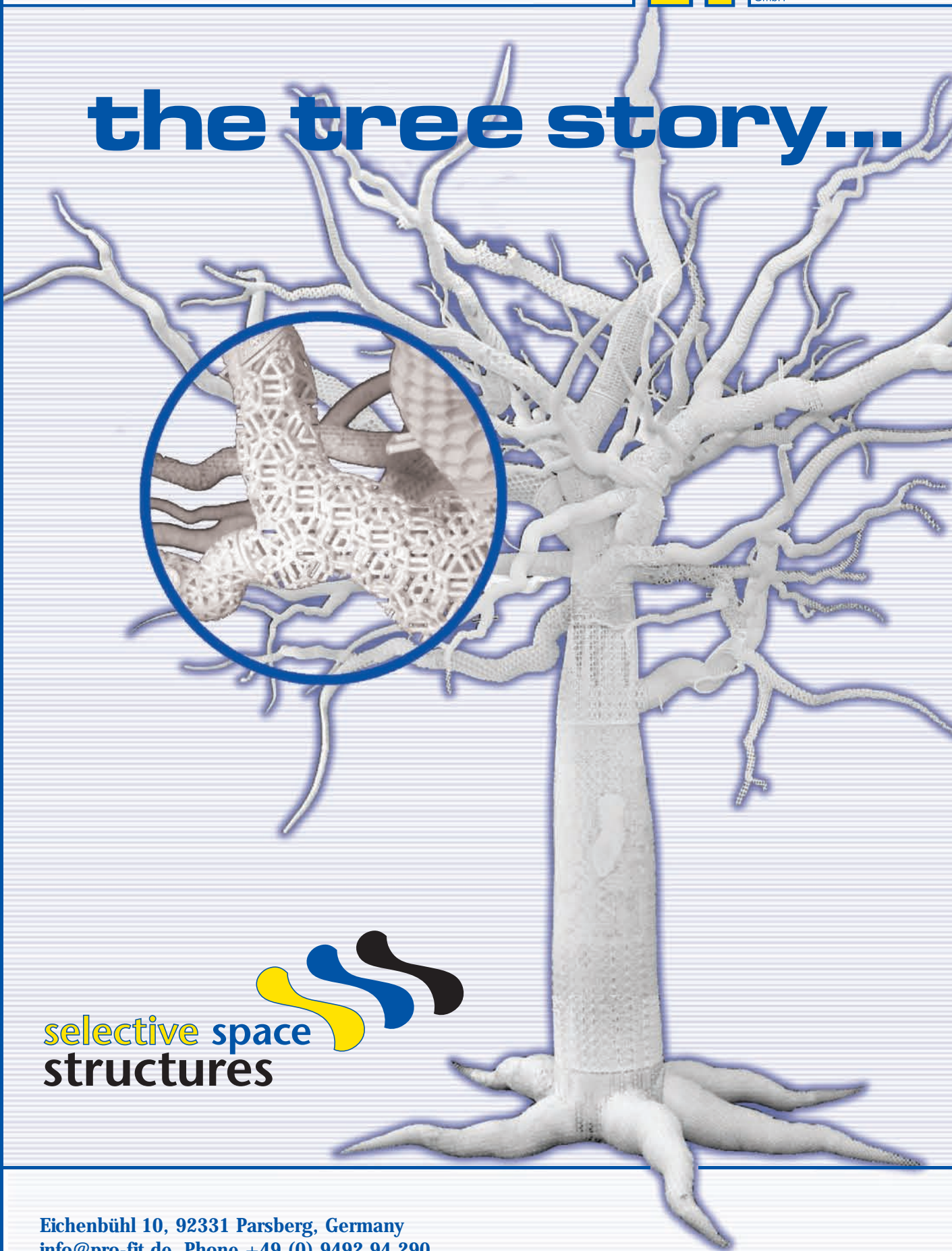


the tree story...



**selective space
structures**



... be the first

■ The purpose with the tree is to stimulate the mind of the viewer and demonstrate the creative possibilities offered by additive manufacturing. The tree is completely built in a lattice style geometry called selective space structures. Selective Space Structures is a technical innovation that expands the structural design possibilities for engineers, designers and artists. Be inspired!

The data for the tree was created in a Povray tree generator. After conversion into STL format all following steps was carried out in the Selective Space Structures (3S) module of the Netfabb software. The 3D data is generated from unit cell geometries that have been applied to the 3D model of the tree by automatic scripts and transition rules. Different unit cell structures are automatically connected with each other in the software. The result is a complex model that is defined with a minimum of computer memory requirements.

The slice data was exported from the 3S software in SLI-format and the tree was built in polyamid 12 in

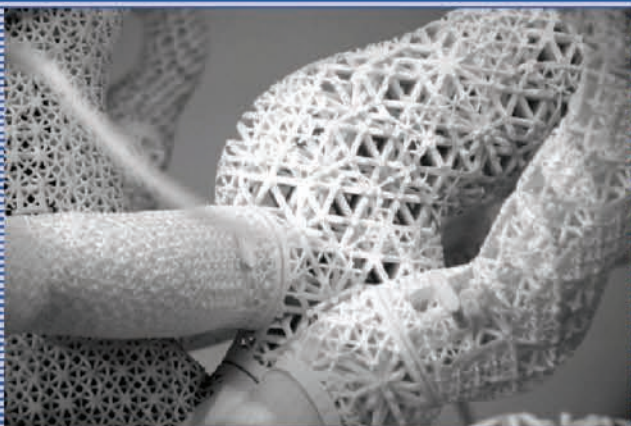
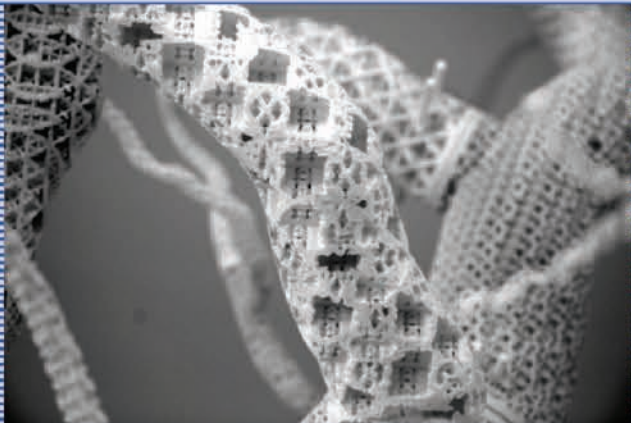
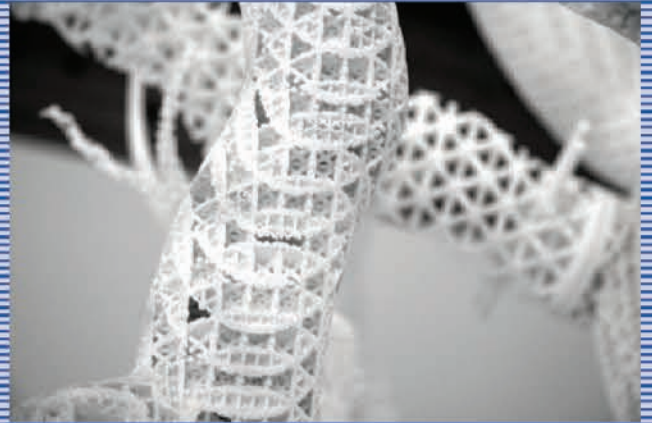
a laser sintering machine. The design data was developed on a standard PC with 1GB memory and an AMD Athlon 3800 processor.

Technical characteristics of the tree:

Material:	PA12
Size of the tree:	350x240x340cm
Volume:	201 dm ³
Weight of the structured tree:	39 kg
Number of structural members:	750,000
Calculated size of STL data:	>1,000,000 MB (1 TB)
Design time in the 3S software:	16 h
Slice file generation with 3S software (in parallel on 10PC's):	6 h
Definition of the 50 different unit cell structures used in the tree:	11 h
Size of slice data in SLI format:	1,700 MB
Total build time on EOS P730 (7 jobs):	340 h
Approximate selling price:	€70,000
(Special price for forests)	
(Für Wälder erhalten Sie Sonderkonditionen)	

Due to the size of the object it was necessary to break down the build into smaller segments. All additional work required for breakdown into multipart production was carried out in the Netfabb software and amounted to 80 hours.

it's in your brain... ...get it out



be inspired ...