

## AT A GLANCE

**Company:** Artech**Location:** Nancy, France**Industry:** Municipal and art engineering services; including high-precision scale models of three-dimensional art pieces and buildings**Challenges**

→ Having identified a market for high-quality art and architectural models, the challenge was to identify the right technology to make it happen.

**Solution**

→ CAD-based digitization of existing art objects and buildings; Objet's Eden 3-D Printing Systems

**Results**

→ Finely detailed accurate models of complex structures  
 → Fast-growing customer base  
 → Growing demand from conservation customers

“Producing our scaled architectural models on Eden systems has proved a huge timesaver. Even more importantly, the technology enables us to achieve the accuracy needed to recreate intricate details

**Mr. Philippe Nazet**  
CEO, Artech

## Eden 3-D Printers Open New Horizons in Scale Model Towns and Art Conservation

Artech, headquartered in Meurthe-et-Moselle, near Nancy, France, is a one-of-a-kind company. Founded by entrepreneur Mr. Philippe Nazet, Artech provides highly specialized scale modeling services to municipalities, museums and private art companies and collectors around France. Since identifying Objet's Eden 3-D printing systems as the ideal machines for creating highly precise, complex scale models, Mr. Nazet has proved that he can produce models of virtually anything a customer can think of.

Mr. Nazet is an autodidact – a self-taught engineer who clearly believes in the ability of technology to make almost anything possible. “Artech is the achievement of an idea that germinated in me for a long time: to develop a technology for creating scale duplicates of art objects in whatever material is desired, such as marble, bronze, stone, crystal,” he says.

He founded Artech in March 2006, and within a year has already built an impressive array of models for a variety of customers. Working with partners in Canada, Israel and Germany, and a team of five technicians and engineers working remotely, Mr. Nazet operates Artech as a one-man company.



*Nice roman church mould 2004*

By promoting Artech's technologies and expertise to historical, town planning and marketing organizations, Artech has secured orders from the conservators of castles and museums, from local communities and industrialists.

Using an ultra-light compact scanner that works with micron-precision, Mr. Philippe Nazet can digitize any three-dimensional object, including statues, vases, perfume bottles, and even delicate pieces of jewelry. From there, he works with his international partners to reproduce the model to scale on an Eden 3-D printing system. "This apparatus, which is completely unique in the world, replicates the surface quality with total smoothness. And, it works incredibly fast, for example, taking just three hours to print a 3-D model of a Roman centurion," he says.

Digitization combined with rapid prototyping allows Artech to create precise scale models of buildings, statues and other monuments. "The presentation by model gives an overall picture of a monument, making it possible for people today to understand its evolution. In the event of alteration, rebuilding the identical minor details is very easy," says Mr. Nazet

If, for now, Mr. Nazet is satisfied to be the interface between Artech's customers and its prototyping company partners, Mr. Philippe Nazet's great ambition is to acquire his own tool for prototyping. "Some dream of having a beautiful car. Me, I dream of a 3-D printer. The technology is simple and functions like a printer laying out 1600 tubes, which project micro drops of polymer."

### Winning high-profile commissions

One customer, the administrators of the historical castle at Versailles, validated Artech's approach by commissioning a scale model of the basin of Apollo surrounded by 15 incomparably beautiful statues. The project included the replication of restored versions of the marble horses of Carrere, which had suffered the effects of time.

Within the framework of the bicentenary of the Arc de Triomphe in Paris, Artech will make it possible for tourists to discover on the ground the projection of the natural entablature, which is the area on top of the column that is normally not visible. The giant area, which has a perimeter of 135m, depicts the battles of Napoleon.

### Bringing historical buildings to life in miniature

The Eden systems ability to rapidly build even large, complex models by jetting tiny drops of photopolymer resin that are then cured by UV lamps enables Artech to work extremely quickly and efficiently. In just four days, Artech produced a 1:200 scale model of the Chambord castle, including its Leonardo da Vinci-designed staircases"

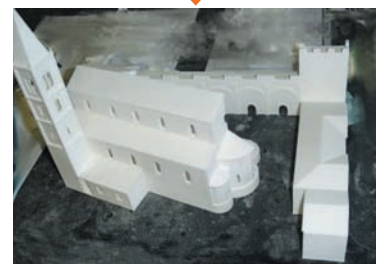
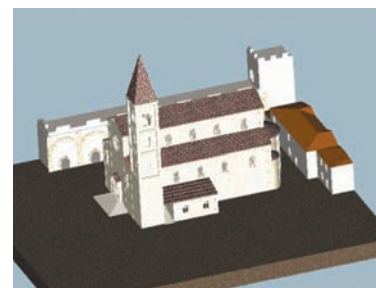
"Six months were needed for us to digitize the castle in 3D and only 96 hours to produce a model to a 1:100 size out of polymer resin, precise down to 16 microns", recalls Mr. Nazet. "Recreating a monument such as this can require massive amounts of information, which is made even more complicated when it is partly ruined."

For the town of Saint Etienne, Artech used their Eden system to create a 1:500 model of the town center, reproducing the buildings in intricate detail. And, another project currently in the planning stages is to build a model of the fortifications around Metz for the future train station museum in Gravelotte.

**With thanks to Mr. Philippe Nazet, CEO of Artech, who kindly helped Objet create this case study.**  
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Castel of Chambord 2005



Blazon town of Ludres 2004

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