Barriers to the Effective Use of FEA in Industry

FENET Education and Dissemination Workshop

Zurich

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Workshop Format

- This workshop … further discussion of the barriers and finalisation of questionnaire

- Morning ..... Scene-setting presentations
  - » 1 Software integration barrier
  - » 2 Materials barrier
  - » 1 CPD ... Web-based learning
  - » 1 Materials Issues Map

- Afternoon ….. RTD and Industry-focused group activity
  - » Questionnaire overview
  - » Briefing meeting
  - » “Goals” template provided for guidance (may be different for various groups)
  - » Everyone participating
  - » Select appropriate group
  - » Industry Co-ordinators to chair + SV + Ed
  - » Open discussion preceded by RTD and Industry Co-ordinator’s comments
  - » The next step and future workshops

Post-Copenhagen Outline Summary of Barrier Issues ... 1

- Interesting indications
- Illustrates variability in sector responses
- Highlights need for a properly-structured questionnaire
- Highlights need for a wide distribution

Post-Copenhagen Outline Summary of Barrier Issues ... 2

	SECTOR	Power	Pro & Manf	Bio	Civ & Con	Land Trans	Mar & Off	Space & Aero	Consumer
BARRIER									
1 Time pressures		X	X				X	X	X
2 Cad interface		X	X		X	X	X	X	X
3 Edn & awareness		X	X		X				
4 Training		X	X			X			
5 Staff retention		X	X						
6 Grad. standards		X	X	X					
7 Grad & staff supply		X	X		X			X	
8 Cost products		X	X						
9 Pay as u go		X	X						
10 NAFEMS support		X	X						
11 Orgl problems			X	X				X	
12 Vendor support			X						
13 Sector issues			X	X					
14 Know retn and dis			X						
15 Soft quality			X			X			
16 Soft functionality			X		X	X	X		X
17 Hard perf			X						
18 Material data			X	X		X			X
19 Phys & envt data			X						
20 Analys verif			X						
21 Codes					X				

Post-Copenhagen Outline Summary of Barrier Issues ... 3

KEY to Barrier Table

1 Time pressures

2 CAD/FEM interface

3 Ind sect educn & awaremess (inc business case)

4 Lack of time / budget for training

5 Staff retention and poaching

6 Graduate standards

7 Inadequate graduate supply / lack suitable staff

8 Cost of products

9 Lack of pay as u go

10 Lack of support by NAFEMS

11 Internal organisational problems

12 Software supplier support

13 Sector / supply chain issues

14 Knowledge retention and dissemination

15 Software robustness, quality and validation

16 Software functionality and scope

17 Hardware performance

18 Material data availability

19 Physical propert / environmental information

20 Analysis verification

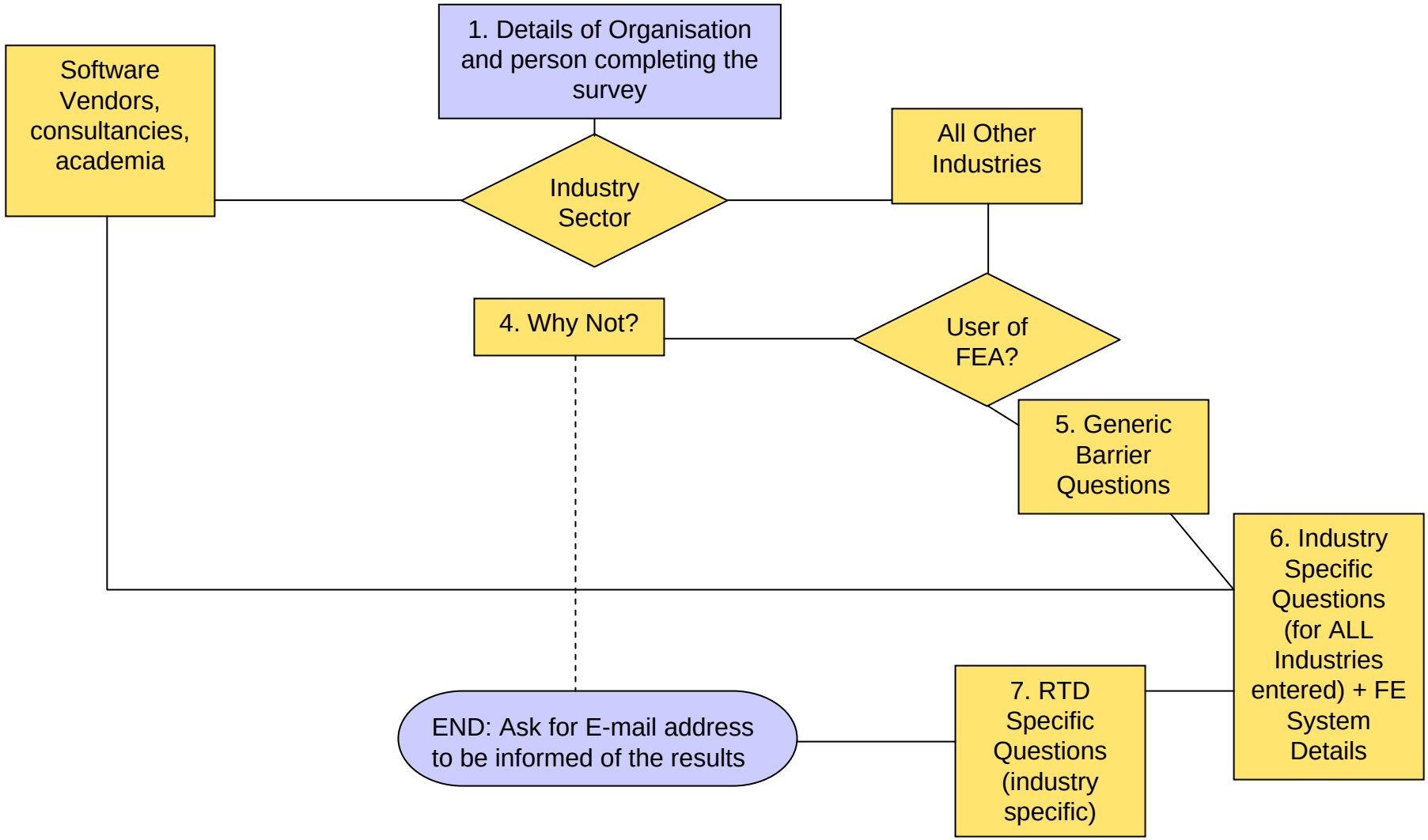
21 Interfaces to Codes of Practice

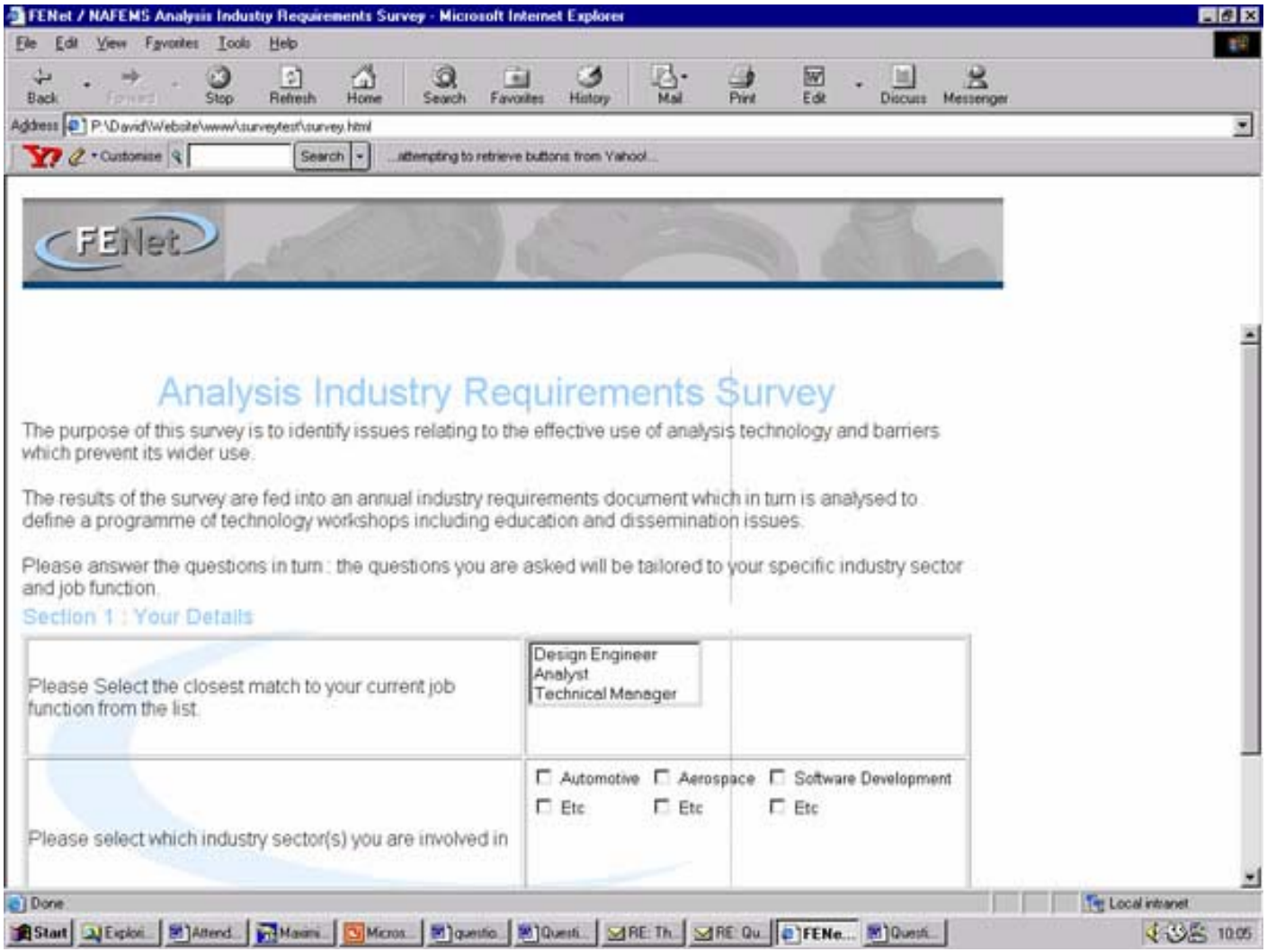
END OF INTRODUCTION

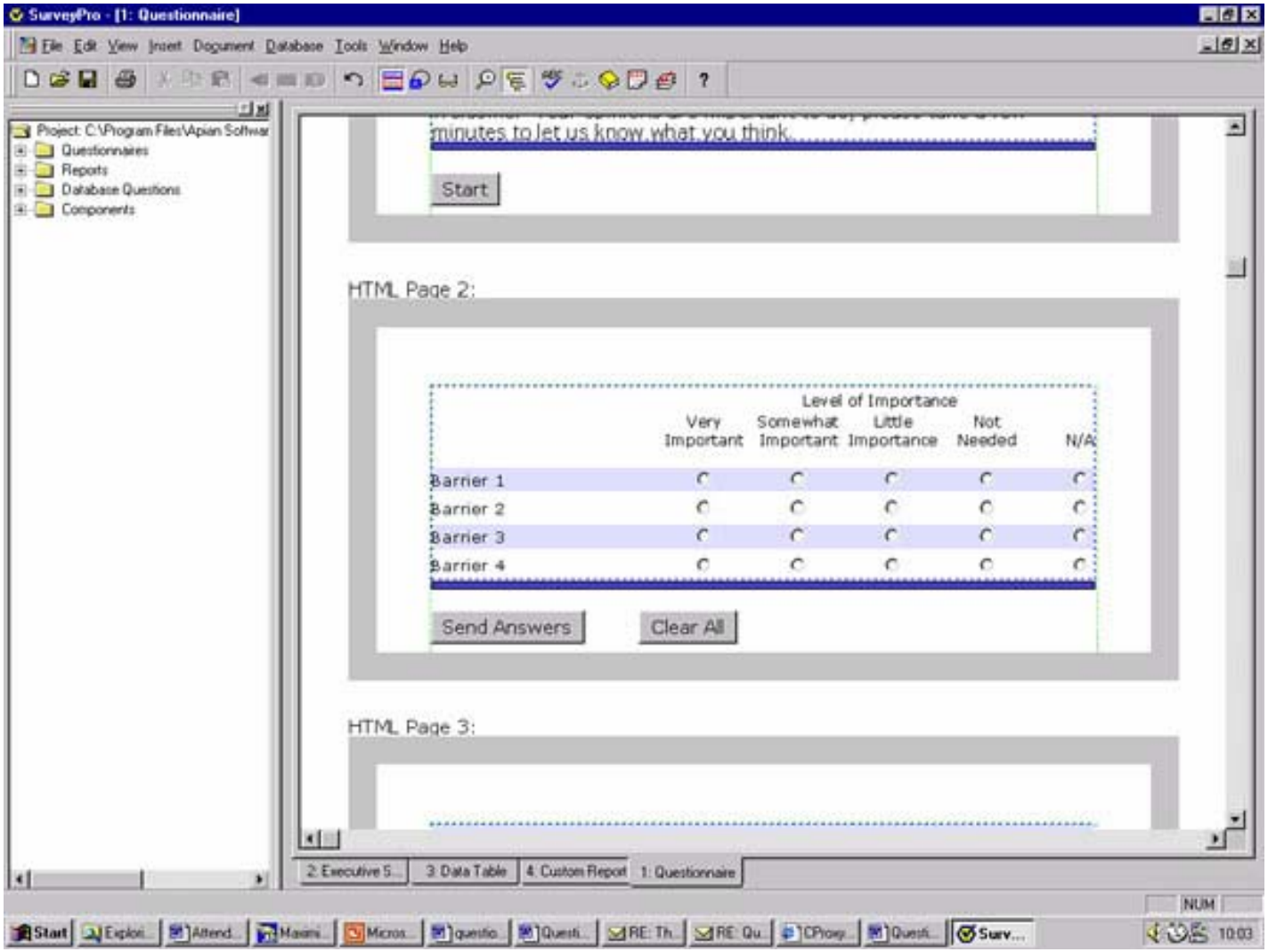
Overview of Barriers Questionnaire ... 1

- Decided to go for a web-based survey

- Decided to go for commercially available survey software
  - Survey Pro from Apian Software
    - easy to use (WYSIWYG)
    - scripts for passwords, skips and answer checking (eases construction and implementation)
    - extensive reporting and analysis tools (mean, std dev, confidence intervals, Chi square etc)
    - quality presentation of questionnaire
    - results available in real-time
    - support provided
    - relatively inexpensive
- Some date(s) … agree questions today; draft with today's mods end next week; deadline final changes 2wks today … more later


1. Details of Organisation and person completing the survey
Software Vendors, consultancies, academia
Industry Sector
All Other Industries
4. Why Not?
User of FEA?
5. Generic Barrier Questions
6. Industry Specific Questions (for ALL Industries entered) + FE System Details
END: Ask for E-mail address to be informed of the results
7. RTD Specific Questions (industry specific)


FENet / NAFEMS Analysis Industry Requirements Survey - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Stop Refresh Home Search Favorites History Mail Print Edit Discuss Messenger
Address P:\David\Website\www\surveytest\survey.html
Search
FENet
Analysis Industry Requirements Survey
The purpose of this survey is to identify issues relating to the effective use of analysis technology and barriers which prevent its wider use.
The results of the survey are fed into an annual industry requirements document which in turn is analysed to define a programme of technology workshops including education and dissemination issues.
Please answer the questions in turn : the questions you are asked will be tailored to your specific industry sector and job function.
Section 1 : Your Details
Please Select the closest match to your current job function from the list.
Design Engineer
Analyst
Technical Manager
Please select which industry sector(s) you are involved in
Automotive
Aerospace
Software Development
Etc
Etc
Etc
Done
Local intranet
Start


SurveyPro - [1: Questionnaire]
File Edit View Insert Document Database Tools Window Help
Project: C:\Program Files\Apian Softwar
Questionnaires
Reports
Database Questions
Components
minutes to let us know what you think
Start
HTML Page 2:
Level of Importance
Very Important
Somewhat Important
Little Importance
Not Needed
N/A
Barrier 1
Barrier 2
Barrier 3
Barrier 4
Send Answers
Clear All
HTML Page 3:
2: Executive S...
3: Data Table
4: Custom Report
1: Questionnaire
NUM
Start
10:03

Briefing Meeting for Group Work .... the goals

- Template questionnaire available… co-ords have … floppy available

- Is the questionnaire satisfactory? ... going out world-wide!
  - the structure
  - the general wording and clarity of questions ... guidance required?
  - the scope
  - the terminology used
  - methods chosen to indicate severity of barrier
  - extent of FE system info supplied … considered
  - the issue of anonymity … considered
  - info supplied (after mod today) allows EU (and SME etc) statistics to be produced separately
  - anything should not be there?
  - anything should be there?

Briefing Meeting for Group Work .... Further details

- Covering e-mail to distributors and individual respndee making case for support and completion. Points to be made …
  - Comprehensive overview of barriers to the effective use of the technology … by business sector
  - Results of survey and analysis available to all respondents (who provide e-mail address)
  - Provides invaluable info for business planning, creation of technical strategies and technology roadmaps
  - Provides a focus for identifying potential areas of competitive advantage
  - Documents current state of practice by industry sector (and region etc)
  - Highlights differences in awareness and use of technology across different business sectors
  - Potential to influence future code development
  - Individual token of appreciation .. Free download of valuable NAFEMS document (How to .. CAD/FEM Integration)

- Distribution and promotion methods
  - FE software and CAD vendors … e-mail to customer datatbase; web-link to survey from own site; mention in company newsletter
  - Press releases
  - Newsgroup postings
  - FENET and NAFEMS members

END OF BRIEFING MEETING

The Next Step

- Timescale for questionnaire … agreed set questions today? … 2wks finalised set questions … beta version available 21st July … 1st Aug commence promotion & questionnaire web-active … survey closes 31st October and preliminary analysis and results to Ind Co-ords (to assist with updating annual industry requts for discussion in draft in Prague)

- The next Ed & Dis pair of workshops ... John Smart