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Training and Induction

Malcolm Atkinson, Head of NA3, UEDIN

EGEE NA3 External Review

15th April 2005

www.eu-egee.org

Information Society

Welcome to the National e-Science Centre & e-Science Institute

Malcolm Atkinson

Director

www.nesc.ac.uk

15th April 2005

**Enabling Grids for E-sciencE**

- **Welcome to the UK e-Science Institute**
- **Training, Education & Outreach**
  - Difficult, Challenging & Worthwhile
  - Have an established Modus Operandi
  - Proud of our achievements
- **Danger of Complacency**
- **Danger of stuck in last year's thinking**
- **Sure we could do better**
- **We ask you**
  - To point out our weaknesses
  - Alert us to new opportunities
  - Suggest improved methods and strategies

Enabling Grids for E-sciencE

- **Who are the trainers and what are they for?**

- **Highlights of the Training Year**

- **Training Achievements**

  - Exceeding planned targets

  - Effective federation and collaboration

  - Pioneering new training infrastructure

- **T-Infrastructure Provision**

  - GILDA/GENIUS

  - Operations training

  - Training Repository & Course Support

- **Future Training & Issues**

- **Conclusions**

Enabling Grids for E-sciencE

- **The EGEE training programme is built on a federation of 22 partners and close collaboration with other activities**

- **EGEE training has delivered well above planned targets**
  - raising grid awareness
  - gaining users
  - building teams
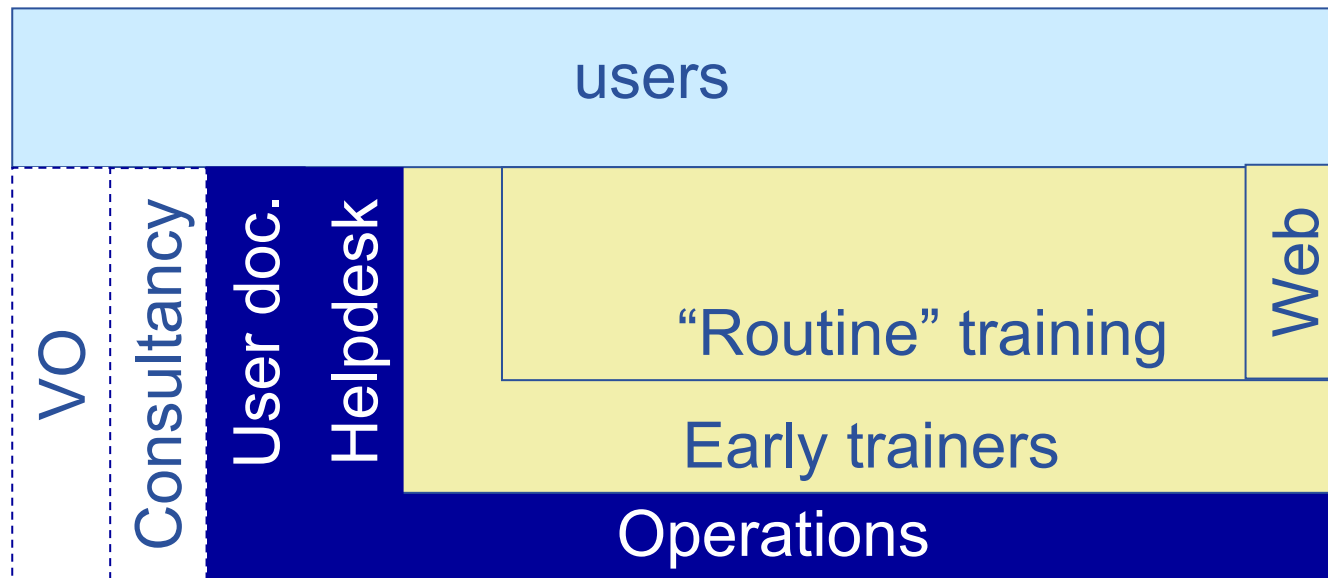 - empowering developers

What do trainers do?
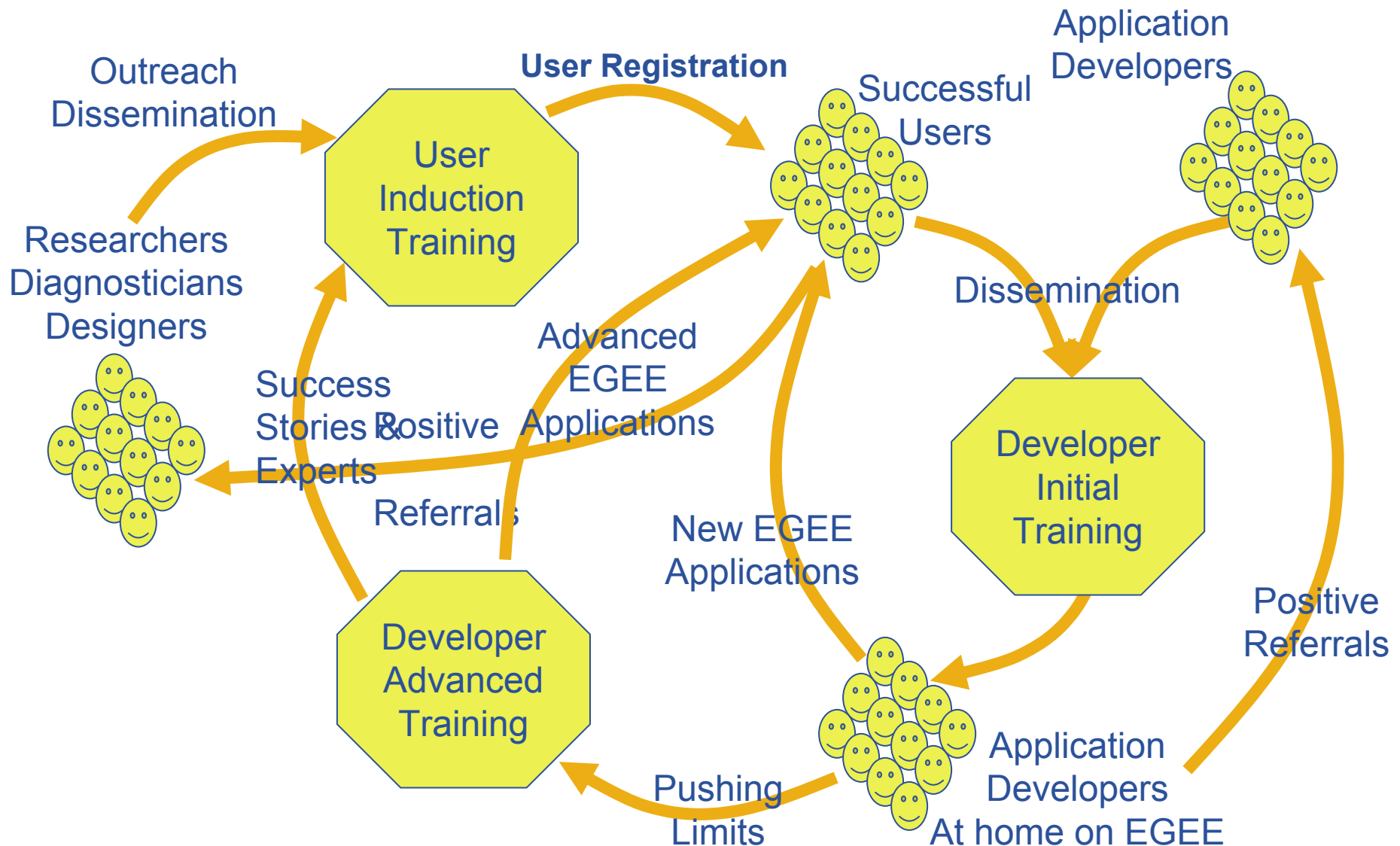
Why do we train?

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- **EGEE Goal**
    – many effective and active users in many locations
- **Technology is supported by a small number of people**
- **Training helps to make this feasible and scalable**
    – EDG demonstrated the necessity of training

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Enabling Grids for E-sciencE

- **EGEE Goal**
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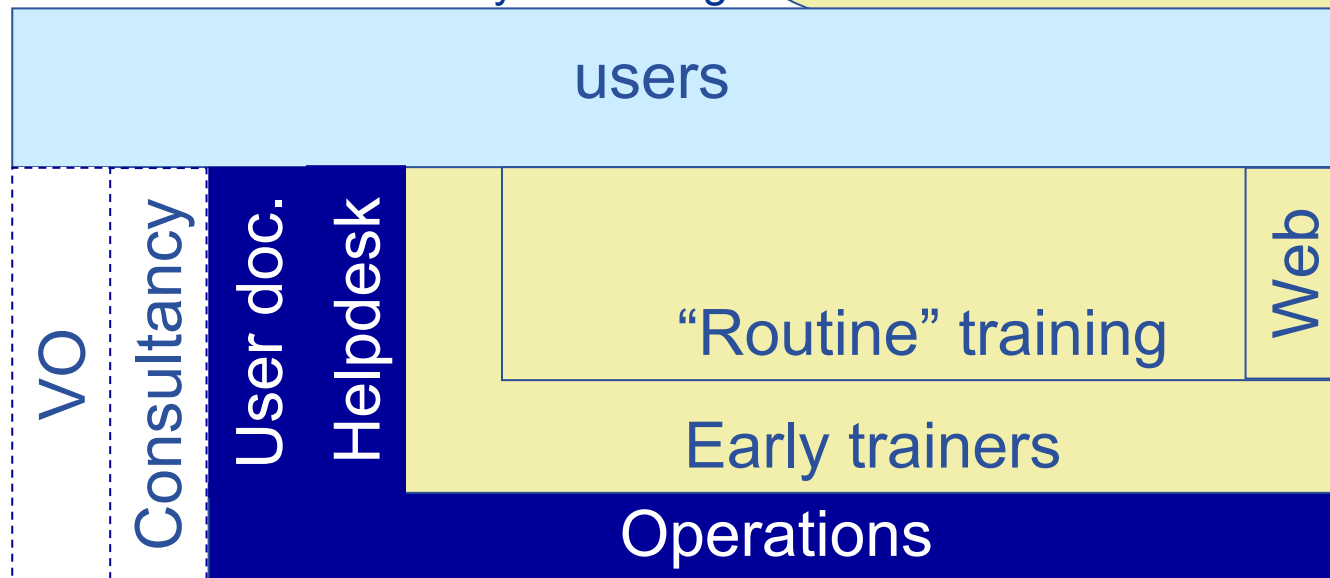 - EDG demonstrated the necessity of training

Increase trainer effectiveness

- Repository of Training Material
- Courses to train new trainers
- Self-paced Learning support

users

VO

Consultancy

User doc.

Helpdesk

"Routine" training

Web

Early trainers

Operations

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Poor training $\Rightarrow$

– Users uninformed

▪ Unproductive and dissatisfied

– Support staff overloaded

▪ With mundane questions

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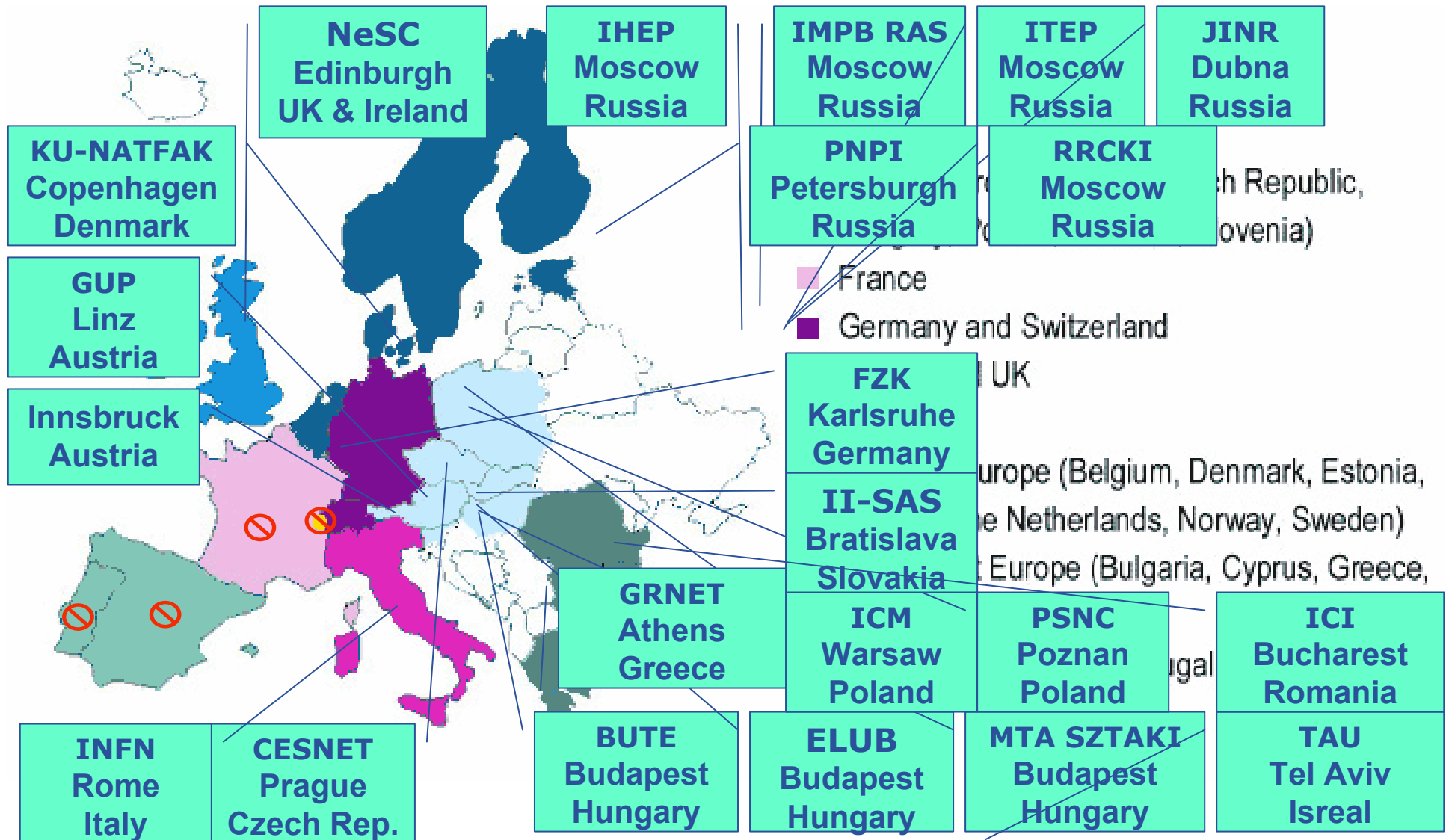Enabling Grids for E-sciencE
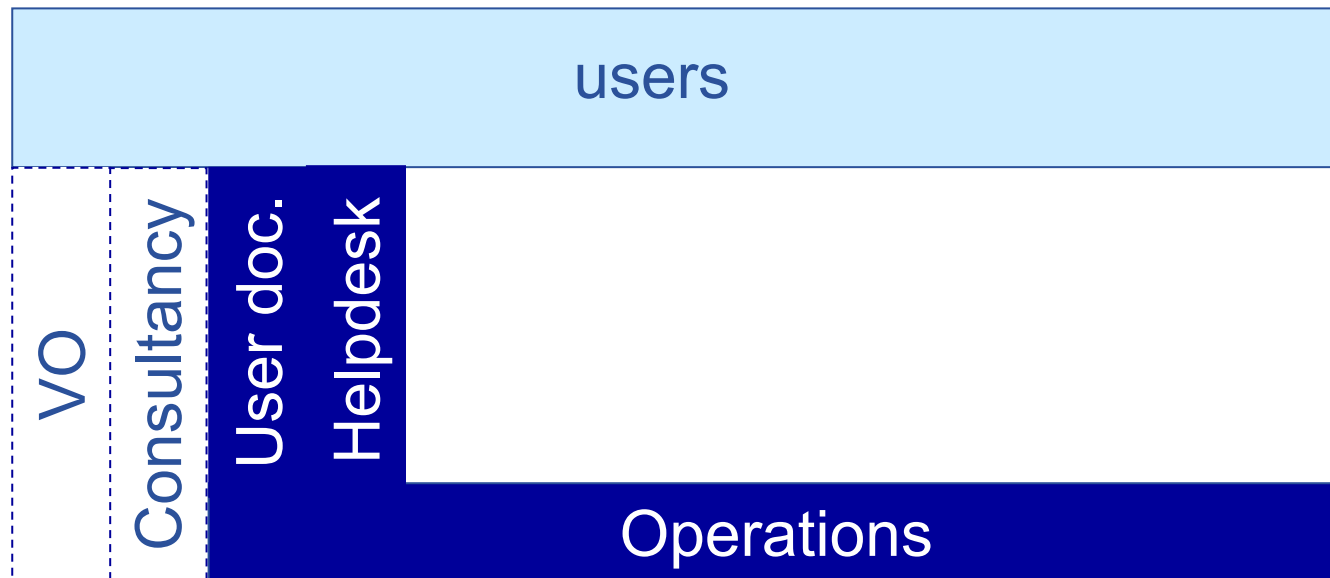
Poor training $\Rightarrow$

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  - Unproductive and dissatisfied
– Support staff overloaded
  - With mundane questions

If you think training is expensive,
try ignorance
Roy Crock, Founder of McDonalds

users

VO

Consultancy

User doc.

Helpdesk

Operations

Who are the trainers?

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Enabling Grids for E-sciencE

NeSC
Edinburgh
UK & Ireland

IHEP
Moscow
Russia

IMPB RAS
Moscow
Russia

ITEP
Moscow
Russia

JINR
Dubna
Russia

KU-NATFAK
Copenhagen
Denmark

PNPI
Petersburgh
Russia

RRCKI
Moscow
Russia

ch Republic,

ovenia)

GUP
Linz
Austria

France

Germany and Switzerland

Innsbruck
Austria

UK

FZK
Karlsruhe
Germany

urope (Belgium, Denmark, Estonia,

II-SAS
Bratislava
Slovakia

e Netherlands, Norway, Sweden)

t Europe (Bulgaria, Cyprus, Greece,

GRNET
Athens
Greece

ICM
Warsaw
Poland

PSNC
Poznan
Poland

ugal

ICI
Bucharest
Romania

INFN
Rome
Italy

CESNET
Prague
Czech Rep.

BUTE
Budapest
Hungary

ELUB
Budapest
Hungary

MTA SZTAKI
Budapest
Hungary

TAU
Tel Aviv
Isreal

One of the smallest activities – 4% of budget

Federation	Effort in FTEs
South East Europe	**3.44**
Russia	**4.13**
Northern Europe	**1.33**
Italy	**1**
Germany/Switzerland	**1**
Central Europe	**5.29**
UK/Ireland	**6**
TOTAL	**22.19**

~ 1 FTE per partner in NA3 (22 partners)
~ 0.3 FTE per partner within EGEE (given 70 partners).

- **Each of the NA3 federations has delivered at least two courses during the period under discussion.**

- **The first training plan (DNA3.1.1) calls for a total of 26 training events per year, whereas ~70 have actually been delivered.**

- **The courses delivered have averaged almost exactly two days each across all of the federations.**

- **The total number of attendees so far reported is ~1250.**

Highlights of a training year

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Enabling Grids for E-sciencE

NA3 produces courses based on commitments in the execution plan and training requests which have been received

☞ from SA1, NA4 & NA2

- **Induction**

- **LCG2 installation**

- **LCG2 APIs**

- **gLite preparation**
  - Web Services
  - WSDL
  - WSRF
  - GT4

GT Course, Edinburgh

NA3 produces courses based on commitments in the execution plan and training requests which have been received

☞ from SA1, NA4 & NA2

- **Induction**

- **LCG2 installation**

- **LCG2 APIs**

- **gLite preparation**
  - Web Services
  - WSDL
  - WSRF
  - GT4

Biomed Application Developers Course, Madrid
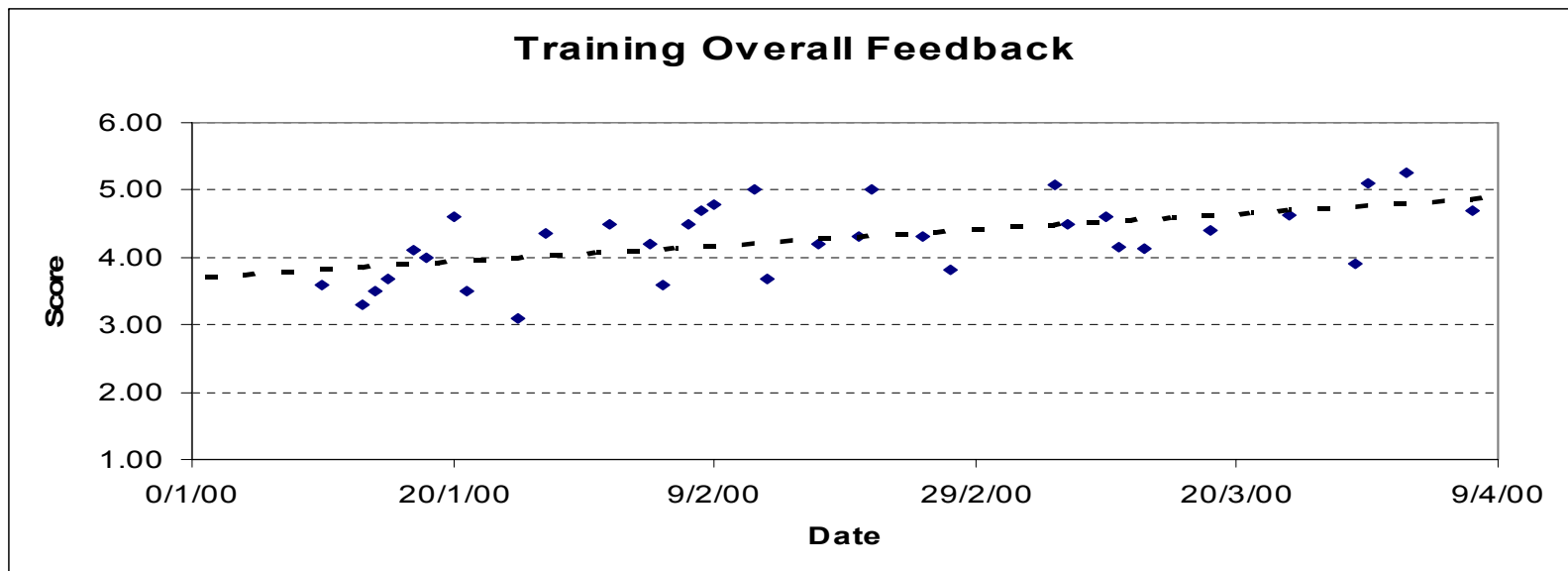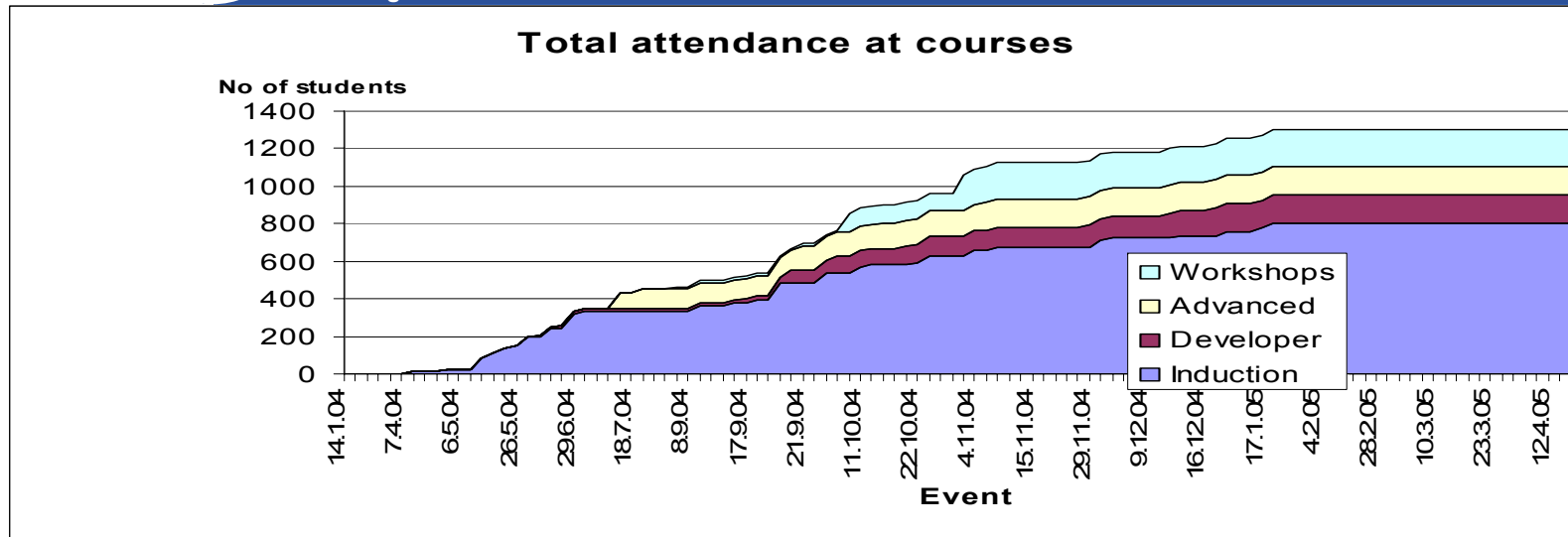
NA3 contributed
- planning
- organisation
- courses

Presentations
- **Grid applications – a portal-based approach**
- **Introduction to Web Services**
- **Introduction to GENIUS and GILDA**
- **An Introduction to Data Services & OGSA-DAI**

The event was attended by 84 *selected* advanced international students

Training Achievements

Total attendance at courses

No of students

Workshops
Advanced
Developer
Induction

Training Overall Feedback

Trainers review grades and revise course material and training plans

Targets for year 1, **but demand exceeds original estimates**

Course type	No of Attendees	% of 1-year target	No of courses	% of 1-year target
Induction	805	161	61	610
Application Developer	150	75	25	312
Advanced	151	300	8	400
Technical Activity Retreats	627	348	34	567

Total trained >1733 so far – 2 year target 1500, so >2/3 target in 1/2 time

	Event Type			
	Induction Courses	Application Developer Training	Advanced Courses	Technical Activity Retreats
Number per Year	10 61	8 25	2 8	6 34
Average Attendance	50 30	25 17	25 30	30 64
Course Length (days)	2 2	4 2	5 4	2 2
Course Equipment	Web Access	Workstations	Workstations	
Num. of EGEE Staff	2	2	2	2
Number of non-EGEE Experts	0	1	3	0

Planned in TA per year   **Actual in first 12 months**

Participant Days	Target	% of year 1 target	
3813	1000	380%	Induction
319	800	40%	Developer
1255	250	500%	Advanced
737	360	207%	Workshops

Subset of courses run – for which data is available

>1200 Gilda Certificates issued – 10% renewed

- **Resources per course higher than initially estimated**
  - reduced number of days per course
  - more administration per participant day
  - fewer participants per course
  - greater numbers of trainers required
  - increased e-Infrastructure requirements

  **Demand is rising
  EGEE is responding
  Response is limited
  by availability
  of experts**

- **Reduced numbers of participants per course**
  - necessary for training quality

- **Shorter courses**
  - necessary to fit with participants' constraints

- **More courses & Participants**
  - **because so many work on or want to use EGEE**

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Enabling Grids for E-sciencE

Induction, France (NA4)	**4 + 11th January**
Grid conference tutorials, Russia	**17 -19th Jan**
Operations & Trainers training, Athens	**20-21st Jan**
Induction, France (NA4)	**18th Jan**
Induction, Grid Conference Amsterdam	**16th February**
Induction for NA2	**28th Feb-1st Mar**
WSRF, UK	**23 - 24 Feb**
GATE tutorial, Germany	**7- 9th March**
Web Services (with AG), Germany	**16 - 18th March**
Induction, France (SA1)	**22 - 23rd March**
Application Developer course, Spain	**late Mar/Apr**
GT4 week, Edinburgh	**4- 8th April**

DILIGENT training, Athens	**16th April**
Courses at Athens Conf, Athens	**17th April**
PPARC Grid Summer School, UK	**10 -13th May**
Tutorial, Grid conference, Russia	**11-15th July**
Regional Grid Summer School, Budapest	**11-16th July**
International Grid Summer School, Italy	**July**
Induction, Austria	**Sept**
Plus 7 UK regional events	

Many additional courses expected matching Commitments & Requirements

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Enabling Grids for E-sciencE

- **Top 3 training achievements**
  - achieved by NA3 working with NA4, SA1 & JRA1
- **An effective and federated collaboration for training**
  - across the whole of the EGEE geographic area
- **Significantly exceeding first year goals**
  - in the provision of training and induction
- **Pioneering t-Infrastructure provision**
  - GILDA
  - Hands-on operations training
  - Shared training resources repository

•**Contribution to Outreach & Dissemination**

- **Training extended to many other countries**
  - bringing new communities to EGEE

Enabling Grids for E-sciencE

- Rapid response to unanticipated need
  - **advanced installation/administration course**
  - **SA1 identified requirement**
  - **SA1 provided initial courses**
  - **Required hands-on system**
  - **Several computers + network / learning group**
  - **Full systems-administrator access**
  - **Must be a free-standing system**
    - Course in Oxford
    - Course in Karlsruhe
    - Training trainers
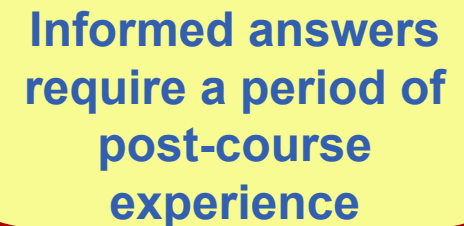 - T-Infrastructure investment now underway

Issues and Plans

Enabling Grids for E-sciencE

The training team's primary concerns are

- **Sustain high-quality training across the region needs**
    - Continuous collaboration
    - Focus
    - Leadership
    - Communication
    - Resources

- **Experts under heavy demand needed**
    - to inform planning, preparation and delivery of new courses
    - Consequence of rapidly developing e-Infrastructure

- **Demand for training is growing rapidly**
    - expands with each new community and operational advance

- **All deliverables and milestones met for first 9 months**

- **Next milestones and deliverables:**
  - MNA3.3 External review of User Training and Induction
    - External technology experts, educators & students
    - Independent view to influence planning
    - Follow up survey – what impact does our training have
    - Do people now use EGEE?
    - Work with other e-Infrastructure?
    - Work more effectively within EGEE?
    - …
  - DNA3.1.3 Training Plan revision
  - DNA3.3.2 Training Progress Report update

Informed answers require a period of post-course experience

Enabling Grids for E-sciencE

- **Focus on Application Developer courses**

  – Support new application domains brought in by NA4

  – Partners have been asked for new commitments in this direction

- **The limitations of *ad hoc* t-Infrastructure recognised**

  – UEDIN physical resources to address this requirement.

- **Expansion of the materials archive**

  – Improvements to structure and interface

  – Based on feedback from trainers and self-paced learners

Enabling Grids for E-sciencE

- **Use grid-based technology to present courses**
  - Trialed Access Grid at UEDIN
  - Expect to increase the use of video conference in courses
- **GRNET explored SMIL extensions to XHTML**
  - Associating presenter's audio & video with slide presentations
  - Expect to use extensively for e-Learning
- **Expand e-Learning technology and materials**
  - To provide increased support for training
  - To support self-paced learners
  - New staff member appointed at UEDIN
- **Established User Information Group (UIG)**
  - To improve the provision of information to all EGEE users
    - Accessible, consistent, well-organised for new users
  - Spanning NA2, NA3, NA4, and SA1

- **Established an effective and *federated* collaboration for training**
  - Across the whole of the EGEE geographic area
- **Significantly exceeding our first year goals**
  - In the provision of training
- **Identified and met the requirement for t-Infrastructure**
  - Pioneering its provision with GILDA
  - Establishing shared training material repository
- **Training has been extended to many other countries**
  - Bringing new communities to EGEE
- **Plans**
  - New gLite courses – decisions in Athens – start May 2005
  - Focus on application developer and advanced courses
  - Further develop training support mechanisms
    - t-Infrastructure, e-Learning & gLite migration support
  - Respond adroitly to new requirements

Comments and Questions Please