



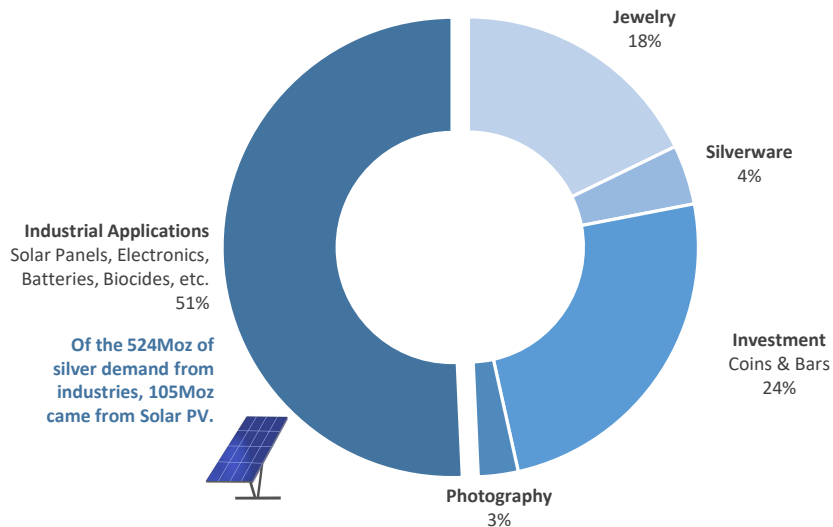
# SILVER 101 ON RENEWABLE ENERGY



# SILVER'S PIVOTAL ROLE AS AN INDUSTRIAL METAL

**Silver** is widely known as a precious metal, but **more than half of its demand comes from industries**

Industrial Buyers Drive More than 50% of Silver Demand



Source: World Silver Survey, 2021

As global efforts to **decarbonize** and **electrify** gather steam, we expect three areas to contribute significantly to **silver consumption**:

- 1. The automotive sector and electric vehicles (EV), including the associated infrastructure;**
- 2. The solar energy industry; and**
- 3. 5G (fifth generation technology) broadband cellular networks.**

Silver's superior electrical properties make it hard to replace across a wide and growing range of automotive applications, many of which are critical to safety and to meeting increased environmental standards.

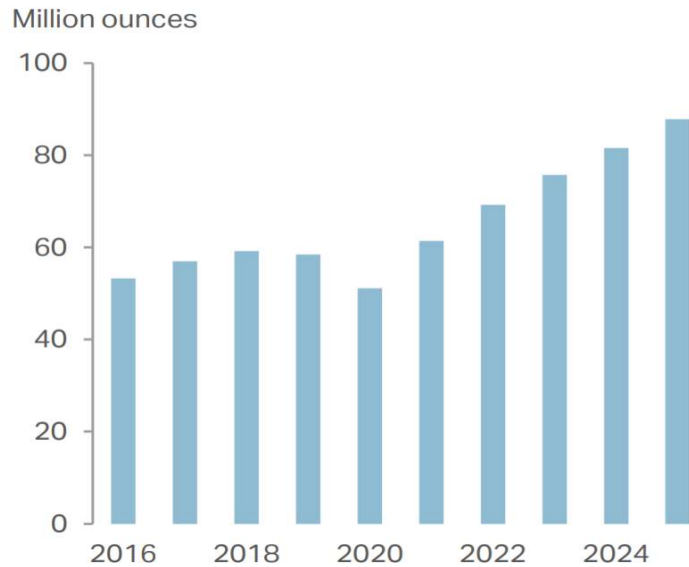
Source: Sprott Silver Report - Silver's Clean Energy Future



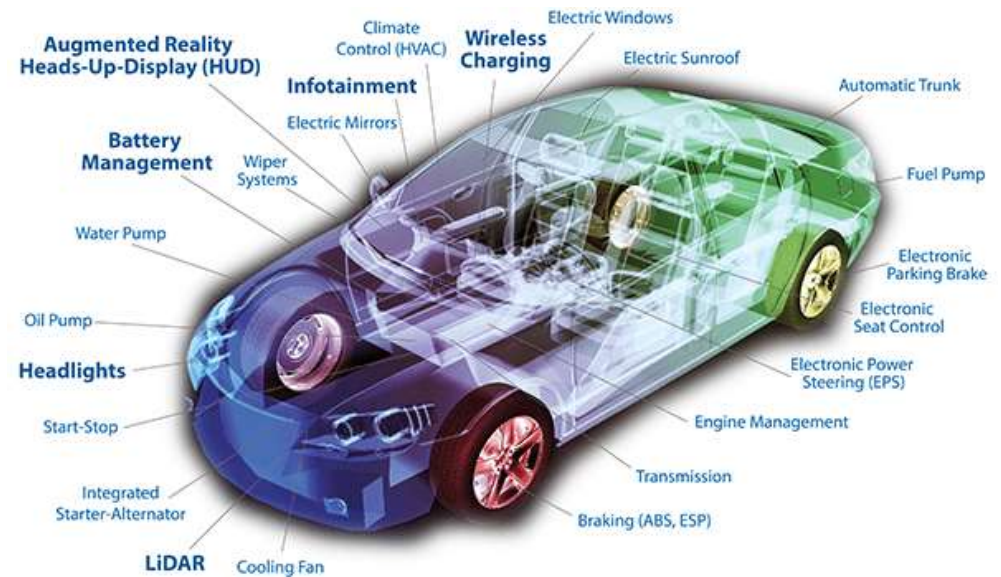
# SILVER'S GROWING ROLE IN THE AUTOMOTIVE SECTOR

**Battery electric vehicles** contain between **25-50 grams of silver**,  
and **internal combustion engine vehicles** contain between **15-28 grams**

Silver Automotive Demand



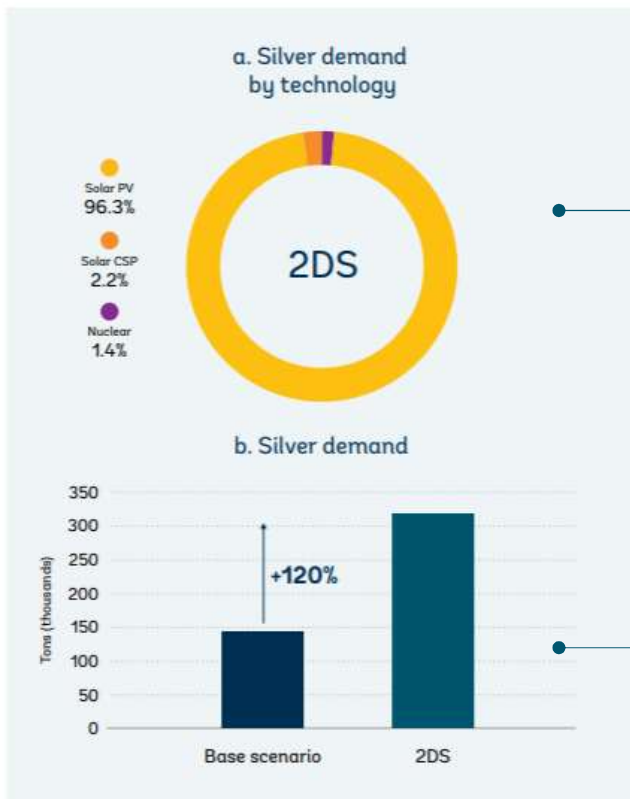
Silver Uses in Vehicles' Electronic Systems



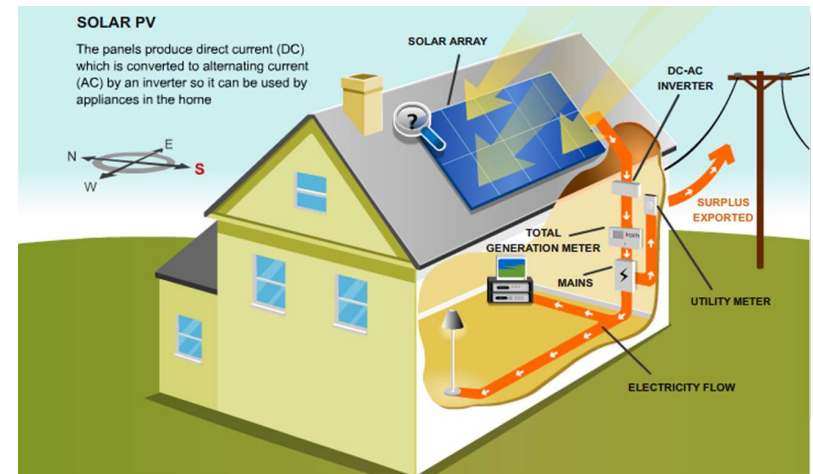


# SILVER DEMAND TO HELP DECARBONIZE THE GLOBAL ECONOMY

Total Silver Demand by Technology Through 2050  
(2DS, Base Scenario)



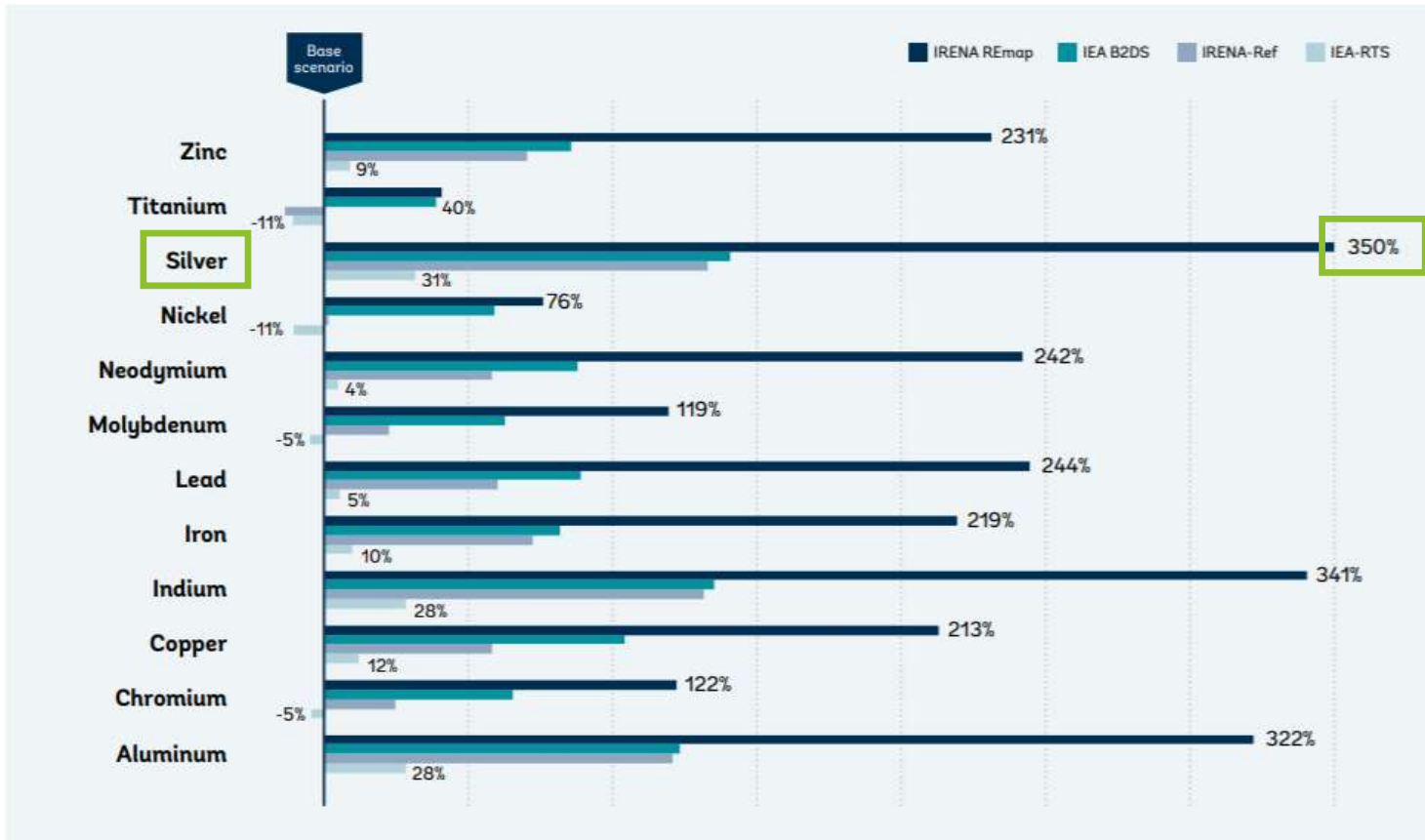
**96.3 %**  
of silver demand is linked to  
solar photovoltaic (PV)  
growth



Under a 2DS, **silver demand is expected to double**, growing from 1.4 thousand tons in 2017 to **nearly 3.2 thousand tons in 2050**.

Note: 2DS = 2-degree scenario, CSP = concentrated solar power, PV = photovoltaic.

Relative Change in Demand for Minerals in Energy Technologies (without storage) Through 2050 under RTS, Ref, B2DS and REmap Compared to Base Scenario



The percentage of expected change from the base scenario in supplying electricity generation technologies only.

In REmap scenario, **silver demand is expected to increase by 350% by 2050 from the base scenario.**

IRENA's REmap programme determines the potential for countries, regions and the world to scale up renewables.

Note: Base scenario = 4-degree scenario, B2DS = beyond 2-degree scenario, IEA = International Energy Agency, IRENA = International Renewable Energy Agency, Ref = reference scenario, REmap = renewable energy roadmap scenario; RTS = reference technology scenario.