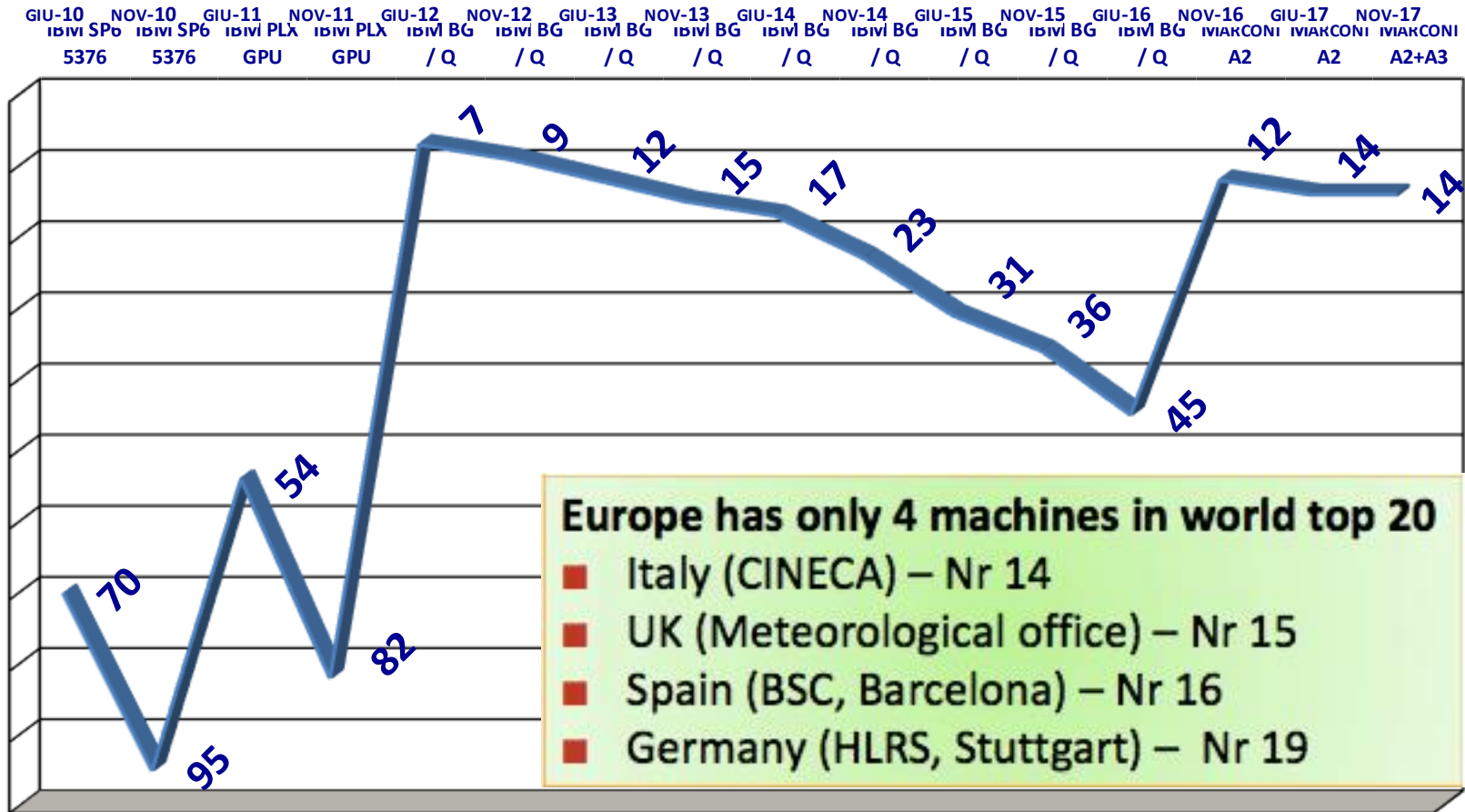

SCAI
SuperComputing Application &
Innovation
CINECA

Sanzio Bassini – March 2018



Top500 (november 2017)



HPC investments are related to improved economic success and increased scientific innovation



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The Financial ROI models:

ROI based on revenues/GDP generated, divided by HPC investment

ROI based on cost-savings and/or profits generated, divided by HPC investment

ROI based on jobs created (and the HPC investment required per job created)

Results continue to indicate very substantial returns for investments in HPC.

Primary Financial ROI Results for the year 2016:

- **\$ 515 dollars on average in revenue per dollar of HPC invested.**
- **\$ 52 dollars on average of profits (or cost savings) per dollar of HPC invested.**

EU: ~33% of GDP and ~60 million jobs

USA: ~55% of GDP

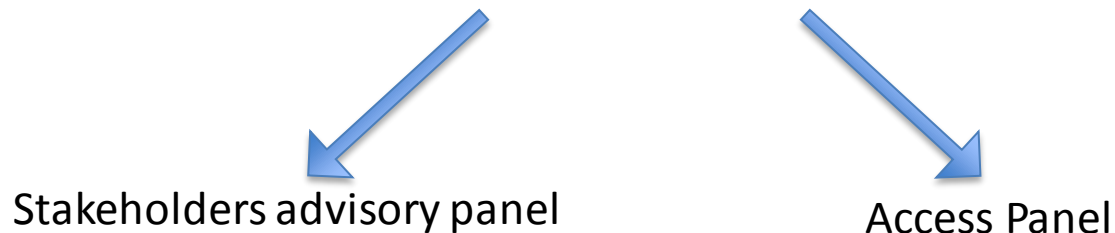
For 97% of industry using HPC: it is key for innovating



Access and development model

- **Open access peer review:** PRACE, ISCRA, LISA
- **European flagship and RI:** Hpc-EUROPA, Human Brain Project, EPOS, Elixir
- **Partnership:** INFN, OGS, IIT, SISSA, INAF, ICTP, Polimi, Bicocca, MI Statale, Unibo,...
- **Special project:** EUROfusion, ARPA-SMR / Civic protection
- **Innovation for Industries and SME**
 - Open innovation: Fortissimo, PRACE SHAPE, Lisa for innovation
 - Framework agreement: Eni, Unipol

For a further process of development of such a complex system



Panels composition

Access Panel

$5 \leq \# \text{ of members} \leq 9$

Per discipline

Proposition:

- Material Science
- Earth Science
- Life Science
- High energy physic
- Astrophysics
- Engineering (CFD)

Stakeholders Panel

$15 \leq \# \text{ of members} \leq 20$

Per institution / RI

Proposition:

- CNR
- INFN
- ENEA
-, OGS
- IIT
- CMCC
-, Italia Meteo
- Elixir
- EPOS
- ..., MAX
- Bicocca University
- University of Trieste
-, University of Bologna