



Rega 2016
with Annual Report 2015

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“The all-weather helicopter will take us a major step closer to our vision”



Ulrich Graf



Ernst Kohler

Almost 60 years ago, Rega purchased its first own helicopter. Subsequent milestones included the introduction of more powerful engines, rescue hoists and night vision goggles. The technology used by the helicopters and ambulance jets became more modern and safer, and the cabins larger and thus more comfortable for patients and crew. Yet one final critical barrier in helicopter aviation remains to this day: in dense fog or heavy snowfall, or if there is a risk of icing conditions in the clouds, the only option for our crews is to sit it out and wait.

As a result, for a number of years Rega has been working towards realising its vision of being able to fly rescue missions irrespective of the weather. It has implemented various measures and projects in an attempt to reduce the number of rescue missions that are aborted or rendered impossible due to adverse weather. In 2011, after many years of preparation, Rega performed its first instrument approach to the Inselspital University Hospital in Berne using satellite navigation. The advances are real and measurable, but they are still fragmentary – they need one “grand master plan” to tie them all together.

The purchase of an all-weather yet not too heavy helicopter will take us a major step closer to our vision. The corresponding development project will take several years – no such model exists to date – and is being undertaken in collaboration with the Italian helicopter manufacturer, AgustaWestland. As from 2021, it is foreseen that the new AW169-FIPS helicopter will initially be stationed at two Rega bases and deployed to defy the harsh weather conditions. You can read more about this and other fascinating topics in the following pages.

Groundbreaking advances of this kind are only possible when based on a solid foundation. The year 2015 has confirmed once again that Rega is in a sound position: a figure in excess of 15,000 missions testifies to the extremely high demand for Rega and its services and to its indispensable role in the provision of healthcare in Switzerland. The Swiss population fully supports its Rega, a fact that is reflected in the renewed and greatly encouraging net growth of around 50,000 new patronages. This continuing popularity is very gratifying to Rega’s workforce, but it also represents a major obligation and correspondingly brings with it certain expectations.

It is up to us to meet these expectations. Many years ago, Rega’s founder, Dr. med. Rudolf Bucher, put into words what still remains a guiding principle to this day: “Complete assistance is only to be accomplished if the best professional training and the best material resources are successfully merged to form a highly effective whole”. This statement may date back a number of decades, but its substance is as current and valid as ever. Rega has constantly aspired to never stand still and has never held back when it comes to training, technology and material. In future, too, Rega will continue to live by its founder’s guiding principle.

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

The future of air rescue: the new Rega AW169-FIPS helicopter

“Rega purchases three all-weather rescue helicopters” – that was the headline of Rega’s press release in the early afternoon of 1 December 2015. Not far from Milan, CEO Ernst Kohler and Chief Helicopter Pilot Heinz Leibundgut had just signed the contract to purchase three new rescue helicopters equipped with an anti-icing system. The new purchase marks a major milestone on Rega’s journey towards achieving its vision of being able to perform rescues no matter what the weather.

The improvement of air rescue is one of Rega’s key tasks. A great deal has happened since the organisation was founded in the 1950s. But the question that has occupied Rega throughout the years has remained the same: how can the latest technology be employed safely to continually improve the provision of emergency medical care to people in distress? For some time now, Rega has been working intensively on identifying which type of helicopter represents the future of air rescue and how it will one day be able to provide medical assistance from the air even in the most hostile weather.

“Future” becomes “Icebird”

It all began in 2013, when a Rega project team was given the task of evaluating a successor model for the EC 145 lowland fleet, which had been in operation since 2003. In the appropriately named project, “Avenir” (the French word for “future”), the experts explored a one-to-one replacement for the EC 145 fleet. What they were looking for was a reliable helicopter with cutting-edge avionics and navigation instruments. Parallel to this, the vision of all-weather air rescue began to take shape at Rega – and it became clear to the project team that a one-to-one replacement, while a sound solution, would not constitute a significant step forward for Rega nor broaden its operational scope.

This led to the original project brief being extended to include examining the possibility of purchasing all-weather

helicopters. The project name was changed from “Avenir” to “Icebird”, reflecting the requirement for the all-weather helicopter to feature an anti-icing system, to enable it to also fly in icing conditions. Talk now shifted from replacing the entire lowland fleet to finding a model to replace just part of it. With the aim of leaving as many options as possible open for a future helicopter fleet strategy, the Icebird project team set out in search of the Rega helicopter of tomorrow.

Believe in the vision and push for progress

A comprehensive market analysis for the new “Icebird” very quickly revealed that finding the new all-weather rescue helicopter would be no easy matter. Some manufacturers were put off by the very extensive specification sheet – the list of performance parameters required by Rega – and the operational scope it was demanding. The greatest challenges for a helicopter with a built-in anti-icing system related to its size and weight. At the present time, only helicopters in the size category of a Super Puma or AW139 are equipped with an anti-icing system – but they are both too large and too heavy for Rega’s sphere of operations. And so the search for the “Swiss Army knife” of helicopters got underway.

Rega always strives for the maximum and is prepared to sometimes take unusual routes to achieve it and to push for progress in the interests of its patients. It was with similar pioneering spirit that – just when it seemed that all the options had been exhausted and the project was doomed to failure – one of Rega’s long-standing partners stepped up. The Italian helicopter manufacturer, Agusta-Westland (now Finmeccanica S.p.A.), expressed its willingness to join the Rega project team in developing a helicopter based on the AW169 that was specially tailored to Rega’s particular requirements. With the right partner on board, the Icebird project now really began to take off.



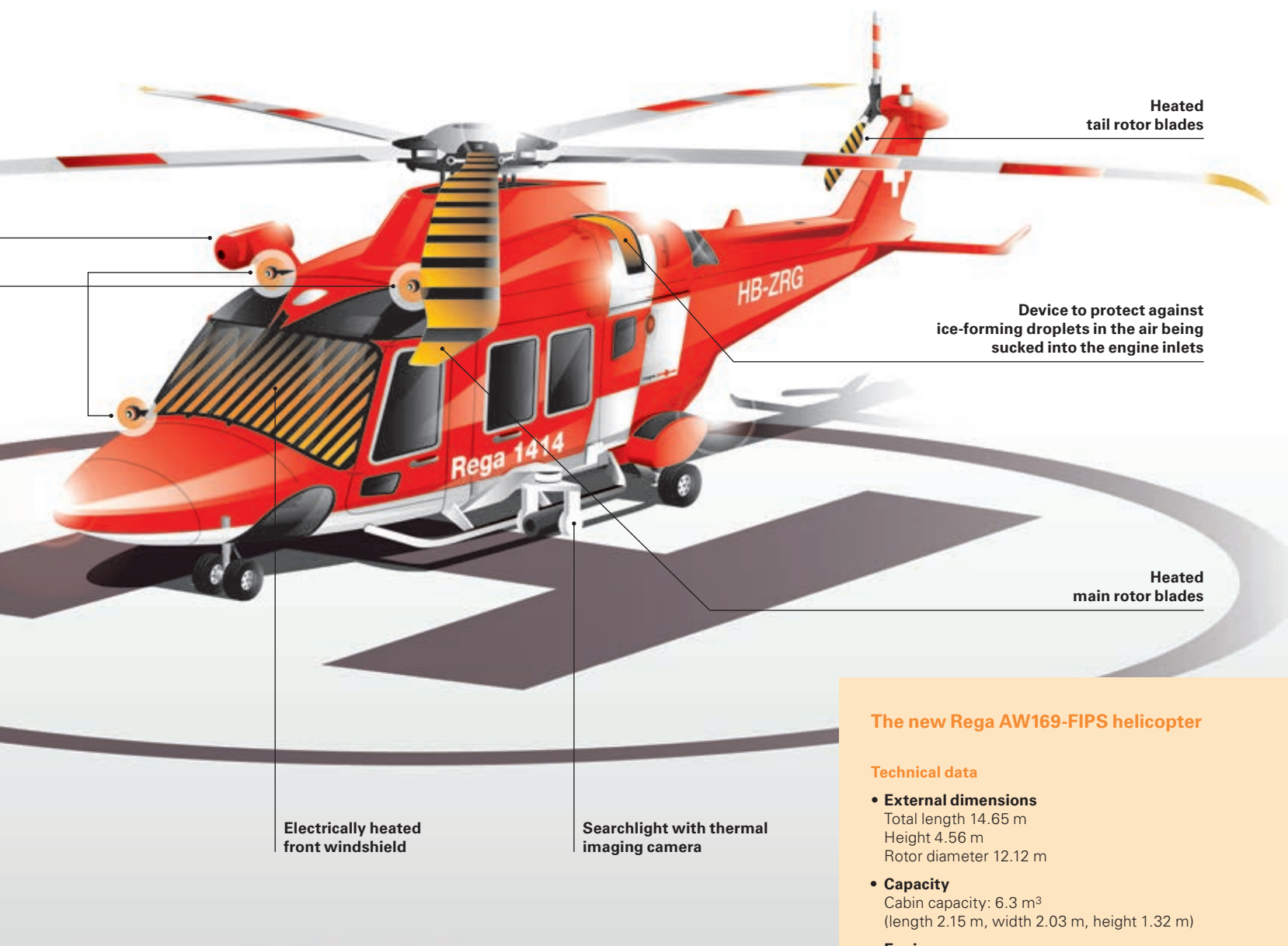
Rescue hoist

Ice detectors



578 specifications and components make the difference

The first step was to lay down the detailed specifications for the new Rega AW169-FIPS helicopter and define the requirements that needed to be met in the minutest detail. Essentially the project sets out to develop a light- to medium-weight, twin-engine helicopter weighing a maximum of five tonnes and equipped with an anti-icing system. In addition, it must be possible for the helicopter to be controlled by a single pilot under both visual and instrument flight rules, have the very latest, highest-precision navigation equipment and – like its little brother, the AgustaWestland Da Vinci – be equipped with a four-axis autopilot and a rescue hoist.



The new Rega AW169-FIPS helicopter

Technical data

- External dimensions**
 Total length 14.65 m
 Height 4.56 m
 Rotor diameter 12.12 m
- Capacity**
 Cabin capacity: 6.3 m³
 (length 2.15 m, width 2.03 m, height 1.32 m)
- Engines**
 2 × Pratt & Whitney PW210A
 Takeoff power: 2 × 1,108 PS
- Maximum cruising speed**
 Approx. 250 km/h

Principal requirements

- Medium-weight, twin-engine helicopter
- Full Ice Protection System (FIPS)
- Glass cockpit (single/dual pilot) that can be operated by only one pilot under both visual and instrument flight rules
- State-of-the-art, highest-precision navigation instruments
- Option of integrating Synthetic Vision systems (computer-generated imagery of the environment) into the cockpit
- Rescue hoist
- 4-axis autopilot

The specifications also contained many other details – the agreement totalled 257 pages when it was signed.

Rega's version of the AW169 differs from the standard version in no fewer than 578 points. The comprehensive list of specifications and Rega-specific components involved an equally intensive process that took more than two years to complete. For example, it included measuring the downwash, as well as investigating the impact of landings in terrain and the static weight load on hospital helipads. The AW169-FIPS is a total of 1.5 metres longer, 50 centimetres higher and 1.2 tonnes heavier than the current EC 145. Working with external experts and after extensive testing, the Rega

project team concluded that the size and weight of the AW169-FIPS pose no obstacle in terms of operational performance and that any anticipated limitations are acceptable given the new possibilities for its deployment.

A final decision has not yet been made as to at which of Rega's bases the new helicopter will be stationed; various scenarios will be examined in the coming months.

Accompanying projects for all-weather air rescue

The purchase of three all-weather AW169-FIPS helicopters represents a key step towards reducing the

Continue reading on page 10 ►



Replacing part of the current EC 145 fleet
as from 2021: the all-weather Rega AW169-FIPS
helicopter with an anti-icing system.



number of people Rega is unable to help due to poor visibility. However, it is not the case that the acquisition of new helicopters alone will mean that the weather is irrelevant when it comes to performing rescue missions. Rega is therefore working on various accompanying projects that also need to be implemented if people are to be rescued in all weathers. Expanding the instrument flight routes and completing Rega's own network of meteorological stations and webcams are just two of many examples (see Annual Report 2014). All the projects are the subject of ongoing and intense efforts.

There is no guarantee of success or of Rega finally achieving its vision of flying rescue missions no matter what the weather. However, we are convinced that it is always worth looking for new ways and means of carrying out our core task – rescuing people in distress – even better than before. That is what we are striving towards – now and in the future.



Helicopter rescue missions in spite of icing conditions

The all-weather Rega AW169-FIPS helicopters will be equipped with an anti-icing system that enables them to fly rescue missions even in icing conditions. This **Full Ice Protection System (FIPS)** heats the critical components of the helicopter and prevents ice from forming, for instance, on the rotor blades or the front windshield. Protection devices on the engines prevent the ingestion of ice particles or clogged air intakes. The all-weather helicopter is also equipped with detectors to warn against special weather conditions with an increased risk of icing.

Whether or not there is a **risk of icing** depends on meteorological factors, such as the temperature and the water content in the clouds, as well as on aerodynamic parameters, such as the radius and curvature of the rotors, the speed, and the size and contact angle of the water droplets. The greater the percentage of water in the clouds, the greater is the risk of icing. At temperatures below 4°C in clouds and fog – thus where

atmospheric humidity is high – icing is always a risk.

Ice can have a severe impact on the flying behaviour of a helicopter.

Aerodynamic characteristics such as the uplift deteriorate, the rotors become less efficient, and the flight performance diminishes as a result. Ice on the rotor control rods can lead to strong vibrations and handling problems. Measuring instruments affected by ice no longer deliver accurate data. And then there is the extra weight, which also has an adverse effect.

The risk of icing is rarely an issue for helicopters operated under visual flight rules, since they are not permitted to fly through clouds and fog. Helicopter flights under instrument flight rules (IFR) are a different matter, however. Now it is possible to fly through clouds and fog – and therefore far more attention must be paid to the risk of icing.

Ice formation on the rotor blades (above): in icing conditions, Rega's helicopters currently have to remain on the ground.



Medical simulation training: prepared for any emergency

Rega provides medical assistance from the air to people in distress – swiftly, professionally and reliably. To make this possible, it invests continuously in the development of its highly advanced technological equipment. But above all it places a great deal of emphasis on the training and development of its staff. In 2015, Rega launched a new training concept for its medical crews, led by Medical Director Dr. med. Roland Albrecht. The aim of simulation training, in which the crews run through recreated critical situations, is to make the teamwork between them even better and more effective.

Technology is only ever as good as the person using it. In Rega's very complex environment, this human element is valued very highly and every effort is put into upholding a strong safety

culture. One example of this is the new internal and external simulation training for the medical crews of the helicopter and jet fleets, introduced in 2015. Working according to the principles of Crew Resource Management, which derives from the field of aviation, the teams work through simulated critical medical situations – the objective being to optimise interaction among the various crew members, improve communication between them, and ultimately raise the reliability of medical treatment and safety for patients.

Simulation of real-life rescue missions and critical analysis

The very comprehensive simulation training courses for Rega's physicians, paramedics and flight nurses are held at regular intervals with three different training partners. At the Swiss Institute

of Emergency Medicine (Sirmed) in Nottwil and at the Berner Simulations- und CPR-Zentrum (BeSiC), small groups of participants are trained in different critical incidents on a simulation mannequin, which responds to the team's interventions just like a real-life patient. For the helicopter crews, situations taken from primary rescue missions and secondary transport operations between a peripheral and a central hospital are accurately simulated. Simulation training for the medical jet crews, meanwhile, takes place in situ, in the cabin of a Rega jet.

Specially selected teams also receive additional training with Maquet in Rastatt, Germany, relating to possible incidents involving the two cardiovascular life support machines used in intensive care medicine, the ECMO (extracorporeal membrane oxygenator) and the IABP (intra-aortic balloon



pump). Here, too, the procedure is the same: each simulated mission is followed up with a step-by-step analysis of the critical situation in an expert-moderated debriefing. In contrast to a real rescue situation, the participants can watch a simulation on video after the exercise, which allows them to assess the critical moments, and how they originated and were resolved, as outside observers and then work on possible preventive strategies.

Rega Medical Director Dr. med. Roland Albrecht sets great store by the new training concept and training exercises for the Rega medical crews: "A team that regularly trains together also has a greater chance of success in life-threatening situations on a real



Video analysis (above): after the mission, the experts go through the simulated situation with the crew step by step.

Simulation of an emergency (left): at the Berner Simulations- und CPR-Zentrum, the Rega crew practise on a mannequin, which shows the same symptoms as a real-life patient.

mission – and that ultimately serves the wellbeing of our patients." That is why, in addition to external simulation exercises, skills training regularly takes place in the course of routine operations at the helicopter bases.

Medical training with e-learning – flight coordinators also benefit

Medical training is ongoing at a theoretical level, too. For some months now, Rega has been working in this area with an e-learning tool. E-learning modules have the advantage over conventional training courses in that they allow simultaneous and decentralised access to medical and operational content by all those involved, irrespective of shift schedules and whether they are on call – a factor that is especially important at Rega, where some 215 employees in total work on a 24-hour shift roster.

The benefit of e-learning is felt elsewhere, too, such as at the Helicopter Operations Centre. Sound medical knowledge is essential to its work and

must be instantly retrievable in critical situations when every second counts. Through the training modules, the flight coordinators now also have the opportunity to refresh their anatomical and terminological knowledge. By working with e-learning, for example, they can run through the key points of a reanimation that at a later time – in an emergency – they will be required to relay clearly and comprehensibly over the phone.

Making an incision into the windpipe (tracheotomy) of a pig: in an emergency, every movement must be perfectly executed.



Rega jet under development – fitting out the Challenger 650

In 2018, Rega will take delivery of its three new Challenger 650 ambulance jets from aircraft manufacturer Bombardier – as successors of the tried-and-tested CL-604. But with plenty of development work still to be done before the new jets can take off, Rega’s Futura project group is working in close collaboration with specialist firms on new solutions for the interior fit out. Less noise in the cabin, wider beds and a new lighting system are just some of the improvements planned. These benefits will be felt especially by the patients on board.

It is 15 years since the development of Rega’s current Challenger CL-604 ambulance jet. Major advances have been made in the intervening period, both in aviation and in medical technology. The cockpit of the new Rega Challenger 650 jet will be equipped with state-of-the-art avionics, and the engines have been modified for improved thrust. The task now in fitting out the interior is to achieve the same optimal combination of the latest technical possibilities and tried-and-tested features in an improved and equally reliable successor.

The many years of experience with the predecessor CL-604 model are of great advantage to the Futura project. An initial phase involved gathering,

reviewing and developing knowledge and suggestions for improvement from the medical crews and pilots. The resulting adjustments were included in the Challenger 650 specifications. The list contains all the requirements made by Rega of aircraft manufacturer Bombardier and the companies entrusted with the fit out of the new ambulance jet.

For the Rega project team and its partners, the major development work now chiefly concerns the interior fit out: apart from the cockpit, the three Challenger 650s will be delivered “empty”. The company responsible for outfitting the cabin for medical purposes – working closely with the Rega project team – is the Swiss firm,

Model on a scale of 1:1: the Rega project team tries out the newly designed ramp in the production halls of Swiss aircraft fitter Aerolite.



Aerolite. The integration of the medical equipment, meanwhile, is the job of the Canadian company, Flying Colours. But how do you go about interior completion? How is the empty shell of an aircraft transformed into a new Rega air ambulance jet?

A life-size wooden model

Even with the latest software and 3D visualisation, it is still not possible to simulate everything on a computer. For instance, to test the serviceability of the new layout concept inside the cabin, Aerolite built a plywood model of the aircraft cabin complete with loading ramp – on a scale of 1:1. The life-size model makes it possible to test the space in the aircraft for loading or transferring patients and to adjust the design drawings as necessary.

Other new ideas and solutions are based entirely on the experience of the Rega crews. For example, when the CL-604 was designed, attention was paid to ensuring that the patient litters inside the jet were compatible with the stretcher systems used in the ambulances on the ground. However, later on in practice the crews found that in the vast majority of cases patients are simply transferred from the ambulance stretcher to the jet litter, making the strived-for compatibility superfluous. Consequently, this requirement has been dispensed with, and the new jets will be fitted with wider, permanently installed beds rather than narrow litters, which will make flights noticeably more comfortable for patients, especially over longer distances.

The improvements benefit patients and crew alike

Designing a bespoke interior from scratch means that there is scope to accommodate important modifications. For example, it is possible to significantly reduce noise in the cabin with

a special assembly method: all the cabin equipment is therefore now being installed on so-called shock mounts and no longer directly on the fuselage construction, which reduces engine-induced vibrations – and thus also noise.

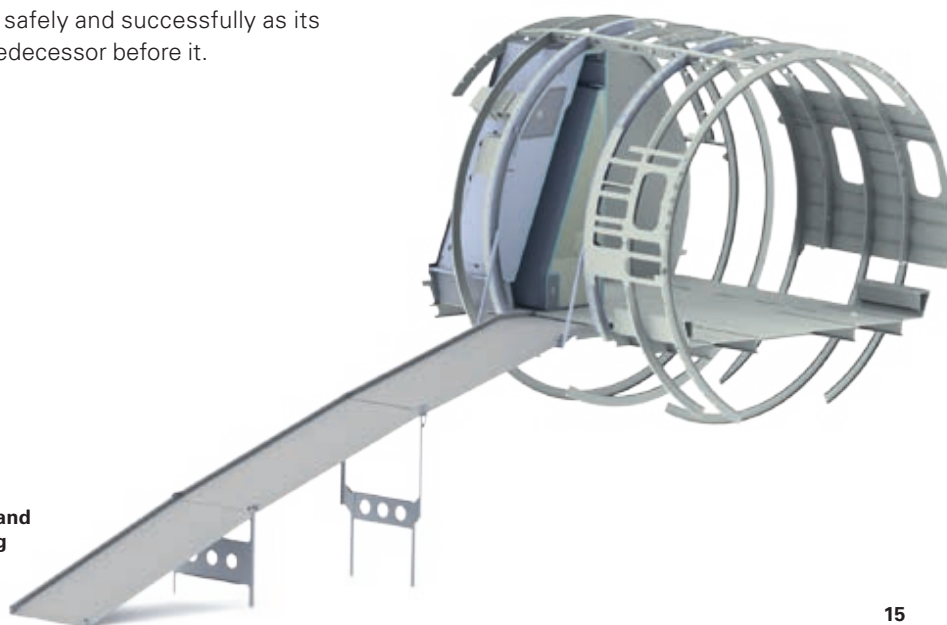
The Rega ramp – a self-designed construction used for gently transferring patients into the aircraft cabin on a stretcher trolley – has also been refined for the Challenger 650: in future, tension springs and shallower gradients will significantly reduce the physical effort required to load a patient onto the aircraft. In addition, the lighting in the cabin is to be separated into different zones so that the light intensity and colour temperature can be varied according to the different needs of patients and crew.

Step by step to the new jet

A series of further steps in the fitting out of the new ambulance jet are to follow in 2016: Bombardier, Aerolite and Flying Colours will be presenting new concepts to Rega for the two onboard intensive care units for patients to lie on. In the summer, the fuselage of the first Rega Challenger 650 will be installed and in September the wings added. Meanwhile, the Rega project group and all its partners will continue their intensive search for the best solutions to ensure that from 2018 the new jet is ready to repatriate patients to Switzerland from all over the world as safely and successfully as its predecessor before it.



Test in the mock-up of the Challenger 650: do the stretcher systems from the ground ambulances also fit on the wider intensive care units in the new Rega jet?



Not without testing first: even with the latest software and 3D visualisation, it is not possible to simulate everything on a computer.

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 its 3,283 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 for 2015

Total number of missions organised	15,053
Helicopter	11,186
Fixed-wing aircraft	1,167
Other missions ¹	2,700
Patronage contributions (CHF million)	88.1
No. of patrons (in millions)	3.283
No. of employees ²	342
Operating revenue (CHF million)	147
Operating expenditure (CHF million)	154
Operating result (CHF million)	-7.1
Balance sheet total (CHF million)	526

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

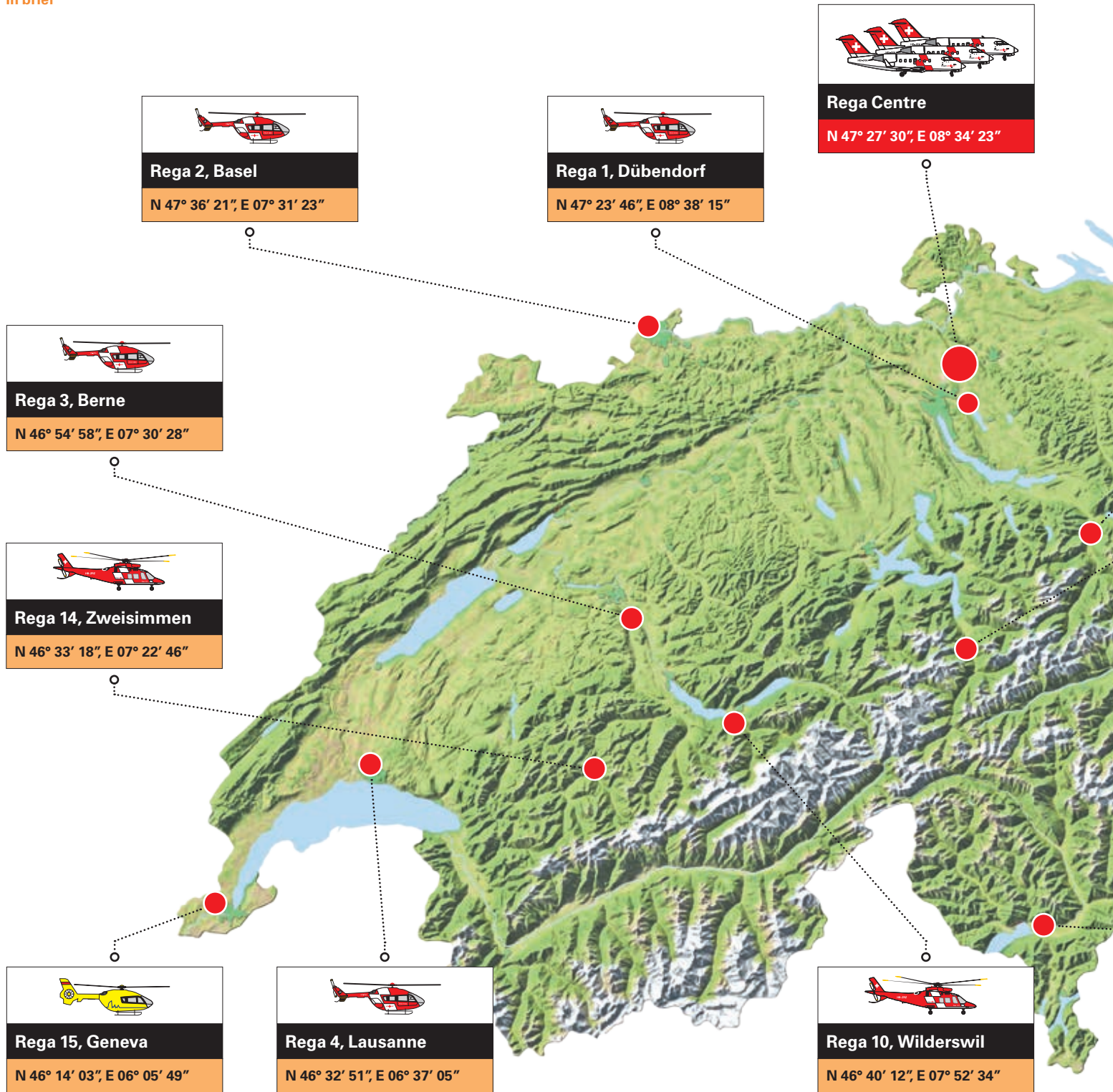
² No. of full-time equivalent employees at the end of December





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 × 720 HP
Maximum cruising speed:	220 km/h
Rescue hoist:	90 m cable length, 270 kg payload

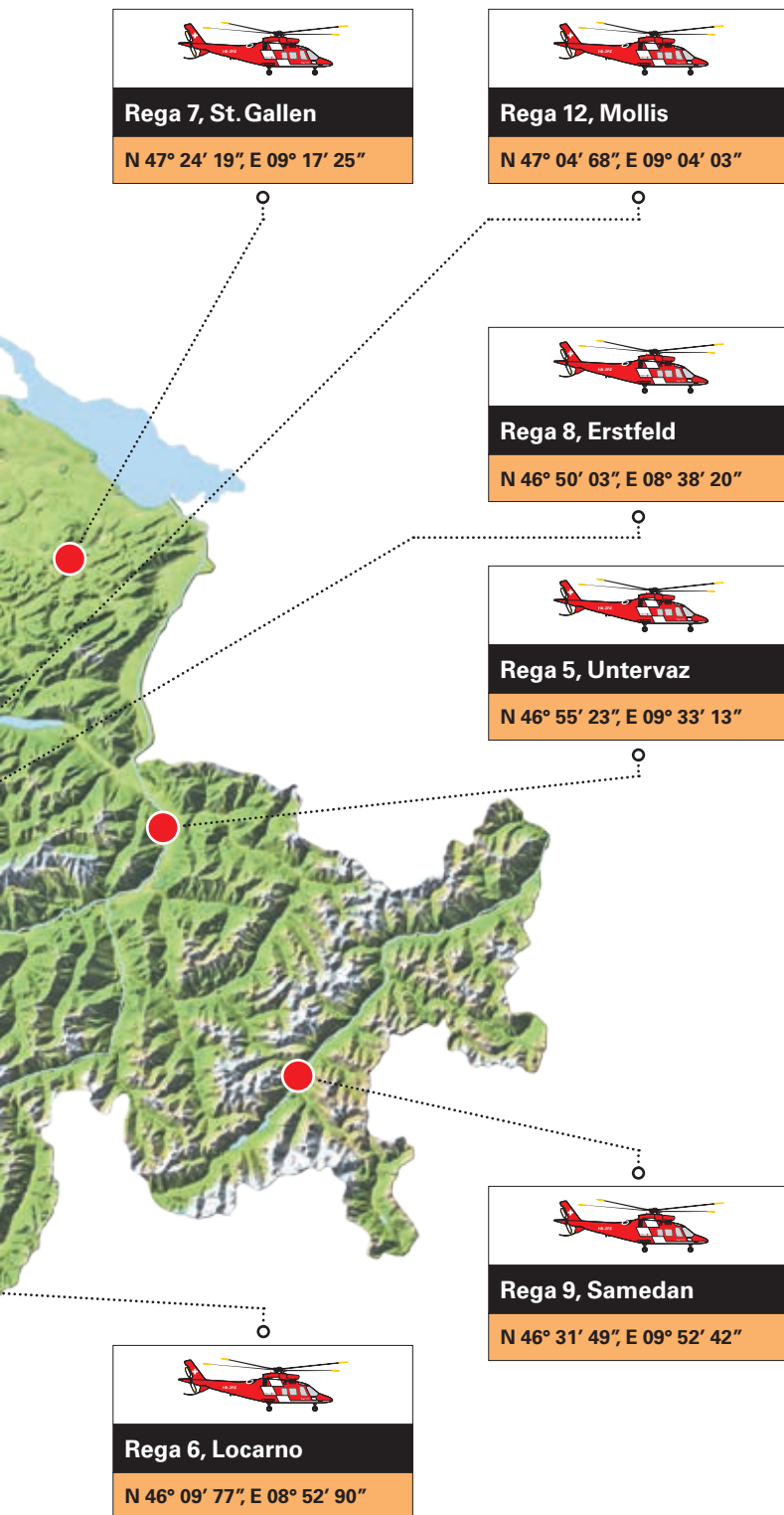
Mountain base fleet



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 × 778 HP
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 15,000 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

Missions

Rega in Switzerland

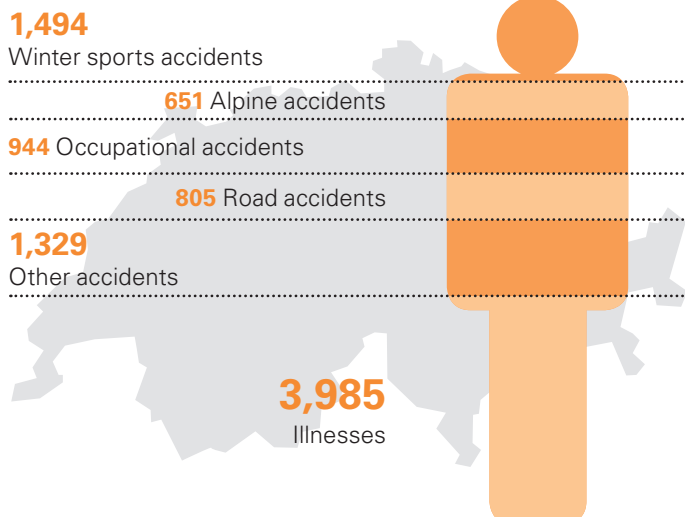


Rega's rescue helicopters are on call 24 hours a day, 365 days a year, in the service of the Swiss people. The 17 Agusta-Westland Da Vinci and Eurocopter EC 145 helicopters transport state-of-the-art medical services directly to the patient – not just in response to serious accidents or injuries, but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

The rescue helicopters are called out to deal with incidents in inaccessible mountainous terrain, as well as 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 emergency medical assistance directly 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 2015 (9,208 patients in total)



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 a 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.

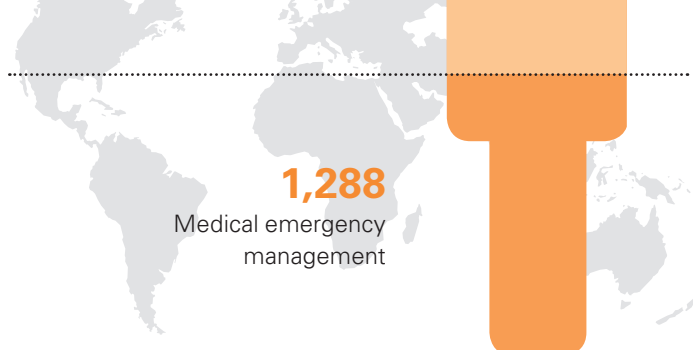
If travellers suffer serious medical problems abroad, Rega can also assist by providing them with expert medical advice as part of its emergency medical management. Medical consultants are on duty around the clock and, together with the doctors on location and the patients themselves, seek the best possible 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 2015 (2,431 patients in total)

1,143

patients repatriated by ambulance jet
or scheduled aircraft



Patronage

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, the patrons have paid Rega's "deficit" with their annual contributions, which at 60 % cover more than half of the total budget. The remaining costs are principally 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 since Rega was founded and have remained unchanged for the last 25 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 2015

CHF 88 million
(60%)

Patrons' contributions and donations

CHF 59 million
(40%)

Cost bearers and other revenue





A huge thank-you to all of our
3,283,000 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 350,000 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.

> 1979 **Rega becomes a non-profit foundation**
The Association sets up a Foundation. Fritz Bühler is appointed the first Chairman of the Foundation Board. In 1981, Rega also becomes a Corporate member of the Swiss Red Cross.

> 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".

<p>> 1985</p> 	<p>The magic number of one million patrons Rega's patronage system proves to be an on-going success. On 23 August, Rega issues its one millionth patronage card.</p>	<p>> 2006</p> 	<p>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.</p>
<p>> 1987</p> 	<p>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.</p>	<p>> 2009</p> 	<p>AW Da Vinci, the new mountain helicopter Rega purchases from the helicopter manufacturer, Agusta-Westland, 11 rescue helicopters for use at its mountain bases.</p>
<p>> 1987</p> 	<p>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.</p>	<p>> 2009</p> 	<p>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.</p>
<p>> 1992</p> 	<p>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.</p>	<p>> 2010</p> 	<p>300,000th mission Newborn twins are flown by Rega helicopter from the Children's Hospital in Lucerne back to their home in Canton Vaud.</p>
<p>> 1996</p> 	<p>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.</p>	<p>> 2011</p> 	<p>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.</p>
<p>> 1997</p> 	<p>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.</p>	<p>> 2012</p> 	<p>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.</p>
<p>> 1997</p> 	<p>The new emergency number "1414" The four-digit emergency number, 1414, is adopted for calling out the air-rescue services in Switzerland.</p>	<p>> 2013</p> 	<p>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.</p>
<p>> 2002</p> 	<p>Three new Challenger CL-604 jets Three identical aircraft from the Canadian manufacturer, Bombardier, replace the 15-year-old air ambulance fleet.</p>	<p>> 2014</p> 	<p>Premiere for Rega's new transport incubator, which can be used in both the jets and the helicopters and provides premature or newborn babies with the best possible medical care.</p>
<p>> 2002</p> 	<p>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.</p>	<p>> 2015</p> 	<p>Three Challenger 650s for Rega In 2018, the highly reliable CL-604 fleet will be replaced with the successor model from Bombardier, featuring modified engines and state-of-the-art avionics systems.</p>
<p>> 2004</p> 	<p>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.</p>	<p>> 2015</p> 	<p>Rega orders three all-weather AW169-FIPS helicopters from AgustaWestland, which are equipped with an anti-icing system and will go into operation in 2021.</p>



REGA 1414





Annual Report 2015

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Activities in 2015

In 2015, Rega's services were in greater demand than ever before. The Operations Centre organised a total of 15,053 missions (+4.3%), and the rescue helicopters and ambulance jets transported 10,171 patients (+5.1%). Thus Rega came to the aid of on average 28 seriously injured or ill people per day in the course of the year.

Helicopters

Figures for the missions performed by Rega's helicopters were once again up compared to previous years (11,186, +3.6%). For the first time in Rega's history, the Helicopter Operations Centre handled more than 11,000 helicopter missions. Rega's helicopters performed an average of about 30 missions per day. Around one-fifth of all operations were flown at night. During the year under review, Rega clocked up 5,497 flight hours (+6.0%) in total; in comparison with 2014, this represented an increase

of 312 flight hours, and of as much as 502 flight hours compared to 2013.

Fixed-wing aircraft

In 2015, Rega's three ambulance jets flew more missions (820, +4.3%) and transported more patients than in the previous year (825, +3.3%). The Challenger CL-604, which has been in operation since 2003, was in the air for a total of 4,117 hours. Only in 2007 did the Challenger CL-604 fly more hours (4,236) than in 2015. Since they first went into operation, the average flight performance of all three CL-604 ambulance jets amounts to 3,775 hours per year. By way of comparison, 342 flight hours more were recorded in 2015 (+9.1%).

The three Rega ambulance jets were in operation all over the world. In 2015, the Rega crews transported patients back home to Switzerland from such locations as New Zealand, China, Mauritius, Cuba and the Philippines.

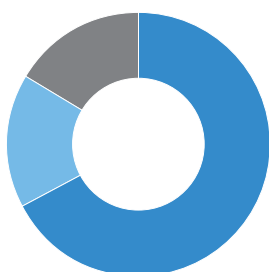
The number of patients repatriated on board scheduled aircraft dropped slightly (318, -7.6%). This economically and environmentally sound alternative to the ambulance jet is employed provided that the patient's medical condition is sufficiently stable, that this form of transport is not expected to have a negative effect on the patient or other passengers, and that enough seats are available on board.

On average, Rega organised three repatriations per day using fixed-wing aircraft during 2015.

Medical assistance and advice by Rega doctors

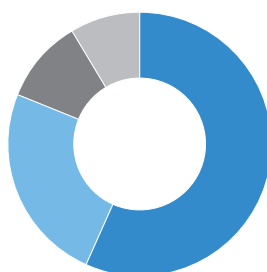
Prior to each repatriation mission from abroad, thorough medical clarifications are carried out by one of Rega's 13 medical consultants. In liaison with the Operations Centre, the physician on duty decides whether repatriation is necessary and sensible, and if so, how and when it should take place. As

No. of missions



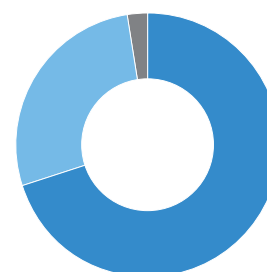
	2015	2014	+/-
Total missions	15,053	14,435	4.3%
■ Helicopters	11,186	10,802	3.6%
■ Jets/Scheduled aircraft	1,167	1,170	-0.3%
■ Other missions ¹	2,700	2,463	9.6%

Missions by helicopter



	2015	2014	+/-
Total missions	11,186	10,802	3.6%
of which are performed at night	2,215	2,121	4.4%
■ Primary missions ²	6,353	5,943	6.9%
■ Secondary missions ³	2,734	2,723	0.4%
■ Assistance to mountain farmers	1,160	1,306	-11.2%
■ Special missions ⁴	939	830	13.1%

Missions by fixed-wing aircraft



	2015	2014	+/-
Total missions	1,167	1,170	-0.3%
■ Ambulance jets	820	786	4.3%
■ Scheduled aircraft	321	346	-7.2%
■ Chartered aircraft	26	38	-31.6%

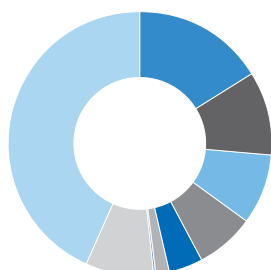
¹ Other missions: transports by ambulance, missions on behalf of the Swiss Alpine Club, Spéléo-Secours, Redog, etc.

² Primary missions: emergency missions directly at the scene of the incident

³ Secondary missions: inter-hospital transfers, neonatology, organ transports

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

Transported patients – primary/secondary missions by helicopter



	2015	2014	+/-
Total patients	9,208	8,739	5.4 %
Winter sports accidents	1,494	1,352	10.5 %
Occupational accidents	944	990	-4.6 %
Road accidents	805	832	-3.2 %
Alpine accidents	651	519	25.4 %
Sports accidents	392	422	-7.1 %
Aviation accidents	139	106	31.1 %
Avalanche accidents	39	16	143.8 %
Other causes	759	706	7.5 %
Illnesses	3,985	3,796	5.0 %

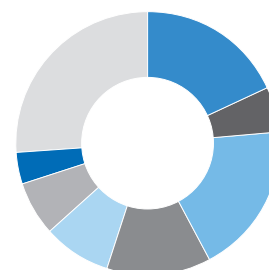
Medical emergencies abroad

	2015	2014	+/-
Total patients	2,431	2,688	-9.6 %
Medical advice	1,288	1,545	-16.6 %
Repatriation	1,143	1,143	0.0 %

Repatriations

	2015	2014	+/-
Total patients	1,143	1,143	0.0 %
Rega ambulance jets	825	799	3.3 %
Scheduled airlines accompanied	138	141	-2.1 %
Scheduled airlines unaccompanied	180	203	11.3 %

Transported/accompanied patients – missions by fixed-wing aircraft



	2015	2014	+/-
Total patients	963	940	2.4 %
Limb injuries	174		
Cranio-cerebral trauma	56		
Other injuries	177		
Cardiovascular diseases	124		
Strokes	81		
Gastrointestinal diseases	63		
Malignant tumours	37		
Other illnesses	251		

with the flight coordinators, the medical consultants work in three daily shifts and are available around the clock.

Individual insurance companies ask Rega's physicians to clarify the medical condition of their Swiss policy holders who have become seriously injured or ill abroad, even if they are not Rega patrons. In such cases, Rega makes a recommendation on whether from a medical point of view the patient needs or is fit enough to be repatriated and the insurance company makes the final decision as to whether and how repatriation should take place. In 2015, a total of 1,288 people telephoned Rega from abroad asking for medical advice (-16.6%). Thus, Rega's medical consultants helped an average of four people with medical problems abroad every day.

Fluctuation in mission and patient numbers

The number of missions and patients do not always concur, as either several

patients are transported on board the same flight or flights are performed without any patients at all, for example, if a search flight proves unsuccessful. Generally speaking, the helicopter mission statistics reflect the meteorological conditions, as well as the leisure activities and travel patterns of both the Swiss population and foreign tourists in Switzerland.

The year 2015 was once again characterised by extreme weather in Switzerland. In February, Rega was called out more frequently than in the previous year (+15.1%) due to the fine weather during the school holidays. The summer was, after 2003, the second hottest in recent history – with exceptionally high temperatures and very sunny weather. Correspondingly, more missions were flown particularly in the summer months of July (+18.3%) and August (+8.0%) than in the previous year.

Financial development and future investments

The first major instalment was paid for the replacement of the jet fleet. In addition, initial investments in the long-term project to perform rescue flights in all weathers were made, which figured on the balance sheet as a transfer from current to fixed assets. This increased investment volume gave rise to write-offs, which in turn are recognised in the Income Statement. Despite this, Rega's operations continue to be guaranteed in the usual solid manner.

Large investments will be made in the coming years in relation to Rega's projects to replace the entire ambulance jet fleet and to purchase three AW169-FIPS helicopters to perform all-weather rescue flights. The planned investment sums have already been earmarked in Rega's long-term financial planning, and the organisation's healthy financial position means that this project can be funded without outside capital.

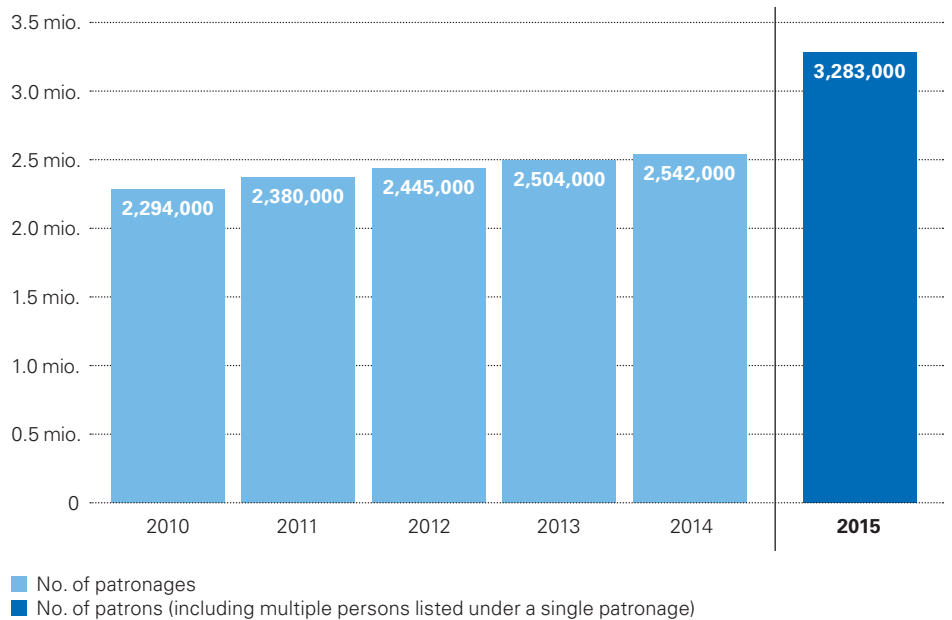
Gratifying increase in the number of patrons

Rega continues to enjoy enormous support within the Swiss population. With a net increase of around 50,000 additional patronages in 2015, it has once again seen a gratifying growth of 1.96%. Rega's patrons enable it to operate an air rescue system in Switzerland that is highly regarded and sets standards all over the world. With annual contributions totalling CHF 88.1 million (+2.0% against 2014 figures), the patrons cover more than half of the entire costs, thus enabling Rega's helicopters and ambulance jets to be on standby 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 covered by their own insurance policies.

Changes in patronage administration

In 2015, the patronage administration system underwent major changes: Rega completely modernised its data management procedures in order to be better able to serve its patrons in an increasingly complex social

Development in the number of patrons up to 2015



environment. The amended processes and data structures now allow the details of everyone covered by a single patronage to be recorded; at the end of 2015, a total of 3,283 million patrons were entered on the computer system. Until then, Rega had had no details about each individual person, but only about the number of Individual, Family and One-Parent patronages. However, this number did not include,

for example, the partners or minors listed under a Family patronage. With the update of this data model, one long-standing deficit in particular could finally be rectified: while previously only one patronage card could be issued per Family patronage, since the middle of 2015, all the family members officially registered under a single patronage are being issued with their own personal card.

► Continued from page 29

Rega purchases three all-weather rescue helicopters

In December 2015, Rega decided to purchase three new all-weather helicopters of the type AW169-FIPS. The AW169-FIPS is a medium-weight, twin-engine helicopter featuring a Full Ice Protection System (FIPS). This will allow Rega to also fly missions in icing conditions. In addition, the AW169-FIPS is equipped with state-of-the-art avionics and can perform high-precision instrument flights.

The acquisition of these new helicopters is of central importance for the

implementation of Rega's vision to carry out air rescue missions no matter what the weather. Accompanying projects, such as the establishment of instrument flight routes and a Rega-own network of weather stations, are also in progress. Rega is reckoning with acquisition costs totalling CHF 50 million for the three AW169-FIPS helicopters, including the necessary medical equipment.

Incidents in flight operations

On 26 February, on its return from a mission, a Rega helicopter made a hard landing on the tarmac in front of the Erstfeld helicopter base. At the time of the incident, four Rega employees were

on board; three of them were injured and had to be taken to hospital.

During a mission on 28 June, a Rega helicopter severed a telephone cable as it was preparing to land on the Oberkäseren alp, south of the Speer mountain, in the canton of St. Gallen. One uninvolved person was slightly injured. The crew on board the helicopter were uninjured and the pilot was able to land safely; however, the helicopter was damaged during the incident.

Rega undertakes a great deal to make its professional air rescue services as safe as possible. It invests in training its crews, in promoting

a good safety culture, and in deploying state-of-the-art aircraft and equipment. However, with more than 11,000 helicopter rescue missions each year, involving some 35,000 starts/landings, most of them in rough terrain, it is impossible to avoid incidents entirely. Nevertheless – and for that very reason – Rega will in future continue to do everything in its power to make air rescue in Switzerland safer than ever before – for the benefit of its crews, its patients and third parties.

Looking forward with eager anticipation to the three new ambulance jets

In 2018, Rega will take delivery of its three new Challenger 650 ambulance jets from their manufacturer, Bombardier. Apart from the cockpit, the jet will arrive “empty”, and so over the last months the Rega project group has been working in close collaboration with specialist firms on new solutions for the interior fit out. Less noise in the cabin, wider beds and a new lighting system are just some of the improvements planned.

This development work will continue in 2016, as a whole series of further steps still need to be implemented before the three new ambulance jets are ready to go into operation. These benefits will be felt especially by the patients on board (see report on page 14).

Investing in the helicopter bases

Rega's 12 helicopter bases require continuous investment if flight operations are to be performed in a manner that befits the times. Towards the end of 2015, the completely renovated helicopter base in St. Gallen was handed back to the crew on schedule. While the outside appearance of the building remains unchanged, the interior underwent comprehensive renovation. The medical room was redesigned, the living and recreation area enlarged and equipped with a new kitchen, and the bedrooms supplemented with en-suite wet rooms.

In the Engadin, Rega is pursuing its plans to build a new helicopter base

on the site of the existing one at Samedan Airport in collaboration with its partners. However, unfortunately no significant progress could be made in this respect during the year under review.

Instrument flights for helicopters

In addition to the acquisition of three all-weather AW169-FIPS helicopters, Rega is working on various accompanying projects that also need to be implemented if in future people are to be rescued no matter what the weather. For example, Rega and the Swiss Air Force are continuing its measures to set up a network of instrument flight routes (Low Flight Network). The first main routes can already be used for test operations, but the necessary permits from the Federal Office of Civil Aviation (FOCA) are still lacking to be able to use these flight routes on real-life rescue missions.

Rega is also waiting for the necessary authorisation for various GPS-assisted approach flight procedures. Rega pilots are hoping that the air navigation service, Skyguide, will give the go ahead, so that Emmen Airport, for example, can soon be flown to under IFR conditions.

With the major project entitled “Thor”, up to 60 weather stations and webcams are being installed, expanded or converted throughout Switzerland. This equipment aims to provide Rega helicopter pilots with precise, constantly updated meteorological data relating to their rescue missions. In 2015, Rega was able to put four new automatic weather stations into operation; they are located on the roof of the Swiss Paraplegic Centre in Nottwil, on the Cantonal Hospitals in Freiburg and St. Gallen, and on the Inselspital University Hospital in Berne. This is to be followed by installations at the airports in Lausanne-Blécherette and Bressaucourt.

“Thor” was launched in 2014 and is scheduled for completion in 2017. During this period, Rega is investing some CHF 6 million in improving the flying weather data and thus also directly in improving the provision

of medical care by air to the Swiss population.

First Ebola operation

The renewed outbreak of Ebola in 2014 made it only too apparent that as good as no safe, reliable concepts existed for transporting highly contagious patients. Therefore, working closely with various specialists, Rega developed a patient isolation unit (PIU) suitable for simple and safe airborne transport, together with a corresponding transport concept. This system was first used on a mission on 17 February, when Rega flew a 34-year-old British Red Cross doctor from Sierra Leone back home to London.

The PIU and accompanying concept were not simply developed for the Ebola crisis, but for patients with highly infectious diseases in general, as transports such as these are already part of Rega's routine activities. In 2015, the PIU was used on two occasions – once for the young physician who was suspected of being infected with Ebola, and once for a patient suffering from tuberculosis.

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

Christian Kern, Prof. Dr. med., Geneva, since 2009, Vice-Chairman and Member of the Executive Committee

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

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

Gabi Huber, Dr. iur., Altdorf, since 2015, Member of the Executive Committee

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

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

Heidi Hanselmann, Walenstadt, since 2010

Thomas P. Emmerich, Riehen, since 2011

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

Adrian Amstutz, Sigriswil, since 2013

Josef Meier, Wettingen, since 2013

Gerold Biner, Zermatt, since 2015

Thomas Holderegger, Waldstatt, since 2015

Franz Stämpfli, Innertkirchen, since 2015

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

Josef Meier

Advisory Committee Partner Organisations

Franz Stämpfli, Member of the Rega Foundation Board, Chairman

Thomas P. Emmerich, Member of the Rega Foundation Board

Françoise Jaquet, Dr. sc. nat., Swiss Alpine Rescue representative, from 2016

Philipp Perren, Dr. iur., Canton Valais representative

Patrick Deriaz, Spéléo-Secours representative

Markus Denzler, police commanders representative

Vali Meier, Swiss Cable Cars Association representative

Stefan Eng, Swiss Air Force representative

Günter Bildstein, Medical Emergency Call Centres 144 representative, from 2016

Daniel Sulzer, Swiss Helicopter Association representative

Auditors

KPMG AG, Zurich

as of 1 January 2016

From left: Gerold Biner, Adrian Amstutz, Marco Maggiorini, Christian Kern, Adrian Frutiger, Patrizia Pesenti, Josef Meier, Ulrich Graf, Markus Mader, Franz Stämpfli, Gabi Huber, Andreas Berger, Michael Hobmeier, Thomas P. Emmerich, Thomas Holderegger
Missing from the picture: Heidi Hanselmann



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 organisation and management regulations, its Mission Statement and its Code of Conduct. The Foundation Board monitors these principles on a regular basis.

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 Stämpfli, 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 Internal Control System and Safety and Quality Management 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 20 percent in helicopter companies, airfield companies and associations and assistance companies in Switzerland. This portfolio is maintained in order to fulfil 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 24 February 2016, and no objections of any kind were raised.

Rega in 2015

31 January: On the Vilan in Graubünden, seven ski tourers are buried under an avalanche. Involved in the rescue operation are three Rega helicopters, eight mountain rescuers from the Swiss Alpine Club SAC and an avalanche dog, as well as two additional helicopters. Three people are found dead; the other four are recovered suffering from serious injuries and are flown to hospital.

26 February: On its approach flight to the Erstfeld helicopter base, a Rega helicopter makes a hard landing. At the time of the incident, four Rega employees are on board; three of them are injured and are taken to hospital.

9 April: The decision relating to the future ambulance jet is made: Rega continues to place its trust in the tried-and-tested Challenger family manufactured by Bombardier. Three new Challenger 650 aircraft will go into operation in 2018. The new ambulance jet features state-of-the-art avionics systems and more powerful engines; also the cabin will be quieter than at present, which benefits both patients and crews.

11 May: The EC 145 helicopters at the four lowland bases are equipped with a so-called roll-in stretcher. Its retractable undercarriage allows patients to be transported more comfortably than ever before. It is compatible with the transport incubator and features the world's first "pack rack" or stretcher bridge – a medical equipment unit for use in aircraft.

21 June: In order to improve its services to patrons, Rega introduces a new, modern patronage management software. One deficit in particular is rectified as a result: while previously only one patronage card could be issued per Family patronage, now all the family members will have their own card.

13 July: Rega tests an instrument flight route over the Julier Pass, from the Engadin to the Cantonal Hospital in Chur. Measurement devices in the

helicopter record the exact position data at each point of the test flight to check the precision of the autopilot. In future, Rega aims to fly patients via this IFR route, which is part of the so-called Low Flight Network, even when visibility is poor.

8 August: Rega celebrates the 40th anniversary of its Basel helicopter base with an Open Day. The interest is great: several thousand people flock to the base at the EuroAirport to meet the air rescuers and inspect the Rega helicopters at close quarters.

30 September: The lasting fine weather results in a busy summer for Rega: between June and September, the crews at the 12 helicopter bases are called out on over 3,600 missions.

30 November: Rega installs its own meteorological station on top of the Inselspital in Berne. It is part of a network of measuring stations and webcams that in future will deliver precise, constantly updated flying weather data – a prerequisite for Rega pilots to be able to fly according to instrument flight rules.

1 December: Rega signs a contract with Italian manufacturer Agusta-Westland for the purchase of three new all-weather helicopters of the type AW169-FIPS. These twin-engine rescue helicopters, which are fitted with an anti-icing system, will go into operation in 2021 and partially replace the current fleet. With the purchase of the AW169-FIPS helicopters, Rega is a major step closer to its vision of being able to perform air rescues in all weathers.

11 December: The Rega app has already been downloaded one million times and has played a part in helping people in distress on over 1,500 rescue missions. When the alarm is raised via the app, the Operations Centre automatically receives the caller's coordinates, which it can then relay directly into the helicopter cockpit.



9 April



11 May



21 June



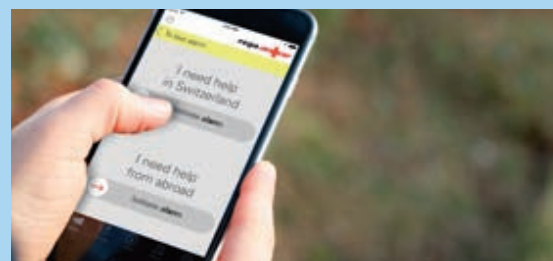
8 August



30 September



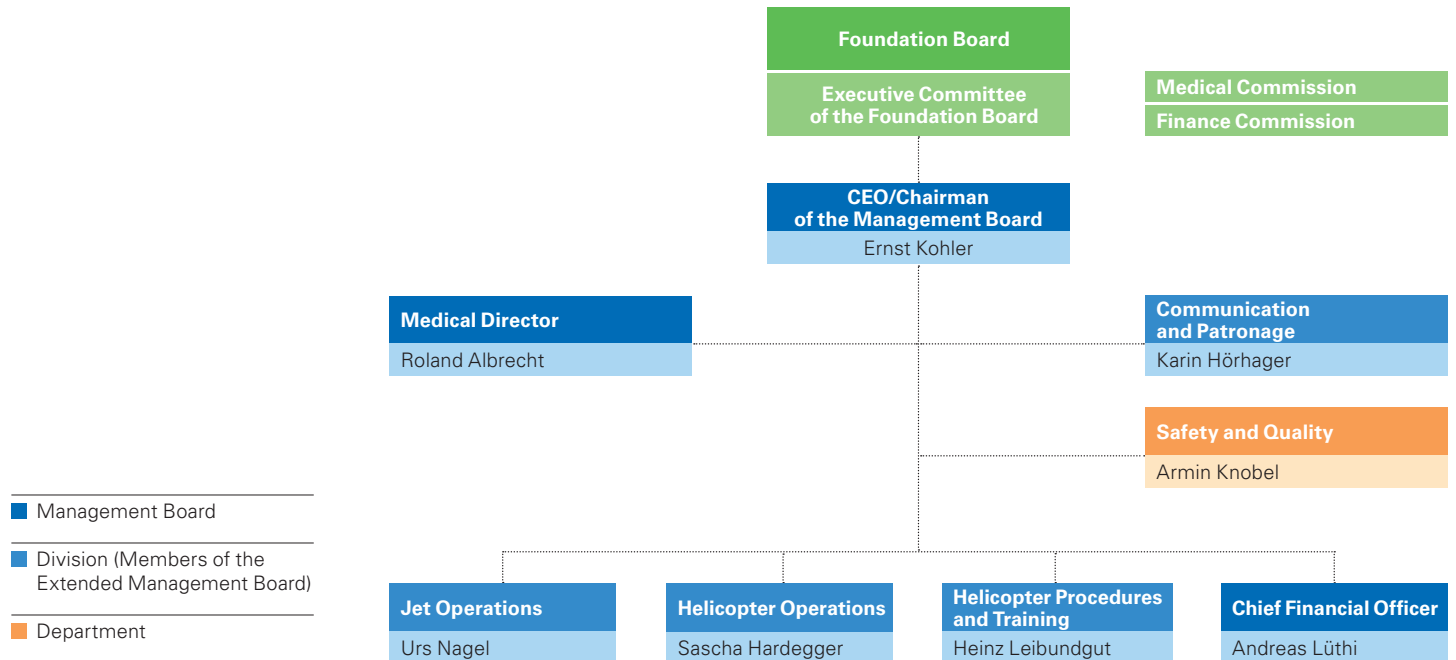
1 December



11 December

Management Board

Organigram as of 1 January 2016



From left to right: Sascha Hardegger, Roland Albrecht, Karin Hörhager, Urs Nagel, Ernst Kohler, Heinz Leibundgut, Andreas Lüthi.



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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Rega 3, Bern

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Rega 4, Lausanne

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Rega 9, Samedan

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