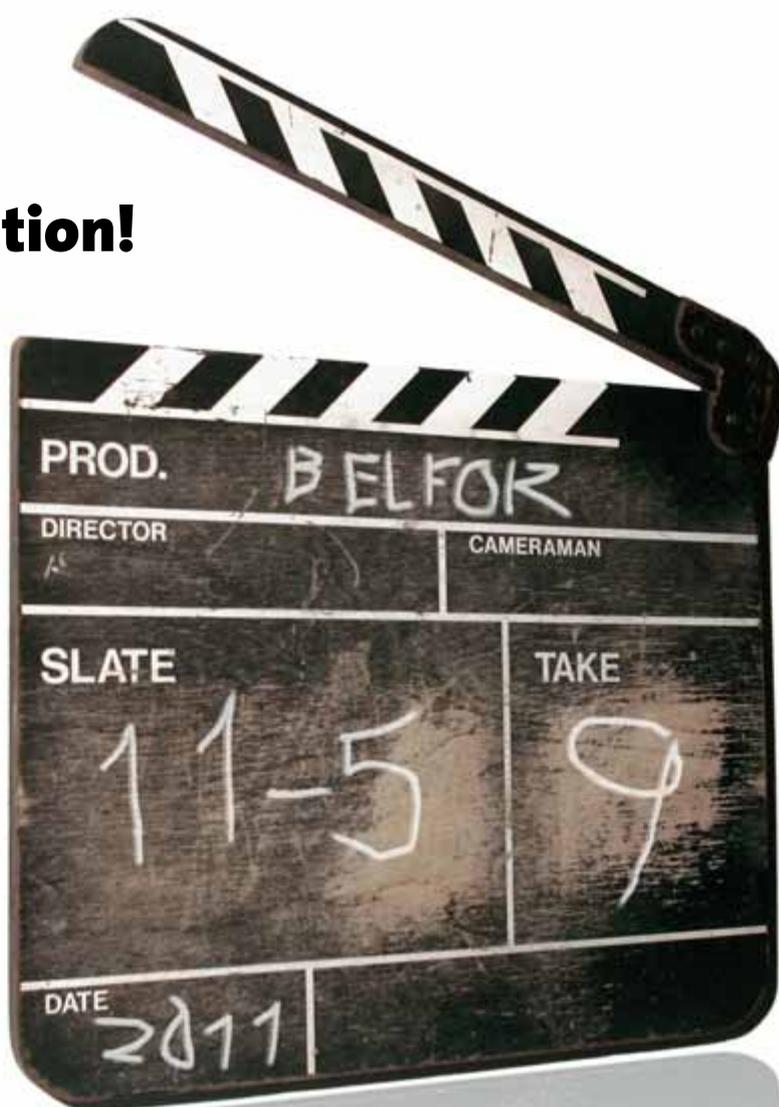


BELFOR (●) SOLUTIONS

BELFOR international journal #9

... and Action!



About action dramas,
heroic tales and other
catastrophes

Cinema action – BELFOR action

Flood

BELFOR restores major
damage at Bombardier
in Bautzen

Expect the unexpected

BELFOR Prevention –
an important component
of the new BELFOR
brand structure

Getting out of Afghanistan

BELFOR earns its stripes
with the Dutch Army

After the tsunami

With the power of reason
against the forces of nature –
Tokio Marine Insurance &
BELFOR in Japan

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Dear readers,

When the clapperboard claps, there's no holding back: there's running, chasing and shooting. All with just one aim: to captivate us cinemagoers for two hours, where we share in the suspense and sorrow and hope for a "happy end" that will make everything better again. In action films, the world is thrown out of kilter only to be heroically restored to order. The employees of BELFOR, the world's number 1 in damage restoration, often experience similar dramatic scenes. However, they do it live, up close and without a fully air-conditioned Dolby Surround cinema! This gave us the idea to create the ninth edition of Solutions under the motto "action film".



Between "fiction" and "fact" – Hollywood and BELFOR – there are many similarities but also significant differences: what the "villain" plots in action dramas is often instigated in real life by "natural enemies" such as fire, water, storms, toxic fumes or creeping corrosion. They don't follow a carefully-conceived plot, but rather the far less merciful hand of fate. "Mother Nature" writes the script according to her own rules, determines the locations and interposes dramatic turning points – to which our protagonists must react quickly and flexibly. Not like film heroes with super powers, secret weapons, and bombastic sweeping blows, but rather with expertise, efficiency and endurance. At the end, there's no Oscar, but satisfied clients as a reward. In this issue, a few of our "leading actors" talk about their roles at BELFOR. And not just that: my colleague Sheldon Yellen, CEO of BELFOR USA, takes up the leading role in the US reality show "Undercover Boss"; with great success, as the audience ratings and subsequent reactions showed. More about this on page 46.

In films, anything is possible. In reality, unfortunately not: there are no pyrotechnics keeping a large fire under control. No one constructing miniatures to make sure the disaster remains "small". No visual effects specialists working virtual wonders. No stuntmen to confront dangerous tasks. Directors can disassociate themselves from bad films with the pseudonym "Alan Smithee" (see page 41). At BELFOR, everyone is responsible for what they do, in their own names!

**"The cinema is truth.
24 frames a second."**

(Jean-Luc Godard)

A good film strikes like a bomb. Blockbuster really does mean "block" "buster". Good restoration does the opposite: it reverses any destructive impact. Even better, of course, is when the disaster doesn't even manage

to "strike". We also have the right script at hand: BELFOR Prevention. It is like a "pre-film" that ideally helps you avoid the feature film – the action drama. On page 26 you'll find out how does it work and what good it does you.

Every action spectacle has – like BELFOR's restoration services – a "cleansing" effect. "We enjoy film disasters as catharsis. There is a clear division between heroes and villains, while it's the heroes who save those in danger and return things to order," wrote the German cultural scientist Elisabeth Bronfen. We hope that you have a similar experience reading this magazine: that you are stirred by our action-packed operations, but that at the end you are "cleansed" of some of your concerns – with the awareness that even in reality there can always be a "happy end". BELFOR would like to play its part in this.

With this in mind: Enjoy the film!

Sincerely yours,

Bernd Elsner

CEO BELFOR Europe GmbH



“Hasta
la vista,
baby.”

*(Arnold Schwarzenegger as T-800 in TERMINATOR 2 – JUDGEMENT DAY
Caroclo, 1991)*

About action dramas, heroic tales and other catastrophes



Hollywood is a strange city. 100 years ago nothing more than a sleepy village on the outskirts of Los Angeles. Dust, clay brick cottages, shacks and a few orange groves. Cultivated by farmers, for whom the first film camera must have been “The Thing” from another world. In 1913, Cecil B. DeMille contrived just such a setup there in order to create the first feature-length western, *THE SQUAW MAN*. The area has never been the same since.

More and more cowboys and Indians joined in and established the mystical prototype genre among action films known as westerns. The horses dashed in spectacular stunts, warriors switched saddles to iron horses, motorcycles, cars, aeroplanes, Jedi interceptors and ikrans.

From the courageous Redskin Naturitch in *THE SQUAW MAN* to the blue-skinned chief's daughter Neytiri in *AVATAR*, just about 100 years have passed. In this time, stars and starlets climb to legendary fame. Scenery and costs skyrocket. Screenwriters, directors, cameramen, make-up artists, stuntmen and visual effect specialists vie for the perfect cinematic dream. It's different each time, yet it always takes the same course: normally it revolves around the eternal battle between good and evil before coming to a “happy end” that releases us back into a perfect world after a feverish 90 minutes. Solutions poses the question: What accounts for the continuous desire for a new, old action drama?

*THE THING, science-fiction classic by Howard Hawks, USA 1951

Dumb films for dumb people?

The first answer is simple: it's the action! The irresistibility of action, the poetry of physicality, the choreography of movement. Unfortunately, this central “motive force” has generally been underappreciated thus far in academic cinematic discourse. Wrongly, in our opinion! The art historian Erwin Panofsky (1892 – 1968) wrote: “The origin of film enjoyment wasn't an objective interest in specific content, ...but simply the pleasure of something that seemed to move, no matter what it might have been”, (*Stil und Medium im Film*, 1999). Action films – as “moving motion pictures” – fulfil the cinematic promise of pleasure twofold. Higher, faster, farther: That is the unwritten metaplot behind every new motion spectacle. But when you enter action cinema, you not only view a surface in motion, but also peer into the human abyss.

Running and shooting – the drama of becoming human

“Going to the cinema always involves risking an anthropological lesson”, writes the German philosopher Peter Sloterdijk (*Sendboten der Gewalt – Zur Metaphysik des Aktions-Kinos*, 1993). Following the illuminating rush of images from *TERMINATOR 2*, the mother of all modern action operas, he states that modern action films “have been tending to the archaeological secrets of mankind by means of advanced film technology.” “The two universals of action cinema –



“If killing is done with good taste, it can be very entertaining indeed.”

(Arnold Schwarzenegger, quoted by Nigel Andrews in “True Myths – The life and time of Arnold Schwarzenegger”, London 1995)

running and shooting –” are reflected by the drama of “humanisation”, i.e. becoming human. By fleeing, early man initially attempted to place a distance between himself and the menacing nature, in order to perform a counter-attack from a safe distance. First with stones, then arrows and later firearms. Throwing is followed by subjection – of the animal and of the human opponent, and finally of nature as a whole. In action films, the epochal mankind “project” (from Latin *projectum*, “something thrown forth”) is turned into an entertaining episode.

The man myth – testosterone cinema of the 1980s

And who’s the best “thrower”? Old-time Hollywood knows the answer: men! The cinematic evolution of manliness reaches its climax in James Cameron’s humanoid Cyborg T-800. The clown of the New Stone Age, CONAN THE BARBARIAN has blossomed into a demigod of the cybernetic age. “Cast” onto the earth as a handsome Adonis, enveloped in a bright ball of light, the Terminator brings to mind all the familiar embodiments of masculinity from the West’s repertoire of images – from the ancient athlete to Rodin’s thinker. The machine angel becomes the “apotheosis [deification] of the ballistic man” (Sloterdijk), the firearm becomes the champion that saves the world at the last minute prior to nuclear nirvana. With stoic composure: *Hasta la vista, baby!* Then the machine martyr melts away in a boiling steel brew – and with him the hearts of the most hardened viewers.



From hard body ...

Meanwhile, the extreme muscle men are out. Gone are the days when ROCKY IV ended the Cold War in round 15 with a sweeping punch. Gone are the days when RAMBO II single-handedly made up for the American Vietnam trauma – before even expelling the despised Soviets from Afghanistan in the sequel. Gone are the days when John McLane, played by Bruce Willis, put a stop to organised crime as a simple patrol officer in Die Hard. Ancient manly virtues – courage, invulnerability and responsibility – combined with coolness and an ultra-manly upper body form acted as a recipe for success that had its roots in the bodybuilding boom of the 1980s and yielded Olympic box office records. Then the action heroes saw their decline.



... to smart body

Bodybuilding was followed by the fitness wave of the 90s, and after fitness came the wellness boom. Arms get thinner, the tough guys get smarter – performance instead of posing is in demand. The young guns Tom Cruise (Ethan Hunt), Keanu Reeves (Neo) or Matt Damon (Jason Bourne) – not to mention the consistently clever James Bond – move with milder tones of manliness and the agility of a dancer, elegantly and eloquently, through the scenery of modernity, and defy the law of gravity with subtler means: elaborate high tech (MISSION IMPOSSIBLE) or Asian martial arts (THE MATRIX) instead of mindless beat-em-up.

A superhero is the incarnation of the Janus-faced double figure between real and ideal, man and superman: in real life inconspicuous, clumsy and often full of complexes, he mutates – usually through a pathogenic defect or radioactive catastrophe – into an exceptional talent with world-saving ambitions. Batman, Spiderman Wolverine, Iron Man, Watchmen – the superheroes have undergone an unprecedented



renaissance in the past decade and provide the humanly impossible with a human face. The climax of the ironic turning away from the manly action ideal was carried out by the prototype of “muscular cinema” himself: in JUNIOR (1994), “Arnie” is impregnated and reveals his feminine side.

“Ladies do not start fights, but they can finish them.”

(The white kitten Marie in “THE ARISTOCATS”, 1971)

About action Amazons and killer fairies

In classic action films, for a long time women were purely decorative frills, erotic accessories or good-looking victims whose helpless screams filled the high frequency range of the audio track. The woman remained dependent upon the protection and goodwill of the man. Until the Hollywood hero factory ran out of original masculine heroes. In their footsteps came the action heroines. In 1977, THE SPY WHO LOVED ME features a female opponent for the first time. And while CHARLIE’S ANGELS are still nominally in the service of a male protagonist, avenging angels such as “the Bride” in Kill Bill only bring about the man’s effectively staged demise. As Alice in RESIDENT EVIL, Milla Jovovich teaches the whole male, manipulative, militant economic power a lesson, embodied by the Umbrella Corporation.

Female problem-solvers are becoming more beautiful, tougher, more ruthless and younger: In Joe Wright’s cinematic search for identity HANNA, a 16-year-old Botticelli angel (Saoirse Ronan) is trained into an androgynous killer fairy to bowl the “wicked stepmother”, played by Cate Blan-

Woman in the hotel:

“Why don’t you both put your guns down, and go home?”

Killer:

“Don’t be stupid.
This is the shootout!”

(Ralph Fiennes as Harry in “BRUGES”)



chett, out of this world without batting an eyelid. And in his sci-fi epic AVATAR, the undisputed action god of the 80s, 90s and 2000s James Cameron, enabled the mother goddess Eywa – easily identifiable as “Mother Earth” – to force the last militaristic machine-men to their senses.

In Fukushima, manly can-do fervour saw its meltdown. The world’s salvation is becoming – at least in films – female! We’re anxious to see how the action heroines and heroes of the future confront new challenges. On the big screen. On the world stage. At BELFOR.

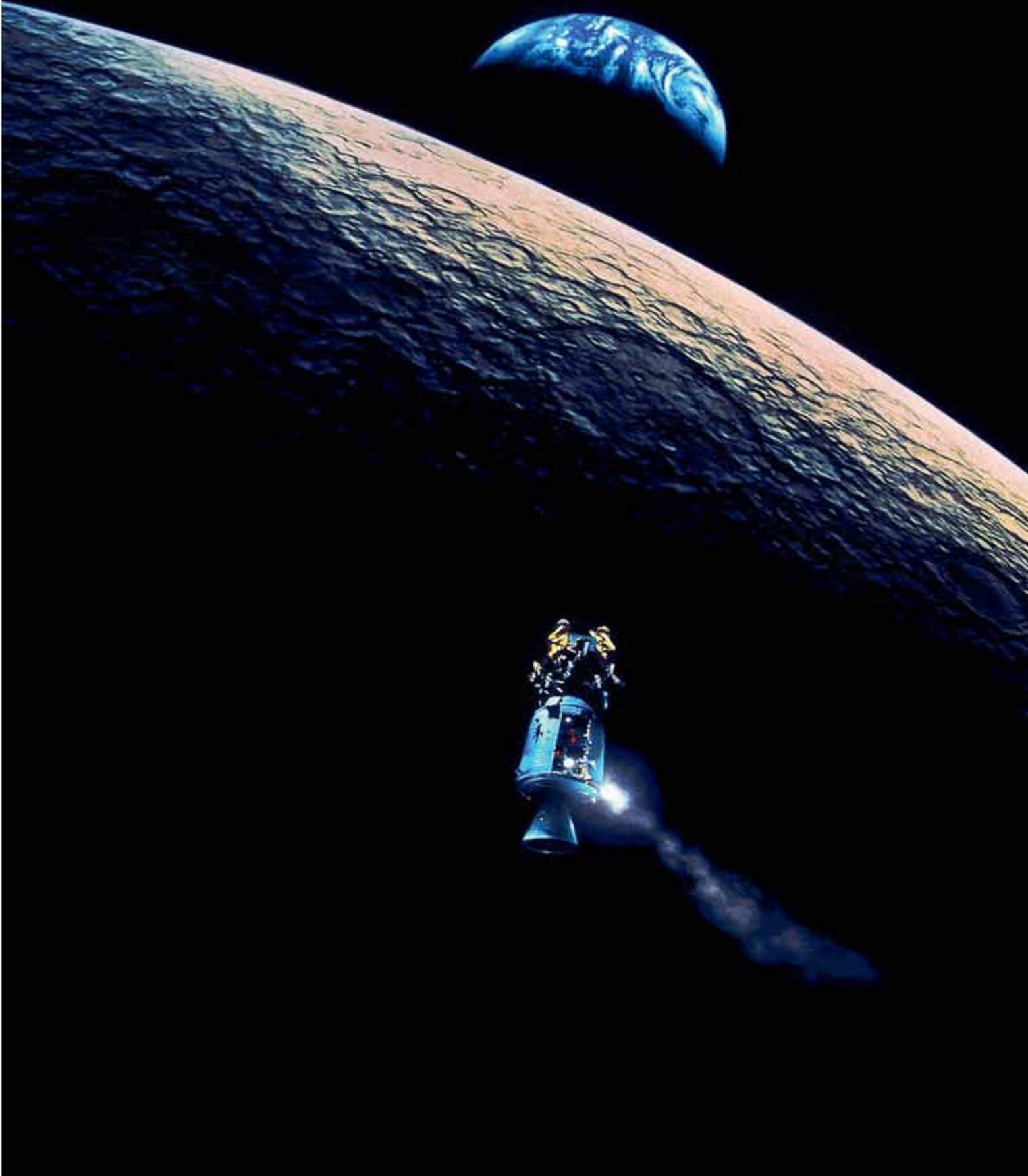
Film recommendations:



From film to reality

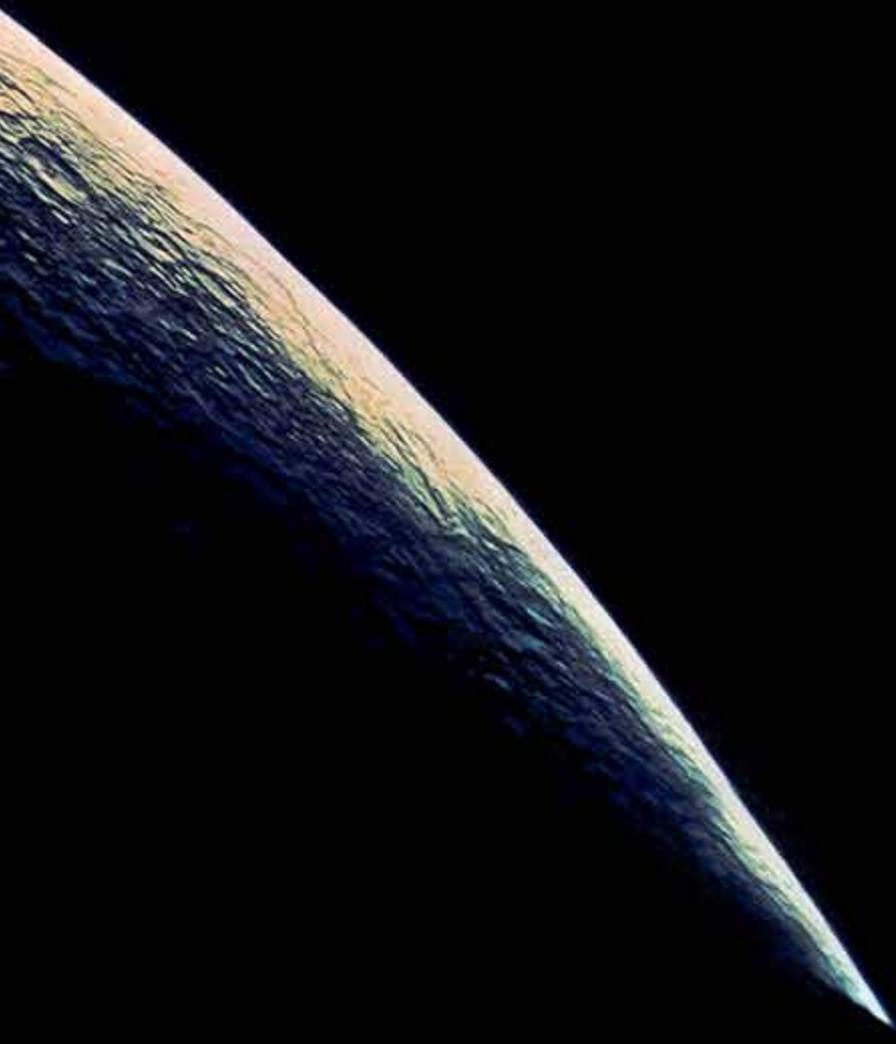
By the way: while we comfortably lean back in our chairs at the cinema to watch the next blockbuster, over 5,500 men and women at BELFOR are getting real disasters under control all over the world – and staging a “happy end” for those affected! In this issue, you’ll find action-packed reports about just that. Happy reading – and watching!!





“Houston,
we have
a problem”

*(Tom Hanks as Commander Lovell in APOLLO 13,
Universal, 1995)*



Flood*

BELFOR pumps out the floodwaters
at Bombardier

1st Act: Exposition

1846: in Bautzen, production begins of steam-powered and horse-drawn rail vehicles for the Berlin area.

1920: with electric railcars, trams and locomotives, the plant in Bautzen comes to dominate local and long-distance transportation and manufactures the first industrial locomotives for international clients.

1998: Deutsche Waggonbau AG in Bautzen is integrated into Bombardier Transportation GmbH.

2006: after over 20,000 delivered railcars the Bombardier plant in Bautzen celebrates its 160th anniversary.

2nd Act: Conflict

August 2010: in the tri-border area where Germany, Poland and the Czech Republic meet, it's raining and raining. The greatest rainfall since records began in 1881. 208 litres per m² in Saxony alone. The headwater of the Spree reaches the historic record of 5.30 m.

7 August. At night: the dam of the Bombardier plant in Bautzen breaks. The pressure wave floods the company premises: 300,000 m² of terrain lie 1.80 m deep in mud and water. Bombardier is literally "up to its neck" in water.

3rd Act: Resolution

8. August 2010: Bombardier contacts BELFOR. The next day, the damage is inspected and the order for immediate action is issued.

9 August: BELFOR starts with immediate measures: all files, documents and vehicle blueprints are salvaged from the flooded basements. The BELFOR major damage team sets further organisational measures in motion.

10 August: BELFOR sets up a container village for over 350 employees. The equipment lot grows: over 250 high-pressure cleaning devices, hundreds of lights and miles of hoses and cables are delivered and rolled out to provide all areas with water, electricity and light.

11 August: all recovered files are brought to one of our document drying centres in Prague and dried with special techniques, such as “vacuum freeze drying”. (Learn more about our document drying procedures under “Special effects” on page 20)

12 August: BELFOR presents a comprehensive restoration plan, which is also submitted for approval to the Bombardier headquarters in Canada.

Starting 13 August: electricity and water don't mix. That's why BELFOR rents a separate area in the technology and business centre in Bautzen to set up an external workshop for electronics restoration.

Desludging and preliminary cleaning: all floor surfaces and walls are pre-cleaned up to the water line. For this, over 200 high-pressure washing devices and high-power water pumps are used. Power is supplied through emergency generators, since the flood waters have put the electrical infrastructure out of commission.





Basic and precision cleaning: the wall and floor surfaces, including pits, sewers and manholes are given a basic cleaning. Compressed air lines, light protective elements and room partitions are given a precision cleaning. Many functional rooms have to be gutted to the “skeleton”: BELFOR employees dismantle dry structural elements, remove insulation, tiles and wallpaper, and beat the plaster from the walls to ward off ongoing mould.

Drying: large dryer with air volumes of 10,000 m³/h eliminate the remaining moisture from the affected masonry. At peak times, 450 different drying units are in use.

Machine restoration, the first: approx. 340 machines threaten to become unusable due to progressive corrosion: including turning and lifting equipment, milling machines and lathes, grinding and straightening machines, bending machines, steel cutters, blasting chambers and welding equipment. The machinery restoration experts from BELFOR are on the job!

Machine restoration, the second: the machine restoration takes place in five steps, according to tight time and priority requirements:

- Use of antirust agent
- Preliminary cleaning
- Precision cleaning
- Corrosion elimination
- Conservation





Machine restoration, the third: BELFOR takes on the dis- and reassembly, ordering of replacement parts, as well as replacement and re-commissioning. Comprehensive machine lists are created, while replacement parts and services rendered are documented in detail.



Electronics restoration: in the new BELFOR workshop in the Bautzen technology centre, switch and control cabinets, welding equipment and other electronic components are restored in parallel. For this, two rows of wet racks, as well as circulating-air and vacuum drying cabinets, are set up. A third row of wet racks is later installed at the Bombardier plant.



Special Effects Ultrasonic cleaning lines (URS): BELFOR sets up six ultrasonic immersion bath lines. Each one comprises five immersion baths, equipped with ultrasonic oscillators. The sound produces pressure waves that eliminate stubborn corrosion through cavitation (bubble formation) and implosion (collapse of gas bubbles). In five work steps – cleaning, rinsing, corrosion elimination, re-rinsing, conservation – tens of thousands of individual parts are derusted within eight weeks, without any trace of residue. (Further BELFOR special effects on pages 20 and 21)

October 2010: production is up and running again in cooperation with other Bombardier plants.

February 2011: the Bombardier plant in Bautzen resumes full production.

April 2011: most of the work is complete. The employees at Bombardier Transportation and the BELFOR team are totally exhausted ... but they did it!

Credits

- Over 450 different drying units in operation at the peak
- Over 3,000 days of high-pressure cleaner operation
- Over 15,000 l of wastewater treatment each day
- Over 45,000 km of transport services
- Over 60,000 l of chemicals used in immersion baths
- Over 195,000 manhours

To be continued ...

A few BELFOR specialists are still in operation, providing Bombardier Transportation in Bautzen with a final finish. Stay tuned!



Setting the right course

Or what can be learned from the Bombardier operation in Bautzen

If a century-old plant falls prey to the storm of the century, it almost requires an “effort of the century” to master the situation again. As you saw, BELFOR was in operation with hundreds of employees to help the leading tram and suburban railway manufacturer get back on track for its usual success. How were we able to mobilise so many workers in such a short time? Because we had set the right in-house course at an early stage.

The BELFOR major damage team

As if we had expected such a thing, BELFOR already began to set up a specialised major damage team in spring 2009 – over a year before the dam burst. Here, all capacities and capabilities were re-bundled and tightly organised. This meant we not only were able to be in the right place at the right time in August 2010, but also act with the necessary manpower and logistical backing: managing directors, mechanical engineers, project managers, directors of operations, safety engineers, drying technicians, specialist fitters, electronics restoration specialists, machine restoration specialists, general restoration specialists and logisticians undertook the joint venture of braving the flood.

With so many different people involved, not only is perfect coordination required, but also food, drink and shelter. BELFOR readies itself: 19 personnel containers, three office containers, two social containers, a hotel office for project meetings, a large tent for

.....

*Malwine Braunwarth
(Head of Risk Engineering
at Bombardier) recalls:*

In the night from Saturday to Sunday, 8 August, I was torn from sleep by long, persistent telephone ringing. On the other end of the line: a site representative from Bautzen. His words: “We have water damage.” First I imagined a small pipe having burst in the basement, but during the phone call, the devastating extent of the damage became clear. While driving to the site, however, I was astonished – bright sunshine and not a trace of flooding in the area around Bautzen, not even a flooded meadow. Already on the way, the BELFOR emergency services were notified so that their claims experts arrived at the factory at the same time. Right at the factory premises is where the disaster began: the water had already subsided at night, but everywhere I looked lay mud, overturned containers, half-finished trains with wheels in deep puddles and water deposits up to window height, a sliding platform partially destroyed by the force of the water and bent hall door, bogies – ready for pick-up – buried under a layer of mud and this was just the immediately visible damage outside. In our plant, where 1,200 people usually work and one train after the other takes its test laps, there was unusual silence.

.....



restoration equipment and bulk goods, eight containers for storage of special equipment and an external electronic restoration workshop are set up. To ensure the supply of material and PSA protective clothing, BELFOR lorries shuttle back and forth, day and night. Local holiday and weekend driving prohibitions are even suspended in order to ensure smooth delivery and removal.

As strong as necessary – as lean as possible

But size is nothing without efficiency. That’s why BELFOR also makes sure that the team remains a “lean team” for large-scale operations – as strong as necessary, but as lean as possible. This is particularly true for claims management, which – though strategically indispensable – constituted only four percent of the workforce capacity in the case of Bombardier.

BELFOR team at Bombardier





.....

Malwine Braunwarth

In the early days, the focus was on cleaning up and getting the infrastructure back up and running, as well as getting an overview of the exact damage and examining how other plants might be able to lend assistance. But the most important provision was the involvement of our employees. From the beginning, it was clear that we wanted to come a little closer each day to the objective of “getting back to building trains in Bautzen as quickly as possible!” Everyone was to be ensured that their work wouldn’t “go under” in the floodwaters – and actively assist in tackling the issue!

Already early in the morning, the site was inspected jointly with BELFOR and immediate actions were put into motion. In addition to the initiation of technical clean-up measures by BELFOR, one of the first steps for us was to procure hundreds of rubber boots and snow shovels for our employees to remove the mud with.

.....

Fight individually – win as a team

But strong team performance shouldn’t blind us from the dedication of each individual that puts in a long hard shift day after day. At Bombardier, many BELFOR employees reached their physical limits and beyond: morning roll call at 7:00 am, three briefings – in the morning, at noon and in the evening, with subsequent operations –, a quick dinner, followed by a brief night’s sleep away from home. Large-scale damage restoration specialists are usually early risers, quick eaters and piece workers! Collective success is the sum of many individuals who give it their all – which we would like to take the opportunity to heartily thank them for!

From “mud fight” to high-tech restoration

Only because everyone gave it their best were we able to combine the best with the best, meaning: mobilisation of BELFOR’s entire range of services. This was necessary, since the Bombardier damage increasingly changed from large-scale damage to technical damage and called various specialists to duty: first the building renovators and document restoration specialists, then the machine and tool refurbishers, and finally the specialist fitters and electronics experts for the extensive range of machinery.

From Bombardier flood water to new shores

In order to reach our clients even faster with our full service offering, we have expanded our brand tracks: in addition to our main track BELFOR Damage Restoration, now you benefit from BELFOR Prevention and BELFOR Technology, which are even more sharply tailored to



the various requirements of our clients. Learn more about the new “three-track setup” at BELFOR on pages 22 and 23.

BELFOR’s success factors at a glance:

- Short response times to steep large-scale requirements
- Reliable adherence to all deadlines and quality requirements
- Convincing major damage management, from large-scale to technical damage
- Confident relations with all decision-makers
- Continuous improvement process (CIP)

“Out there is
the true world”*

Special effects, visual effects and mental cinema

*Jake Sully, played by Sam Worthington, in AVATAR, 2010

Volcanoes explode. Meteorites pulverise big cities. Aliens take over. Middle Earth is overrun by the forces of Mordor. In the midst of special effects, the world meets its demise. ... Or its origins: Neverland, Narnia and Pandora guide us into other universes, in order to rediscover our lost selves. Here you'll find out what means Lucas, Spielberg, Cameron and Co. employ to make the impossible possible.

Special effects – as old as the history of film

Since the French film pioneer Georges Méliès astounded early cinemagoers with film tricks in the 1902 film A TRIP TO THE MOON, cinema has undergone a meteoric career – or rather a breathtaking battle – of special effects. Here, a distinction is made between classic special effects (SFX or SPFX), which use artificial rain, pyrotechnics, sugar glass and fake blood to imitate reality as best as possible, and the newer visual effects (VFX), which employ digital image processing to completely shift the boundaries of reality. Both of which have a single objective: to push the sensory cinema experience to its limits. Whether deceptively real, surreal or unreal – each year thousands of special effect experts further the extent of our imaginary field of vision.

From latex to the Matrix

For each special effect there are luminaries who have mastered their jobs so well that the illusion is perfect. This enables make-up artists, for example, to make the Hollywood hunk Brad Pitt look ancient in THE CURIOUS CASE OF BENJAMIN BUTTON. Or to make the 2.21-m-tall Peter Mayhew into the loveable wookiee Chewbacca, using a latex mask, yak strands and wire-controlled facial features. With him, George Lucas, the cinematic father of the STAR WARS sexology, has sent out a whole vanguard of extraterrestrial exotics into the field against the physiognomy of the familiar and firmly anchored it in our visual universe: C-3PO, Yoda, Jar Jar Binks, Jabba the Hutt. Not to mention “the dark side of force”, whose deadly breathy sounds are now available as a mobile ring tone.



“Your eyes can deceive you, don’t trust them!”

(Alec Guinness as Obi-Wan Kenobi in STAR WARS, Episode IV, USA 1977)

The Star Wars “universe” was created in 1975 in a mere 2,500 m² warehouse in Los Angeles, where it established the legendary fame of the effects studio “Industrial Light and Magic” (ILM). First with classic cinematic tricks such as masks, miniatures, and camera effects. But already in 1977 making use of the first cinematic computer animation – the 40-second circling of the Death Star using a vector-generated wireframe model. Computer-generated imagery, abbreviated CGI, was born. Even if the sight of the Death Star doesn’t make anyone break into a cold sweat anymore, it quickly became clear: with the increasing power of computers, previous limits were falling away.



The legendary bullet-time effect in Matrix was realised by means of 120 still cameras filming

CGI reached its technical and philosophical magic moment in the 1999 cult film THE MATRIX: With its camera pans around “frozen” bodies and projectiles, the film not only made the “bullet time” slow motion effect popular worldwide. As an “illusion (matrix) within the illusion (film)”, it simultaneously decoded the ambiguity of our reality and decoded – deriving from old religious concepts and new neurological findings – the ambivalence of our perception.

Disassociation from reality – why the appeal?

But what fascinates us so much about entering into made-up worlds? Media researchers presume it’s the escape from one’s own world. In modern media psychology, escapism is regarded as a central motif of media use. Artificial worlds offer an “exit option” from regimented, structured and routine

day-to-day life. We slip out of our heavy social roles and directly into ideal, prototypical roles where we overcome the most beautiful of women and the boldest of men; we save the world or avenge its injustice. The cinematographic build-up of suspense helps break down psychological tension and takes us on a brief getaway from grey, day-to-day life – to the Shire, Hogwarts, or the floating Hallelujah mountains of Pandora.

“Sometimes fantasies are better than reality!”

(Hilary Duff in CINDERELLA STORY, USA/Canada 2005)

Hollywood doesn’t want to be flat anymore – 3D and the future of visual effects

With illusionary 3D technology, a new era of visual sensation is dawning in our cinemas and minds. In James Cameron’s epic AVATAR, over two billion viewers experienced their “Blue Wonder” behind dark, stereoscopic glasses. A new virtual camera, an innovative performance capture process, (see p. 21), two petabytes (= two quadrillion bytes) of disk space and over 2,250 visual effects artists – including 150 from Industrial Light & Magic – were needed to make the most successful film of all time take flight. Their names flicker endlessly over the end credits, while the dazed audience sorts out the afterimages on their retinas.

With every animated “Avatar”, however, the risk becomes ever more prevalent that real actors will eventually be superfluous. The complete digitisation of human facial expressions is, however, still a long way off due to its great complexity. Fortunately!

To whatever sensory heights special effect cinema might soar – there’s talk of 4D and 5D, vibration, weather and olfactory cinema – in the face of such progress one thing is still comforting: the most imposing form of virtual reality is the one taking place in our minds – the so-called mental cinema. And that’s something you can already experience with a good book, without any special effects at all!

The greatest special effect battles in film history:



No phoney tricks! Special effects in film and at BELFOR (glossary)

In films, special effects help create new worlds and – often – destroy old ones. BELFOR's "special effects" have precisely the opposite purpose: They are intended to undo any damage. We can't afford any "fakes". At BELFOR everything is real – no optical illusions, no stuntmen, no computer tricks! There are numerous procedures that we've developed and enhanced, sometimes exclusively, over 35 years of restoration work. We're pursuing the same goal as most film-makers: a "HAPPY END" for our clients.

How cameramen get the picture

Special lenses: e.g. fish eye, wide angle, zoom, anamorphic (for CinemaScope, Panavision)

Colour filters: e.g. red filter to simulate a fire (in GONE WITH THE WIND 1939)

High-speed camera: records extremely fast movements – such as bullet impacts, explosions, crash tests – at up to 1,000 frames per second

Bullet-time effect: special slow-motion photography that allows the camera to pan around "frozen" objects (employed for the first time in THE MATRIX, 1999)



Steadicam: camera fixed in place with body belts and mounted on a stabilising mount, isolating the operator's movement from the camera. The cameraman can move freely without shaking the image (first used by Stanley Kubrick in the famous labyrinth scenes of THE SHINING, 1980)

Crash cam: for use in hazardous situations, such as explosions or accidents. Since the camera is destroyed during use, the footage is transmitted via cable or wirelessly.

Blue screen/green screen technology:

using colour-based cropping (chroma keying), people are subsequently placed in front of a new background (first used in 1933, in KING KONG)



Split screen: parallel cut technique for portraying simultaneity and the build-up of suspense

How BELFOR gets the picture

The trained eye: experienced employees "scan" the situation as quickly as possible and make systematic decisions about what to do

Thermography: leakage detection through thermal imaging by means of infrared camera



Video-endoscopy: inspection and damage monitoring of pipes, drains, cavities and shafts in the event of water damage



Acoustic leak detection: detection of leaking water via sound waves, using



high-performance microphones, special amplifiers, equalisers and headphones

Electro-acoustic line detection: through the creation of electromagnetic fields along water lines

Correlation leak detection: two microphone measurement points transmit electro-acoustic values wirelessly. The correlator calculates the distance between the leakage point and measuring point.

Fire effects

Pyrotechnics: fire, smoke, fireworks



Blasting technology: such as gunpowder,

propane, diesel fuel, compressed air, pipe ramps for car rollovers, pneumatic catapults that hurtle people and cars into the air (air ram)

Weapon technology: e.g. use of blank cartridges, muzzle fire simulation, bullet holes in buildings and bodies through prepared squibs (black powder detonators), bulletproof jackets, anti-skid and traction devices (such as ratchet pull, nitrogen ratchet, jerk ram)

Burning people: professional stunts using fire protective clothing (Nomex, asbestos, racing suits), heat-resistant paste, facial masks and insulating-glove covers



Anti-fire effects

Preventive structural fire protection: e.g. fire protection mortar, sealing and bulk-



heads, cable wrapping, steel protective coatings, support and girder sheathing, fire protection padding, fire protection joints, fire protection collars, fire barriers, fire blankets and fire doors

Soot removal film: exclusive BELFOR technique for dry-cleaning walls and ceilings, as well as wooden and

sensitive surfaces – highly effective and environmentally friendly, and leaves behind no dust or residue. (for application, see page 29)



Water effects

Rain: e.g. sprinkler systems with large water holes. The rain drops have to be bigger than "real rain" so that the camera can record them. Storms can be intensified through the use of wind machines and fans.

Snow: e.g. falling snow in the form of snow powder made of paper, starch or plastic (usually polyethylene), lying snow of all kinds, e.g. through snow fleece

Ice: e.g. through ice wax, ice gel, frost powder and frost flower spray

Water tanks: e.g. for flight simulations. The water tank is filled with kapok clouds as cushioning material and the flying object is pulled through (used, for example, for the arrival of the alien ship over New York in INDEPENDENCE DAY 1996.)

Anti-water effects

Building drying Immediate action: pumping out of water, salvaging of building equipment and machinery



Damage analysis: moisture measurement with damage report

Leak detection: detection of cause without doing damage

Technical building drying: e.g. with high-performance drying equipment (for application, see pages 14, 15)

Adsorption drying, condensation drying, odour elimination: e.g. through heating, containment, filtra-



tation and adsorption, fogging (vaporisation of fragrances), ozonation, ionisation

Document drying:

vacuum freeze drying in three drying

centres in Prague, Paris and London, as well as mobile high-power chambers



Adsorption drying, condensation drying, molecular sieve drying

Document smoothing and refurbishing

Gamma irradiation, disinfection and odour elimination

Ice effects:

Dry ice blasting: high-pressure jets of frozen CO₂ pellets (-78 °C). Ideal for contamination caused by chewing gum, silicones, adhesives, coatings, paints, graffiti, etc.



Mechanical, electronic effects

Animatronics: movement of artificial “creatures” through mechanical and animatronic equipment, such as guide rods, cables, electric motors, air pumps. Mostly used for animal animation (a famous example: KING KONG 1933)



Stop motion: until the 1980s, movement simulation often used through modification of individual frames, usually for monsters, dinosaurs, UFOs and in puppet or claymation films. Still successfully employed by Tim Burton, for example, in CORPSE BRIDE or by Aardman Animations in WALLACE & GROMIT.



Go motion: modification of the stop-motion technique through computer-controlled motors to produce smooth motion blurs

Miniatures: used until the 1980s in fantasy and science fiction films, now mostly replaced by computer animation. (Peter Jackson used miniatures on a large scale in LORD OF THE RINGS – castles, walls, battering rams – and thus achieved a high degree of authenticity in Middle Earth.)

Restoration of machinery and electronics

Machine restoration: in the event of damage caused by fire, water, plant equipment, acid, corrosion, extinguishing agent or dust



Maintenance, repair, machinery overhaul:

major overhaul, partial overhaul, geometric overhaul (restoration of working precision, adjustment of assemblies, relocation of spindles and much more)



Machine upgrades: modification of control unit, switch cabinet construction, replacement of hydraulics, pneumatics, measuring equipment, sensors, lubrication, bearings, safety technology

Replacement parts production:

Authentic replication of in-house machinery, for example, if older parts are no longer available on the market



Electronics restoration:

through single-cycle, high-pressure, contact, dry cleaning, wet cleaning, vacuum drying, removal of fluxes, corrosion elimination with complex derusting agents, submersion bath procedure with wet electronics cleaners



Ultrasonic cleaning lines: highly effective process for removing corrosion through immersion baths with ultrasound (for application, see page 15)



Clean room restoration

Computer effects

Computer-Generated Imagery (CGI): image generation through 3D computer graphics. CGI includes a number of computer-based work steps, such as rendering (model configuration), shading (surface design), mapping (colour and structural variations) and much more. It was used for the first time by George Lucas in 1977, in STAR WARS.

Morphing: transforming a source image into a target image by means of warping, tweening and cross-dissolving. Morphing achieved fame in 1991 through the famous video clip by Michael Jackson BLACK OR WHITE.



Dinosaur input device (DID):

special stop-motion-capture process for animating dinosaurs (achieved



worldwide fame in 1993, in JURASSIC PARK by Steven Spielberg)

Motion capture: transfer of human or animal movements to computer-generated 3D models. With the rigging (skeletal structure), the motor function is set, while skinning involves coupling it with the surface structure of the animated character.



Performance capture: further development of motion-capture technology in which the facial expressions of the actors are scanned (such as Gollum in THE LORD OF THE RINGS II, 2002; KING KONG, 2005; AVATAR, 2010)

Data recovery and restoration

Media-neutral data recovery: e.g. from hard drives, CDs and DVDs, magnetic tapes, video and audio tapes, microfilms, negatives, x-ray images, etc.

Damage assessment: determination of cause and scope of damage, as well as potential for restoration (in cooperation with subcontractors)

Recovery: restoration of all damaged structures (as far as possible), copying of data to tape or CD-ROM (in cooperation with subcontractors)



Stuntmen

No action flick can do without them. Here the list of stuntmen often surpasses the list of performers many times over.



Real people

With us there are no doubles, not even for dangerous assignments. That's why we always abide by the strictest of safety regulations, wherever we operate.



Post Production

The follow-up work. Often the longest and most expensive stage in film production.

Foresight

BELFOR works so in-depth and sustainably that no reworking costs are incurred by our clients!

How to construct buildings and brand buildings

The new BELFOR brand structure – an interview with Michael Zilles

Michael Zilles,
Head of Marketing & Sales
BELFOR Europe



Mr. Zilles, you have been the Director of Marketing and Sales at BELFOR Europe since 1 January 2011.

What was your impression of BELFOR when you came?

Committed, motivated, performance-oriented! A strong force that isn't a lot of talk, but rather lets their actions speak for themselves. Just what is crucial in damage situations. I was impressed!

Was there anything that could have been improved?

People of deeds are, as I said, not necessarily people of words. We were not as effective in communicating our services to the market as we were in cooperating internally.

In what way?

Although BELFOR is indeed a global market leader, it's not yet a "brand leader". For many years we've appeared in different countries under different brand names. And within a country, our skills were often again divided up between different sub-brands. This, of course, is due to our history: BELFOR emerged from a conglomeration of many local brands. These niche brands were well established in their regional markets; they stood for special services and values. They knew their clients and their clients knew them ...

What was the challenge then?

Our clients kept getting larger and more international, and our operations followed suit. It was increasingly difficult to carry over our regional, national and industry-specific expertise to our worldwide business. A discrepancy arose between our performance and the communicability of it as "BELFOR performance".

And you'd like put an end to this chapter of corporate history?

Put an end to it? ... I'm cautious with final wording. I don't want to conclude anything, but build upon something. Not slam doors shut, but open new ones... and facilitate the transitions. That's why I prefer to speak of "change management". International brand development is a complex, delicate process that you have to address carefully and with close consideration. Above all: by making sure to allow the necessary time. Nothing would be more fatal than to thoughtlessly throw overboard structures, values and client relationships that have evolved over years just because you're dreaming of "something larger".

And in the long term?

Over the long term, you of course have to think about how to maintain and expand the position you've achieved – we are the global leader after all – , as well as make it sustainable for the future. This is exactly where our change management process picked up in early 2010. It was necessary to unify our pool of services and skills in our communication as well, instead of only in our operations. At the same time we couldn't afford to let the pooling together of our capacities cause us to lose the individual "service palettes" that make BELFOR so strong, versatile and unique.

"BELFOR has to change from market leader to brand leader."

It sounds paradoxical... how is that supposed to work?

By first strengthening the brand essence of BELFOR and then expanding the core value commitment to other areas of expertise. As an umbrella brand, BELFOR stands for being the global market leader in disaster recovery. But BELFOR is capable of much more. This "much more" has, in the past, often been communicated as "many more names". That will now change step by step.

How exactly?

Besides the BELFOR umbrella brand we've launched the two sub-brands "BELFOR Prevention" and "BELFOR Technology". In the future, they will support and enrich BELFOR's brand core. All good things come in threes – before it used to be at least 13!



What does BELFOR Prevention stand for?

Across the world, the classic BELFOR brand is almost exclusively associated with the disaster relief business: we're the ones that come when something happens! But we are equally keen on ensuring that nothing happens or that the extent of the damage is limited as much as possible. And we can contribute a lot: for example, through our comprehensive product range in structural fire protection and our RED ALERT® emergency response service. But not everyone knows that yet. With "BELFOR Prevention", we would like to better anchor our prevention skills in the minds of our clients – and later integrate consulting services as well.

And what does BELFOR Technology stand for?

For another one of BELFOR's areas of expertise that not everyone immediately has on their radar. In some places, we are still perceived as a company that above all "cleans up" and restores things to their pre-damage state. But we are also – especially through our brands DeHaDe and Recontec – recognised experts in machine and electronics restoration, right through to sensitive semiconductor technology, and we work under cleanroom conditions. Our research and development centre in Ismaning is a distinguished partner for analyses, the development of new procedures and training measures. With "BELFOR Technology", we'd like to emphasise the technical skills of our company and tie ourselves more closely to the BELFOR core brand.

Does BELFOR Technology only take action in damage scenarios?

No! You've picked up on a subtle, yet significant nuance. While the name "Recontec" focuses on "restoration" – emphasised by the prefix "re" – , BELFOR Technology expands the playing field for example to the areas of maintenance and machinery modernisation. Therein lies a great degree of market potential for us and a lot of savings potential for our clients. When veteran machines are readjusted and their control systems optimised, they continue to "muscle it" through the next few decades, with high precision and reliability. That's much more efficient than replacing them. We're expanding the playing field in other aspects as well: under BELFOR Technology, we want to continue to offer our

customers customised business solutions. We're already doing that now in the marine and offshore areas. Industry-specific solutions are increasingly in demand on the market. This is a good opportunity to project ourselves not only as all-rounders, but also as specialists.

What are the advantages of the new BELFOR "three-track system"?

The new brand structure allows improved differentiation in terms of our services. On the other hand, stronger "unification" concerning the provider of these services. In short: unity with more diversity. And clearer communication!

"With the new brand structure, we're catching up on the communication aspect of what we've already achieved operationally long ago."

Does the new brand structure also affect the range of services offered by BELFOR?

Not terribly! At the core, we're still offering the same thing. Just the perception of this offer will change worldwide. Although in damage scenarios many hands come from many countries and speak many different languages, they all knuckle down effectively under the same name and "under the same banner". With the new brand structure, we're catching up on the communication aspect of what we already achieved operationally long ago.

When will your clients be informed about the new brand structure?

BELFOR Prevention officially launches in October 2011, at the FERMA in Stockholm. There will be detailed presentations, workshops and informational materials on the topic, followed by individual national events in the countries concerned.

"Brand management is a transnational task."

What do you see as challenges in the future?

I see the further consolidation and diversification of the BELFOR brand landscape. The BELFOR brand is becoming ever more consistent, while its content is becoming increasingly diverse. This is a transnational task. The rules and procedures for this are currently being defined at BELFOR Europe. Then we will support the national companies in the implementation of individual measures. Of course, this is only possible if we all pull together. But when I see how well that works at real construction sites, I have no doubts that it will also work out at the "brand construction site"!

For questions about the new BELFOR brand structure, Michael Zilles will gladly assist you at michael.zilles@belfor.com.

“God himself
could not sink
this ship.”

*(Bernard Hill as Captain Edward John Smith in TITANIC,
20TH CENTURY FOX/PARAMOUNT, 1997)*



Expect the unexpected

BELFOR Prevention – an important building block within the BELFOR range



The Titanic. The pride of the British White Star Line. The largest ship in the world – “unsinkable”! The rest is history: in the night from 14 to 15 April 1912, the Queen of the Seas collides with a 300,000-tonne iceberg southeast of Newfoundland on its maiden voyage. Exactly two hours and 40 minutes later “The Last Word in Luxury” sinks into the depths of the North Atlantic. Over 1,500 people on board and a single human dream – of the victory of technology over nature. Since then, we’ve come to our senses and now know: everything, including the absolutely impossible, can happen anytime, anywhere.

The Titanic has become synonymous not only with great misfortune and its uncontrollability. It also stands for what – with a little caution and forethought – could have been avoided. Therein lies the tragedy of the Titanic disaster: in its preventability. Had someone seen the iceberg earlier, had they turned a bit sooner – nothing would have happened. But hindsight is always easier than foresight. This knowledge has expanded into a real science: risk management. Using complex mathematical and simulation methods – such as scenario techniques, Delphi surveys, interaction and post-mortem analysis – different risk factors are recorded, added together and evaluated (risk aggregation). Subsequent risk management aims either to avoid, reduce or transfer risks. And it quite often entails accepting residual risk. Since risk managers like to make calculations, from now on they should take into account a new factor: BELFOR Prevention!

“Prevention is better than cure”

Hippocrates, about 400 BC

We would rather come to prevent damage

Whenever something bad happens, BELFOR is on the spot. As the world’s No. 1 in damage restoration, no case is too big for us, no distance too far and no operation too complex. But most of all, we prefer to prevent potential damage scenarios. That’s why there’s “BELFOR Prevention”. BELFOR Prevention does everything it can to prevent disasters and reduce their consequences.

Before, during and after the disaster – BELFOR’s 3D view

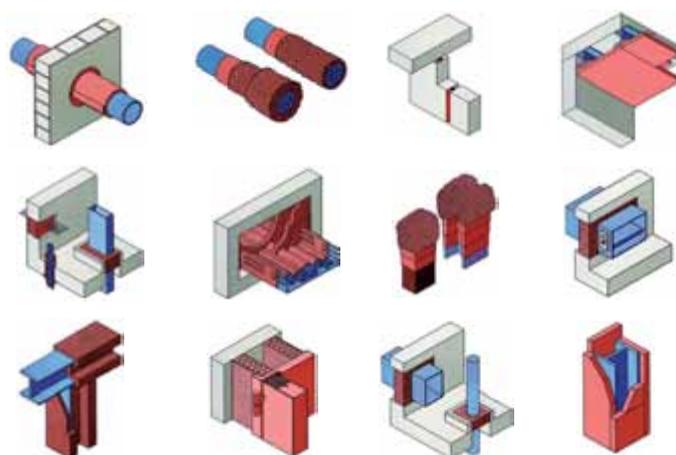
With BELFOR Prevention, we’re completing our range of services for the time BEFORE the disaster. What’s the reason? Because we’re so familiar with AFTERWARDS: For over 35 years, BELFOR has been restoring fire, water and storm damage around the world. We dry buildings, restore facilities, repair technical systems and restore important documents. And we’ve encountered a host of uncertainties: we know the dangers – those of technical and human nature, as well as the acute and insidious ones. Over the decades, we’ve adapted and continually enhanced our technologies. All this know-how flows into BELFOR Prevention. This way, our experience is your preparation!

Don’t let anything catch fire: preventative structural fire protection

While the Titanic’s concern was water, on dry land, it’s often fire. That’s why preventive structural fire protection is one of the most important preventive measures of BELFOR Prevention. This concentrates mainly on people’s safety. However, the great loss of material assets also makes it necessary to include risk planning, now more than ever. Structures with high occupancy, such as residential buildings, schools and administrative buildings, place higher demands for structural fire protection than functional buildings, such as warehouses. The requirements are especially high if the residents are limited in their means of escape, such as in hospitals or retirement and nursing homes.



Inform, train, raise awareness: BELFOR seminars and workshops illustrate what to do in an emergency



A small selection from the BELFOR product range for preventive structural fire protection

Mortar, collars, fire doors: from a single source

Throughout Europe, BELFOR Prevention offers a wide range of fire protection products and their installation – from fire protection mortar, sealing and bulkheads to cable wrappings, steel protective coatings, support and girder sheathing to fire protection padding, joints, collars, barriers, ceilings and doors. BELFOR systems have been successfully installed around the world at over 50,000 client locations. The fire protection classes depend on the type of building and fire safety regulations of the particular country. But our advice is: don't hesitate to install a bit more than the statutory minimum level of protection. We'll gladly help you plan and implement custom solutions if you wish!

Fast, faster, RED ALERT®

BELFOR Prevention not only helps to avoid damage situations, but also to reduce their consequences. This is only possible with a quick response. After a disaster has occurred, emergency measures must be taken within the first 24 to 48 hours to prevent any worsening. In order to guarantee this worldwide, we already launched the emergency response programme RED ALERT® several years ago.

Let's turn back the clock – to 14 April 1912, 11:40 p.m.: Frederick Fleet spots a giant monster on the horizon from the Titanic's crow's nest. He rings the bell and shouts "Iceberg, right ahead!". All machines switch to reverse, the ship steers hard to starboard. But too late! As a witness in the British investigating committee, Fleet later reports that he and his colleague Reginald Lee would have discovered the iceberg earlier if they – as actually required – had been equipped with binoculars.

With BELFOR Prevention you are, in a sense, equipping yourself with binoculars – and in serious situations you can take evasive manoeuvres!

RED ALERT® Basic



- 24 hour all year round response through the BELFOR hotlines
- Priority telephone response
- Priority response over non RED ALERT® clients for major disasters (catastrophes)
- Free inspection, damage assessment at your site by a damage expert from BELFOR (only in countries where we have a presence)
- Service invocation information for the relevant personnel within your organisation
- Retention of your key information relevant to BELFOR's response
- Technical helpline (during working hours)
- Invitations to free seminars at our Centres of Excellence
- No call out charges in countries where we have a presence

RED ALERT® Premium

- 24 hour all year round response through the BELFOR hotlines
- Immediate telephone response in less than two hours after you report your incident to us
- Free inspection, damage assessment and advice on damage limitation actions within a specified response time
- Written confirmation of damage limitation actions within 24 hours of site visit
- Supporting the obligations within your insurance policy to take actions to mitigate losses
- Priority response over non-fee-paying RED ALERT® clients for major disasters (catastrophes).
- Review of your business continuity plans to advise on an appropriate invocation point for our service.
- Free seminars at your key locations to explain BELFOR's services, and mitigation measures to increase risk awareness
- No call out charges in countries where we have a presence

RED ALERT® Premium Plus

- As for RED ALERT® Premium with the addition of a survey at your key site(s) to familiarise BELFOR with your organisation and the critical response required at the time of an incident.

Risk detection, evaluation and avoidance

P.I.A. SAFE: protects the value created over the years

“Il vulcano esplode quando vuole” – the volcano erupts when it wants to, says an Italian proverb. Those responsible for risk management in the shadow of Vesuvius and Etna are historically “sensitised”. So it’s no wonder that it was BELFOR Italy that developed P.I.A. SAFE, a new risk management tool supporting companies. Implementing it helps companies to achieve strategic objectives (risks affect them and can prevent their achievement) and maintain the value that the company has created in time.

Know-how meets know-why

P.I.A. SAFE comes from a collaboration between Andrea Bordignon and Fabio Franzolin, two young engineers, who established “EX-SAFE”, a Risk Management consulting company, immediately after graduating from university. Their approach is mainly based on the techniques of “LEAN Manufacturing”, the practise used by many companies for greater competitiveness by reducing the time of the production cycles and increasing the value index by eliminating waste. The meeting between the techniques developed by the two

young engineers and BELFOR meant pooling their respective experience in P.I.A. SAFE, which thus became the combination of the restoration services of P.I.A.® Pronto Intervento Azienda(*) with a detailed technical analysis of the criticalities that can generally only be seen during an accident. The main objective of P.I.A. SAFE is to highlight the degree of protection and prevention of the company assets from Pure and Operative Risks, by analysing the systems that the company has already set up to create a quantitative measurement matrix of company safety against those events

that Small and Medium sized enterprises in particular do not often consider. P.I.A. SAFE intends to be the starting point for communicating with the insured party. This will allow them to implement the protection of the assets so as to gradually take them to congruous levels in order to mitigate the highlighted risks. All this is carried out with a careful rationalisation of the company resources which derives from the correct assignment of the intervention priorities.

From analysis to prophylaxis

Analysis is the starting point of the P.I.A. SAFE process. All critical factors are considered, the company scenario is examined and the frequency of simple events like fires or floods is analysed. The information collected is used to determine and measure the potential dangers, highlighting the risks with the highest intervention priority. Subsequently solutions for the emerging criticalities are proposed. The data collected is also converted to allow BELFOR to obtain the essential information to act in the shortest time possible in the event of a fire, flood or environmental damage. The process is particularly effective for small and medium-sized enterprises (SMEs), to give them greater awareness of their own risk exposure and, in the event of an accident, to protect assets and avoid any negative impact on cashflow.

With P.I.A. SAFE, the incalculable becomes manageable - and in the event of an accident, the company is ready and reactive.

Comprehensive Risk-Mapping with P.I.A.Safe

Strategic Risks

- ▮ Competitors
- ▮ Product innovation
- ▮ Loss of reputation
- ▮ Risk through internationalisation
- ▮ Acquisitions / Mergers / Joint Ventures

Financial Risks

- ▮ Wrong Bank Rating
- ▮ Exchange Rates and Currency
- ▮ Lack of Liquidity
- ▮ Improper insurance cover
- ▮ Market Risk
- ▮ Insolvency of Customer

Pure Risks

- ▮ Fire
- ▮ Theft
- ▮ Natural Disasters
- ▮ Environmental Damage



Operational Risks

- ▮ Intellectual Property
- ▮ Loss of IT Data
- ▮ Loss of a Supplier
- ▮ Production Interruption
- ▮ Work-Related Accidents
- ▮ Contractual Risks

P.I.A. SAFE

*) P.I.A. Pronto Intervento Azienda: predetermined post-accident service launched by BELFOR in 2005

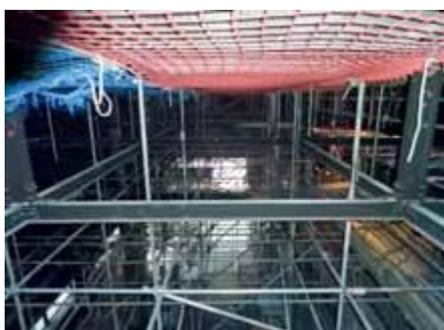
Dirty Money*

BELFOR polishes up
a mint in South Wales

The Royal Mint – 1,125 years of artistry has earned it the reputation as the world's leading coin manufacturer. The British Royal Mint produces 90 million coins and medals per week for the UK and over 60 countries around the world – nearly five billion a year. Where so many valuables pile up, security requirements are appropriately high. A high-tech bunker and the “Ministry of Defence Police” guard the precious treasure in Llantrisant, South Wales, on the edge of the Rhondda Valley. But they are powerless against the worst of all thieves: fire!

The flipside of the coin

So when a fire breaks out in a nickel-plating machine, the high-security building becomes its own prison. The smoke can't escape and fills the air, getting trapped under the roof and penetrating deep into the structure of the building. 4,500 m² of the mint are extensively contaminated, and the building's technology system is severely damaged. The flipside of the coin: an institution such as the Royal Mint, which produces “jingling coins” 24 hours a day, cannot afford even the smallest outage. Good ideas are needed. And the first is to call BELFOR!



Well-equipped for the highest of demands: the BELFOR “bird cage”

The “bird cage”

Since BELFOR already has extensive experience working in high security areas, the Royal Mint's concerns quickly go up in smoke. First we set up a giant “bird

cage”: It comprises three platforms of varying heights, which allow all the wall areas and the ceiling – which is over 15 metres high – to be easily reached without having to interrupt the coin production machinery below. 12,000 wooden planks and 9,000 tonnes of scaffolding are used in the construction of our “bird cage”. This means that up to 30 BELFOR employees and various subcontractors can get to work at the same time – as the tight timing stipulates.

Cameras roll for “soot removal film”

The second good idea involves soot removal film, known as SRF. BELFOR has developed this exclusive dry film restoration method especially for the removal of soot damage. SRF is based on liquid natural latex, which is sprayed onto the contaminated surface. After around 24 hours of drying time – depending on the room temperature – the film can be removed without leaving any residue; no smearing of soot, no contamination of the ambient air. SRF not only cleans more gently and in a more eco-friendly manner, but is also more effective than conventional wet or jet cleaning methods. After the “soot peel”, using 8.5 tonnes of SRF, the inner walls of the nickel-plating plant gleam like newly-minted coins!

Some like it hot

Despite these innovative methods, there are plenty of obstacles to be overcome. The tight deadline and the strict security standards set down by the Royal Mint also have to be met. Complicating the issue further are the high room temperatures of up to 39 °C, which are generated by the constant rotation of the coin machines. BELFOR's response involves rotation too. Our staff regularly change the platform they are working on and work in shifts. The heat, however, does have its uses. Soot removal film hardens significantly faster when it's warm. After 8,892 hours of work, the restoration is completed on schedule. The mint now gleams even more brilliantly than before the fire.

Maybe that's because BELFOR is a world-leading “mint” too: we turn disasters into customer satisfaction!

*“Now I'm sure my
money's in good hands!”*

*(Daniel Craig as James
Bond in CASINO ROYALE)*

The Towering Inferno*

BELFOR restores 3,000 m² of fire damage at Hilti in France



*THE TOWERING INFERNO, starring Steve McQueen and Paul Newman, USA 1974. A highlight of the disaster-film era of the 1970s

A quiet Sunday morning in the tranquil town of Magny-les-Hameaux, 24 kilometres south-west of Paris. No one expects anything sinister. Nobody sees the shady characters climbing over the plant walls. Suddenly a match flares up ...

13. March 2011, Magny-les-Hameaux:

Four men break into Hilti's central warehouse in France. To cover their tracks, they then light a fire. It grows into an inferno. 100 firefighters are deployed. Ravaging flames and soot devastate around 3,000 m² of the 10,000 m² building, and thus destroy an important hub of the international construction technology group. From here, Hilti supplies France, Germany, Italy, Belgium and the Netherlands with pneumatic drills, milling machines, screwdrivers and much more. But what if you yourself, as a construction helper, are in need of repair and the in-house tools have been rendered useless? The best thing is to call the emergency hotline for BELFOR France! Since Hilti is a RED ALERT® client, the BELFOR experts are standing at their door the very same day!

Our staff member inspects the site of damage and assembles a BELFOR task force that same afternoon. On Monday morning, a rather untypical work day begins for the employees at Hilti. Some are granted time off due to the damage, while others lend us a helping hand by preparing and sorting damaged items. After initial damage-stabilisation measures, BELFOR takes on the complete restoration of the destroyed part of the building and of all goods and materials which can still be used.

During the cleaning and repair work, we work our way systematically from basic to precision tasks. First, the floor is air-dried to prevent the progression of water damage. Then the floor is cleaned using high-pressure clean-



The warehouse at Hilti ravaged by flames following the robbery on 13th March 2011



ing equipment. Our cleaning is not only thorough, but also sustainable: all used water is collected and disposed of properly. After cleaning the building, the actual "fire victims" are treated, the precious Hilti tools – too great and too valuable to be left to creeping corrosion. The packaging is cleaned on the outside with special chemical sponges and, if necessary, cleaned on the inside as well. All packages are opened, inspected and, if necessary, cleaned on the inside. The corrosion of the spare parts contaminated by the fire is treated in special BELFOR ultrasonic baths

and they are subsequently polished till they shine.

Speaking of corrosion: since after such a dramatic event, the morale of the employees threatens to "corrode", we do everything we can to also restore the human "components" – by actively involving the employees concerned in the restoration process and making them part of the solution. That's just what happened in Magny-les-Hameaux.

*"I'm fireproof,
you're not!"
(Ron Perlman in
HELLBOY, 2004)*



The BELFOR team along with several members of Hilti staff did everything they could to limit the damage as much as possible

Since the conclusion of the restoration work, the 150 plant employees can once again dedicate themselves to their favourite activities with renewed vigour: drilling, grinding and screwing toward Hilti's worldwide success!

BULLIT. FRENCH CONNECTION. GONE IN 60 SECONDS. THE GETAWAY. RONIN. THE BLUES BROTHERS. Great cinema classics where fans are left remembering the four-wheeled, rather than the two-legged leading actors. But where does that come from – this love of automobiles, the fascination with speed, the lust for destruction? We feel the rush of the chase on the timing belt!



Race with the Devil*

Car chase fascination – full throttle till it's totalled





Man's favourite child is nurtured and taken care of, parked in the garage with comprehensive insurance, regularly cleaned and polished. There's no question what we're talking about – cars. But as great as people's dedication is to their own four wheels, it seems to be matched by their delight in seeing other people's cars destroyed in films. Any "good" pursuit inevitably ends in a car wreck. Already in the first silent films, just after the invention of the automobile, rickety vintage cars were pulverised, crashed head-on into each other or hurtled off cliffs. Without any regard to losses and without stuntmen – Buster Keaton, for example, performed all his stunts on his own, likely with more luck than wits. To date, this fascination with the chase hasn't seen much change, except that it has to keep getting faster, more spectacular and daring in order to tear us from our seats.

From the rush of movement to the restoration of order

Why is this so? Perhaps because from the start, the appeal of films lay in their ability to portray movement. With the invention of the automobile, the cinema received its on-road kinetic correlate: four wheels that accelerate movement in front of the camera. In his film theory, Siegfried Kracauer calls the car chase one of the few authentic forms of representation for movement in existence, alongside dance. Alfred Hitchcock goes one step further and elevates the pursuit to the status of the "final expression of the cinematic medium". Most chases follow an established ritual that invariably ends with the death of the "bad guy", while the hero acts as a "judge and executioner in one" for the maintenance of moral order.

Man vs. man, machine vs. machine

The car chase embodies the archaic duel between two protagonists. They don't necessarily have to be the drivers. In one of the most famous chases of all time, the nearly ten-minute pursuit from *BULLIT*, a 1968 Ford Mustang Fastback races after a Dodge Charger R/T across town in San Francisco. Here, the drivers take a "back seat". No dialogue, no music. We only hear the hammering of the V8 engines and the squeal of tires – until the "bad guy's" Charger goes down in the burning climax. In 1971, Steven Spielberg took the anonymity of the pursuit to its extremes in his debut film *DUEL*. For 90 minutes, a powerful black truck drives a sales representative in his red 1970 Plymouth Valiant Custom to the brink of madness. You never see the driver of the truck, even once he makes his "well-deserved" plunge into the abyss at the end. Rarely have two opponents been so unequal. Seldom is the power of machines as menacing in our everyday driving and rarely have anonymous fear and repression on

the road been as strikingly presented as a synonym for human existence.

The individual against the law

Besides the game of fear, the chase also bears unexpected moments of joy. The people of today live in a world where nothing is unregulated – especially on the road. The "freedom of the road for free citizens" often ends in the kinetic worst-case scenario, the traffic jam. If you don't want to lose the last vestiges of your individual freedom of movement, you stick to the rules at all costs. In the classic chase, however, all rules are suspended: Speed limits are irrelevant, red lights get jumped, the pavement becomes part of the street and pedestrians scatter in all directions. The chase is a dream come true for any rush-hour-suffering commuter – somewhere between freedom, adventure and rampage. This destructive behaviour seems to lie in our blood. Even as children we played out "train crashes" with model trains and rehearsed head-on collisions with new Matchbox cars. Later we do our best to avoid the real thing – for safety and financial reasons. But for the price of a cinema ticket, hardly anyone can resist the joy of destruction. Especially not if we're meant to believe it through 70 vehicles of police power, like in *THE BLUES BROTHERS*.

At this point, we recommend the following: carefully abide by street traffic regulations. And once you've arrived safely at home, enjoy one of the following films:

The best chase scenes in film history:





Colors*

BELFOR cleans stubborn paint from 235 vehicles in Slovakia

Nitra. August 2010. 35 degrees in the sun

The construction workers are sweating pretty badly as they paint with their spray guns, trying to get the old power plant back into good shape. Just the right moment for a bit of fresh wind. But unfortunately, it picks up the microscopically small droplets of the epoxy paint and carries it to a parking lot located just 500 metres away. The particles come to rest on the hot cars and burn into the paint, wind-screens and plastic parts. 235 vehicles are affected, from small cars to luxury cars.

The “special coating” can’t be removed with a conventional car wash or chemical cleaning agents. To clean up the mess, experts have to get to work: BELFOR! The challenge: every single vehicle must be cleaned without too much wear, but at the same time quickly and cost-effectively. Besides that, a suitable place must be found for the “beauty treatment”, because it’s winter now and the summer heat has given way to the bitter cold. The big-

gest challenge, however, is to identify 235 vehicle owners and convince each one of them that the “peeling” won’t harm their baby.

After all car owners have given their okay, BELFOR goes to work: the cars are washed contact-free, then they’re

part of the insurance deal and requires efficient organisation, precise time management and good communication. The end result is inspected to the smallest detail using a portable microscope. Only then do we provide a written guarantee for the quality of the work performed.

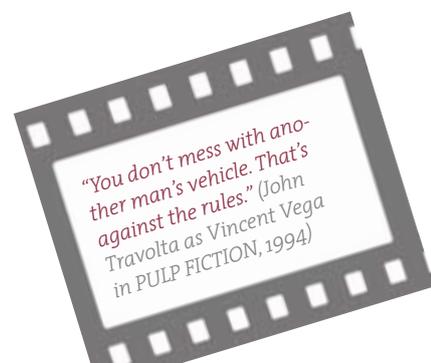


Where the car wash stops, BELFOR begins – each vehicle requires up to six hours of precision work

wiped off by hand with 3M cleaning clay. The windows are cleaned with special car-glass scrapers, while painted parts are polished with a machine. In the final cleaning stage, two layers of special wax are applied. For one vehicle, two BELFOR employees have to each carry out up to six hours of work. With four to five vehicles per day, that makes three months of precision work. But that’s not enough: while the vehicles are being cleaned, we simultaneously take care of the transportation of their owners to and from work. That’s

And you see: with BELFOR, everything is right back in the correct colour again!

*COLORS, police thriller starring Sean Penn and Robert Duvall, USA 1988, directed by: Dennis Hopper



Live wire*

BELFOR restores fire damage after an electrical fault in Austria



Hotel Astoria. Four-star Viennese cosiness.

217 sleeping guests. An electrical fault in a power strip. Sparks – fire – smoke! The insidious danger creeps through the ventilation shafts. The guests are still sleeping soundly ...

Saturday, 8 January 2011.

At 3:00 in the morning, the smoke detectors are blaring in Vienna's Hotel Astoria. The fire alarm. Torn from sleep, disgruntled guests roam the hallways. Sirens wail, 20 fire engines with 70 firefighters are on the move. An hour later the fire is under control.

As a precautionary measure, the guests are "taken around the corner" to the nearby Hotel Sacher. Luckily, no one is seriously harmed. Unfortunately, we can't say the same thing for the buildings: the adjacent pizzeria, where the fire had started due to an electrical fault, has been completely gutted by the flames. A third of the 128 rooms at the Hotel Astoria are contaminated with smoke and soot. Also the adjacent restaurant of a famous international chain took a massive hit.

One spark and nothing is what it was. But with one phone call everything is

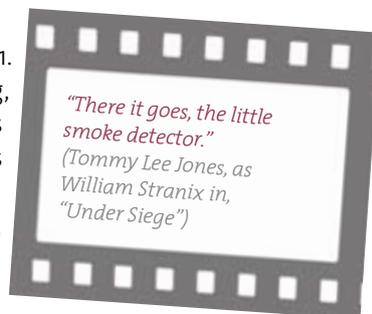
back to normal – as long as it's to BELFOR. Already on Saturday morning, a damage inspection is carried out by our Austrian experts. We are then charged with extensive renovative and structural restoration work in the pizzeria and restaurant. BELFOR is also included in the central coordination of all specialist companies involved in the project

Since the extinguishing water has penetrated into all levels of the restaurant and the soot has been deposited in the farthest corners of the building via the ventilation system, a particularly thorough approach is required. First, BELFOR sets up a makeshift power system. Then the extinguishing water is pumped out. The remaining fire smoke is extracted using high-power

fans. With dry feet, our employees now knuckle down

to the task of cleaning up the restaurant's extensive inventory and bringing it to the BELFOR headquarters to be restored. When attempting to dispose of the fire debris, we encounter an unexpected obstacle: because of restrictive regulations in the Vienna city centre, the demolition material can only be transported in small lorries to the waste disposal site. But after just a few weeks, the extensive renovation work is completed on schedule.

In the restored restaurant, fire won't catch as quickly anymore. And in the Hotel Astoria, dreams are once again just as sweet as in the last 100 years.



Gutted kitchen in the pizzeria



Rapid response team

*Thriller by Christian Duguay starring Pierce Brosnan, USA 1992

Impassable mountains, scorched deserts, warlords, drug bosses and jihadists prepared to do anything – since 2001, the unbalanced war in Afghanistan has impacted many peoples' lives and affected virtually every nation. In March 2006, NATO's International Security Assistance Force (ISAF), along with the Dutch "Task Force Uruzgan" has been fighting to bring peace to southern Afghanistan. For the 1,900 Dutch soldiers posted there, their tour of duty ends in August 2010. For the "restoration troop" from BELFOR Netherlands, that's just when it begins ...

Paths of Glory*

BELFOR earns its stripes with the Dutch Army



Out of Afghanistan!

The Dutch were first: following a parliamentary decision in October 2009, the Redeployment Task Force begins dismantling the Dutch military support posts in July 2010. All tents are taken down, all military equipment and paraphernalia are transferred back home, initially to the Army distribution centre in Coevorden, Netherlands. But the months spent in the sand and heat of the desert around Uruzgan, as

well as two serious Taliban offensives, have left their mark: expensive high-tech material – CCI equipment such as jammers and scramblers, as well as a broad portfolio of accessories, including rucksacks, batteries and electrical cables – have all been through the mill. A lot of equipment is still usable, but needs to be cleaned professionally and made spick and span again.

The assignment

Several cleaning companies are invited to Coevorden to inspect the damage – among the "combatants" are the Recontec experts, the subsidiary of BELFOR Netherlands. Once we've adapted our our expertise and the cleaning know-how of the

*"Admiral, you're a genius!"
"No, a genius would know of
a way to avoid the war."
(PEARL HARBOR, directed by
Michael Bay, USA 2001)*

*PATHS OF GLORY is an anti-war film by Stanley Kubrick, USA 1957



cooperating BELFOR laboratory in Germany to the high demands of the Dutch military, we provide the Army with a detailed offer. “Reliable”, attests the Defence Department two weeks later. A few days later, BELFOR wins the order.

The deployment

The operation begins in September 2010. We rely on a combination strategy. In order to act more efficiently and in a more systematic manner, we set up two cleaning lines at different spots in the distribution centre: one for uncategorised equipment and one for categorised equipment, including classified army material. Due to the high security requirements, the latter is placed directly in the armoury and is only accessible to military personnel and authorised BELFOR employees. Under the strict supervision of military personnel, two BELFOR teams start to clean the equipment using both wet

A common theme in action cinema is the war or anti-war film. “Big battles”, like *SAVING PRIVATE RYAN* (Steven Spielberg, 1988), *PEARL HARBOR* (Michael Bay, 2001) or *BLACK HAWK DOWN* (Ridley Scott, 2001) captivate even critics with their “incredible realism”. In real life, war is anything but entertaining. However, in global crises, we need people who are not afraid to face the front line and work behind the scenes: and the latter also includes staff from BELFOR.

and dry methods. Both cleaning lines are designed so that they can accommodate between four and fourteen workstations, depending on the “onslaught of material” coming in.

Mission accomplished – dirt gone!

In January 2011, the project is inspected by the Dutch generals. They are

Summary: when it comes to fighting heat, humidity, dust, mould and corrosion, BELFOR is the strongest ally you could wish for!



Wet and dry cleaning of equipment under the close supervision of military personnel
Photos from the Audiovisual Department of the Dutch Ministry of Defence

extremely impressed by the results! All of the material gleams like new and – even more importantly – works in some cases better than before. The “new condition” also opens up new business opportunities for us: Recontec is currently being introduced to various departments within the Dutch Ministry of Defence.

11 March 2011, 15:40 local time. Menacingly, the blue-white masses of water push forward, toward the northeastern coast of Japan. The mountain of spray looms up to 40 meters high and wipes away everything that gets in its way: ships, houses, people and the myth of safe nuclear power. The tsunami buries more than 20,000 people and drives another 370,000 into emergency shelters. The subsequent media wave rolls over the whole world and rekindles the debate over nuclear safety. Kiyooki Sano from Tokio Marine & Nichido Fire – Japan’s largest private insurance group – tells us what strategies are employed to confront the destructive power of nature in the “Land of shaken Smiles”.

Point break*

With the power of reason against the forces of nature





Kiyooki Sano, Managing Director of Tokio Marine & Nichido Fire

Japan is accustomed to quakes, both large and small. It seems to shake around here 20 to 30 times a day. People used to think that a great dragon made the earth shake and spit fire when he was angry. Today we know: a collision at the Japan Trench, east of Honshu's coast, was responsible for the so-called "Tohoku earthquake". The nearly 8,500-m-deep and 800-km-long deep-sea groove separates the Pacific from the North American plate. The two continental plates are crookedly hooked into each other. This results in tensions much like when a spring is compressed. On 11 March, at exactly 14:46 local time, the pent-up tension was discharged with a magnitude of 9.0, the worst earthquake ever recorded in Japanese history.

For decades, Tokio Marine & Nichido Fire has been systematically researching all aspects of Japan's major natural disasters. For over 132 years, we've been helping our clients to cope with the consequences financially. Unfortunately no reliable techniques have yet been derived from seismological knowledge for predicting large earthquakes. We only know that they come, on average, every 70 years. In fact, we expected a big quake. But when it hit, we were terribly shocked, despite all statistics.

"The innovative methods at BELFOR have impressed us just as much as most of our clients"
(Kiyooki Sano)

However, we were still able to react quickly and cool-headedly. When the tsunami devastated north-eastern Japan, various pre-defined emergency programmes were put into motion by our headquarters with almost "seismographic precision". In order to successfully deal with the flood of damage claims, on 12 March at 9:00 a.m. – only 18 hours after the devastating earthquake – we launched a free emergency hotline, which was run by about 90 employees. In addition, a special "Tohoku Task Force" was established. It consisted of about 50 team members from all relevant departments – from top management to risk management, as well as claims, PR and marketing professionals. The task force ensured the safety of our own people before we deployed them in the affected regions. They surveyed damage, set up local call

centres, and coordinated the on-site delivery of vital relief supplies for our employees, partners and clients.

However, Tokio Marine not only compensates the financial losses of our clients; we also help them regain the upper hand from an operative standpoint. Our subsidiary, Tokio Marine & Nichido Risk Consulting (TRC) supports risk-conscious clients in setting up business continuity plans and training their employees. Furthermore, we never tire of warmly recommending BELFOR's restoration services to our clients. This has helped over 130 successful BELFOR operations take place in Japan since 2003. In most cases, our clients were very impressed by BELFOR, not least because they were able to reduce business interruption times and replacement costs so significantly.

In Japan, surprises abound not only in the form of the unpredictable forces of nature, but every now and then in calculable recovery processes as well, such as soot removal film or dry ice blasting – innovative methods that we have only become acquainted with through BELFOR. That's why we're happy to recommend BELFOR time and again!



Open water*

BELFOR waters down tsunami damage in Japan

Paper and water are connected by a friendship which goes back thousands of years. As early as 200 BC in China, the bark of the mulberry tree was crushed, cooked and soaked. The individual layers were skimmed off in a sieve, then dried and smoothed. The creation of paper also seized “calligraphic” Japan a short time later. But here, water and paper can quickly become arch-enemies: for example, when a tsunami inundates a paper mill – as occurred on 11 March 2011 in the Japanese port city of Hachinohe.

Below the water line

Hachinohe is home to one of five paper mills of Mitsubishi Paper Mills Ltd. (MPM), a leading Japanese paper manufacturer. There, traditional recipes have been coming together with modern technology for over four decades, to produce top-quality printing paper, business paper and white cardboard. Then there’s a “paper jam”: the tsunami of 11 March, reaching a maximum height of 8.4 meters, puts the 1.5-million m² manufacturing site under water, takes the power supply and all electronic control systems out of commission and soaks a large proportion of the warehouse inventory, rendering it unusable. The paper manufacturer calls BELFOR Japan for help!

Live wire

BELFOR puts urgent measures in motion to halt the corrosion progress. Beyond that, the trial restoration of a contaminated switch cabinet convinces the management of MPM of our technical competence and we are entrusted with the restoration of the electronics: but how – without electricity? A BELFOR core team consisting of three employees first sets up a standard workshop, in order to have all the necessary equipment and tools at hand. Electricity is provided by a diesel generator. Under the guidance of BELFOR, up to 50 employees from MPM are also involved in the restoration work. This saves time, costs and capacities – which right now are hard-pressed across Japan.

Under pressure

Already in late April, the first drive systems can be put back into service. In mid-May, the power supply is activated. On 24 May the first paper machine recommences production, on the 25th the second, and on the 26th the first coater goes back to work. A fortunate side effect: Mitsubishi Paper has enough energy left over to “boost” regional power – deeply scarred by the strong earthquake and tsunami – by 50,000 kW/h. So you can help others, even if you need help yourself – perhaps the most important lesson from Japan!



Mitsubishi Paper Mills, Ltd. – Hachinohe Mill, Aomori Prefecture, Japan

Done deal

On 30 June 2011, BELFOR’s restoration work is completed. In 102 days of operation, about 1,000 switch and control cabinets, as well as 50 other electrical devices, were restored, and many of them sooner than expected. By mid-November 2011, all production facilities in Hachinohe – seven paper machines and three coaters – are now expected to be running at full speed again. Also a month earlier than originally expected!

Even if the rest of the film crew claims the contrary, the director is and remains the most important person in the creation of a film! He is the one who breathes life into the script. He turns 120 printed pages into 180,000 moving images – and thereby inspires millions of people. He makes visions into “visions”. So there’s a lot to be learned from him – even in the restoration of major damage.

Success with good direction

On the film set and at disaster sites



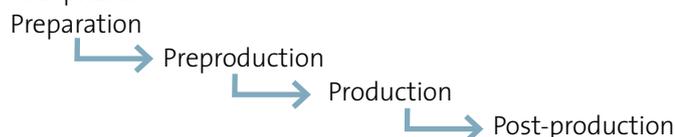
One for all and all for one

The director is the actual “realiser” (réalisateur in French) of a film. Even if he is not facing the camera, he plays many roles simultaneously: he has to be a technician, artist and business man in one, and master the tricky balance between art and commerce. He must never lose track of the big picture in “the camera lens” and must know exactly what he wants and communicate it clearly.

It’s hardly any different for a project manager at BELFOR. He has to fulfil the expectations of his “audience” – aggrieved parties or insurers – and at the same direct and motivate his “crew”. He has to keep an eye on timing and budgets, because unlike in Hollywood, additional millions can’t be obtained on the fly in real life.

Four phases

The filming is just the tip of the iceberg – and usually the shortest, albeit most nerve-racking part of film production. The work of the director begins much earlier, often with only an idea. The subsequent work process can be divided into four phases:



From the initial idea to the finished film, an entire decade may pass – and all that only to captivate the audience for two hours!

At BELFOR everything has to go much faster. We often have less than 24 hours to prepare for operations. We can’t choose the “shooting locations”. And there’s no post-production, where we can remedy messed-up “scenes”. Everything has to fit perfectly – immediately, on the spot and to the point!

“[The director] is a father and mother, priest, psychologist, friend, writer, actor, photographer, costume designer, electronics expert, musician and graphic artist, and plays a dozen other different roles.”

(Alan A. Armer, The textbook for film and television direction)

Three acts

A film can only captivate the viewer if the story’s right. The basic structure of each story is simple: beginning, middle and end. Or, in the classical dramatic theory of Aristotle: exposition, conflict, resolution. In the first act the levels of conflict are laid out. In the second act the conflicts escalate. In the third act, they are finally decided – usually in favour of good, at least in Hollywood.

In the event of damage, the dramaturgy is often determined by Mother Nature or by chance. Turning points – such as weather changes – occur at the most undesirable places. Also, there’s no fixed script for the protagonists at BELFOR to act upon. Improvisation, flexibility and empathy are required.

Do you know Alan Smithee?

If you believe the film credits, he has directed over 50 feature films. Actually, “Alan Smithee” is an anagram for “The Alias Men” and is used by directors who want to distance themselves from their work. Alan Smithee was first used as a pseudonym in 1969 by Don Siegel in the film “Death of a Gunfighter”. At BELFOR there are no “Alan Smithees”. Everyone is responsible for what they do, in their own names!

Method acting at BELFOR

How our actors flourish in their roles

The success of a film stands or falls with the right cast. No matter how good the director, he can't do without the right actors. At the same time, the viewer has to "buy" them in their roles. That's what it's about at BELFOR. We can't fool our clients. That's why we only play real people. Representing more than 5,500 BELFOR actors worldwide, we've asked three of them how they prepare for their roles, where they improvise and what they do during the shooting breaks.



Ton van den Broek,
Technical Sales Consultant
Marine & Offshore,
BELFOR Technology

Mr. van den Broek, what you love most about your job? The variety! At the beginning of a day I often don't know where I'll end up sleeping that night. But I live according to the Eleventh Commandment: Thou shalt enjoy!!!

How do you handle long absences and frequent travel for work? I don't see them as absences, but as presence. Because travelling is the exploration of new terrain, in your own country and around the world. Travelling also means meeting new people – an equally exciting challenge.

What is the most important thing in "directing" a damage claim? Knowing exactly what you can do and what the client needs – and also conveying this in a convincing manner. Clients, surveyors and suppliers must always be provided with correct information. I never promise too much, but stay realistic. This also means that I can't always be all "Yes and Amen!", but have to weigh the facts.

How do you motivate your staff to stick it out in extreme situations? I stick to the "Soup Theory": nothing is ever eaten as hot as it's cooked. I help my colleagues keep things in perspective and assure them of how important and indispensable they are.

Mr. Wierda, what is your biggest challenge at the "set"? The first scene! Here I have to win the trust of clients so that everything runs smoothly.

What do you do in your "breaks between filming"? After a hard day's work I like to drink a cold beer with clients or colleagues.

Which film star would you love to meet some day? Sean Connery. He looks like someone who has interesting stories to tell over a good glass of whisky.

Have you ever thought during your operations, "This is like in the movies"? Yes, I often have that impression! Especially when I'm working in the Middle East: when I pace out huge steel structures in shipyards, with "masked" men performing welding and grinding work all around me. The temperatures skyrocket and everything is full of sand and dust. It reminds me of MAD MAX!



Henk Wierda,
Technical Sales Consultant
Marine & Offshore,
BELFOR Technology

“Casting is everything!”

(Milos Forman, American film director)



Dirk Buerstätte,
Technical Distribution/
Project Manager
Machines,
BELFOR DeHaDe

Mr. Buerstätte how do you prepare for your role?

I let it come to me. After 15 years, you realise that the considerations you make on the way there are usually a waste of time. The reality is always different.

Do you act according to a fixed “script” or improvise? Definitely not according to script – I might make myself a few bullet points at

most! Since my “audience” consists primarily of aggrieved people, whose nerves are on edge, improvisation is a must. Here I have to be able to respond to the most diverse of character types – rational, emotional, pedantic, chaotic or even hot-tempered. This requires a high degree of flexibility and unconventional action.

How do you find motivation to persevere in extreme situations? No complaining, just bite the bullet!! Eventually I’ll have time to recover and recharge my batteries.

Have you ever felt reminded of a particular film during your operations? Yes, “Fathers of Slapstick”. I was called to a damage site involving a crane. When I arrived, the crane arm was lying across the walls it was supposed to hoist the roof panels onto, while the vehicle was sticking in the air, at a 45-degree angle. The crane operator hadn’t waited until the second truck was on site with the counterweights. He said “I just wanted ...”. Actually, you shouldn’t laugh about other people’s misfortunes, but I first had to turn around and wait for the grin to disappear from my face.

Peter Nützl,
BELFOR Technology



Mr. Nützl, what are the biggest challenges for you? I’m just like anyone else. For me, the challenge is to implement the best moves and dish out a knock-down performance!

How do you prepare yourself for your “role”? I usually take it as it comes. If I feel I’m up to it, I’m on the job! It doesn’t necessarily have to be the main role. Even the supporting roles have their appeal. And, as anyone knows, even they win their own Oscars, right?!

Do you stick to a “script”, or do you like to improvise? Working only according to a script limits the creativity necessary for solving the task at hand. Always driving in the slow lane on the motorway and never passing anyone isn’t my thing!

What film would your recent assignments be reminiscent of? Missing in Action!

Method acting

The art of acting was long defined as the perfect “imitation” of nature. This wasn’t enough for the famed acting teacher Lee Strasberg (1901 - 1982). He developed a new method to improve the naturalness and intensity of actors’ performance: method acting. With the help of special relaxation and memory exercises (e.g. affective and emotional memory), the actor is supposed to find himself in the role, merge with it and achieve the greatest possible degree of identification with the character to be played. Well-known Hollywood method actors include Dustin Hoffman, Robert De Niro, Al Pacino, Jack Nicholson, Anthony Hopkins, Johnny Depp and Angelina Jolie

A rainy, overcast Saturday afternoon in Raleigh, North Carolina. For the customers and staff of the Ferguson branch on Yonkers Road, it was a day like any other. Then suddenly ... a loud noise ... like from a freight train thundering past. The walls shake. The roof caves in. And the sky becomes as black as night ...

Twister*

BELFOR faces the devastation
in North America



Ferguson is North America's largest provider of plumbing supplies and also the second largest distributor of pipes, valves, fittings, as well as products for water works, heating and air conditioning. With 1,350 sales outlets across North America and the Caribbean, it's not only the first port of call for any number of customers, but on this occasion it was a target of the incalculable forces of nature: a tornado. And when a tornado hits, it's more merciless than all the customers in the world!

Gone with the wind

In April 2011, one of the biggest tornado fronts in the USA's history – measuring one and a half kilometres – brings a wide corridor of devastation to the urban area around Raleigh and Dur-

ham. One of the "wind devils", travelling at some 265 kilometres an hour, strikes just a few metres outside Ferguson's display warehouse. It sucks up everything that isn't nailed down: the roof of the adjacent warehouse is torn from its concrete foundations and thrown onto the roof of the salesroom. The electricity goes out, the gas supply is disrupted and water begins teem-

"All of the sudden, it sounded like a freight train."

(Mike Cassidy, Ferguson's branch manager)



*TWISTER, directed by Jan de Bont, produced by Steven Spielberg, USA 1996. With flying cows and incredible ILM tricks (see page 18), the thriller whipped up 500 million dollars in box office sales and marked the revival of the disaster film



Selective demolition of the roof and support structure is followed by reconstruction

ing from the battered sprinkler system. Staff and customers stand in utter chaos. But at least they're standing! With wise foresight, the branch manager Mike Cassidy has told them to take refuge in the centre of the building. As a result, nobody is injured.

One hour later

Just an hour later, BELFOR was on site to assess the extent of the devastation and to stabilise the building. There's no doubt about it: the damage is serious. In the words of Ferguson's Managing Director, Sharon Cooper, who arrived three hours after the storm: "When I arrived at the store, I only thought: Wow – this is serious! The roof was gone, and from a structural perspective, the building looked like a heap of ruins."

"Wow – this is serious!"

(Sharon Cooper, Managing Director of Ferguson)

One day later

Despite the devastation, employees of the Raleigh municipal administration declare the building safe to access by the next day. However, the safety of employees and customers – as well as the security of the building and the stock – has to be guaranteed. The company chosen to take care of it all is BELFOR. "BELFOR made a brilliant first impression. The representatives were on site quicker than anyone else, and were not only extremely professional, but also had a real understanding of customer focus", says Sharon Cooper, explaining her decision.

The show must go on!

Despite the immense damage, Ferguson

pulls out every stop to ensure that service remains uninterrupted for its loyal customers. Just 48 hours after the storm, a new temporary location is found – just a few minutes away from the original site on Yonkers Road. But first, all the stock that is still usable has to be taken to the new store warehouse. "We carried countless pipes", says Edward Pearce, a BELFOR specialist assessor, "because we had to do everything humanly possible to get the store back up and running again." After three weeks, the interim warehouse and sales counter are ready to open. In order to be prepared for the increased demand from customers, eight further Ferguson stores in the region stock up their warehouse goods. As a result, all of the goods ordered in Raleigh can be shipped without delays.

Taking the wind out of the storm's sails

The restoration work on the old sales room on Yonkers Road begins immediately, after it has been classified by the insurance department as a "total write-off". In the first phase of the project, BELFOR begins with the selective dismantling of the roof and supporting framework, transporting countless truckloads of rubble away. Then the rebuilding work begins. Architects, engineers and a 40 to 60-strong BELFOR team are on site every day to take away the old roof and rebuild it completely from scratch. New electrical cables, alarm systems and sprinkler systems are also installed. After around two months, the first phase of the project is complete. "The biggest challenges for us were the size of the building, the volume of stock we had to take out and the timeframe available for completing the project", says Pearce.

Teaching old dogs new tricks

No matter how destructive the disaster is, it has a somewhat constructive element to it too: the opportunity to not just restore things, but to make them better than before. BELFOR undertakes this challenge in the reconstruction of the interior and the exterior façade: as well as a restored exhibition space and a new store counter, new office and meeting rooms are built and changes are made to the design of the loading ramp. The entire project is set to be completed in the autumn of 2011. Then, the Ferguson branch in Raleigh will be ready for any storm of customers!

Fighting the storm with RED ALERT®

In the southeast of the USA, the battle against tornados has widened to become a battle on many fronts in recent years. Just one week after the storm in Raleigh, a further tornado cuts a swathe of destruction through Guntersville, Alabama. The town also has a Ferguson branch specialising in fire safety and protection. Everything is flattened! Once again, BELFOR jumps to the rescue and starts the clean-up operation right away. But Ferguson – "shaken to the core" by the storms – goes one step further and joins BELFOR's "Premium Plus RED ALERT® Priority Response Program". "The fact that someone is ready to spring into action and has us at the top of their list of priorities is not only of major importance for our disaster assistance, but also for the continuity of our business," says Mary Jo Weier, Manager of Insurance at Ferguson Enterprises Inc., explaining the decision to join RED ALERT®.

Undercover boss

Sheldon Yellen, CEO of BELFOR USA, in action in the popular U.S. reality show

On 16 January 2011, 13 million viewers in the U.S. tuned into the TV series “Undercover Boss” on CBS, to watch as Sheldon Yellen, CEO of BELFOR USA, stood on the front line in a way that he hadn’t experienced before: by the side of four BELFOR employees, in the presence of soot, dust, sweat and tears.

Disguised as “Tom Kelly”, Sheldon Yellen started in Norfolk, Virginia, where he assisted Joe with demolition, was called “Newbie” and had the honour of promptly disposing of a dead animal behind a wall. In Denver, Colorado, he met Drew, the robust carpenter, and had to learn how difficult it can be installing sheetrock beneath a ceiling. Next, he helped the cleaning technician Brenda from Indianapolis with the removal of soot after a fire. An emotional showdown came in working with Jen in Chesapeake, Virginia, where Sheldon Yellen had to squirm through a narrow crawlspace. When he learned that Jen didn’t know which of their private bills to pay first, because their pay raise had not yet gone through, in spite of their promotion, Sheldon let down his mask – for the first time in the history of “Undercover Boss”! “Listen, I’m actually not supposed to do this, but I’m not Tom Kelly, I’m Sheldon Yellen ... the CEO of BELFOR”. They fell into each others’ arms, visibly moved.

As an “Undercover Boss” Sheldon Yellen learned a lot about his employees, about their daily struggles and their personal problems. However, that never stopped them from giving their best for BELFOR to help other people who had lost precious things. The role play also affected the professional “roles” of Joe, Drew, Brenda and Jen: Joe gave up all his side jobs in



order to concentrate fully on his new role as a project manager. He was able to pay back much of his property loan and now has more time for his family. Drew received a bonus and was able to pay off a large portion of his student loans. A heavy load was removed from his shoulders, so now he can devote himself even more to shouldering the daily challenges at BELFOR. With her bonus, Brenda was able to provide 13 children with the best Christmas ever. The children had been told that Santa Claus might not make it this year. But – with BELFOR’s help – he was even able to bring the gifts in person! Jen’s tireless commitment to BELFOR paid off in the form of a retroactive pay raise and a new perspective for the future: since she loves teaching, she’s now preparing to become a trainer for aspiring water technicians.

Sheldon Yellen has also expanded his own “role perception”: he now wants to meet more colleagues face to face, to thank them for their commitment and to motivate and encourage them personally. “The best basis for improving the BELFOR company is to further enhance the capital that we have: the people who work for us day in and day out!”

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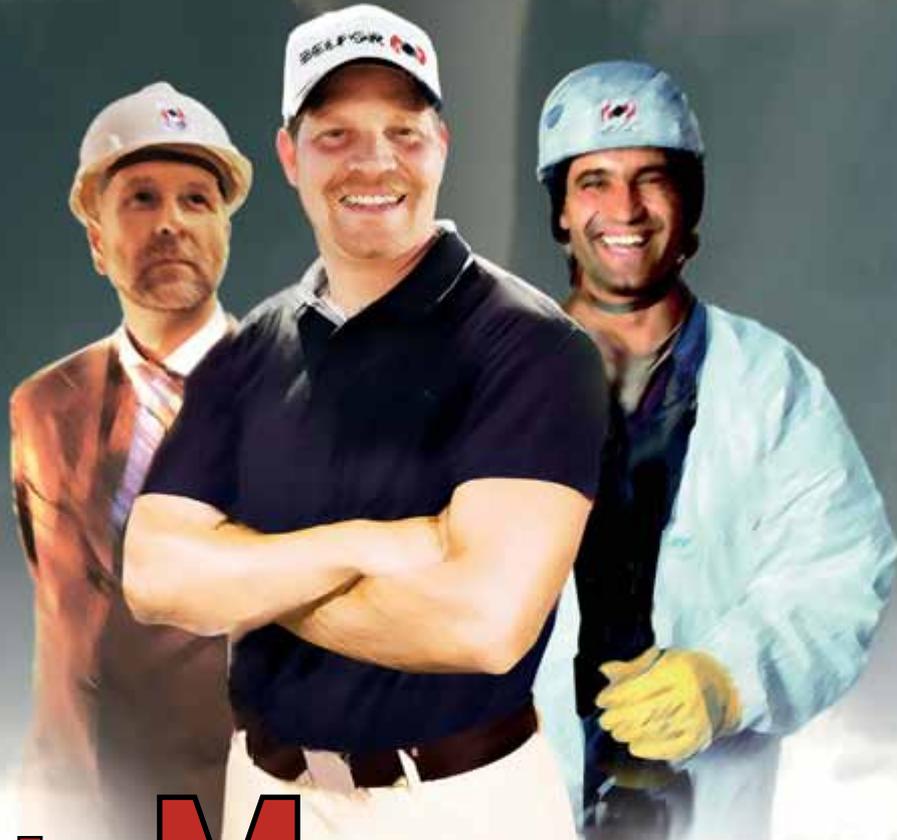
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THEY COME. NO MATTER WHAT HAPPENS.
ANYTIME. WORLDWIDE. AND THEY ONLY GO
ONCE EVERYTHING IS STRAIGHTENED OUT AGAIN.



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