



**A MERAS
ANNOS**

A Meras Annos

PIONEERS IN THE PRODUCTION OF STABLE
ISOTOPES THROUGH INNOVATIVE ADVANCED
TECHNOLOGIES

ILS Tokyo-2024



Introduction

Founded: March 2021

Name: "A Meras Annos" (Sardinian language "long life"), hereinafter referred to by the acronym AMA

Registered in the special section for innovative startups: January 2022

Business Register: Cagliari-Oristano

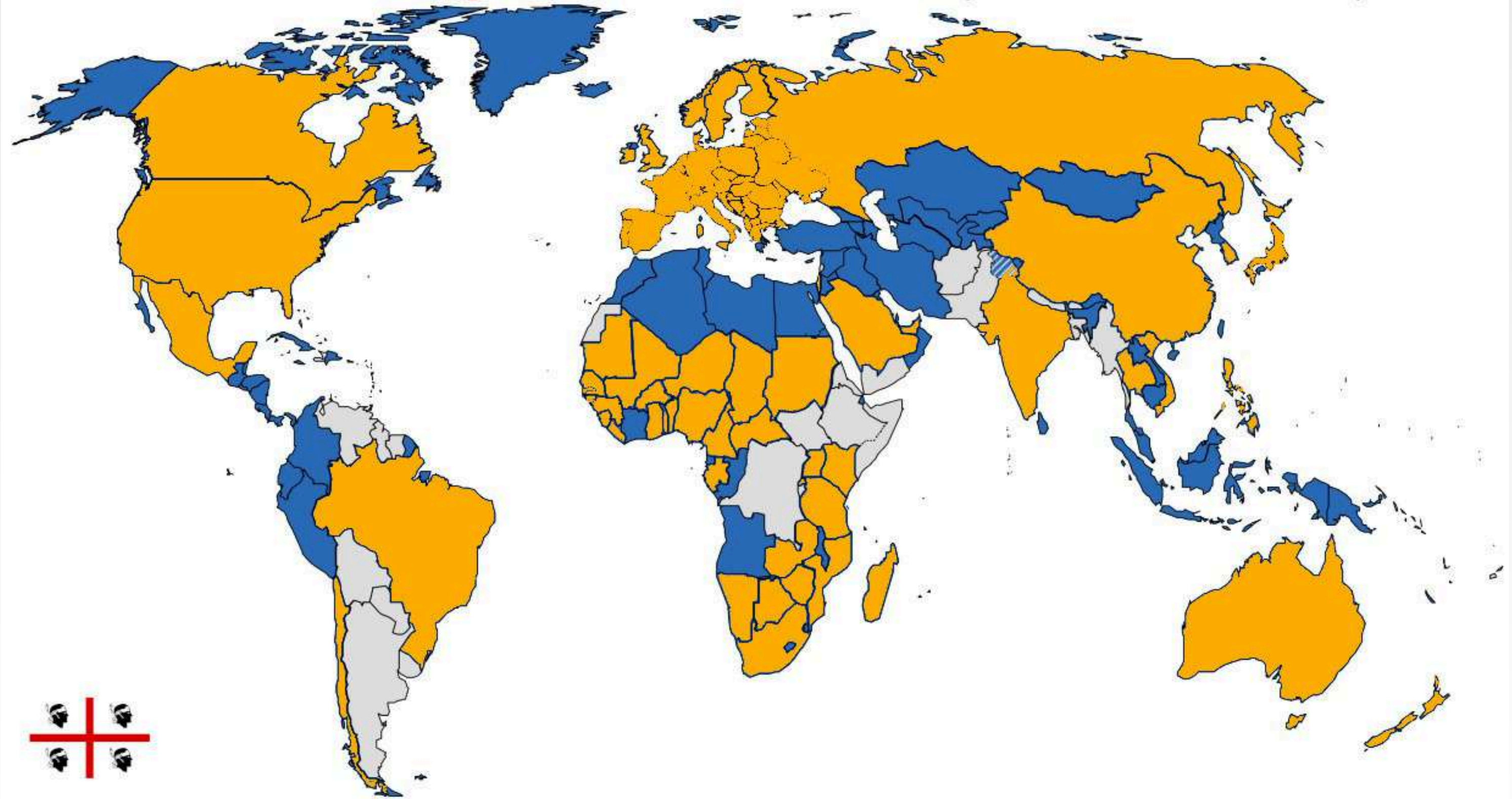
Completion of new shareholder process: December 6, 2023

- *New Investors:* CDP Venture Capital Sgr, private investors from cryogenics and medical diagnostics
- *Outcome:* Capital increase and initiation of industrial investment phase

The **Fondazione ARIA** has granted an exclusive license for commercial purposes of the patent to A Meras Annos Srl, with a contract signed on October 12, 2021, and registered on May 13, 2022, by the Italian Patent and Trademark Office, following application No. 602022000001982.



PCT Contracting States and Two-letter Codes (157 on 1 December 2023)



AMA Project – SERUCI II Investment Program

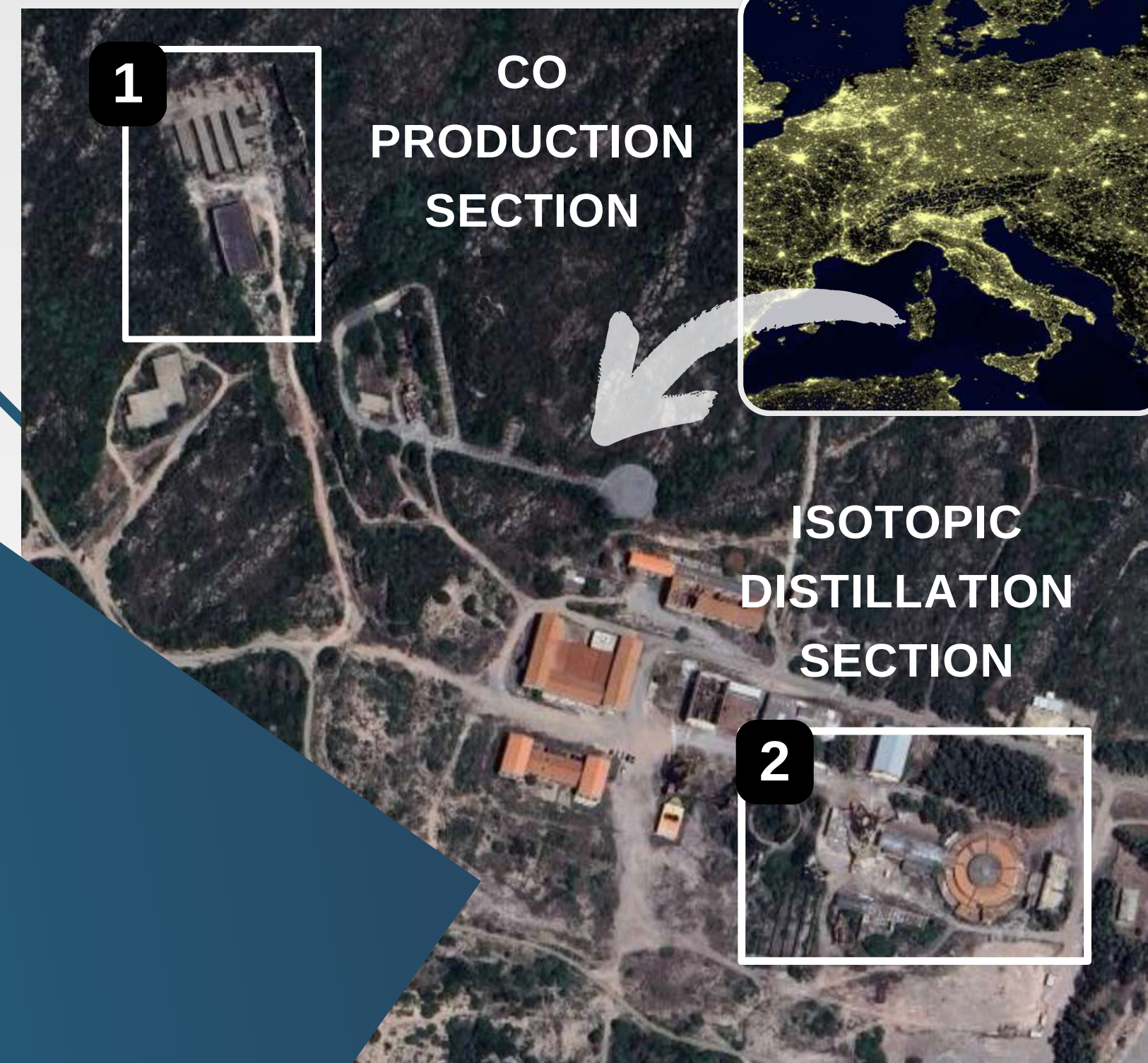
A Meras Annos has submitted a request to the Sardinia Region and the Municipality of Gonnese for the authorization to utilize the site

Area 1:

Construction of a carbon monoxide pre-purification plant in the Seruci area, with a dedicated pipeline (500m) to deliver CO to the cryogenic distillation unit. The project also includes onsite storage systems for raw materials and final products (CO light mix - ^{13}CO).

Area 2:

Development of a new cryogenic distillation plant at the Seruci site for the production of ^{13}C isotopes, integrating existing facilities and adding new surface and underground equipment. The plant will also allow pilot production of ^{15}N isotopes from N_2 .



ITALY

**Sardinia - Sulcis:
former Seruci Mine**

Market challenges



1

Rising demand

Stable isotopes are used in critical sectors such as medicine (e.g., diagnostics and therapies), scientific research, and industry (for monitoring chemical and environmental processes).

2

Complex and costly production

Stable isotopes are mainly produced through isotopic separation processes, which require advanced technology and specialized infrastructure. This makes production slow, expensive, and limited to a few global suppliers.

PRODUCTION OF STABLE ISOTOPES THROUGH CRYOGENIC DISTILLATION

There are several techniques to produce isotopes, like diffusion, centrifugation but the best one is the **cryogenic distillation** because **has several advantages:**

- *high products purity (>99%),*
- *efficiency,*
- *scalability, etc.*

Chemical properties of isotopes are essentially identical. The difference in vapor tension is due to quantum effects and is truly minimal. This implies very high columns with thousands of equilibrium stages.

High initial cost

Most plants for isotope production consist of tens of columns, each with a height between 10 and 20 meters, which are operated in series

Infrastructure

Installation of cryogenic distillation system in one of the coal mine shafts in south-west Sardinia

Thermal power

Our technology allows to produce high-purity isotopes starting from their natural abundance of 0.1-1.0% with the best energy performance ever achieved, employing columns over 300 meters high, adaptable for the distillation of different chemical species.

Heat recycling

In each column, heat is added at the bottom and removed at the top. Heat recycling is implemented, where over 90% of the cooling energy needed at the top is recovered through a thermal exchange fluid that returns the exhaust heat from the bottom of the column.



Innovative Proposals

Credits: pictures made by Carbosulcis S.p.A.

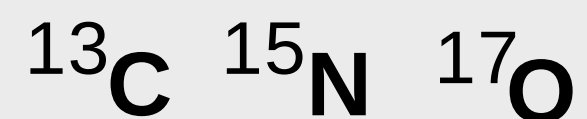


-Q

+Q

Market Size

Commercial isotopes



Medical diagnostics and tracers

Advanced nuclear fuels

Magnetic resonance



Positron Emission Tomography

~ 1B€ estimate market size

**EXPECTED TO GROW SIGNIFICANTLY
OVER THE NEXT DECADE**

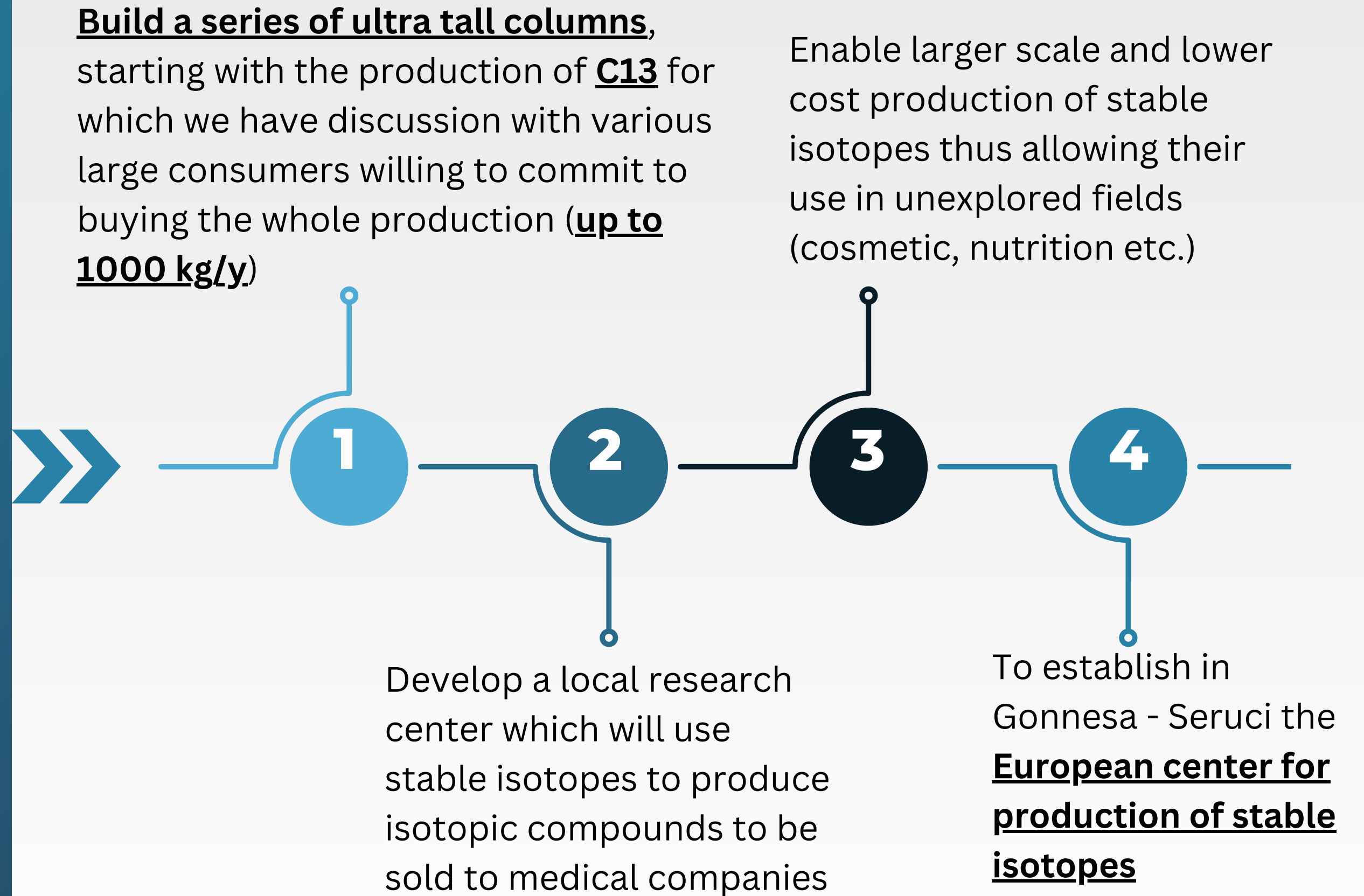


Major industry players in the specialty gases sector are interested in sourcing isotopes from the Seruci site.

With the planned investment program, annual revenues in the tens of millions of euros are achievable.

There is also potential for collaboration with pharmaceutical companies, with the long-term goal of vertically integrating pharmaceutical production from isotopes at Seruci, contributing to the development of Italy's non-radioactive isotope cluster.

A Meras Annos GOALS



Conclusion

Our technology for the separation of stable isotopes utilizes cryogenic distillation, employing columns over 300 meters tall, adaptable for the distillation of different chemical species. This allows us to produce high-purity isotopes in large quantities compared to other existing technologies.

We hope that collaboration with you will enable us to **explore further applications for byproducts** (light isotopes) and the establishment of local **pharmaceutical laboratories** that utilize our products.

Further investments in capital would enable an **increase** in **production capacity**, which, by **diversifying products**, would expand the market.

*We invite you to explore this promising initiative with us.
Together, we can seize the significant opportunities in the isotope market and drive growth for both our company and our partners.*



Our Team



Antonio Martini
CEO & legal
representative



Cristiano Galbiati
Founder



Francesco Sanna
Chairman of the
Board of Directors



Arianna Steri
Chem. Eng. Consultant

Thank You for Your Attention

Contact Us for More Information



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