

**Autodesk®**  
In Television

Better Television Through Design



Image courtesy of The Mill.

**Autodesk®**

# Autodesk Television Solutions

## Better Television Through Design: Creating Reusable Digital Assets for Compelling Television

In a world of endless choice in television content—from the hundreds of cable or satellite channels available in every home, to on-demand programming on computers and mobile phones—program makers and advertisers must create increasingly compelling content to catch and hold the viewer's attention. Meanwhile, mounting competition, shrinking budgets, and compressed timelines mean that efficiency is paramount, as agencies and facilities strive to do more with less.

That's where Autodesk can help. With a comprehensive portfolio of creative solutions, many designed to work together to address challenges across the entire production pipeline, Autodesk brings you high-performance interactive tools that help enable you to work faster, iterate more freely, and make last-minute changes without missing a beat. And with flexible toolsets and re-useable, exchangeable assets, delivering content in multiple languages, formats, and resolutions has never been easier. Whether you're working on a limited budget all-computer graphics (CG) children's show, creating film-worthy visual effects for

a prime-time episodic, or showcasing a client's product for a 30-second commercial, Autodesk television solutions help to provide the return on investment you need to succeed in today's fast-paced production and post-production environments.

### **3D Content Creation:**

With industry-leading 3D content creation applications, Autodesk enables you to draw on a large pool of trained and experienced CG artists. Autodesk® 3ds Max® software, Autodesk® Maya® software, and Autodesk® Softimage® software are each full-featured toolsets ideally suited to modeling, animation, effects, and rendering tasks for television projects of all sizes. Chosen by some of the most talented professional artists throughout the entertainment industry, these creative, scalable applications can help bring big-screen magic to your TV production.

While 3ds Max, Maya, and Softimage are comprehensive solutions, specific tasks often benefit from specialized applications that complement the core package.

With its real-time, 3D interactive environment and outstanding nonlinear character animation tools, Autodesk® MotionBuilder® software is an ideal choice for real-time performance animation and animation-intensive productions. And when it comes to character design, Autodesk® Mudbox™ software offers sculptors and texture artists the ability to create highly-detailed organic models more quickly and intuitively.

### **Compositing and Finishing: Putting it All Together**

Whether the final product is a CG commercial for cola, or an hour-long episode of the latest action-packed drama, it's rarely possible to get everything needed for the final frame in a single take or render. In most cases, tens or even hundreds of layers and passes go into the final image: actors need to be keyed from a blue or green-screen shot, garbage needs to be rotoscoped out, reflections need to be added, removed or tweaked, and the subtle interaction between layers needs to be iteratively refined to achieve the desired look. Synonymous with high-end visual effects for the past two decades, Autodesk® Flame® software helps





Image courtesy of The Moving Picture Company.

to give artists the power and flexibility they require to tackle complex shots on time. For television projects, where client attendance and tight deadlines mean that interactivity is critical, Flame provides an award-winning creative toolset that allows you to make instant changes, experiment with multiple possibilities, and create the compelling design that clinches the job. From tracking to keying, color correction to motion estimation, and advanced timeline editing to an interactive 3D compositing environment, Flame offers broad and rich toolsets.

And now there's Autodesk® Flare™ software, a fully compatible creative companion to Flame. Flare gives facilities the flexibility to help add capacity to their pipelines as they need it while freeing artists to spend time finessing shots without tying up the main Flame system. Flare also gives Flame assistants and junior artists access to the Flame creative toolset, allowing them to gain the valuable experience they need to develop their career to the highest levels in the post-production industry.

For creative editorial finishing with blazing performance, a solution is Autodesk® Smoke® software. Sharing much of its heritage and many award-winning visual effects tools with Flame, Smoke enables you to edit, finish, and conform to multiple deliverable specifications on a single system, which it can even share with Flame if required. With support for EDLs, AAF, and Apple® Final Cut Pro® XML files, Smoke gives you the flexibility you need to help accelerate and streamline the delivery of content from editing and finishing jobs, while retaining complete creative control.

#### Grading: The Final Polish

With the growing adoption of HDTV, and the associated elevation in audience expectations, many television projects now require film-quality production values. Just as the look and feel of movies are subtly manipulated by skillful colorists in the final processes prior to screening, television projects can also maximize their potential to compel audiences in the color grading suite. Autodesk® Lustre® software is a premier digital color-grading system, enabling colorists to precisely shape color and lighting to establish visual narrative tone, realize creative intent, and design stylized looks. Lustre provides a rich, intuitive toolset that helps integrate tightly into a Smoke and Flame workgroup, and can optionally run on the same workstation.

#### Workflow Media Management: Making your Pipeline Flow

It can be a long and complex path from storyboard to screen, and the initial creative concept must travel back and forth between many tools, and satisfy many people, along the way. A pipeline based on Autodesk tools—leveraging shared infrastructures, intelligent digital assets, and exchangeable data—leads to a flexible, collaborative workflow that enables creative professionals to help explore, share, and realize their ideas.

A facility using Flame, Smoke, and Flare can enjoy 100% data compatibility, enabling visual effects artists and editors to more easily share shot set-ups and multi-layered effects. With Lustre, the colorist can work concurrently on the same media, grading shots

for the editor or visual effects artist. At the same time, geometry, animation, textures and many other assets can be intelligently exchanged between 3D, editorial and finishing via Autodesk® FBX® technology—one of the most widely used and supported platform-independent 3D data interchange solutions in the industry today.

In addition to FBX, interoperability between Flame, Smoke, Lustre, and third-party applications is enabled through support for industry standard interchange formats such as AAF and XML, and the ability to mix multiple types of encoded media formats; Panasonic® P2, AVC-Intra, OpenEXR, RED® R3D, XDCAM, Avid DNxHD®, and Apple® QuickTime® files.



Image courtesy of PICTORION das werk.

# Autodesk Television: Solutions In Action



Image courtesy of Brickyard VFX.

## Commercials

With only a few seconds to grab viewers' attention and convey the client's message, agencies creating television commercials need to provide maximum visual impact. The goal is to make something so compelling that instead of hitting the fast forward button on their Personal Video Recorder (PVR), viewers actively seek out the spot.

Paris-based duo FX & Mat did just that in their recent campaign for the Royal Bank of Canada, beating several larger studios to win the job with a beautifully stylized 2D illustrative look, actually created in 3D to bring added depth. For that task they turned to the camera mapping capabilities in Autodesk® 3ds Max® software. Partner François Xavier Goby explains why:

"The great thing about 3ds Max is its ease of use. We've worked with all the 3D software out there, but with 3ds Max, all you need is an idea and you can get it done. What's more, as our projects get bigger we are relying

on freelance professionals more and more. There are a lot of people out there who know and love 3ds Max, which makes it easier to find people to help out."

A recent campaign for Nissan presented a different set of challenges for creative company resolution LA. Initially bid as a fairly straightforward clean-up job, president and senior visual effects supervisor Todd Iorio and his team were surprised when they received CAD files together with the film footage. Fortunately, the team's existing pipeline pivots on Autodesk Maya and Autodesk Flame – and they were able to bring the AutoCAD® software files into both packages in order to create the render passes and tracking data that gave them the extra edge they needed when it came to getting down to the creative work.

"With the easy interaction between Flame and Maya and the pipeline they provide for using these CAD models, we had incredible flexibility in our creative process," says Iorio. "We were able to bring the models

into Flame for camera tracking and combine that with renders from Maya to give us more time for creative exploration with the clients and quickly respond to their requests. We were able to do all the stuff we normally do, but in a far more efficient way."

## Primetime Episodic

As HDTV forces higher pixel counts, and as audiences increasingly expect film-quality production values and effects in their episodic programs, many post facilities are turning to the award-winning toolsets that have helped create the most successful films around the world.

Los Angeles-based Zoic Studios' roster includes some of television's most watched programming. To help shape its work on *CSI*, *Eureka*, *Eli Stone*, *True Blood* and *Reaper*, Zoic turned to a suite of Autodesk products, including Maya and Flame. Zoic also uses Maya extensively on *Fringe*, J.J. Abrams' new science-fiction hit on Fox. "*Fringe* is an exciting show because each episode is unique and we are called upon to create a whole host

Whether you're working on a limited budget all-computer graphics (CG) children's show, creating film-worthy visual effects for a prime-time episodic, or showcasing a client's product for a 30-second commercial, Autodesk television solutions help to provide the return on investment you need to succeed in today's fast-paced production and post-production environments.



ABC, *Ugly Betty*, Image courtesy of CBS Digital.

of effects," observes Andrew Orloff, VFX supervisor at Zoic. "Working with dozens of layers at that level of complexity, Maya software's customized scripting and editable histories are invaluable. Maya allows us to focus on the artistry and efficiently incorporate our client's needs."

No-one is more aware of the convergence of film and long-form television pipelines and techniques than PostWorks. Having recently added two facilities in Southern California to their renowned New York establishment, PostWorks is bringing highly specialized digital intermediate (DI) workflows to a much broader spectrum of clients than ever before—with the help of Smoke and Lustre.

"We're building something new," says PostWorks LA senior vice president Marco Bario. "We feel strongly that this is the way the market is going, so it makes sense to take advantage of the concurrent workflow between Smoke and Lustre. We basically want to bring the DI workflow to everyone, particularly applying it to broadcast and studio mastering. This is the future."

The set up includes two Smoke systems for picture conform, three Lustre systems for color correction. That's something that's greatly appreciated by colorist Pankaj Bajpai who recently worked on the award-winning HBO series *In Treatment*. "Our workflow is just blazingly fast," he says with enthusiasm. "We can interact with our clients and implement their changes in real time. It doesn't matter what the client asks for; we can get it done quickly and to their satisfaction."

#### Children's Programming

As every parent knows, anyone who thinks children are not discerning in their tastes is deluding themselves—and that's no different for television than it is for mealtimes. It takes great stories, with fun, engaging characters and eye-popping imagery, to keep the attention of today's easily distracted kids. And, as always, all of this has to be achieved on a tight budget.

Jim Henson's Creature Shop, the company behind such well-loved favorites as *The Muppets* and *Fraggle Rock*, knows all about that. Over the last few years, the company has been perfecting the Henson Digital Puppetry Studio, a proprietary system which makes ample use of Autodesk Maya and mental ray® rendering software. Simply put, the digital puppetry process combines advanced motion capture techniques that capture the performer's body movements, with synchronized facial puppetry and voices of puppeteers, and 3D virtual environments and effects into a single, real-time scene.

Encouraging curiosity and promoting an early interest in science, *Sid the Science Kid* is the first complete series to be created using the system, with 40 episodes of digitally puppeteered performances captured on a virtual stage and in real time. For this show, it was the Maya software's scripting capabilities that proved most empowering, according to Jeff Christie, CG Supervisor. "Only Maya enables us to set up such incredibly elaborate animations and make it repeatable," he says. "The Maya software's exceptionally powerful MEL and Python scripting has saved us a lot of time and money."

From the look of *Sid the Science Kid*, it seems unlikely the studio would stop using the revolutionary way of working in the future. In turn, their innovative use of Autodesk Maya seems destined to continue. "We're using Maya in a truly real-time production setup, following a live action paradigm," says Steffen Wild, Visual Effects Supervisor. "That's definitely new."

*Sid the Science Kid*. Image courtesy of The Jim Henson Company.





Image courtesy of Engine.

### Broadcast Graphics

If the individual long and short-form programs are the real substance in a station's output, broadcast graphics, such as branding, promos, and bumpers, are the glue that turns them into a cohesive, recognizable offering. To keep them fresh, relevant, and attractive, they are continuously updated, with multiple versions of each campaign—sometimes in a number of languages—co-existing at any time.

Multinational broadcaster Viasat offers around 40 channels in a large number of countries, including Scandinavia, Russia, Hungary, and the Baltics. The vast majority of their graphics are produced in-house from their London office, using Autodesk Smoke and Autodesk® Flint® software.

Smoke artists Andy Fleury and John Koumoullas both revel in the system's 3D environment, and the power it gives them to radically transform imagery. What's more, that power is gained without sacrificing usability. "It's such an intuitive tool," says Fleury. "You find that things pop up where you expect them to be. It's obviously been designed with us in mind as the operators." Koumoullas agrees: "There's always a tool there that makes your life easy, so the creative process becomes just that—a creative process. I'm not handcuffed by technology."

Graphic Designer Alan Elsey is equally enamored of Flint, and the ease with which he can use the tool to create multiple versions of graphics. "The layering process is fantastic," he explains. "It gives us a great way to unpick everything and remake it in another language, and it takes no time at all. In this company, that is a luxury."

While delivery mechanisms and output formats diversify and evolve, the appetite for television content continues to grow. For program makers and advertisers, maintaining a competitive edge increasingly depends on their ability to produce highly compelling imagery quickly and efficiently—and that's where Autodesk television solutions come in. Whether you're creating twenty-one episodes of enlightening edutainment, an effects-packed hour of disaster documentary, or a few seconds of exposure for the latest four-wheel fantasy, the Autodesk integrated portfolio of solutions for television will help you produce better-looking content that both meets the deadline and enhances the bottom line.



Image courtesy of UVPFACTORY.

We were able to bring the AutoCAD models into Flame for camera tracking and combine that with renders from Maya to give us more time for creative exploration with the clients and quickly respond to their requests.

—Todd Iorio  
President and Senior Visual Effects Supervisor  
resolution

#### **Learn More or Purchase**

Access specialists worldwide who can provide product expertise, a deep understanding of your industry, and value that extends beyond your software license purchase. Visit [www.autodesk.com/me](http://www.autodesk.com/me) for more information. To purchase a license of Autodesk software, contact an Autodesk Premier Solutions Provider or Autodesk Authorized Reseller. Locate a reseller near you at [www.autodesk.com/reseller](http://www.autodesk.com/reseller).

#### **Autodesk Learning and Education**

From instructor-led or self-paced classes to online training or education resources, Autodesk offers learning solutions to fit your needs. Get expert guidance at an Autodesk Authorized Training Center (ATC<sup>®</sup>) site, access learning tools online or at your local bookstore, and validate your experience with Autodesk certifications. Learn more at [www.autodesk.com/learning](http://www.autodesk.com/learning).

#### **Autodesk Services and Support**

Help accelerate return on investment and optimize productivity with innovative purchase methods, companion products, consulting services, and support from Autodesk and Autodesk authorized partners. Designed to help get you up to speed and keep you ahead of the competition, these tools help you make the most of your software license purchase—no matter what industry you are in. Learn more at [www.autodesk.com/servicesandsupport](http://www.autodesk.com/servicesandsupport).

#### **Autodesk Subscription**

Get the benefits of increased productivity, predictable budgeting, and simplified license management with Autodesk<sup>®</sup> Subscription. You get new upgrades of your Autodesk software and incremental product enhancements, if these are released during your subscription term. In addition, you get exclusive license terms available only to subscription members. A range of community resources; web support direct from Autodesk technical experts, self-paced training, and e-Learning, help extend your skills and make Autodesk Subscription the best way to optimize your investment. Learn more at [www.autodesk.com/subscription](http://www.autodesk.com/subscription).

Autodesk, ATC, AutoCAD, FBX, Flame, Flare, Flint, Lustre, Maya, MotionBuilder, Mudbox, Smoke, Softimage, and 3ds Max are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. mental ray is a registered trademark of mental images GmbH licensed for use by Autodesk, Inc. Python is a registered trademark of Python Software Foundation. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document. © 2009 Autodesk, Inc. All rights reserved. BR01-000000-MZ04