

20 EURO SILVER COIN

# THE NEUTRON STAR



Series	The uncharted Universe
Face Value	€ 20
Date of Issue	10 May 2023
Coin Design	Helmut Andexlinger
Diameter	34 mm
Quality	Proof
Mintage	30,000
Alloy	Silver Ag 925
Fine Weight	2/3 oz (20,74 g)
Total Weight	22.42 g
Edge	plain



Recommended initial  
issue price: € 69,60 (incl. 20% VAT)

*Comes in a case complete with a numbered  
certificate of authenticity and protective slipcase.*

Featuring a semi-sphere in its centre that curves inwards on one side and outwards on the other, the last coin in *The Uncharted Universe* series is designed to be a simplified representation of that unique galactic phenomenon – the neutron star.

There are thought to be up to one billion neutron stars in the Milky Way. This figure is obtained by estimating the number of stars that have undergone a supernova explosion, a spectacular explosion of a massive star. Combined with gravitational collapse, this creates a compact and super-dense object known as a neutron star. After black holes, neutron stars are the densest stellar objects in the universe. Even denser than atomic nuclei, which is a good way to think of them, neutron stars are heavier than the Sun itself: a teaspoonful of neutron star would weigh as much as 1,000 Cheops pyramids. Neutron stars can rotate at very high speed – up to 700 revolutions per second – and have a magnetic field 12 to 15 orders of magnitude stronger than that of the Earth, which is a thousand to a million times stronger than the strongest man-made magnetic fields ever produced.

## COIN MOTIF

The words 'crust' and 'core' are marked in German on the coin's obverse. 'Crab pulsar' is the name of a neutron star that was created from a supernova in the year 1054, while '1,4  $M_{\odot}$ ' refers to the neutron star's solar mass, '30 rps' to its rotation speed per second and 'r ~ 10 km' to its radius. On the coin's reverse, the neutron star bulges through a coloured imprint and a stylised representation of its magnetic field.

As far as the exact composition of neutron stars is concerned, many things are still a mystery to scientists, but it is hoped that new insights will be gained by studying the expansion of the universe.



Price: € 65,40 (incl. 20% VAT)  
Collector Case, coins not included

### THE UNCHARTED UNIVERSE COLLECTOR CASE

The universe in your living room. Black both inside and out, the collector case echoes the vastness of the sky at night. This is how the astronomical phenomena presented on the coins come into their own.

The lid is attached with magnets and can be removed. The inlay can be set up in such a way that the case can be easily turned into a mini exhibition about the universe, in which the phenomena on the coins can be explored from both sides.

Infinite expanses encapsulated in a stylish collector case.

### SERIES OVERVIEW



The Milky Way

2021



The Black Hole

2022



The Neutron Star

2023

P.P./Proof Silver Ag 925