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From:	Permanent Representatives Committee (Part 1)
To:	Council
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Subject:	Proposal for a Council Regulation on Establishing the European High Performance Computing Joint Undertaking - <i>Progress report</i>

I. INTRODUCTION

1. The term 'High Performance Computing' (HPC) refers to the technologies and the use of powerful supercomputers (interconnecting in a single system or in close proximity of hundreds of thousands or millions of computing units working in parallel) to perform massive and fast computations that are so demanding that they cannot be performed using general-purpose computers.

2. HPC is at the core of major advances and innovations in the digital age where to out-compute is to out-compete. It is a key technology for science, industry, and society at large and an essential tool to address major scientific and societal challenges and to keep pace with the growing demands and complexity of the problems to be solved. HPC is essential for the health sector, e.g. in the early detection and treatment of diseases and the development of new therapies. The use of HPC is having a growing critical impact on industries, businesses and even the public sector by significantly reducing design and production cycles, minimising costs, increasing resource efficiency, and shortening and optimising decision processes. HPC is also essential for national security and defence, e.g. in developing complex encryption technologies, tracking and responding to cyberattacks, deploying efficient forensics, and in nuclear simulations.
3. The Union acted in 2012 to step up its efforts to ensure leadership in the supply and use of HPC systems and services¹, but this has proven insufficient to date.
4. In order to equip the Union with the computing performance needed to maintain its research and innovation at a leading edge, the Member States investment in HPC should be coordinated and the industrial take-up of HPC technology reinforced in order to develop a European innovative HPC ecosystem. On the basis of an Impact Assessment carried out by the Commission in summer and autumn 2017, the best instrument for achieving these goals, while promising the best economic, societal, and environmental impacts and safeguarding the Union's interests, would be a Joint Undertaking with Article 187 and the first paragraph of Article 188 of the Treaty on the Functioning of the European Union as the legal basis.
5. On 11 January 2018, the Commission adopted its proposal for a Council Regulation on establishing the European High Performance Computing Joint Undertaking.

¹ Commission Communication on *High-performance computing: Europe's place in a global race* (COM(2012) 45 final).

II. STATE OF PLAY

The draft proposal for a Council Regulation on establishing the European High Performance Computing Joint Undertaking (EuroHPC JU) has been discussed in the Research Working Party under the Bulgarian Presidency. The discussions have so far provided the means to enhance and clarify various aspects of the proposal and to identify topics which require further examination.

Delegations have highlighted the importance of balance between the two pillars of activity of the proposed EuroHPC JU: the activities for the acquisition, deployment, interconnection and operation of world-class supercomputers and data infrastructures and the activities for supporting a research and innovation agenda for establishing a demand-driven HPC ecosystem. Also, delegations have pointed out that it is essential to guarantee that a sufficient part of the budget of the EuroHPC JU will be dedicated to the activities that support a research and innovation agenda.

Delegations have also expressed the need for the EuroHPC JU to support Member States' ambitions for both petascale and pre-exascale supercomputers.

The functioning of the Governing Board of the EuroHPC JU and especially the question of voting rights remain outstanding issues that require further examination. The latter has been raised by some delegations as their main concern. The main issues are the way voting rights will be distributed in the two pillars of activity of the proposed JU and the weighing of votes based on the contributions from the Participating States. The proposal on the voting rights in the latest Presidency text² received support from most delegations who considered it a good way forward. Another proposal made by the French delegation was also considered worth developing further. On this basis, the Presidency will shortly propose an even sounder and more coherent text.

² Doc. 8480/18.

Furthermore, the question on the way in which the voting rights would be distributed in proportion to the financial and in-kind contributions by Participating States is causing concern for certain delegations. Some delegations consider that the voting rights should not be linked with the financial and in-kind contributions. Further elaboration and input from the Commission on the in-kind contributions and possible synergies with other European programmes is necessary so that the right balance can be found and the best solutions provided within the draft Regulation.

The Bulgarian Presidency is committed to progress on this important file and aims to reach general agreement on the text during its Presidency term.

III. CONCLUSIONS

The Bulgarian Presidency has put together the present progress report in order to inform Ministers about the state of play. COREPER, at its meeting of 16 May 2018, agreed to forward the progress report to the Council.

The Council is invited to take note of this progress report at its meeting on 28-29 May 2018.
