

High-Performance Computing Infrastructure for South East Europe's Research Communities.

Project acronym: HP-SEE

Years of realization: 2010-2012

MD-Grid participants: Research and Educational Networking Association of Moldova (RENAM),
Institute of Mathematics and Computer Science of the Academy of Sciences of Moldova (IMCS)

Keywords: High-Performance Computing, Balanced Regional Development, Multi-Disciplinary User Communities.

Prepared by Nicolai Iliuha

Â Project Overview HP-SEE, High-Performance Computing Infrastructure for South East Europe's Research Communities will link existing and upcoming HPC facilities in South East Europe in a common infrastructure, and it will provide operational solutions for it. As a complementary action, the project will establish and maintain a GÃ%oANT link for Southern Caucasus. The initiative will open the South East European HPC infrastructure to a wide range of new user communities, including those of less-resourced countries, fostering collaboration and providing advanced capabilities to researchers, with an emphasis on strategic groups in computational physics, computational chemistry and life sciences. HP-SEE receives EC support through FP7 under the "Research Infrastructures" action. The HP-SEE initiative builds on the lasting cooperation in the SEE region, embodied in a number of eInfrastructure EC-funded initiatives, aiming at equal participation of less-resourced countries of the region in European trends. The SEEREN initiative established a regional network and the SEE-GRID initiative the regional Grid, while BSI project has established GÃ%oANT link to Caucasus. The SEE-LIGHT project is working towards establishing a dark-fibre backbone that will interconnect most National Research and Education Networks in the Balkan region.

HP-SEE aspires to contribute to the stabilisation and development of South-East Europe, by overcoming fragmentation in Europe and stimulating eInfrastructure development and adoption by new virtual research communities, thus enabling collaborative high-quality research across a spectrum of scientific fields.Â Â Project Objectives Â

- Empowering multi-disciplinary Virtual Research Communities: The core objective of the HP-SEE project is to engage multi-disciplinary research communities from the region in close collaboration in a number of scientific fields with specific needs in massively parallel execution on powerful computing resources. The project aims to enable application porting and support for these major scientific fields on the regional HPC infrastructure.

- Deploying integrated infrastructure for Virtual Research Communities: HP-SEE will provide and operate the integrated South-East European HPC Infrastructure, focusing on operating the HPC infrastructure and specific end-user services for the benefit of new user communities, and establishing the continuation of the GÃ%oANT link to Caucasus.

- Policy development and stimulating regional inclusion in pan-European HPC trends: HP-SEE will ensure that all participating countries in the region have access to latest HPC facilities in the region and if necessary in Europe, through suitable and sustainable organisational and operational models. The project aims to support the development of a sustainable model on national and regional levels.

- Strengthening the regional and national human network: HP-SEE will further strengthen and widen the regional and national-level Human Network, reaching out to as wide as possible range of local and national virtual communities, via strong dissemination and training campaign. Particular focus would be on large, production-level users in crucial SEE communities of computational physics, computational chemistry, and life sciences Â Partners

Participant	Organisation	name	Short Name	Country	1.			
						Greek Research & Technology Network		
2.	Institute for Parallel Processing, Bulgarian Academy of Sciences		IPP-BAS	BG				
3.	"Horia Hulubei" National Institute of Research and Development for Physics and Nuclear Engineering							IFIN-HH
4.	The Scientific & Technological Research Council of Turkey		TUBITAK ULAKBIM	TR				
5.	National Information Infrastructure Development Office		NIIF	HU				
6.	Institute of Physics Belgrade	IPB		RS				
7.	Polytechnic University of Tirana	PuoT		AL				
8.	University of Banja Luka	UoBL ETF		BA				
9.	SS. Cyril & Methodius University of Skopje		UKIM	MK				
10.	University of Montenegro	UOM		ME				
11.	Research & Educational Networking Association of Moldova		RENAM	MD				
12,	Institute for Informatics & Automation Problems, National Academy of Sciences of Armenia							IIAP-NAS-RA

13. Georgian Research & Educational Networking Association GRENA GE
14. Azerbaijan Research and Education Association Â AZRENA AZ