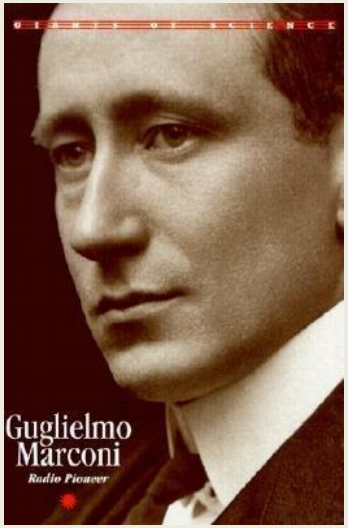
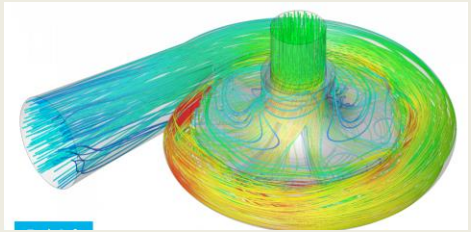
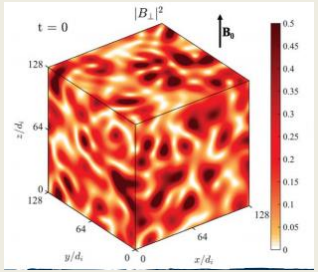
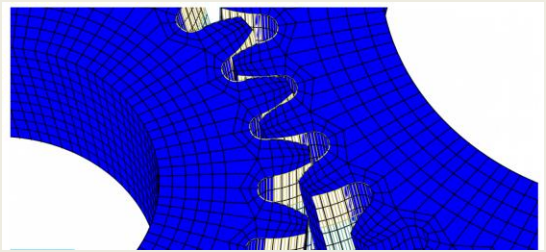
Production data on the HPC Cineca Infrastructure

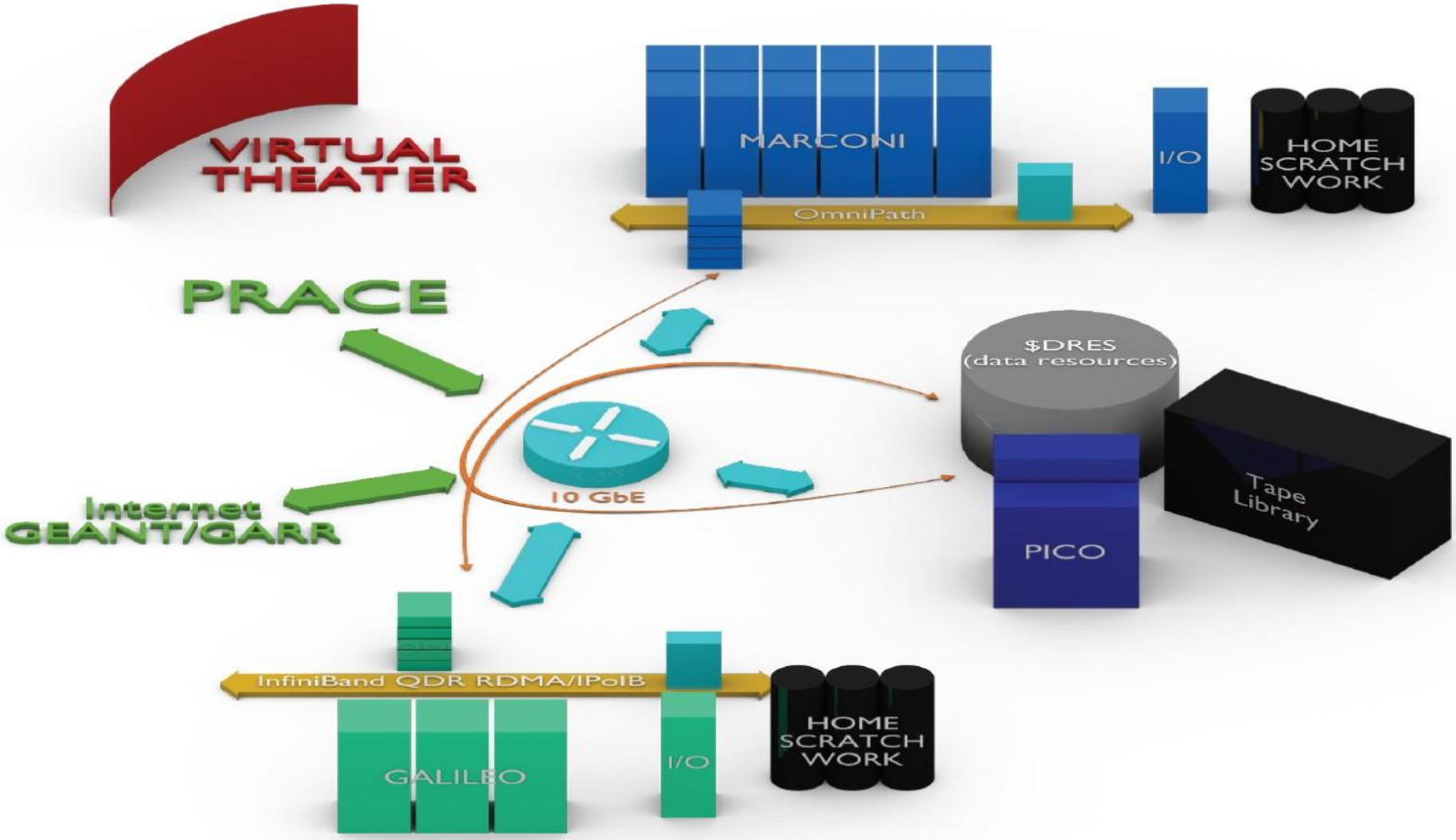


Elda Rossi, e.rossi@cineca.it

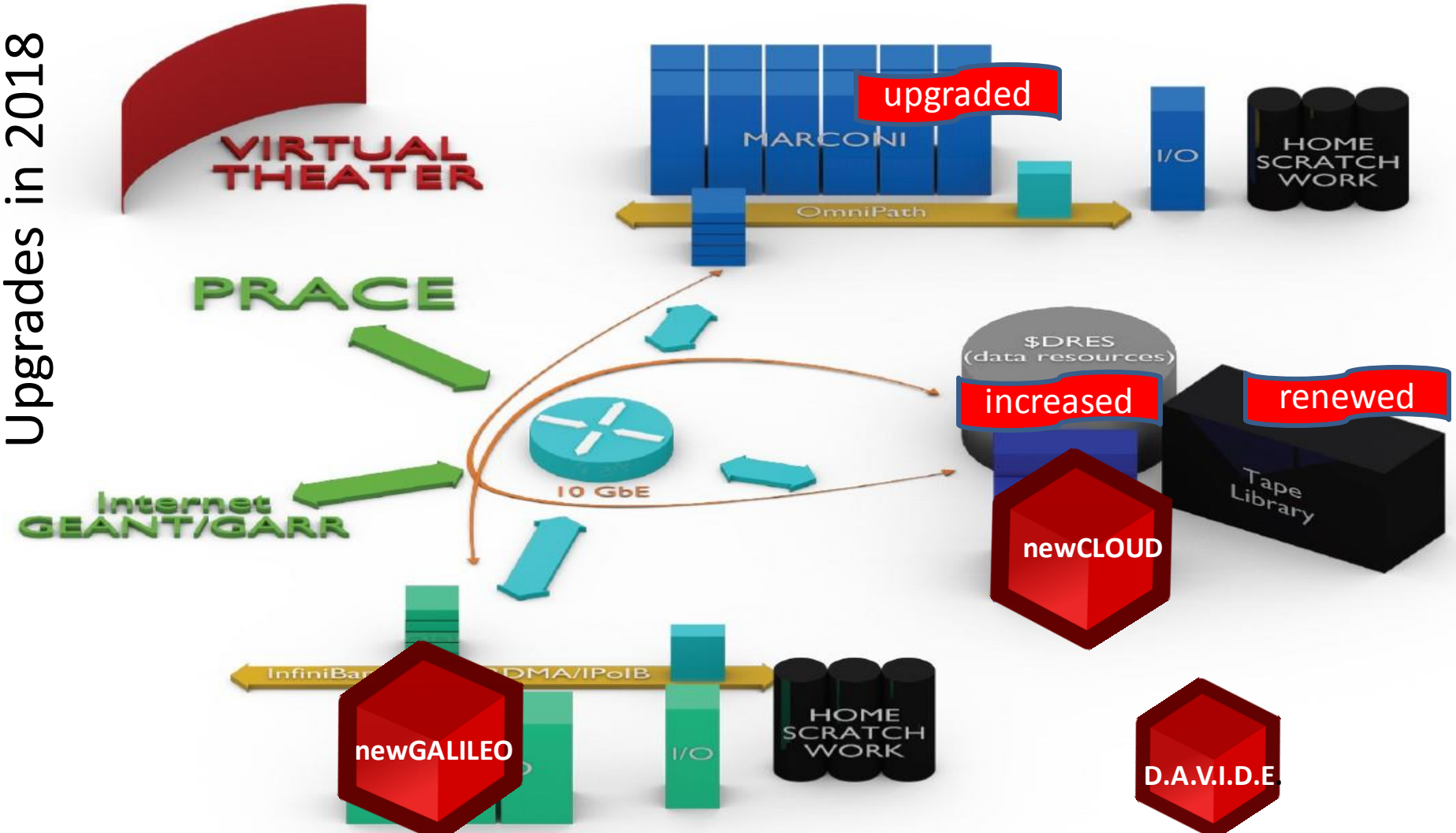




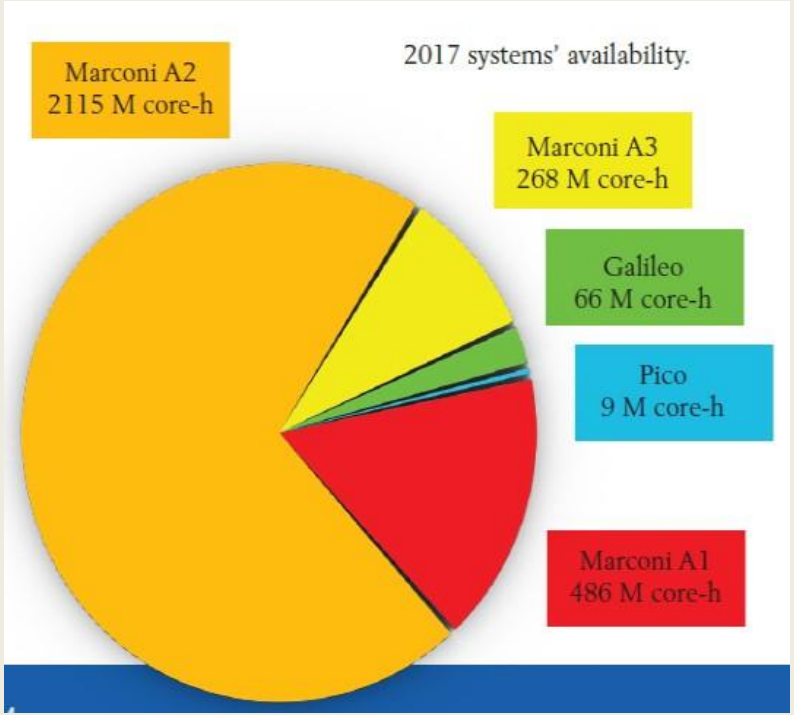



VIRTUAL THEATER
MARCONI
OmniPath
I/O
HOME SCRATCH WORK
PRACE
$DRES (data resources)
Tape Library
PICO
10 GbE
Internet GEANT/GARR
InfiniBand QDR RDMA/IPoIB
GALILEO
I/O
HOME SCRATCH WORK

Upgrades in 2018



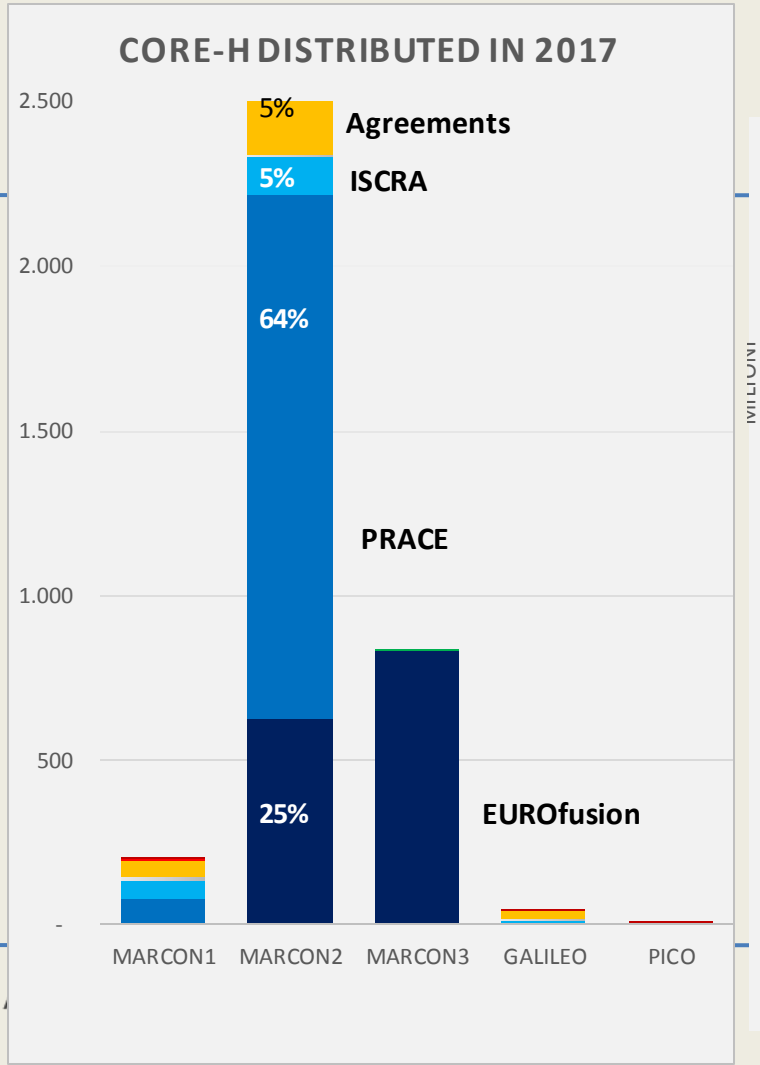
HPC resource availability in 2017

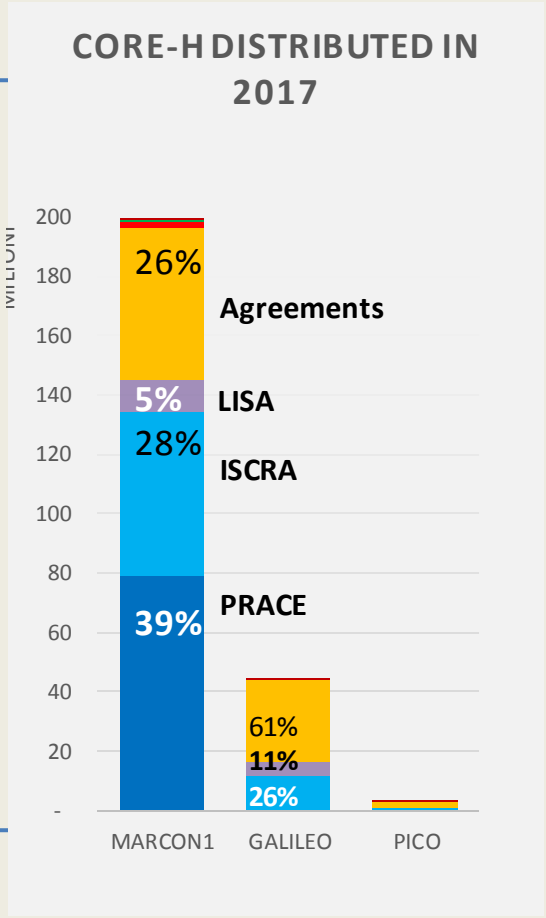


In 2018

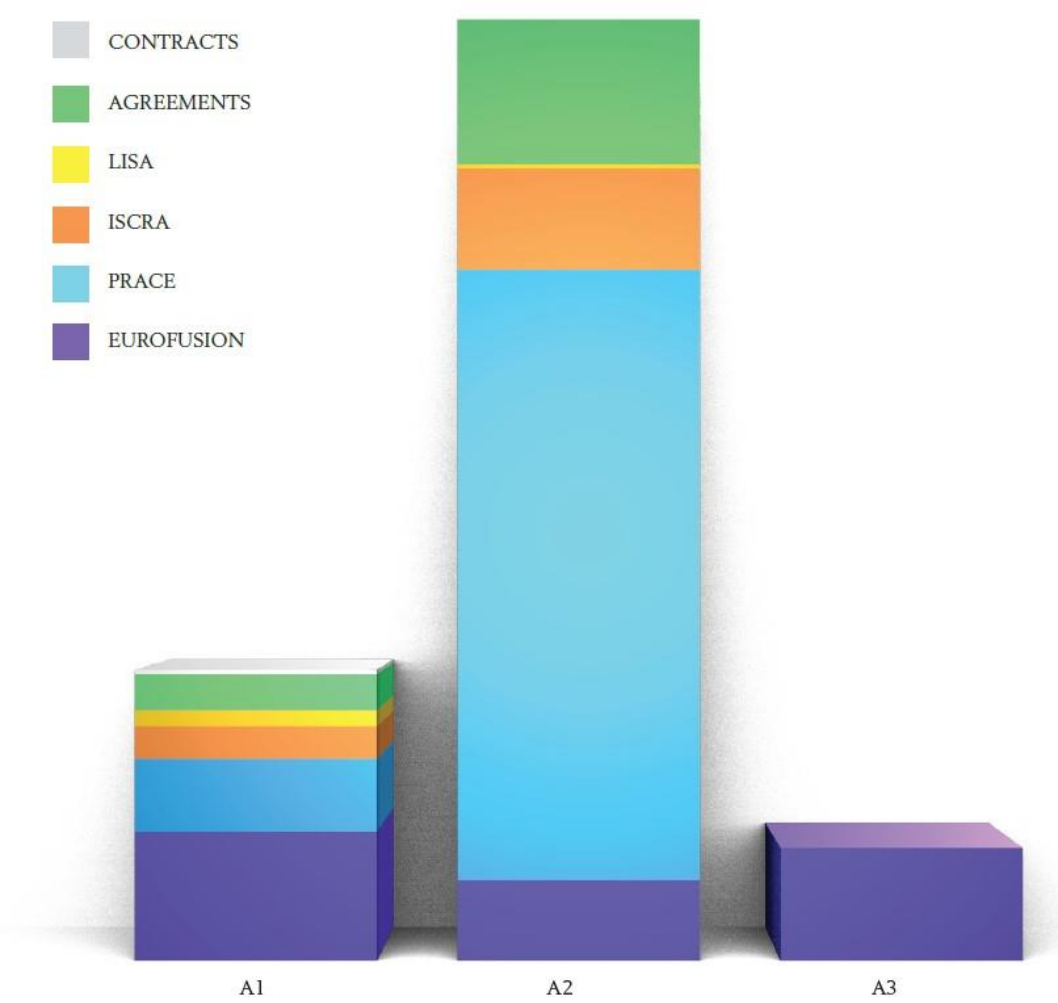
2.9 → 3.5 billion core-h (about 64 M node-h)
About 3 million gpu-h (K40, P100, V100)

Distribution of resources in 2017



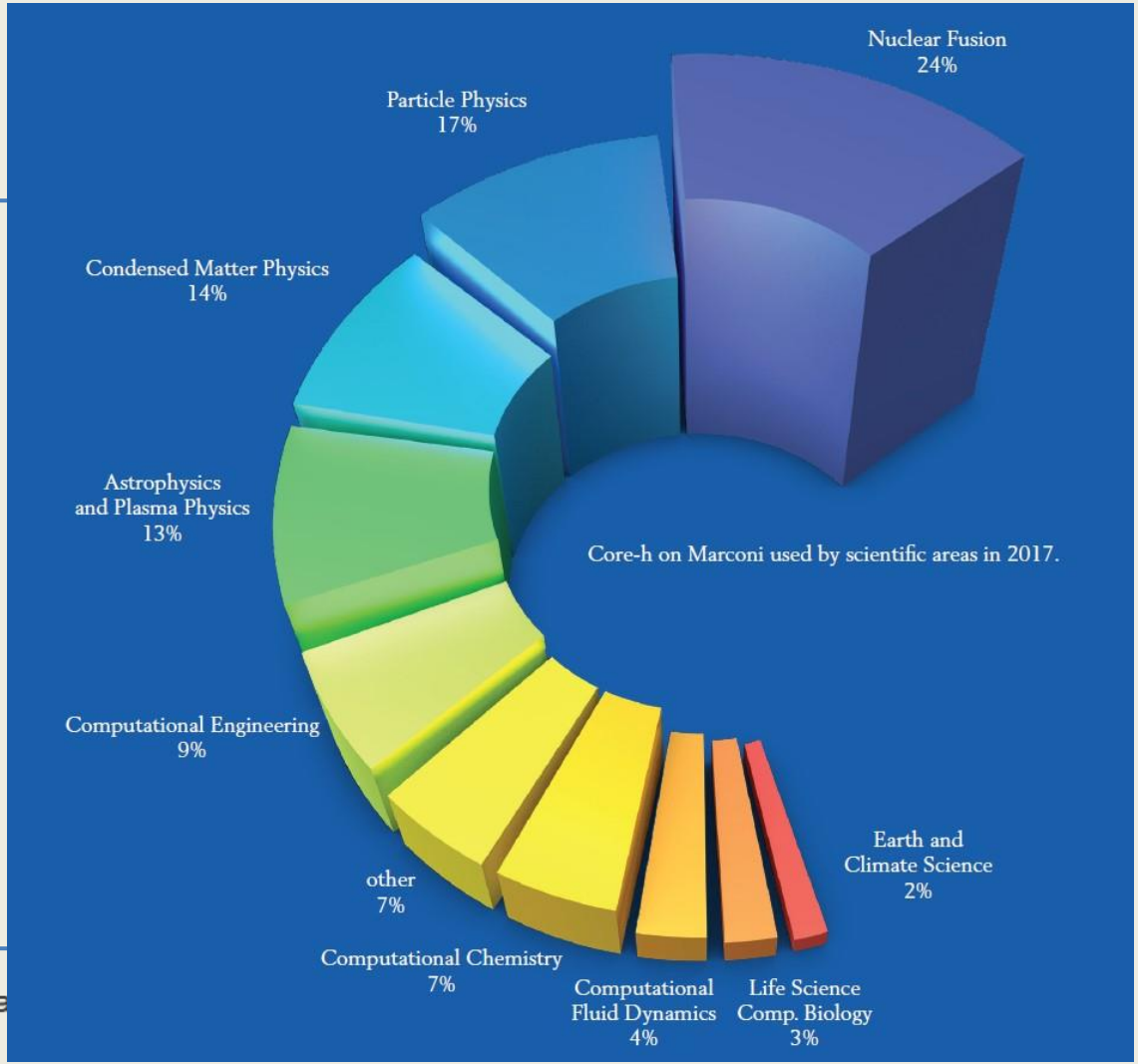


Usage by category



Core-h of Marconi accounted for project categories.

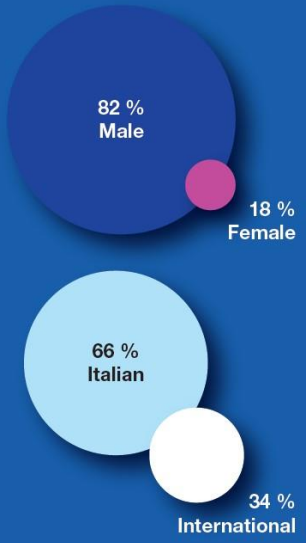
Usage by science

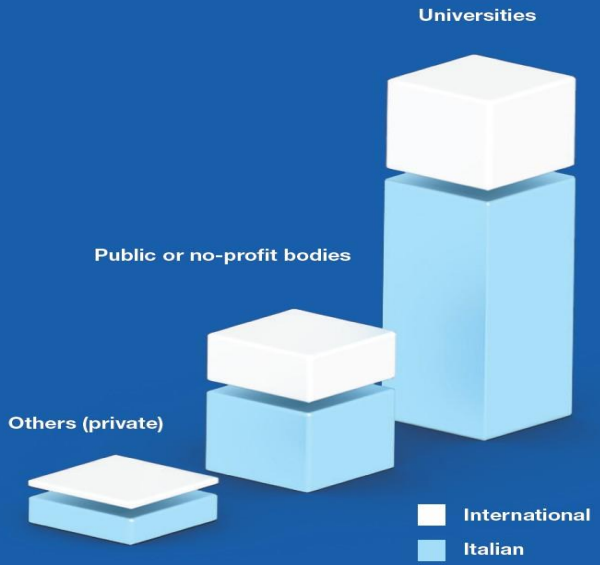


HPC users

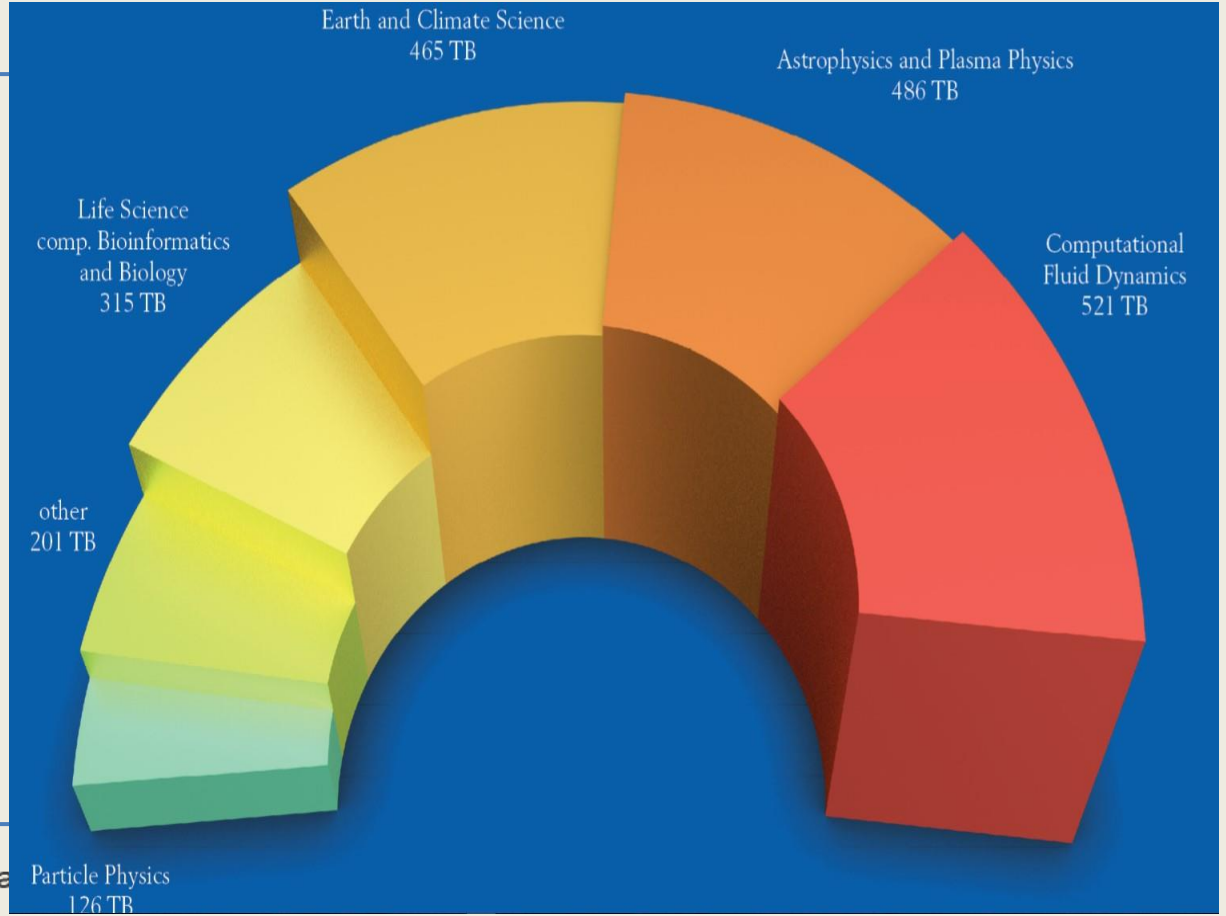
At the end of 2017: 3.500 (1.200 new)

Among most represented foreign countries: Germany, France, Spain, UK





Also data are important!

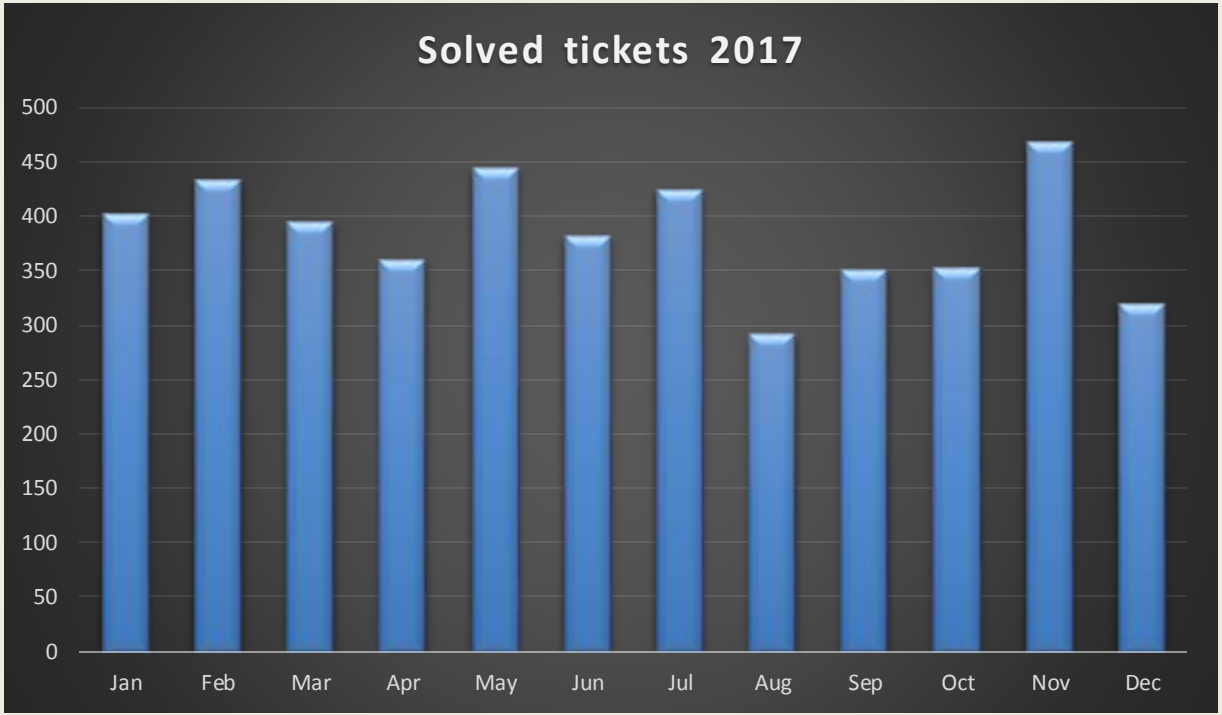


LongTermStorage: 15 PB raw

Tape: up to 28PB

Marconi storage: 17 PB raw

User Support



Accessible via e-mail,

9:00 – 13:00, 14:00 –18:00

Programmes for resource allocation

- PRACE: European level
- ISCRA: National level
  - IscraB: large projects
  - IscraC: small projects
- (CLOUD, lightCLOUD)

Resource availabily for Iscra Programme (core-h/y)

A1

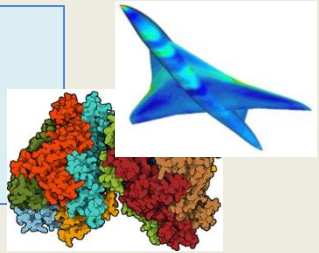
37% Prace
43% Agreements
20% Iscra → 36 M/y

A2

70% Prace
15% Agreements
15% Iscra → 290 M/y

Galileo

5% Agreements
5% Contracts
90% Iscra → 83 M/y



Cloud

10% Agreements
90% Iscra → 43 M/y

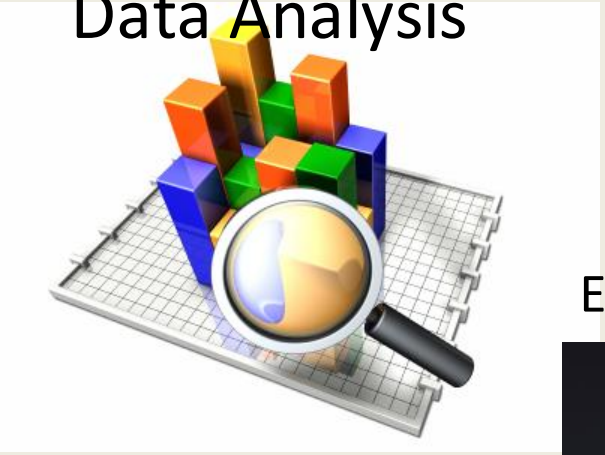
64 BDW nodes for cloud apps

A gran-total of about 450 million core-h/y for the ISCRA programme (B+C)

Plus «cloud» allocation …

Grazie dell'attenzione!

Data Analysis



Bioinformatics

Engineering