ENTE PER LE NUOVE TECNOLOGIE, L'ENERGIA E L'AMBIENTE
Associazione ENEA-EURATOM sulla Fusione

FUSION DIVISION
NUCLEAR FUSION TECHNOLOGIES

FTU EXPERIMENTAL CAMPAIGN ON 2000 - 2001 OPERATING EXPERIENCE

IEA Task 5 Meeting - S. Diego 15-16 April 2002

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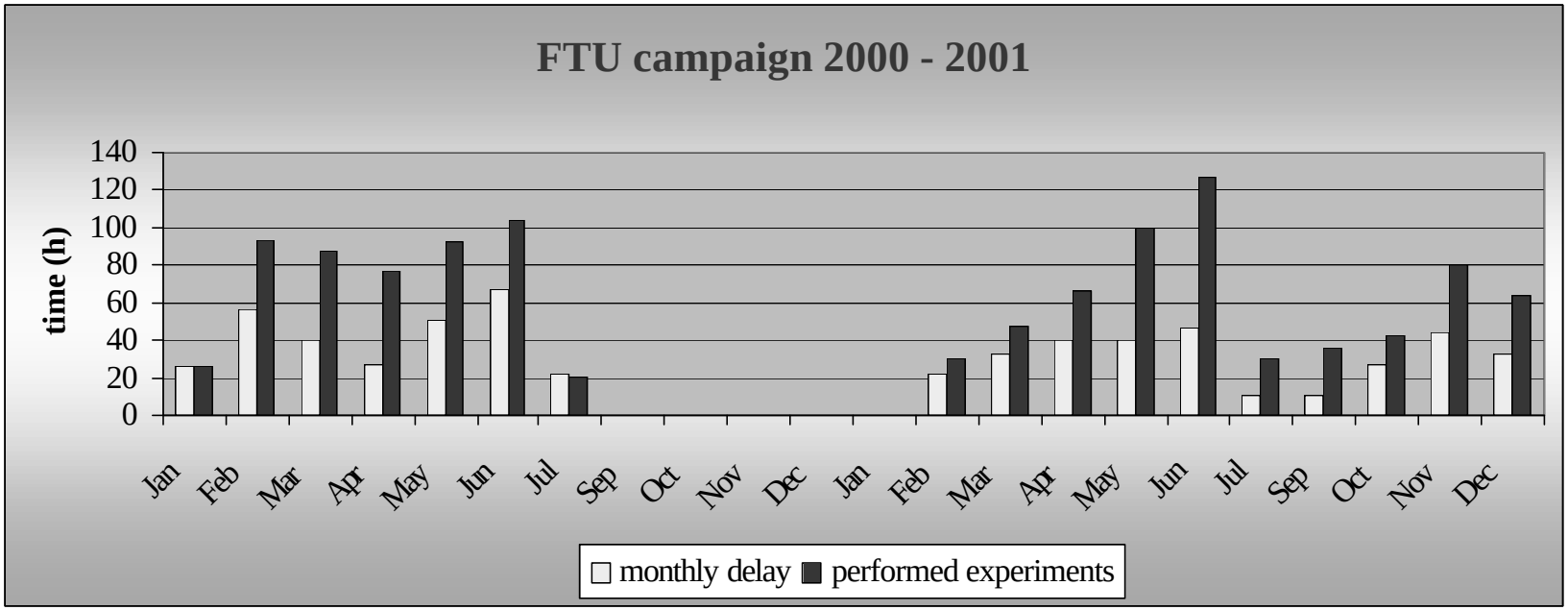
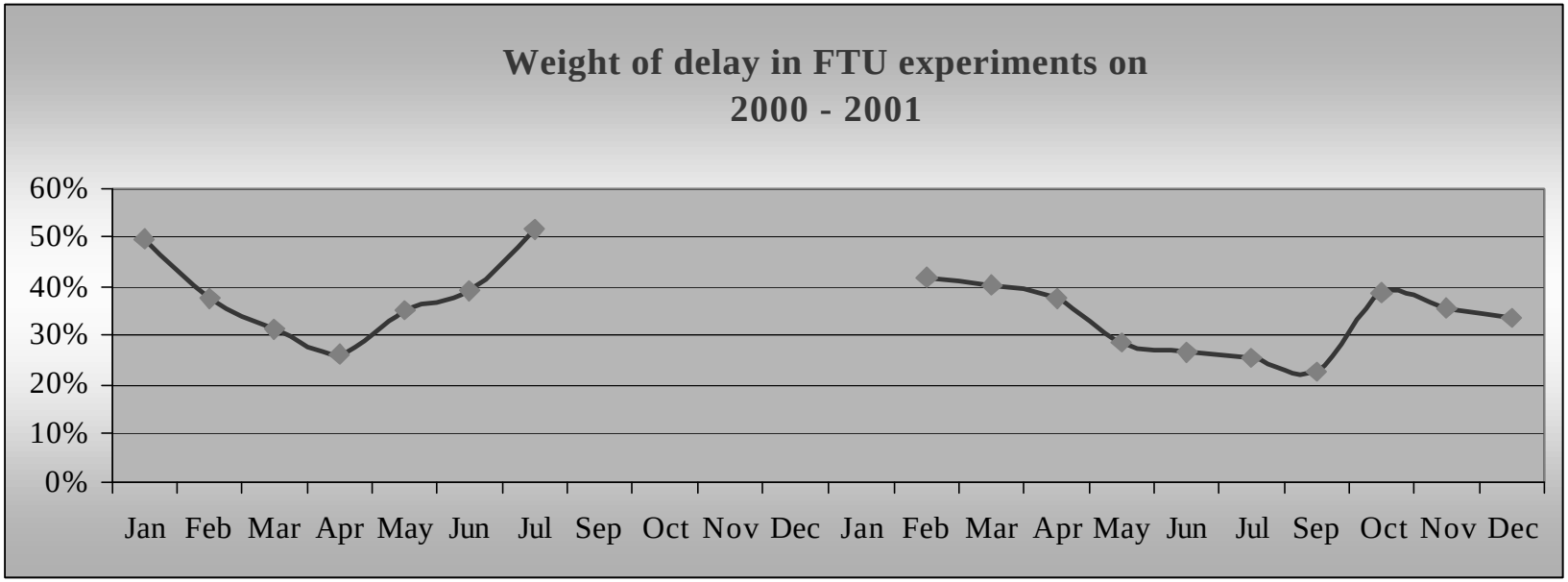
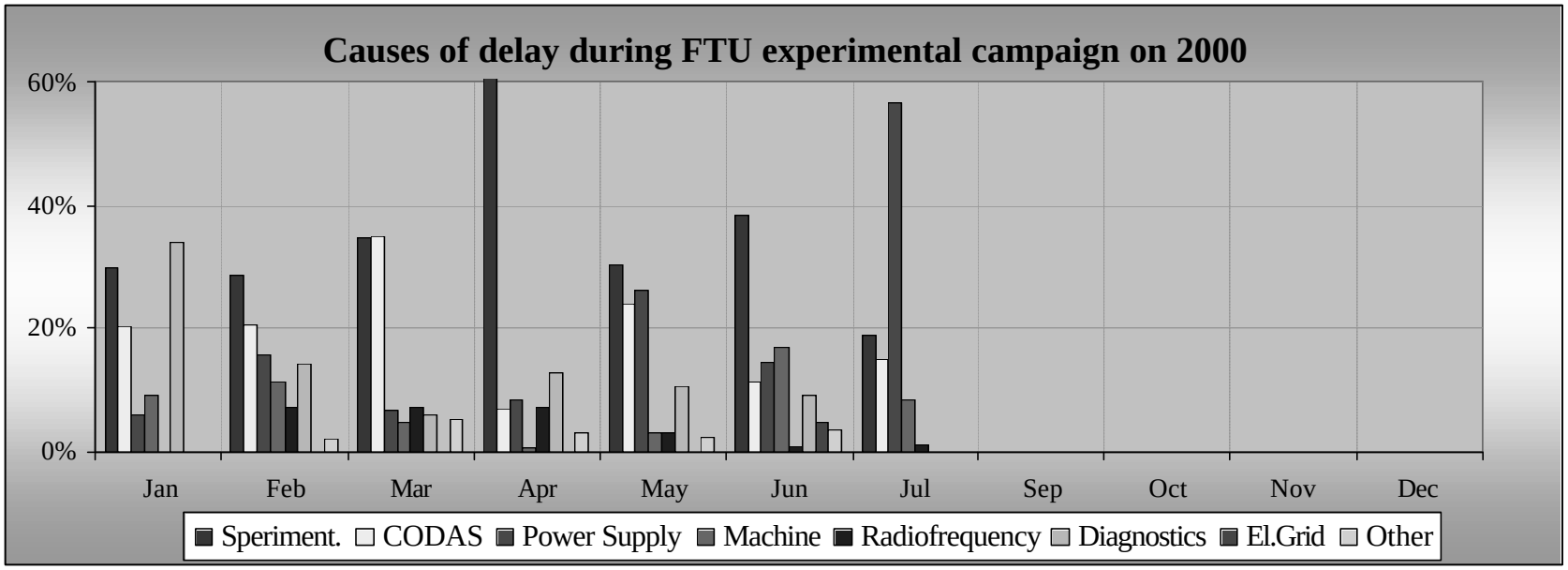
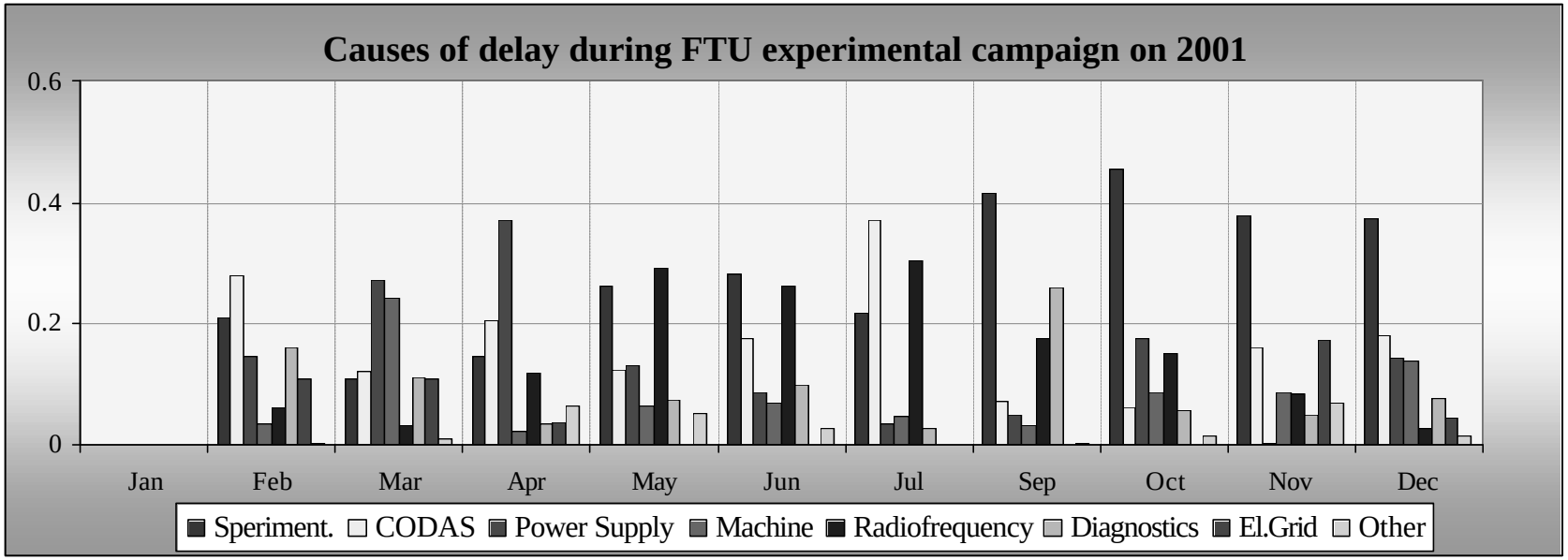
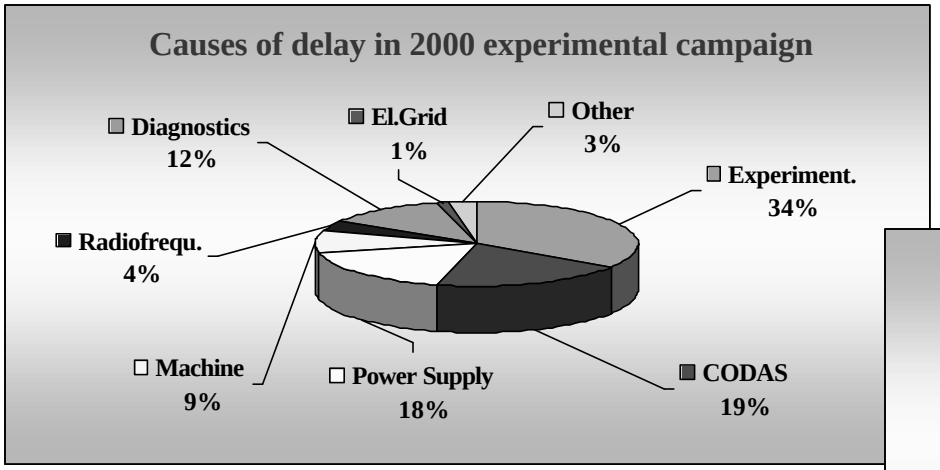
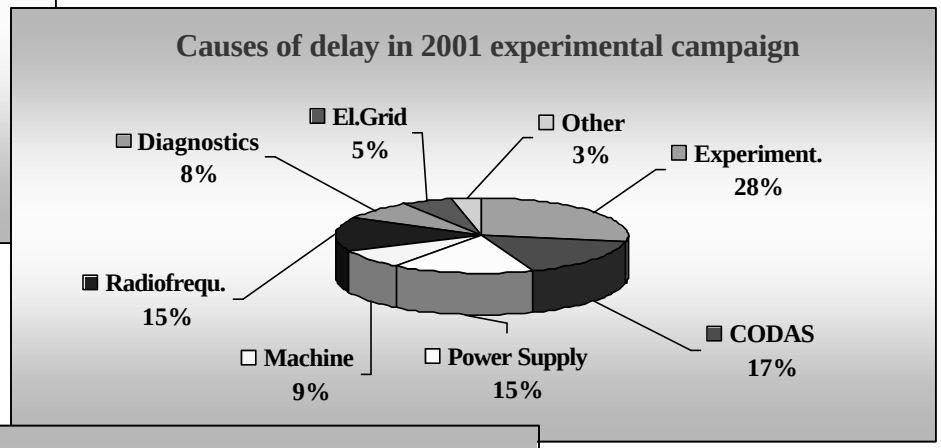

FTU campaign 2000 - 2001
time (h)
140
120
100
80
60
40
20
0
Jan Feb Mar Apr May Jun Jul Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Sep Oct Nov Dec
monthly delay
performed experiments

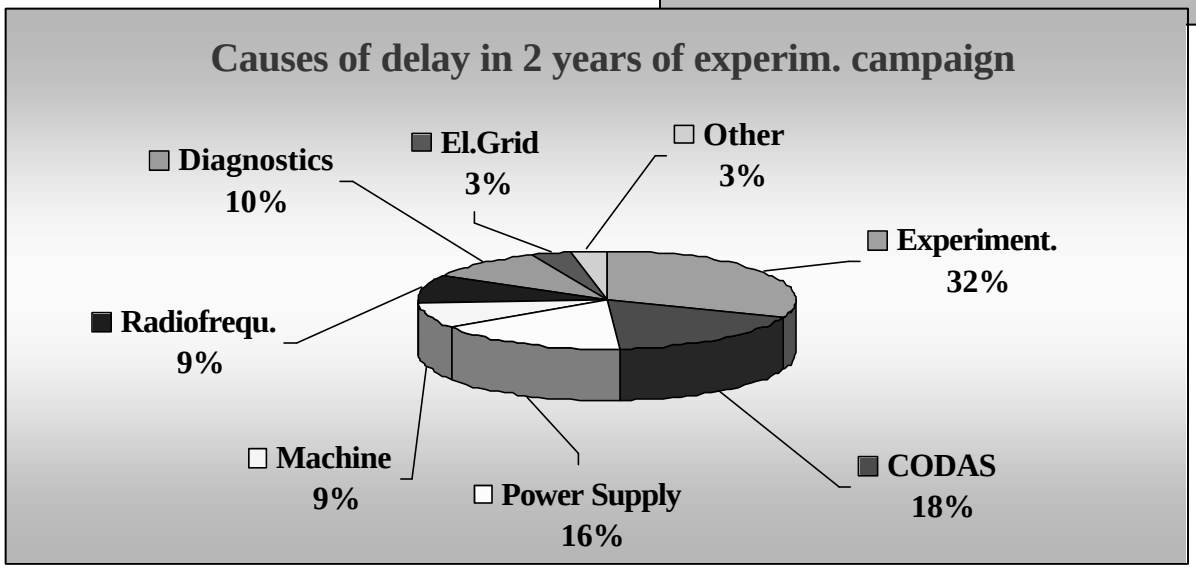

Weight of delay in FTU experiments on 2000 - 2001
60%
50%
40%
30%
20%
10%
0%
Jan Feb Mar Apr May Jun Jul Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Sep Oct Nov Dec

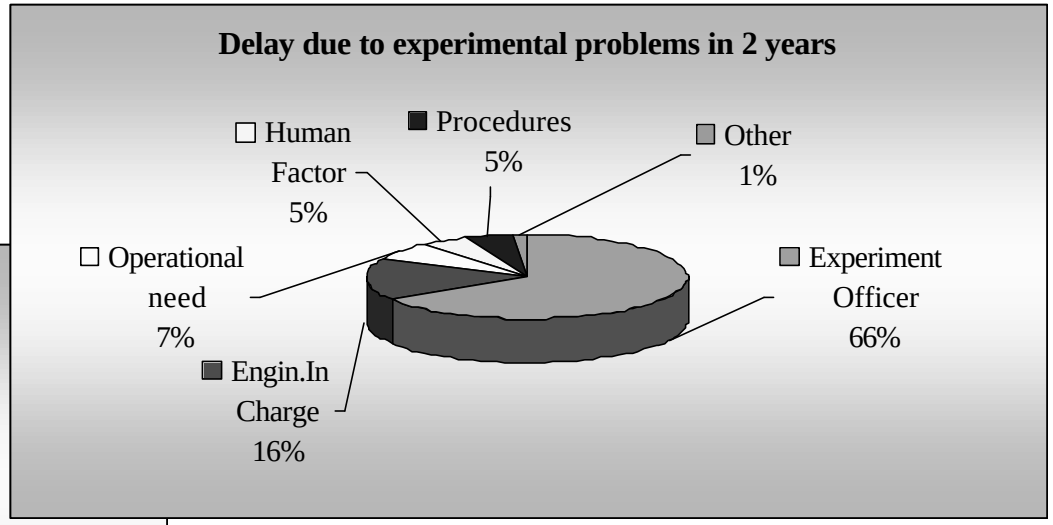

Causes of delay during FTU experimental campaign on 2000
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Sep
Oct
Nov
Dec
Speriment.
CODAS
Power Supply
Machine
Radiofrequency
Diagnostics
El.Grid
Other

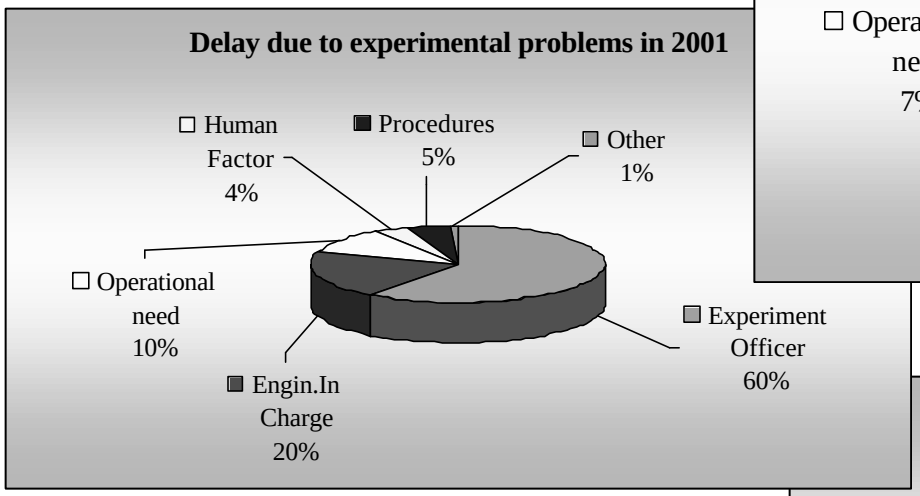

Causes of delay during FTU experimental campaign on 2001
0.6
0.4
0.2
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Sep
Oct
Nov
Dec
Speriment.
CODAS
Power Supply
Machine
Radiofrequency
Diagnostics
El.Grid
Other

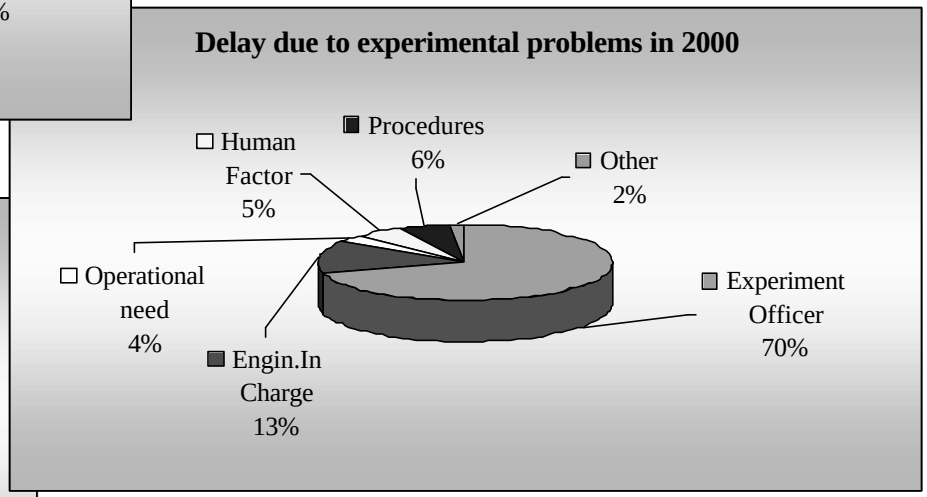

Causes of delay in 2000 experimental campaign
Diagnostics 12%
El.Grid 1%
Other 3%
Experiment. 34%
Radiofrequ. 4%
Machine 9%
Power Supply 18%
CODAS 19%

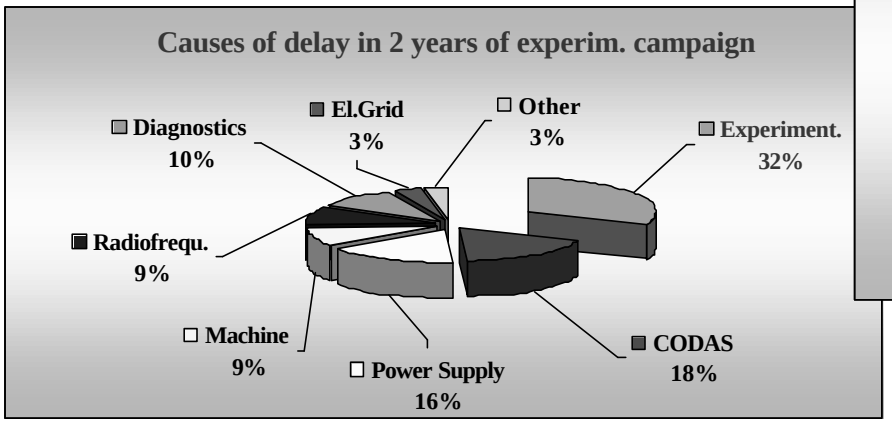

Causes of delay in 2001 experimental campaign
El.Grid 5%
Other 3%
Diagnostics 8%
Experiment. 28%
Radiofrequ. 15%
CODAS 17%
Machine 9%
Power Supply 15%

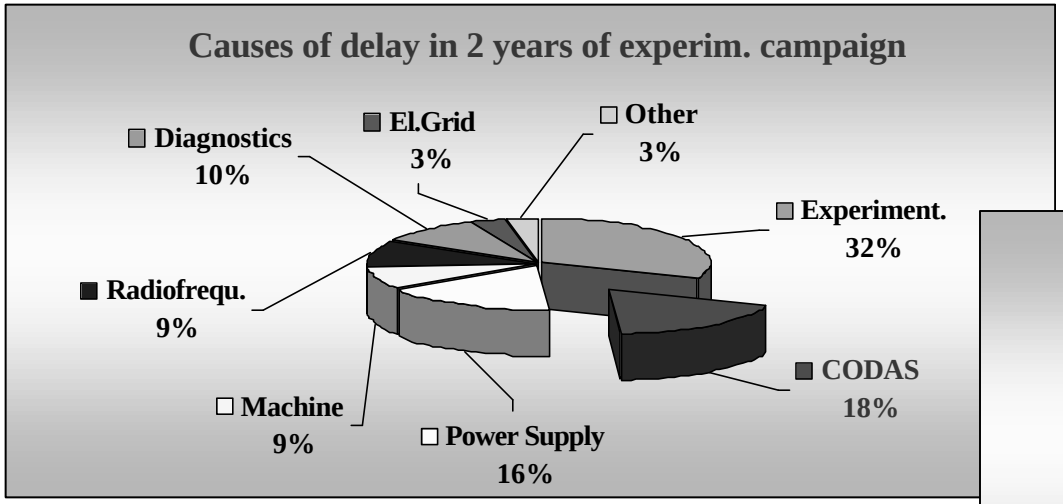

Causes of delay in 2 years of experim. campaign
Diagnostics 10%
El.Grid 3%
Other 3%
Experiment. 32%
Radiofrequ. 9%
Machine 9%
Power Supply 16%
CODAS 18%

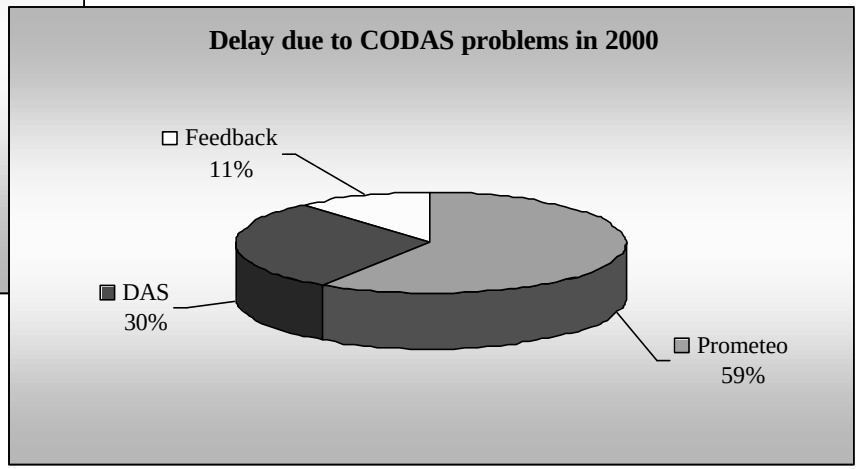

Delay due to experimental problems in 2 years
Human Factor 5%
Procedures 5%
Other 1%
Operational need 7%
Experiment Officer 66%
Engin.In Charge 16%

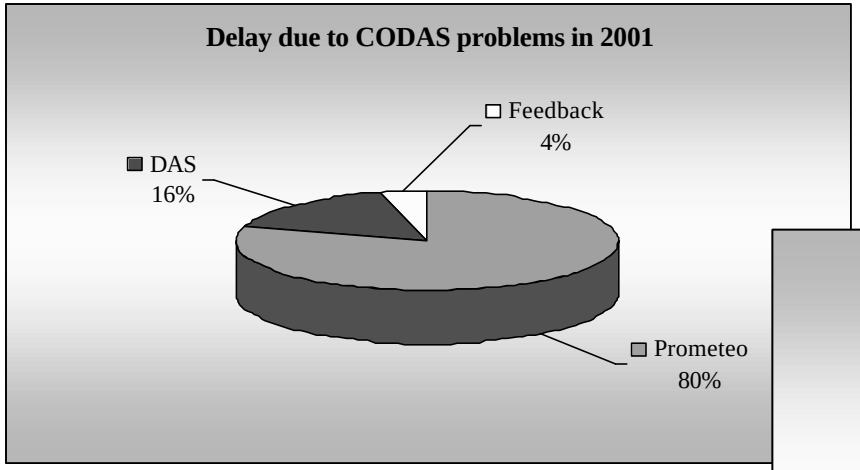

Delay due to experimental problems in 2001
Human Factor 4%
Procedures 5%
Other 1%
Operational need 10%
Experiment Officer 60%
Engin.In Charge 20%

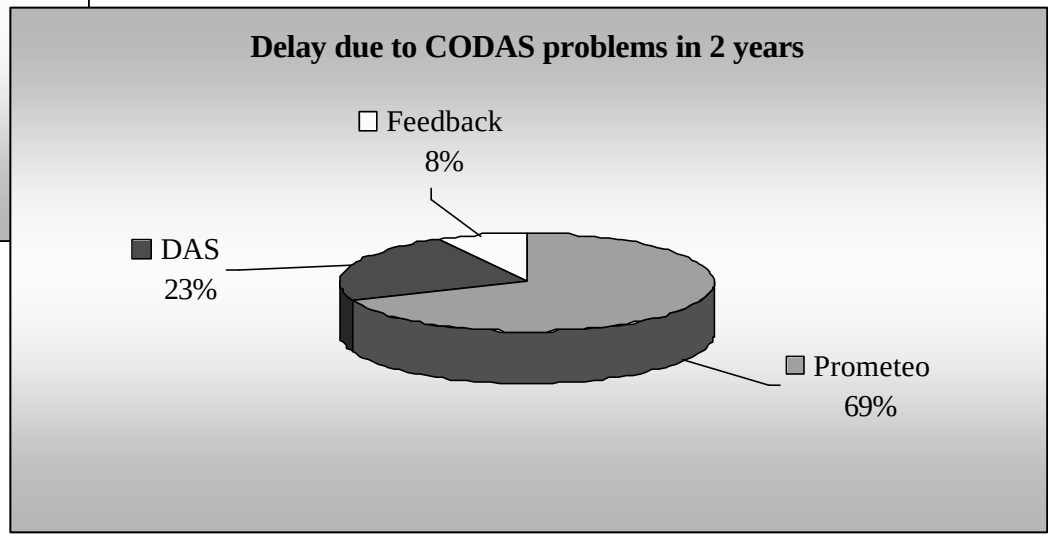

Delay due to experimental problems in 2000
Human Factor 5%
Procedures 6%
Other 2%
Operational need 4%
Experiment Officer 70%
Engin.In Charge 13%

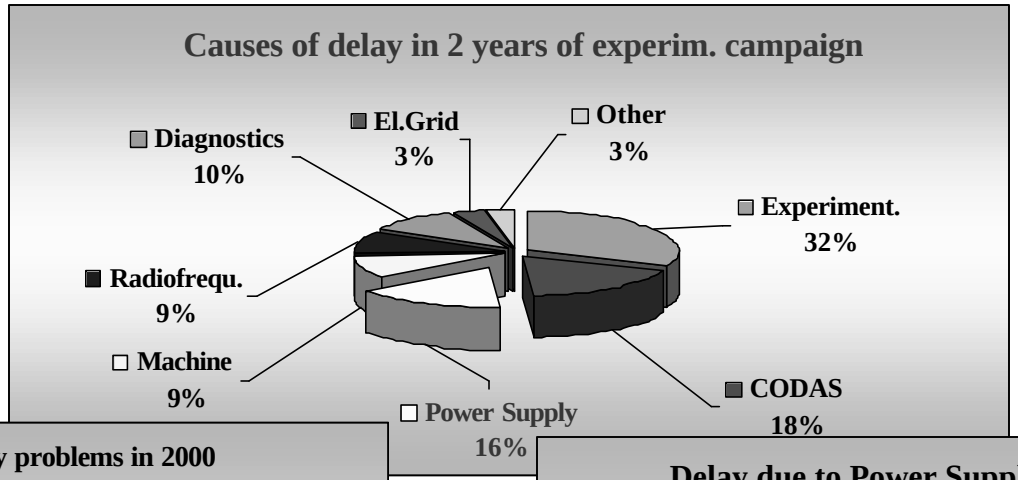

Causes of delay in 2 years of experim. campaign
Diagnostics 10%
El.Grid 3%
Other 3%
Experiment. 32%
Radiofrequ. 9%
Machine 9%
Power Supply 16%
CODAS 18%

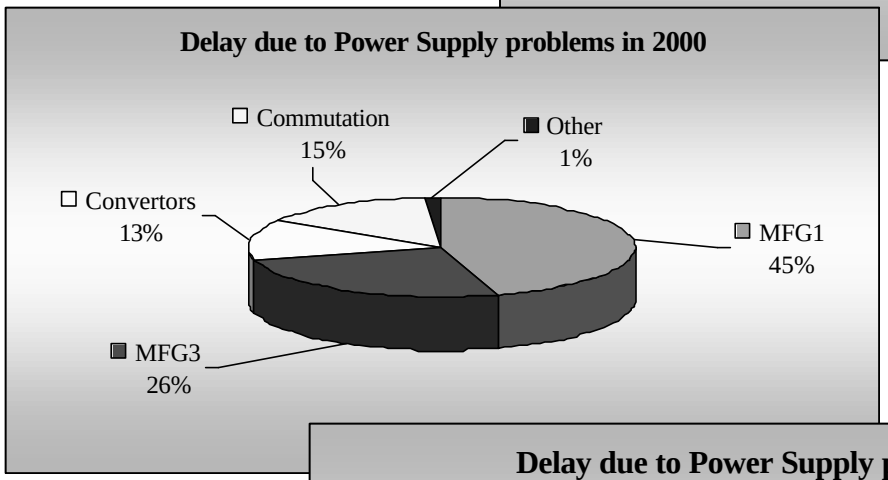

Causes of delay in 2 years of experim. campaign
Diagnostics 10%
El.Grid 3%
Other 3%
Experiment. 32%
Radiofrequ. 9%
CODAS 18%
Machine 9%
Power Supply 16%

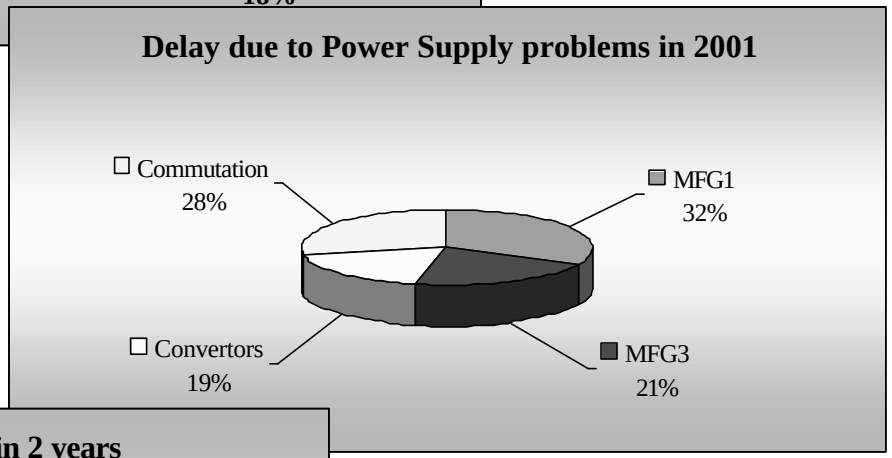

Delay due to CODAS problems in 2000
Feedback 11%
DAS 30%
Prometeo 59%

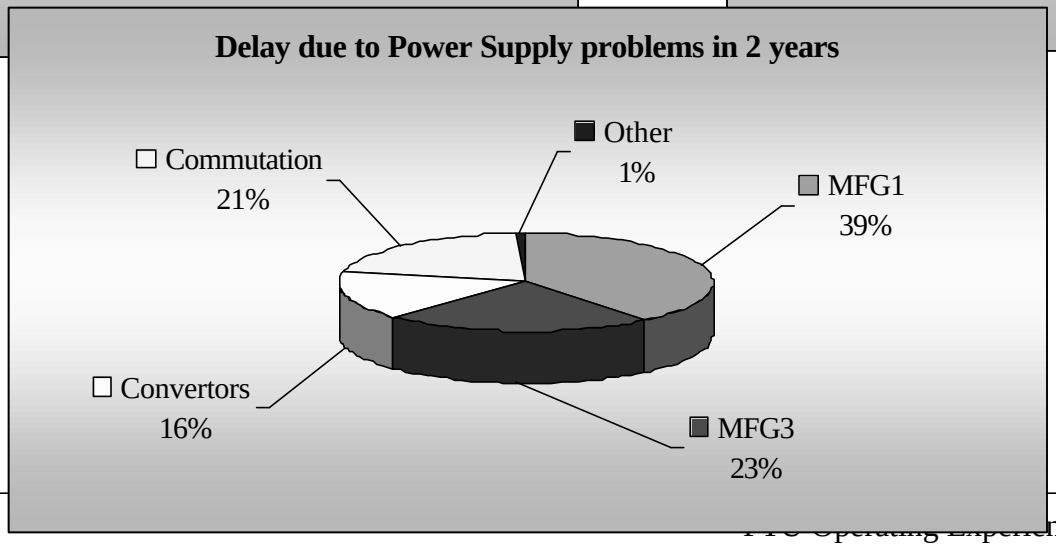

Delay due to CODAS problems in 2001
Feedback 4%
DAS 16%
Prometeo 80%

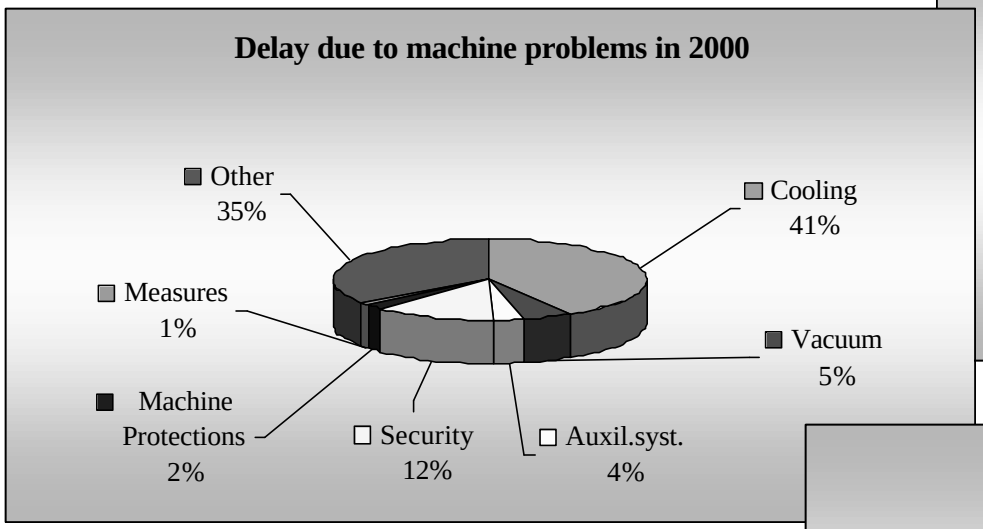

Delay due to CODAS problems in 2 years
Feedback 8%
DAS 23%
Prometeo 69%

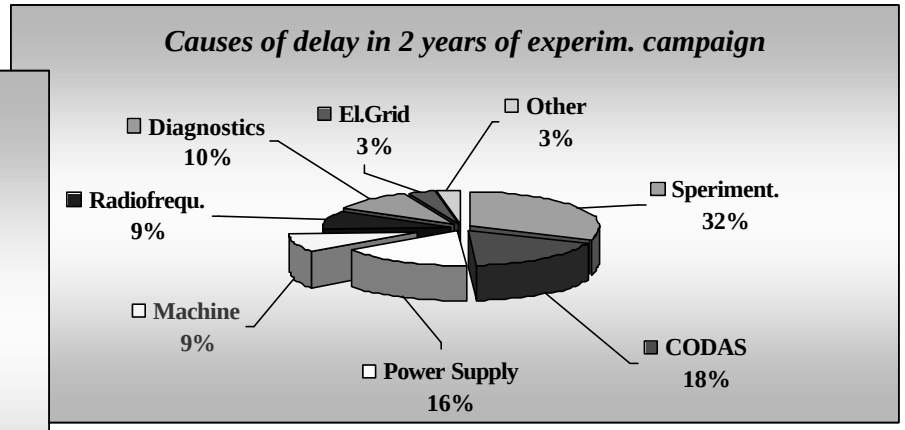

Causes of delay in 2 years of experim. campaign
Diagnostics 10%
El.Grid 3%
Other 3%
Experiment. 32%
Radiofrequ. 9%
Machine 9%
Power Supply 16%
CODAS 18%

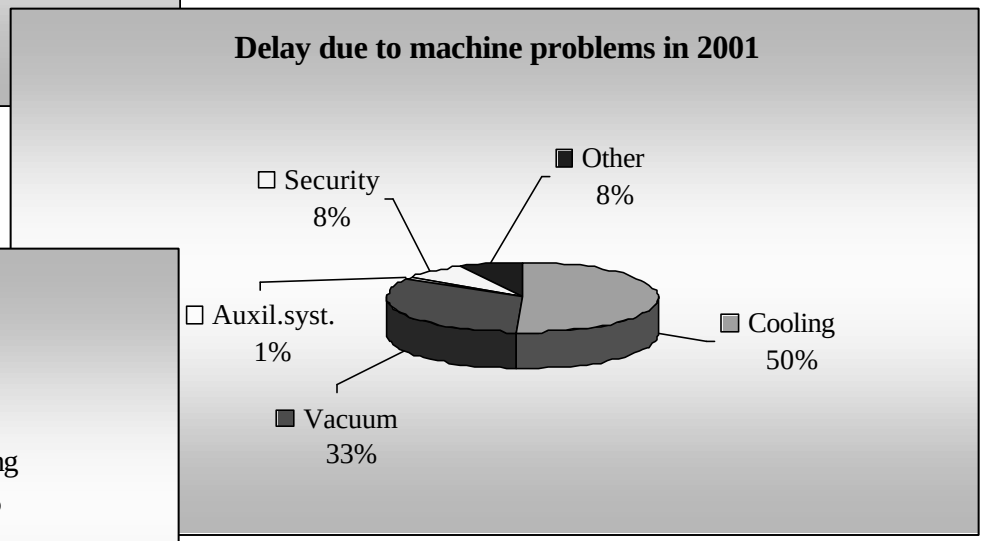

Delay due to Power Supply problems in 2000
Commutation 15%
Other 1%
Convertors 13%
MFG1 45%
MFG3 26%

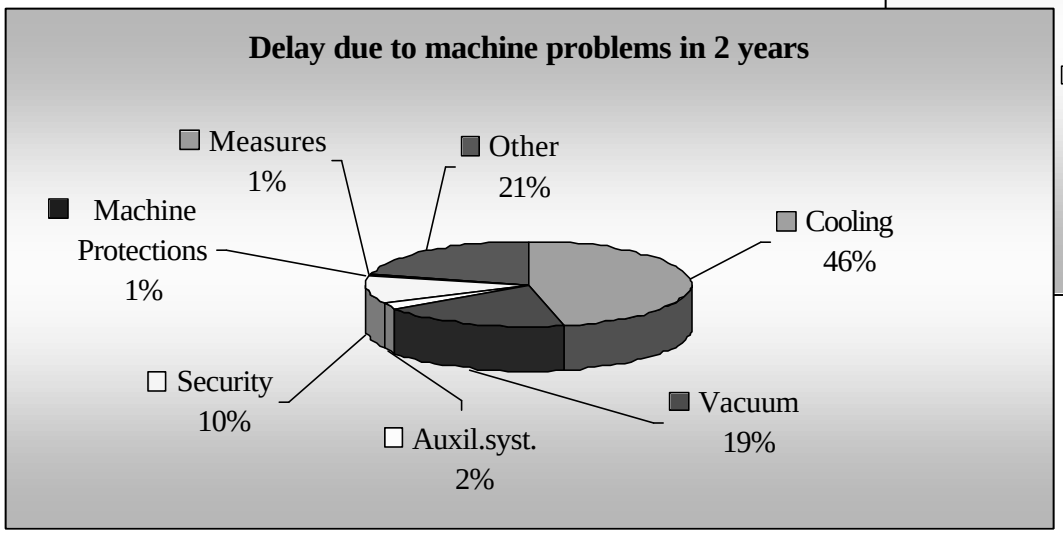

Delay due to Power Supply problems in 2001
Commutation 28%
MFG1 32%
Convertors 19%
MFG3 21%


Delay due to Power Supply problems in 2 years
Other 1%
Commutation 21%
MFG1 39%
Convertors 16%
MFG3 23%


Delay due to machine problems in 2000
Other 35%
Cooling 41%
Measures 1%
Vacuum 5%
Machine Protections 2%
Security 12%
Auxil.syst. 4%


Causes of delay in 2 years of experim. campaign
Diagnostics 10%
El.Grid 3%
Other 3%
Radiofrequ. 9%
Speriment. 32%
Machine 9%
CODAS 18%
Power Supply 16%


Delay due to machine problems in 2001
Security 8%
Other 8%
Auxil.syst. 1%
Cooling 50%
Vacuum 33%


Delay due to machine problems in 2 years
Measures 1%
Other 21%
Machine Protections 1%
Cooling 46%
Security 10%
Vacuum 19%
Auxil.syst. 2%

Thank you!