The Arriel 2D turboshaft engine from Safran Helicopter Engines powers a number of helicopters, including the H130 made by Airbus Helicopters. Companies like Helisul Air Taxi in Brazil have opted for this powerplant because of its reliability, maintainability and low fuel consumption.

An unforgettable family weekend

Gilberto, Cristiana and their three children have flown to Foz do Iguaçu in Parana State, Brazil for a weekend getaway. After being picked up at the airport and taken to their hotel, they're eagerly looking forward to a flight over one of the most beautiful sights in southeast Brazil: Iguaçu National Park, with its impressive waterfalls, a natural wonder that's been named a UNESCO World Heritage Site.

The family receives a warm welcome from one of the hostesses at Helisul Air Taxi, the largest air taxi company in the country and one of the largest in the world.

The young woman invites the family to follow her to the landing pad, where their helicopter awaits. She explains that they'll be flying over a vast natural area at the borders of Brazil, Argentina and Paraguay.

The pilot will get as close as possible to the falls so you can get some great shots!"
An environmentally-friendly engine

Before they climb aboard, their pilot, Ricardo, introduces them to the aircraft.

Here's your bird! It's an H130 made by Airbus Helicopters.

To protect the local flora and fauna, including some very rare species, Helisul chose the helicopter fitted with the quietest engine in its class (light, single-engine passenger helicopters).

After these introductions, Ricardo invites his passengers to take their seats in the spacious cabin. He then reads out the safety recommendations, while also checking that they have all buckled up. Gilberto, who's also seated up front, says to the pilot with a conspiratorial smile,

You know, I also fly helicopters… scale model helicopters! Tell me, how many horses under the hood?
Ricardo explains that the H130 is powered by an **Arriel 2D, made by Safran Helicopter Engines.**

My engine develops some 952 shaft horsepower, or SHP, on takeoff, which gives us a very healthy power reserve! It's rated at 856 shp during cruise, and the helicopter can fly for three hours at a speed of 108 knots – that's about 200 kilometers per hour.

**Into the forest primeval**

The helicopter shakes for an instant, then lifts off and tilts slightly forward, immediately picking up speed. The whole family can see the ground pass by faster and faster, as they approach the forest, just a hundred meters ahead. The kids are overjoyed as the **swift 2-1/2 ton machine** skims over the trees before continuing its climb.

Ricardo turns right, showing them a magnificent view with the virgin forest stretching out as far as the eye can see. A few minutes later, the pilot calls his passengers' attention to a column of smoke rising in the distance.

In fact, that's a cloud of spray that rises very high over the falls.

They all fall silent before this impressive sight – even Ricardo, who's seen it many times before.
Everything's under control!

Once it gets to the best spot, the helicopter makes a 360° turn to give everybody a chance to enjoy the view. But Gilberto, despite his experience as a model pilot, is still a bit worried, exclaiming,

Over this kind of terrain, you really don't want to have any mechanical problems!

Ricardo answers him in the calm tones of a seasoned pilot:

Don't worry, this engine is one of the most reliable on the market.

The technically-minded Ricardo reels off the Arriel 2D's specs: axial compressor, high-pressure compressor diffuser, new material in the high-pressure turbine, and more.

Maybe you're not familiar with all these technologies, but believe me, you can enjoy your flight without the slightest worry.
With the helicopter flying a few lazy circles over Devil's Throat, the highest waterfall on the Iguaçu River, Gilberto begins to worry about the helicopter's endurance. At this altitude, running out of fuel would obviously be fatal. But Ricardo reassures him by explaining that the Arriel 2D is fitted with a digital control system, the so-called FADEC, or full authority digital engine control.

This electronic control unit optimizes fuel management, while also controlling the machine's acceleration and deceleration. The FADEC marked an important advance for helicopters, since it ensures maximum operating efficiency even under difficult conditions, such as the high temperatures in Brazil. Above all, this type of control unit guarantees reduced fuel consumption, which gives the H130 a range of 600 kilometers, or about 375 miles.

An economical engine, in all senses of the word

With the trip almost over, Gilberto thanks Ricardo for the great flight and his explanations. He also asks him how his air taxi company can maintain their whole fleet, while offering such low prices. Just a few short years ago, an excursion like this would have been totally unaffordable for his family.
Ricardo explains:

With Arriel engines, we can plan ahead much more easily for preventive maintenance. But above all, the time between overhauls is much longer. Since our machines are grounded for servicing much less often and for shorter periods, they give us higher availability – which means that we can increase the number of flights, without increasing our costs, and therefore offer flights over these incredible landscapes at a more affordable price.

Global success

Safran Helicopter Engines and the Brazilian air taxi company Helisul have been working together for nearly 30 years. Loyalty like this has made the Arriel the best-selling engine in its class. An Arriel-powered helicopter takes off somewhere in the world every 15 seconds.