



Current challenges for bio-repositories: Europe

European
Mouse
Mutant
Archive

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Topics for discussion

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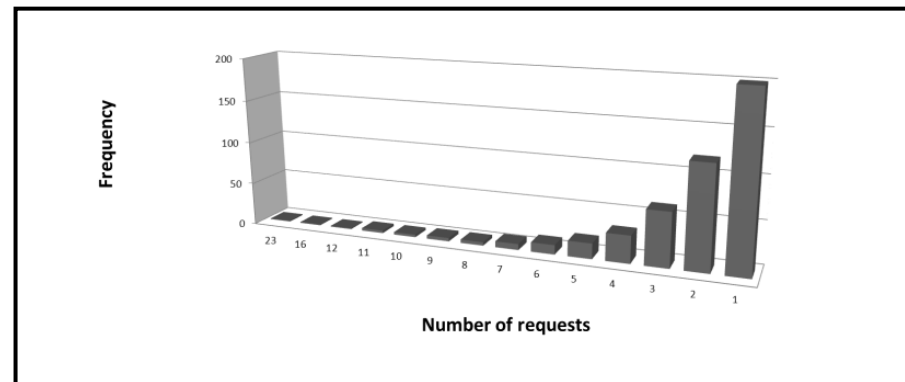
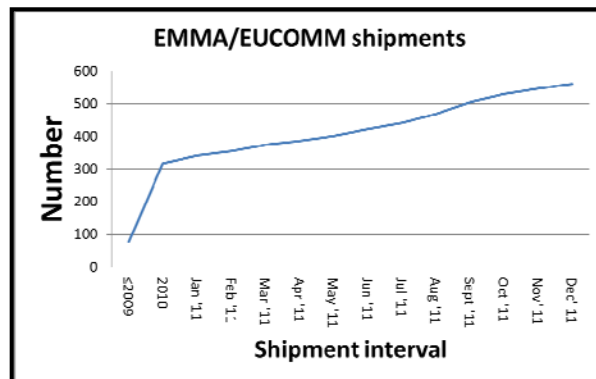
- Capacities
- Cooperation
- Training
- Resources
- Transportation





Capacities

- IMPC alone will generate 5000 new lines over the next 5yrs
- On going ENU mutagenesis programmes
- PIs being encouraged to deposit lines
- More stocks archived means more exports
- Phenotyping data will fuel demand





Managing expectations

- Managing expectations – in particular delivery times is vital
- EUCOMM delivery times
 - shipped 77 days (median)
 - pending 101 days (median)
- EUCOMM Dec 2011
 - 501 strains in EMMA

	Total number of individual lines requested	Total number of individual lines distributed	Total number of lines cancelled	Total number of current requests
<u>TOTAL</u>	<u>1176</u>	<u>561</u>	<u>440</u>	<u>175</u>





Long term funding

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- Secure
- Long term
- EMMA - €9.9M/4yrs (FP7 **competitive** grant)
- IMPC – national and grant funding
- Cost recovery models
- Drive down costs
 - Freezing
 - Recovery
 - Transportation

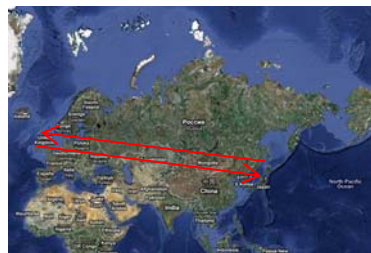




Maintaining networks

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- EMMA/MMRRC/AMMRA/CMMR/APN
- Hub to hub exchange – could be extended
- Reinforce links
 - Cryo-workshop
 - Staff placements
 - Exchange ideas/data
 - Share specialist techniques
 - Klf14 rescued by CARD

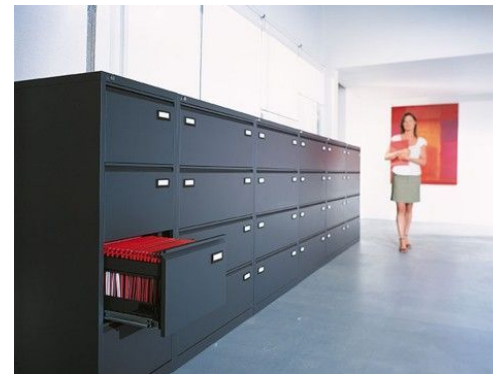




Intellectual property

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- MTAs (simplify)
- Rights to remain with the beneficial owner
- Restrictive with excessive reach through
- Enable 'for-profit' organisations to access resources
- Costly management exercise
- Can cause delays even between network partners





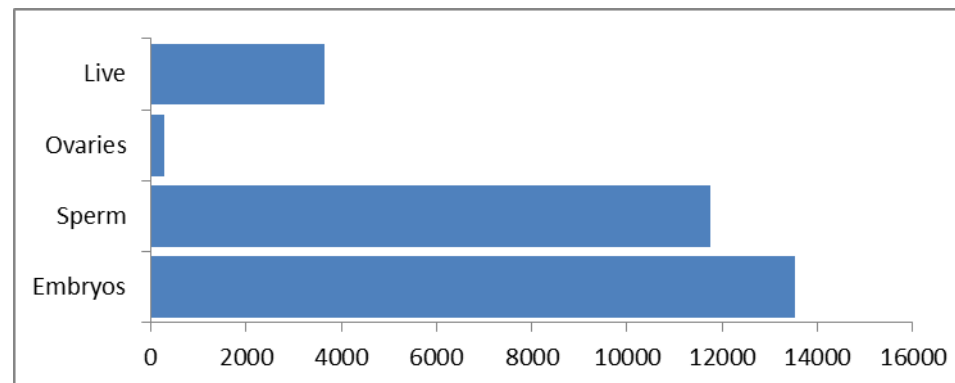
Source of knowledge

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- More visibility for repositories – outreach
- Data display tools
- Easy access to contemporary lab protocols
- ISTT knowledge base
- Greater understanding nomenclature



International Mouse
Strain Resource
(IMSR)

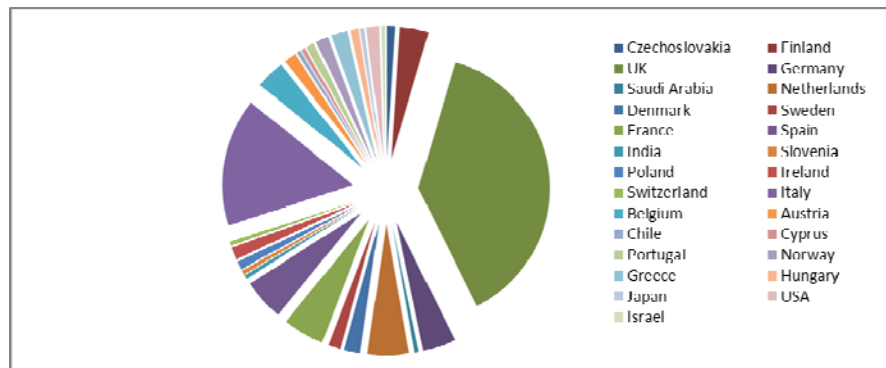




Training - cryo and embryo handling

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- Dissemination of contemporary skills
- Wider acceptance of frozen sperm
- Course capacity
- TjL ~28/yr
- Card & RIKEN ~24/yr
- EMMA ~28/yr (205 people)

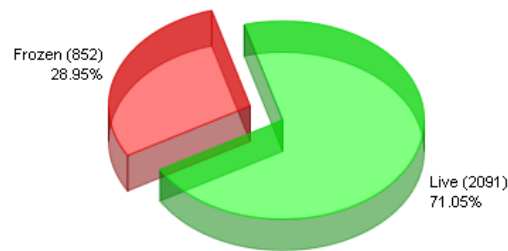




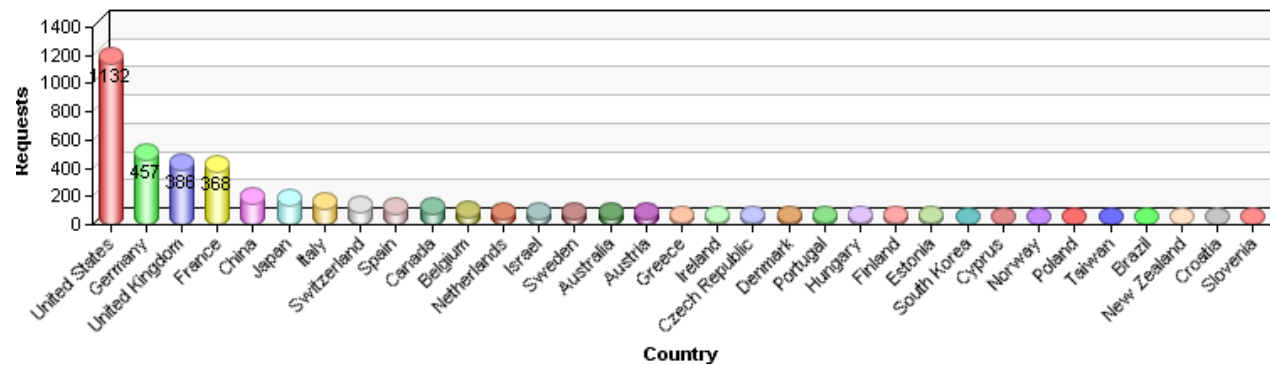
Reduce live animal shipments

- >70% of stocks are requested as live mice
- Promote shipment of embryos/germplasm

Total Requested Material



Requests per Country





International transport

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- Essential for some stocks
 - Germ free & complex genetics
 - Centres without recovery facilities
- Cost benefit of transport vs surgical rederivation
- Adverse ambient conditions
- Single issue groups





Single issue groups

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- **Airlines** (BA & Lufthansa stopped transporting animals)
- **Ferry ports** (UK – Mar 2012)
- **Air France KLM** – Currently the focus of activity.
- **'If we are serious about ending vivisection then it is vital we cut off the supply of animals'**
- **Global issue** – e.g. Aeroflot, Japan Airlines, Air China, China Southern Airlines and Philippine Airlines.

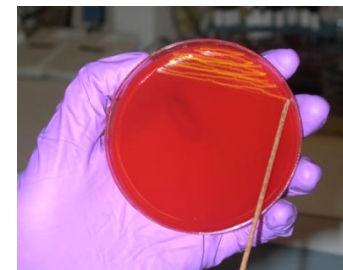




Multiple health status requirements

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- European standard – FELASA
- 14 viruses; 10 bacteria; plus parasitology
- Variable health requirements
- Additional screens (Hantaan virus, P carinii)
- Wood derived substrates – China
- UK sourced bovine serum albumin - BSE

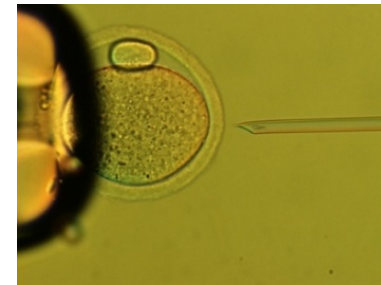




New approaches to shipping

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- Unfrozen embryos/sperm
- Shipping embryos/sperm on dry ice
- Whole organ shipments - ICSI
- Make the sums stack up in favour of embryos and gametes





Concluding remarks

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- Wider acceptance of frozen materials
- Better shipping options
- Secure funding opportunities
- More training
- Hub to Hub cooperation





New technologies

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- New technologies – focus of this meeting
- New services
 - recoveries from gonadal tissues
 - recoveries from found dead males
 - cross species technologies – rat cryo





➤ **Cost benefit of transport vs surgical rederivation**

