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Rega 2014
with Annual Report 2013

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Rega 1414



Swiss Air-Ambulance

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Rega alleviates human suffering and reduces subsequent costs



Ulrich Graf



Ernst Kohler

In 1955, the Zurich Government Council turned down a request for a helicopter landing pad at the Cantonal Hospital. In 1958, Rega was allowed to land on a nearby sports field and from 1970, on a trial basis, on the roof of the hospital's lecture wing. The helicopters gradually moved closer and closer to the hospitals, and today Rega lands on specially built hospital helipads. There is no doubt that swift, professional medical assistance in acute cases of injury or illness has a positive impact on the patient's prognosis. Indeed, the term "golden hour" is used in connection with medical traumas, such as severe cardiac problems, to describe the short period of time following a medical emergency in which the worst effects on the patient's health might still be averted.

A rapid and correct response by the emergency services and swift patient transport do much to alleviate human suffering. What is not so widely known, however, is that this also helps to prevent high subsequent social costs. If patients receive the right medical care quickly, they are ready to return to work sooner or with fewer limitations, and the follow-on costs for health insurance providers are minimised. This is not only true in the case of heart attacks, but also for seemingly minor accidents such as a dislocated shoulder. Rega's rescue helicopters play an increasingly important role in this process. Efforts to reduce public spending are leading in many places to cutbacks in the provision of primary medical care. The resulting gap is often filled by the helicopter.

Every year, Rega invests millions of Swiss francs in infrastructure and modern air rescue resources to ensure that it is well equipped for this task. The new Rega helicopter base in Zweisimmen opened at the beginning of winter 2013/14. It is one example of a large and significant investment in a beautiful but remote region. Other investments are not immediately apparent. In an effort to make its rescue missions less dependent on the weather, Rega is training its helicopter pilots in instrument flight and upgrading the equipment on board its helicopters. A key component in this respect is the flight simulator, which has been making a valuable contribution to pilot training since spring 2013.

In the summer of 2013, Rega came under fierce attack from some sections of the media, which accused it of unfair competition, a flawed safety culture and excessive management salaries. With all due respect to our critics, it is important to judge Rega on what it does year after year for people in distress and how it benefits the Swiss healthcare system – incidentally, with patronage contributions that have stayed at the same low level for over twenty years. 2013 was one of the most successful years in Rega's history. The ever growing number of patrons is a clear indication that the population puts its trust in Rega.

A handwritten signature in black ink, appearing to read 'U. Graf'.

Ulrich Graf
Chairman of the Foundation Board

A handwritten signature in black ink, appearing to read 'E. Kohler'.

Ernst Kohler
CEO/Chairman of the Management Board

Only the best for our tiniest patients

They are Rega's youngest patients and are known as "prems". In extreme cases, they weigh just a few hundred grams and are born much too early. Rega's rescue helicopters and ambulance jets transport newborn and premature babies two to three hundred times per year. These missions present a very special kind of challenge.

Adult patients and children lie on the special stretcher installed in the helicopter or jet. However, newborn or premature babies need to be transported in a special mobile incubator – a kind of artificial mother's womb. The medical care for newborns, too, cannot be compared with that of adults, for the demands made on the medical staff are very different.

Transport incubator: the smallest patients make the greatest demands.



To enable Rega to meet the special requirements of these tiny patients, every incubator transport is accompanied by a specialist neonatal medical team, comprising a neonatal paediatrician and a neonatal nurse. One of these specialist teams is supplied by the University Children's Hospital Zurich, affectionately known as the "Kispi"; other teams are provided by other children's clinics. Rega is currently intensifying its collaboration with the neonatal paediatricians from Aarau Cantonal Hospital, who are also called on to accompany these flights. In addition, Rega has its own paediatrician who can carry out these highly specialised transports; its Deputy Medical Director, Dr André Keisker, is himself a paediatrician.

Improving primary medical care

The close cooperation between the hospitals and Rega encompasses more than just personnel. At a cost of approximately CHF 200,000 each, transport incubators are very expensive. Zurich Children's Hospital has two. Capacity is therefore limited, both in terms of staff and the number of available incubators. In 2014, the Kispi intends to purchase two new state-of-the-art transport incubators. At the same time, Rega is investing in developing a similar model of its own, thus making an important contribution towards improving primary medical care.

This joint procurement project is highly complex for Rega in particular, as the new incubators must be able to be used in both a rescue helicopter and an ambulance jet and are also required to meet all the safety regulations. Modifications need to be made to the helicopters and subsequently certified before these tiny patients are permitted to be transported in this manner.

When transferring a patient from one hospital to another, it is important that this is done as gently as possible and that the ongoing treatment is not interrupted in any way. In the first few hours of their lives, newborn and premature babies usually struggle with respiratory problems, as often their lungs are not fully developed.

Uninterrupted special ventilation

Consequently, medical innovations relating to modern-day incubators are primarily in the field of ventilation. For example, the new transport incubator uses a method known as high-frequency jet ventilation. The introduction of this transport incubator in the rescue helicopters and ambulance jets will ensure that this special type of neonatal ventilation does not have to be interrupted during transfer between the two hospitals; in other words, the first-class treatment can continue seamlessly during the relocation process.

With the procurement of the new, state-of-the-art transport incubator, coupled with the close cooperation with specialists from the appropriate neonatal wards, Rega is also making a valuable contribution in the field of neonatal transports and thus actively supporting cutting-edge medicine – which in turn benefits its tiniest patients.

André Keisker, paediatrician and Rega's Deputy Medical Director: every mission involving newborn or premature babies is accompanied by a team of neonatal medicine specialists.



André Keisker
Medical Doctor

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Pushing the boundaries

Every year, Rega is forced to deny around 600 patients urgently needed medical assistance by air – all because of poor visibility. To this day, helicopters generally still operate under visual flight rules. Fog, snow or low-lying cloud can render flights or landings impossible or cause a mission to be aborted. However, the situation is soon set to improve.

“Helping people in need and providing them with the best possible medical assistance by air” sums up what motivates the entire Rega workforce. So it is frustrating when meteorological conditions make it impossible for the rescue teams to get help to where it is so desperately needed. In collaboration with the Swiss Air Force and the air

navigation service, Skyguide, Rega is venturing into uncharted aviation territory with its plans to establish instrument flight rules (IFR) in helicopter operations. It aims to reduce the limitations imposed by the weather as far as possible and thereby reduce the number of cancelled or aborted missions. A noble goal, but one that demands a great deal of commitment and hard work from everyone involved. If it is ultimately for the good of the patient, Rega is only too willing to take that into account.

IFR qualification for Rega pilots

In order to fly under instrument flight rules (see box), helicopter pilots must complete a total of 400–500 hours of intensive theoretical training in addition to a minimum of 55 training flight hours.

Rega even goes beyond the statutory minimum and requires its helicopter pilots to fly around 50 training hours in the flight simulator and a further 20 hours in the helicopter.

The simulator for Rega’s AgustaWestland Da Vinci mountain helicopter, which was put into operation in 2013, is a valuable part of this training. It allows the majority of flying hours to be scheduled in advance and completed irrespective of ongoing missions – with no kerosene consumption or noise emissions. In order to keep their IFR status current, Rega pilots (as also the paramedics who assist the pilots during the flight) must complete an IFR flight or a corresponding exercise in the flight simulator every three months.

AgustaWestland Da Vinci: in future, Rega’s mountain helicopter will no longer be grounded in poor weather.





IFR-compatible cockpit: in 2014, all of Rega's Da Vinci helicopters will be equipped for instrument flights.

While the Eurocopter EC 145 fleet deployed by Rega is already equipped with IFR-compatible cockpits, a retrofit programme is now under way to upgrade the fleet of mountain helicopters. By the end of 2014, all the AgustaWestland Da Vinci machines will have been fitted with a second navigation computer and a second GPS with input device and will then be certified for IFR flights.

Hand in hand with Europe

Following the retrofit, the Da Vinci fleet will be certified to carry out LPV (Localiser Performance with Vertical Guidance) operations. This satellite-based navigation procedure is based on data supplied by EGNOS (European Geostationary Navigation Overlay Service) and is even more accurate than the USA's widely known GPS (Global Positioning System). While GPS is accurate to around 17 metres, EGNOS, a European system to supplement GPS, improves the accuracy to around three metres. The EGNOS-based LPV instrument flight procedure also adds a vertical component to the horizontal guidance. The Da Vinci rescue helicopter is the first type of helicopter in Europe to be certified by the European Aviation Safety Agency EASA for LPV approaches.

For Rega's vision of flying rescue missions under instrument flight rules to become a reality, the necessary legal conditions must first be put in place. The Swiss

Air Force and Skyguide are actively involved in developing new instrument flight procedures and are supporting Rega in this project. Efforts to advance this development are not limited to Switzerland alone, but also extend into Europe: in the HEDGE (Helicopters Deploy GNSS in Europe) project, work is to be undertaken in collaboration with other European suppliers to develop new helicopter approach procedures. These include satellite-based precision approaches to heliports and development of a network of IFR low-altitude flight paths for helicopters.

IFR flights in what is known as Class G or Golf airspace – in other words, uncontrolled airspace – are currently not possible in Switzerland. In future, air-traffic control will be needed around the clock if the operational benefits of the new procedure are not to be severely limited. Total commitment, plenty of pioneering spirit, intensive cooperation between all the parties involved and, above all, support from the legislature are essential to make Rega's IFR vision reality and to significantly extend the operational scope of rescue flights. We are convinced that the effort involved in improving the safety and reliability of primary care provision to the patient is absolutely worthwhile.

Visual Flight Rules (VFR):

A visual flight describes a flight in which the pilot operates the aircraft by sight. Visual flights are used in general aviation, mainly at low altitudes, by light and sport aircraft, and also in low-altitude military operations.

The pilot controls the spatial position of the aircraft visually and relative to other aircraft. The spatial position is judged in relation to points of reference outside the aircraft, generally the terrain or the horizon. Visual flights therefore depend on factors such as weather conditions, which must permit a certain minimum visibility range, and on the pilot not flying through cloud and losing sight of the essential points of reference outside the aircraft. The pilot must also maintain certain horizontal and vertical minimum distances from clouds in order to prevent collisions. If these conditions cannot be met, visual flights are not permitted.

Instrument Flight Rules (IFR):

Instrument flight refers to a flight in which the position of the aircraft is controlled without any outside visual reference and purely with the assistance of the on-board instruments and air traffic controllers on the ground. This makes it possible to fly in clouds and with restricted visibility. Instrument flights make flying largely independent of the weather conditions.

(Source: Wikipedia)



From the alarm to the rescue – communication is key

Locating the accident site, meteorological data, medical information about the casualty, coordination with the other mission partners: clear and efficient communication between the person raising the alarm, Rega's Operations Centre and the rescuers is indispensable. Rega has recently modernised its radio network of 42 stations in order to ensure that countrywide communication continues to operate smoothly in future.

At first glance, it seems quite straightforward: if you need Rega, you dial 1414 and shortly afterwards the rescue helicopter will be flying you to hospital. In actual fact, it is not as simple as that. Many other things happen between the alarm being raised and the patient being flown to hospital, much of which is invisible to outsiders.

The Operations Centre is at the heart of Rega's communications

Rega's Operations Centre at Zurich Airport is the heart of its air rescue missions. It is the hub where all the information is collated, decisions are taken and tasks assigned. The introduction at the end of 2012 of a new, integrated dispatch system as part of the major REMICO project (see box) has made the work of the Rega mission coordinators considerably easier. Automated alarm procedures, integrated interfaces to partner organisations, easy access to comprehensive cartographic materials and digital mission recording are just some of the innovations.

Communication is key at the Operations Centre. The flight coordinators take calls from people raising the alarm and decide which Rega base should be deployed. They alert the appropriate crew and once the helicopter is under way provide them with further details about the accident site, the kind of injuries they can expect to find, and the mission partners on site. If necessary, the Rega coordinator requests additional rescuers. For example, the mountain rescue teams from the Swiss Alpine Club (SAC) are called out exclusively via Rega's Operations

Centre. Once the helicopter has arrived at the scene of the accident and the casualty is being attended to, the crew informs the flight coordinator to which hospital the patient should be taken. The flight coordinator then contacts the appropriate hospital and notifies it of the Rega physician's tentative diagnosis. This allows the hospital's medical staff to prepare themselves properly for the patient's arrival.

Rega's radio network – a crucial element of mission coordination

Seamless communication between the person raising the alarm, the Operations Centre and the rescuers is fundamental for good mission coordination. Of course, this does not just apply to Rega, but to all the other rescue services as well. With one important difference – what works on the ground does not necessarily work in the air, or only to a certain extent. Mobile phones are one case in point. They cannot be used to coordinate an air rescue mission, so an analogue radio system remains the method of choice. The only problem is that we live in a country where the topography makes radio communication very difficult. To ensure countrywide communication, back in the mid-1990s, Rega set up its own radio network and since then has continually expanded it. Nowadays, the network consists of 42 radio stations distributed throughout Switzerland (see illustration).

Within the framework of its REMICO project, Rega has not only introduced a brand new dispatch system, but also updated its entire radio network. With the exception of the central radio computer at the Rega Centre, all the portable radio sets, station computers and filters at the 42 fixed stations all over Switzerland have also been replaced with new equipment. These steps to modernise the radio network were successfully completed on 31 October 2013.

Coordinates sent direct to the rescue helicopter

Not yet finished is the installation of the new radio equipment in all of

Rega's helicopters. In future, the mission coordinates will be fed digitally direct into the helicopter's flight management system and shown on the cockpit map display. If the alarm is raised using the Rega emergency app, the coordinates transmitted by the mobile phone can be forwarded from the Operations Centre direct to the helicopter, enabling the casualty to be located and recovered even more quickly than before. The installation of these new devices in the Rega helicopters should be completed by the end of 2014, thus marking the end of the REMICO project.

In order for Rega to be able to fulfil its task to the best of its ability, many things are necessary that are not immediately apparent, but are in fact essential for a successful rescue mission. REMICO means that seamless communication is guaranteed, enabling Rega to continue to provide rapid, professional medical assistance by air exactly where it is needed.

REMICO (REga MISSION COntrol)

REMICO, a major project which is being implemented over a period of four years, aims to replace the existing infrastructure with an integrated dispatch system complete with a modernised radio network. Rega is investing CHF 21 million in this project, in which some 30 Rega employees and at least as many external specialists are involved.

Rega's radio network



The rescue makes all the difference

Following a serious accident or in the event of acute illness, the work of the professional rescue services plays an essential role in avoiding high consequential social costs. A small amount of financial investment keeps a large amount of damage at bay. Even the rescue helicopters, always regarded as expensive in the past, are cost-effective. A look at the bigger picture shows that making savings in the field of rescue may well prove to be self-defeating in broader economic terms.

The first few minutes after a serious accident or injury determine many aspects of a patient's prognosis: a rapid medical response at the scene and fast, careful transportation to a suitable hospital allow

definitive therapy to be initiated as quickly as possible. This alleviates a great deal of suffering and improves the medical outcome. The important period of time between an incident occurring and the patient's admission to the hospital emergency ward is where the ambulance, and in exceptional cases the rescue helicopter, comes in. These primary rescue resources make a real difference – a far greater one than widely assumed.

In a study published in 2008, Häusler et al. discovered major cost differences between people who are able to return to work after a serious accident-induced injury and those who are not.¹ A patient who is no longer fit to work as a result of an accident costs the Swiss economy an average of CHF 1,840,000, while a

patient who can return to work a “mere” CHF 210,000. This includes both direct costs (e.g. treatment and rehabilitation) and indirect costs (e.g. loss of productivity). What these figures do not account for are immaterial costs, such as the loss of quality of life.

In both cases, the cost of the rescue – in other words, of the preclinical emergency medical services – is on average far less than CHF 2,000. The scope of the study is small, and little research has been done so far on the economic correlation between emergency medicine and follow-on costs. Nevertheless, it is reasonable to assume that with its rescue services, Switzerland has an effective lever for controlling costs in its healthcare system. The investment of just a few



thousand Swiss francs in the form of rescue makes a difference in total costs of between several hundred thousand and well over one million Swiss francs.

A great effort for a much greater benefit

Rescue by helicopter may enjoy a good reputation among the general public, but it is generally considered to be very costly. Procurement, maintenance, infrastructure, human resources, kerosene and medical materials all cost money. Deploying a rescue helicopter today costs on average around CHF 3,500.

That may well seem expensive at first glance. Yet the many benefits of rescue by helicopter have a favourable impact on the outcome for both the patient and the economy. Professional medical assistance is quickly at the scene, even in the most impassable terrain. A helicopter can also cover long distances to transport intensive care patients to a specialist central hospital, saving valuable time and allowing the definitive therapy to begin sooner. This results in a more positive medical outcome; in many cases, the patient spends less time in intensive care, is discharged from hospital earlier and misses less time at work, and in the best case it is even possible to prevent invalidity. Daily insurance allowances, continued pay, treatment costs, pensions – all these cost factors can be influenced positively with the targeted deployment of a rescue helicopter.

Moreover, this does not just apply to the most severely injured patients. Nowadays, insurance providers acknowledge that a dislocated shoulder, for example, needs to be treated quickly, but normally not before an x-ray has ruled out any fractures. Carefully transporting the patient to hospital helps prevent irreparable subsequent damage, which pays off

Rega helicopter at the accident scene: rapid emergency medical assistance and swift transport to hospital alleviate suffering – and save follow-on costs.

in every respect. Landing a helicopter directly on the ski slope not only makes things less painful for the patient, but also makes financial sense. All the more so considering that the costs charged for air rescue services account for just 0.08 per cent of the total cost of Swiss healthcare services.²

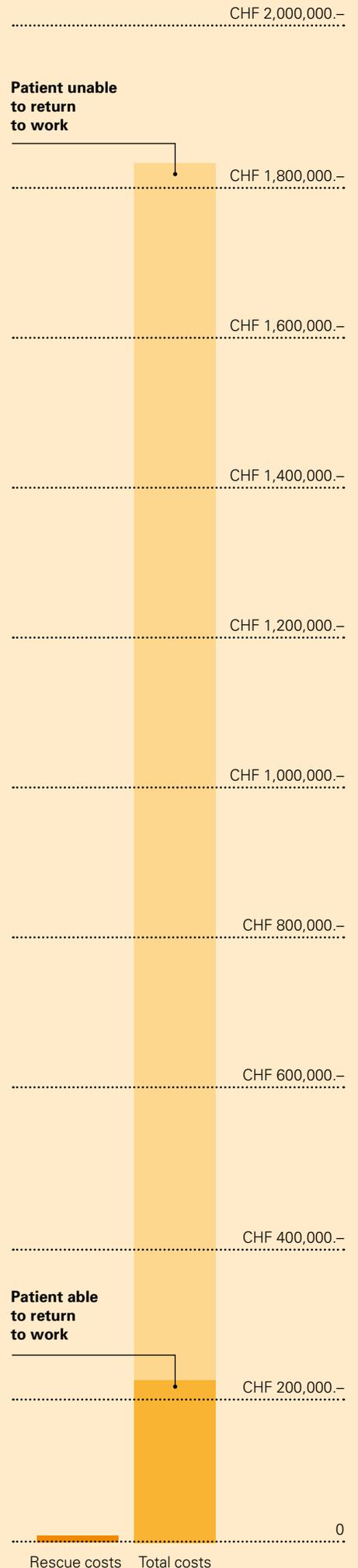
Rega helps provide primary medical care countrywide

If the best medical outcome is to be achieved for the patient, it is essential that all the links in the rescue chain – that is, the resources on the ground and in the air – work well together. There is still some potential for greater understanding of the possibilities – and limitations – of the various partners. The importance of rapid professional assistance is confirmed in a new study. It examines the relationship between the type of rescue, its duration and the manner in which the medical situation of severely injured (polytrauma) patients progresses. Admission as quickly as possible to a suitable central hospital offering the appropriate therapy is critical for the patient’s chances of survival. It comes as no surprise that the benefits of a rescue helicopter increase with distance. The study confirms that a tightly-knit network of well-coordinated rescue services is of huge importance.³

By the same logic, it must also be ensured that patients can begin with a definitive therapy immediately after admission to hospital. This means, for example, that there is the capacity and willingness to perform surgery without delay. The requirement for emergency doctors from the trauma centres to work as part of a rescue team (including on board the helicopter) for a number of months is undoubtedly the right way of encouraging this. Mutual understanding breaks down barriers and has a positive impact on the provision of comprehensive and rapid patient care.

Rega is aware of the responsibility it holds in the provision of preclinical emergency services in Switzerland. Thanks to the tremendous support of its patrons, Rega

Economic costs of polytrauma patients (average)¹



has so far been in a position to act for the welfare of the patient and society independently of pressure in the public sector to cut costs. Nevertheless, it cannot guarantee that its rescue resources are always available. Several hundred missions have to be denied or aborted every year on account of the weather, mainly because of poor visibility. As far as securing the provision of emergency medical care is concerned, this is an unsatisfactory situation. Rega is working intensively on innovative procedures that will at least go some way towards alleviating it. Its efforts focus in particular on increasing the capacity of rescue helicopters to operate in all weather conditions by introducing satellite-based navigation and approach procedures (see report on page 8).

Keeping a watchful and critical eye on cost-saving efforts

Over a period of decades, a good network of preclinical emergency medical services has been built up in Switzerland, which today benefits not only the Swiss population, but also tourism and the

economy to a significant degree. The economic impact of the work carried out by the rescue services has rarely been acknowledged to date. And yet, as already outlined, the latest findings show that strong preclinical emergency assistance is cost-efficient. Therefore steps should be consistently taken to improve the quality of such assistance and to guarantee its on-going provision. Moreover, a watchful and critical eye must be kept on cost-saving trends in the field of rescue, so that any undesirable developments can be corrected or averted at an early stage.

¹ Jean-Marc C. Häusler, Benno Tobler, Beat Arnet, Jürg Hüsler, Heinz Zimmermann: Der Luxus zu verunfallen: Die volkswirtschaftlichen Kosten von Polytrauma. Suva Mitteilungen Nr. 79, S. 4 ff. Lucerne, 2008.

² Calculations by Rega, based on the estimated costs of all helicopter missions in 2012, including in Canton Valais, in comparison with the total health care costs amounting to CHF 62.5 billion (FSO, Health Statistics 2012). If the costs for the infrastructure and stand-by services covered by patrons' contributions are also taken into account, this amount increases to approx. 0.2 percent.

³ Sebastian Günkel, Marius König, Roland Albrecht, Martin Brüesch, Rolf Lefering, Kai Sprengel, Clément M.L. Werner, Hans-Peter Simmen, Guido A. Wanner: Status quo der Boden- und Luftrettung schwerverletzter Patienten – Analyse eines überregionalen Schweizer Traumazentrums. Der Unfallchirurg, W. Mutschler/C. Krettek (publisher), Springer, Berlin Heidelberg, to be published.



Ground and air-based rescue teams in action: cuts to the rescue services could cost Switzerland dear.



Using technology and innovation to combat the cold

A patient suffering from exposure: the infusion warmer is one of Rega's many aids to combat hypothermia.

No-one likes feeling cold. Injured or sick people are especially sensitive to the cold, and exposure to the elements can very quickly have dramatic consequences. Reason enough for Rega physicians to pay particular attention to hypothermia and to combat it with a combination of technology and innovation in the areas of heat and blood coagulation management.

Hypothermia is a condition caused by prolonged exposure of the body to extreme cold or wind (chill factor). It represents a serious risk to patients, particularly following an accident in the high mountains – although it can also occur in the Swiss Plateau region and, depending on the extent of exposure, even in summer too – because the blood's ability to coagulate decreases as the body temperature drops. Consequently, it is no longer possible to stop or reduce bleeding, and the chance of survival of patients with severe or multiple injuries with internal and external bleeding falls dramatically.

Rega is making great efforts to counteract this problem at the preclinical stage and to improve heat management in its patients. All of Rega's rescue helicopters are fitted with a wide range of aids to prevent hypothermia.

Bubblewrap blanket: Wrapping up the patient in this metallic coated blanket reflects the remaining body heat back to the wearer and prevents it from being lost.

Thermal blanket: The thermal blanket can be used in combination with the bubblewrap blanket. The electric elements incorporated into the thermal blanket allow active warming of the patient.

Buddy Lite system: This portable infusion warmer heats medical fluids and blood to body temperature. As it is used next to the body, the liquids do not cool down as quickly on their way from the infusion bag to the body, and the patient fully benefits from the heat transferred into their body by the infusion.

Heated rescue recovery bag: It is warm in the rescue helicopter because it has heating. With this innovative new product, the warm air can be blown directly into the rescue recovery bag via a series of tubes. The patient in the rescue recovery bag is directly warmed up using the heat from the helicopter.

In addition to these aids, Rega physicians have a number of special medicaments and apparatus at their disposal. Since summer 2013, **tranexamic acid** has been a standard part of the medical supplies on board every Rega helicopter. This medication slows or prevents the

reduction in the blood's ability to coagulate that is typically caused by hypothermia. The sooner it is administered to the patient, the greater its effectiveness. As a result, Rega physicians are investigating the benefits of using tranexamic acid at the accident scene as part of a study conducted in conjunction with Zurich University Hospital, Zurich Protection & Rescue, and the cantonal hospitals in Lucerne and St. Gallen.

Another new item in Rega's standard equipment is a portable, mechanical **resuscitator**, which significantly assists the crew to resuscitate the patient. The most important benefit is that resuscitation can be continued throughout the transport phase, leaving the physician with both hands free to provide the patient with other treatment or to stay strapped into his seat for his own safety. Keeping the patient resuscitated during transportation is especially important if they are suffering from hypothermia. If the body's core temperature falls below 35 °C, resuscitation must continue until the patient's normal body temperature is restored. Only then is it possible to make a definitive assessment of the patient's state of health.

Medical assistance by air

Swiss Air-Rescue Rega was founded in 1952 for the purpose of providing emergency medical assistance by air.

Thanks to wide-scale support from the Swiss people, it is able to meet the challenges posed by a country with extremely demanding topography. With its highly trained employees and state-of-the-art aircraft, Rega is on call around the clock, finances the building and renovation of its dense network of helicopter bases, and is constantly improving its air rescue services and procedures.

Rega provides assistance wherever a person's life or health can be preserved or protected through its intervention. It comes to the aid of people in distress and in need of help in accordance with the Fundamental Principles of the Red Cross, without discrimination as to person, financial circumstances, social status, nationality, race, religious beliefs or political opinions. It is the patient's medical condition that counts. Ambulance jets and rescue helicopters are swift, comfortable and efficient means of transport. Their targeted use helps reduce the subsequent costs arising from acute illnesses and accidents.

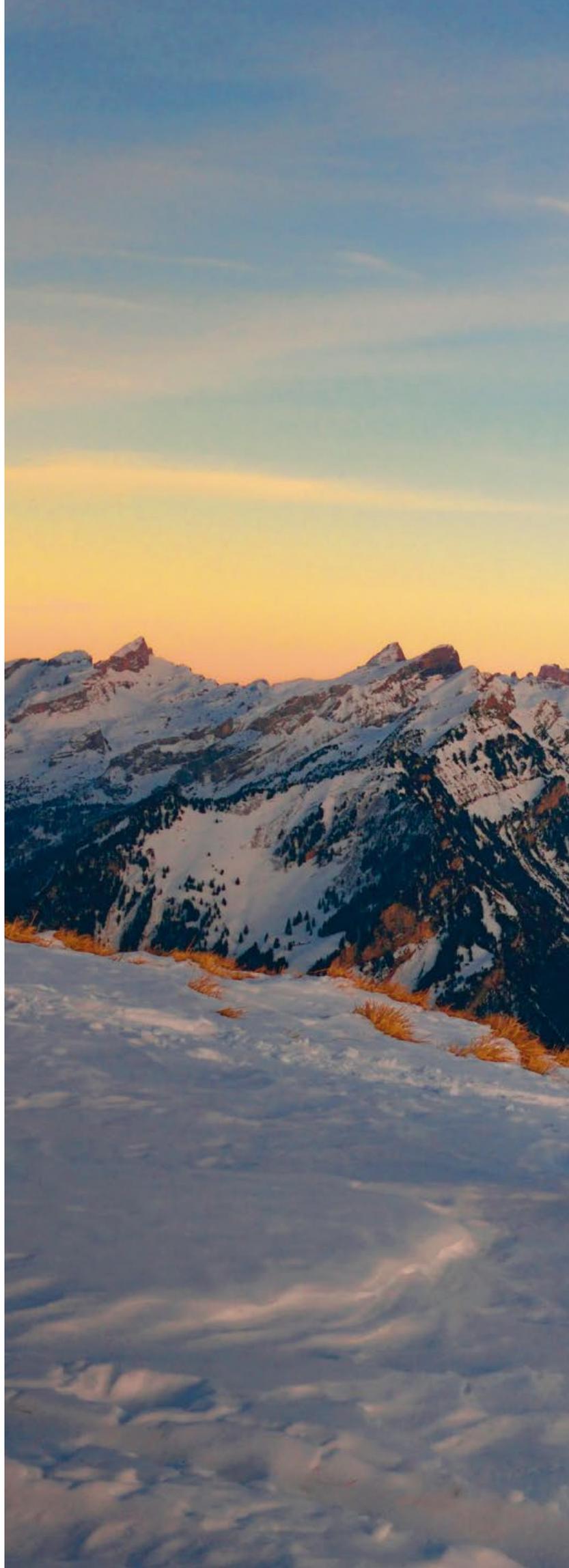
Rega is an autonomous, privately run, non-profit foundation. With over 2.5 million patrons, it is firmly rooted within the Swiss population. It has been a corporate member of the Swiss Red Cross since 1981. Rega operates independently of political interests and is not subsidised by the State. Its activities also contribute towards improving the quality of life, the economy and tourism in Switzerland.

Key figures

	2013	2012	%
Total number of missions	13,793	13,966	-1.2
Helicopter	10,205	10,250	-0.4
Fixed-wing aircraft	1,148	1,215	-5.5
Other missions ¹	2,440	2,501	-2.4
No. of patrons (in millions)	2,504	2,445	2.4
No. of employees ²	337	321	5.0
Operating revenue (CHF million)	138	139	-0.9
Operating expenditure (CHF million)	135	128	5.8
Operating result (CHF million)	3	11	-76.2
Balance sheet total (CHF million)	527	517	1.8

¹ Other missions: transports by ambulance, on behalf of the Swiss Alpine Club, Spéleo-Secours, Redog, etc.

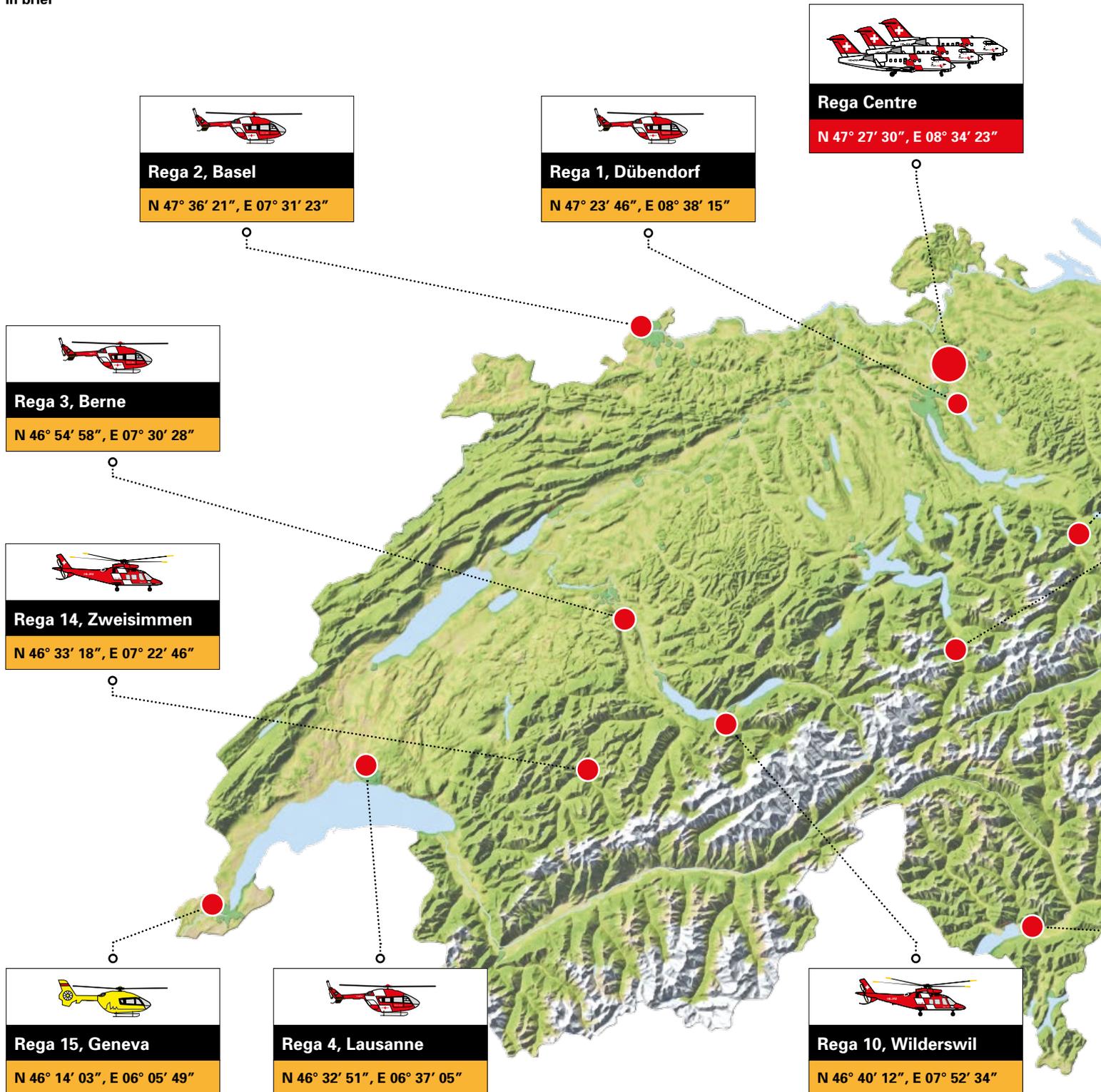
² No. of full-time equivalent employees at the end of December





Solidarity, empathy, professionalism, competence, Swissness

You can rely on Rega.



Lowland base fleet



Eurocopter EC 145

No. of helicopters:	6
Patient capacity:	1 lying, 1 sitting
Rotor diameter:	11.00 m
Length:	13.03 m
Height:	3.95 m
2 engines (Arriel 1E2), take-off power:	2 x 720 PS
Maximum cruising speed:	220 km/h
Rescue hoist:	90 m cable length, 270 kg payload

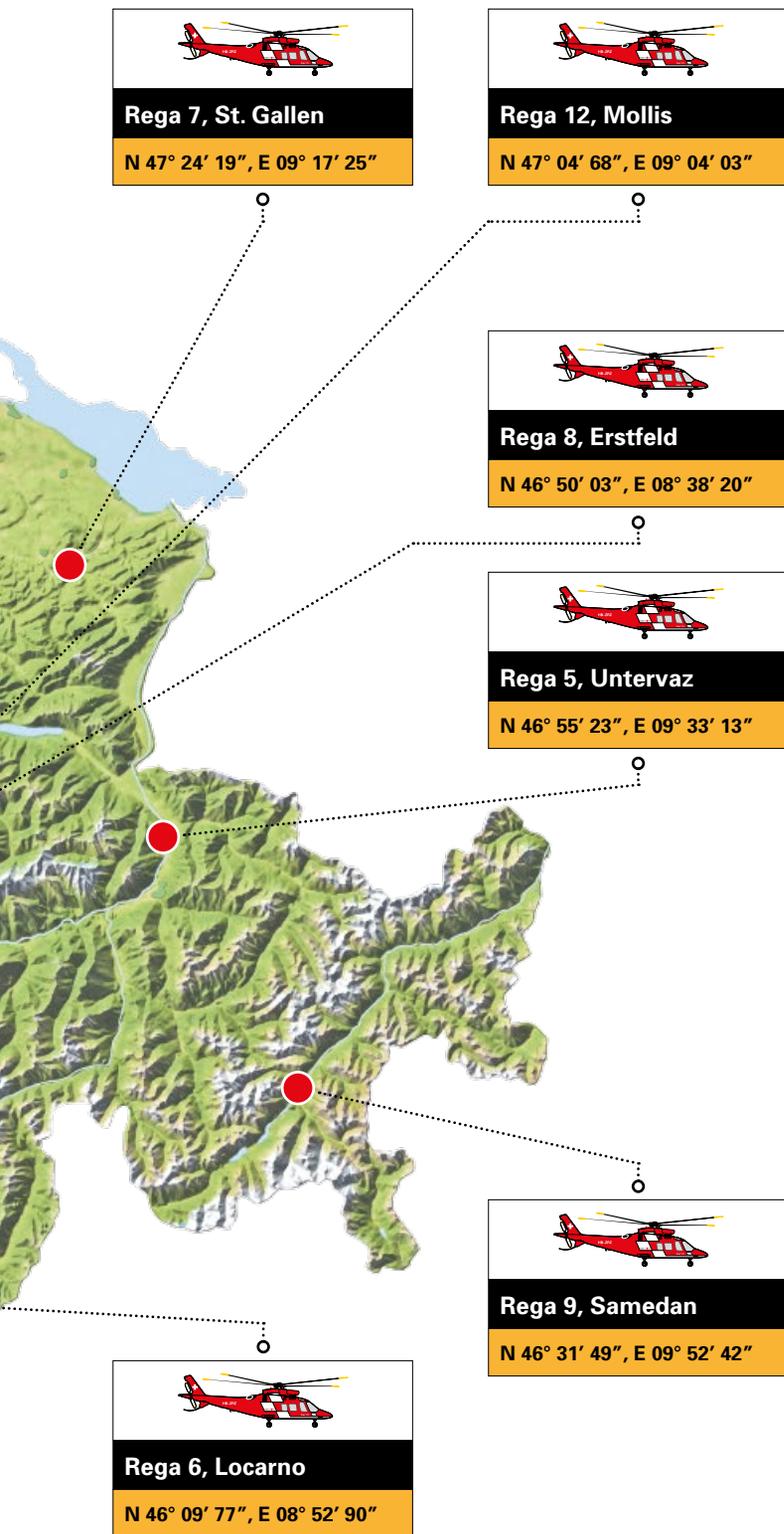
Mountain base fleet



AgustaWestland Da Vinci

No. of helicopters:	11
Patient capacity:	1 lying, 1 sitting
Rotor diameter:	10.83 m
Length:	12.96 m
Height:	3.40 m
2 engines (Pratt & Whitney), take-off power:	2 x 778 PS
Maximum cruising speed:	235 km/h
Rescue hoist:	90 m cable length, 270 kg payload

Locations



Rega Centre

Rega's head office, operations centre and maintenance works, as well as the base for its three ambulance jets, are located at Zurich Airport.

Helicopter bases

The 12 helicopter bases, each of which operates one rescue helicopter, are situated in Dübendorf, Basel, Berne, Lausanne, Untervaz, Locarno, St. Gallen, Erstfeld, Samedan, Wilderswil, Mollis and Zweisimmen. There is also a partner helicopter base in Geneva.

Operations Centre

The Operations Centre, located in the Rega Centre building, organises around 14,000 missions each year. It can be contacted around the clock – in Switzerland via emergency number 1414, and from abroad via emergency number +41 333 333 333.

Ambulance jet fleet



Challenger CL-604

No. of aircraft:	3
Patient capacity:	4 lying
Wing span:	19.61 m
Length:	20.86 m
Height:	6.40 m
Maximum take-off weight:	21,863 kg
Maximum cruising speed:	850 km/h
Maximum range:	6,200 km

Emergency numbers

In Switzerland

1414

Abroad

+41 333 333 333

Rega in Switzerland

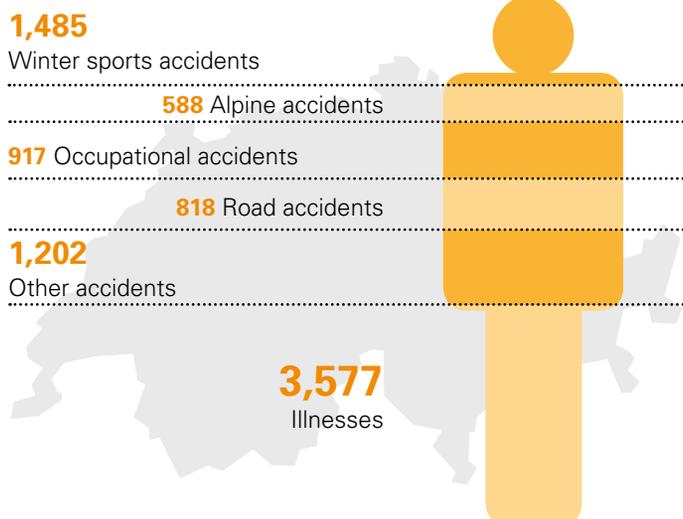


Rega's rescue helicopters are on call 24 hours a day, 365 days a year, in the service of the Swiss people. The 17 AgustaWestland Da Vinci and Eurocopter EC 145 helicopters transport state-of-the-art medical services directly to the patient – not just in response to serious accidents or injuries, but also in cases of acute illness, such as cardiac problems.

The rescue helicopters are called out not only to deal with incidents in inaccessible mountainous terrain, but also on motorways and in built-up areas. They are used to transport critical patients gently and reliably to the nearest suitable medical centre or to fly newborn babies to a paediatric hospital. A highly versatile and efficient means of rescue, the helicopter plays an indispensable role in the modern-day healthcare system.

Helicopter operations are divided into primary and secondary missions. Primary missions comprise rescue flights that transport medical assistance direct to the scene of the incident. Secondary missions mostly involve inter-hospital transfers – for example, if a patient's condition has worsened and requires specialist attention. Almost one-fifth of all Rega helicopter missions take place at night – a demanding task for the pilot, paramedic and emergency physician making up the crew.

Primary/secondary missions by helicopter in 2013 (no. of patients)



Rega international



For people who become seriously injured or ill abroad, Rega represents a bridge to their homeland. Its three own Challenger CL-604 ambulance jets are used exclusively for transporting patients. The crew invariably comprises at least two pilots, a flight physician and an intensive care flight nurse. Rega is equipped to transport patients who are in a very critical physical condition. However, as each transport involves a certain degree of risk, operations of this kind need to be closely supervised by experienced medical coordinators.

The use of an ambulance jet is not always necessary. Often patients are repatriated on board a scheduled aircraft – competently and professionally attended to by Rega’s medical staff.

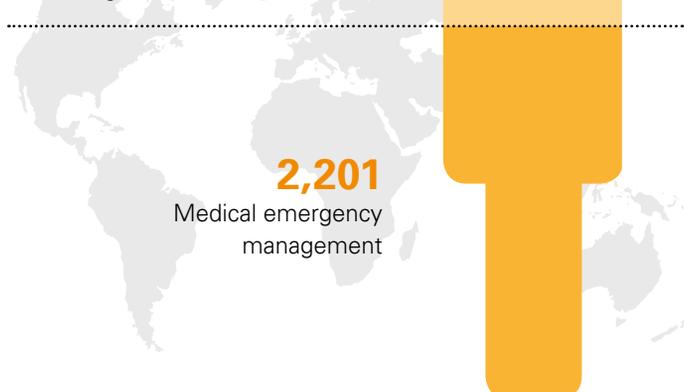
If travellers suffer serious medical problems abroad, Rega can also assist by providing them with expert medical advice as part of its emergency medical management. Medical consultants are on duty around the clock and, together with the doctors on location and the patients themselves, seek the best possible solution – such as informing them of the nearest suitable hospital.

Providing that it has capacity available, Rega also puts its knowledge and fleet at the disposal of clients abroad for patient transports. These missions help Rega crews to maintain and improve their operational and medical expertise, and also contribute towards covering costs.

Medical emergencies abroad in 2013

936

Transported/accompanied patients
fixed-wing aircraft



No patrons, no Rega

Thanks to their annual contributions, Rega's patrons enable the continued existence of the air rescue organisation. They keep Rega in the air, as a public service for the Swiss people.

Professional rescue by air around the clock, 365 days a year, with highly qualified staff, state-of-the-art rescue equipment and a dense network of helicopter bases – it would be impossible to provide all this in a cost-effective manner. When, back in the 1960s, the fledgling air rescue organisation ran into serious financial difficulties, instead of asking for State subsidies, it set up a privately operated patronage system. Since then, patrons' annual contributions have succeeded in covering the "deficit", which comprises around 60 percent of the total budget. The remaining costs are covered by cost bearers, such as health, accident and travel insurers, in the form of payments for missions carried out on their behalf.

In the meantime, this system has more than proved its worth. It gives Rega the freedom and independence to perform its duties as it deems best and allows it to fully focus on its patients' welfare. The annual patronage contributions have only ever been increased once, and have remained unchanged for the last 20 years.

As a token of thanks for patrons' support, Rega waives the cost of any of its services performed on their behalf, provided that these are not covered by the individual's insurance.

You can find the Conditions of Patronage on page 38.

Cost coverage in 2013

CHF 85 million
(62 %)

Patrons' contributions and donations

CHF 53 million
(38 %)

Cost bearers and other revenue





A huge thank-you to all of our
2,504,000 patrons, whose financial
contributions keep Rega in the air.

Become a Rega patron: www.rega.ch

Milestones

Swiss Air-Rescue Rega was founded in 1952 to provide emergency medical assistance by air. Since then, it has organised over 300,000 missions and rescued countless people in distress. Even back in the pioneering days, Rega's air rescuers succeeded in achieving the impossible. Rega has remained true to this credo to this day.

> 27.4.1952



The organisation is founded

Swiss Air-Rescue is founded as a sub-section of the Swiss rescue association, Schweizerische Lebensrettungsgesellschaft (SLRG), in the Hotel Bären in Twann.

> 1952



Swiss Air-Rescue is ready to start operations

On 25 December, Dr. Rudolf Bucher, the head of Swiss Air-Rescue, announces over Radio Beromünster that the parachutists and helicopters are ready for action.

> 1953



The first rescue parachutists

In winter 1953, Swiss Air-Rescue parachutists are used on a rescue mission for the first time.

> 1955



Large-scale live demonstration

During three days in March, over 300,000 spectators watch a live demonstration in the area around Zurich's lower lake basin, held to procure funds for air-rescue services.

> 1956



Emergency assistance in the USA

After a plane accident, Swiss Air-Rescue pioneers recover the bodies of 128 persons from an inaccessible area in the Grand Canyon region.

> 1957



The first helicopter of its own

A countrywide collection by the Association of Swiss Consumers' Cooperative Societies (now Coop) produces sufficient funds to purchase a Bell-47 J helicopter.

> 1960



An autonomous organisation under Fritz Bühler

Swiss Air-Rescue breaks away from its parent organisation, the SLRG. Fritz Bühler is appointed Technical Director.

> 1960



First repatriation For its first repatriation mission, the private Piaggio P-166 aircraft owned by Dr. Armin Meyer flies a patient from France back home to Switzerland.

> 1966



Self-help by means of patronage

No funds from the Swiss government. However, a nationwide appeal for help proves successful. 25,000 patrons save Swiss Air-Rescue from financial ruin.

> 1968



Bell 206A, the first turbine-powered helicopter

The Jet Ranger HB-XCU has a turbine, but no rescue hoist. In mountainous areas where the helicopter is unable to land, rescue is only possible using the fixed rope.

> 1971



First direct rescue from the Eiger north face

What until now had been deemed impossible, suddenly becomes reality: using a rescue hoist, the crew from the Gsteigwiler base lift two climbers directly off the rock face.

> 1971



First Alouette III

The Alouette III SE 316 HB-XDF is Rega's first helicopter to be financed by patrons' contributions. The picture shows it in operation at the Engadin Ski Marathon in 1972.

> 1973



Twin-engine helicopter

The introduction of the Bölkow BO-105C – depicted here on the roof of the University Children's Hospital in Zurich – marks the beginning of the era of twin-engine helicopters at Rega.

> 1973



Operations abroad with its own aircraft

Rega's Learjet 24D HB-VCY is the first civilian ambulance jet in the world. It is fully equipped with medical apparatus and is on stand-by around the clock.

> 1975



Rescue helicopter can land on roads

After extensive negotiations, the Zurich Government Council approves a trial phase for the use of the rescue helicopter to help deal with road accidents.

> 1979



Rega becomes a non-profit foundation

The Association sets up a Foundation. Fritz Bühler is appointed the first Chairman of the Foundation Board.

> 1980



Fritz Bühler dies

On 23 August: the great organiser and promoter of air rescue passes away totally unexpectedly at the age of 72 during a business event.



1980

The "Hitchcock" rescue A parachutist's canopy becomes entangled in the aircraft's tail wheel. The helicopter flies above the plane so that the rescuer suspended at the end of a rescue hoist can cut the parachutist free.



1984

Long-haul ambulance jet The Challenger CL-600 HB-VFW is equipped to perform long-haul operations with several patients on board. In Geneva, it is christened "Fritz Bühler".



1984

New Operations Centre Rega moves into its new head office in Zurich's Seefeld district. The Operations Centre is housed on the top floor of the building.



1985

The magic number of 1,000,000 patrons Rega's patronage system proves to be an on-going success. On 23 August, Rega issues its one millionth patronage card.



1987

Helicopters with night vision goggles Rega is the first non-military organisation in the world to equip all of its helicopters with night vision goggles, thus increasing the safety of night missions.



1987

The Hawker 800 jets commence services Two new ambulance jets replace the pair of Lear-35 aircraft. The larger cabin and longer range improve the services for patients.



1992

The new fleet is made up of Agustas On 14 August, the Untervaz base in Canton Graubünden puts the first of the 15 new twin-engine Agusta A 109 K2 helicopters into operation.



1996

The first round the world flight In a mission lasting 43 hours, the Challenger CL-600 transports three patients in consecutive legs, a journey that takes it all the way round the world for the first time.



1997

New Rega Centre at Zurich-Kloten For the first time, Rega's hangar, Operations Centre, maintenance works, logistics operations, Patronage Centre and Administration Department are all united under one roof.



1997

The new emergency number "1414" The four-digit emergency number, 1414, is adopted for calling out the air-rescue services in Switzerland.



2002

Three new Challenger CL-604 jets Three identical aircraft from the Canadian manufacturer, Bombardier, replace the 15-year-old air ambulance fleet.



2002

Five Eurocopter EC 145 helicopters Rega purchases five spacious rescue helicopters from helicopter manufacturer Eurocopter for use at its lowland bases. This is followed by a sixth.



2004

Tsunami in Southeast Asia Rega is pushed to the limit. Over a period of ten days, 16 medical teams are in operation. Within the space of a week, more than 60 casualties are repatriated to Switzerland.



2006

2,000,000 patrons The Van der Bent family from Veyrier, Canton Geneva, register as the two-millionth patron. They are invited to spend a day at the Rega Centre.



2009

AW Da Vinci, the new mountain helicopter Rega purchases from the helicopter manufacturer, AgustaWestland, 11 rescue helicopters for use at its mountain bases.



2009

Mobile heart-lung machine on board For the first time, critically-ill patients can be hooked up to a heart-lung machine in the Rega helicopter.



2010

300,000th mission Newborn twins are flown by Rega helicopter from the Children's Hospital in Lucerne back to their home in Canton Vaud.



2011

Flying "blind" to the Inselspital 27 July: Thanks to satellite-based navigation, Rega flies to the Inselspital University Hospital in Berne despite poor visibility, using the GPS-assisted approach procedure.



2012

State-of-the-art dispatch system The new interlinked systems allow alarm procedures to be largely digitalised and rescues to be coordinated more efficiently than ever.



2013

The flight simulator for the AW Da Vinci sets new standards in pilot training. Instrument flight and emergency scenarios can now be practised realistically and efficiently – in safety and without harming the environment.





Annual Report 2013

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Activities in 2013

Rega looks back on an eventful and – in view of its forward-looking investments – highly successful year. In 2013, the number of missions lay slightly below the long-term average. Rega organised a total of 13,793 missions (–1.2%), during which it transported 9,523 patients (–2.9%). A significant increase was recorded in the area of medical emergency management. Rega's medical consultants provided over 2,000 patients abroad with medical advice (2,201, +27.1%). On average, Rega organised just under 38 missions a day.

Helicopters

Figures for the missions performed by Rega's helicopter fleet were slightly down on the previous years (10,205, –0.4%). This minor drop was principally attributable to lengthy periods of bad weather in winter and spring. Generally speaking, the mission numbers reflect the weather conditions, which greatly influence the way the Swiss population spend their leisure time. The frequency of missions does, however, lie within the long-term average. In 2013, Rega's helicopters

performed on average 28 missions per day. Around one-fifth of all missions were flown at night. Approximately 1,500 missions were subcontracted to commercial helicopter firms, two-thirds of which were operations to assist mountain farmers (so-called "contadino missions").

The activities of the Swiss Touring Club (TCS) in Canton Aargau, where Rega flew fewer operations (95, –18.8%) compared to the previous year, had very little impact on the total number of missions. In December 2013, a new contract was drawn up regulating the collaboration between Rega and Air-Glaciers Lauterbrunnen. Air rescue services in the entire canton of Berne will now be called out via Rega's emergency number 1414 and coordinated centrally by Rega's Operations Centre.

Fixed-wing aircraft

During 2013, Rega's three ambulance jets flew slightly fewer missions than in the previous year (793, –6.4%) and therefore also transported fewer patients (797, –6.8%). In comparison with the previous

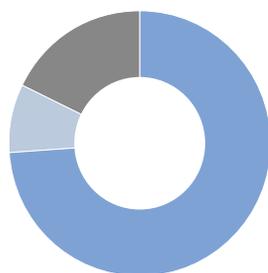
year, more long-haul missions were flown, which explains the rise in the number of flight hours (3,865, +3.3%). The repatriation operations took the Rega jets to all corners of the globe, including on four occasions to Australia.

It is gratifying that Swiss cost bearers are once again increasingly taking advantage of the top-quality services provided by Rega. Thanks to careful planning by Rega's flight coordinators, it was again possible on many occasions to combine flights, thereby transporting several patients from different locations in the same ambulance jet. While this enables costs to be kept to a minimum, these combined transports, coupled with the tariffs that have been reduced even further, have a noticeable negative impact on the financial operating income.

Rega also repatriates patients on board scheduled airlines, provided that the patient's health is sufficiently stable, that this is not expected to have any negative effects on the patient or the other passengers, and that enough seats are available. This measure is an economically

No. of missions

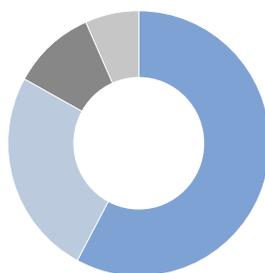
	2013	2012	+/-
Total missions	13,793	13,966	–1.2%



Helicopter	10,205	10,250	–0.4%
Jet/Scheduled aircraft	1,148	1,215	–5.5%
Other missions ¹	2,440	2,501	–2.4%

Missions by helicopter

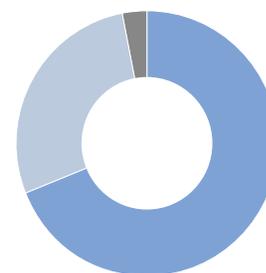
	2013	2012	+/-
Total missions	10,205	10,250	–0.4%
of which are performed at night	1,908	1,924	–0.8%



Primary missions ²	5,904	5,975	–1.2%
Secondary missions ³	2,578	2,703	–4.6%
Assistance to mountain farmers	1,044	1,041	0.3%
Special missions ⁴	679	531	27.9%

Missions by fixed-wing aircraft

	2013	2012	+/-
Total missions	1,148	1,215	–5.5%



Ambulance jet	793	847	–6.4%
Scheduled aircraft	321	347	–7.5%
Chartered aircraft	34	21	61.9%

¹ Other missions: transports by ambulance, missions on behalf of the Swiss Alpine Club, Spéleo-Secours, Redog, etc.

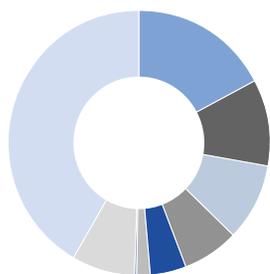
² Primary missions: emergency missions

³ Secondary missions: inter-hospital transfers, neonatology/organs

⁴ Special missions: non-medical missions (search-, route securing- and reconnaissance flights on behalf of operation partners)

Primary/secondary missions by helicopter (no. of patients)

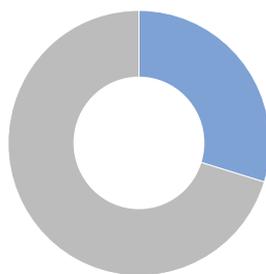
	2013	2012	+/-
Total patients	8,587	8,802	-2.4%



Winter sports accidents	1,485	1,527	-2.8%
Occupational accidents	917	976	-6.0%
Road accidents	818	833	-1.8%
Alpine accidents	588	641	-8.3%
Sports accidents	381	365	4.4%
Aviation accidents	133	127	4.7%
Avalanche accidents	39	34	14.7%
Other accidents	649	691	-6.1%
Illnesses	3,577	3,608	-0.9%

Medical emergencies abroad

	2013	2012	+/-
Total patients	3,137	2,734	14.7%



Transported/accompanied patients fixed-wing aircraft	936	1,002	-6.6%
Medical emergency management	2,201	1,732	27.1%

Transported/accompanied patients fixed-wing aircraft

	2013	2012	+/-
Total patients	936	1,002	-6.6%



Limb injuries	173
Cranio-cerebral trauma	61
Other injuries	140
Cardiovascular diseases	96
Strokes	88
Gastrointestinal diseases	88
Malignant tumours	38
Other illnesses	252

and environmentally sensible alternative to employing one of Rega's three ambulance jets. Depending on the nature and severity of the injury or illness, the patient is transported on board a scheduled aircraft, accompanied by and attended to by a flight nurse and/or Rega physician. The number of repatriations on board scheduled aircrafts fell marginally in 2013 (321, -7.5%).

On average, Rega organised three fixed-wing aircraft missions per day during the year under review.

2.5 million patrons keep Rega in the air

The patrons form the backbone of Swiss Air-Rescue. It is thanks to them that today Switzerland has an air rescue system that sets standards and is highly regarded all over the world. Patronage contributions cover more than half of all of the costs, thus enabling Rega's helicopters and ambulance jets to be on stand-by around the clock, ready to provide emergency medical assistance swiftly and professionally wherever it is needed. As a token of thanks for their invaluable

support, Rega waives the cost of any rescue missions it carries out on patrons' behalf that is not included in their own insurance coverage.

In 2013, the number of patrons increased by a gratifying 59,000 or 2.4%, which is equivalent to the population of the town of Lugano. In November 2013, the total number of patronage cards (i.e. number of actual patronages, not including children and partners who are part of a Family patronage) reached the 2.5 million mark. This is an extremely pleasing development and clearly shows how firmly Rega is anchored in Swiss society.

Medical assistance and advice by Rega doctors

Prior to each repatriation mission, thorough medical clarifications are carried out by one of Rega's 12 medical consultants. Together with the Operations Centre, the physician on duty decides whether repatriation is necessary and sensible, and if so, how and when it should take place. As with the flight coordinators, the medical consultants

work shift duty and are available around the clock.

The medical advice and assistance provided by Rega has proved highly successful, and the number of cases rose by approximately one-third compared with 2012 (2,201, +27.1%). If Swiss nationals become seriously injured or ill while they are abroad, individual insurance companies ask Rega's physicians to clarify the medical situation of their policyholders, even if they are not Rega patrons. In such cases, Rega makes a recommendation as to whether from a medical point of view the patient needs or is fit enough to be transported, and the insurance company then decides if and when repatriation should take place.

Fluctuations in mission and patient numbers

The number of missions and patients do not always concur, as either several patients are transported on board a single flight, or flights are performed without any patients at all, for example, if a search flight proves unsuccessful. Generally speaking, the mission statistics reflect

the meteorological conditions, as well as the leisure activities and travel patterns of both Swiss people and foreign tourists in Switzerland. As a result, figures relating to Rega's rescue activities both at home and abroad are invariably subject to fluctuation.

The winter and spring of 2013 were characterised by lengthy periods of bad weather. The weather in July, on the other hand, was almost always fine, with meteorologists recording a total of 25 summer days. Correspondingly, with 1,465 helicopter missions (+ 28.3 %), July was the busiest month of the year. On the other hand, in February (-19.0 %) and March (-20.9 %), the rescue helicopters remained on the ground more often than usual.

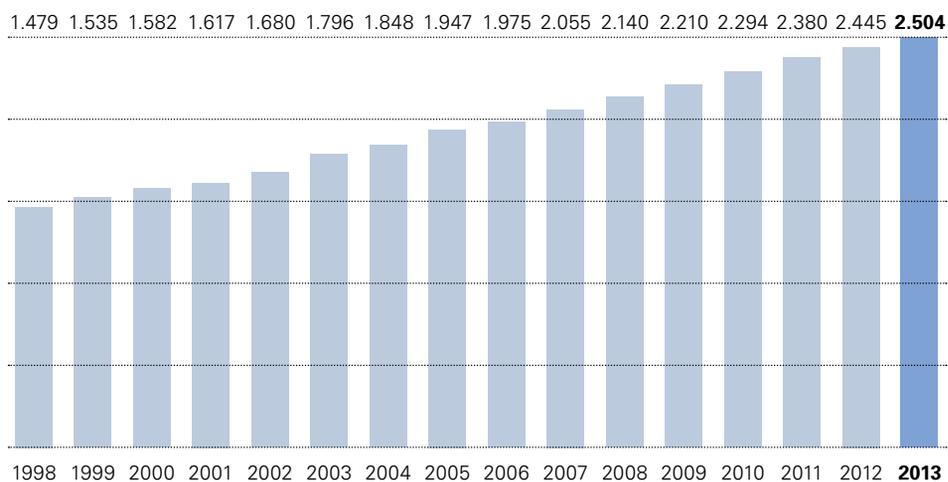
Cooperation is the key to success

For many years, Rega has been working with the anaesthesiology departments of the central hospitals and deploys their staff as flight physicians. Increasingly, the paramedics, too, are not just involved in Rega rescue missions, but also work on an exchange basis for rescue services on the ground. More flexible working models have been created for doctors and nurses on the Rega ambulance jets. Among other things, they now have the opportunity to maintain and further develop their specialist knowledge by working part-time in hospitals. Rega attaches great importance to fostering this smoothly functioning cooperation with other rescue services and hospitals and, in certain areas, even expanding it further. Networking in this way encourages mutual understanding within the healthcare system – and in the end this exchange of experience is of benefit to the patient.

This is particularly evident in the case of special transports. In collaboration with partner hospitals, Rega performs flights carrying cardiovascular support equipment (IABP, ECMO) on board. It also works closely with other partners when transporting newborn or premature babies (see report on page 6).

This intensive cooperation with partners in the healthcare system complements

Development in no. of patrons up to 2013 (in millions)



the professional and specialised medical services provided by Rega.

Financial development

Patronage contributions, legacies and donations increased by a total of 1.8 % to CHF 85.0 million, which is attributable to the renewed growth in the number of patrons. Revenue from flight operations dropped from CHF 59.7 million to CHF 57.1 million. Operating expenditure climbed CHF 7.4 million to CHF 135.1 million. Against this background, the operating result decreased from CHF 11.4 million to CHF 2.7 million. The annual result amounted to CHF 6.6 million, while the organisation capital increased CHF 1.4 million to CHF 479.4 million. The balance sheet total at the end of the year was CHF 526.6 million.

Rega's financial assets are invested in a conservative manner, and its investment strategy focuses primarily on retaining its capital. In 2013, too, the securities portfolio was not increased, as large investments will have to be made in the short- and medium-term to replace the jet and helicopter fleet. This resulted in a renewed increase in the amount of cash, totalling CHF 83.8 million at the end of the year. More detailed figures and charts can be found in Rega's consolidated financial statements.

Future investments

In the next years, Rega will be required to make a whole series of investments, the volume of which cannot yet be fully estimated.

The three fixed-wing aircraft of the type, Challenger CL-604, will need to be replaced within the next four to eight years. Rega is currently in contact with the various aircraft and medical equipment manufacturers in order to evaluate within a reasonable time which new ambulance jet should replace the CL-604 fleet. Rega is roughly reckoning with an investment volume of between CHF 100 and 200 million.

The EC 145 helicopter used for lowland operations will also be replaced during the same period. Besides simply replacing it, Rega is currently looking at the possibility of purchasing an all-weather helicopter that is also still suitable for landings on hospital helipads. This project, too, will cost in the region of CHF 100 million.

Furthermore, Rega is also affected by the current discussions concerning the expansion and development of Zurich Airport. There already are official plans on which Rega's head office no longer exists, due to the rerouting of Runway 28. Rega is therefore threatened with a move, possibly coupled with the expense of having to build new premises in a different location. Examination of the various options is in progress.

Patronage contributions have done much to secure Rega's healthy financial basis. An additional key factor, however, is the flight minute tariffs, which the insurance companies are charged for helicopter missions. The ongoing tariff discussions are currently reaching a decisive phase in Canton Valais. Here, the privately run, commercial helicopter companies, Air Zermatt and Air-Glaciers, cover the deficits arising from rescue missions. These companies are only able to offset this shortfall to a very small extent with donations and patrons' contributions. Thanks to its patronage system, Rega has somewhat more scope, but in the mid-term may also have to increase its tariffs – which, incidentally, have remained unchanged since 1996.

Revenue from missions invoiced to insurance companies is under pressure and is constantly on the decline. On the expenditure side, ever higher and more stringent requirements imposed by the regulators have caused personnel and administration costs to continually increase in recent years, without this negative trend being balanced out by a rise in missions. This has resulted in a drop in operating revenue, which could only be compensated thanks to the growth in patron numbers.

In view of the diminishing operating revenue and the high planned investments, it is all the more important for Rega to stand on a solid financial foundation now. Rega's self-imposed financial independence allows it maximum freedom to shape the future as it sees fit and – wherever possible – without any political constraints. This in turn guarantees that Switzerland is provided with first-class air rescue services. A look abroad shows that despite having twice as dense a network, as well as a more comprehensive range of services (e.g. missions using a rescue hoist, night missions to accident sites), missions performed in Switzerland cost around the same as elsewhere. If purchasing power is also taken into account, mission costs in Switzerland – despite not being subsidised by the State – are actually cheaper in comparison.

Commercialisation of air rescue

Patient welfare continues to be at the very heart of Rega's activities, in spite of the growing pressure on costs in the healthcare sector. When it comes to saving lives, competence, quality and reliability – countrywide and round-the-clock – are of prime importance. As a result, Rega strongly opposes the commercialisation of air rescue services and is not prepared to lower its standards. For in the end this would be to the detriment of the quality and provision of emergency assistance to the Swiss population. In future, too, Rega intends to do everything in its power to provide professional, countrywide and top-quality air rescue services.

Modernisation of the helicopter bases

For the first time in its history, Rega opened two new helicopter bases within the same year. Almost two years after construction work commenced, the new Rega helicopter base in Ticino was officially opened on 11 April 2013, replacing the previous base which had seen better days. The new building is located in the grounds of Locarno Regional Airport, in the Magadino plains. In addition, after having been planned and built in record time, the helicopter base in Zweisimmen started operations on 21 November 2013.

The provision of modern, countrywide rescue services also requires investments to be made in the existing infrastructure. In 2014, the 23-year-old helicopter base in Erstfeld is to be brought up to Rega's high standards. The existing facilities will be renovated and extended at a cost of around CHF 2.5 million.

Successful REMICO project

The aim of REMICO, a major project running over a period of four years, is to replace the existing infrastructure with an integrated dispatch system and a modernised radio network. In spring 2013, Rega's flight coordinators moved into their state-of-the-art Operations Centre at the Rega Centre at Zurich Airport.

Constant contact between Operations Centre staff and the rescue helicopters is

key to being able to coordinate a mission efficiently and to swiftly transport emergency medical assistance by air to the casualty. For this reason, Rega operates its own radio network, comprising 42 individual radio stations. Within the framework of REMICO, these have now been updated and brought in line with the latest requirements (see report on page 11).

On completion of the last sub-project – the installation of new radio and operating devices in the Rega helicopters – in 2014, the entire REMICO project will finally be brought to a close. Some 30 Rega staff and at least as many external specialists have been involved in this extensive project, which is costing a total of CHF 21 million.

Improved training opportunities in the helicopter simulator

In February 2013, a simulator for the AgustaWestland Da Vinci helicopter went into operation. The cockpit crews – each comprising a helicopter pilot and rescue paramedic – are now able to complete much of their training on the simulator, without any fuel or noise emissions. Simulator trainings also make it possible to practise emergency situations, which for safety reasons cannot be replicated in a real helicopter. In addition to standard exercises, the simulator is a central component for training all Da Vinci helicopter pilots in performing instrument flights. Rega has invested approximately CHF 10 million in the simulator.

Instrument flights

Adverse weather conditions prevent Rega from coming to the assistance of around 600 people every year. Rega is investing a great amount of time, energy and money in being able to fly at least some of these missions. In collaboration with the Swiss Air Force and Skyguide, Rega is developing new GPS-assisted approach procedures and creating air corridors between hospitals that are suitable for instrument flights. The aim is to reduce dependence on the weather and to increase patient safety (see report on page 8).

Mission Statement

1 Our purpose

We provide an around-the-clock service offering swift, expert assistance by air. In particular, we transport medical care to the casualty and help in emergency situations.

This assistance also takes the form of medical advice and the use of our infrastructure.

Our operations are characterised by our highly qualified, professional members of staff and the very best equipment available in the fields of rescue, medical and flight technology.

2 Our fundamental concept

We are a non-profit organisation that is funded by its patrons. Our services are primarily geared towards the needs of the Swiss population.

We are financed by means of private funding. This enables us to operate independently in the service of our patients.

In the interest of the patient, we take an active stand against the commercialisation of air rescue.

Emergency missions and other operations carried out on behalf of the general public are not conditional upon whether or not the ensuing costs are covered.

Our rescue activities are based on the Fundamental Principles of the Red Cross.

3 Our patrons

Thanks to their annual contributions, our patrons enable us to build up and operate a suitable infrastructure to perform air-rescue operations on behalf of the Swiss population.

The services rendered by Rega to its patrons are not of a contractual nature and are therefore not deemed to be insurance benefits.

4 Our partners

We are fully aware of the importance of working in close collaboration with our partner organisations, and actively foster a successful working relationship with them.

We act as a fair and reliable partner.

We focus our activities on the fields of air rescue, air-ambulance repatriation services and medical advice.

In order to maintain and further improve the top level of expertise of our medical staff, we also perform medically indicated flights on behalf of international clients.

5 Our staff

Our members of staff play a decisive role in fulfilling our purpose. The following factors are of particular importance in this respect:

- personal identification with the organisation and its purpose;
- independence and responsibility;
- willingness to perform, flexibility and motivation.

We aim to achieve this by means of:

- on-going training appropriate to the various hierarchical levels;
- progressive working conditions;
- appropriate salaries and attractive social benefits.

We foster a style of behaviour among our staff that is open, cooperative and characterised by mutual respect.

6 Our values

We strive to provide around-the-clock services of first-class quality and safety, as well as to cultivate a conscious, structured manner of dealing with risks.

Our organisational structures are characterised by a clear-cut delineation of tasks, competences and responsibilities. These are implemented and respected at all hierarchical levels, from ordinary employees right up to the members of the Foundation Board.

We act and communicate in an open and transparent way, both within our organisation and towards the outside.

We are conscious of a potential conflict between performing our work and protecting the environment, and take this into account in everything we do.

Foundation Board

Foundation Board of Swiss Air-Rescue Rega

Ulrich Graf, Bäch, since 2001
Chairman and Member of the Executive Committee

Franz Steinegger, Flüelen, since 1990
Vice-Chairman and Member of the Executive Committee

Michael Hobmeier, Bäch, since 2007
Member of the Executive Committee

Christian Kern, Prof. Dr. med., Geneva, since 2009
Member of the Executive Committee

Patrizia Pesenti, Breganzona, since 2009
Member of the Executive Committee

Paul Maximilian Müller, Berne, since 1990

Adrian Frutiger, PD Dr. med., Trimis, since 1998

Roland Müller, Prof. Dr. iur., Staad, since 2006

Andreas Berger, Dr. med., Immensee, since 2007

Bruno Jelk, Zermatt, since 2007

Heidi Hanselmann, Walenstadt, since 2010

Thomas P. Emmerich, Riehen, since 2011

Marco Maggiorini, Prof. Dr. med., Schindellegi, since 2011

Josef Meier, Wettingen, since 2013

Adrian Amstutz, Sigriswil, since 2013

Markus Mader, Berne
(Swiss Red Cross representative) since 2008

Medical Commission

Christian Kern, Prof. Dr. med., Chairman

Adrian Frutiger, PD Dr. med.

Andreas Berger, Dr. med.

Marco Maggiorini, Prof. Dr. med.

Finance Commission

Michael Hobmeier, Chairman

Ulrich Graf

Paul Maximilian Müller

Advisory Committee Partner Organisations

Franz Steinegger, Vice-Chairman of the Rega Foundation Board, Chairman

Bruno Jelk, Member of the Rega Foundation Board

Philipp Perren, Dr. iur., Canton Valais representative

Patrick Deriaz, Spéléo-Secours representative

Lorenzo Hutter, police commanders representative

Vali Meier, Swiss Cable Cars Association representative

Oliver Okle, DDPS, Swiss Air Force representative

Peter Salzgeber, Medical Emergency Call Centres 144 representative

Adrian Stäger, Swiss Helicopter Association representative

Franz Stämpfli, Swiss Alpine Rescue representative

Auditors

KPMG AG, Zurich

as of 1 January 2014

Seated, from left: Christian Kern, Franz Steinegger, Ulrich Graf, Patrizia Pesenti, Michael Hobmeier
Standing, from left: Adrian Frutiger, Bruno Jelk, Andreas Berger, Paul Maximilian Müller, Roland Müller, Marco Maggiorini, Adrian Amstutz, Heidi Hanselmann, Markus Mader
Missing from the picture: Thomas P. Emmerich, Josef Meier



Governance and Compliance

The purpose of the Swiss Air-Rescue Rega Foundation is above all to help people in distress and in need of assistance, in accordance with the Fundamental Principles of the Red Cross. As a member of the Swiss Red Cross, it provides its services without discrimination as to person, financial circumstances, social status, nationality, race, religious beliefs or political opinions.

Rega is fully committed to conducting its business according to the principles of good corporate governance. It upholds the five guiding principles of non-profit governance: checks and balances, responsibility and efficiency, transparency, safeguarding the interests of patrons, and safeguarding the interests of donors. Rega's guiding principles relating to corporate governance are embedded in its Foundation Deed and Regulations, its Mission Statement, and its organisation and management regulations. These guiding principles are regularly monitored by the Foundation Board and are currently being completely revised. A new Governance and Compliance concept is to be adopted in 2014.

Foundation Board

The Foundation Board is Rega's supreme body. It lays down the guiding principles of the organisation in accordance with the Foundation Deed. It draws up the Mission Statement and pertinent regulations, and adopts the strategy and the budget. It approves the Annual Report and the annual financial statements. It defines the supervision and monitoring of the business activities. It also authorises the principles relating to the remuneration of the members of the Foundation Board and the Management Board.

The Foundation Board comprises a maximum of 15 members. The term of office is four years. Members are eligible for re-election up to their 70 birthday. There is no limitation on the length of service of the members of the Foundation Board. The Foundation Board elects from among its members a Chairman, as well as the five members of the Executive Committee, and also defines the Committee's tasks and competences.

Executive Committee of the Foundation Board

The Executive Committee comprises five members of the Foundation Board: the Chairman, the Vice-Chairman, the Chairman of the Medical Commission, the Chairman of the Finance Commission, and one other member of the Foundation Board.

The Executive Committee of the Foundation Board is responsible for carrying out the tasks delegated to it. It coordinates the permanent commissions of the Foundation Board. Furthermore, on behalf of the Foundation Board, it supervises and monitors the Management Board and issues it with the necessary instructions.

The members of the Executive Committee also serve on the Board of Directors of the subsidiaries, Swiss Air Ambulance Ltd. and Airmed AG.

Management Board

The Chairman of the Management Board is charged with managing the operative business, implementing the resolutions adopted by the Foundation Board and the Executive Committee, and delegating the various tasks and competences within the organisation.

Tasks and procedures of the permanent commissions and the Advisory Committee

Each specialist body is governed by a set of regulations specifying its various tasks and competences, and is headed by a chairperson elected by the Foundation Board. The commissions meet on a regular basis to discuss specialist matters, which are specified by the relevant chairperson.

Prior to the meeting, the commission members receive the relevant documents so that they can prepare for the various items on the agenda.

Medical Commission

The Medical Commission comprises the Chairman, Prof. Dr. med. Christian Kern, and three physicians, all of whom are members of the Foundation Board. The meetings are also attended by the

Chairman of the Management Board, the Medical Director and, where necessary, other specialists, who are present in an advisory capacity and have the right to propose motions.

The Medical Commission is an advisory body to the Foundation Board and the Medical Director. It deals with and considers specialist matters relating to emergency and rescue medicine that fall within the competence of the Foundation Board, prior to the latter taking any decisions. When drawing up medical guidelines and quality controls, the Commission is assisted by Rega's Medical Service.

Finance Commission

The Finance Commission comprises its Chairman, Michael Hobmeier, and other members of the Foundation Board. The meetings are also attended by the Chairman of the Management Board, the Chief Financial Officer and, where necessary, other specialists, who are present in an advisory capacity and have the right to propose motions.

The Finance Commission is an advisory body to the Foundation Board. It deals with matters relating to financial planning, budgeting, investment policy and the internal control system, and periodically examines the form and scope of financial reporting.

Advisory Committee Partner Organisations

Under the chairmanship of Franz Steinegger, the Advisory Committee comprises members of Rega's Foundation Board, together with representatives from the partner organisations, namely Swiss Alpine Rescue, the Swiss Helicopter Association, the Canton of Valais Air-Rescue Service, the Swiss Air Force, the Swiss Cable Cars Association, police commanders, Spéléo-Secours Switzerland and the Medical Emergency Call Centres 144.

The Advisory Committee is concerned with tasks relating to the collaboration between the partner organisations and promotes the exchange of information between the various network members.

Accounting and auditing

The financial statements of the Swiss Air-Rescue Rega Foundation and its subsidiaries are prepared in accordance with the principles of Swiss GAAP FER accounting and reporting recommendations (in particular, GAAP FER 21), and give a true and fair view of its net assets, financial position and earnings performance.

At Rega, the “four eyes” principle is applied. This means that fundamentally two joint signatures are required at all levels. The Foundation Board has drawn up a set of regulations governing competences and signatory rights. Both internal and external control bodies periodically check that these regulations are being complied with.

Risk Management – Internal Control System, IKS

The highly complex nature of emergency medical rescue, coupled with the strict requirements of aviation law and the demands of the Code of Obligations, make it necessary to take a structured approach to risks. Rega has combined demands from the IKS (Internal Control System) and the SMS (Safety Management System) to create integrated risk management in order to identify and view risks holistically and make use of available synergies.

As Rega’s supreme body, the Foundation Board is responsible for risk management at Rega and all its subsidiaries. The key risks are systematically identified and evaluated every year, and appropriate risk control measures are taken. The identified risks are additionally monitored on an ongoing basis.

Rega’s interests

Rega has interests in various companies domiciled in Switzerland. Strategic interests in companies and foundations in which Swiss Air-Rescue Rega directly or indirectly holds over 50 percent of the voting rights or which are controlled by the Foundation Board are consolidated in the annual financial statements. An overview of these interests is provided

in Rega’s consolidated annual financial statements.

Rega further holds operative and functional minority interests of up to 17 percent in helicopter companies, airfield associations and assistance companies in Switzerland. This portfolio is maintained in order to fulfill the purpose of the Foundation.

Rega also has interests/investments which are managed by external asset managers under a written asset management agreement.

Foundation Board compensation

Compensation of the Foundation Board is based on the set of regulations approved by the Swiss Federal Supervisory Board for Foundations. Compensation (fixed sums, attendance fees and expenses) covers part of the expenses of Foundation Board members for preparing meetings, reviewing documents and attending meetings of the Foundation Board, Foundation Board Committee, specialist and ad hoc committees, Advisory Committee, partner organisations, pension foundations and other companies in which Rega has an interest. All compensation made to the Foundation Board and its Chairman is reported in detail in Rega’s consolidated annual financial statements.

Federal Supervisory Board for Foundations

As a non-profit foundation, Rega and its Foundation bodies are subject to the supervision of the Swiss Federal Supervisory Board for Foundations in Berne, to which it is required to submit a management report each year. The last assessment and review by the Federal Supervisory Board was conducted on 6 November 2013, and no objections of any kind were raised.

Rega in 2013

January: With the Rega Alarm Web (RAW), Rega introduces another innovative tool for locating accident victims. It can send Smartphone owners in distress a text message containing a link. If this is activated, the caller's exact coordinates are automatically transmitted to Rega.

8 February: Rega's flight simulator for its Da Vinci mountain helicopters commences operation. Rega pilots are now able to complete a substantial part of their IFR training in the simulator (see article on page 8). They can also practise emergency situations, something that is not possible to replicate in a real helicopter.

1 March: For the first time in Rega's history, a helicopter rescue mission is performed entirely under instrument flight rules (IFR). The transfer of the patient from Lugano to Aarau in the Da Vinci helicopter goes off without a hitch.

21 April: Rega is continually investing in its infrastructure and dense network of helicopter bases. After a two-year construction period, the new base in Gordola, near Locarno, is inaugurated – and the inhabitants of Ticino join in the celebrations at the Open Day.

29 April: The modernised Operations Centre in the Rega Centre at Zurich Airport goes into operation. At its heart is a state-of-the-art integrated dispatch system. Rega's rescue missions can now be largely digitalised and thus coordinated more efficiently than ever.

31 May: All the helicopters in the Rega fleet are equipped with the portable mechanic reanimation device, AutoPulse.

July/August: While the vast majority of the Swiss population enjoy their summer holidays, the medical consultants at Rega's Operation Centre are working flat out. In the last two years alone, the number of requests for emergency medical advice has virtually doubled.

7 August: In consultation with the Swiss certification body for non-profit organisations, ZEWO, Rega decides to dispense with its certification in future. Due to increasing regulation and professionalisation in the fields of aviation and medicine, Rega no longer falls within the standard pattern of a traditional aid organisation.

12 October: A new record for Rega helicopter, HB-ZRA: shortly after setting down on the helipad at Basel University Hospital, the pilot enters the helicopter's 6,000th flight hour in its technical logbook (27,500 landings). Thus the EC 145 helicopter, which has been stationed at the Basel base since spring 2003, is the busiest helicopter in Rega's fleet.

22 October: In Zerne, the last of Rega's countrywide radio stations is equipped with brand new devices. The modernisation of the 42 stations is part of the major infrastructure project, REMICO (see article on page 11), which, among other things, is aimed at upgrading Rega's radio network.

1 November: Rega celebrates its 2.5 millionth patron, the seven-strong Kradolfer family from Erlen, Canton Thurgau. Never before have so many patronage cards been issued nor has the support of the Swiss population been so great.

21 November: One year after the first sod was turned, Rega celebrates the inauguration of its newest helicopter base at Zweisimmen Airport. The construction of a base in Zweisimmen underlines Rega's commitment to serving peripheral regions and providing the best possible emergency medical assistance by air.

9 December: Rega and Air-Glaciers enter into a new contractual agreement governing the provision of air-rescue services in the Bernese Oberland. In future, Rega's Operations Centre will coordinate all air rescue missions throughout the region.



8 February



21 April



29 April



12 October



22 October



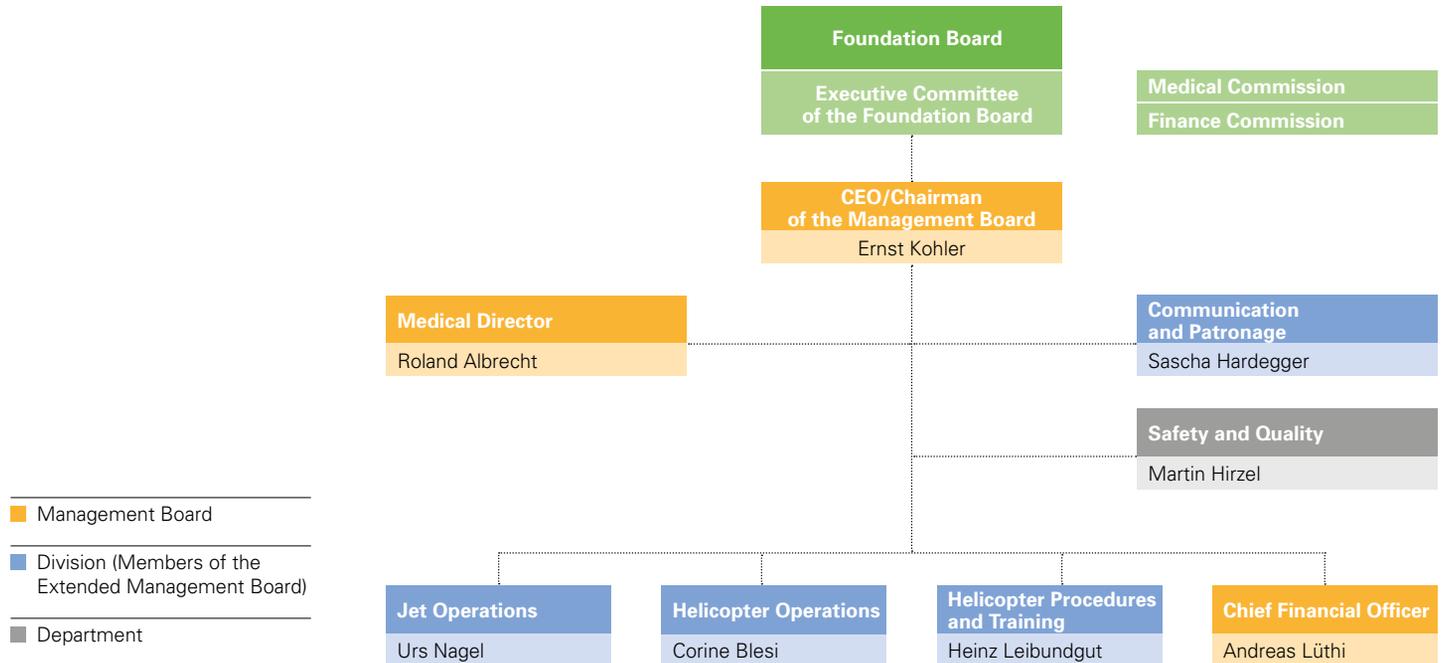
1 November



21 November

Management Board

Organigram as of 1 January 2014



From left to right: Sascha Hardegger, Urs Nagel, Corine Blesi, Heinz Leibundgut, Ernst Kohler, Andreas Lüthi and Roland Albrecht



Conditions of Rega Patronage

To ensure that Rega can provide a professionally run and suitably equipped air rescue service at all times in accordance with its objective as a charitable foundation, it needs private donations.

You can become a Rega patron by paying the following minimum contribution:

- CHF 30.– for individuals
- CHF 60.– for couples (married/cohabiting couples or registered partners)
- CHF 70.– for families (parents with children who are under 18 on the day of payment)
- CHF 40.– for one-parent families (single parents with children who are under 18 on the day of payment)

Patronage is valid for the current calendar year and starts on the date of payment. If patronage is not renewed it will expire on 15 May of the following year.

As a token of appreciation for this support, Rega can, at its own discretion and within the bounds of its resources, waive the costs for the services listed below for patrons, wholly or in part. This includes both rescue services that Rega provides itself and any services of other providers which it organises. Such services can only be provided at reduced or no cost, however, if health insurers and other insurance companies or other liable third parties do not or only partially cover the costs of the rescue mission. Under all circumstances, Rega provides its rescue services and grants any possible cost reductions without any legal obligations, since these can only be given within the limits of Rega's human and technical resources, as well as the means at disposal. In particular, operational, medical or meteorological reasons may prevent Rega from engaging in rescue operations.



1. Switzerland and the Principality of Liechtenstein

- Rescue flights and flights undertaken for medical reasons to the closest suitable hospital
- Rescue operations conducted by rescue teams of the Swiss Alpine Club SAC
- Search operations in cooperation with the police and other competent organisations, as long as there is reasonable hope that help can be given to the missing persons
- Evacuations and preventive missions in case of danger to life and limb
- Flights to recover dead persons after consultation with the competent authorities
- Flights to rescue injured, sick or dead cattle and transport them to the next location that can be reached with another means of transport, provided that the owners of the animals are natural persons and family patrons

2. Worldwide

- Advice in case of medical problems abroad provided by Rega's Operations Centre
- Medically indispensable repatriation flights to Switzerland for patrons resident in Switzerland or in the Principality of Liechtenstein, as well as for Swiss nationals living abroad

Rega will take a decision as to whether assistance is provided on the basis of medical, social and operational considerations. Rega shall determine the type and time of operation. Rega may entrust third-party organisations with the execution of rescue operations.

Rega's Operations Centre (emergency number in Switzerland: 1414; from abroad: +41 333 333 333) is available around the clock to anyone in need of help due to serious accident or acute illness.

Rega Centre

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8058 Zürich-Flughafen
Tel. 044 654 33 11

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Überlandstrasse 299
8600 Dübendorf
Tel. 044 802 20 20

Rega 2, Basel

Postfach
4030 Basel-Flughafen
Tel. 061 325 29 66

Rega 3, Bern

Flugplatzstrasse 1
3123 Belp
Tel. 031 819 65 11

Rega 4, Lausanne

Route de Romanel 33
1018 Lausanne
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Rega 5, Untervaz

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Tel. 081 300 09 99

Rega 6, Locarno

Aeroporto cantonale
6596 Gordola
Tel. 091 820 50 00

Rega 7, St.Gallen

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9015 St.Gallen
Tel. 071 313 99 33

Rega 8, Erstfeld

Reussstrasse 40
6472 Erstfeld
Tel. 041 882 03 33

Rega 9, Samedan

Plazza Aviatica 6
7503 Samedan
Tel. 081 851 04 04

Rega 10, Wilderswil

Bönigstrasse 17
3812 Wilderswil
Tel. 033 828 90 30

Rega 12, Mollis

Flugplatz
8753 Mollis
Tel. 055 614 55 55

Rega 14, Zweisimmen

Postfach 210
3770 Zweisimmen
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