



Enabling Grids for E-science

EGEE 2nd External Review

NA3 Training and induction

www.eu-egee.org



- **Help to develop the skills required to aid the take-up of the EGEE infrastructure**

- **always the central management tension**
- **achieve within the resources available**
- **avoid unacceptable compromise to either**
- **scale is the central issue**

- **Gold standard: personal training by experts**
 - (if good at personal interaction)
- **Silver standard: direct, well informed training**
- **Bronze standard: personalised but not personally delivered information available**



Supports a greater scale as you move down

How have we achieved in:

- **Quality**
- **Quantity (scale)**

- **Resource multipliers**
- **Training more trainers**
- **Outsourcing content**
 - Supporting & bootstrapping planning in related projects/communities
- **Encouraging external provision**
- **Support individual self-learning**



Supports a greater scale as you move down

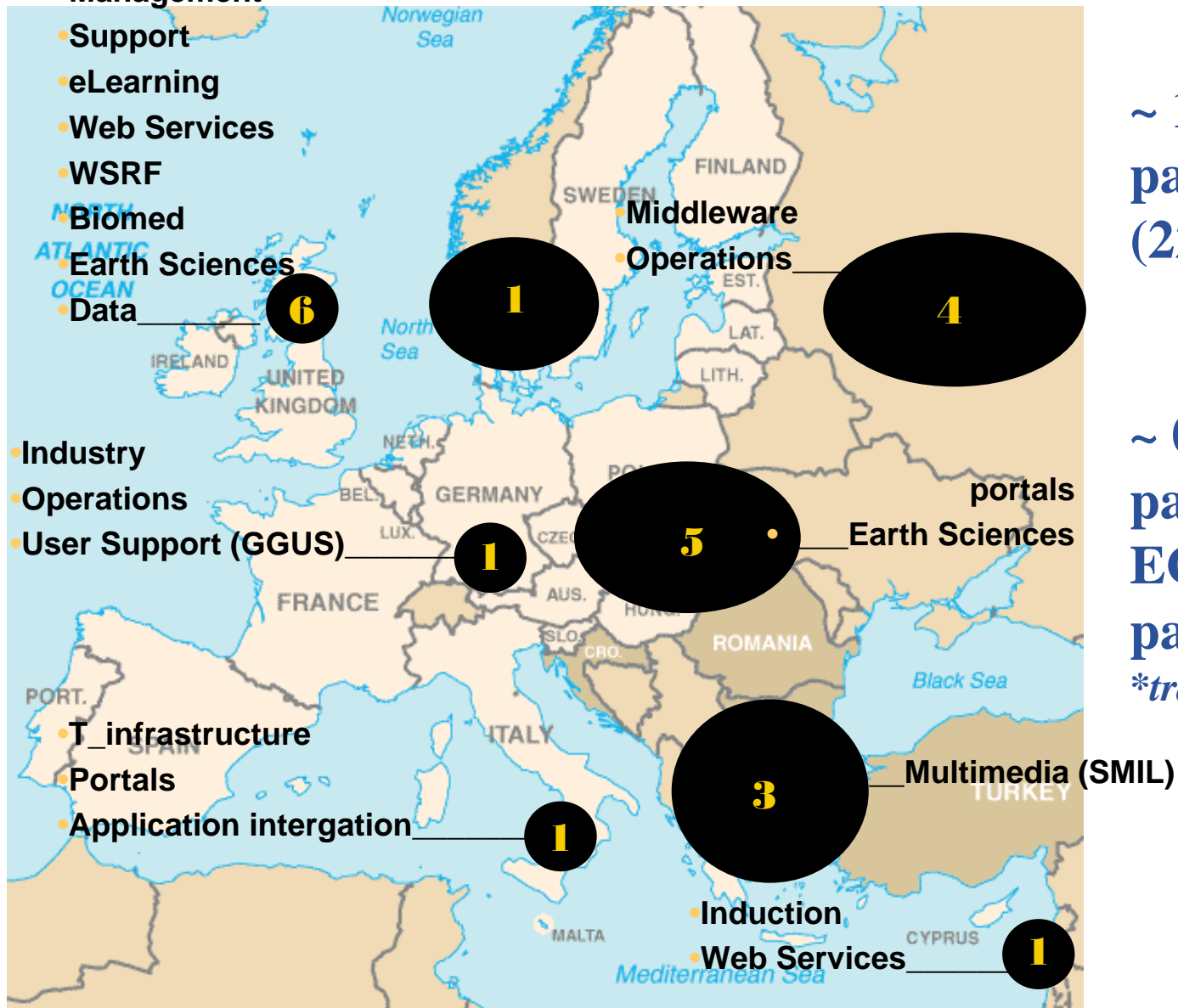
- **Why can't we do everything at:**
- **the largest scales**
- **and the best quality?**

Distribution of NA3 effort

- Management
- Support
- eLearning
- Web Services
- WSRF
- Biomed
- Earth Sciences
- Data

- Industry
- Operations
- User Support (GGUS)

- T_infrastructure
- Portals
- Application intergration



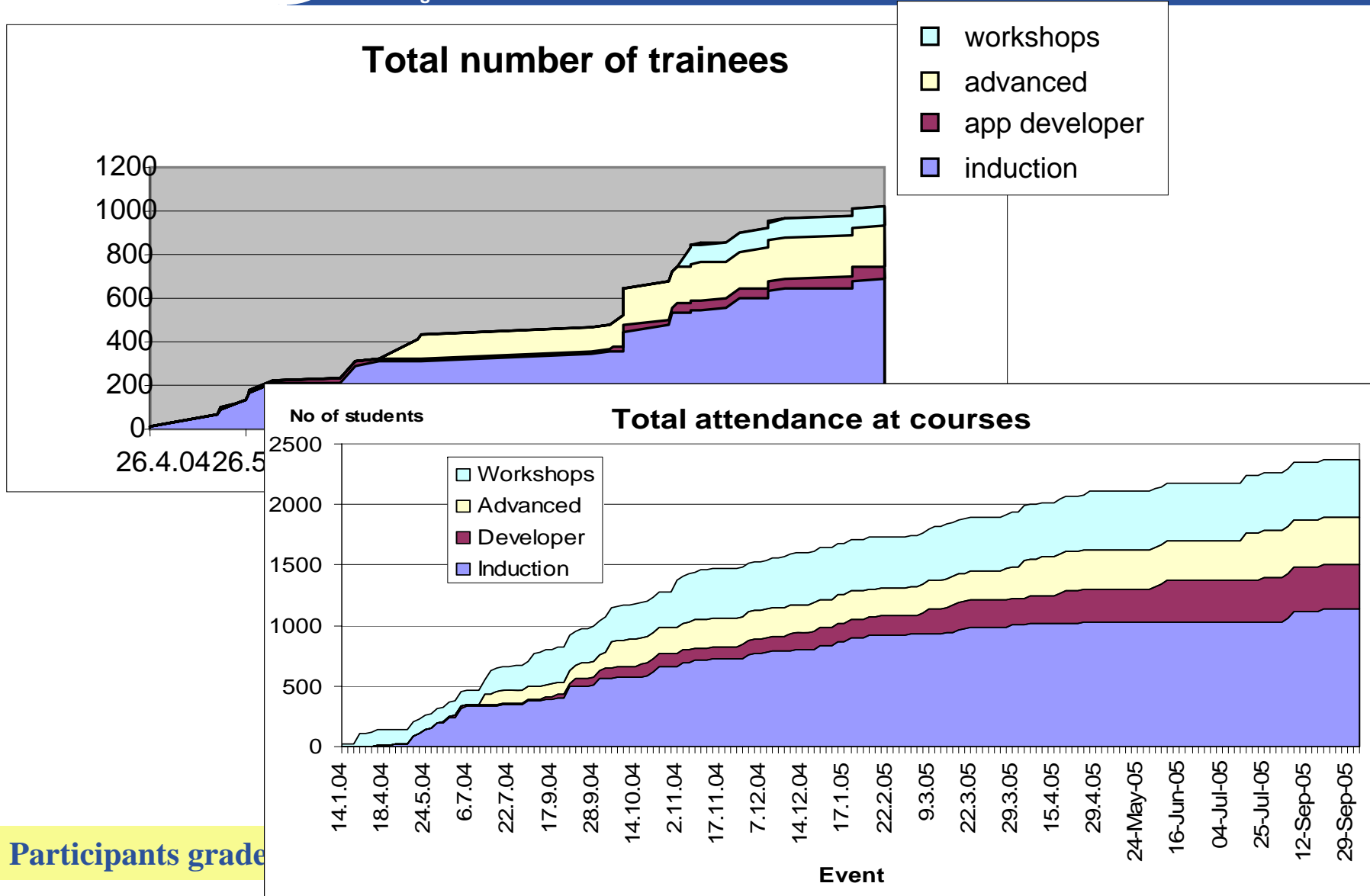
~ 1 FTE per partner in NA3 (22 partners)

~ 0.3 FTE per partner within EGEE (given 70 partners).

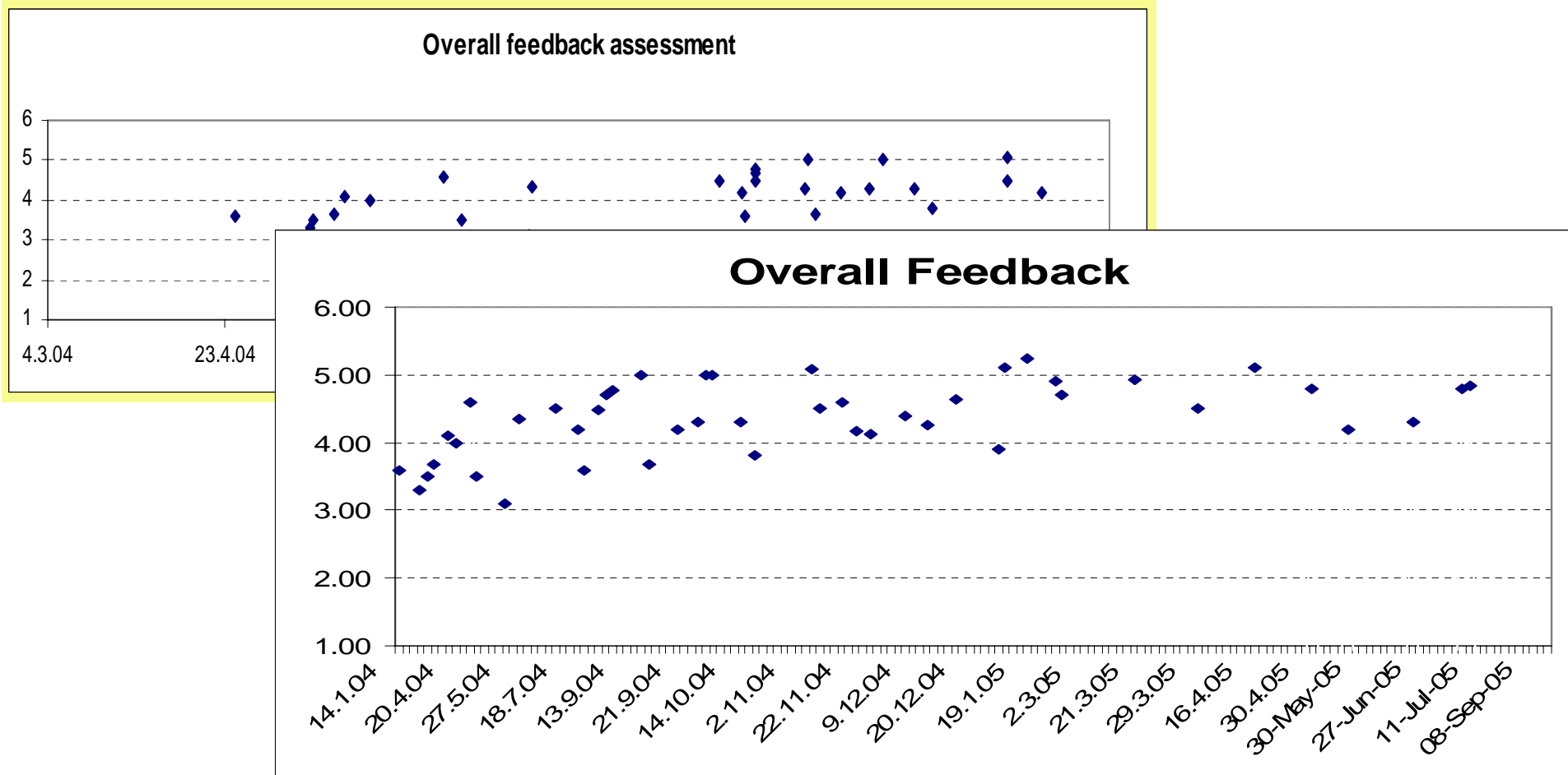
**training everywhere*



- **Diligent**
 - Athens, 18/4/05
 - Pisa, 23/10/05
- **Magic**
 - Tenerife, 16/10/05
- **EMBRACE**
 - Clermont-Ferrand, 25-27/5/05
- **TERENA/NRENS**
 - Cambridge, 6/5/04
 - Cambridge, 8/9/05
 - Estonia, 29-30/9/05
- **Industry attendees at:**
 - International Summer School on grid Computing '05
 - Grids@Work tutorial
- **Biomed courses**
 - Madrid 7-8/10/04 GATE,
 - Julich 9/3/05
 - Clermont-Ferrand, 22-23/3/05
 - PRISM workshop, UK, 26 – 28/4/05
 - Lyon, 30/5/05
 - Clermont-Ferrand, 25 -27/6/05
- **Physics courses** GridKa
 - Summer Schools
 - PPARC Summer Schools
 - CERN Summer Schools
- **Earth Sciences**
 - Slovakia 14/4/04
 - Slovakia 27-30/6/05



Participants grade course from 1 to 6, each point – average for a course overall score (workshops not included – see TA)



Trainers review grades and revise course material and training plans

- **Longer term feedback**
- **Match of course to expectations – 72%**
- **Generally considered themselves inexperienced before course**
- **Gaining experience through the course ~ 81%**
- **Improvement in work ~ 57%**

(n = 23)

- **Migration to gLite makes great demands on trainers**
 - Need to understand new architecture and technologies early
 - Need to have advance examples of infrastructure to prepare trainees for next versions of the middleware
 - Keep up with rapid release cycles
- **GILDA/GENIUS has been central in installing new middleware versions, making these available and sharing experience**
- **UEDIN cluster also used for early installation in conjunction with GILDA to gather experience**

- **Two tasks**
 - Update the knowledge of existing trainers
 - Train new trainers
 - (Both of these also happen at events not specifically for this purpose)
- **6 specific “Training the Trainer” events in 4 countries**
- **More than 89 attendees**

Adding to the pool 2 - examples

- **Marc Elian – has been involved in CERN training events**
- **After MAGIC training the project has gone on to organise its own internal gLite training**
- **Tobias Schiebech (University Manchester) requested permission to re-use archive material to run training in Spain.**
- **Many contributions from experts within EGEE (SA1, JRA1, JRA4, NA1, JRA2, etc).**
- **Archive contains material authored by 616 authors contributed to EGEE events.**
- **Academics taking up EGEE training**
 - UK
 - France



EGEE

- Organised & Presented
- Created Progressive Exercise
- Integrating Components
- Incremental Introduction of Features & Challenges
- Leading to Integrated Grid team challenge
- Generated Significant Interest
- Follow on in Edinburgh MSc
- ICEAGE

The event was attended by 65 *selected* advanced international students

- The International Summer School for Grid Computing was largely organised by EGEE and the event was advertised in GridToday (<http://news.taborcommunications.com/msgget.jsp?mid=389473&xsl=story.xsl>) due to the kind support of GGF.
- Mechanisms have been put in place to ensure that news about training events (both up-coming and reports of past ones) are better represented in the EGEE Newsletters (see recent releases).
 - **Appointed A.McCall to provide liaison and improve communication with NA2.**
 - **Similarly efforts are made at the national level (for example in the NeSC NewsLetter to the UK eScience community).**

- **ISSGC'05 – develop a integrated set of exercises to demonstrate many aspects of grid technology in the context of a generalised scientific task.**
 - Condor
 - GT
 - OGSA-DAI
 - WS
 - Building to same task on gLite
- **Carrying on development and use on UEDIN cluster**
 - MSc course tutorials
- **Continue development for ISSGC'06**

- **Regional EGEE Summer School in Budapest, 11-16 July**
 - Induction Course mainly, but included an Application Developer Training Course, and Advanced Course on gLite
- **PPARC Summer School – Edinburgh**
- **CERN Summer Students School**
- **CERN Summer School**
- **GridKA – October –**
 - Principles, User Induction, Developer APIs & Installation

- **Event between training and dissemination. In 2005:**
 - Participants from 10 nations
 - 6 courses
 - gLite introduction (x2)
 - ROOT/PROOF (x2)
 - Grid Appl. Development
 - gLite installation (based on Grid-in-a-box!)
 - 17 talks



- Yearly event (now in its third year)
- On the left:: Picture from GridKa School 2004

- Basic security concepts and the necessary technical aspects for users (certification) are included in induction and developer training courses routinely.
- UEDIN has been working closely with National Centre for eSocial Science, UK and is contributing to the NCeSS event in February. UEDIN is also helping NCeSS create an online Learning Object compliant entry relating to Virtual Organisations, this could then be re-used within the EGEE eLearning framework.

- **Providing a complete eLearning system is a massive undertaking**
 - (cf. UK JISC Jorum system and others).
- **Available resource – 1 developer/expert**
- **Concentrate on a basic document management system and appropriate personalisation and quality systems.**
- **Use ‘off the shelf’ components where possible with minimal customisation.**

- **Adhere to existing standards**
 - Dublin core
 - Learning Objects
 - Allows re-use of metadata and content from others
 - Re-use content of existing archive (xml export)
- **Service based architecture**
- **Provide services**
 - Allow others to create their own clients
 - Avoids the need for complexity of a completely generalised client

- **Content management with authentication/authorisation**
 - deposit/update/download materials, versioning, metadata management
- **Search / browse - Search & Retrieve Web Services (SRW) protocol**
- **Persistent linking mechanism (resolver) – OpenURL**
- **Resources annotation / review services**
- **Personal/local resources list services**
 - Create, read, update, delete personal resource (reading) lists and customised courses - IMS Resource List Web Services/Data Spec.
- **Export resources to other e-learning environment**
 - Zipped packages using IMS Content Packaging Spec.

- **Scale**
 - Support geographically diverse groups
 - Many different knowledge domains
 - Breadth of knowledge required

- **Quality**
 - Maintain and encourage a ‘quality culture’

- **Rate of change**
 - New middleware features
 - New VOs
 - Changing needs of domains
 - New projects
 - Changes in national grid provision

- **Rapid response to introduction of gLite**
 - Adoption of gLite
 - Sharing of experience
 - Creating courses
- **Moving to more demanding courses**
 - Greater proportion of developer courses to aid migration
- **Developing and demonstrating new tools to aid new modes of training (self-paced).**
- **Improving communication with dissemination**
- **Maintaining quality and momentum.**
- **Supporting related projects and EGEE VOs**
 - Encouraging their 'organic' training efforts
- **Development of new training models**
 - Integrated training models to engage external training groups
 - Eg. Condor & Globus

- **Quality and momentum being maintained**
- **Resource and scale is still a central issue**
- **Inventive approach required to meeting requirements within the resources available**
 - Need to sustain and engage enthusiasm
- **Support a range of methods for engaging in learning**
- **Engaging, encouraging and cooperating with other training and education programmes.**