

CENTROAL

Centro Italiano Alluminio



“Centro AI and the italian aluminium industry”

24 June 2021

The numbers and the trends of global uses



Aluminium for Future Generations®

Danilo Amigoni

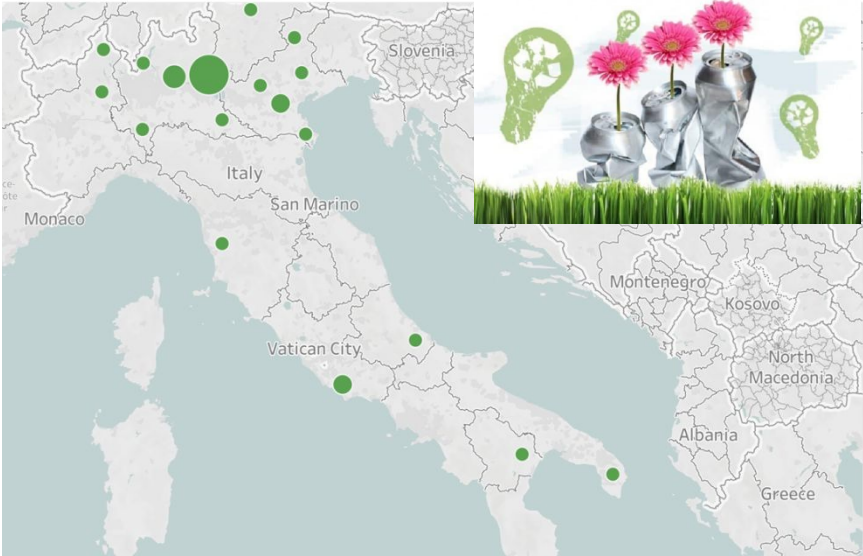
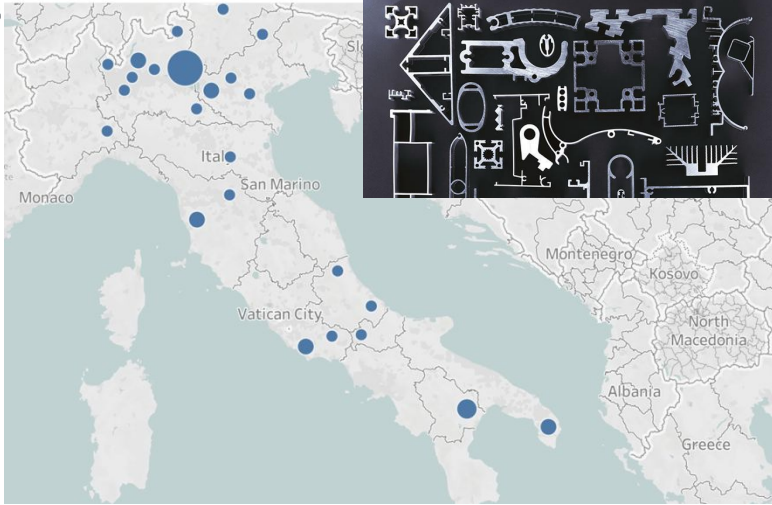
President of CENTROAL

Consistency	
Direct workers	15.600
Enterprises	≈ 500
Turnover 2020	9,2 Bn €

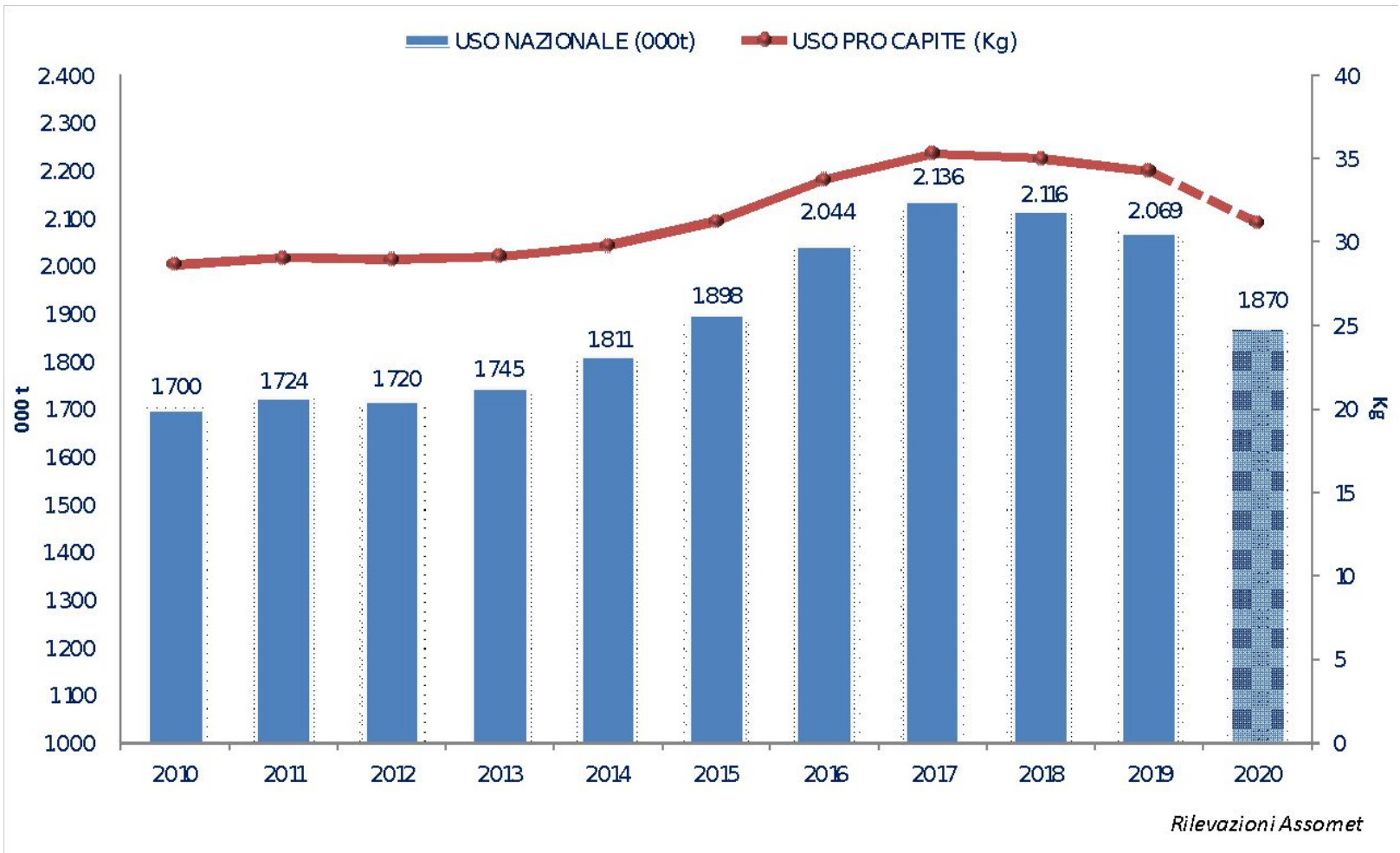
Italian aluminium industry

PLANTS	PRODUCTIONS	PROD 2019 (KT)	PROD 2020 (KT)
25	Billets e plates	749.3	782.9
13	Foundry alloys	697.7	570.3
11	Laminates	609.1	583.1
43	Extruded	597.0	566.3
≈ 400	Casting	681.5	530.3
2	Wires and ropes	25.6	27.5

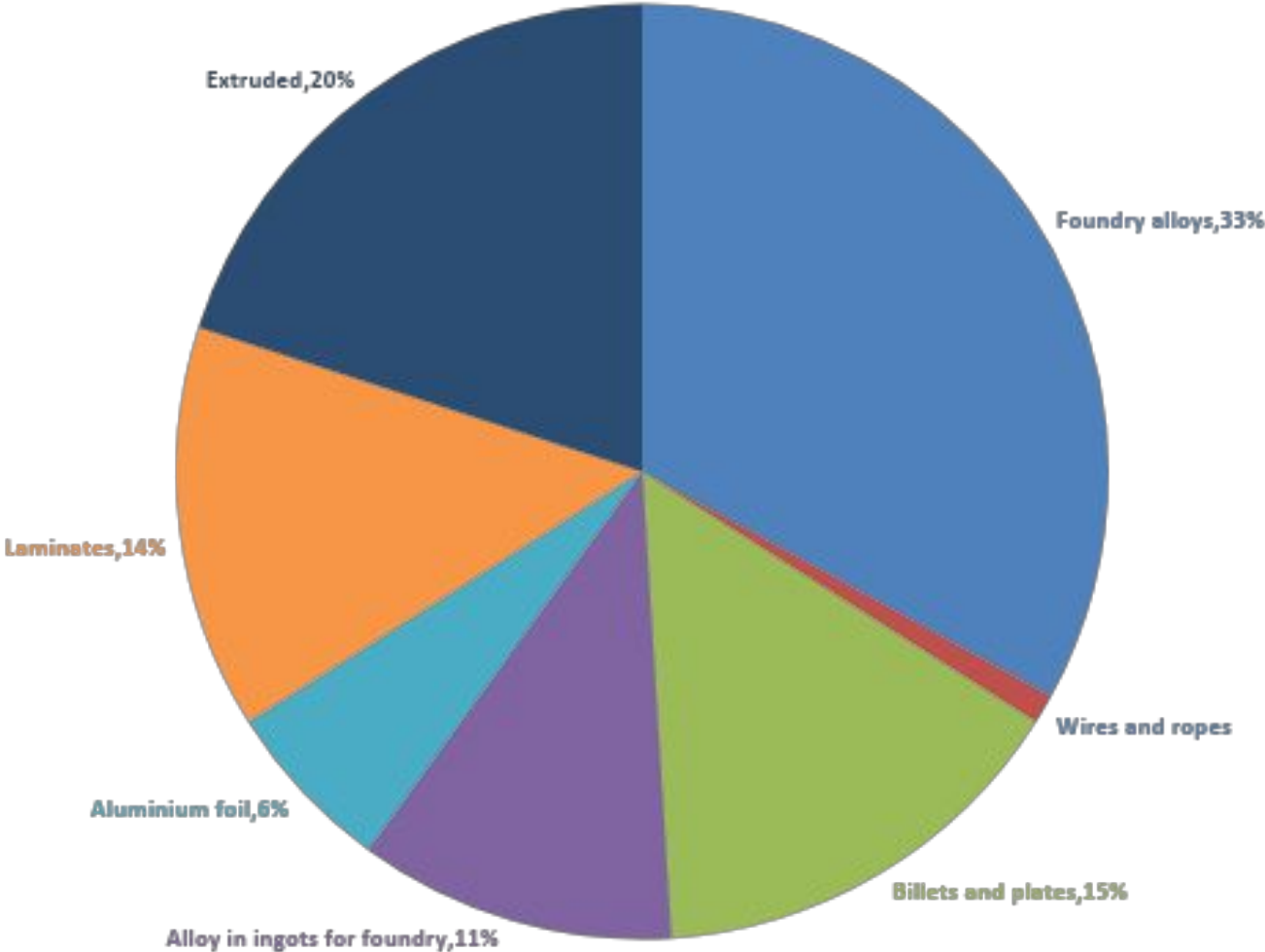
Mapping italian aluminium industry



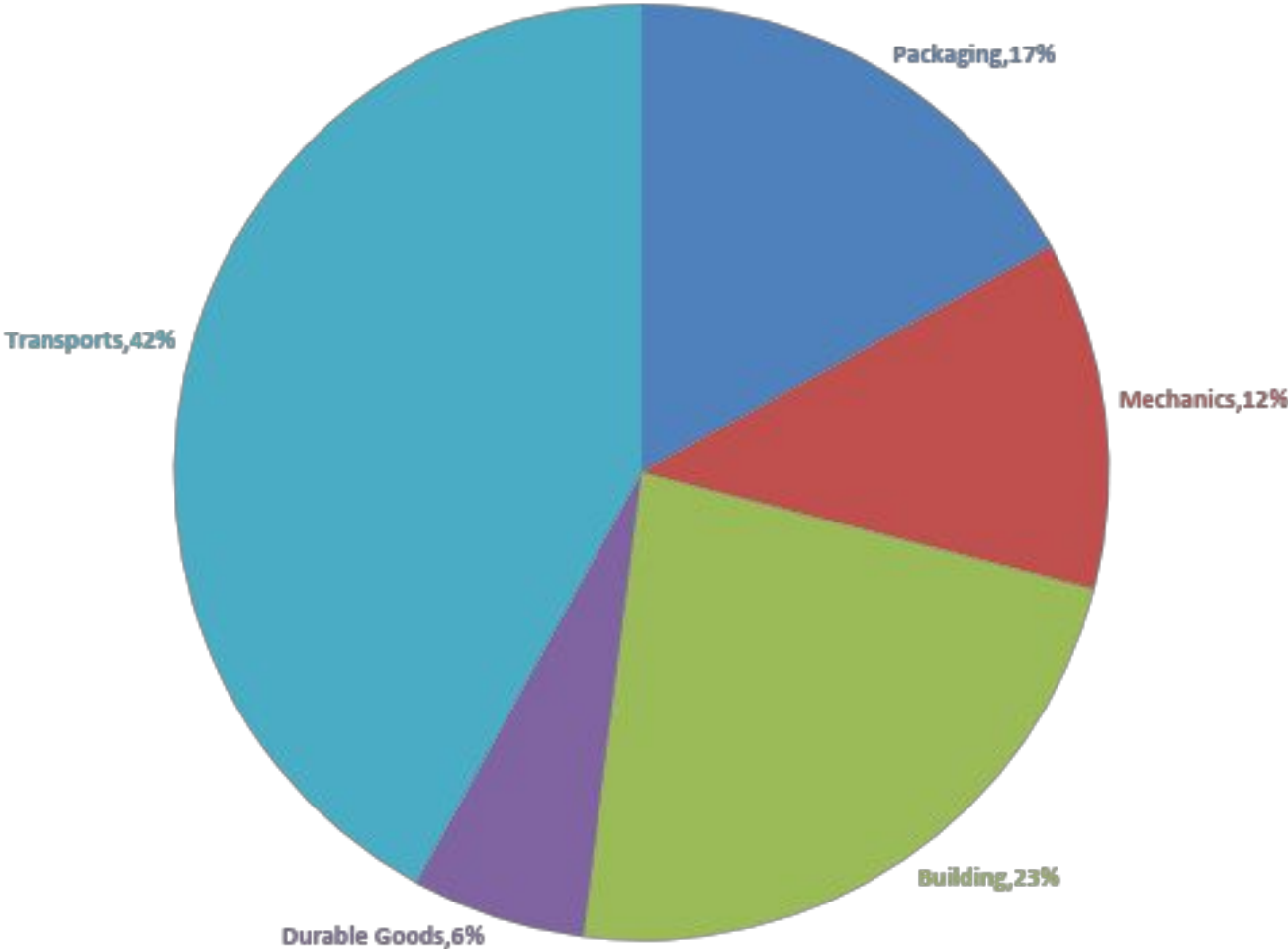
Per capita use of aluminium in Italy



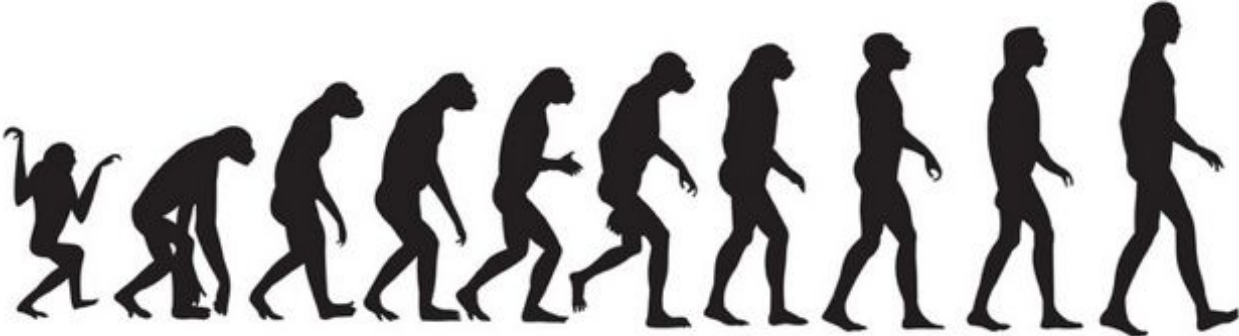
Turnover splitted for sector



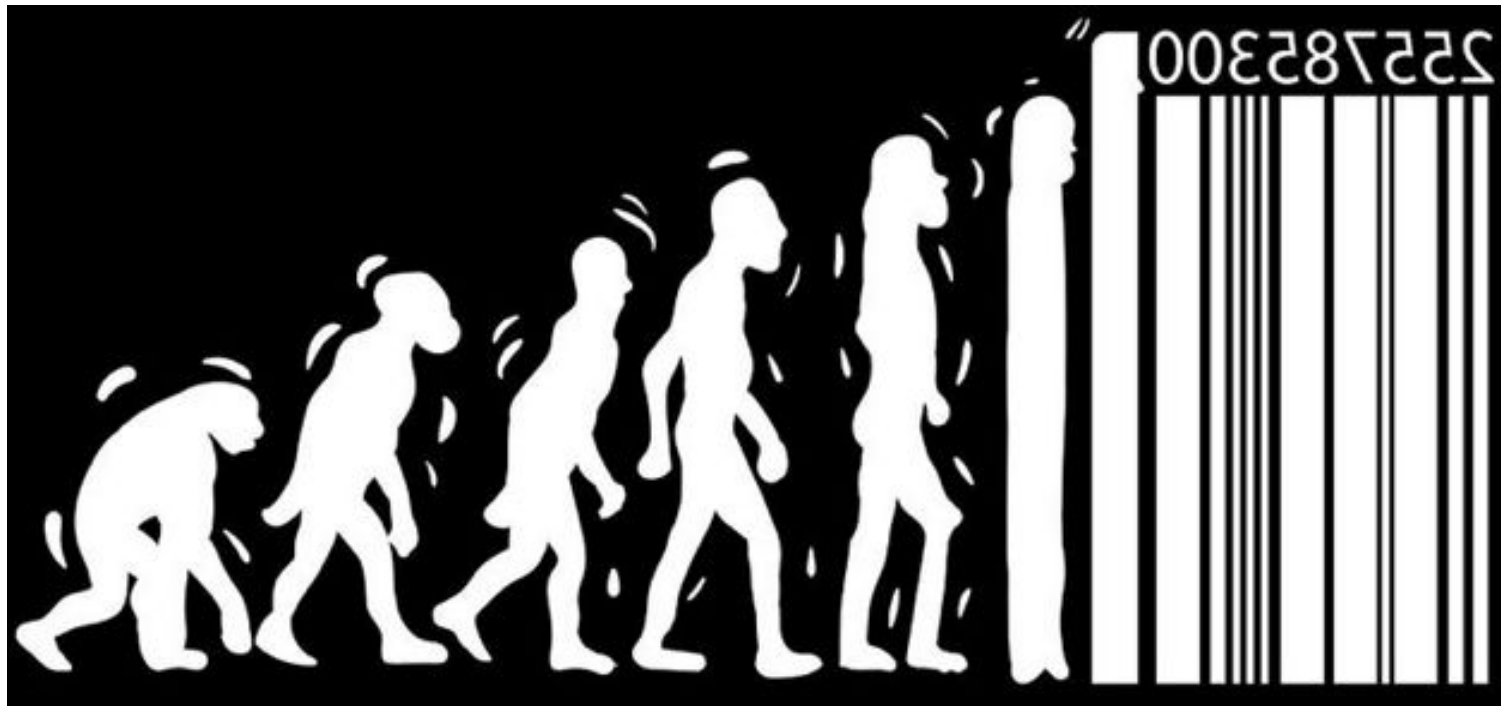
Final use of aluminium



Evolution uses aluminium

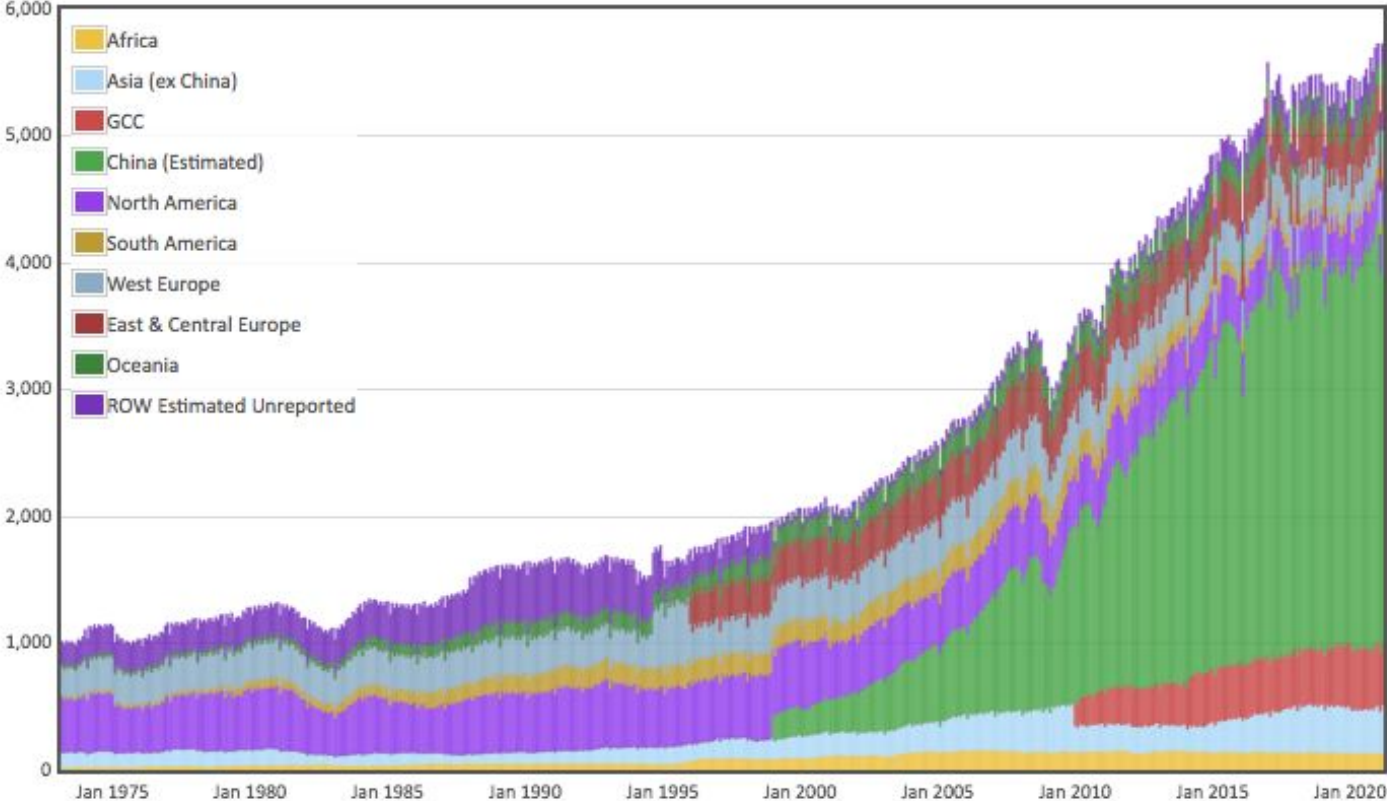


Consumption evolution of society



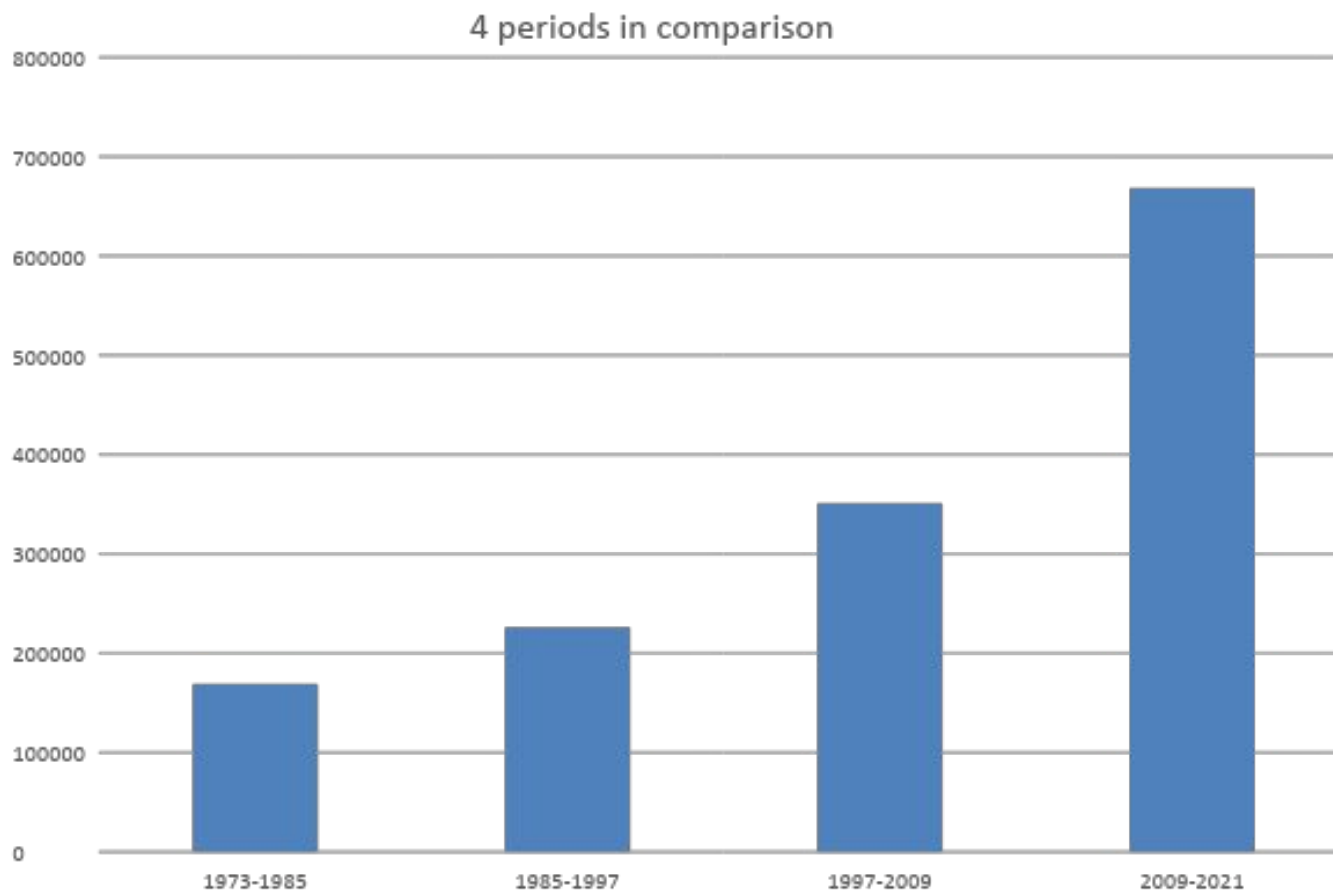
Evolution of the production of primary aluminium WW

Total for Mar 1973 to Mar 2021: 1,407,367 thousand metric tonnes of aluminium



Evolution of the production of primary aluminium

In thousands of TONS



Recycable over and over again



Without losing chemical-physical characteristics

Positive effects derive from the recycling of aluminium for environment,

for society and for the economy:

- The circular economy is realized
- Important energy saving are generated
- Important supply chains are developed

Aluminium is an energy bank

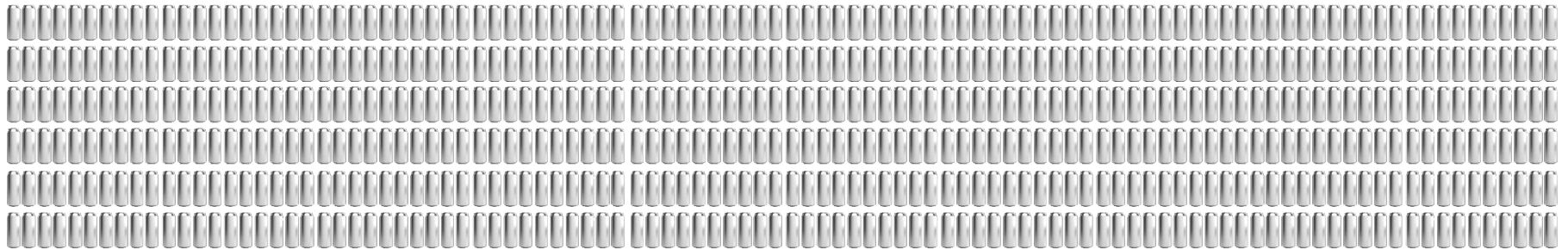


95% of saving in the production of aluminium from secondary compared to the primary, with respective saving of CO2 emissions.

Aluminium is the king of the recycled metals



From the recycling of 600 cans you get a bicycle



Per capita use of aluminium evolution WW

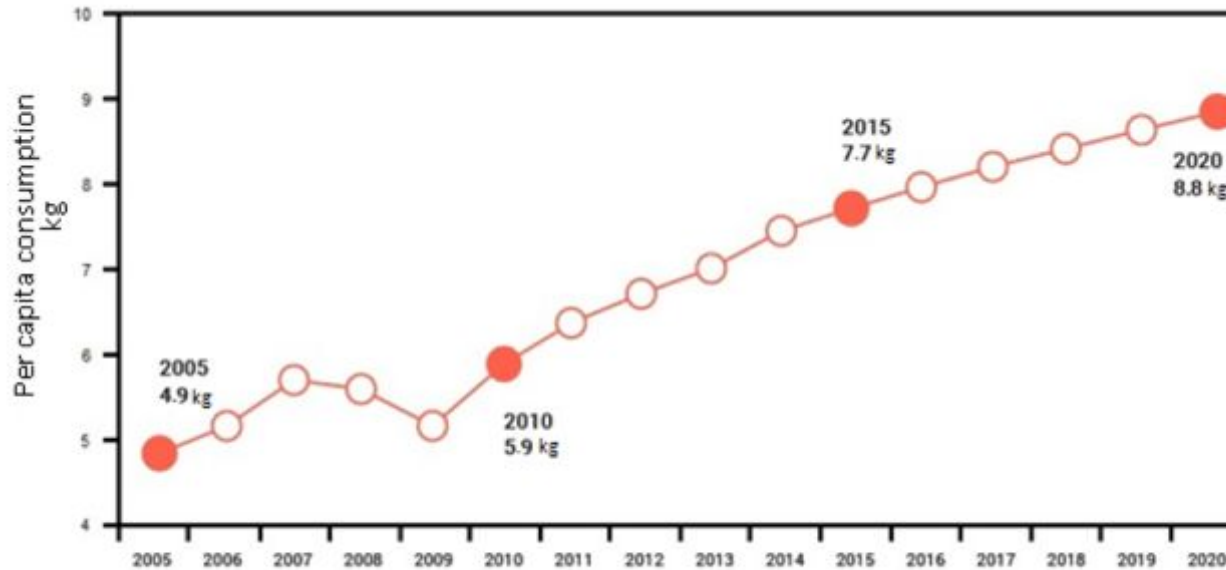
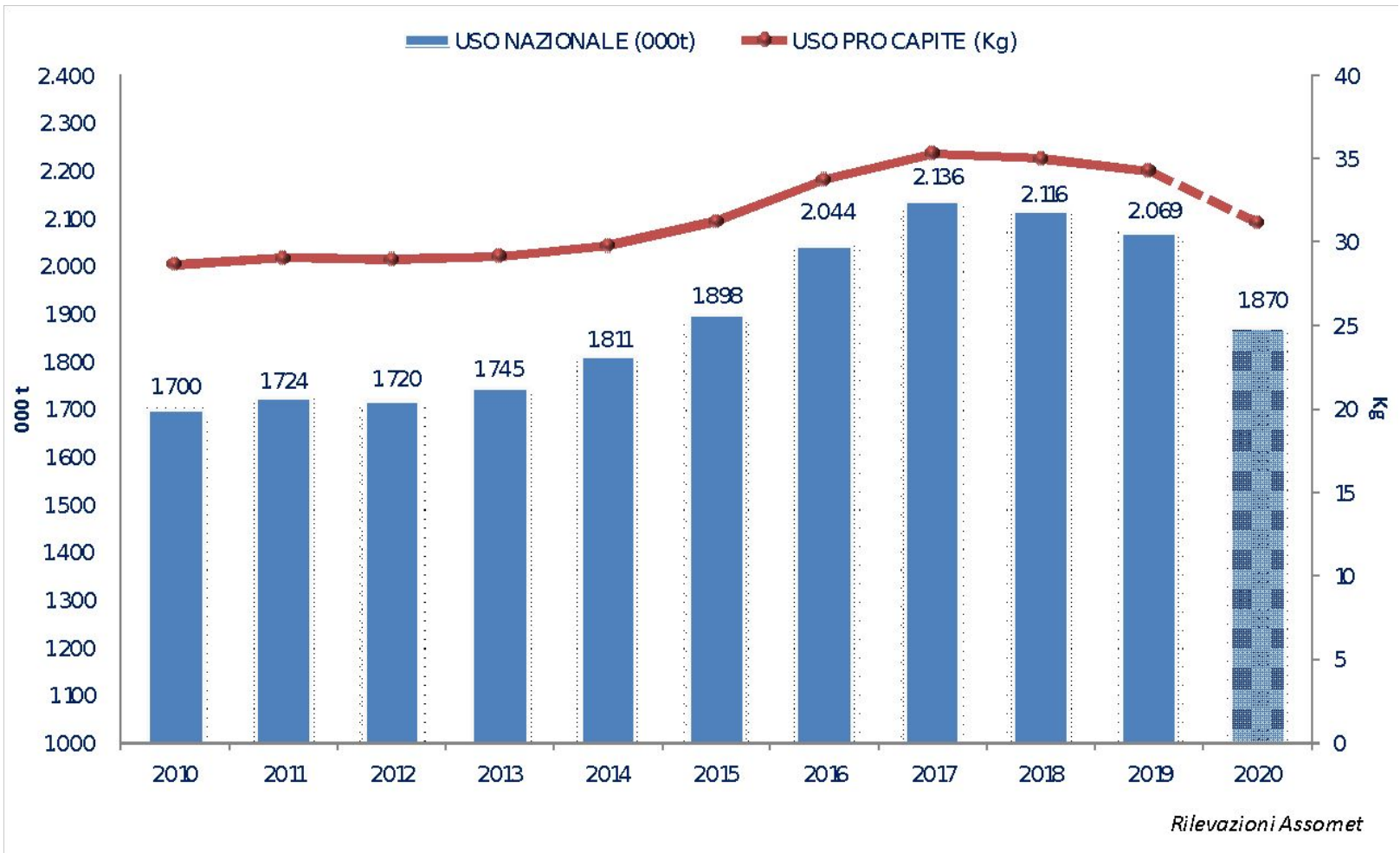


Figure 5. The graph of the change in the world average per capita consumption of aluminium.

The increase of the use of aluminium drive the development of the emerging economies towards more sustainable and responsible models. This can help to enlarge its industry crossing national borders the most advanced countries with knowledge in aluminium.

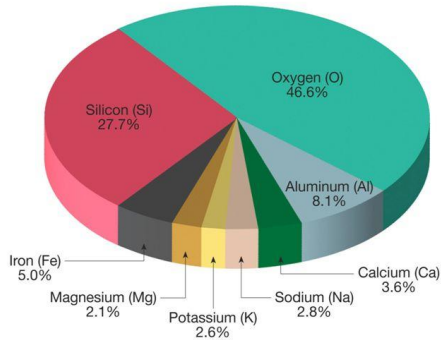
Per capita use of aluminium in Italy



The strategic role of AL on consumption (and emissions)



Which Elements Make up the Earth's crust? the top 8



- #1 Oxygen
- #2 Silicon
- #3 Aluminum
- #4 Iron
- #5 Calcium
- #6 Sodium
- #7 Potassium
- #8 Magnesium

Third element present in nature (2° in solid state)
Primary extraction sites are recovered 100% in a short time

Del Park 1980



Del Park 2001



Del Park 2017



The intensive use of aluminium is fundamental in the decarbonization process



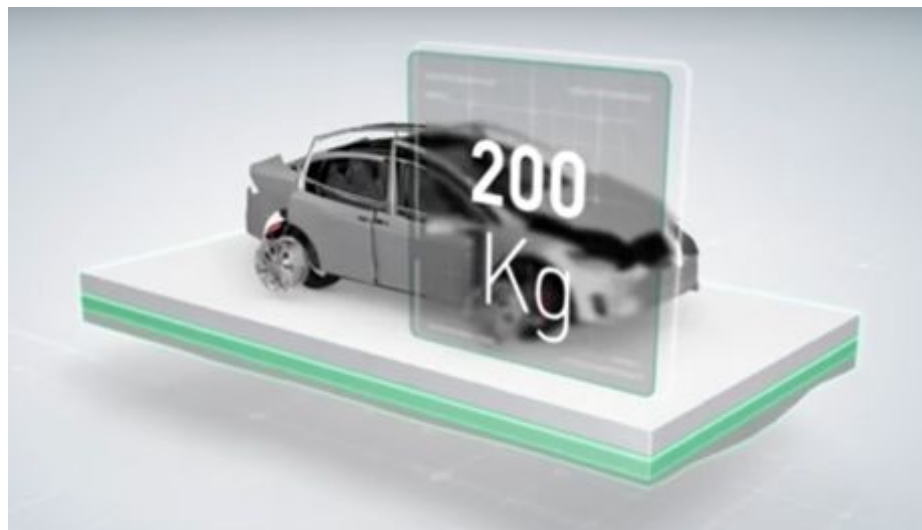
Evolution of the uses of AL for automotive



«*Battery Case*» for battery pack isolation from accidental spills and dissipate the heat



Evolution of consumption of AL in car's weight



+20 Kg

In 5 years is estimated an increase of presence of aluminium of 20 kg for each car

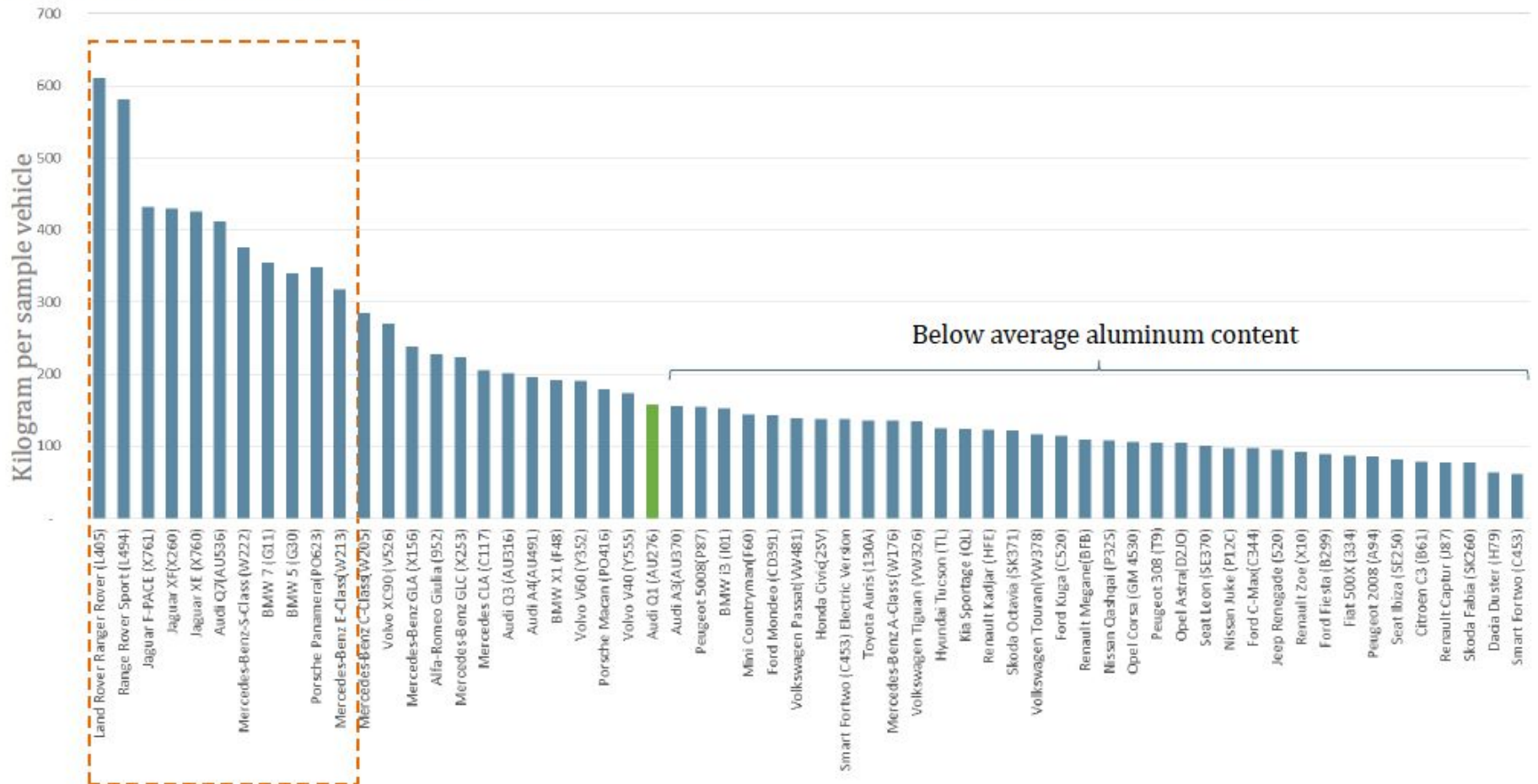
Average Aluminum Content

Average aluminum content per vehicle ranges from 62 kg for the Smart Fortwo, up to 610 kg for the Range Rover Sport.

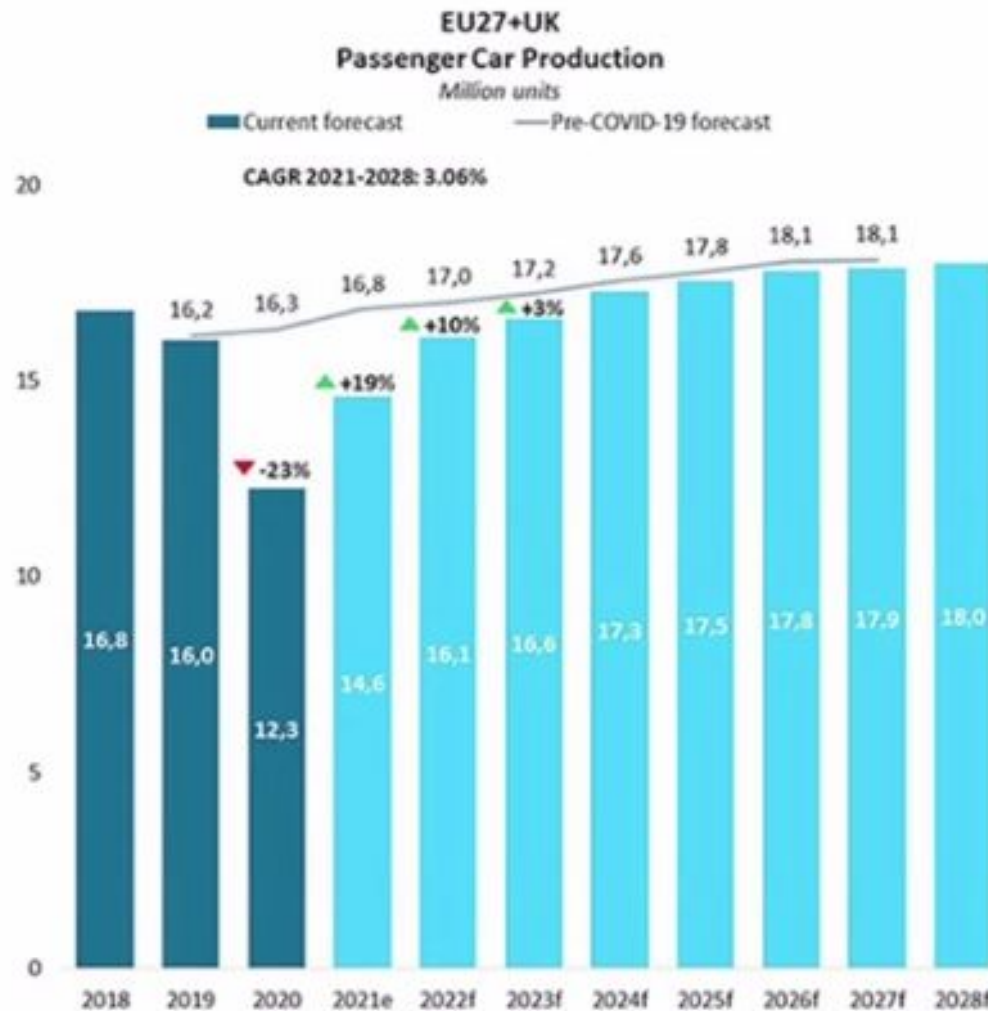
2016 Average aluminum content by vehicle

- In sample -

Aluminum intense vehicles
(>300 kg aluminum, average 412 kg)

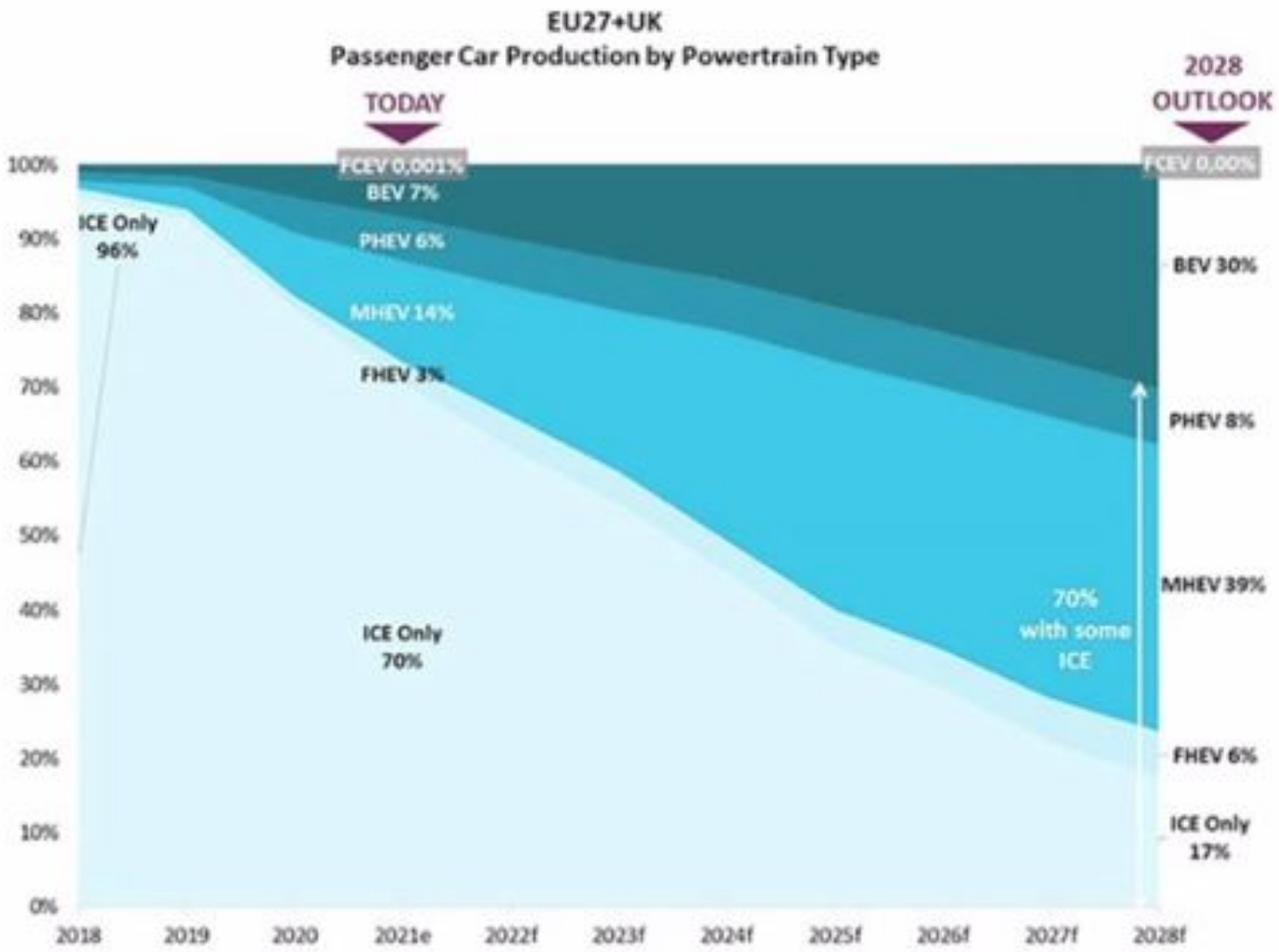


Evolution of the car fleets in Europe



Source: Ducker, LMC Automotive Q1-2021 (PV), LMC Automotive Jan 2020 (Pre-COVID)

Change in the type of power supply in car production

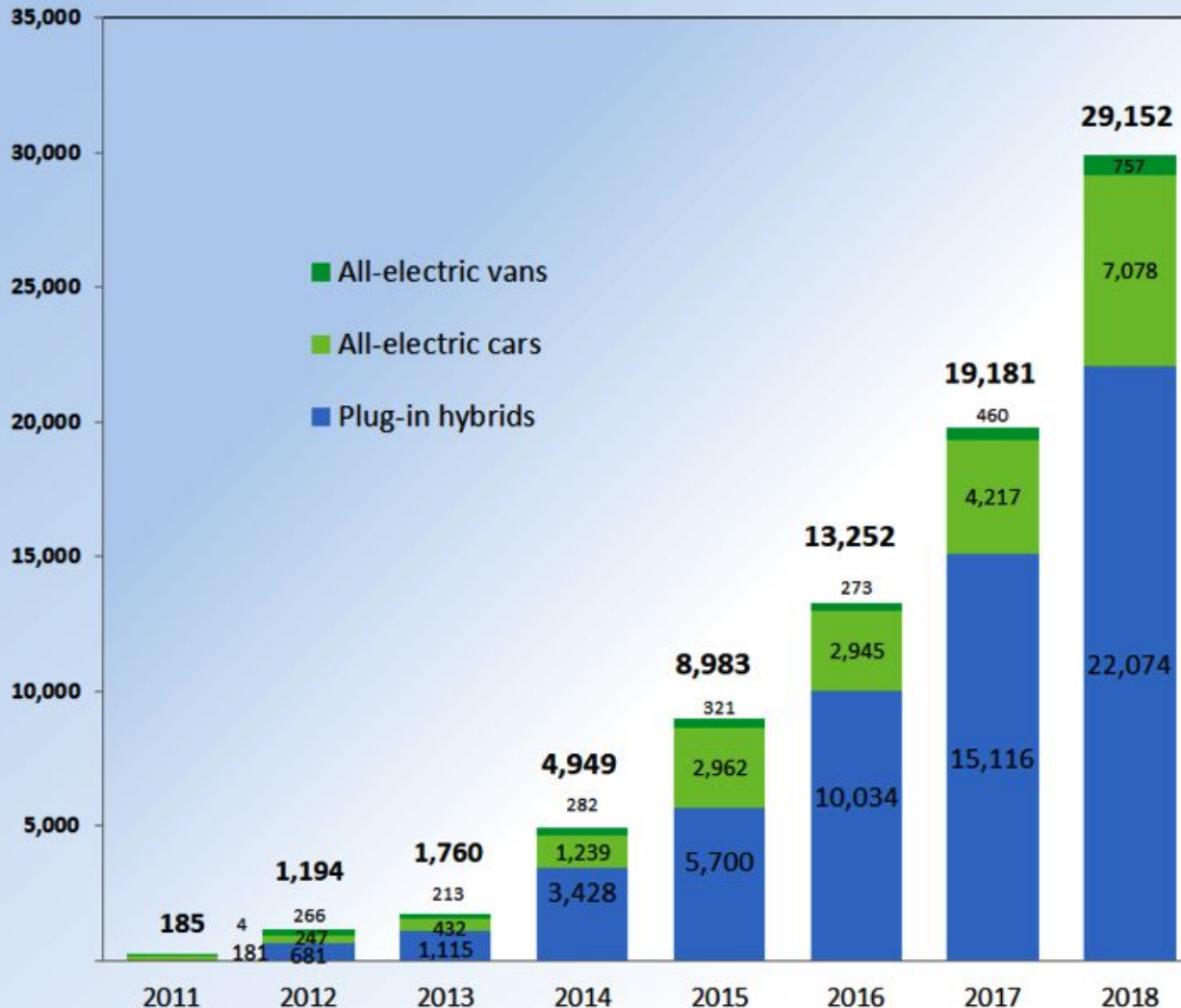


Source: Ducker, LMC Automotive Q1-2021 (PV)

EREV share keeps below 0.1% by 2028

Increase in electric/hybrid powered cars

Registrations of plug-in electric vehicles in Sweden by year (2011 -2018)



<https://www.qualenergia.it/articoli/in-svezia-stop-all-a-circolazione-delle-auto-diesel-e-benzina-entro-il-2030/>

Our vision of the future



Our vision of the present



AL for healthcare



L'AL for optimize delivery (logistic sector)



Premium lines in hardware (and recovery program for recycle from parent company)



Aluminium applications



Pioneer of AL in automotive



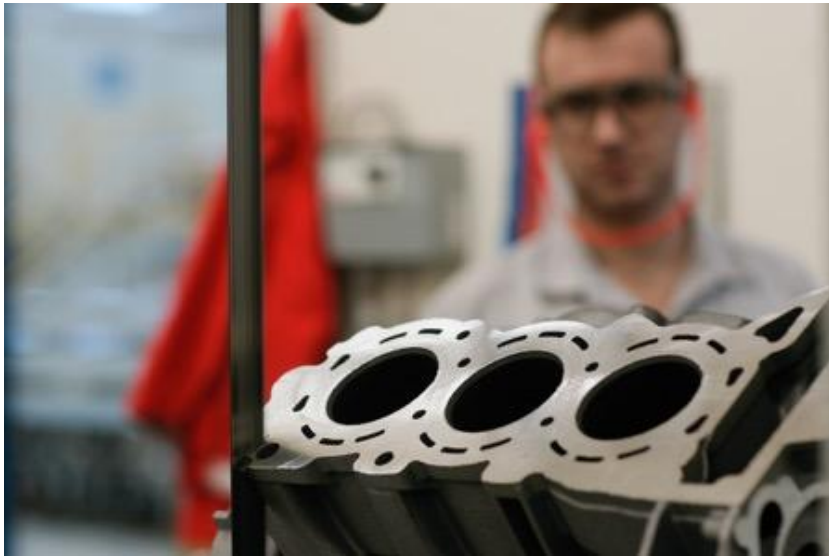
AL for cooking and delivery of food



L'AL in freight transport to zero emission target



Consume responsibly



95% of the AL present in the automotive sector is recycled

Aluminium for personal care and jewelery



Aluminium for travelling and for safe payment (contact less credit card)



AL for outdoor



Aluminium in street furniture



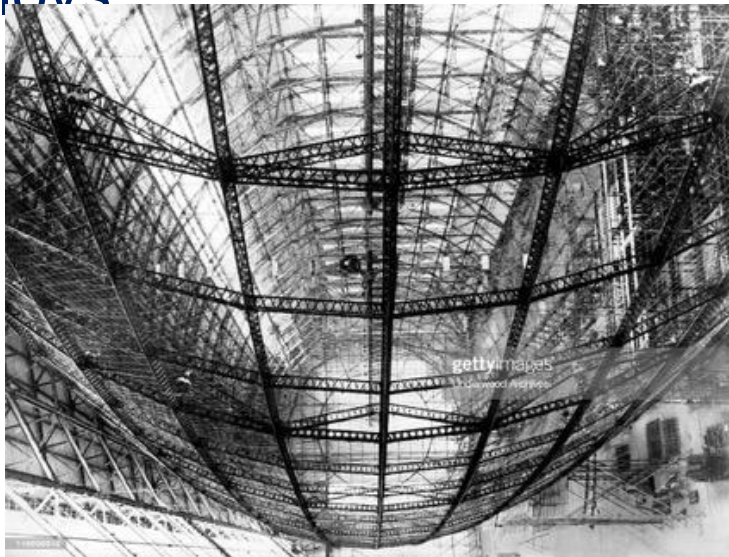
Building is the second sector for aluminium



Different use of aluminium for building



Aerospace technologies in aluminium allows



Also who produces stainless steel pipes loves aluminium



STARCK

Aluminium for the space research on the «ISS» International Space Station



The Bishop Airlock Module is mainly manufactured by Nanoracks, with titanium and aluminum pressurized capsule parts manufactured by the Thales Alenia group at the Turin plant, Italy

AL for space missions on Mars with «Perseverance»



Equilibrium scenarios in nature between aluminium, renewable energy in the mountain huts



Mountain Hut «Gervi» Valle d' Aosta (I)



Mountain Hut «del Goûter» Mont Blanc (F)



Mountain Hut «Hutte» Monte Rosa (CH)



«Kezmarske» Hut between Poland and Slovakia

A choral: «THANK YOU» for the attention from the most used object in aluminium, the beverage cans.



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