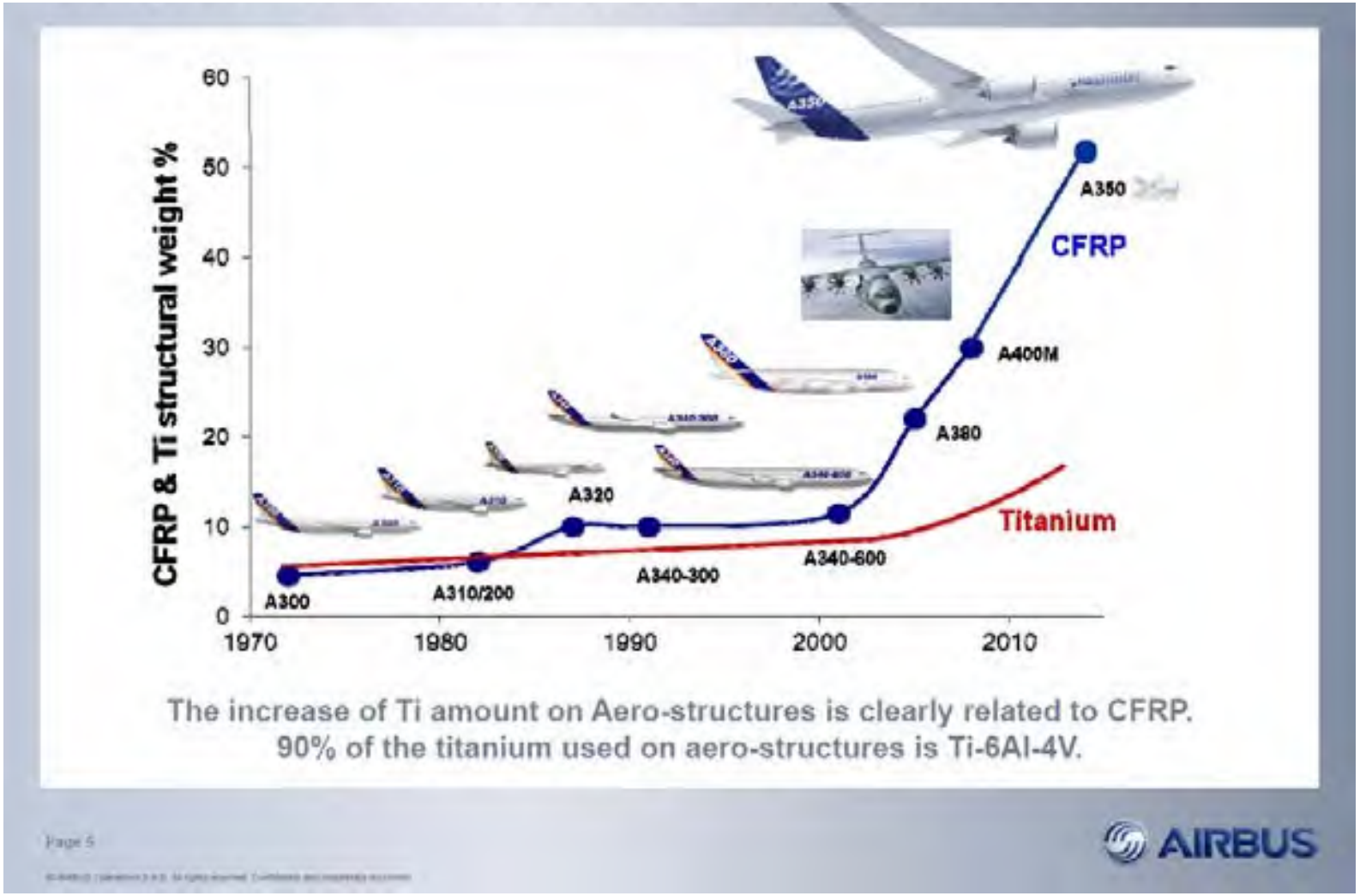
HVR thanks to dedicated sorting and recycling long lifetime products : example of the EcoTitanium project

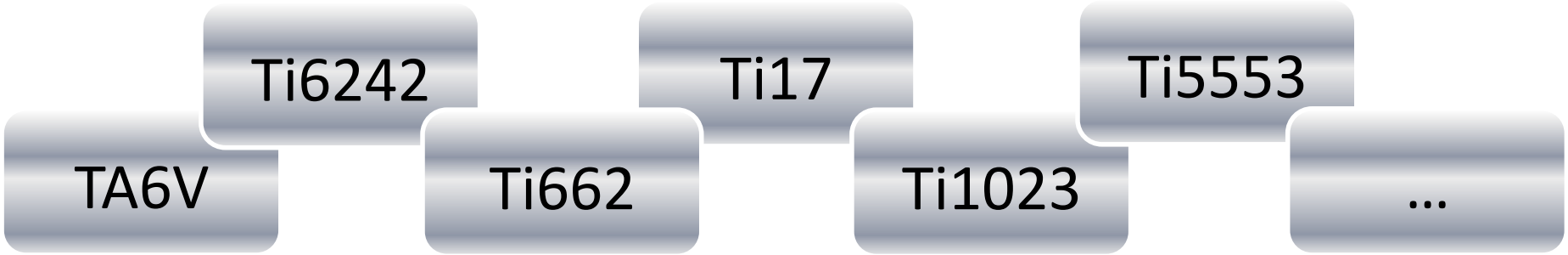
Speaker : Denis HUGELMANN

Titanium increasing use over time



Titanium used in Aeronautics

There are many Titanium grades used in aeronautics



The titanium alloy most used in the aeronautics industry is the TA6V.
Engine parts and landing gear parts are realized with specific titanium alloys :
- Ti17 and Ti 6.2.4.2 for engine parts.
- Ti 10.2.3 and 5.5.5.3 for landing gear parts.

Lightweighting induces significant volume of scrap

Titanium closed die parts generate huge volume of scrap

Billet 200kg

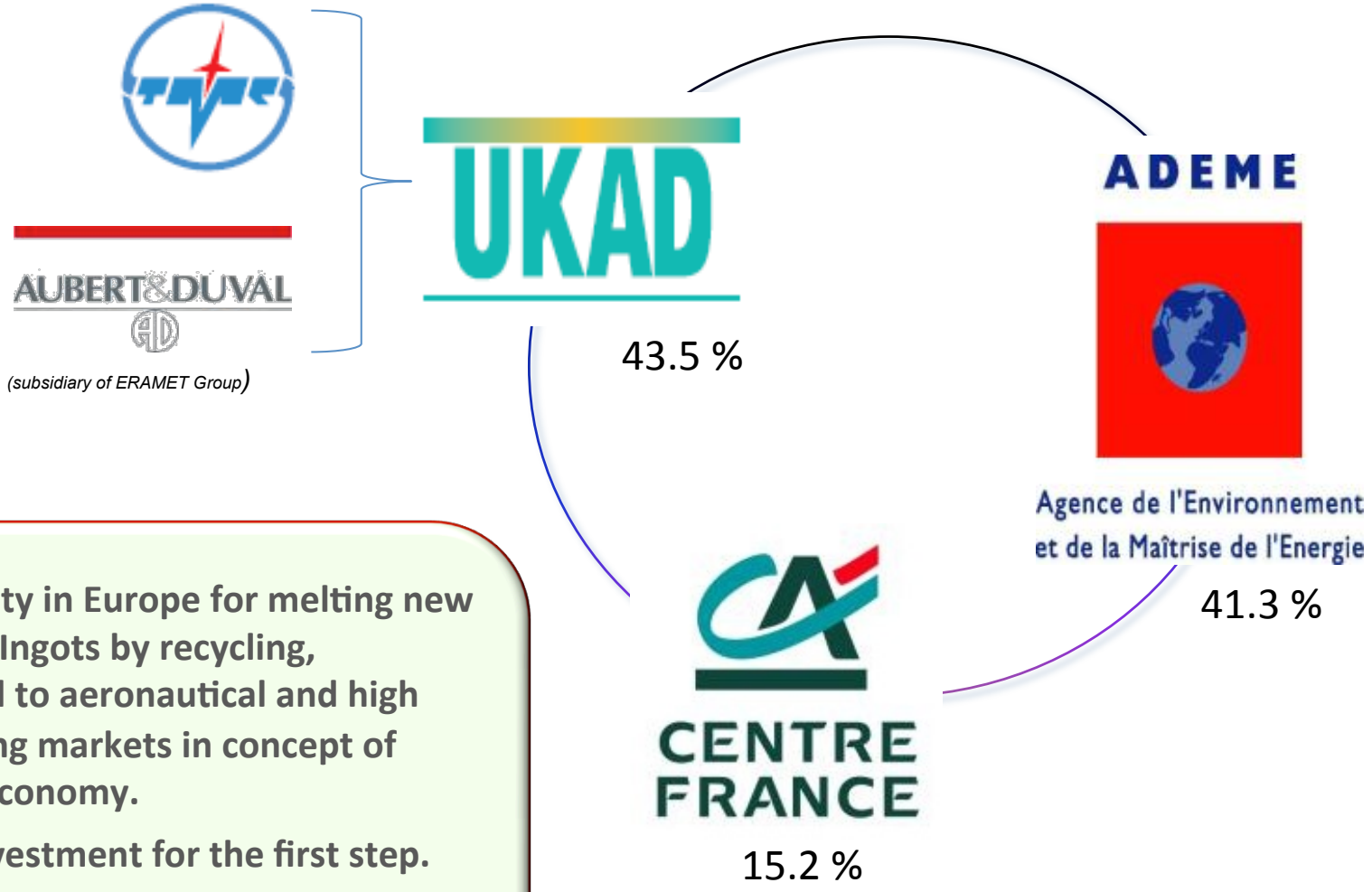
Closed Die Part 150kg

Finished Part 20kg

Ratio Buy to Fly : ~ 10

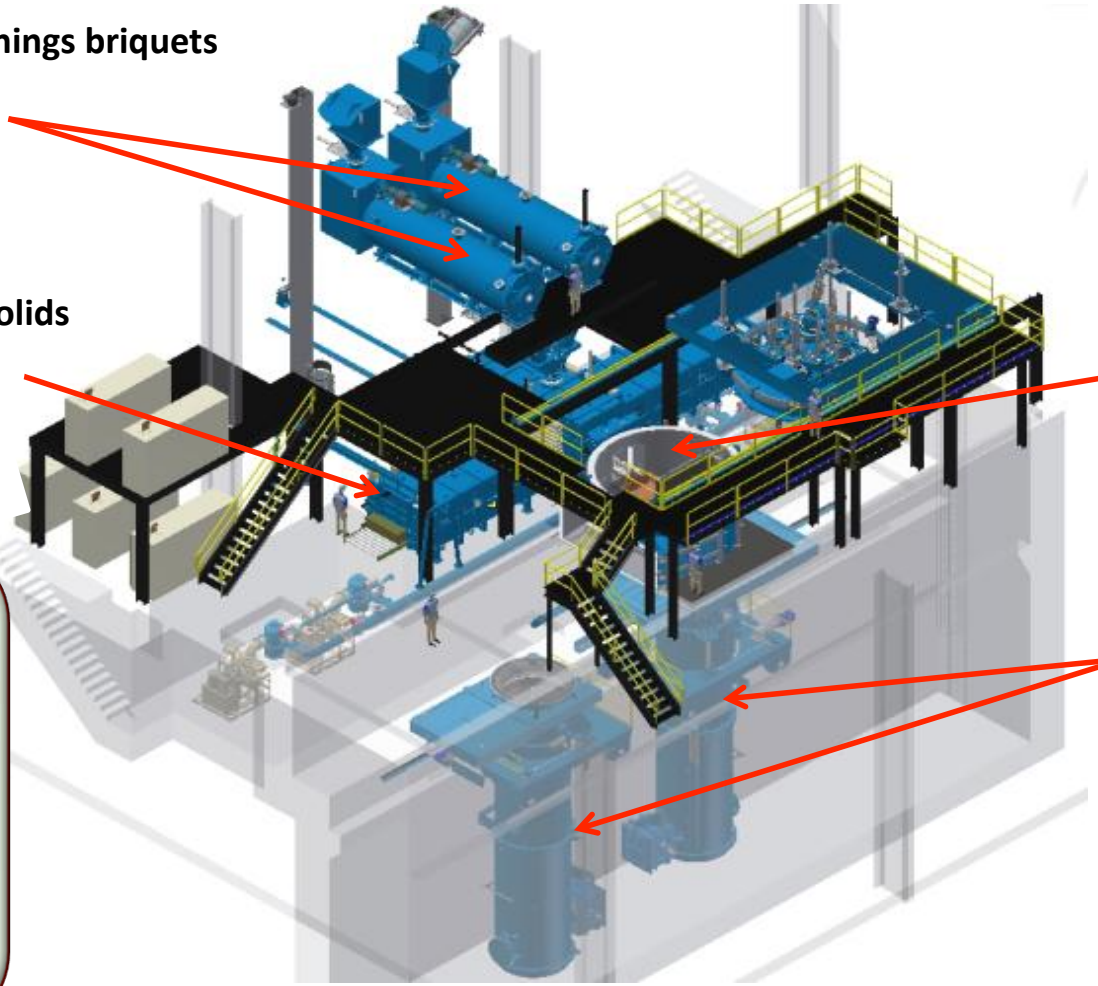
Until now, the scraps were either sold without appropriate sorting (→ **loss of value**) or recycled very far from the place where they have been produced (→ **important carbon footprint**)

Committed shareholders in EcoTitanium



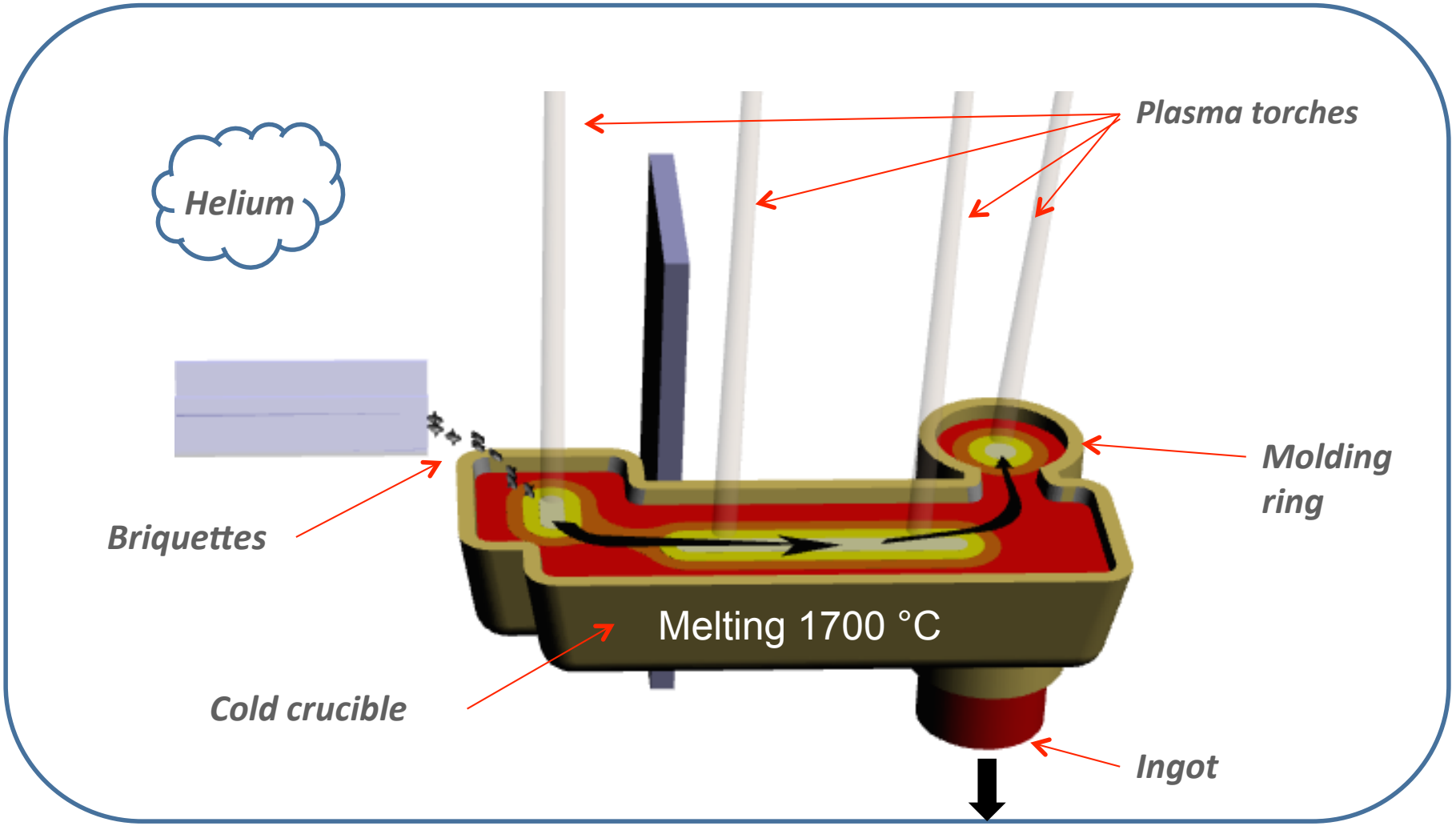
- First facility in Europe for melting new Titanium Ingots by recycling, dedicated to aeronautical and high demanding markets in concept of Circular Economy.
- 49 M€ investment for the first step.
- 63 direct employees
- 7 000 m² located in St Georges de Mons (Auvergne)

Counting on the most adapted advanced technologies



- Plasma melting followed by VAR remelting in EcoTitanium facility.
- Scrap well sorted and cleaned

Principle of a PAMCHR furnace



2022
Full maturity (4 000 t)

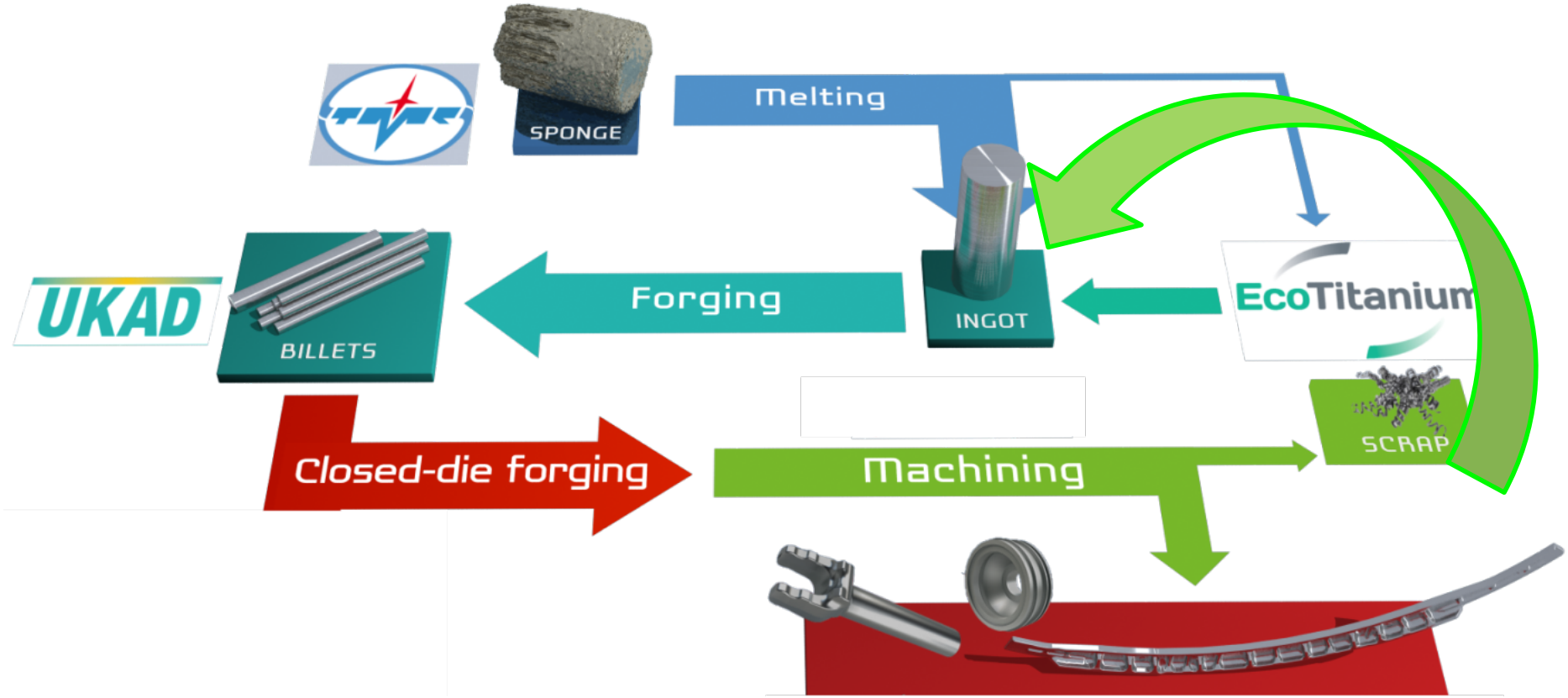
2017
First deliveries with Ingots according AMS 4928: November

2015
Construction of the new plant next to UKAD

2010
Strategic study and project structuring

EcoTitanium planning

Ecotitanium complies with a logic of circular economy which allows us to offer integrated solutions to our customers (Vertical Integration)



Use of virgin material for a 100 t finished part :
1 000 t >>> ~420 t thanks to recycling