

IC1406 Working Groups Annual Reports – 2nd Grant Period

WG1

WG Name: Enabling Infrastructures and Middleware for Big-data Modelling and Simulation

WG Leaders: Ewa Niewiadomska-Szynkiewicz, Ioan Salomie

WG1 structure	
Total number of members	68
Number of countries represented in WG1	19
Gender balance:	
Males	57
Females	11
Number of MC members in WG1	15
Number of young researchers (until PhD+8)	30
Number WG1 members from of target countries	49
Number of WG1 members from industry	3
Cost Tools Utilisation	
Number of STSM beneficiaries from WG1	6
Number of STSM visits hosted in institutions represented in WG1	5
Number of Cost meetings hosted in institutions represented in WG1	2
Realization of the workplan	
Tasks planned for 2 nd Grant Period	<ol style="list-style-type: none"> 1. Collection and analysis of use cases and user requirements defined by WG3 and WG4 2. Development of guidelines and proposals for improvement of selected Big Data systems and middleware 3. Dissemination of the results 4. Cooperation within the action, scientific community and companies
Tasks realized in the 2 nd Grant Period	<ol style="list-style-type: none"> 1. Collection and analysis of use cases and user requirements defined by WG3 and WG4 2. Development of guidelines and proposals for improvement of selected Big Data systems and middleware (work in progress) 3. Dissemination of the results

	<p>4. Cooperation within the action, scientific community and companies</p>
<p>Achievements and results</p>	<ul style="list-style-type: none"> • Finalization of the 1st grant period annual report on WG1 activity • Definition of three case studies and description of user requirements. • Collection and analysis of the use cases defined by WG3 and WG4. • Identification of subgroups consisting of WG1 members with the scope of research concerned with case studies; nomination of leaders. • Initialization of work on the Big Data systems and middleware for defined case studies • Organization of scientific events as a result of inter-group collaboration • Dissemination activity: books, journal papers, conferences, seminars • The results of scientific collaboration will be summarized in the annual report (current status – draft version of several chapters). <p>Dissemination activity:</p> <p>Books (editors from WG1): 3 Springer and 1 Elsevier volumes (several chapter prepared by WG1 members).</p> <p>Special issues of journals (editors from WG1):</p> <ul style="list-style-type: none"> • Journal of Telecommunication and Information Technology (Scopus) • Journal of Computer Sciences (JCR Journal) • Applied Mathematics and Computer Science (JCR Journal) <p>Number of articles published/accepted in journals (authors – WG1 members): 7 papers.</p> <p>Number of conference papers written and presented at the conferences: 7 papers.</p> <p>Collaboration – visits to other institutions involved in cHiPSet: 5 visits.</p> <p>Summer School: number of trainees (WG1 members and PhD students supervised by WG1 members): 12 participants.</p>
<p>Summary and remarks</p>	<p>Number of meetings:</p> <ul style="list-style-type: none"> • Face-to-face meetings: 2 • Telco meetings: 3 <p>The work on the GP2 Annual Report is in progress.</p> <p>Remarks:</p> <ul style="list-style-type: none"> - The next Summary School should be focused on one or more case studies. - It is expected to rise the dissemination level of cHiPSet to common public.

WG2

WG Name: Parallel Programming Models for Big-Data Modelling and Simulation

WG Leaders: Marco Aldinucci (chair), Christoph Kessler (vice-chair), Peter Kilpatrick (vice-chair)

WG2 structure	
Total number of members	40
Number of countries represented in WG2	20
Gender balance:	
Males	34
Females	6
Number of MC members in WG2	15
Number of young researchers (until PhD+8)	
Number WG members from of target countries	9
Number of WG members from industry	0
Cost Tools Utilisation	
Number of STSM beneficiaries from WG2	1
Number of STSM visits hosted in institutions represented in WG2	5
Number of Cost meetings hosted in institutions represented in WG2	1
Realization of the workplan	
Tasks planned for 2 nd Grant Period	<p>T1) Initial quantification of data involved in selected MS applications, their access patterns, computation demand and typical workloads of MS pipelines [GP1, GP2]</p> <p>T2) Initial study of usage requirements: portability, reactivity, robustness, time-to- market, maintenance, and possible end-users [GP2, GP3]</p> <p>T3) Coordination with other WGs [GP2, GP3]</p>
Tasks realized in the 2 nd Grant Period	<p>T1) Initial quantification of data involved in selected MS applications, their access patterns, computation demand and typical workloads of MS pipelines [GP1, GP2]</p> <p>T2) Started coordination with other WGs [GP2, GP3]</p>
Achievements and results	<ul style="list-style-type: none"> Reached step 5 (of 6) of Systematic Literature Review started in GP2 and to be completed in GP3. This achievement supports Task T1. Set up the participation of all WG2 members to cross-WG use cases. Set up a continuous monitoring process to extract information from use case serving Task T1. This supports both Task T1 and T2.
Summary and remarks	<ul style="list-style-type: none"> The Systematic Literature Review was expected to be concluded in GP2. During its unfolding we identified that we had underestimated the effort required to complete it and we have extended it to GP3, where we expect to complete it.

WG3

WG Name: HPC-enabled Modelling for Life Sciences

WG Leaders: Andrea Bracciali, Salvatore Vitabile

WG3 structure		
Total number of members	19	
Number of countries represented in WG3	11	
Gender balance:		
Males	19	
Females	4	
Number of MC members in WG3		
Number of young researchers (until PhD+8)	8	
Number WG members from of target countries	4	
Number of WG members from industry	1	
Cost Tools Utilisation		
Number of STSM beneficiaries from WG3	3	
Number of STSM visits hosted in institutions represented in WG3	2	
Number of Cost meetings hosted in institutions represented in WG3	1	
Realization of the workplan		
Tasks planned for 2nd Grant Period	WG3	Coordination and management of the WG3-4, GP1 recognition of state of the art (publication venue).
	WG3	Planning of the cross-WG analysis of HPC needs within MS research and prototypal case studies.
	WG3	First collection of extended versions of state-of-the-art recognition.
	WG3	Emerged HPC needs to be collected in a short report for circulation to the whole action to foster exchange of problems and potential solutions.
	WG3	Coordination with other WGs (including coordination with WG4 on modeling of shared topics).
	WG3	Identification of suitable innovative HPC-enabled MS approaches.
Tasks realized in the 2nd Grant Period	We accomplished tasks 1-5 above. Task 6 sits across GP2 and GP3, focusses on the integration on WG1-2 and WG3-4 and will develop on GP3. Some of the Achievements and results mentioned below set the scenes for this.	
Achievements and results	<ul style="list-style-type: none"> • Special issue organized for the working group in collaboration 	

	with WG4. <ul style="list-style-type: none"> • A number of new research collaborations initiated through the use of the STSM tool. • Participation in the cross-WG Systematic Literature Review on the research area. • 8 concrete use cases defined by WG3 and WG4 together. • Thematic Groups with participants across all WGs formed around the use cases.
Summary and remarks	N/A

WG4

WG Name: HPC-enabled Modelling for Socio-Economical and Physical Sciences

WG Leaders: Elisabeth Larsson, Esko Turunen, Otthein Herzog

WG4 structure	
Total number of members	30
Number of countries represented in WG4	17
Gender balance:	67%/33%
Males	20
Females	10
Number of MC members in WG4	15
Number of young researchers (until PhD+8)	2
Number WG members from of target countries	11
Number of WG members from industry	1
Cost Tools Utilisation	
Number of STSM beneficiaries from WG4	3
Number of STSM visits hosted in institutions represented in WG4	3
Number of Cost meetings hosted in institutions represented in WG4	2
Realization of the workplan	
Tasks planned for 2nd Grant Period	<ul style="list-style-type: none"> • Formation of topic oriented cross-WG groups to analyse HPC needs within MS research. • Short report of needs organized according to topic completed and circulated to the whole action. • Identification of a number of specific use cases where HPC can enhance MS research.
Tasks realized in the 2nd Grant Period	Tasks 1-3
Achievements and results	<ul style="list-style-type: none"> • A number of new research collaborations initiated through the use of the STSM tool. • Participation in joint H2020 research proposals within the action. • Special issue organized for the working group in collaboration with WG3.

	<ul style="list-style-type: none">• 8 concrete use cases defined by WG3 and WG4 together.• Groups with participants across all WGs formed around the use cases.
Summary and remarks	N/A