

# A piglet named Lucky



A piglet lies peacefully sleeping on a child's bed – at the feet of a little girl, also asleep. Tucked up under a blanket, his chest slowly rises and falls; his fur moves in time with his breathing. A scene that is extraordinary for two reasons. First, because Lucky is a piglet, rather than a puppy or a kitten. And second, because the whole thing is just a computer-generated illusion, albeit a deceptively realistic one – conjured up on-screen by the team at Mackevision.

In the video, produced for PETA, Lucky fetches sticks, begs at the kitchen table and patiently waits by the garden gate for little Mara to come home. Until one day, the piglet is no longer waiting for her. The girl searches all over, but can't find him – and instead, pork cutlets are served up for dinner.

Mara is horrified. Her suspicions are just as clear, and just as terrible.

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MACKEVISION

to create reality

Since October 1<sup>st</sup>, PETA has been screening this video on TV, in movie theaters and on the web. The challenge for Mackevision: not only did the piglet have to look cute, he also had to look deceptively real. Bringing a real, live animal to the shoot was out of the question. “It contravenes PETA’s guidelines to involve live animals in any way,” confirms Julian Körrenz, the project’s Compositing Lead, as he explains this unusual challenge. The only things on set were the actors and the scenery – plus Rouven Dembrowski, Mackevision’s VFX Set Supervisor. His job was to be the on-site contact person, point out possible implementation issues – and capture the lighting mood in HDRIs (High Dynamic Range Images) as well as shoot photographs so the environment could be reconstructed at a later stage using photogrammetry.

Let’s be clear: at Mackevision, perfectionism isn’t regarded as objectionable – it’s the standard the company sets for its everyday work. It’s important to accurately reproduce a scene’s lighting and ambience. But it’s even more important to precisely answer the question: How does a real pig behave? That’s why the project leads spent so much time on a (pig) farm and in front of their computers, watching YouTube videos on a decidedly monotonous theme (yes, you guessed it: pigs). How do pigs move? How do they react?

Sometimes, such obsessive behavior can have unexpected side-effects on individual personalities – visitors to Mackevision’s head office in Stuttgart are occasionally startled by team members trying out their animated characters’ peculiar movements or behavior patterns right there in the corridor.

“But with pigs, we had to stick to observations and studies,” chuckles VFX Supervisor Christian Zilliken.

The more familiar a creature is, the more important it is to get the details right. Whether (and if so, how) an alien flies, jumps, locomotes or teleports itself really doesn’t matter. Because what is there to compare it with? Nobody’s ever seen an alien in action. When it comes to pigs, however – well, everyone knows how they move. “If something’s not right, the audience notices immediately.” Even if it’s just slight discrepancies in the movement of the fur.





So how do you bring a “real” pig to life? “By building up an imitation version,” explains Körrenz. This means you start by creating a skeleton, then the muscles, fascia, fat, skin and fur – layer by layer, right up to the finished animal. And all biologically correct. “For example, to ensure movements look the same as they do in reality, you need to attach the muscles to the right bones,” Zilliken explains. Just like the original.

But true realism also means: warts and all. “There’s no such thing as a perfect animal,” adds Körrenz. Every living being has its peculiarities – maybe a skin blemish, a liver spot, or a patch of unusual fur growth. But the biggest challenge of all was ensuring that while Lucky looked cute and lovable, he still looked totally natural. “We had to be very careful not to turn him into a comic-book character,” says Zilliken. So the animal’s emotions are mainly conveyed through its eyes and by light reflections. “A smiling pig would be unrealistic.”

The result is impressive – and is opening new doors for Mackevision in the movie industry. That’s because this project also represents the first element in the company’s character pipeline: Emotional Creatures. “We can now offer our customers a truly exceptional portfolio,” confirms Körrenz. As well as Creatures, products include digitally created scenery (matte paintings), crowd replication and simulations of really tricky phenomena such as water.

# „We’re talking stratospheric!”



Emanuel Fuchs (CG Lead), Christian Zilliken (VFX Supervisor), Julian Körrenz (Compositing Lead) and Francesco Faranna (VFX Producer) talk about anatomical studies, big, beguiling eyes and the need for total perfectionism.

**Okay, may we admit something right at the start?**

Francesco Faranna: (Laughs.) Sure!

**We fell just a little bit in love with Lucky.**

Christian Zilliken: That’s what we like to hear!

**But, to be absolutely frank, one thing did bother us.**

Emanuel Fuchs: What was that?

**That at the end of the movie, Lucky ends up as a plate of pork cutlets.**

Fuchs: You’re right – that’s definitely not a happy ending.

Faranna: But that’s exactly what we wanted to achieve – to shock the audience into thinking about it.

**So which scenes are the ones with an animated Lucky? And which are the ones with a real pig? We really couldn't tell the difference...**

Zilliken: That's because he doesn't exist.

Fuchs: Lucky is entirely animated. PETA 100% rejects the use of animals in movies – that's why the organization approached us.

**So you just created a pig on computer and inserted it into the movie?**

Fuchs: Well, if you want to put it in really simple terms: yes.

Zilliken: But in technical terms, the process is actually very complex and time-consuming.

**Why?**

Faranna: Because you've got to think yourself right into it and start from scratch – and because you have to pay attention to an incredible number of details to make it look convincing and realistic.

**So in practical terms, how did you do it?**

Fuchs: (Laughs.) You got some time to spare?

**Absolutely.**

Zilliken: To start with, we took a really good look at pig anatomy, and then designed the skeleton.

Fuchs: Then we had to take an even closer look: what kinds of muscles do pigs have? How do they contract when the pig moves?

Zilliken: That's how we built up a pig on computer, more or less layer by layer. Skeleton, musculature, fascia, fat layer, skin, fur, and finally the external details.

Faranna: At that point, it's all about being perfectly imperfect...

**What do you mean by that?**

Fuchs: Two examples. Number one: hair. No pig has a flawless haircut. Fur comes in different lengths and grows in different patterns. And if the piglet is running, of course it also gets ruffled.

**And the second example?**

Fuchs: Have you ever seen a pig that was sparkling clean?

**We can't remember seeing such a thing...**

Fuchs: That's because there's no such thing in real life. Anyone who's ever seen a pig knows that.

Julian Körrenz: That's why you have to take every detail so seriously in projects like this. You'd have a much freer hand with aliens.

**Aliens?**

Körrenz: They can be challenging too, of course. But no one tells you how an alien has to move. It's not an everyday phenomenon – unlike a pig.

**Did you spend time observing pigs before you started?**

Fuchs: We spent hours on a farm just watching pigs.

Faranna: And we watched a load of YouTube videos.

**What did you learn?**

Fuchs: We learned a lot. One of the most important questions we had to solve immediately was the size of the pig. It couldn't be too big.

Faranna: Or too fat.

**A lot of pigs are big and fat.**

Fuchs: Exactly. And that doesn't always come across as cute.

Faranna: But Lucky was supposed to be really sweet – and still look realistic.

**So size and bulk are what determine whether we find something cute?**

Zilliken: That's not all, but it's part of it.

Körrenz: But you express most of your emotions through your eyes.

**We all know that from Disney movies.**

Fuchs: Exactly. That's where you always see those great big eyes...

Faranna: .... which are insanely beguiling...

Zilliken: ... but totally unrealistic.

**How did you solve the problem?**

Körrenz: By using light reflections in the eye. If you bring a point of light further forward, it almost looks like a tear. But if you move it further back, it makes a happy impression.

**Small detail, big impact.**

Fuchs: There are plenty of other examples. When Lucky runs across a meadow, for instance, you should see the grass moving and bits of dirt splashing about. And if Lucky treads on a stick, he should rise up a little – maybe five degrees.

**Would the audience really notice if you didn't do all that?**

Faranna: Well, maybe not explicitly – but subconsciously, sure. They wouldn't be able to tell you what the problem was, but they'd notice something wasn't quite right.

Fuchs: That's why our work has to be so detailed and true to life.

Faranna: Especially in close-ups. That just gets crazy.

**Seriously difficult?**

Faranna: Extremely so.

Zilliken: We're talking stratospheric!

**Were you also able to contribute ideas on content?**

Fuchs: On a small scale, sure. For example, the scene where Lucky is lying next to Mara on her bed, tucked up in a blanket.

**That's a ridiculously cute scene. When we show it to our kids, they'll want a piglet right away.**

Faranna: (Smiles.) I believe you. And that's the kind of feeling we were looking to produce. But originally, there wasn't a blanket in the script. It's just that we thought it would be nicer.

Fuchs: So we simply added the blanket. But then, of course, we had to put fur and hairs on it, make it move a little – a whole bunch of things like that. That takes a lot of work.

**You've got to be a bit of a perfectionist in this job, don't you?**

Faranna: In actual fact, you've got to be a total, hardcore perfectionist. And love what you do. Otherwise it just doesn't work.  
Zilliken: We also set very high standards for ourselves and often go through multiple internal approval cycles before we show our customer the final result.

**You work on big movie productions like Game of Thrones, Lost in Space and the theater version of Jim Button and Luke the Engine Driver. What was so special about making a movie for PETA?**

Faranna: For us, developing what we now call Emotional Creatures really was a first. Kind of the start of a character pipeline.  
Fuchs: It's enabled us to extend our portfolio yet again – so now we can offer film productions a truly exceptional range of services.



# Credits

<b>Client:</b>	PETA e.V.	<b>VFX Editorial/Grading:</b>	Tobias Pfeiffer
<b>Production:</b>	Filmakademie Baden-Württemberg GmbH	<b>VFX Editorial:</b>	Jörg Wohnsiedler
<b>Service Production:</b>	Fahle Film UG	<b>Pipeline Developer:</b>	Axel Mähler
		<b>Pipeline Developer:</b>	Henry Weickert
		<b>Matchmove:</b>	Frank Rosenkränzer
<b>Producer:</b>	Veith Unger	<b>Character Designer:</b>	Christian Leitner
<b>Director:</b>	Nathalie Lamb	<b>Lighting:</b>	Sebastian Plank
<b>DoP:</b>	Christoph Schuman	<b>3D Generalist:</b>	Henrik Soeltzer
<b>Gaffer:</b>	Patrick Lang	<b>3D Generalist:</b>	Marco Wilz
<b>Production Design:</b>	Jacqueline Lang	<b>Rigging:</b>	Jakub Krompolc
<b>Production Design:</b>	Christina Mast	<b>Hair, fur:</b>	Lukas Gotkowski
<b>Costume:</b>	Astrid Hildebrand	<b>Hair, fur:</b>	Jaroslav Handrysik
<b>Editing:</b>	Ann-Kathrin Matthes	<b>Animation:</b>	Maciek Wojtkiewicz
<b>Sound Design:</b>	Johanna Roth	<b>Animation:</b>	Dastin Hoffman
<b>VFX Producer:</b>	Francesco Faranna	<b>Animation:</b>	Dorian Knapp
<b>VFX Supervisor:</b>	Christian Zilliken	<b>Animation:</b>	Mariia Prokopenko
<b>Animation Supervisor:</b>	Bernd Nalbach	<b>Character FX:</b>	Lisa Schachner
<b>CG Lead:</b>	Emanuel Fuchs	<b>Compositing:</b>	Mauricio de Oliveira
<b>Compositing Lead:</b>	Julian Körrenz	<b>Compositing:</b>	Gus Martinez
<b>Compositing Lead:</b>	Jan Burda	<b>Compositing:</b>	Peter Lames
<b>Executive Producer:</b>	Heiko Burkardsmaier	<b>Compositing:</b>	Lukas Fabian
<b>VFX Coordination:</b>	Paul Maresch	<b>Compositing:</b>	Constantin von Zitzewitz
<b>VFX Coordination:</b>	Iggy Rau	<b>Compositing:</b>	AnhKhang Huynh
<b>Consultant Supervisor:</b>	Juri Stanossek		
<b>VFX Set Supervision:</b>	Rouven Dombrowski		

Questions? We'll answer them gladly!

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