

difference

THE KÄRCHER MAGAZINE

01 | 2017

HORIZONS

Crossing borders

BIBLE STUDY AND SEQUOIAS

Praying and working in
the Disentis Monastery
in Switzerland

VISION SMART CLEANING

Cleaning in the city
of the future – where
will the journey lead?

AND WHAT TYPE ARE YOU?

Cleaning profiles:
Differences and
similarities





› 01 | 2017

Dear readers,

You are holding Kärcher's first global customer magazine. **difference** aims to show you how we make a difference – with our cleaning solutions and beyond. In our cover story, we accompany a monk as he works, for example, with one of our implement carriers in Disentis Monastery in Switzerland. And from the 1,400-year-old monastery in the Alps to the Smart City: we discuss with two urban development experts what cleaning could look like in the city of the future.

I would be delighted if you would join us on our journey through the world of Kärcher. I hope you enjoy reading!

Hartmut Jenner
Chief Executive Officer and Chairman
of the Management Board
Alfred Kärcher GmbH & Co. KG



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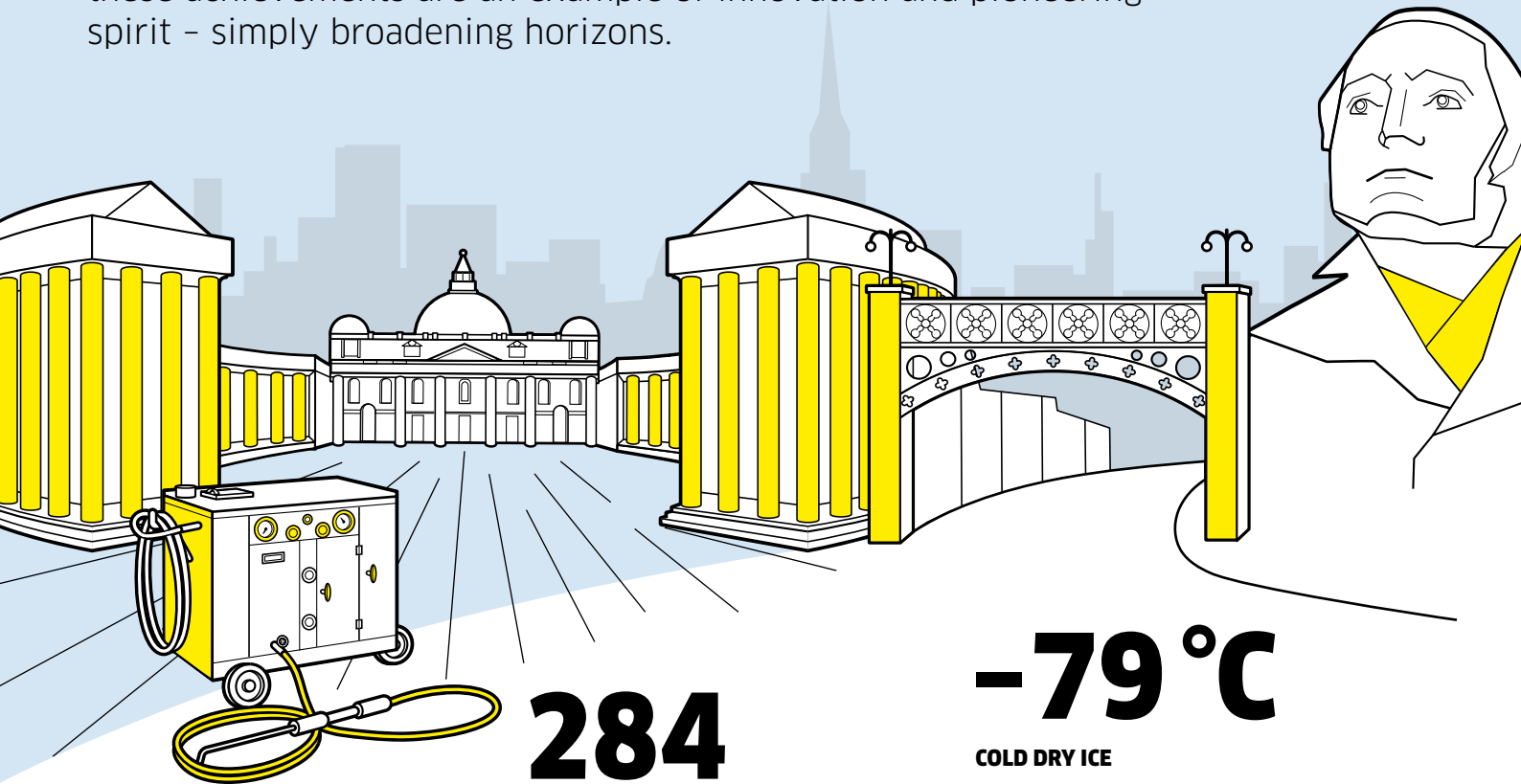
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Facts and figures

NEW PATHS

Overcoming technical boundaries and breaking new ground: these achievements are an example of innovation and pioneering spirit – simply broadening horizons.



284

COLUMNS CLEANED

➤ In 1999, Kärcher specialists completed a facade cleaning project on the **colonnades of St. Peter's Square in Rome** on an unprecedented scale. The facts and figures relating to the cultural sponsorship project testify to the sheer size: employing the particle blasting method, eight experts cleaned, in around four months, 284 travertine columns and 88 pilasters with a total area of over 25,000 square metres, using more than 100 tonnes of calcium carbonate abrasive. This also made it into the Guinness Book of Records.

-79°C

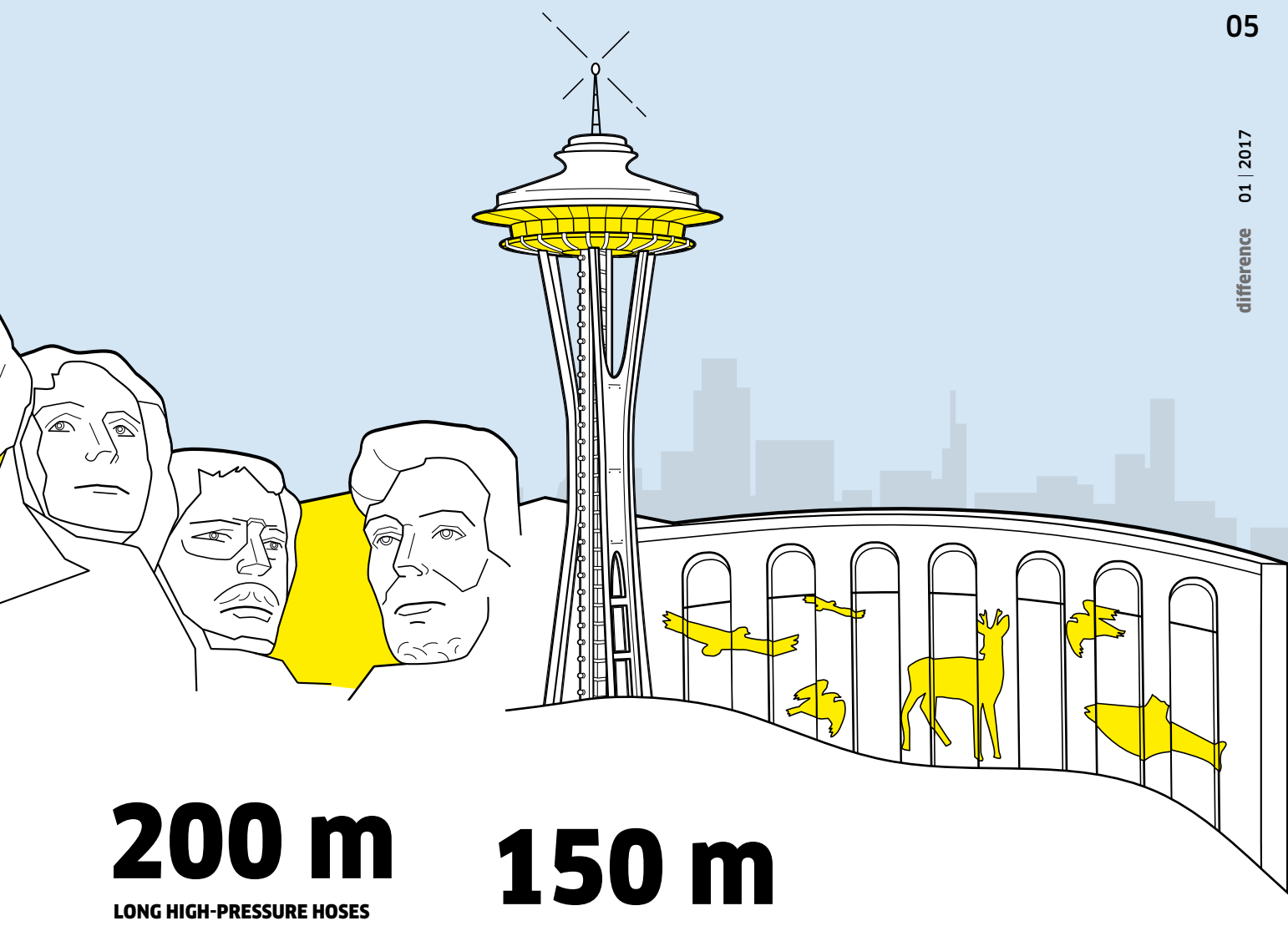
COLD DRY ICE

➤ For the restoration of the over 100-year-old **Bridge of Lies in Sibiu (Romania)**, the European Capital of Culture in 2007, the specialists used highly innovative techniques in the treatment of the cast iron arches. Using a dry ice blaster, they managed for the first time to gently remove several layers of coatings without damaging the casting skin on the iron surface, which offers natural corrosion protection.

1950

INVENTION OF THE
HIGH-PRESSURE CLEANER

➤ What many do not know: of all known important cleaning machines today, the high-pressure cleaner is the most recent. When sweepers, floor cleaning machines and the like already existed, in 1950 **Alfred Kärcher** invented a product category which today is inextricably linked with the company he founded. Incidentally: the first ever motor-driven cleaning machine was a vacuum cleaner, which was introduced by the engineer Hubert Cecil Booth in 1901.



200 m

LONG HIGH-PRESSURE HOSES

➤ The **presidents' heads on Mount Rushmore** – everyone has heard of them. The monument in the American Midwest has already served as a backdrop for various films and spellbinds millions of visitors every year. In the cleaning project in 2005, the first following completion at the beginning of the 1940s, the Cultural Sponsorship team broke new technical ground: the use of 200-metre-long high-pressure hoses was absolutely necessary for the success of the project and was a real pioneering feat.

150 m

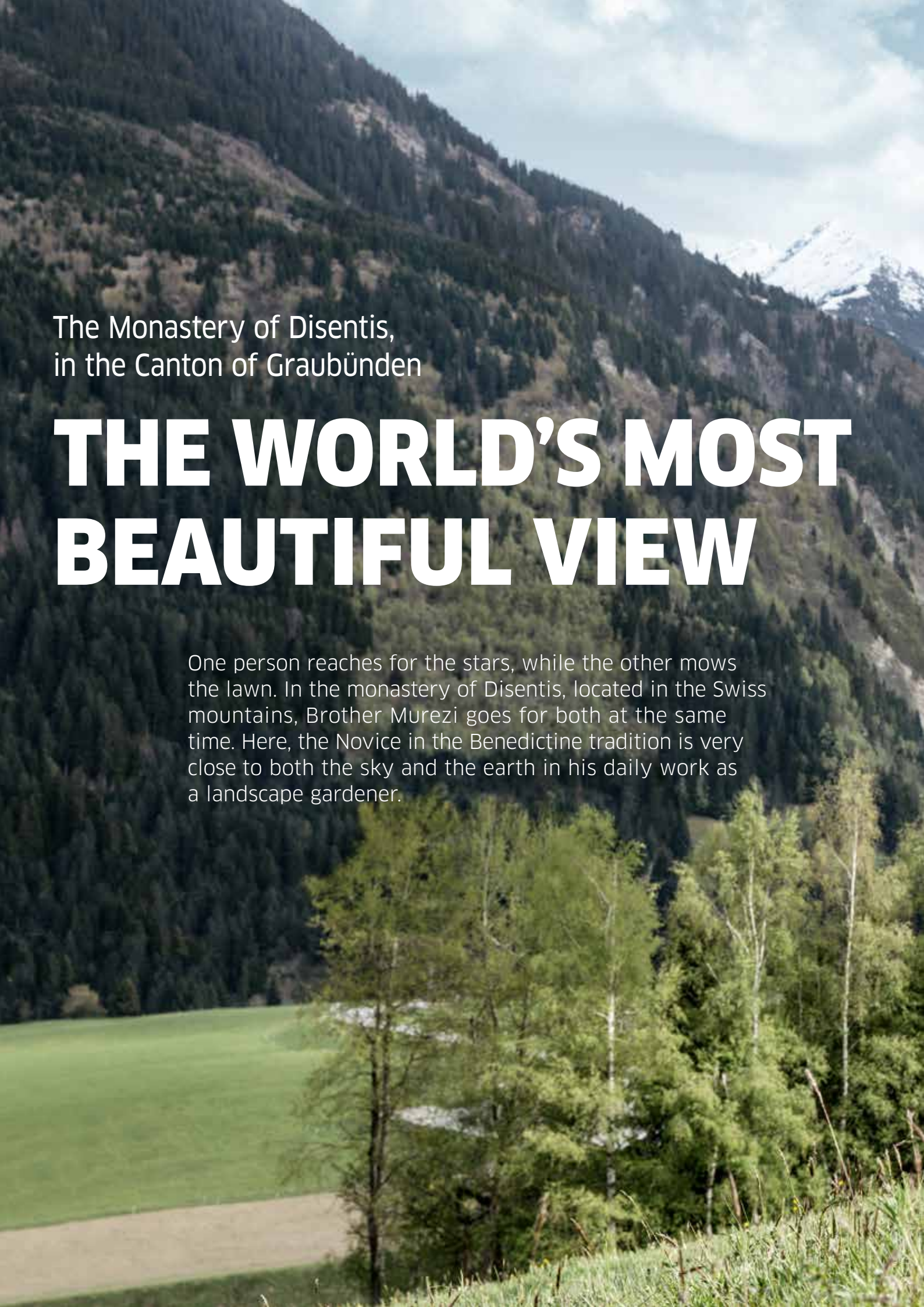
FREELY SUSPENDED

➤ The unusual structure of the **Space Needle in Seattle** presented the cleaning specialists with an unprecedented challenge in 2008. The surfaces on the undersides of the platforms had to be accessed horizontally, which involved a great deal of effort. In addition, having to control the recoil of the high-pressure cleaner freely suspended and ensure a uniform cleaning result was particularly tricky for the team. The Space Needle was inaugurated for the world exhibition in 1962.

8,000 m²

GIGANTIC DRAWING

➤ High-pressure cleaners served as pencils and the **wall of the Olef Dam in the Eifel region (Germany)** as a canvas. A gigantic drawing was created in this form for the first time in 2007: on an area of 8,000 square metres, silhouettes of native animals were carved out of the almost 50-year-old layer of dirt. In order to transfer the design to the 282-metre-long and up to 59-metre-high dam wall, it was projected onto the wall using laser technology and marked with several hundred cementing points.



The Monastery of Disentis,
in the Canton of Graubünden

THE WORLD'S MOST BEAUTIFUL VIEW

One person reaches for the stars, while the other mows the lawn. In the monastery of Disentis, located in the Swiss mountains, Brother Murezi goes for both at the same time. Here, the Novice in the Benedictine tradition is very close to both the sky and the earth in his daily work as a landscape gardener.





It is delicately fresh, yet dark. Shortly before half past five in the morning, a group of monks walk through the whitewashed doorway of the monastery. At this hour between night and day, the brothers meet for Vigils and Lauds, the morning praise. This has been a tradition in the Benedictine monastery of Disentis for over 1,400 years.

The church nave in which the brothers enter is big. The pillars and wall are bright white, while the huge altar is gold-plated. High above, on the ceiling, you will find scenes from the Mother Mary and other saints, each interwoven with the monastery's history. From the gallery, the poetic singing of the monks fills the room. Then the sun rises, pushing majestically over the snow-capped peaks of the Bündner Alps, and lets its

light float through the high windows of the church nave: a magical moment.

765

AD

THE MONASTERY IS DOCUMENTED
FOR THE FIRST TIME

Looking skyward, in search of happiness

One of the touching voices belongs to Brother Murezi Casanova. "We are probably the oldest Benedictine abbey north of the Alps that is still active," he says after the Morning Prayer. Founded

around the year 700, the ink of the Bible was then still fresh, so to speak. At 21 years of age, Casanova is just beginning his adult life. In December 2015, he entered the monastery as a novice. He guessed the question of "why?" and said: "God led me". After military service and training as a landscape gardener, he felt he was called to the monastery. "I found my way here". Even as a child, this magical place in the mountains had always fascinated him. Up here, at an altitude of 1,100 metres, where the air is crystal-clear and the silence smells of the green meadows, one can feel very close to heaven. Moreover, Brother Murezi would also like to help people and, eventually, provide spiritual guidance.

Pray and work in peace

In a long room, the 22 monks come together for breakfast. Cereals and

» *Ora et labora, pray and work – that is the mission that God and Saint Benedict have given to us.* «

Brother Murezi, The Monastery of Disentis



.....
The first half of the day is dedicated to spiritual activities: singing, psalms, bible studies and Christian teaching.

bread are served here, everyone cuts a slice; talking is not allowed during this moment.

Murezi Casanova is one of about 30,000 people who, in addition to Swiss German, speak Romansh, a language only popular in Graubünden that is related to Italian. He grew up in Cumbel, a village about 30 kilometres from the monastery.

The morning is characterized by spiritual singing, psalms and the study of the Bible, as well as Catechism. "Ora et labora, pray and work – that is the mission that God and Saint Benedict have given to us," he explains. Crickets chirp outside, but the scenery is not always so peaceful. The alpine climate is harsh, and sometimes stormy. Each religious community has its own special focus. Why the Benedictines,



5 FACTS ABOUT THE MONASTERY

- 22 monks live in the Disentis Monastery.
- The youngest is 21, the oldest is 92.
- The abbey is steeped in 1,400 years of tradition.
- In the anniversary year in 2014, the motto was "Stabilitas in progressu".
- Today, the Gymnasium & Internat Kloster Disentis has 200 pupils.

» Everyone does his best.
Brother Murezi takes care
of the monastery gardens
and the greenery.«



.....
The monastery courtyard is kept clean with the KM 70/20 C walk-behind sweeper. Below: A sequoia is planted in front of the monastery.



IMPLEMENT CARRIERS

The MIC 84 model can be used with the appropriate attachments for both winter service and maintaining green areas and paths. It also features a front loader attachment, which can be converted to a pallet loader. The articulated steering has a steering lock angle of 45° and a turning circle of 3.10 m, which makes it very manoeuvrable.

Brother Murezi? “With us, everything is based on voluntariness,” replies the novice. “Everyone does his best.” He is by far the youngest brother, and he takes care of the monastery gardens and the greenery.

Green meadows, hills and a monastery garden

In his simple room, which is traditionally called a cell, the transformation from spiritual to secular takes place in the afternoon: now it is time for “labora”, to work. He exchanges his timeless cowl for modern work clothes. “I like being outdoors,” says the novice in the venerable monastery garden while he loads equipment from the loading area of an implement carrier. In the garden for example, he grows chard used for Capuns, a local specialty. The planted kale is a good choice for

producing a healing ointment. Herbs also thrive under the beneficial influence of the specialist and are used for tea. The smell of thyme and rosemary is in the air. And when it comes to flowers, the monk prefers colour: splendid tulips glow red and bright white in the May sun.

“Today I’m going to plant a mammoth tree,” Brother Murezi tells us. He climbs into the anthracite Kärcher machine and sets aside space with the front loader. “No mammoth task,” he laughs, “just hard work.” The Novice expertly binds a cloth bag around the root system and carefully lifts the still modest tree from the ground with a fork. “Hundreds of years ago, monks experimented with this exotic tree species,” says Brother Murezi. In the future, the tree will grow to the sky in a meadow in front of the monastery.



Brother Murezi stands still for a moment, when the tree is planted at the new site. He often walks with other brothers of faith. Among them is Brother Martin, his confidant and prefect and teacher of religious education at the monastery

1,130

METRE
DISENTIS LIES ABOVE
SEA LEVEL

affiliated boarding and secondary school. When they walk over the mountain meadows with their wide robes, the cow-

bells ring down to the valley, and the snow-covered peaks rise in the background, a breath of eternity blows.

Heavenly prospects – even for football

In addition to their attachment to religion, the brothers also share the joy of football. Together with the boarding schoolchildren, the two love playing football on the football field located above the monastery. The baroque domed towers of the monastery church barely loom up above the turf. The view is wide. "For me, this is the football field with the most beautiful view in the world," says Brother Murezi and smiles. The young monk runs, tackles, dribbles and passes.

In the abbey, there aren't many who share his stage of life. Two other novices have abandoned their training.

"It's not always easy, because you have to leave your family behind," he says calmly. And yet, he is happy here, "very happy, even." Brother Murezi has four siblings – he is the second youngest. His parents and sisters come regularly to visit him.

Until the summer, Brother Murezi will still be a novice; after that, he'll take his first vows. Even then, the day begins for him and the others, as always – very early in the morning. ■



A day at the Disentis Monastery with Brother Murezi as a video:
www.kaercher.com/difference





No more cleaning ever again?

CLEANING IN THE CITY OF THE FUTURE

Who would not like to imagine that the fight against dust, etc., has come to an end? In private households no more vacuuming, wiping and scrubbing. In public areas, little helpers that clean automatically. This would be wonderful, because then we would all have time for other things. Smart cleaning concepts will become increasingly necessary in the future, because urbanisation seems to know no bounds. And the more populated cities become, so too does the importance of cleanliness.

➤ For this reason, in this issue, **difference** thinks outside the box and ventures a trip into the city of tomorrow. We have taken a look at the approaches currently adopted globally by smart cities in order to shape their future. The exciting thing here is that smart cleaning is an aspect to which little attention is paid, even in terms of concrete interview requests. We have discussed with

two urban development experts why this is and which way the trends are going: Professor Pascual Berrone from the IESE Business School and Dr. Alexander Rieck from the Fraunhofer Institute for Industrial Engineering. However, what would a trip into the future without tangible visions be like? Find out more in our snapshot "Wide-eyed into the future: A day in the Smart City".

WHAT IS THE WAY FORWARD?

A look around the world shows the diverse topics cities have to consider. Smart cleaning will be a further aspect to consider in the future. **difference** interviewed Professor Pascual Berrone from the IESE Business School and Dr. Alexander Rieck from the Fraunhofer Institute for Industrial Engineering about current and future developments in this area.

Naturally clean? The importance of cleaning in cities

For the past three years, Professor Pascual Berrone from the IESE Business School has been looking into the development of modern cities as part of the IESE Cities in Motion Index study. Asked why cleaning for smart cities has played a more subordinate role up to now, he replied: "Among all the services cities offer their citizens, cleaning is most certainly one of the oldest. Although cleanliness and hygiene form the basis for many people living side-by-side close together – this situation is seen as natural." A naturalness that should not impact excessively on the city budget which, according to Berrone, acts as a type of brake for technological development. "Technological advance was for a long time too expensive compared to manpower.

Currently we are seeing that technologies are cheaper and therefore more available, also for cost-sensitive areas such as municipal cleaning."

Smart Data & Robotics: Trends with added value

Even more than in other sectors, the aim is to use modern technologies that provide real added value and reduce – rather than increase – costs. What does this mean? Smart data is currently one of the most popular catchwords, whereby in many applications, the question arises as to whether expenditure and benefits of data collection and analysis are in a favourable ratio. However, if a concrete objective is behind this, for example, increasing efficiency, then things look very different. Today, systems already exist which monitor the condition of machine fleets in real-time so as not to carry out maintenance according to specific intervals, but as required. In future, sensors in buildings could detect where dirt is located so that cleaning only takes place in that particular area and not elsewhere according to a standardised cleaning plan.

Another topic that plays a role in smart cleaning concepts is the automation of cleaning tasks. Whether they are used in public areas depends on the safe interaction of robots with people and if autonomous cleaning functions reliably,



SMART CITY SAN FRANCISCO: MOBILITY IN FOCUS

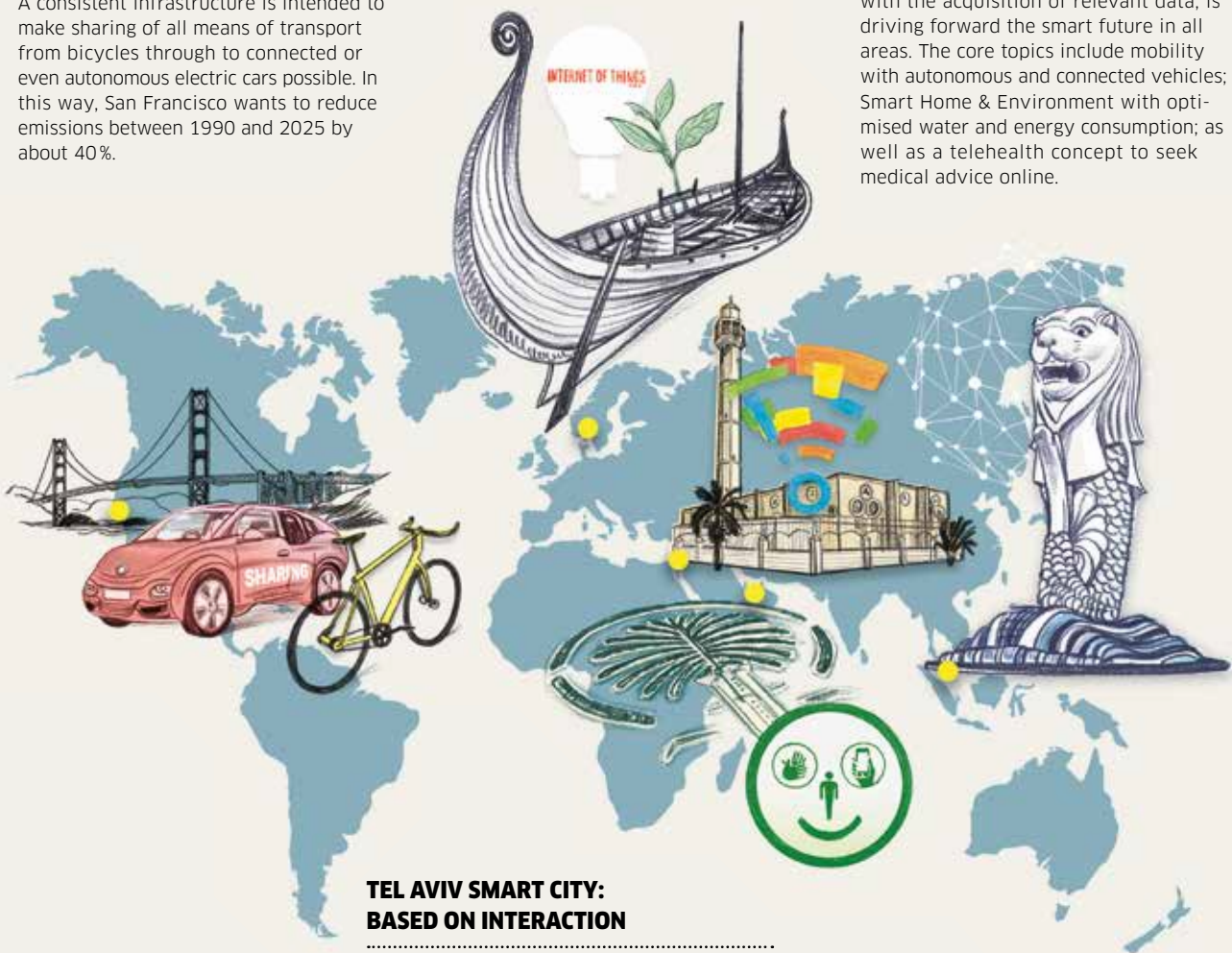
More than the half of the population of San Francisco today already use alternative transport instead of their own cars. Since the city does not have room for expansion and more and more people live there, one of the key aspects of Smart City San Francisco is the "Future of urban transport". The aim: mobility is to become easier and more environmentally-friendly through an extensive sharing concept. A consistent infrastructure is intended to make sharing of all means of transport from bicycles through to connected or even autonomous electric cars possible. In this way, San Francisco wants to reduce emissions between 1990 and 2025 by about 40%.

SMART OSLO: THE BIG VISION

The vision for Oslo is to make it a smarter, greener, more inclusive and creative city for all citizens – a smart city that innovates with the citizens' interest and well-being at its core. Thematically, the city has projects with far-reaching vision: government, citizens' service, energy, waste and water management, mobility, education, economic development and healthcare – wherever possible, modern communication technologies and the IoT (Internet of Things) are to be used to discover and utilise potential for the future.

SMART NATION SINGAPORE: TOTALLY CONNECTED

At the heart of the Smart Nation Initiative in Singapore is an extremely high level of connectivity. Over 10,000 wireless hotspots across the city provide mobile access to one of the fastest data transfer rates worldwide. Based on this infrastructure, Singapore, in combination with the acquisition of relevant data, is driving forward the smart future in all areas. The core topics include mobility with autonomous and connected vehicles; Smart Home & Environment with optimised water and energy consumption; as well as a telehealth concept to seek medical advice online.



TEL AVIV SMART CITY: BASED ON INTERACTION

In 2014, at the Smart City Expo, Tel Aviv received the title of "Best Smart City in the World" – and the DigiTel Project played a significant role in the city winning this award. Tel Aviv had created a platform which allowed citizens to register to participate and engage with municipal departments. This includes personal traffic information when travelling to work as well as information that registering for a nursery place is pending. For Tel Aviv, key aspects are participation and interaction between citizens and municipal departments, in addition to the ecological aspects of the energy-saving city lighting concept through to recycling.

SMART DUBAI: HAPPINESS AND AN INDEX

Dubai wants to become the happiest city on earth, and smart city innovations are to play a role. In fact, a Happiness Meter was installed throughout the entire city to enable citizens in commercial and government entities to indicate their satisfaction. In addition, with the Smart Dubai Index, key performance indicators were developed which help evaluate the benefits of current and new projects for the city and its citizens and optimise individual aspects.

Wide-eyed into the future

A DAY IN THE SMART CITY

Near and distant visions that are conceivable on the basis of current development.

5 am The fleet of municipal drones with 3D cameras and GPS are swarming across the city. They identify the cleaning requirements and control autonomous municipal machines and cleaning drones via the cloud. At the same time, robots with suction cups are on their way to clean facades and windows of some multi-storey buildings.

8 am In the Kärcher Tower, the cameras of the building monitoring system perform a spectral analysis, detecting irregularities such as spilt yoghurt in the kitchen of the marketing department, for example. An office cleaning drone is sent immediately to clean and remove the mess.

10 am The first meetings are coming to an end. Participants leave the conference room, a large number of smartphones access the WiFi network. This information prompts a cleaning robot to clean the room. In addition, the nearest water dispenser cools the temperature in the event that a participant wishes to have a drink.

12 pm Lunch hour in the town centre of Stuttgart. At a snack bar, 300 people are eating hot dogs, the surrounding area is very littered. Street lighting sensors signal the situation to central cleaning and a cleaning vehicle is immediately requested in order to clean the area automatically.

3 pm On the outskirts of the city. Gamification is a private trend which makes a point against automation, as the robotic vacuum cleaner can be operated manually and registers who has operated it, for how long and how many dust particles were vacuumed. Points are scored for this, as well as for preparing meals using the semi-automatic food processor. This allows vouchers to be acquired for various products and services. In the meantime, the garden is managed, controlled by sensors and dosing systems for nutrient and water content in the soil, without any help from the residents.

6 pm In the Kärcher Tower, an employee logs directly into the sensor system via the brain computer interface, allowing them to easily check the quality of cleaning, initiate subsequent cleaning and process error messages.

6.30 pm End of work, time to go home. In residential skyscrapers, wash systems are integrated in the underground car parks. The car allows its passengers to get out, drives through the car wash and parks itself. Arriving at a flat that has been cleaned during the day by a swarm of mini drones, we assign our humanoid service robot pending tasks. Food is being prepared. Put your feet up, the day is done.

» Among all the services cities offer their citizens, cleaning is most certainly one of the oldest. Although cleanliness and hygiene form the basis for many people living side-by-side close together – this situation is seen as natural. «

Professor Pascual Berrone, IESE Business School

and moreover, if an economic advantage exists compared to classic cleaning. Currently available cleaning robots are far more expensive than conventional machines and they often do not operate efficiently and reliably. Once camera perception and sensor detection ensure collision-free operation, also in the event of unexpected situations, diverse operating scenarios are conceivable.

And, this does not have to mean the end of the classic cleaning robot, as stated by Dr. Alexander Rieck of the Fraunhofer Institute for Industrial Engineering and experts for Smart Urban Environments: "Imagine a small robot mowing a traffic island. However, this robot does not need a power supply, because it uses biomass to produce energy. In addition, it also vacuums fine dust and at some point makes it usable. This connection of process steps offers significant opportunities on a small scale."

Technologies & Cooperation as drivers for the future

There is a long way to go until smart cleaning is realised in its various facets, and things may be different to what we envisage today. Professor Berrone believes that viewing the situation in the wider context is an important step towards making progress. "Development will depend on whether the cleaning business model is seen as part of a more significant correlation – for example, environmental protection and sustainability. If we learn to understand cleaning in this way, the perception and in turn the possibilities of economically feasible models will increase." In his opinion, cooperation between authorities and industry is also essential in terms of public-private partnerships.

In addition, Dr. Rieck sees technological development as a powerful driving force for creating new opportunities for the future: "There is a saying that I like very much: we overestimate what we will be able to achieve in the next two years, and underestimate what we will be able to achieve in the next 10 years. Camera perception, autonomous driving, storage technology, battery technology, sensor technology, smart data – these parallel developments are creating synergies that will allow us to make huge leaps forward." ■



Further future scenarios of professional and domestic cleaning:
www.kaercher.com/difference



Current highlights
from the Kärcher programme

THE NEW ONES



Whether detailed solutions which lead to amazing improvements or completely new products that revolutionise cleaning: with Kärcher technology, private users cope with daily routines effortlessly – professionals appreciate the efficiency provided by tailor-made solutions.

Professional

EASY!Force

.....
The most important control element redefined:
new trigger gun for high-pressure cleaners
.....



Home & Garden

VC 5

.....
The small, but powerful
vacuum cleaner
.....



Home & Garden

MOBILE OUTDOOR CLEANER

.....
Mobile low-pressure cleaner
for fast cleaning on the move
.....



Professional

T 9/1 Bp

.....
New battery-powered dry vacuum cleaner:
cordless and powerful
.....





MORE SPACE IN THE CUPBOARD: VC 5



- No higher and wider than a floor vase.
- Just as powerful as a proven canister vacuum cleaner.
- Bagless filter system: easy filter emptying without having to purchase filter bags.
- Triple telescopic suction tube – quick and easy to adjust at the push of a button.
- A joint on the nozzle makes the vacuum cleaner easy to manoeuvre.



HIGH PRESSURE HAS NEVER BEEN SO EASY TO CONTROL: EASY!Force



- The trigger is pushed into the handle using the ball of the hand – the recoil force reduces the holding force to zero.
- A yellow safety lever on the inside of the handle prevents accidental operation.
- The new quadruple trapezoidal thread, EASY!Lock, ensures a tight and reliable connection with only a single turn.
- The all-ceramic valve ensures a service life that is five times longer compared to trigger guns with a conventional valve.



FOR INDEPENDENT WORKING: T 9/1 Bp



- Just as powerful as mains-operated models thanks to a new lithium-ion battery (36 V).
- The ecoefficiency mode increases the working time to 46 minutes thanks to reduced energy consumption.
- The low noise level of 62 dB(A) makes the machine suitable for use during business hours.
- The cordless vacuum cleaner is particularly flexible and mobile.



ANYWHERE AND ANYTIME: MOBILE OUTDOOR CLEANER



- Battery-powered with its own water tank for independent use anywhere.
- Compact design, no bigger than a small rucksack.
- The lithium-ion battery allows cleaning for 15 minutes.
- The removable water tank has a volume of 4 litres.
- The accessory boxes ("Bike", "Adventure" and "Pet") offer everything required for different applications.

Home & Garden

FC 5

Unique floor cleaner:
wiping and vacuuming in a single step



Professional

BD 50/70 R Bp Classic

Manoeuvrable ride-on
scrubber drier, easy to operate



Professional

NT 50/1 Tact Te L

New generation of wet and dry vacuum cleaners
with improved automatic filter cleaning



Home & Garden

K 7 PREMIUM FULL CONTROL PLUS

The pressure washer with
the right setting for every task



Professional



THE MAIN FEATURES AT A GLANCE: BD 50/70 R



- Small turning circle of 1.40 metres for easy manoeuvrability.
- Higher productivity and more convenience compared to a walk-behind machine.
- Narrow and compact design.
- Wide range of accessories: manual cleaning equipment always at hand.
- Easy to use, easy to maintain.

Home & Garden



ALL IN ONE WIPE: THE FC 5



- Combines the function of wiping and vacuuming in a single step.
- The dirty water lands in a separate, easy-to-empty tank.
- Two moistened high-speed rotating microfibre rollers, which are continuously moistened with a cleaning agent solution, dislodge and pick up the dirt from the floor.
- One tank filling of 400 ml is sufficient to clean hard floors of up to 60 square metres quickly and easily.
- Suitable for all hard floors.

Home & Garden



CONTROL AS GOOD AS IT GETS: K 7 PREMIUM FULL CONTROL PLUS



- The water pressure and cleaning agent dosing can be regulated via buttons on the trigger gun.
- An LCD display on the trigger gun shows all important settings.
- The new spray lance ("3-in-1 Multi Jet") combines a dirt blaster, flat stream and cleaning agent nozzle, which can be selected simply by turning the spray lance.
- Self-explanatory symbols on the spray lance make it easy to select the right nozzle for the application.

Professional



WORKING WITHOUT INTERRUPTION: NT 50/1 Tact Te L



- Automatic filter cleaning (Tact) ensures consistently high suction power also when vacuuming large quantities of fine dust.
- The flat pleated filter is cleaned automatically by reversal of the air flow.
- Larger clips on the floor nozzle facilitate changing of attachments for wet and dry applications without tools.
- Toolboxes can be stored securely on the flat, non-slip suction head.
- Robust design for a long service life when used in harsh conditions.

CLEAR PATH TO VICTORY

Thousands of kilometres of racing over fourteen days through Peru, Bolivia and Argentina, from Lima to Cordoba – the 40th Dakar Rally, an event steeped in history, will take place at the beginning of 2018.

➤ This race pushes man and machine to the limits. For the past seven years, as an official supplier Kärcher has provided technical support for all participants with cleaning stations, where the teams have been able to clean their cars, bikes and trucks to remove sand, dust and dirt after the various stages of the race. A service that is always welcome: since 2011, more than 17,000 Dakar vehicles have passed through the washing stations for

thorough cleaning prior to maintenance. However, Kärcher is not only an official supplier to the rally, as the company also sponsors the successful X-Raid team and the KTM works team – a serial winner in the bike category. ■



Filipe Ferrao, X-Raid Team mechanic, describes in the video the challenges of the rally:
www.kaercher.com/difference

Personality compass explains

DO YOU KNOW AMBITIOUS ANDY?



Or Pragmatic Penny? Are you more of a Social or Effective type? You are probably not able to answer these questions, yet you very likely belong to one of these groups.

➤ Ambitious Andy and Pragmatic Penny are not real people. They represent characters who have been given profiles by Kärcher's market research department. With the aim of being able to offer its customers the best possible cleaning systems, the company outlined what characterises these people and what they find helpful in their day-to-day work.

Motivations for cleaning the house, yard and garden vary widely: some people take pleasure in seeing the finished result of a flagstone terrace cleaned with the pressure washer, looking as good as new. For some, work is simply a source of enjoyment, while others are just happy when

12,000

INTERVIEWS
WERE CONDUCTED FOR THE
GLOBAL STUDY

it is finally finished. This last type of person is what the market researchers call Pragmatic. A Pragmatic type would rather not spend too much time cleaning the house and prefers to buy devices that are easy to operate and that achieve the desired result in the shortest possible time. If Pragmatic Penny is considering buying a new



cleaning device to replace her old one, she is not particularly interested in technical details. What she would really like to know is: will this device save me time and money?

Ambitious Andy sees things differently. He likes technology and would like to find out and try out what a cleaning device can do. He prefers devices that, firstly, can do a lot, and secondly that look good, since style is also important to the Ambitious type. For him, cleaning is not just about making things clean, it is also about sharing his enthusiasm for technology with friends and guests.

Of course, the Socials, Pragmatics and Effectives are not types that were simply dreamt up by the market researchers. The customer typology, which describes six main groups of cleaning device users, their requirements and characteristics, is the result of multiple surveys and long-standing customer contacts. Intensive dialogue with Kärcher customers had already got under way decades ago: representative households were selected from around the company locations and reported regularly on their experiences with Kärcher products. Device testers like these are



still being used today, though customer experiences are now more commonly obtained and evaluated online. The largest information base to date was provided by a study conducted across four countries which looks beyond the borders of local characteristics: in Brazil, France, Japan and Russia. These four markets are representative of the regions of the world in which the countries are located.

The fascinating result: the study involving 12,000 households, surveyed either online or in face-to-face interviews, confirmed that there are of course cultural differences between the markets. What it also confirmed, however, was that the basic requirements and motivations to clean the home and outside areas can be described worldwide with just six key customer types.

In France, for instance, it is more common to invite people from a professional context to your own home for a meal. In Brazil, family ties are very strong and relatives often come to visit. Whether for colleagues or relatives, hosts clean their house and garden so that their guests feel

happy and comfortable, and so that they can show their home at its best. The market researchers designated these types of cleaners Socials. In Russia, there are more Pragmatics: since the winters tend to be long, cold and damp, a thorough spring clean inside and out is traditional. Likewise, cleaning thoroughly before going on holiday is preferred so that settling back in after your return is as relaxed as possible.

In parts of Asia, represented in the market research study by Japan, an enthusiasm for technology is especially pronounced. There is a preference for well-known brands, and customers are interested in the devices' performance data. Alongside the tech-savvy customer type Ambitious, the market researchers also identified the type Meticulous, whose aim is to clean

6

TYPOLOGIES
WERE DEVELOPED BY THE
MARKET RESEARCHERS

to the highest standard of hygiene. Although Meticulous Martha & Marvin are a small group compared to the other customer types, they are more commonly found in Asia than in other markets.

There was also a good reason for the market researchers to give the cleaning types people's names: gender roles are important for product development. The classic family household in which the man of the house keeps the outside area clean with the pressure washer and the

» Cultural differences naturally exist between the markets. However, the basic needs and motivations can be described with a total of six types. «



housewife takes care of the interior cleaning with the vacuum cleaner and cordless electric broom is still one of the main lifestyle models. However, requirements are changing as the number of single households grows and the trend to move to bigger cities increases: Pragmatic Penny and Pragmatic Pete do not necessarily live together under the same roof, and their flats are smaller than that of a family. The Japanese study provided good examples of this: here people prefer devices that are compact and mobile, and ideally that can be operated cordlessly, since the scarce living space in Japan is often spread over several floors. Another interesting aspect here is the commonly held point of view that cleaning the home has an impact on personality. Having one's house in order means having both a clean home and a life that is stress-free. ■

PROFILES IN COMPARISON

SOCIAL:

Keeps the house and garden tidy so that family members feel happy. Making a good impression on neighbours and visitors is important.

PRAGMATICS:

Cleanliness is necessary and appropriate. Time-saving cleaning is important so that there is time left to do the things you really like.

AMBITIOUS:

Technology is terrific. You like using the devices because you are fascinated by how they work. And you enjoy discussing this with friends.

QUICK & EFFECTIVE:

The desired result must be achieved. Your first choice is a powerful device which, ideally, can be used for various purposes.

METICULOUS:

Cleaning must achieve absolute cleanliness and hygiene. You trust brands that are well known for their cleaning competence.

CONVENTIONAL:

Cleaning is simply a necessity. Once the work is done, you can relax at home and feel comfortable.



THE MORNING AFTER

Cleaning up after the summer party



Whether it is a student party with a small circle of friends or a fabulous summer party with dozens of guests and a special ambience – the more successful the celebration, the more cleaning needs to be done the next day. However, if you stick to a few basic tips and have the right equipment on hand, the morning after soon becomes a lot less daunting.

1 THE BAR

Cleaning quickly and efficiently requires a systematic approach. We begin with the bar and always clean from top to bottom. This prevents crumbs from falling onto surfaces that have already been cleaned. Champagne, juices and other drinks have left unsightly marks on the glossy surface. We remove the dirt

using **microfibre cloths** and a **neutral cleaning agent**. A low dosage prevents messy streaking.

2 THE FLOOR

We then turn our attention to the coarse dirt on the floor. A **wet and dry vacuum cleaner** effortlessly vacuums up confetti and drinks residues. So as not to disturb the neighbour's sleep, we opt for the NT 20/1 Ap Te. The compact vacuum cleaner is characterised by its very quiet operation. For hard-to-reach places, like the staircases, we use the **backpack vacuum cleaner BV 5/1 Bp**. In the energy-saving mode, we have enough battery power for 45 minutes of cleaning.

3 THE MARBLE

Elegant marble adorns every surface of the mansion. Keeping the smooth, glossy surface with crevices clean is not an easy task. All of the drinks marks,



like red wine, champagne or lemonade, should be removed during the party with a **wiping mop**, otherwise the acidic liquid immediately attacks the natural stone. After the party, the first step is to apply the powerful **deep cleaner** RM 69 using the manoeuvrable **scrubber drier** BR 45/22 C. Since the wild party has left behind stubborn dirt on the floor, we attach the hard green **roller pads** to the machine in order to remove grease and mineral contamination.

4 THE TILES

Non-slip fine stone tiles are laid around the pool. We use the BR 45/22 C again, this time with **microfibre pads**, to get into the microporous structure of the stone. This is how we remove the grey

film from the tiles. We then rinse the marble and fine stone tiles with clean water. This can be done with the same scrubber drier.

5 THE POOL

The swimming pool in front of the old walls does not have a drain. We therefore use two SP 7 Dirt Inox **submersible dirty water pumps** to empty the pool. We make sure to use a feed hose with as large a diameter as possible in order to maximise the pump's performance. We can then clean the inside walls. Body grease and limescale have left marks behind here. We use the compact **high-pressure cleaner** HD 5/15 C Plus in combination with a **cup foam lance**. For greasy residues, an alkaline cleaning agent is best, while an acid solution removes the limescale.

6 THE WINDOWS

Splashes of champagne from enthusiastic partygoers obscure the view. This becomes apparent the following morning when the first rays of sunshine hit the windowpanes. We clean the panes before the sun becomes too strong, otherwise the heat dries the applied cleaning solution more quickly, leaving behind unsightly streaks. With the **window vac** WV 5 with replacement battery, we have enough energy for all of the glass surfaces in the magnificent building, and thanks to the **extension kit** we can also clean high windows effortlessly. ■

CLEAN WATER FOR THE WORLD

This is the name of the initiative that Kärcher launched in cooperation with the Global Nature Fund in 2012.



.....
Felipe Valderrama with the core of the green filter systems in Colombia: a water hyacinth, which is indigenous to the tropics of South America.

The aim is to build green filter systems for ecological water treatment in developing and emerging countries. This “green technology” uses the roots of the water hyacinth, for example, in shallow and narrow channels to filter harmful substances and pathogens out of the waste water in village communities. There are now seven installations in operation in Colombia, Mexico, South Africa and the Philippines, benefitting more than 360,000 people – and the next projects are already being planned. The Colombian Felipe Valderrama works for the non-governmental organisation Fundación Humedales and is supporting the implementation as project manager.

What motivated you to get involved with the green filter initiative?

I grew up in a developing country and soon became aware of the problems caused by a lack of money and technology. Many people are resigned to this situation, as they often do not know what simple and cost-effective methods exist to resolve numerous problems.

My motivation therefore is to act as a facilitator of simple solutions that also work in regions where there are low levels of education and a lack of funding. The green filter systems are a perfect example. They are able to achieve good and lasting results – without great effort.

What are the main advantages of green filter systems?

The main strengths of the systems are their simple realisation and easy operation. This makes them an ideal solution for the treatment of waste water in small villages.

They are designed according to the principle of bionics. This means that the system intensifies spontaneous biological processes as they occur in natural wetlands. In the process, the organic mass is decomposed, which increases the water quality. Since this is a natural process, there is little for people to do.

What role does Kärcher play?

With the “Clean Water for the World” initiative in cooperation with the Global Nature Fund, Kärcher has made it possible for numerous small organisations to realise local water pollution control projects. Our organisation Fundación Humedales is supported in Colombia. The project in San Miguel de Sema gave us the opportunity to test and further develop our idea for the first time on a real scale. ■



More about the function of green filter systems and the initiative with the Global Nature Fund:
www.kaercher.com/difference

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KÄRCHER is the leading global provider of technology for the cleaning of transport equipment, buildings and surfaces as well as for the purification and pumping of liquids. The 3,000-strong product portfolio includes devices for private households and cleaning systems for commercial, industrial and municipal operators. The family-owned family enterprise has a global presence with 40,000 trading partners and 50,000 service centres. The portfolio includes high and ultra high-pressure cleaners, vacuum cleaners and steam cleaners, pumps for home and garden, watering systems, sweepers and scrubber driers, gantry car washes, cleaning agents, dry ice blasters, drinking water and wastewater treatment systems and water dispensers. Kärcher offers everything from a single source: machines, accessories and cleaning agents, consulting, customer service and digital services. A high level of innovation is the most important growth factor for the company: 569 of its patents were active at the end of 2016. In the financial year 2016, the cleaning specialist achieved a turnover of EUR 2.33 billion, the highest in the company's history.





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