabling a resource-conserving, energy-saving economy.

The future of additive manufacturing: Autonomous Design

For a long while, technical difficulties, cost and time constraints were major obstacles, but with the rise of 3D printing, a new era in industrial manufacturing has begun. spherene's software solutions start from there and tackle all these problems. Their proprietary technology is based on Adaptive Density Minimal Surfaces (ADMS), which are new kinds of minimal surfaces representing optimal geometry. They become accessible through spherene's software and deliver reliable, repeatable and verifiable results.

The ADMS technology belongs to the field of Autonomous Design, the algorithm-based design process that involves calculating the optimal geometry within set parameters. The spherene team is convinced that the precise outcomes, the designs with technical excellence, and the fast processing will revolutionize the industry.

Trial Packs: ADMS Technology to try out

spherene is based on a strong maker spirit and therefore invites users to experience the benefits of ADMS technology for themselves. That's why they have developed a trial package that includes three models that can be printed with any 3D printer. One of them has been created with sphereneMAKE, the upcoming software product that, as a web service for makers, automatically infills uploaded 3D meshes with the ADMS structure. Also the other models are created with the unique structure and profit from all its benefits: fine-walled, supported internal overhangs, and stable walls and tops. The package is available for download on the website.

For more information, as well as individual appointments or interviews during or before Formnext, please contact press@spherene.ch

Please visit our press kit section on the website for further material (media releases, high resolution images, videos): [spherene Press Kit](#)

Formnext 2022: 15-18 November 2022, Booth 12.0 - B81N

As the leading industry platform for Additive Manufacturing and industrial 3D Printing, Formnext is the international meeting point for the next generation of intelligent industrial production. In Frankfurt am Main as well as digitally.

[Website](#)

spherene AG is a software company founded in 2018 that is using its proprietary ADMS technology to calculate the optimal structure for any conceivable space, transforming the field of additive manufacturing. ADMS is based on an innovative minimal surface, which consists of two interwoven spatial structures and thus enables maximum stability with the smallest possible surface area – reducing resources, energy and complexity. Our software products and engineering projects using the ADMS algorithm enable seamless integration into existing work processes.

[Website](#)



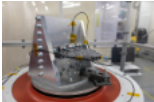
ESA OSIP Satellite Bracket, 3D-printed in aluminium

ESA_OSIP_Satellite_Bracket_003_Printed_in_Aluminium.png



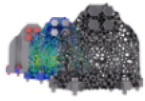
spherene Engineer Aurel Schüpbach holding the 3D printed

ESA_OSIP_Satellite_Bracket_001.jpg



ESA OSIP Satellite Bracket vibration testing at Fachhochschule Nordwestschweiz Brugg-Windisch according to ESA standards.

ESA_OSIP_Satellite_Bracket_002_On_Vibration_Test_Bench.jpg



ESA OSIP Satellite Bracket ADMS process. Specify boundary conditions and design space, ADMS creation for printable part.

ESA_OSIP_Bracket_ADMS_Process.png



GE-Bracket ADMS process. Specify boundary conditions and design space, ADMS creation for printable part.

GE_Bracket_ADMS.png



Shoe insole in cooperation with Voxeljet

ADMS_Shoesole_001.png



Shoe insole in cooperation with Voxeljet

ADMS_Shoesole_002.png



Bike helmet use case in cooperation with Voxeljet

Bike_Helmet_Use_Case_Voxeljet.png



Different infills generated using upcoming sphereneMAKE web service targeted at makers who want to benefit from a new infill method using ADMS, allowing strong infills. Demonstrates that sphereneMAKE can either generate always the same infill or everytime a slightly different infill.

sphereneMAKE_Bunny_Lineup.png



Section of a Stanford Bunny, infilled using sphereneMAKE web service, targeted at makers who want to benefit from a new infill method using ADMS, allowing strong infills.

sphereneMAKE_Bunny_ADMS_Infill.png



Support free Aluminium 3D-printed adaptive density gradient cube showcasing spherene's ADMS, Adaptive Density Minimal Surface technology.

ADMS_Gradient_Cube_Aluminium_Printed_Support_Free.png



Support free 3D-printed adaptive density gradient cube showcasing spherene's ADMS, Adaptive Density Minimal Surface technology. FDM, SLS and SLA printing method.

ADMS_Gradient_Cube_FDM_SLS_SLA.png



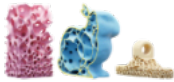
Support free 3D-printed ADMS demopart. Printed using SLA using Polyspectra's high performance resin.

ADMS_DemoBracket_Polyspectra_Material.png



Support free 3D-printed ADMS demopart. Printed using SLA using Polyspectra's high performance resin.

ADMS_DemoBracket_Polyspectra_Material_001.png



The best way to experience how our ADMS structures work is to see the printed results. That's why we have created a trial package with models (The cross section of a bunny) generated by sphereneMAKE – our newly launched web service that makes our ADMS technology accessible for public use.

- Two models showcasing our ADMS technology
- One model showcasing our sphereneMAKE service
- Suitable for any 3D printing method (FDM/SLA/SLS/SLM)
- Supported materials: filament, resin, metal, ceramics
- No need for an additional support structure

Trial_Sample_Pack.png



Section of a Stanford Bunny, infilled using sphereneMAKE web service, targeted at makers who want to benefit from a new infill method using ADMS, allowing strong infills.

spherene_MAKE_Bunny_ADMS_SLA.jpg