

# Sweet Onion Creations, LLC

## Sweet Onion cultivates 'green' architectural model business

- **Sweet Onion Creations** – Builder of premium 3D scale architecture models, with a company focus on sustainable operations
- **Challenge** – Obtaining quick, affordable, “green” production of 3D physical models of architectural projects
- **Solution** – Investing in a 3D printer from 3D Systems, maker of the world’s fastest 3D printers with the lowest operating costs
- **Results** –
  - ‘ZPrinting’ enables the company to deliver building models in one-sixth the time of handcrafting
  - ZPrinting produces models that cost architects one-third of handcrafted models, yet are more precise
  - ZPrinted models convey more information and emotional impact than computer screen renderings
  - ZPrinting involves virtually no wasted raw materials. All unused powders are recycled for future printing

“The speed of the ZPrinter 310 enables us to deliver a very quick turnaround as a rule, even when we brand the customer’s models with their 3D printed name and incorporate topography.”

– Jake Cook  
Co-founder  
Sweet Onion Creations



Lee and Jake Cook, Co-Founders of Sweet Onion Creations

It burst onto the landscape in early 2007 – Sweet Onion Creations, a company creating premium scale building models for architectural firms and real estate developers around the world.

The Bozeman, Mont., business, founded by a couple with dual MBAs, is quickly gaining notice for the rapid turnaround of its service and the sustainable way the business operates.

Sweet Onion “3D prints” its architecture models. 3D printing creates physical objects from computer-aided design (CAD) files much as traditional office printers create documents from 2D files.

In his undergraduate days, Sweet Onion co-founder Jake Cook witnessed 3D printing technology in action in an engineering lab and was impressed. “Although I eventually forgot about it, I was surprised to learn two years later that my architect friends were still in the stone age: they hadn’t even heard of 3D printing, much less used it to create affordable concept models for their building designs.”

### Challenge

#### Cost-effective model making

Sensing opportunity, Jake and his wife, Lee, spent a year doing intensive market research on the need for premium-quality, affordably priced architecture models. The Cooks found that most architects were either spending too much time and money handcrafting models or cutting corners by settling for computer screen renderings. A physical model – with the ability to walk around it, remove a roof section, or peer down a hallway – yields superior understanding and an emotional connection that on-screen images can’t.

Market research evolved into business planning. The Cooks evaluated several 3D physical modeling technologies. Stereolithography (SLA) was exorbitantly expensive and, like fused deposition modeling (FDM), would introduce undesirable waste products into their office. By comparison, inkjet-based 3D printing from 3D Systems was a faster, more affordable and “greener” alternative for creating architecture models. With a ZPrinter, the Cooks could create a model in one-sixth the time and at one-third of the cost of a handcrafted 3D model.



3DSYSTEMS™



© Sweet Onion Creations 2008  
All Rights Reserved



© Sweet Onion Creations 2008  
All Rights Reserved



© Sweet Onion Creations 2008  
All Rights Reserved

Yellowstone Club Model

**“On every criterion, the ZPrinter 310 Plus made the most sense.”**

– Jake Cook  
Co-founder  
Sweet Onion Creations

## Solution

### 3D Systems 3D printer

“On every criterion, the ZPrinter® 310 Plus made the most sense,” says Jake Cook. The couple considered other 3D Systems printers that print in multiple colors – the only ones on the market that can do this – but monochrome turned out to be enough. “Although architects are highly tuned esthetically, the tradition is monochrome. In the design and approval stage, the primary concern is form and space.”

Sweet Onion Creations’ early business focused mostly on architects in the Bozeman/Big Sky region of Montana. Their first job was a big one – modeling luxury homes in the 13,600-acre private golf, ski and wildlife “Yellowstone Club” community. One of the buildings was a \$155 million mansion. “It was three straight weeks of nonstop model production, but the client was delighted with the results,” says Cook. “So were we.”

## Results

### Meeting Growing Worldwide Demand

In August 2007, the couple took their business global, offering architecture models via the company’s Web site, [www.sweetonioncreations.com](http://www.sweetonioncreations.com). Architects now upload any computer-aided design file and receive a finished architectural model typically within a week. Since then the company has been flooded with orders and inquiries from around the world. Its global presence has been fueled by this simple video on their modeling process – <http://www.youtube.com/watch?v=rEzuxybKmA> – posted on YouTube.

The day after the Sweet Onion video hit the ‘net, a Monday morning, the company received an order from a restaurateur’s architect in Birmingham, Ala. By Thursday, the model was in the client’s hands, and by the next Monday the architect was showing it off to the restaurateur.

“The speed of the ZPrinter 310 enables us to deliver a very quick turnaround as a rule, even when we brand the customer’s models with their 3D printed name and incorporate topography, which very few other modelers are doing these days,” says Cook.

An award brought more global attention. The company was named the “greenest” company among the Home-Based 100 selected by StartupNation, an online business advice site for entrepreneurs. The Cooks were delighted with the award as validation of Sweet Onion’s values and efforts. Although green is clearly good marketing these days, many don’t realize it is good business in the bottom-line sense, notes Cook. “Electricity is expensive, so we minimize it, which helps both our business and the environment. By the same token, toxic waste disposal is expensive, so we avoid it by using a ZPrinter. That benefits our business and the environment as well. No tradeoff.”

The company conserves electricity by enclosing the 3D printer in a small room warmed by a space heater. The office’s fluorescent lights are reclaimed from a home renovation. The company purchases a “green tag” from Bonneville Environmental Foundation (a windfarm user) for every model produced to offset the electricity consumption. Sweet Onion ships models in re-used cardboard boxes filled with biodegradable packaging peanuts. It offers discounts on models of buildings designed for certification under the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) standards and on models of buildings designed by LEEDS-accredited professionals. Like many ZPrinter users, Sweet Onion recycles the powder from which 3D models are removed after their printing. When a model arrives on a client’s doorstep, the box contains a small card explaining how Sweet Onion minimizes environmental impact.

“The world is beginning to understand that business is no longer at odds with sustainability,” says Cook. “We’re gaining traction, loving what we do, and minimizing our impact on natural resources. The ZPrinter 310 Plus is a central part of our business and vision. And though we’re being careful about growth, we look forward to the day we need two or three printers producing multiple models at once.”



Sweet Onion Creations  
P.O. Box 11022  
Bozeman, MT 59719  
[www.sweetonioncreations.com](http://www.sweetonioncreations.com)

[www.printin3d.com](http://www.printin3d.com)



333 Three D Systems Circle  
Rock Hill, SC 29730 USA  
Telephone +1 (803) 326-3948  
[moreinfo@3dsystems.com](mailto:moreinfo@3dsystems.com)

Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. 3D Systems makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.

© 2012 by 3D Systems, Inc. All rights reserved. Specifications subject to change without notice. The 3D Systems logo and stylized text are trademarks and 3D Systems and ZPrinter are registered trademarks of 3D Systems, Inc.

Issue Date January 2012