Open Source in European Government
and Global Collaboration in European Research

International Forum on Open Source Software

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FLOSSPOLS: EU Project

- Led by MERIT, University of Maastricht
- Largest EU-wide survey of government authorities on use of free software
- Major conference on November 18, The Hague: "Open Standards and Libre Software in Government"

EU policy

- EU has funded several hundred research projects related to free software (EuropePKI, Agnula, PyPy)

- European Commission itself develops free software but no official policy on this

- For eGovernment, free software is seen as a way to achieve "Lisbon goals" (access to all)

- Open Source Observatory europa.eu.int/idabc/oso/

EU policy

- No EU policy on research output
- EC DG Research Expert Committee on "IPR Policies for ICT-based research" recommends free software licences for software resulting from public funds
- EC DG Enterprise / IDABC has developed a *draft* licence (EUPL)

European countries

- Extremadura, Spain: free software takes it from one of EU's poorest regions to the winner of the EU Regional Innovation Awards in 4 years; 80000+ desktops running gnu/Linux
- Other Spanish provinces following this example: Andalucia, Valencia

European countries

- France: Prime Minister's IT dept ADAE issued guidelines for free software in govt in 2003
- Large-scale migrations to OpenOffice in Ministries of Finance, Interior, Agriculture + Customs/Douane, Gendarmerie... 100k+

European countries

- Germany: Ministry of Interior published Migration Guidelines in 2003, with update in 2004.

- Several regional authorities migrating to gnu/Linux. Largest/most famous: Munich

- Foreign Ministry uses free software for global network of embassies

- Information Security agency (BSI) funds free software security projects (Sphinx/Aegypten, Kolab)

European countries

- Published policies for consideration / encouragement of free software: Sweden, UK, Belgium, Germany, France, Spain, Italy, Estonia, Finland, Lithuania, Netherlands
- Mandating open standards: Denmark, Netherlands
- Major local government migrations: almost all EU countries

Conference: flosspols.org

"Open Standards and Libre Software in Government", November 18, 2004, The Hague, Nederlands Congres Centrum

Speakers from:

- Ministries: Denmark, Ireland, Spain, Italy, France, Germany
- City govt: Austria, Italy, UK, Netherlands
- European Commission

FLOSSPOLS Govt Survey

- Local / regional govt authorities
- Phone + web-based survey
- Largest survey of govt use of FLOSS worldwide
- 13 EU countries (including EU25)
- Questionnaire / phone calls in 10 EU languages
- 4138 govt authorities individually addressed, + open questionnaire distributed in some countries
- Late 2004 – early 2005

Govt Survey response

- 955 respondents
- Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Italy, Netherlands, Poland, Spain, Sweden, UK
- Response rate varies across countries from 51% to 6%, average of national response rates: 29%
- Non-respondent follow-up analysis carried out to estimate self-selection bias; this bias varies by country

Findings: frequencies

Share of respondents using FLOSS (%)

49.4

20.6

29.9
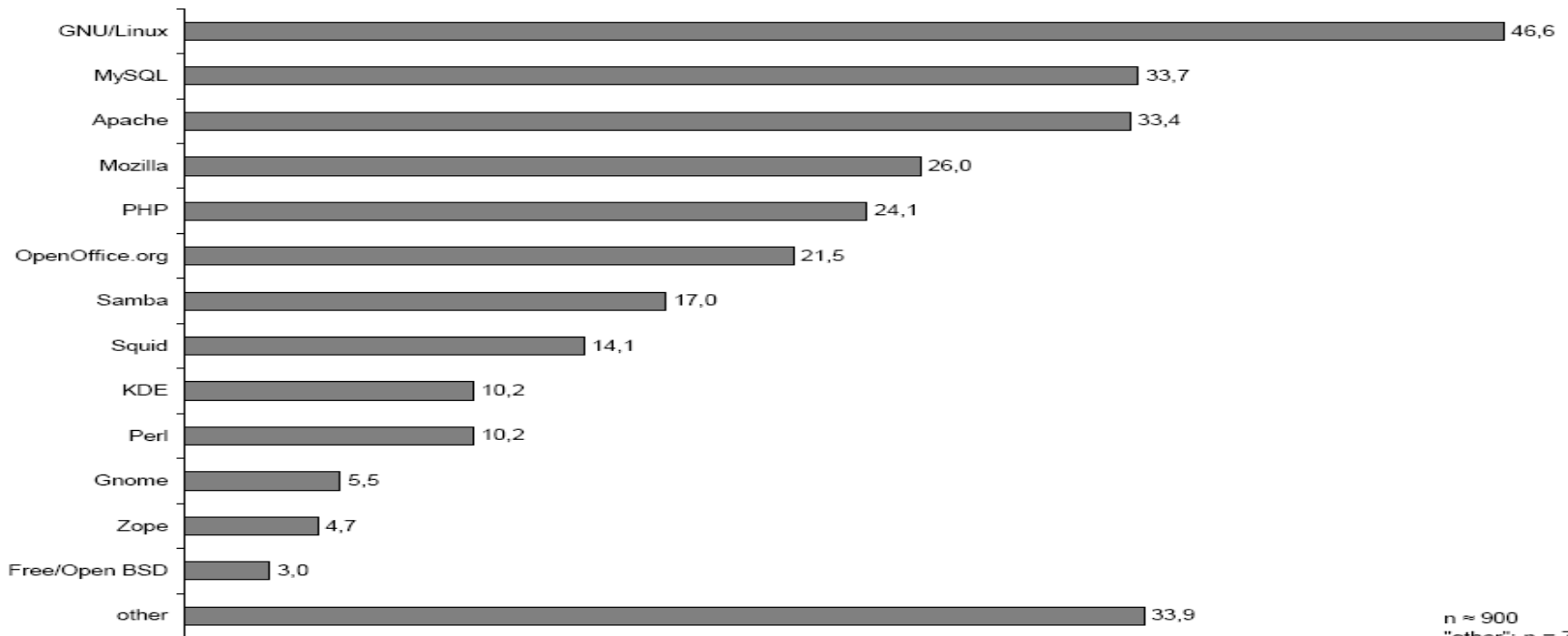
Aware users
Unaware users
Non-users
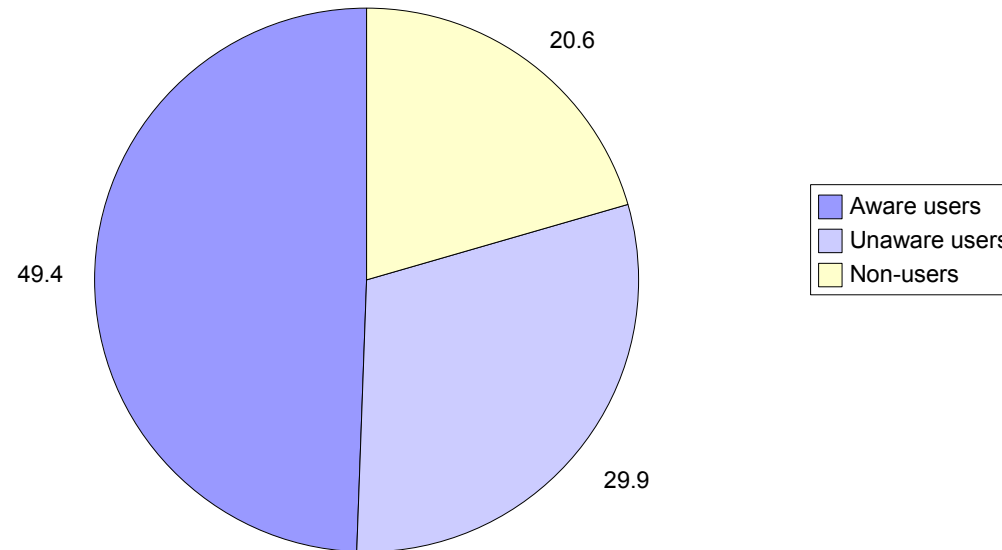
Findings: frequencies

Extent of use (among aware users)

Use of FLOSS		Percentage
on the PC	(almost) completely	1.6
	partially	16.3
on the servers	(almost) completely	3.8
	partially	40.3
experimenting in pilots		20.3

Findings: frequencies

Applications used, % of total
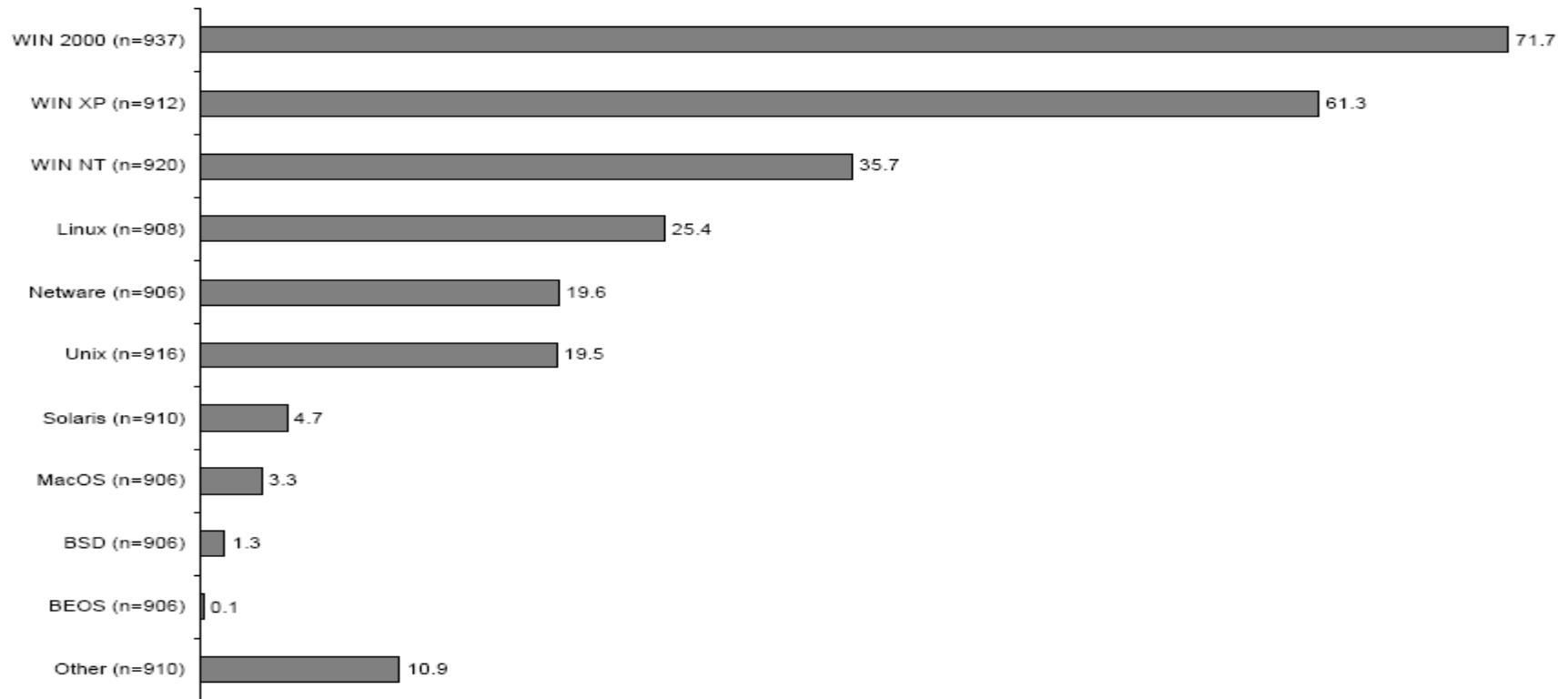(including those who say they don't use FLOSS - unaware users)

Application	%
GNU/Linux	46,6
MySQL	33,7
Apache	33,4
Mozilla	26,0
PHP	24,1
OpenOffice.org	21,5
Samba	17,0
Squid	14,1
KDE	10,2
Perl	10,2
Gnome	5,5
Zope	4,7
Free/Open BSD	3,0
other	33,9

n ≈ 900
"other": n = 759

Findings: frequencies

"Basis of your IT system", % of total

Findings: patterns

Useful to extend FLOSS in organisation?	Type of FLOSS usage in organisation			
	aware usage	unaware usage	non-usage	Average
yes	69.9	30.2	38.3	51.5
no	11.0	31.6	28.1	20.7
I don't know	19.1	38.2	33.7	27.8
Total	100	100	100	100

p < 0,001   Contingency Coefficient: 0,349   n = 953

Awareness of FLOSS leads to increased willingness to use it regardless of current use/non-use.
27% of all current users and 22% of all users who want to increase FLOSS use want a complete migration away from proprietary sw.

FLOSS pros and cons

	Total	*Aware users*	*Unaware users*	*Non-users*
Easier to customise	0.26	0.45	0.21	-0.12
Easy to combine with proprietary software	0.18	0.33	-0.03	0.09
More reliable	-0.15	0.03	-0.29	-0.41
Easier to use	-0.36	-0.36	-0.31	-0.44
Source code not enough, price important	0.40	0.41	0.35	0.44
Lack of technical support	0.12	-0.02	0.43	0.01
Training is expensive	0.10	-0.07	0.35	0.15
Don't want to be the first to adopt FLOSS	0.03	-0.18	0.31	0.12

Positive values reflect agreement with the statement, negative values disagreement.
Mean values are shown, but variation within usage categories (std dev.) is quite high,

Findings: patterns

		"It is too hard for my organisation to find companies that provide technical support for open source software"			
		I disagree	neutral	I agree	Total
"Migrating to open source software makes sense only if other organisations like mine do it first"	I disagree	69.3	17.5	27.8	38.3
	neutral	12.0	55.5	13.1	24.7
	I agree	18.7	27.0	59.1	37.0
	Total	100.0	100.0	100.0	100.0

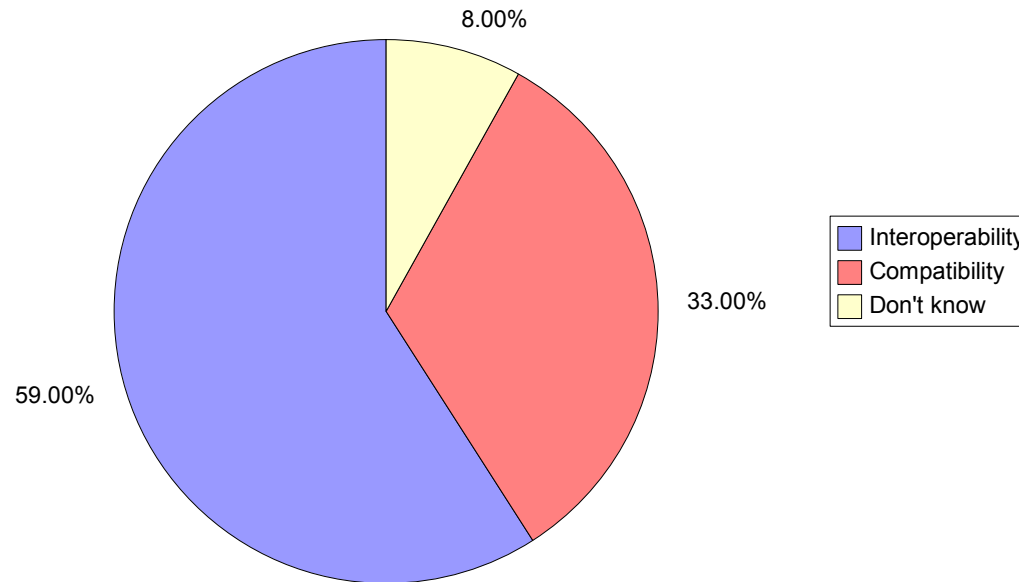$p < 0.001$ contingency coefficient: 0.517 $n = 930$

Fear of a lack of technical support closely related to the first mover problem. Countries where technical support exists (or is perceived to exist) face less "first mover" reluctance.

Interoperability/compatibility

Which is more important for new software?

8.00%

33.00%

59.00%

- Interoperability
- Compatibility
- Don't know

Interoperability = ability to work with software from other producers
Compatibility = ability to work with previously procured software
*Demand for interoperability strongly correlated with aware FLOSS use*

Vendor dependence

	Useful to increase share of FLOSS in your organisation?		
Too dependent on vendors?	Yes	No	Average
Yes	**53%**	30%	44%
No	43%	**66%**	49%

Strong correlation between sense of vendor dependence and future FLOSS use.

The share of respondents saying they are too dependent on vendors declines among users with greater extents of FLOSS use.

Need to customise

How often do you customise your software?
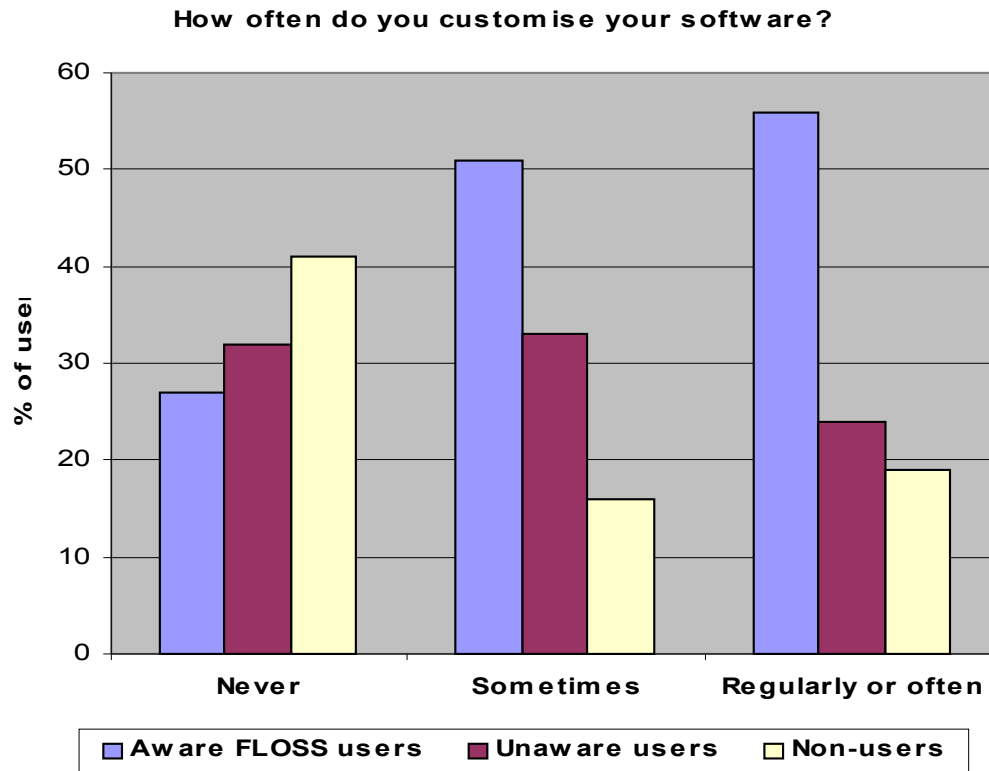
Organisations that need to customise software are more likely to use FLOSS.

External maintenance

	Type of FLOSS usage in organisation			
To what degree do you deploy external maintenance services?	aware users	unaware users	non-users	Average
never	6.6	7.3	9.6	7.4
sometimes	46.2	51.3	34.2	45.3
often	47.2	41.5	56.1	47.3
Average	100.0	100.0	100.0	100.0

p < 0.01   Contingency Coefficient: 0.122   n = 930

Non-users are most likely to deploy external maintenance services "often".

IT Budgets and FLOSS

- No significant differences between non-users and aware FLOSS users.

- However, *unaware* FLOSS users are likely to have smaller budgets than the other groups.

- Hypothesis: PAs with small budgets adopt FLOSS applications without knowing that they are FLOSS, just assuming they are "free of charge"

- Experience may lead to them becoming aware users in future

Licence fees and FLOSS

- Average share of IT budget spent on licence fees is 20% - higher than the 5-10% claimed by TCO studies, but consistent with previous PA surveys.

- Actual share spent on licence fees doesn't affect FLOSS use, but *perception* of share does.

- 46% find the share too high, 6% find it reasonable, 23% find it too low (mainly FLOSS users, who presumably mean the share is lower for them, not that they would like to pay more)

- 50% of all respondents need to reduce licence fees as a share of their IT budget within 2 years.

Licence fees and FLOSS

	Share of license fees in overall IT budget 2004				
FLOSS non-users	too high	reasonable	too low	I don't know	Total
I would find it useful to increase the share of FLOSS in my organisation	66.4	40.0	33.8	49.4	52.6
I would NOT find it useful to increase the share of FLOSS in my organisation	33.6	60.0	66.2	50.6	47.4
Total	100.0	100.0	100.0	100.0	100.0

$p < 0.01$ Contingency Coefficient: 0.259 $n = 306$

The perception that licence fees as a share of the IT budget are too high are likely to drive FLOSS adoption, most interestingly, among current <u>non-users,</u> as shown above.

Size and FLOSS usage

- IT departments with more staff (>10) were more likely to use FLOSS than small ones (<5)

- It is possible that large non-users were under-represented in the survey

- However, there is no correlation between IT department size and intention to extend the future use of FLOSS within the organisation.

Size and FLOSS usage

Would you find it useful to increase the share of FLOSS in your organisation?	Number of PCs and laptops in organisation							Total
	up to 25	26 - 50	51 - 100	101 - 200	201 - 500	501 - 1000	more than 1000	
Yes	31.1	42.3	54.3	60.8	57.9	61.1	56.9	52.6
No	28.2	23.8	17.9	20.9	21.4	16.7	13.8	20.4
I don't know	40.8	33.8	27.7	18.4	20.7	22.2	29.4	27.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

$p < 0.01$ Contingency Coefficient: 0.207   n = 903

Organisations with more PCs are also more likely to consider expanding FLOSS use than smaller organisations. However, most small organisations are uncertain about their future strategy.

Workload and FLOSS usage

- Organisations that use FLOSS have 66 PCs per IT administrator, compared to 53 PCs among non-users

- This is a very significant difference, of 35%

- It appears that FLOSS use allows IT administrators to manage more PCs with the same number of staff

- IT administrators with more PCs per administrator are more likely to want to increase future FLOSS use

In conclusion

- *Some* FLOSS use exists in about half of EU local government authorities
- *Most* FLOSS use is still peripheral or quite limited (e.g. partial use on servers)
- Demand exists: 70% of users and 38% of non-users want to increase future FLOSS use
- Demand for interoperability drives FLOSS; compatibility (vendor lock-in) works against it.

In conclusion

- Perceived vendor dependency, the need for customisation and perceived high licence fees are also strong drivers for FLOSS

- Fears of high training costs and lack of support lead to a "first adopter" problem among non-users. These fears may be misplaced as they are not shared by most current FLOSS users.

- FLOSS use is related to reducing workload, allowing IT administrators to manage as much as 35% more PCs than non-users of FLOSS.

In conclusion

Policy recommendations to further FLOSS use:

- Increase awareness of FLOSS
- Highlight best practices and case studies
- Encourage experimentation in pilot projects
- Strengthen requirements for interoperability

Global cooperation: CALIBRE project

- Coordinator: Univ. Limerick, Ireland
- EU Partners: France, Ireland, Italy, Netherlands (MERIT), Poland, Sweden, UK
- Non-EU partner: **China** (Chinasoft)
- June 1, 2004 – May 31, 2006

The CALIBRE project

- Goals:
  - Integrate and coordinate libre software research especially for 'secondary' software industry (automotives, telecoms, consumer electronics etc)
  - Help transfer lessons from libre software to the next generation of software engineering methods
  - Establish a European industry open source software research policy forum CALIBRATION (Nokia, Philips, BMW, etc...)

The FLOSSWorld project

- Coordinator: Univ. Maastricht (MERIT), Netherlands
- EU Partners: Univ. Oxford, UK; Univ RJC Madrid, Spain; Govt of Extremadura/FUNDECYT, Spain
- Non-EU Partners from: Argentina, Brazil, Bulgaria, **China (Tsinghua U / CERNET, CS2C)**, Croatia, India, Malaysia, South Africa
- Support from: Japan, USA…
- May 1, 2005 – April 30, 2007

The FLOSSWorld project

- Goals: reproduce EU research in non-EU countries on:
  - FLOSS as an environment for skills development and employment generation
  - FLOSS and open standards in government
  - FLOSS software projects: regional differences in engineering and industrial collaboration
- EU partners responsible for design and analysis
- Regional partners responsible for implementation
- Easy to extend to countries beyond original partners

More information, news

- FLOSSPOLS: http://flosspols.org
- EU Open Source Observatory: http://europa.eu.int/idabc/oso/
- CALIBRE: www.calibre.ie
- FLOSSWorld: http://flossworld.org