

EGEE-III Status

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EGEE-III final review (CERN)

23-24 June 2010

- **General Status of the project, providing an overview of**
 - Project Objectives
 - Activities
 - Consortium and Management Structure
 - Deliverables/milestones
 - Provisional financial status & effort consumption
 - Additional NA1 activity 2nd year achievements
 - Quality Assurance
 - Country reports
 - Interaction with ESFRI projects
 - NA1 issues
 - The relationship between WLCG and EGEE
 - Timeline
 - Review Agenda

Project Objectives

- **Expand/optimize existing EGEE infrastructure, include more resources and user communities**
- **Prepare migration from a project-based model to a sustainable federated infrastructure based on National Grid Initiatives**

>315 sites in 52 countries
>240,000 CPU cores
>40 PetaBytes disk, >61 PB tape
>10,000 users
>15 million jobs/month



Networking

- NA1: Project Management
- NA2: Dissemination, Communication and Outreach
- NA3: User Training and Induction
- NA4: User Community Support and Expansion
- NA5: Policy and International Cooperation

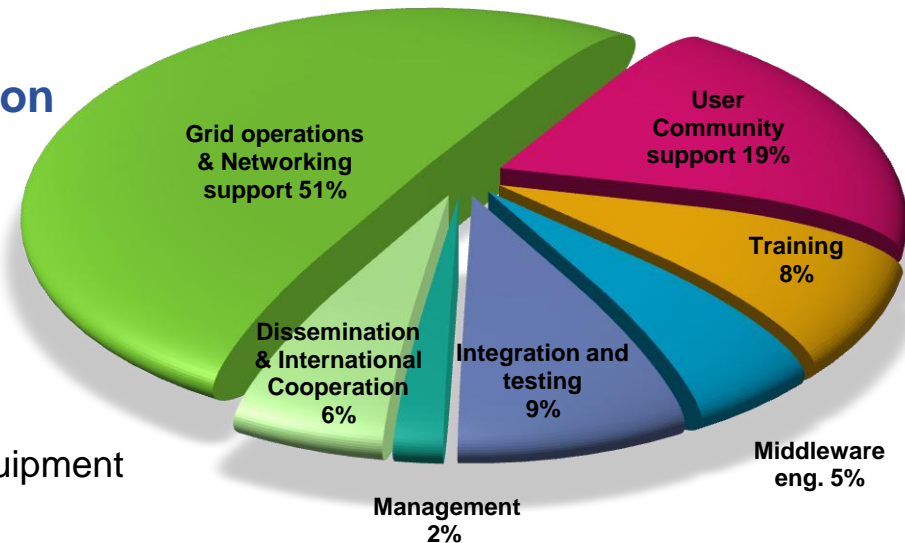
Services

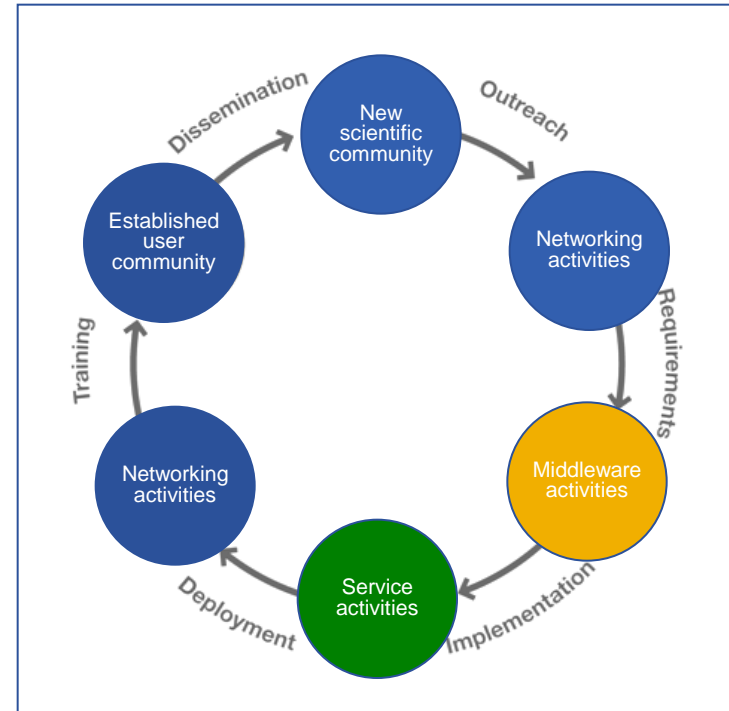
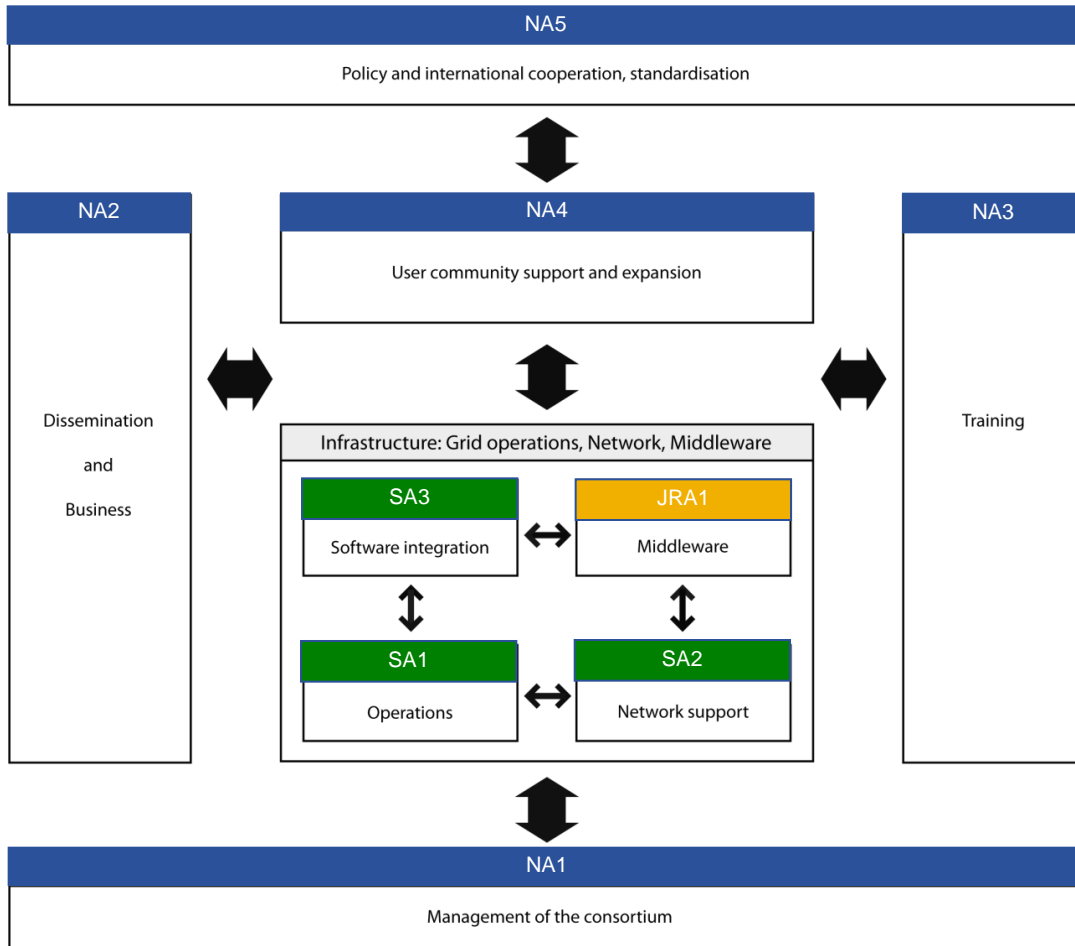
- SA1: Grid Operations, Support and Management
- SA2: Networking Support
- SA3: Integration, Testing and Certification

Joint Research

- JRA1: Middleware Re-engineering

Duration: 2 years
 EC co-funding: 32 Million €
 Total budget: ~47 Million € + ~50 Million € computing equipment
 Total effort: 9132 person months (~382 FTE)





There have been some changes to the organisation and interaction of the activities during the 2nd year in order to prepare for the transition to EGI

- **To 42 Beneficiaries in EGEE-III (+ 100 JRU members)**
- **Joint Research Units (precursors to National Grid Initiatives):**
 - Austria
 - Belgium
 - Bulgaria
 - Croatia
 - Cyprus
 - France
 - Germany
 - Greece
 - Hungary
 - Israel
 - Italy
 - Netherlands
 - Norway
 - Poland
 - Romania
 - Russia
 - Spain
 - Sweden
 - Switzerland
 - Turkey
 - United Kingdom
- **JRU members are invited to Collaboration Board meetings as Observers**
 - **Two meeting held during the year: EGEE09 (Barcelona, Sept'09) and user forum (Uppsala, Apr'10)**

- **USA: middleware development, interoperability, support to new user communities, dissemination** (via joint iSGTW online magazine supported in Europe by gridTalk project)
 - UWM
 - RENCI
 - **Asia Pacific: expanding EGEE infrastructure within Asia Pacific**
 - ASGC (Taiwan - SA1 Regional Operations Centre)
 - KISTI (Korea)
 - CNU (Korea)
 - KEK (Japan)
 - Univ MELBOURNE (Australia)
 - **Commonwealth of Independent States (CIS)**
 - Participation in events and Virtual Organisations, encourage establishment of NGIs
- ➔ **For these regions the NA1 budget includes limited funds to provide financial assistance to attend EGEE events**
- 148 invitees from these regions and ESFRI projects have attended EGEE-III events (conferences, user fora)

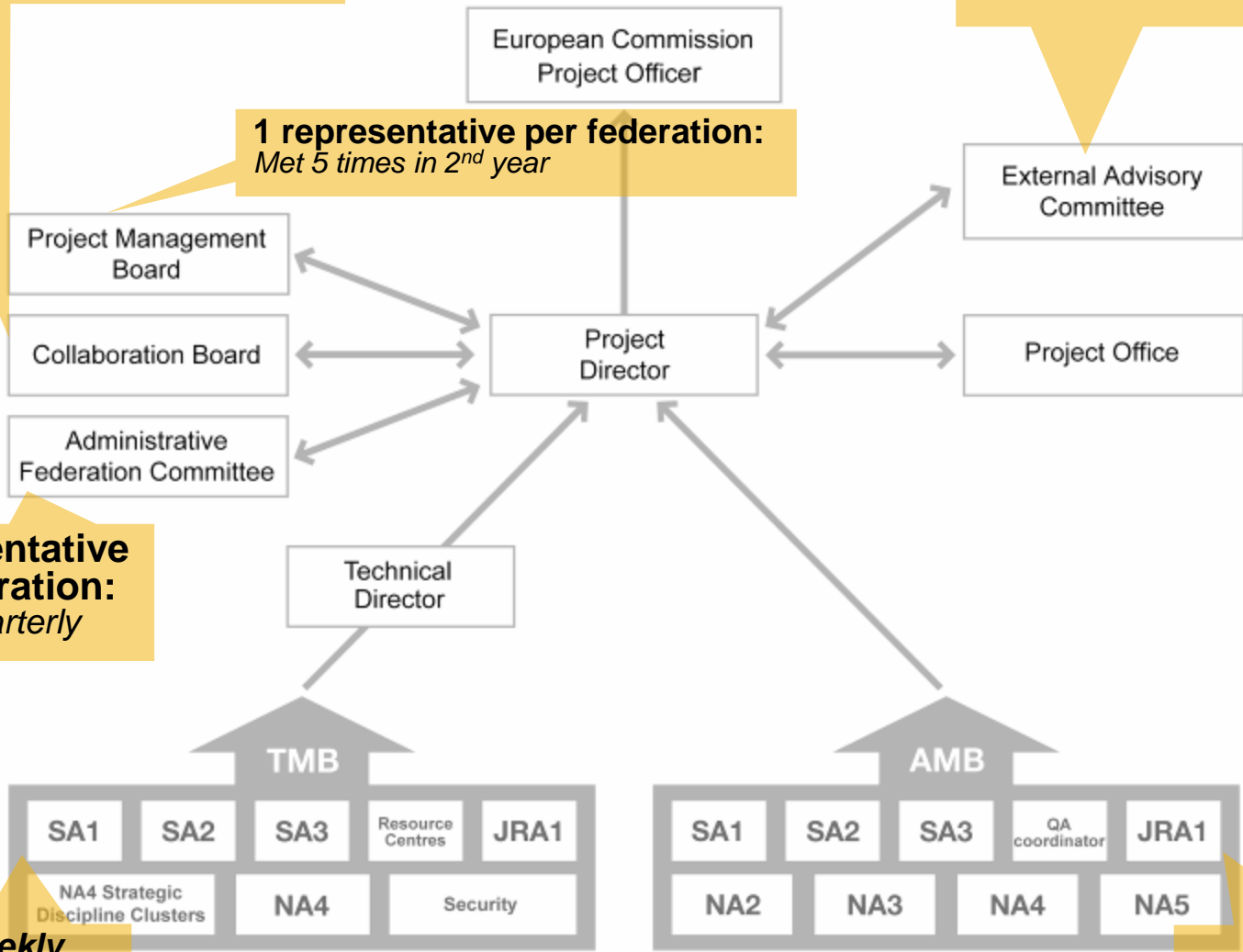
- **Beneficiaries & JRU members, academic & business, organised in regional federations:**
 - Asia Pacific (Australia, Japan, Korea, Taiwan)
 - Benelux (Belgium, the Netherlands)
 - Central Europe (Austria, Croatia, Czech Republic, Hungary, Poland, Slovakia, Slovenia)
 - France
 - Germany/Switzerland
 - Italy
 - Nordic countries (Finland, Sweden, Norway)
 - South West Europe (Portugal, Spain)
 - South East Europe (Bulgaria, Cyprus, Greece, Israel, Romania, Serbia, Turkey)
 - Russia
 - United Kingdom/Ireland
 - USA

1 rep./partner:
Met at EGEE09. & user forum

Met at EGEE09 & user forum

1 representative per federation:
Met 5 times in 2nd year

1 representative per federation:
Met quarterly

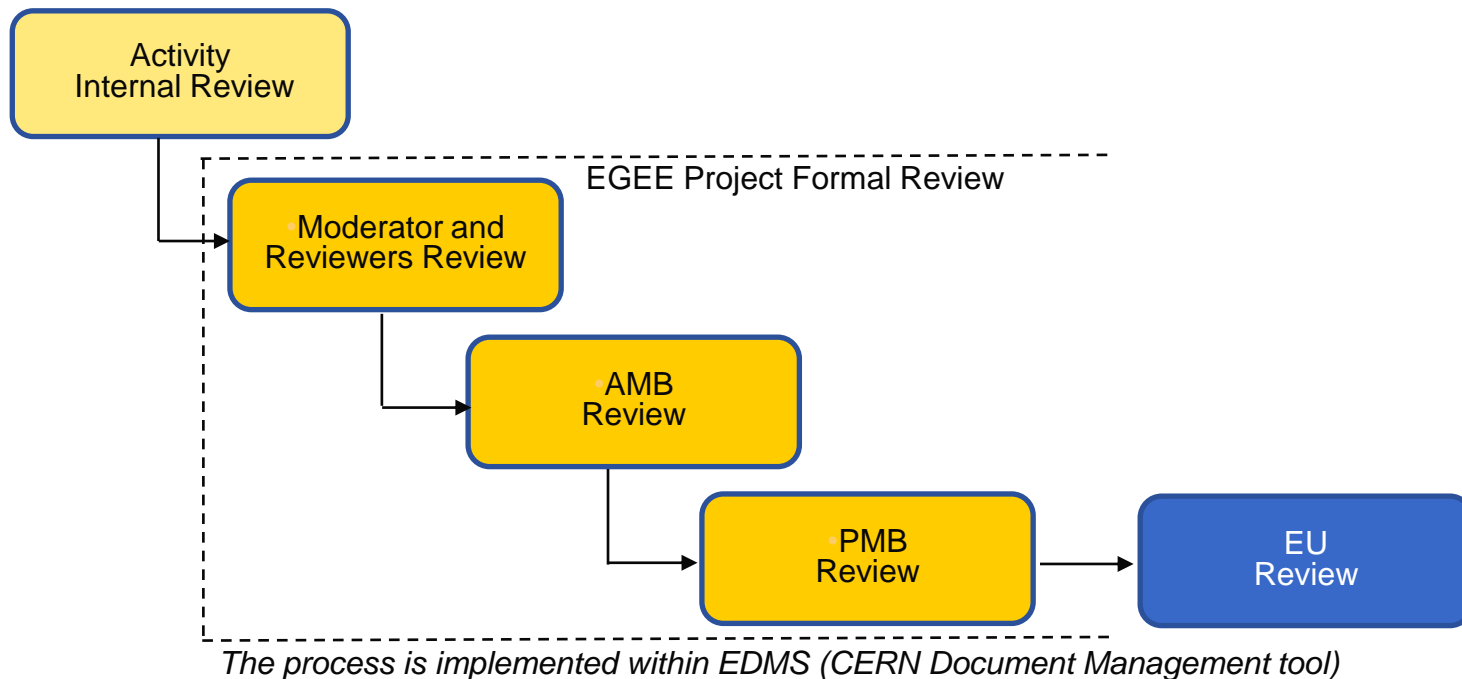


Met bi-weekly by phone

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- **Effective review procedure in place**
 - Activity → nominated reviewers → AMB → PMB

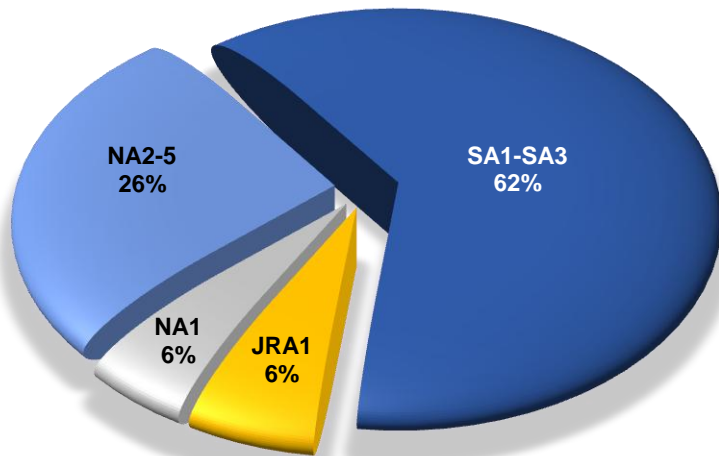
- **All PM13-PM24 deliverables submitted**
 - All milestones achieved and documented



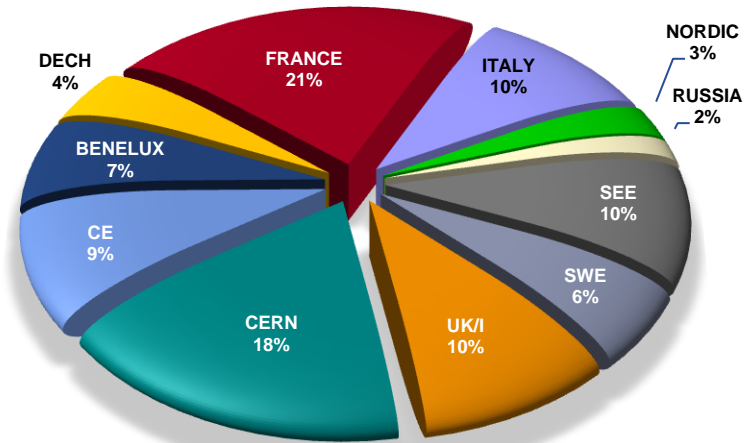
Based on the Internal Cost Claims – 154 received so far (out of 156)

- **Total Costs: 49,472,251 EUR**
 - 107% of total budgeted costs
- **Total Requested Contribution: 32,688,743 EUR**
 - 102% of budgeted requested contribution
 - The consortium will only ask up to 32mil. EUR max. budget
- **Direct personnel costs are 59% of total costs**
 - Remaining costs are travel, other costs and overheads

EGEE-III Total Costs by Activity



EGEE-III Total Costs by Federation



- NA1: Project Management
- NA2: Dissemination, Communication and Outreach
- NA3: User Training and Induction
- NA4: User Community Support and Expansion
- NA5: Policy and International Cooperation
- SA1: Grid Operations
- SA2: Networking Support
- SA3: Integration, Testing and Certification
- JRA1: Middleware Re-engineering

- CE: Austria, Croatia, Czech Republic, Hungary, Poland, Slovakia, Slovenia
- Nordic: Finland, Norway, Sweden
- UK/I: United Kingdom & Ireland
- Benelux: Belgium, Netherlands
- DECH: Germany & Switzerland
- SWE: Portugal & Spain
- SEE: Bulgaria, Cyprus, Greece, Israel, Romania, Serbia, Turkey

Asia & USA: No funded effort only travel money

Most overspending beneficiaries

	Budget Consumption	Overspent by (k EUR)
CNRS	157%	3,433
CGGV	147%	166
VR SNIC	144%	255

More effort provided than planned in SA1, SA2 & NA4. CNRS is requesting only 54k EUR extra

The actual costs per PM is higher than foreseen at planning stage

Higher salary and travel costs, more senior staff and extra work provided

Most under-spending beneficiaries

	Budget Consumption	Under-spent by (k EUR)
DANTE	44%	22
SRCE	73%	115
UH.HIP	81%	72

Affected by £/€ exchange rate

Actual PM cost lower than foreseen

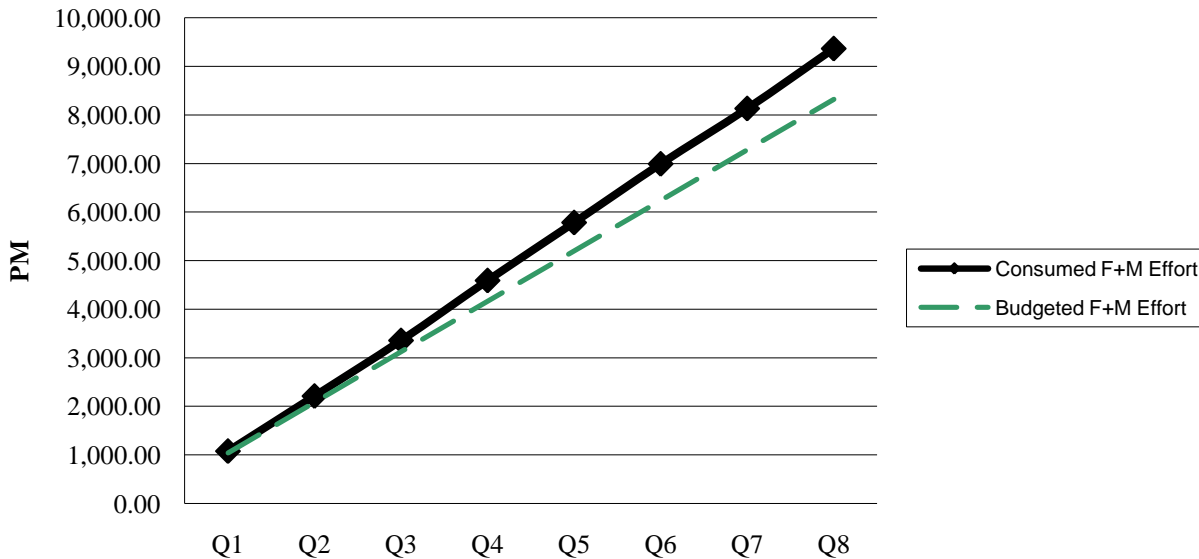
Actual PM cost lower than foreseen

Adjustments made within the JRUs & activities to ensure completion of the programme of work

- 1 226 members registered
- 390 FTEs

	Budgeted PMs	Actual PMs	% Consumption of budget
Funded	5 654	6 582	116%
Matching	2 668	2 780	104%

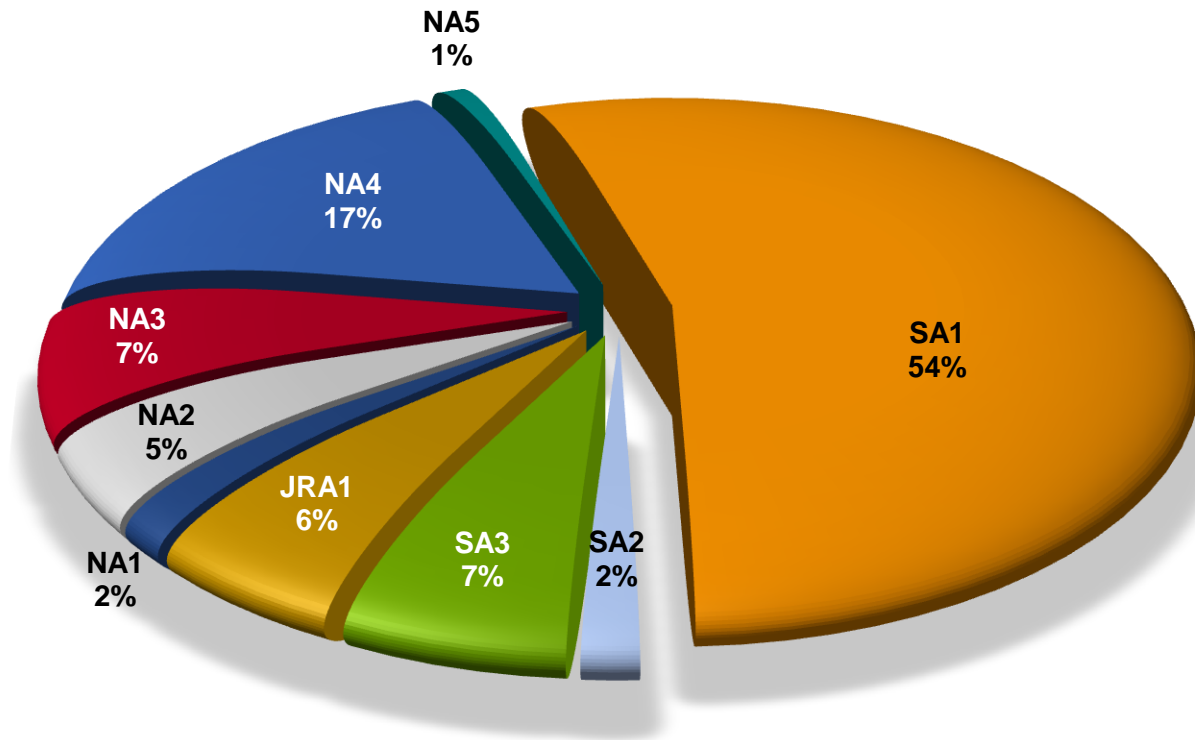
Total (Funded+Matching) Effort in PM



Legend:

- F: Funded effort
- M: Matching effort
- PMs: Person Months
- FTE: Full time equiv.

EGEE-III Total Effort by Activity (in PMs)



- **The QA approach for EGEE-III was defined in the Quality Plan and Measurement Plan DNA1.5.1.**
 - During the second year of the project, the main QA processes have been revisited to facilitate the transition to EGI and reported in DNA1.5.2
- **The metrics program has been defined in the Quality Plan and progressively implemented at different levels, namely: Project, Activity & Country**
 - The project has exceeded many of the targets set for the second year of the project
- **The metrics program has been revised during the year 2 according to the reviewers' comments to make it simpler and more meaningful**
 - In particular, to reflect the end user experience of the availability of the service and the quality of the support

- The effort for leveraging industrial quality standards such as ITIL was foreseen from the beginning of the project, in collaboration with computer centres such as CERN and FKZ that already started to adopt the ITIL best practices
 - Taken into account in the revision of the software process by SA3 & JRA1
- EGEE-III has introduced a new process called “*Country report*” in order to monitor the progress of the programme of work in each country
 - From the year 1 Country report (DNA1.6.1) results, the quarterly reporting for EGEE-III year 2 has been redesigned in order to prepare the reporting process for EGI
 - The year 2 Country report (DNA1.6.2) was focused on how each EGEE activity will be sustainable in the EGI context
 - Findings covered in next talk

Objectives	Metric	Targets at end of Year 1	Targets at end of Year 2	Y1 status	Q5	Q6	Q7	Q8
Expand scale of the infrastructure	Number of sites connected to the infrastructure	>250	>270	268	289	291	302	317
	CPU core made available to the user communities	76 000	85 000	117 500	142783	146330	155066	235024
	Number of countries connected to the EGEE infrastructure	~45	~46	48	49	50	50	52
	Number of supported platform	4	5	4	4	4	4	4
Expand the User communities	Number of VOs registered	150	170	162	166	175	186	192
	Number of registered users	13 500	>14 000	18 000	11552 (Clean-up)	12000	12235	12583
Expand scale of the usage of the infrastructure	Average jobs/day during the quarter	250 000	300 000	255 450	450 500	441 879	404 717	527 456
	Data transfer: Site to site Data Movement with FTS per Month	2,3 Pbytes/M	2,6 Pbytes/M	1.7	1.7	1.4	1.03	1.75
	Computing resources consumed by the user communities per quarter	30800cpu KSI2K.quarter	36000cpu KSI2K.quarter	31 800	55 000	51 682	80 412	74 290
Further improve QoS of the Infrastructure	Resource center reliability	85%	90%	87.70%	93.98	92.33	94.88	93.33
Expand regional training autonomy	Number of accredited trainers	100	110	104	104	133	133	134
	Number of training events	60	120	101	+21 (122)	+19 (141)	+21 (162)	+23 (185)
	Number of attendees trained	600	1200	1376	+216(1640)	+215 (1855)	+271 (2126)	+234 (2360)
Dissemination & Outreach	Events attended	70	140	87	+18 (105)	+19 (124)	+25 (159)	+12 (161)
	Events organised	80	160	81	+24 (105)	+20 (125)	+9 (134)	+12 (146)
	Number of business events organised	10	20	17	+2 (19)	+4 (23)	+1 (24)	(24)

- **2nd Grant Agreement amendment**

- Prepared in Sept 2009, recording the changes to the Description of Work approved at the project review in June 2009

- **All activity meetings**

- Sept 2009: Addressed review recommendations
- Jan 2010: Revised EGEE->EGI planning based on approved EC project proposals; follow-up on implementation of review recommendations

- **Gender Action Plan**

- Report (DNA1.3.2) produced

- **Creation of EGI and transition from EGEE**

- EGEE director was an observer on the EGI_DS project Management board, a member of the site selection committee for EGI.eu. EGEE technical director has been nominated as the director of EGI.eu

- **Additional report on EGEE management produced**

- Summarises management structure and assesses the impact of the different elements
- Report presented at meeting organised by Swiss, German, and Austrian National Contact Points in St Gallen in June 2010

- **Interaction with ESFRI projects has intensified in the 2nd year**

- EGEE has chaired the European E-infrastructure Forum and led its e-infrastructure requirements analysis of ESFRI projects

The ESFRI roadmap

Identifies 44 new (or major upgrade of) Research Infrastructures of pan-European interest
 The EC funds 3 additional projects from the CERN Council strategic roadmap for particle physics*

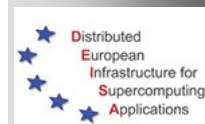
Social Sc. & Hum. (5)	Life Sciences (10)		Environmental Sciences (10)		Material and Analytical Facilities (6)	Physics and Astronomy (11)		Energy (4)	e-Infra-structures (1)
SHARE	BBMRI	ELIXIR	ICOS	EURO-ARGO	EUROFEL	ELI	TIARA *	ECCSEL	PRACE
European Social Survey	ECRIN	INFRA FRONTIER	LIFEWATCH	IAGOS	EMFL	PRINS	CTA	JHR	
CESSDA	INSTRUCT	EATRIS	EMSO	EPOS	European XFEL	SPIRAL2	SKA	IFMIF	
CLARIN	EU-OPENSREEN	EMBRC	SIAEOS	EISCAT_3D	ESRF Upgrade	E-ELT	FAIR	HiPER	
DARIAH	Euro BioImaging	ERINHA BSL4 Lab	COPAL	AURORA BOREALIS	NEUTRON ESS	KM3NeT	ILC-HIGRADE *		
					ILL20/20 Upgrade	SLHC-PP *			

- Distributed research infrastructures
- Single sited research infrastructures

The term "distributed RI", as used by ESFRI, refers to a facility with one unique name and legal status, one management structure, one strategy and development plan, and having one annual report and fiscal address although its research facilities are located in different sites and different countries

- **Forum for the discussion of principles and practices to create synergies for distributed Infrastructures**
- **Goal:** seamless interoperation of leading e-Infrastructures serving the European Research Area
- **Focus:** needs of the user communities that require services which can only be achieved by collaborating Infrastructures
- **Initial membership:**
 - EGEE & EGI
 - DEISA & PRACE
 - Terena & GEANT
 - The forum recognises the importance of data access and management and is seeking to add a member specialising in service provision in this area for multiple research communities
- **Offers** a way of interacting as a whole with user communities of a multi-national nature that are interested in making use of the Infrastructures

<http://www.einfrastructure-forum.eu/>



• Workshops at which EEF has gathered further information about ESFRI project requirements:

- EGEE09 (Barcelona, Sept'09)
- 7th concertation event (Brussels, Oct'09)
- NEERI09 (Helsinki, Oct'09)
- ERF (Lund, Oct'09)
- BMS (Brussels, Dec'09)
- SSH (Brussels, Jan'10)
- ENV (Brussels, Mar'10)
- ECRI2010 (Barcelona, Mar'10)
- EBI (Cambridge, Apr'10)
- EGEE user forum (Uppsala, Apr'10)

• Total of 28 ESFRI (+ eNMR and NeuGrid) projects consulted

- **Report published:** <http://www.einfrastructure-forum.eu/documents/EEF-report>
 - Distributed to 100+ ESFRI representatives, presented to the EGI Council and the EC Information Day (June 2010)



- **Manpower**

- End of contract meant some personnel were not available for final reporting responsibilities
- Transition to EGI
 - Key personnel concentrated on EGI tasks (outside EGEE programme of work)
 - Agreement made between CERN and NIKHEF to ease transition
 - Additional effort found by CERN to work on technical coordination tasks
- Absences due to Illness

Activity-specific issues are addressed in the corresponding presentations



WLCG depends on two major science grid infrastructures

EGEE - Enabling Grids for E-Science

OSG - US Open Science Grid



A map of the worldwide LCG infrastructure operated by EGEE and OSG.

The road towards EGI

2001	<i>January</i>	European Data Grid project is launched
2004	<i>April</i>	EGEE begins
2006	<i>May</i>	EGEE-II takes over from EGEE
2007	<i>September</i>	EGI_DS begins
2008	<i>May</i>	EGEE-III begins
	<i>December</i>	EGI_DS releases 'Blueprint for a European Grid Infrastructure'
2009	<i>March</i>	EGI_DS policy board decide Amsterdam will host EGI.eu
	<i>July</i>	EGI council is created based around a Memorandum of Understanding
2010	<i>8 February</i>	EGI.eu is founded
	<i>1 May</i>	EGI.eu assumes coordination of European Grid Infrastructure, supported financially by NGIs, EIROs and the EC through the EGI-InSPIRE project
2014		EGI-InSPIRE ends, EGI.eu continues to coordinate EGI

- EGEE-III ends
- EGI-InSPIRE starts
- EMI starts (3 years)

Wednesday

Project Overview and Status
EGEE-III Year 2: The Transition to EGI

Dissemination (scientific & business)
Training

Policy & Collaboration
Applications

Networking Support
Operations
Demonstration

Thursday

Middleware Re-engineering
Integration, Testing and Certification

Future directions
Summary
General discussion

Closed session
Feedback from reviewers

The follow-up of recommendations from the first review of EGEE-III is documented in the periodic report (DNA1.7.2) and are implicitly covered in the presentations

Presentations concentrate on objectives and results of second period. Separate talks on transition to EGI and plans beyond the lifetime of EGEE are included