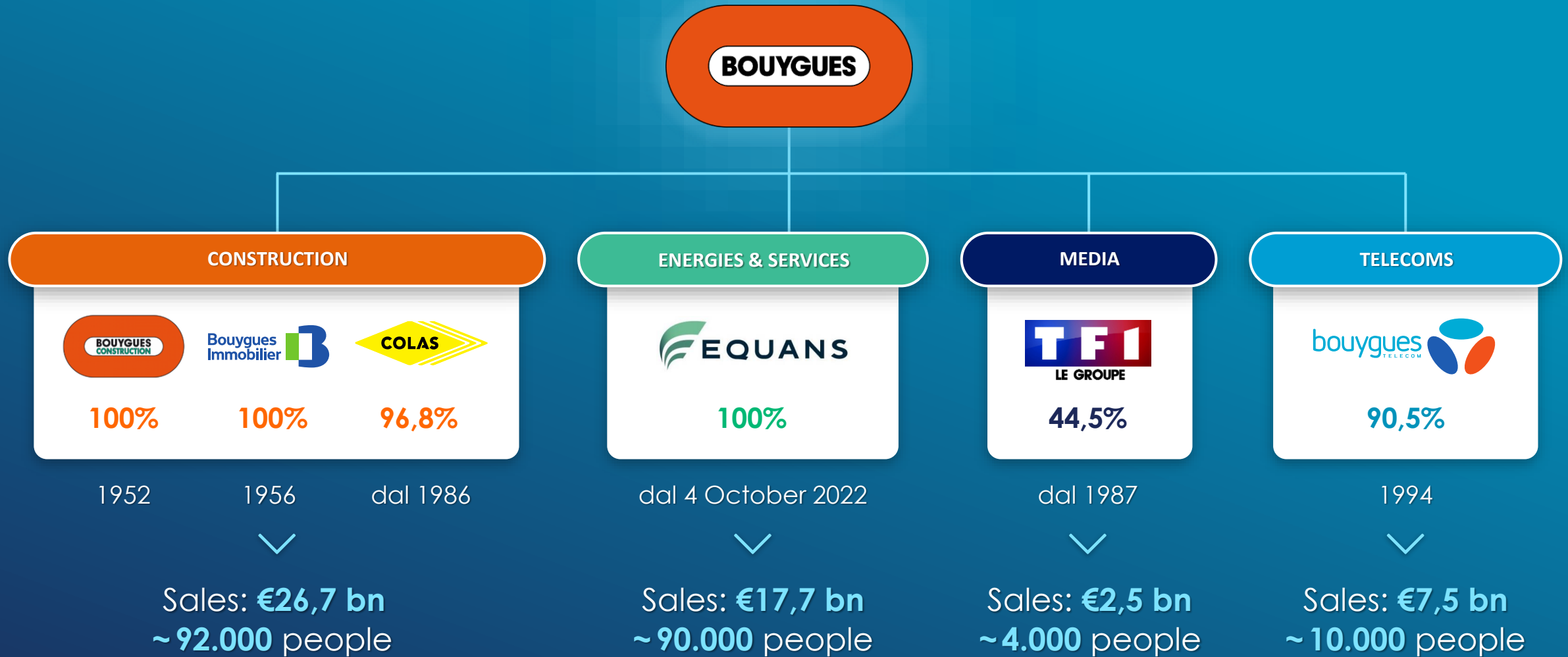


Outlooks on DCs development in Italy



BOUYGUES CORPORATE

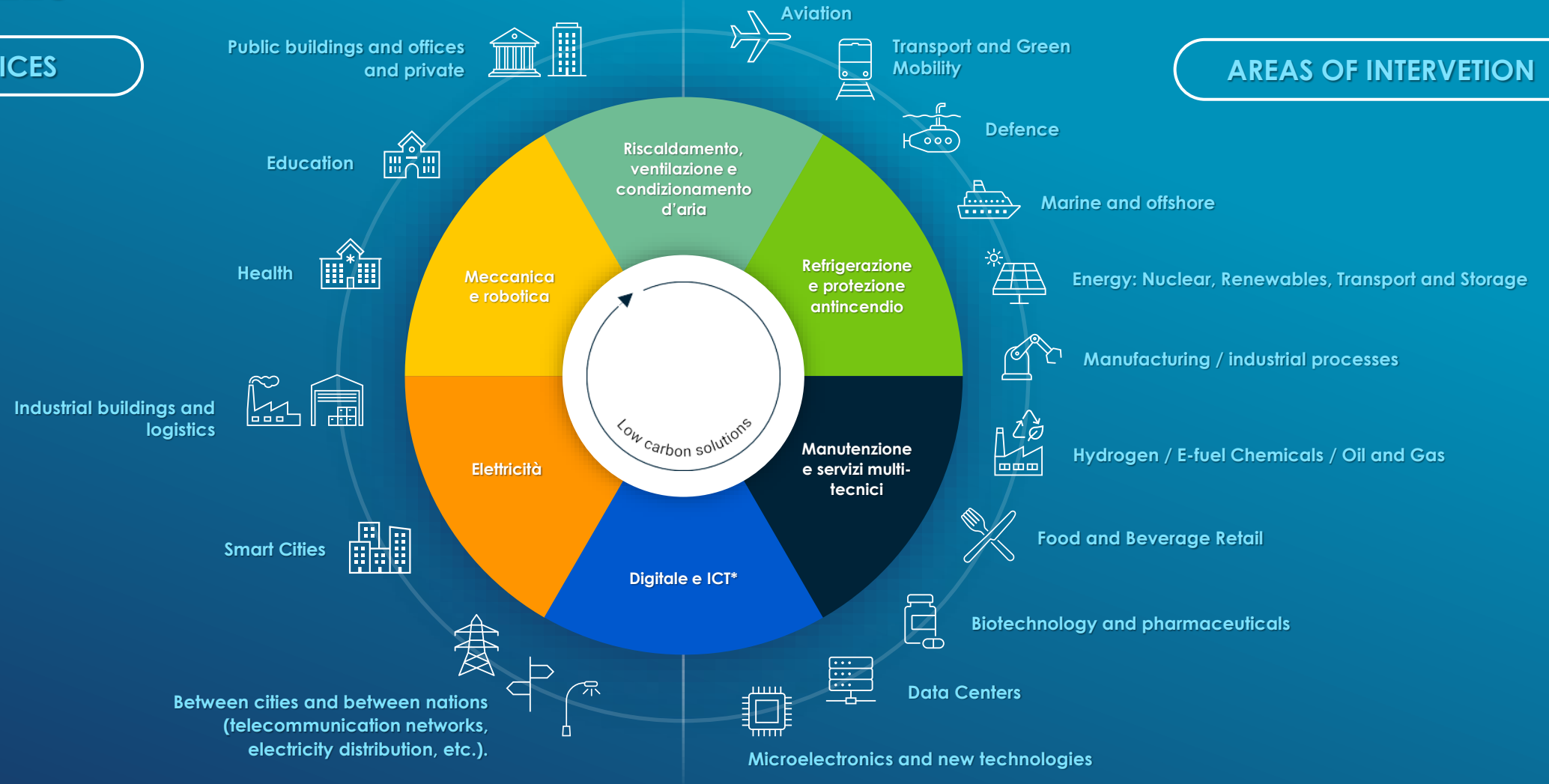
THE BOUYGUES CORPORATE



OUR SKILLS

OUR SERVICES

AREAS OF INTERVENTION



EFFICIENT SOLUTIONS AT ALL STAGES OF THE ENERGY CHAIN:
from production to storage, transport and use.

THE ITALIAN MARKET

The Data Centre Market in Italy is a booming market. In the last five years, the commercial data centre market has tripled. In 2023 the installed IT power was 262 MW.

It is estimated to grow steadily by 29% and by 2024 commercial DCs will have a capacity of about 1 GW in 2028.

The data centre market creates a total of 28,000 jobs.

	N.	2023 (MW IT)
DC commerciali	140	262
DC/CED PA	1200	329
Enterprise DC	3000	

IDA Data

THE ITALIAN MARKET



TRADERS
70



INFRASTRUCTURE
140



DATA FLOOR (M2)
142.297



**SURFACE
(SM)**
367.417



**IT POWER
(MW)**
262



RACKS
64.191

IDA Data

THE ITALIAN MARKET

Comparing the Italian market with the European market shows the following:

- Italy is catching up, with very strong growth in the last 5 years.
- Hyperscale Cloud service providers 'move' the Cloud closer to end users (metropolitan areas) to improve performance, efficiency and data sovereignty.
- Growth constraints of large European hubs drive Data Centres to look for alternative development areas to FLAPDs
- Being at the centre of the Mediterranean, Italy is well positioned to become a digital hub.
- Mediterranean submarine capacity is growing strongly (10 times the current capacity).
- Artificial Intelligence (AI) is already driving investment and has the potential to further accelerate growth exponentially.

THE ITALIAN MARKET

In 2023, the Italian Data Centre scenario experienced a moment of unprecedented acceleration:

23 organisations (of which 8 new entrants to the Italian market) announced the opening of 83 new infrastructures in the period 2023-2025, the deployment of which could potentially bring up to

EUR 15 billion in total investment.



THE CHALLENGE

At the moment, the attractiveness of the Italian market clashes with the lack of certain system conditions, on which it will be necessary to work in the coming years.

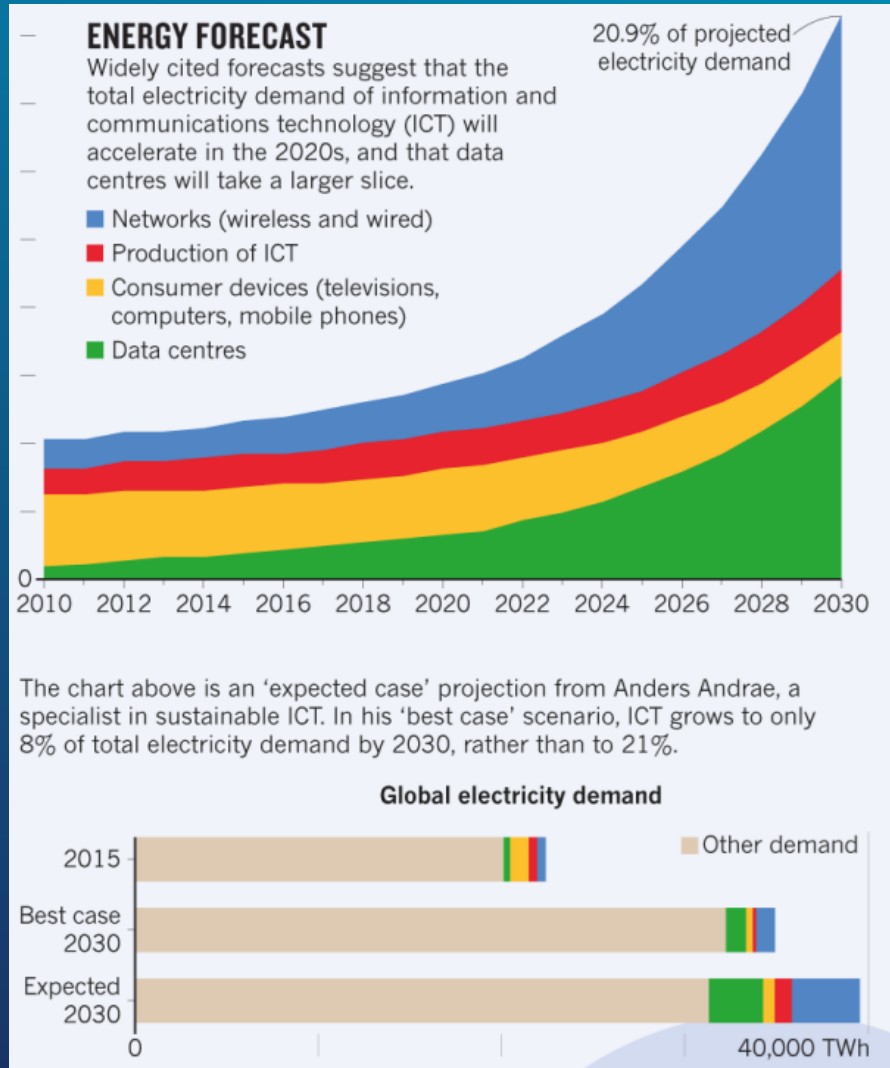
First of all, the Data Centre sector is currently not recognised at the regulatory level.

The Data Centre is identified as a generic industrial building and this leads to a lack of regulatory clarity, which leads to the absence of a specific procedure for the opening of new Data Centres in the territory by the authorities in charge.

Consequently, times are long and interaction with institutions, ranging from municipal bodies to central and ministerial ones, with procedures that change depending on where the infrastructure is opened.

The delays caused by these bureaucratic impediments make it uncertain when investors will be able to put the data centres into production and return the allocated funds.

THE IA DRIVER



Over the past 12 months, the spread of AI and its progressive application in all industries have pushed the sector to new frontiers. However, we are only at the beginning of the AI era.

According to Schneider Electric, it is estimated that artificial intelligence today commits about 4.5 GW of power and is expected to grow by 25% to 33%, for a total commitment of 14 GW to 18.7 GW by 2028.

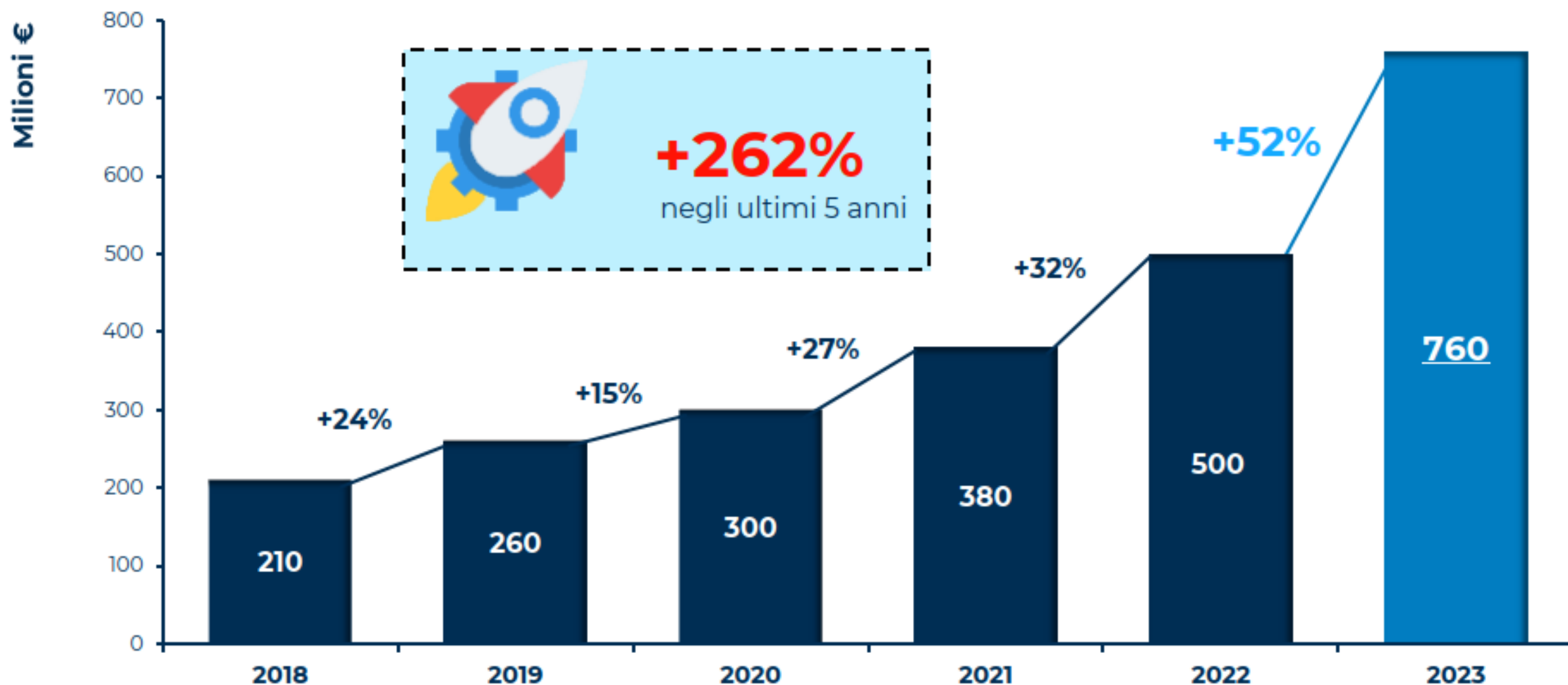
It is understood that the actual energy requirements will largely depend on technological factors including: The servers, the Data Centre's electrical infrastructure, the Cooling Strategy the performance of the Chips... Bear in mind that to date cooling engages about 40% of the Data Centre's total consumption.

Il mercato dell'AI in Italia: dal 2018 a oggi

 Osservatorio Data Center

 11.10.24

 #ODC24



AI DATA CENTER

When we talk about Data Centres and artificial AI, we generally refer to two types of Data Centres

TRAINING

Data centres where the infrastructure is used to train artificial intelligence models. In this type of DC, a huge amount of Data and servers with blunders (GPUs) are required. In addition to this, data storage and an effective network connection are required.

Generally in this type of Data Centre the Peak to Average Ratio is close to 1 i.e. the GPUs work almost at full load during the entire training process, the DC uses peak power for almost the entire duration of the training process. The power density of the racks is very high and can vary between 30 and 100 kW.

AI DATA CENTER

When we talk about Data Centres and artificial AI, we generally refer to two types of Data Centres

INFERENCE

These are infrastructures where the previously trained model is used. In this type of DC, there is a trade-off between output accuracy and calculation time. For this reason, parts of the trained model are used.

The power density within the Data Centre is certainly lower and varies between 300 and 10 kW per Rack. The number of these structures grows as the number of users increases, as opposed to the DCs used for training.

THE ROAD MAP FOR SUSTAINABLE GROWTH



Sustainability and Energy Access

Promoting energy efficiency and social and environmental sustainability with a focus on existing infrastructure

Encouraging diversification of energy sources with a view to greater sustainability



Training

Developing professionalism and skills in the sector

Making new generations aware of job opportunities in data management

Energy Efficiency as a Driver for the Future

Improving the efficiency of a data centre does not only come from the cooling side, but concerns all the components within a data centre.

For example, the choice of high-efficiency UPSs using E conversion can drastically reduce the energy consumption of UPSs, with an efficiency of around 99%.

The use of new technologies in the construction of busbars reduces transport energy losses are one of the drivers that will drive future designs.

As a final point, AI allows fluids at higher temperatures so heat produced in the data centre can be used more efficiently as process water in industrial plants pre-heating water for district heating networks in cities.

It is understood that despite the effort to reduce the consumption of data centres, these facilities are still energy-intensive because AI is difficult to reduce.

The focus will therefore have to shift to the production of Energy from Alternative Sources.



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