

Joint European submicron silicon initiative

JESSI-0026

1992 - 1993

Joint meetings Government Action Team (GAT)/Board Support Group (BSG)

Minutes of meetings held in The Hague on 7 January 1992, in London on 14 April 1992, in Brussels on 10 July 1992 containing budget revision plan, in Rome on 4 September 1992, in Dresden on 6 October 1992, in Brussels on 1 December 1992, in Munich on 26 March 1993 and in Rome on 19 May 1993



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MESSAGE

Subject: JESSI GAT MEETING - DEN HAAG, 8 JAN. '92
Sender: Henry GUYOT/GENTIL/01

Dated: 01/13/92 at 00:25.

Contents: 2.

Part 1.

FROM: Henry GUYOT/GENTIL/01

TO: Raimondo PALETTA/AGRATE/01

CC: Jo BOREL/GRENOB/01
Gerard MATHERON/GRENOB/01
Joel MONNIER/GRENOB/01
Jean-Claude VASUTH/GENTIL/01
Enrico VILLA/AGRATE/01
Giuseppe ZOCCHI/AGRATE/01



Part 2.

13 January 1992

From : Henry GUYOT
To : Raimondo PALETTA

Cc : J.BOREL-G.MATHERON-J.MONNIER-E.VILLA-
JC.VASUTH-G.ZOCCHI

As agreed, here are the "ESPRIT" part of the JESSI GAT meeting. Other topics were discussed, but do not need a fast reaction.

Concerning ESPRIT, Dr. RADELAAR expressed his disappointment on the low level of ADEQUAT proposal's funding and asked for any other possible allocation between projects. But the idea of picking some money among other JESSI projects had been contested by Dr. KRAMER who expressed that other projects had also been suffering from budget reduction. So there was no unanimous JESSI position on any other funding allocation between projects.

For Public Authorities, this was surely another indication of JESSI organization's weakness, which does not make it possible to express a "JESSI" position during meetings.

On CAD Frame, the Commission reports that SNI was not in a position to give presently clear status indications, but will be so in less than one year from now. So the Commission proposal will be to establish only a one-year contract with possible extension. PHILIPS also gave the confirmation they just selected CADENCE !

On ADEQUAT, the obstacles are coming from the Commission who doesn't see in it an industrial project. MEL is dedicated to industrial projects. Research institutes are welcomed if they contribute to an industrial-driven goal. ADEQUAT lacks a clear industrial control. The Commission asked us informally to provide some clear indication that we are willing to push the project.

ASPRO is the only JESSI "related" project the Commission is proposing. It was clear that some countries will be strongly opposed against a decision of 55% for pure JESSI projects. It was advised to keep ASPRO in the list, as fas as it concerns only 5 % of JESSI funding.

Conclusion : PA's were expecting some JESSI reaction on the Commission option. Unfortunately, no clear position was expressed.

If we wish to have some flexibility between projects, we must ask the ITC to mandate the Commission in consequence.

Most probably, the Commission's option will be accepted as it is. The most important question is concerning the possible second call of ESPRIT III. JESSI expected 200 MECUS from the Commission, only 129 were allocated now. Under the hypothesis that 70 MECUS are still to come, good compromises can be found for this call.

I would suggest to express some satisfaction to the Commission as to the MEL's 55% of this Call, to ask for some flexibility during negotiations (e.g. project duration) and to reassess that we need another 70 MECUS to reach the 200 we expected.

Best regards
End of Item.

File: Government

~~JESSI~~

Distribution list to the
minutes of the GAT-BSG
meeting held in The Hague
on January 7th, 1992.

Drs. R. P. KRAMER
RECEIVED

28 JAN. 1992 /34

COPY TO *[redacted]*

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Office of the JESSI Organization
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Munich, 1992-01-17
AB/kk

To: the members of the JESSI Board
the members of the Board Support Group
the members of the GAT-Interface Group
the members of the JESSI Office

Dear Sirs:

Attached hereto please find the minutes of the GAT-BSG meeting held in The Hague.

Best regards,

[Signature]
Ad Burgmans

encl.





**Distribution list to the minutes of
the GAT-BSG meeting held
in The Hague on January 7th, 1992**

To the members of the JESSI Board

Mr. Paletto
Prof. Radelaar
Prof. Aigrain
Mr. Hagmeister
Mr. Knorr
Prof. Lawes
Mr. Petit
Mr. Pistorio
Mr. del prado
Dr. Scholl

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Munich, 1992-01-24
AB/kk

To the members of the JESSI Board Support Group:

Prof. Radelaar
Mr. Ernest
Dr. Friedrich
Dr. Haepp
Drs. Kamerbeek
Drs. Kramer
Mr. Lepetit
Mr. Monnier

To the members of the GAT Interface Group

Prof. Radelaar
Dr. Burgmans
Mr. Ernest
Mr. Haserer
Drs. Kamerbeek
Drs. Kramer
Mr. Matheron
Dr. Meyer
Dr. Villa

To the members of the JESSI Office

Dr. Burgmans
Dr. Dekkers
Dr. Grünwald
Mr. LeGoascoz
Dr. Meyer
Mr. Sethi



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**Minutes of the GAT-BSG meeting
held in The Hague on January 7th, 1992**

0. Participants

GAT

Mr. Broster	CEC
Mr. Dominé	MIAT
Dr. Dudde	BMFT, D
Mr. German	DTI, UK
Mr. Gislon	MURST, I
Drs. v.'t Hof	MEZ, NL
Mr. McAuley	DTI, UK
Mr. Meyer	MEZ, NL
Dr. Weigmann	BMFT, D

GAT-Interface Group (BSG)

Dr. Burgmans	JESSI Office
Mr . Ernest	Alcatel
Mr. Guyot	SGS-Thomson
Mr. Haserer	Siemens
Drs. Kamerbeek	ASM-I
Drs. Kramer	Philips
Mr. Matheron	SGS-Thomson
Prof.Radelaar	JESSI
Dr. Villa	SGS-Thomson

GAT - BSG meeting on January 7th, 1992 in The Hague

Summary of decisions and action items

Decisions

- A meeting will take place on February 11th in the JESSI Office between BSG and GAT representatives to discuss the "JESSI Flagship Concept" paper
- The JESSI Office will send reporting information also directly to the JEMT
- After JESSI Board / JESSI Committee meetings, JESSI and GAT will prepare a common press release

Actions

- | | by | time |
|--|--------------|-------------|
| - Ask JESSI partners to check the applications for funding | JESSI Office | before Feb. |

1. Approval of the agenda

The meeting was chaired by Mr. Meyer from the Dutch Ministry of Economic Affairs. The proposed agenda, see enclosure 1, has been slightly modified before acceptance.

Point 3 will include:

- missing BBA's,
- BBA figures, application deadline
- packaging cluster

Point 4 will include:

- draft proposal,
- flagship management,
- monitoring of flagships
- information to JEMT

ESPRIT funding was added to the agenda to be discussed after point 4.

Some announcements have been made with respect to the succession of GAT members. Van't Hof has been appointed by MEZ as the new GAT member for The Netherlands and Mr. Dudde has been appointed by BMFT to represent Germany.

2. Partially funded projects

The list of partially funded projects, see enclosure 2, was discussed. Apart from the fact that E197 does no longer exist no changes have taken place since last meeting. Mr. Le Goascoz of the JESSI Office is still waiting for answers from the respective project leaders regarding the question whether and how they want to continue.

3. Relabelling of projects

Before discussing this topic D. Meyer gave a brief introduction by saying that the start-up phase of JESSI was somewhat chaotic, however the GAT-BSG Working Groups on Funding and Restructuring did an excellent job to prepare the main phase. He expressed, however, the GAT's disappointment about the fact that the Blue Book numbers quite often do not reflect what was agreed in the working groups. JESSI replied by saying that they do not want to exceed the agreed funding limits and that the project leaders have been informed about the limits.

Kramer mentioned that T15 was not included in the limits set in the working group, neither was T1 at least the German part of it. Furthermore the working groups used general numbers for the tarifs. In reality, however, different tarifs may be used for different partners and/or different countries. Taking the above into consideration the agreement between the BB numbers and the budget becomes much closer. The GAT accepts these arguments but emphasizes that they do not want to get blamed

afterwards for not funding a part of the program which has been accepted for funding.

Projects that did not receive the JESSI label yet, but are accepted by the P.A.'s for funding will be labelled in the next JESSI Board meeting.

The GAT informed JESSI about the fact that several JESSI partners of labelled projects still did not apply for funding. Weigmann will supply the office with the necessary information. Meanwhile the JESSI Office will ask the partners to contact their government before the end of January in order to check the situation.

With respect to the packaging cluster JESSI informed the GAT about recent changes. DSM who participates in the project E29 has announced to withdraw from the project. According to DSM because of the lack of interest of the IC companies in the results. The IC companies are blamed for not willing to pay anything for the fact that a product is European. This position has to be discussed in the BSG. Nevertheless the packaging cluster will continue, however, the work is now limited to ceramic materials.

4. JESSI strategy

The GAT complained about the fact that the document on the cluster implementation has not been delivered in time. It was promised to send a preliminary version to the GAT before the end of 1991. JESSI explained that the BSG does not release anything before they have had the opportunity to comment on it. Burgmans briefly explained the content of the document which is in preparation, see enclosure 3. The GAT expressed that the content is in agreement with what they had in mind. It was promised to send the document to the GAT as soon as possible after the next BSG meeting. A meeting on the document with the GAT has been scheduled for February 11th in the afternoon in the JESSI Office.

GAT repeated their question whether the JESSI Office could forward the Technical Reports directly to the JEMT members. In the past this has not been done, based on formal arguments. The BSG has no objections when the reports are sent directly to the JEMT, however, not all requests from the JEMT will be accepted. The GAT will be informed about the information which is sent to the JEMT.

An overview of the distribution of tasks among the different JEMT members has been distributed, see enclosure 4. Each JEMT member will follow the progress in two different clusters. Prof. Svelto, an expert in microelectronics, is a new JEMT member nominated by the Italian government.

5. ESPRIT funding

The ITC will vote on 16th and 17th of January on the three ESPRIT proposals in the call for participation that is: JESSI CAD Frame, Joint Logic and Manufacturing Science and Engineering. The Commission has selected two additional proposals from the open call for EC funding namely: ADEQUAT (0.25 micron CMOS) and ASPRO (lithography). This brings the total cost figure for JESSI and JESSI related projects accepted for funding to 129 MECU which is 55% of the EC micro-electronics program. However, the numbers proposed by the EC are different from the numbers given by JESSI, in particular for ADEQUAT. Radelaar expressed his disappointment. The condition that also ST should participate in ADEQUAT is already fulfilled by the participation of CNET and LETI, their results go directly to ST.

Nevertheless, ADEQUAT is not considered by the EC as a valid proposal, the 10 MECU, however, have been reserved under the condition of an increasing industrial participation. The GAT gave the advice not to ask for more funding since that will trigger a whole discussion which might have the opposite effect. A re-distribution of funding among the projects seems possible. Broster also mentioned that there remains some criticism regarding the exploitation of CAD Frame. The money will not be released before this point has been clarified. In this context Kramer mentioned that Philips has chosen for CADENCE.

6. Any other business

The GAT expressed their disappointment with respect to the press releases of JESSI. They are always dealing with and complaining about the funding and never refer to technical results achieved in JESSI. A common press release has been suggested after the next JESSI Board/JESSI Committee meeting. JESSI considered this to be a good idea.

Finally Mr.Meyer thanked the BSG for the nice cooperation during his JESSI career and wishes JESSI good luck. The BSG in return wishes him all the best in his future career.



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Munich, 1991-12-20
 AB/kk

Distribution list GAT-Interface Group

Prof. R.Radelaar
 Dr. Burgmans
 Mr. Ernest
 Mr. Haserer
 Drs. Kamerbeek
 Drs. Kramer
 Mr. Matheron
 Dr. Meyer
 Dr. Villa

GAT - BSG meeting on Jan. 8th, 1992 in The Hague

Dear GIG-members:

Herewith I invite you for the GAT-BSG meeting on Jan. 8th, 1992 which will take place in the:

Holland Trade House,
 Bezuidenhoutseweg 181
 The Hague

The meeting will start at 10.00 a.m. the proposed agenda is as following:

1. Adoption of the agenda
2. Partially funded projects
3. Relabelling of projects
 (progress and budget
 consequences)
4. JESSI Strategy (relations within
 and between flagship clusters)
5. Any other business

The pre-meeting will take place on Jan. 7th in the:

Novotel Centrum
 Hofweg 5-7
 The Hague (within walking distance
 from the Parkhotel)

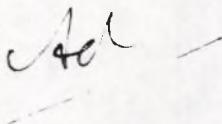
starting at 4.00 p.m. In the evening we will have a joint dinner with the GAT members.

Hotel reservations for the night of Jan. 7th to 8th were made in the:

Parkhotel
Molenstraat 53
The Hague

Wishing you a Merry Christmas and a Happy New Year I remain with my best regards,

Sincerely yours,


Ad Burgmans

**OVERVIEW OF PROJECTS ONLY PARTLY FUNDED
BY
NATIONAL GOVERNMENTS**

	FRA	FRG	ITA	NL	UK	BEL
AC61	n.f.	n.f.	--	--	4141	--
AE31C	n.f.	n.f.	--	210	--	--
AE56	n.f.	n.f.	--	400	--	--
BT4	n.f.	2000	--	952	1440*	720
E63C	1395?	45	--	--	--	--
E66	--	1000*	75	91	--	--
E69B	--	?	--	--	150	--
E96C	225?	*	--	--	--	--
E104	--	600	--	1857	400?	--
E106	105	--	225	?	--	--
E164	150?	900	--	--	--	--
E191D	funded	--	187?	--	--	--
E197B	--	*	150	n.f.	--	--
T1	16250	n.f.	29250	--	--	--

n.f. = no funding for partners in this country

* = (new) proposal requested by PA's

? = situation is not clear yet

JESSI Flagship Concept

Table of content

	page
1. Introduction	2
2. Description of Clusters	5
3. Cluster Management	12
4. The Industry Chain	17
5. Inter-cluster Relations	19
6. Internal Cluster Structure	27
7. Major Milestones	32
8. Summary	33



1991 12 06-3/1

Monitoring tasks of the JEMT members for the April 1992 Report:

	Advanced Technology	Lithography	DAB	Automotive Safety Electronics	Chemicals	CAD-Frame
Guillemet			+	+		
Hatzakis		+			+	
Le Pair			+			+
Queisser		+				+
Robertson	+				+	
Svelto	+			+		



RICEVUTO	
16 MAR 1992	
U.C. di U.S.	

March 16th 1992
GM/MB/114-92

FROM G. MATHERON
TO E. VILLA)
H. GUYOT) (with details of funding)
CC. J. MONNIER, R. PALETTO, G. ZOCCHI, J. BOREL

SUBJECT : JESSI GAT MEETING - BONN, MARCH 13th, 1992

MAIN OUTPUTS :

1 - **PREPARATION JESSI BOARD/JESSI COMMITTEE MEETING**
(April, 24th)

Strategic issues to be covered :

- BLR
- Importance of Microelectronics in Europe/restructuring European microelectronics (P. PISTORIO is expected to give his views).
- JESSI/CEC, link with ESPRIT IV preparation. JESSI will also report on 2nd semester 1991 activities and flagship concept.

A press release is to be prepared by GAT.

2 - **FUNDING INFORMATION FROM P.A's**

Overview per country

MECUS	BUDGET FRAME	FUNDING COMMITMENT
	FUNDING	(March 92)
F	44	37.9 + ? (1)
FRG	43	42.6
I	22.75	10.4 (2)
UK	10.45	7.4
NL	19.75	17.6 + ? (1)
EC	65	52
TOTAL	205	168 + ?

- (1) More under discussion/waiting for proposal (e.g. T15).
- (2) Only technology. Seems anyhow very low !!

NB "Funding commitment" is equivalent to "expected expenses for 12 months".

3 - DISCUSSION ON PROJECTS

T1 : SIEMENS will officially withdraw if BMFT is not willing to fund. Level of SIEMENS request for funding still seems too high on this subject vs. level of activities still ongoing in Germany after agreement with IBM, R. PALETTA sent a letter at BMFT, to ask for an official position.

AE15 (IQT) : Decision by JESSI Board is postponed, waiting for SIEMENS come-back in the project.

Regards

G. MATHERON

GAT Meeting.

MESSAGE

Subject: JESSI GAT MEETING
Sender: Henry GUYOT/GENTIL/01

Dated: 04/15/92 at 02:44.

Contents: 2.

Part 1.

FROM: Henry GUYOT/GENTIL/01

TO: Jo BOREL/GRENOB/01
Bernard KERVELLA/GENTIL/01
Gerard MATHERON/GRENOB/01
Jean-Claude VASUTH/GENTIL/01
Enrico VILLA/AGRATE/01
Giuseppe ZOCCHI/AGRATE/01



Part 2.

DE : H. GUYOT
A : DISTRIBUTION

SUBJECT : JESSI GAT MEETING

(This message will be sent by regular mail with enclosed charts)

A/ FUNDING SITUATION OF JESSI

Enclosed are draft charts presented by V Le Goascoz at the last GAT-GIG meeting held in London on April 14.

"Status" charts (pages 1 and 2) raised strong reactions from PA's (and even Kramer and Kamerbeek) because they are inaccurate and not well updated. Jessi Office will make a more reliable version.

93 budget charts are more interesting. Compared to 92 figures, first 93 evaluation shows a 40 % increase. Even if figures are not so accurate (because of man year rate and other issues), the final value is not very far from true.

Then, we will have to make the same exercise as one year ago, trying to select among projects which are to be funded. Agenda for this is the following :

- Friday May 15th Munich - GAT-GIG working group.
- Th-Fr June 18-19 th Paris - GAT-GIG
- Th-Fr July 9-10 th Brussels - GAT-GIG
- Th-Fr July 22-24 th The Hague GAT-GIG (to be confirmed)
- Th-Fr Sep 3-4 th Italy GAT-GIG

A budget frame should then be ready for approval at the JB/JC in October.

We must before the above meeting have clear ideas on which projects we want to push during the "killing exercise" of 93 selection.

B/ PROMOTION OF CROLLES

The June 18-19 meeting will be in France. Before the meeting, R. GILSON suggested that we could make it in Grenoble to visit Crolles.

I asked the question to DOMINE/BABINET who answered me it was too early they were willing to discuss that internally. They asked me not to propose it during the meeting.

Do we wish to host the meeting in Grenoble ? If yes we have to push strongly for it, because it will soon be too late !

Best regards.

H. GUYOT

End of Item.

All Government

JESSI

Distribution list to the
minutes of the GAT-BSG meeting
held in London on April 14th, 1992.

To the members of the JESSI Board

Mr. Paletto
Prof. Radelaar
Prof. Aigrain
Mr. Hagmeister
Mr. Knorr
Prof. Lawes
Mr. Petit
Mr. Pistorio
Mr. del Prado
Dr. Scholl

*GAT / BSG
Meeting*

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Munich, 1992-04-28
AB/kk

To the members of the JESSI Board Support Group:

*Copy: G. Nathen
J. Baer
G. Zocchi -*

Prof. Radelaar
Mr. Ernest
Dr. Friedrich
Dr. Peo (Haepp)
Drs. Kamerbeek
Drs. Kramer
Mr. Lepetit
Mr. Monnier

To the members of the GAT Interface Group

Prof. Radelaar
Dr. Burgmans
Mr. Ernest
Mr. Guyot
Mr. Haserer
Drs. Kamerbeek
Drs. Kramer
Dr. Meyer
Dr. Villa



To the members of the JESSI Office

Dr. Burgmans
Dr. Dekkers
Dr. Grünewald
Mr. LeGoascoz
Dr. Meyer
Mr. Sethi





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Munich, 1992-04-27
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**Minutes of the GAT-BSG meeting
held in London on April 14th, 1992**

0. Participants

GAT

Mr. Babinet	MIAT, F
Mr. Broster	CEC
Mr. Dominé	MIAT, F
Dr. Dudde	BMFT, D
Mr. German	DTI, UK
Mr. Gislon	MURST, I
Drs. v.'t Hof	MEZ, NL
Mr. McAuley	DTI, UK
Dr. Weigmann	FhG, D

GAT-Interface Group (BSG)

Dr. Burgmans	JESSI Office
Mr. Ernest	Alcatel
Mr. Le Goascoz	JESSI Office
Mr. Guyot	SGS-Thomson
Mr. Haserer	Siemens
Drs. Kamerbeek	ASM-I
Drs. Kramer	Philips
Dr. Meyer	JESSI Office

GAT-BSG meeting in London on April 14th, 1992

Summary of decisions and action items

Decisions

- The GAT accepted the April Review
- A working group to prepare the funding proposal for 1993 has been established
- Next meetings: June 19th, Paris;
July 19th, Brussels
Sept. 4th, Italy

Action items

action	by	time
- exchange proposal for press release	German /Meyer	a.s.a.p.
- release funding information	Weigmann	within few days
- exchange funding information per company	Weigmann/ Burgmans	a.s.a.p.
- provide info for Eureka data base	Meyer	a.s.a.p.

1. Approval of the agenda

After the meeting was opened by Mr. McAuley, the agenda has been approved as proposed, see enclosure 1.

2. Preparation JB/JC meeting

Strategic points

The working papers prepared by Mr. Monnier, Mr. Ernest and Mr. Lawes, see enclosure 2, were distributed before the meeting so that the GAT could react to it. Mr. Meyer mentioned that these documents are actually meant to kick off the discussion in the JB/JC meeting rather than to discuss them extensively in this meeting. The topics will be introduced in the JB/JC meeting, by members of the JESSI Board, that is:

- "Vision of the European microelectronic industry on the medium term future" by Mr. Pistorio,
- "The future role of the P.A.'s in JESSI in general and of the CEC in particular" by Mr. Radelaar and
- "Basic and Long term Research in JESSI" by Mr. Lawes.

Mr. Broster noticed that the paper on the future role of the P.A.'s is only referring to the CEC instead of to all P.A.'s. Mr. Ernest replied by saying that this paper, although focussing towards the EC, will trigger a general discussion. McAuley pointed out that the European IC companies and system houses have their own responsibility with respect to buying European equipment and IC's respectively. The P.A.'s do not really have the possibilities to influence their decisions.

Press release

A proposal for the press release regarding the JB/JC meeting was distributed by JESSI. The GAT has some additional remarks which are, however, not finalized yet. The information will be exchanged, so that an agreed upon version is available on the 24th of April.

3. Funding information

By P.A.'s

Mr. Weigmann announced that a complete overview of the funding commitments by the P.A.'s for 1992 is in preparation and will be finalized in the next couple of days. The conclusion till now is that approximately 80% of the budget agreed upon in Rome is already accepted in contracts and that the remaining part is under consideration.

In some cases the P.A.'s have not received funding applications yet although the projects in question have been accepted by the P.A.'s.

By JESSI

Mr. Le Goascoz presented an overview of the present status of the funding applications, see enclosure 3. Additional information was given by the P.A.'s so that the overview can be up-dated. Information about the issued contracts per company using the JESSI information, see enclosure 4, could not be given yet by the P.A.'s. This information, necessary e.g. for the financial contribution to the JESSI Office, will be exchanged later.

4. Review April 1992

The GAT expressed their satisfaction with the April Review. The executive summary, however, could be improved next time. This part should contain an overview of the results, milestones etc. JESSI mentioned that this part was not meant as a stand alone document and should not be used as such.

Mr. Le Goascoz elaborated on the budget plan for 1993 see enclosure 5. The GAT found it not necessary to comment since the information as given is new and rather extensive. It was decided to establish a working group with participation from JESSI and the P.A.'s to come to a final proposal in a procedure similar to the one used last year. The working group will meet for the first time on May 15th in the JESSI Office.

5. Any other business

- Mr. Burgmans announced that this was his last GAT-BSG meeting since he will go back to his company. McAuley thanked him for the cooperation.

- The GAT mentioned that the JESSI information of the Eureka data base needs to be updated. JESSI will take action in order to do so.

- The next meeting will be on June 19th in Paris, subsequent meetings will be held in July 19th in Brussels and September 4th somewhere in Italy.

**Agenda for the GAT-BSG meeting
on April 14th, 1992 in London**

1. Approval of the agenda
2. Preparation JB/JC meeting
 - * strategic points
 - * press release
3. Funding information
 - * by P.A.'s
 - * by JESSI
4. Review April 1992
5. Any other business

Munich, April 8, 1992
HM/sm

**Strategy Discussion in the JESSI Board/JESSI Committee Meeting
on April 24th, 1992**

Working Paper prepared by: Mr. Joël Monnier

Subject: Vision of the European microelectronic industry on the
medium term future

SHORT ANALYSIS OF PROBLEMS:

- Electronics is today the first worldwide industry and determines all the significant shifts in our industrial infrastructures and lifestyles (electronics will represent by year 2000 \$ 2.000 billion of sales).
- Semiconductors are the key to progress in electronics since they enhance performance level of systems and bring down their costs: the wealth of Europe now depends on silicon (semiconductor market growth rate: 15% annual on average between 1970 and 2000).
- Europe, as one of the three main economic macrosystems, must have a sufficient level of autonomy in the information technology sector and consequently also in the semiconductor area.
- To anticipate developments in the field of electronics, it is thus mandatory to achieve a huge rate of innovation and competitiveness improvement. This is the challenge Europe has to face.
- The overall situation for European industry is somehow contrasted with:
 - * High level of R&D, but weaknesses on the production side despite recent improvement.
 - * Consumption of Electronics goods is high in Europe, but the European semiconductor market share is rather small (19% of worldwide market).
 - * Production by European manufacturers is still unsufficient: 10% of WW production, 40% of domestic needs coverage.
 - * Critical size (5% of WW market for a broadrange supplier) not yet reached by the major European companies.

OPEN QUESTIONS

- Will European electronic industry accept to be more and more dependent on external sources (incl. competitors on their market segments): probably not.
- Will the rate of R&D costs and productive capital investments reduce in the next years: certainly not.
- Are the public authorities ready to help European IC-makers to operate on an equal footing with their competitors (financing conditions, labour flexibility ...).
- Are the key actors (IC companies, System companies and public authorities) in Europe ready to set up actions to improve the situation and avoid increased dependency?

PROPOSAL FOR ACTIONS IN THE MEDIUM TERM

- Maintain a high rate of innovations as the main fuel for growth: exceed the average in R&D expenditures as percentage of sales. Subsidizing needed from public authorities at a level in accordance with the strategic importance of semiconductors.

As a matter of comparison, each of the Japanese first three leaders will spend \$ 3 billions for R&D till 1996.

Today, the IC manufacturers cannot assume alone such a load, while remaining competitive on the market.

For R&D support, prefer small, committed consortia on cooperative R&D projects with goals relevant to selected priorities.

- Promote strategic alliances with key European customers for innovative products definition (virtual vertical integration).

Today European system industry buy only 40% to European producers, whilst Japanese ones purchase 85% in Japan. Find ways to improve together product portfolios and "buying European" willingness.

- Help IC industry developing, renewing and restructuring its manufacturing resources via concentrated and dedicated major investments.
- Provide favourable environment with compensations where needed, to attack disparities between the European business environment and that of its competitors (tariffs, legal and social aspects).
- Prepare ourselves to accept and meet the costs, both social and financial, of industrial restructuring to reach critical size. Public authorities should be prepared to favour this process.

Munich, April 8, 1992
HM/sm

Strategy Discussion in the JESSI Board/JESSI Committee Meeting on April 24th, 1992

Working Paper prepared by: Mr. Jacques Ernest

Subject: The future role of the PA's in JESSI in general
and of the CEC in particular

1. Background

It is essential that a basic understanding be first established among all parties concerned by the success of JESSI, i.e. all involved P.A.'s, including the CEC, and the JESSI Organization, about:

- the major orientations for JESSI in the coming phase
- the type of collaborative activities that are to be supported, in JESSI, by either the relevant national P.A.'s and/or the CEC, in the frame of the new orientations indicated by Maastricht, the COM (92) 2001 (Delors 2 package), and V.P. Pandolfi's communication "Réussir Maastricht dans le Domaine de la Recherche".
- the amounts, at least in order of magnitude, that the EC is ready to contribute, subject to approval by EP and the M.S., to the kind of focussed, targeted, industrially-oriented project(s) that JESSI may submit, to support Europe's industrial competitiveness in microelectronics, in the context of the 4th EC FP for RDT.
- what should be the preferred technical/industrial orientations of such "targeted" JESSI projects.

Hereinafter, we propose some views as to what could be a reasonable scheme for Commission support to JESSI in the next Frame Program, jointly agreed by all parties concerned.

2. Suggested scheme for EC support to JESSI in the next phases

2.1 The perspective of the 4th EC Frame Program for RDT (1994 - 1998)

We gladly acknowledge that, as a result of "Maastricht", there is a strong dedication, in the Commission, to foster and support, in the next FP, collaborative RDT actions that will, much more than in the past, directly address the need to

strengthen the competitiveness of the European electronics industry, and, at the core of it, its microelectronics home base, which is precisely the purpose of JESSI.

The perspective, in our view, is for the CEC, to make a decisive contribution to the strengthening of the European "microelectronics home-base", through a program that would be both:

- highly focussed towards real industrial requirements.
- ambitious and forward looking, i.e. aiming at maintaining a leading edge for Europe, in this area, beyond the milestone of the current JESSI program (1996), and into the 2000's.

Several possibilities could be, theoretically, envisaged, for the type of intervention that the CEC could make in the coming phase and especially during the 4th Frame Program. We would dismiss two of them, that we believe inadequate and/or inoperative:

- a. A kind of "hands-off" position, whereby the CEC would only support purely "precompetitive", non-focussed non-interrelated research projects, in the silicon area, as a formal continuation of classical ESPRIT (I-II-III) activities.
- b. On the other hand, the support of really competitive projects, directly aiming at products, on a near-term basis.

Rather, we believe that an optimum intervention of the CEC would be to support JESSI through a set of projects constituting a "Large Targeted Project" per se, concentrating on a range of well-defined industrially-oriented key technologies, implying "horizontal" collaborations, among relevant industries and research institutes in Europe.

This kind of "LTP" would thus be fully supportive of, and complementary to more "vertical" "product-oriented" efforts, that could be preferably supported by the interested national P.A.'s. Also, such a complementarity would comply with the principle of "subsidiarity", which is understood to be the basis for CEC intervention.

We give hereunder a rough indication of the major areas which could be addressed by such an "LTP" for "industrially-oriented, horizontal, key technologies for advanced silicon-microelectronics, beyond 1996":

- o Silicon "0.1 /um" technologies
- o Manufacturing Science for advanced Si-microelectronics (as a global theme, and not only addressing e.g. specific isolated equipment items).
- o Advanced design and integration technologies for systems/microsystems (using "0.1 /um" Si-technology).

- o Basic research (supporting the above areas).

Of course, much in depth work is needed to develop these themes in detail.

We recommend active interaction between the JESSI Organization and the JC/GAT, to achieve the definition of such an "LTP", if and when the principle is agreed.

Finally, we stress again, that this "LTP", should be designed and constructed with the view that such "horizontal" collaborative actions, however long term, must be driven from the start, by the industrial application perspective, which view is one of the fundamental tenets of JESSI, anyway.

2.2 Near and mid-term perspective

It is also essential that maximum continuity be ensured between the current situation in JESSI and the longer-term perspective (1994 - 1998) described above.

Therefore, we would ask that the CEC in particular, makes the necessary provisions, to ensure that:

- a. the currently launched Joint Logic, MST, CAD-Frame, ADEQUAT projects* are properly supported beyond the initial ESPRIT-3 call, e.e. on the occasion of the next calls.
- b. proper support be given to other, near to mid-term-oriented, selected JESSI projects.

3. General recommendations

- 3.1 Generally speaking, we strongly recommend that clearer procedures be applied, in the future, to the handling of proposals put forward by the JESSI Organization, notably to the CEC, so as to avoid confusing, time-consuming, "double-labelling" and "double evaluation" procedures.

This recommendation applies to both the longer-term "LTP"-type projects outlined above, and to the projects currently launched or to be discussed in the near term.

We believe that, provided that clear workplans for those proposals are well agreed in advance, one could avoid most of the problems already encountered.

- 3.2 We strongly recommend that, in order to address the proposal outlined above in a constructive way, the JESSI Organization be explicitly associated to the on-going activity preparatory to the 4th FP, especially in view of the Communication of the Commission "How to make Maastricht a success in the Research sector", which will be presented to the Research Council on April 29th.

* Which are, in a way, the precursors of the LTP described above, and where true "horizontal" collaboration is already, quite satisfactorily, experienced today.

Munich, April 8, 1992
HM/sm

Strategy Discussion in the JESSI Board/JESSI Committee Meeting on April 24th, 1992

Working Paper prepared by: Prof. Ronald A. Lawes

Subject: **BASIC AND LONG TERM RESEARCH IN JESSI**

1. INTRODUCTION

1.1 Objective

The JESSI BLR program was set up to:

- undertake a complementary program of applied research in support of the nearer-term JESSI goals
- to undertake a program of basic and long range research to prepare for the future needs of JESSI

1.2 Status

To achieve these objectives, a comprehensive selection of key topics in the field of technology, equipment and materials and CAD methodology was prepared.

During the period 1989 - 91 these were transferred into 11 projects, ranging from 0.25/ μ CMOS, through X-ray lithography to VLSI system design and advanced floor planning.

By mid-90 X-ray lithography had been withdrawn as a BLR topic due to lack of support from the industry, 2 projects were held by the JESSI Board awaiting a resolution of the funding situation and all other projects had been fully labelled by JESSI.

During 1991 only 1 project was partially funded (0.25/ μ CMOS). Depending on what parameters are chosen (manpower or actual funds) only 15 - 25% of the planned BLR program is currently funded.

2. SHORT ANALYSIS

The problem with starting up the BLR program is simple and fundamental - lack of funds.

Thus the BLR Board has been undertaking a "fire-fighting" exercise for the last 18 months.

The problem with BLR have been exacerbated by the shortfall in funding for industry. JESSI has been obliged to concentrate

most of the available resources on the vital but short-term aspects of the program. Nevertheless, the JESSI Board presented 0.25 μ m CMOS to the CEC as one of its priority projects.

Fortunately, the CEC, was able to provide some support for BLR through the 0.25/ μ m CMOS project - the "flagship" project of BLR. However, severe difficulties have arisen because the CEC support has been "too little and too late" viz

- national government finished in Dec 1991 and CEC support is still awaited (April 1992), hence the project has stopped
- only 20 - 25% of the labelled program will be funded over the next 18 months. What happens after that?
- CEC officials have insisted in reorganizing the project. The changes have not been minor - they have been fundamental and often against the wishes of JESSI.

In addition, there has been some additional support from some national governments for the BLR "Packaging" project. This enables 50% of the labelled project to be rescued.

3. OPEN QUESTIONS

The future for European BLR, both within JESSI and elsewhere, looks bleak unless clear commitments are made.

Industry, the CEC and national governments should consider the following:

- a) Do you want the close, wide-ranging, academic-industrial collaboration that JESSI represents?
- b) Do you believe in BLR?
- c) Are you prepared to commit yourself to agreed, guaranteed and adequate funding?
- d) Within reasonable limits and with adequate monitoring, will you allow JESSI to define and manage the program without undue hindrance and "second-guessing".

4. PROPOSAL FOR SOLUTION

As a matter of the utmost urgency European industry, institutes, the CEC and national governments should meet to:

- a) make provision for the funding of BLR within JESSI against an agreed reserved budget
- b) agree the broad outline of an overall BLR program with the details to be set and guided by industry through JESSI
- c) charge JESSI with the responsibility of approving, implementing and managing.

Status on Future Applications ● To date 13/04/92

STATUS

Technology

T32: Support Tools and Systems - STM -
T15: Process manufacturing - STM -

- no answer
- Project to be finalized (Peritus) as well as the funding studies in FRA.

Application

A C8: Synthesis - Siemens -
A E15: ATM network - Alcatel Bell -
A E56: SD HDTV/VCR - Philips -

- no application from UK partners
- no answer
- no answer

E and M

E15: Elymat Techniques - Gemeltec -
Mixed Testee - Schleicher & Berger -
E183: Slicing Silicon - Philips -
E191: Silicon wafers - Wacker -

- new application writing (Siemens)
- Application of Siemens writing -
- no application
- no application from TEG.

Funding Problems

Date 13/04/92

Technology

- T_{2B} : Technology for volume production - STET
 T₂₂ : Embedded memory - Philips

Application

- A_{C5} : EMC work bench - Siemens
 A_{C8} : Synthesis - Siemens
 A_{E14} : DAB standard - Philips
 A_{E36} : Display - Alenia
 A_{E55} : V. telephone - Philips PKI

E and M

- E₁₀₆ : X Ray fluorescence - Philips
 E₁₁ : Silicon puller - Leybold - * No Pb
 E₁₇₀ : Prober - SET
 E_{2A} : Chemicals - Reedel de Haan
 E₆₆ : Silicon wafer - Wacker
 E_{7L} : Target materials - Degussit -

- E₆ : HiRel cross gates - ASIM -
 E₅ :

- Funding problems in FRG
- No funding till now (OK in NL)
- no funding in ITALY
- Situation To be clarified in BEL, Ia
- Problems in UK
- Delay in FRA but positive situation
- Delay in FRA but positive situation
- Still unclear in ITALY
- serious funding problem in FRA
- No fund in NL / Difficulties in FRA
- Problem To get the funding
- Difficulties To finance the funding
- no funding for Cemecon
- Funding situation confused (Wacker + GMN + others !)
- still no funding for Siemens, Philips and STET. No funding for Balzers
- * No Pb - (Waiting for an answer in NL)
 - Problem in FRA - (Contract directly running)

Seitennummer 1

30.03.92 LIST OF PARTICIPANTS IN LABELLED PROJECTS KEYPA..KEYPR.DBF
 ID-Nr COUNTRY COMPANY MANPOW92 KEYGAT.QBE...FRM
 FUNDING

JESSI COMMON FRAME

AC001	BEL	IMEC	2,50	EEC
AC001	FRA	BOSCH	2,00	EEC
AC001	FRG	CADLAB	47,00	EEC
AC001	FRG	FZI KARLSRUHE	8,00	EEC
AC001	FRG	GMD	4,50	EEC
AC001	FRG	SIEMENS	13,60	EEC
AC001	FRG	TU DARMSTADT	1,50	EEC
AC001	FRG	UNI HAGEN	2,75	EEC
AC001	FRG	UNI PADERBORN	11,70	EEC
AC001	IRL	NMRC	2,00	EEC
AC001	ITA	STM	3,10	EEC
AC001	NL	PHILIPS	12,50	EEC
AC001	NL	TU DELFT	10,00	EEC
AC001	POR	INESC	1,50	EEC
AC001	UK	ICL	3,00	EEC
AC001	UK	PLESSEY	2,00	EEC
AC001	UK	UNI MANCHESTER	2,75	EEC

EMC WORKBENCH

AC005	DK	EC	11,50	NAT
AC005	FRA	MATRA ESPACE	8,00	NAT
AC005	FRG	CADLAB	21,00	NAT
AC005	ITA	BULL	7,00	NAT
AC005	NL	PHILIPS	12,00	NAT

TEST GENERATION AND DESIGN

AC006	BEL	ALCATEL BELL	3,00	NAT
AC006	FRA	STM	13,08	NAT
AC006	FRG	SIEMENS	20,70	NAT
AC006	FRG	SIEMENS NIXDORF	19,60	NAT
AC006	NL	PHILIPS	16,50	NAT

SYNTHESIS

AC008	FRA	BULL	6,00	NAT
AC008	FRA	INPG GRENOBLE	5,00	NAT
AC008	FRA	SIM	11,00	NAT
AC008	FRA	THOMSON TMS	2,00	NAT
AC008	FRG	FZI KARLSRUHE	3,50	NAT
AC008	FRG	ROBERT BOSCH	1,00	NAT
AC008	FRG	SIEMENS	30,00	NAT
AC008	FRG	SIEMENS NIXDORF	0,05	NAT
AC008	FRG	TH DARMSTADT	1,00	NAT
AC008	FRG	TU MUENCHEN	2,00	NAT
AC008	FRG	ZKI DRESDEN	0,50	NAT
AC008	NL	PHILIPS	6,00	NAT
AC008	SW	IM	4,00	NAT
AC008	UK	AHL	2,00	NAT
AC008	UK	GEC PLESSEY	5,00	NAT
AC008	UK	ROKE MANOR RES.	3,00	NAT

ANALOG EXPERT DESIGN

AC012	AUT	EZM	5,00	NAT
AC012	CH	CSEM	4,00	NAT
AC012	FRA	ANACAD FRANCE	5,00	NAT
AC012	FRA	MHS	7,00	NAT
AC012	FRA	STM	6,50	NAT
AC012	FRG	ANACAD GERMANY	5,00	NAT
AC012	FRG	DAIMLER BENZ	15,00	NAT

AC012	FRG	ROBERT BOSCH	7,00	NAT
AC012	FRG	SIEMENS	13,50	NAT
AC012	FRG	SIEMENS NIXDORF	4,00	NAT
AC012	FRG	ZKI/EAS	4,00	NAT
AC012	IRL	S3	3,50	NAT
AC012	NL	PHILIPS	12,00	NAT

TECHNOLOGY ASSESSMENT

AC041	BEL	ALCATEL BELL	3,00	NAT
AC041	BEL	MIETEC	6,50	NAT
AC041	FRA	BULL	2,50	NAT
AC041	FRA	STM	4,50	NAT
AC041	FRG	ALCATEL SEL	10,00	NAT
AC041	FRG	IMS	4,00	NAT
AC041	FRG	ROBERT BOSCH	3,30	NAT
AC041	FRG	SIEMENS	3,60	NAT

CAD TOOLS FOR DSP ASIC DESIGN

AC075	BEL	EDC	7,00	NAT
AC075	BEL	IMEC	0,30	NAT
AC075	BEL	PHILIPS	2,00	NAT

HDTV

AE010	AUT	SIEMENS (A)	2,00	NAT
AE010	FRA	PHILIPS (F)	7,50	NAT
AE010	FRA	STM (F)	24,00	NAT
AE010	FRA	THOMSON TCE (F)	16,00	NAT
AE010	FRG	PHILIPS (G)	7,50	NAT
AE010	FRG	SIEMENS (G)	17,50	NAT
AE010	FRG	THOMSON TCE (G)	5,00	NAT
AE010	NL	PHILIPS (NL)	37,50	NAT
AE010	UK	PHILIPS (UK)	4,00	NAT

SAFETY-CRITICAL SYSTEMS

AE011	FRA	STM	11,00	NAT
AE011	FRA	UNI GRENOBLE	1,00	NAT
AE011	FRG	ALCATEL SEL	2,00	NAT
AE011	FRG	PORSCHE	1,50	NAT
AE011	FRG	ROBERT BOSCH	19,00	NAT
AE011	FRG	SIEMENS	2,50	NAT
AE011	FRG	UNI HANNOVER	2,50	NAT

DIGITAL CELLULAR RADIO

AE013	BEL	ALCATEL BELL	14,90	NAT
AE013	BEL	KATHO UNI LEUVEN	2,50	NAT
AE013	FRA	ALCATEL ATR	13,10	NAT
AE013	FRA	STM	13,15	NAT

BUILDING BLOCKS FOR DAB

AE014	FRA	CCETT	4,00	NAT
AE014	FRA	STM	4,00	NAT
AE014	FRG	AEG	7,00	NAT
AE014	FRG	BLAUPUNKT-BOSCH	5,00	NAT
AE014	FRG	DTB	4,30	NAT
AE014	FRG	FHG AIS	10,00	NAT
AE014	FRG	GRUNDIG	3,00	NAT
AE014	FRG	IRT	3,00	NAT
AE014	FRG	TELEFUNKEN EG	5,00	NAT
AE014	NL	PHILIPS	14,00	NAT

VLSI FOR B-ISDN

AE015	BEL	ALCATEL BELL	19,75	NAT
AE015	BEL	ESAT	2,00	NAT
AE015	BEL	IMEC	4,00	NAT
AE015	BEL	SDM	6,00	NAT
AE015	FRA	ALCATEL CIT	0,75	NAT
AE015	FRA	STM	3,00	NAT
AE015	FRG	ALCATEL SEL	1,00	NAT

SMI SUPPORT

AE023	BEL	IMEC	8,00	NAT
AE023	DK	EC	8,00	NAT
AE023	FRA	LETI	24,00	NAT
AE023	FRG	FHG AIS	8,00	NAT
AE023	FRG	GMD	8,00	NAT
AE023	FRG	IAM	8,00	NAT
AE023	ITA	UNI ROMA	8,00	NAT
AE023	NL	SCME	8,00	NAT
AE023	UK	RAL	8,00	NAT

HIGH RESOLUTION DISPLAY

AE036	FRA	ES2	0,90	NAT
AE036	FRA	SEXTANT AVIONIQUE	9,10	NAT
AE036	FRG	ATLAS ELEKTRONIK	7,20	NAT
AE036	FRG	FHG IGD	3,00	NAT
AE036	FRG	FHG IIS	4,00	NAT
AE036	ITA	ALENIA	12,40	NAT

CHIPSET FOR ISDN VIDEOPHONE

AE055	DK	JYDSK TELEFON	2,25	NAT
AE055	FRA	MATRA COM	6,50	NAT
AE055	FRA	MHS	9,85	NAT
AE055	FRG	ALCATEL SEL	2,50	NAT
AE055	FRG	DORNIER	5,00	NAT
AE055	FRG	PHILIPS PKI	12,00	NAT
AE055	FRG	SIEMENS	4,00	NAT

SIGNAL PROCESSING FOR SD/HD VCR

AE056	FRA	STM	10,00	NAT
AE056	FRA	THOMSON TCE	5,00	NAT
AE056	FRG	GRUNDIG	3,00	NAT
AE056	FRG	SIEMENS	7,00	NAT
AE056	NL	PHILIPS	15,00	NAT

QUARTER MICRON CMOS

BT001	AUT	Siemens Austria	1,00	NAT
BT001	AUT	TU VIENNA	2,00	NAT
BT001	BEL	IMEC	24,00	NAT
BT001	FRA	CNET	20,00	NAT
BT001	FRA	LETI CONSORTIUM	20,00	NAT
BT001	FRG	FHG AIS	8,00	NAT
BT001	FRG	FHG IMT	13,75	NAT
BT001	FRG	IHT	1,50	NAT
BT001	FRG	ITE AACHEN	3,00	NAT
BT001	FRG	MAX PLANCK INST	2,00	NAT
BT001	FRG	SIEMENS	18,00	NAT
BT001	IRL	NMRC	1,00	NAT
BT001	ITA	CNR-IESS	1,00	NAT

Seitennummer 4
 30.03.92 LIST OF PARTICIPANTS IN LABELLED PROJECTS KEYPA..KEYPR.DBF
 ID-Nr COUNTRY COMPANY MANPOW92 KEYGAT.QBE...FRM
 FUNDING

BT001	ITA	CNR-Inst. LAMEL	1,75	NAT
BT001	ITA	UNIV. BOLOGNA	5,00	NAT
BT001	ITA	UNIV. CATANIA	1,00	NAT
BT001	ITA	UNIV. MODENA	1,00	NAT
BT001	ITA	UNIV. PARMA	0,50	NAT
BT001	ITA	UNIV. PISA	0,75	NAT
BT001	ITA	UNIV. SALFORD	1,00	NAT
BT001	ITA	UNIV. TWENTE	1,00	NAT
BT001	NL	DIMES DELFT	11,00	NAT
BT001	NL	PHILIPS	17,00	NAT
BT001	NL	TU EINDHOVEN	1,00	NAT
BT001	NL	UNIV. UTRECHT	1,00	NAT
BT001	UK	GPS	6,00	NAT
BT001	UK	OPT	2,00	NAT
BT001	UK	RAL	1,00	NAT
BT001	UK	UNI SOUTHAMPTON	2,00	NAT
BT001	UK	UNI SURREY	2,00	NAT
BT001	UK	UNIV. WARWICK	1,00	NAT

ULTRA PURE WET CHEMICALS

E002A	FRA	LETI	2,50	NAT
E002A	FRA	STM	2,00	NAT
E002A	FRG	FHG-AIS-B	2,00	NAT
E002A	FRG	GEMETEC	1,00	NAT
E002A	FRG	MERCK	6,50	NAT
E002A	FRG	RIEDEL DE HAEN	7,60	NAT
E002A	FRG	SIEMENS	2,00	NAT
E002A	NL	PHILIPS	0,00	NAT

ULTRA CLEAN TECHNOLOGY IN GASES

E002B	FRA	AIR LIQUIDE	4,20	NAT
E002B	FRA	COMURHEX	1,10	NAT
E002B	FRA	LETI	2,10	NAT
E002B	FRA	MHS	2,40	NAT
E002B	FRG	IBM	0,50	NAT
E002B	FRG	LINDE	10,00	NAT
E002B	FRG	MESSER GRIESHEIM	10,10	NAT
E002B	FRG	SIEMENS	1,00	NAT
E002B	ITA	STM	2,10	NAT

PLANARIZED METALLIZATION

E005	FRA	LETI	4,00	NAT
E005	NL	ASM AMTC	9,00	NAT
E005	NL	BILLITON	3,20	NAT
E005	NL	PHILIPS	0,50	NAT
E005	UK	QUEEN MARY COLLEG	2,00	NAT

INTEGRATION FOR CMOS GATES

E006	NL	ASM AMTC	4,00	NAT
E006	NL	PHILIPS RES LAB	2,00	NAT

HIGH LEAD COUNT CERAMIC PACKAGE

E009	FRG	HOECHST	8,00	NAT
E009	FRG	SIEMENS	3,00	NAT
E009	FRG	TU BERLIN	3,00	NAT

CRYSTAL PULLER

E011	FRG	JUELICH	0,00	NAT
E011	FRG	LEYBOLD	7,00	NAT

E011	FRG	UNI ERLANGEN	0,00	NAT
E011	FRG	WACKER CT	0,00	NAT

SINGLE WAFER CLEAN

E013	FRG	FhG-AIS	0,30	NAT
E013	FRG	FhG-IPA	0,00	NAT
E013	FRG	HAMATECH	5,50	NAT
E013	FRG	TELEFUNKEN EG	0,60	NAT

ELYMAT TECHNIQUE

E015	FRG	GEMETEC	4,50	NAT
E015	FRG	SIEMENS	1,00	NAT
E015	FRG	WACKER CHEMITRON	0,50	NAT
E015	ITA	MEMC	0,50	NAT

FAW

E019	FRA	LETI	0,60	NAT
E019	FRG	ACR	2,00	NAT
E019	FRG	FHG AIS	0,50	NAT
E019	FRG	FHG IPA	1,50	NAT
E019	FRG	MEISSNER & WURST	2,00	NAT

MEGA CLEAN

E020	FRA	MHS	0,25	NAT
E020	FRA	STM	0,00	NAT
E020	FRG	HOECHST	1,63	NAT
E020	FRG	IBM	0,92	NAT
E020	FRG	POKORNY	1,42	NAT
E020	FRG	RIEDEL-DE-HAEN	0,42	NAT
E020	FRG	TELEFUNKEN EG	1,13	NAT

STEPPER OPTICS

E039	FRG	HERAEUS	2,40	NAT
E039	FRG	ZEISS	18,00	NAT

I - LINE PRODUCTION LITHOGRAPHY

E060	BEL	UCB	0,50	NAT
E060	FRG	HOECHST	2,00	NAT
E060	FRG	SIEMENS	3,80	NAT
E060	FRG	ZEISS	6,00	NAT
E060	ITA	STM	2,00	NAT
E060	NL	ASM L	20,00	NAT
E060	NL	PHILIPS	2,00	NAT

AUTOMATIC METROLOGY

E064	FRA	NANO-MASTER	7,70	NAT
E064	FRG	SIEMENS	0,50	NAT
E064	ITA	STM	0,75	NAT

SILICON WAFERS

E066	FRG	GMN	6,00	NAT
E066	FRG	SIEMENS	2,00	NAT
E066	FRG	TELEFUNKEN EG	0,50	NAT
E066	FRG	WACKER CHEMITRON	49,30	NAT
E066	ITA	STM	0,50	NAT
E066	NL	PHILIPS	0,50	NAT

ELLIPSOMETER

E069	FRG	EUROSIL	1,50	NAT
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Seitennummer	6		KEYPA..KEYPR.DBF	
30.03.92	LIST OF PARTICIPANTS IN LABELLED PROJECTS			
ID-Nr	COUNTRY	COMPANY	MANPOW92	FUNDING
E069	FRG	IHP	2,50	NAT
E069	FRG	PLASMOS	4,00	NAT
E069	FRG	TELEFUNKEN EG	1,00	NAT
<hr/>				
SPUTTER TARGET				
E074	FL	BALZERS	1,50	NAT
E074	FRG	DEGUSSA-DEMETRON	4,00	NAT
E074	FRG	SIEMENS	1,80	NAT
E074	FRG	VAW(V.ALUMINIUM W)	0,80	NAT
E074	ITA	STM	1,00	NAT
E074	NL	PHILIPS	0,50	NAT
<hr/>				
WET CHEMICALS SUPPLY SYSTEM				
E077	BEL	SOLVAY	0,20	NAT
E077	FRA	ASTI	2,80	NAT
E077	FRA	IBM FRANCE	1,50	NAT
E077	FRA	LABEILLE	2,20	NAT
E077	FRA	PLASTACID	1,50	NAT
E077	FRA	PLASTIC OMNIUM 3P	4,00	NAT
E077	FRG	GEMU	2,60	NAT
<hr/>				
CLOSED CHAMBER WET PROCESSING				
E088	FRA	BLOMME	3,00	NAT
E088	FRA	LETI	2,00	NAT
E088	FRA	PHILIPS RTC	0,50	NAT
E088	FRA	SAPI	3,00	NAT
<hr/>				
ELECTRON BEAM METROLOGY				
E104	BEL	PHILIPS RESEARCH	2,85	NAT
E104	FRG	ICT	8,75	NAT
E104	FRG	SIEMENS	0,00	NAT
E104	NL	PHILIPS	21,85	NAT
E104	NL	PHILIPS COMPOEN	0,00	NAT
E104	UK	EDINBURGH MICRO	0,35	NAT
E104	UK	GEC-PLESSEY	0,00	NAT
E104	UK	RAL	2,65	NAT
<hr/>				
X RAY WAFER ANALYZER				
E106	FRA	LETI	1,40	NAT
E106	ITA	STM	1,50	NAT
E106	NL	PHILIPS IE+Nat.L.	8,50	NAT
E106	NL	PHILIPS RES.LAB.	3,00	NAT
<hr/>				
AUTOWEC				
E109	FRA	AIR LIQUIDE	1,50	NAT
E109	FRA	CYBERNETIX	8,45	NAT
E109	FRA	IBM FRANCE	1,30	NAT
E109	FRA	IT NEU	1,40	NAT
E109	FRA	LETI	5,70	NAT
E109	FRA	MHS	1,10	NAT
E109	FRA	SOGELARG	3,35	NAT
E109	FRA	STM	0,85	NAT
E109	FRA	THOMSON TMS	0,20	NAT
E109	FRG	ACR	7,90	NAT
E109	FRG	ANDROMEDA	1,50	NAT
E109	FRG	IBM GERMANY	4,80	NAT
E109	FRG	MEISSNER & WURST	12,60	NAT
E109	FRG	SIEMENS	0,20	NAT
E109	FRG	TELEFUNKEN EG	0,80	NAT

30.03.92 LIST OF PARTICIPANTS IN LABELLED PROJECTS KEYGAT.QBE...FRM
 ID-Nr COUNTRY COMPANY MANPOW92 FUNDING

DEEP UV IMAGE PROCESSING

E162	FRA	LETI	3,00	NAT
E162	FRG	BASF	8,00	NAT
E162	FRG	CONVAC	23,00	NAT
E162	FRG	FhG IMT	3,00	NAT
E162	FRG	LAMBDA PHYSIK	4,00	NAT
E162	NL	ASM L	15,50	NAT

RAPID THERMAL PROCESSING

E164	FRA	IBM FRANCE	0,75	NAT
E164	FRG	AST ELEKTRONIK	5,75	NAT
E164	FRG	FHG AIS	0,85	NAT
E164	FRG	SIEMENS	0,75	NAT

EUROPROBER

E179	FRA	CYBERNETIX	4,50	NAT
E179	FRA	IBM	0,10	NAT
E179	FRA	LETI	4,50	NAT
E179	FRA	SCHLUMBERGER	5,40	NAT
E179	FRA	SET MICROCONTROLE	9,70	NAT
E179	FRA	STM	0,00	NAT
E179	FRG	SIEMENS	0,10	NAT
E179	FRG	TRF	2,00	NAT

ICP/HRMS

E181	FRA	AIR LIQUIDE	0,30	NAT
E181	FRA	INERIS/CERCHAR	3,70	NAT
E181	FRA	LETI	0,30	NAT
E181	FRG	LINDE	0,20	NAT
E181	FRG	MESSER GRIESHEIM	0,30	NAT
E181	ITA	SAES GETTERS SPA	0,30	NAT
E181	UK	VG ELEMENTAL	0,50	NAT

MIXED SIGNAL TESTER

E183	FRA	CNET	0,50	NAT
E183	FRA	SCHLUMBERGER	25,00	NAT
E183	FRA	STM	0,80	NAT
E183	FRG	SIEMENS	0,50	NAT
E183	UK	UNI SUSSEX	4,00	NAT

WIRE SAW WAFER SLICING

E191	FRA	LETI	1,20	NAT
E191	FRA	PHOTEC	9,75	NAT
E191	FRA	SODETAL	1,00	NAT
E191	ITA	TEMAV	1,25	NAT

IVPS

E208	FRA	CYBERNETIX	1,00	NAT
E208	FRA	STM	1,00	NAT
E208	FRG	AST	1,00	NAT
E208	FRG	FHG	3,00	NAT
E208	FRG	IBM	2,00	NAT
E208	FRG	LEYBOLD	3,00	NAT
E208	FRG	PLASMOS	8,10	NAT
E208	FRG	SIEMENS	2,00	NAT
E208	NL	ASM	15,00	NAT
E208	NL	PHILIPS	1,00	NAT
E208	UK	ELECTROTECH	9,50	NAT

30.03.92 LIST OF PARTICIPANTS IN LABELLED PROJECTS KEYGAT.QBE...FRM
 ID-Nr COUNTRY COMPANY MANPOW92 FUNDING

ADVANCED TECHNOLOGY

T001	FRA	STM	80,00	NAT
T001	FRG	SIEMENS	79,00	NAT
T001	ITA	STM	158,00	NAT

HIGH RELIABILITY

T004	BEL	MIETEC	6,00	NAT
T004	FRA	MHS	11,00	NAT
T004	NL	PHILIPS	8,00	NAT
T004	UK	STM INMOS	10,00	NAT

DEEP UV IMAGE PROCESSING

T005	FRG	IBM GERMANY	15,00	NAT
T005	FRG	SIEMENS	1,00	NAT
T005	ITA	STM	2,00	NAT
T005	NL	PHILIPS	2,00	NAT

MASK AND RETICLE TECHNOLOGY

T008	BEL	IMEC	3,00	NAT
T008	BEL	MIETEC	1,80	NAT
T008	FRG	LASER ZENTRUM	3,50	NAT
T008	FRG	ROFIN SINAR LASER	1,00	NAT
T008	UK	COMPUGRAPHICS	3,80	NAT
T008	UK	DUNDEE UNIVERSITY	1,00	NAT
T008	UK	RAL	3,00	NAT

SILICON HYBRIDS

T009	FRA	ES2	6,20	NAT
T009	FRA	SOREP	3,83	NAT
T009	SW	IVF	2,20	NAT
T009	SW	SAAB	2,20	NAT
T009	SW	SMS	1,83	NAT
T009	SW	TEC	5,20	NAT
T009	UK	LUCAS INDUSTRIES	3,61	NAT
T009	UK	MCE Ltd	2,20	NAT

FAW

T014	FRA	MHS	3,00	NAT
T014	FRG	PLESSEY	4,00	NAT
T014	FRG	TEG	9,00	NAT

8 INCH MANUFACTURING

T015	FRA	STM	30,00	NAT
------	-----	-----	-------	-----

JOINT LOGIC PROJECT

T020	BEL	MIETEC	20,00	EEC
T020	FRA	CNET	3,00	EEC
T020	FRA	ES2	17,00	EEC
T020	FRA	MHS	23,00	EEC
T020	FRG	SIEMENS	43,00	EEC
T020	FRG	TEG/EUROSIL	13,00	EEC
T020	ITA	STM	43,00	EEC
T020	NL	PHILIPS	43,00	EEC
T020	UK	GPS	26,00	EEC

EMBEDDED MEMORIES

T022	BEL	MIETEC	16,00	NAT
T022	FRA	MHS	16,00	NAT

Seitennummer 9

KEYPA..KEYPR.DBF

30.03.92 LIST OF PARTICIPANTS IN LABELLED PROJECTS KEYGAT.QBE...FRM

ID-Nr COUNTRY COMPANY MANPOW92 FUNDING

T022	FRA	STM	5,00	NAT
T022	FRG	PHILIPS	9,00	NAT
T022	FRG	SIEMENS	15,00	NAT
T022	ITA	STM	15,00	NAT
T022	NL	PHILIPS	25,00	NAT

MANUF.SCIENCE (MST)

T030	BEL	MIETEC	18,00	EEC
T030	FRA	ES2	10,00	EEC
T030	FRA	MHS	12,00	EEC
T030	FRA	STM	20,00	EEC
T030	FRG	SIEMENS	38,00	EEC
T030	FRG	TELEFUNKEN EG	19,00	EEC
T030	ITA	STM	19,00	EEC
T030	NL	PHILIPS	39,00	EEC
T030	UK	GPS	22,00	EEC

SUPPORT TOOLS AND SYSTEMS

T032	FRA	MHS	5,00	NAT
T032	FRA	MIETEC	14,00	NAT
T032	FRA	STM	14,50	NAT
T032	NL	PHILIPS	15,50	NAT
T032	UK	GEC PLESSEY	2,00	NAT

TOTAL: 2787,32

JESSI ORGANIZATION

							MARCH 31, 1992		
	JESSI BUDGET PLAN 1993 (WORKING DOCUMENT)								
	COST MECUS								
SUBPROGRAM	JESSI LABELLED PROJECTS FOR THE MAIN PHASE		PENDING PROJECTS		NEW STRATEGIC PROJECTS		TOTAL		
	MECUS		MECUS		TO COME		1993		
TECHNOLOGY		230 *		18 **		25			273
E AND M		76.5		10		2.25			89
APPLICATION		153		33		0			186
BLR		14		4.4		3.6			22
TOTAL		474		65		31			570
GREEN BOOK FIGURE FOR 93									551
GREEN BOOK COVERAGE		86%		12%		6%			103%
THE 1993 JESSI BUDGET WILL BE FINALIZED FOR THE OCTOBER MEETING AFTER AN AGREEMENT HAS BEEN REACHED BETWEEN THE PUBLIC AUTHORITIES AND THE JESSI ORGANIZATION.									
*	includes Siemens participation in T1B								
**	includes new partners in T15								

JESSI ORGANIZATION

31/3/92		TENTATIVE BUDGET 1993 (COST)												
SUBPROGRAM	BUDGET FRAME 1992 *					COST mecus			BUDGET PLAN 1993**			COST mecus		
	NATIONAL	EEC	EEC	TOTAL	TOTAL	GREEN BOOK	% ACTUAL / GB	NATIONAL	EEC	TOTAL	GREEN BOOK	% GREEN BOOK	% BUDGET FRAME 92	
	EXPECT	ACTUAL	EXPECT.	EXPECT.	ACTUAL	1992	1992	1992	1992	1992	1993	1993	ACTUAL	
TECHNOLOGY	113	94	73	207	186	216	86%	203	70	273	215	127%	147%	
E AND M	68	0	0	68	68	81	83%	89	0	89	81	110%	131%	
APPLICATION	120	16	14	135	134	175	77%	172	14	186	178	104%	139%	
BLR	0	20	18	20	18	82	22%	8	14	22	77	28%	120%	
TOTAL	301	130	105	430	405	554	73%	472	98	570	551	103%	141%	

* including Belgium

** including Belgium and ROE

13/04/92		COMPARISON BUDGET PLAN 93 AND BUDGET FRAME 92							
		Budget frame 1992 national	Budget 92 actual national	Budget plan 93 national	Budget frame 1992 EEC	Budget 92 actual EEC	Budget plan 93 EEC	TOTAL 92 Budget frame actual	TOTAL 93 Budget plan
<i>demand</i>									
TECHNOLOGY	Labelled	113	154	160	94	72.5	70	185.5	230
	Pending		9	16				0	16
	Strategic			25				0	25
	total	113	163	201	94	72.5	70	185.5	271
E and M	Labelled	67	86	61	0			67	61
	Pending		10	23				0	23
	Strategic			2				0	2
	total	67	96	86	0	0	0	67	86
APPLICATION	Labelled	120	124	132	16	14	14	134	146
	Pending		25	26				0	26
	Strategic							0	0
	total	120	149	158	16	14	14	134	172
BLR	Labelled	0	0	0	20	17.8	14	17.8	14
	Pending		3	4				0	4
	Strategic			4				0	4
	total	0	7	8	20	17.8	14	17.8	22
TOTAL	Labelled	300	364	353	130	104.3	98	404	451
	Pending	0	47	69	0	0	0	0	69
	Strategic	0	(31	0	0	0	0	31
	GRAND TOTAL	300	411	453	130	104.3	98	404	551
Including Belgium									
Excluding ROE									

13/04/92									
COMPARISON NATIONAL BUDGET FRAME 92 /ACTUAL 92									
TECHNOLOGY	Budget Frame 92= 113 Mecus	Delta=50 Mecus	14 Mecus in FRA for T15						
	Actual Request 92=163 Mecus		24 Mecus in FRG for T1						
			3.5 Mecus in ITA for T15+T32						
			3 Mecus in NL for T22						
EQUIPMENT AND MATERIAL	Budget Frame 92= 67 Mecus	Delta=29 Mecus	FRA excess in Testing and Silicon						
	Actual Request 92=96 Mecus		FRG excess in MPS and Silicon						
APPLICATION	Budget Frame 92= 120 Mecus	Delta=29 Mecus	Projects not accepted and still pending						
	Actual Request 92=149 Mecus		mostly in FRA and FRG(AC81,AE45,AC3,AE31)						
BLR	Budget Frame 92= 0 Mecus	Delta=3.5 Mecus	Modified BT4 project to be labelled						
	Actual Request 92=3.5 Mecus								
SUMMARY	National BUDGET FRAME=300 Mecus / National actual request = 411 Mecus								
	<ul style="list-style-type: none"> - most of the exceeding request comes from Technology with non Budgeted (but forecasted) Projects - overbooking in E and M correspond to excessive request in accepted Projects - in Application almost all the overbooking comes from non budgeted Projects 								
Including Belgium									
Excluding ROE									

BUDGPL93.XLS

	JESSI BUDGET PLAN 1993				SUMMARY PER SUBPROGRAM				PAs specific MY cost		7/4/92	
SUBPROGRAM		FRA	FRG	ITA	NL	UK	BEL	ROE	TOTAL	EEC	TOTAL	
	COST/MECUS								NAT.GOVT		MECUS	
TECHNOLOGY												
	TOTAL MECUS											
	LABELLED	49	40	44	11	8	9	3	164	70	234	
	PENDING	14	0	0	2	0	0	0	16		16	
	STRATEGIC	2	8	4	6	4	2	0	26		26	
	TOTAL	65	48	48	19	12	11	3	206	70	276	
EQUIPMENT AND MATERIAL												
	TOTAL MECUS	LABELLED	17	33	1	7	1	0	0	60	60	
	PENDING	6	7	1	7	1	0	0	22		22	
	STRATEGIC	0	0	0	0	1	0	0	2		2	
	TOTAL	23	41	2	15	3	0	0	85	0	85	
APPLICATION												
	TOTAL MECUS	LABELLED	38	62	5	14	4	9	6	138	14	152
	PENDING	11	5	6	1	3	0	7	33	0	33	
	STRATEGIC											
	TOTAL	49	67	11	15	7	9	12	171	14	185	
BASIC AND LONG TERM RESEARCH												
	TOTAL MECUS	LABELLED	0	0	0	0	0	0	0	14	14	
	PENDING	0	1	0	1	2	0	0	4	0	4	
	STRATEGIC	1	1	1	1	1	1	0	4	0	4	
	TOTAL	1	2	1	1	2	1	0	8	14	22	
GRAND TOTAL BUDGETPLAN MYEAR COST 1993												
	TOTAL MECUS	LABELLED	105	135	50	32	12	18	9	362	98	460
	PENDING	30	14	7	11	6	0	7	75	0	75	
	STRATEGIC	2	9	5	6	6	3	0	31	0	31	
	TOTAL	138	158	61	50	25	21	16	469	98	567	

~~SECRET.~~
Siemens AG

HL JP
Balanstr. 73
D-8000 Munich 80

~~JESSI GAT.~~



Date: 07.07.92

Y

to: Drs. Kramer, Philips, Fax: 0031-40-72 47 72
Mr Dumas, Matra MHS, Fax: 0033-1-45 45 54 86
Mr Bomhardt, Telefunken, Fax: 07131-67 28 28
Mr Brothers, Plessey, Fax: 0044-793-51 84 17
Mr Montier, SGS-Thomson, Fax: 0033-76-58 56 47
Mr Pruniaux, ES2, Fax: 0033-42-33 40 01
Dr. Rüttenauer, Siemens, Fax: 8002
Mr Schutz, MIETEC, Fax: 0032-55-31 81 12
Dott. Zocchi, SGS-Thomson, Fax: 0039-39-603 58 20
Mr Bertram, Phillips, Fax: 040-32 96 879

from: Mr. Tischer, Siemens
Phone: 089/4144-4190
Fax: 089/4144-2563

number of pages: 2

Subject: Questions Shotton, a first draft.
Answer to first question.

No, there is no danger!

The European semiconductor companies know that increasing the purity requirements on chemicals would result in higher costs of the materials. Therefore they define their requirements according to the maximum tolerable impurity level application specific and element specific.

There are some applications where the electrical properties of the fabricated ICs depend very sensitive on the purity of the used chemical. In such cases the highest purity is required. The same chemical might be used also for other applications but with much less strong requirements on purity, because the influence of the impurities is low. In the second case the purity requirements are relaxed.

- 2 -

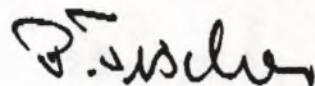
On the other hand IC producers know from experience that some chemical elements have strong poisioning effects to the ICs. For those elements the maximum tolerable concentration in the chemicals of course is very low. Those elements are specifically defined and an analysis for each container is required.

When the requirements of the European IC-Companies were compared with those of the competitors in far east, it was recognized that in the past the European specification were too soft. Now the specifications are in most cases similar to those of the competitors.

But it is forseeable that with decreasing feature sizes the sensitivity of ICs against impurities will still increase.

Please send comments to R. Kramer.

Best regards,



Peter Tischer



~~YSHB-F~~
PROSTYTUTTO VENDITA
Goverment.

PHILIPS

Philips Semiconductors

DATE : 6 July 1992

REF. NO. : RK/md/92.325

NUMBER OF PAGES (INCLUDING THIS COVER SHEET) : 2

TO : - Mr. Bertram - Philips
0 09 49 40 32 96 879
- Mr. Dumas - Matra MHS
0 09 33 1 30 60 71 22
- Mr. Brothers - Plessey
0 09 44 793 51 84 17
- Mr. Tischer - Siemens
0 09 49 89 41 44 2563
- Mr. Rüttenauer - Siemens
0 09 49 89 41 44 8002
- Mr. Montier - SGS Thomson
0 09 33 76 58 56 47
- Mr. Zocchi - SGS Thomson
0 09 39 39 603 5 055
- Mr. Bomhardt - Telefunken
0 09 49 71 31 67 28 28
- Mr. Pruniaux - ES2
0 09 33 42 33 4001
- Mr. Schutz - Mietec
0 09 32 55 31 81 12
- Mr. Huber - Wacker Chemitronic
0 09 49 86 77 83 30 83
- Mr. Zandveld - Philips
given



FROM : R. Kramer
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P.O. Box 218
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RK/md/92.325

page 2

To : Members JSMB-T

Re : Questions Shotton; a first draft



Answer to second question:

1. Equipment

We should distinguish those companies that participate in a specific E&M project and those that do not. For those who do, it should be emphasized that issues like these should be taken care of in the actual project; as a general rule one could say that for equipment that is developed AT THE REQUEST of IC companies indeed a certain commitment should be asked for from the IC companies involved. We still think that we should go after special funding possibilities for prototype development, evaluation and beta-siting.

2. CAD

Roughly the same arguments hold, however, one should realize that we have seen in recent years a very significant shift towards the use of commercially available CAD tools (I am speaking here about IC CAD!) and to our opinion this trend will only be increased. There will not be too much reason for CAD development outside a few dominant CAD companies: there will be some company-specific glue-like CAD development and some company specific application-oriented CAD development. Maybe JESSI has to consider a cooperation with e.g. CADENCE!

Answer to third question:

"Yes, the Board is very concerned about the sketched situation and would welcome and give support to initiatives that could ameliorate this."

Please comment.

Regards,

Roel Morn

Roel



File Government.

F.I.C
PHILIPS

FACSIMILE MESSAGE

Philips Semiconductors

DATE : 3 July 1992

REF. NO. : RK/md/92.319

NUMBER OF PAGES (INCLUDING THIS COVER SHEET) : 6

TO : - Mr. Bertram - Philips
0 09 49 40 32 96 879
- Mr. Dumas - Matra MHS
0 09 33 1 30 60 71 22
- Mr. Brothers - Plessey
0 09 44 793 51 84 17
- Mr. Tischer - Siemens
0 09 49 89 41 44 2563
- Mr. Rüttenauer - Siemens
0 09 49 89 41 44 8002
- Mr. Montier - SGS Thomson
0 09 33 76 58 56 47
- Mr. Zocchi - SGS Thomson
0 09 39 39 603 5 055
- Mr. Bomhardt - Telefunken
0 09 49 71 31 67 28 28
- Mr. Pruniaux - ES2
0 09 33 42 33 4001
- Mr. Schutz - Mietec
0 09 32 55 31 81 12
- Mr. Huber - Wacker Chemitronic
0 09 49 86 77 83 30 83
- Mr. Zandveld - Philips
given

COPIES : - Mr. Kamerbeek - ASM (without enclosure)
0 030 29 34 61
- Mr. Meyer - JESSI Office (without enclosure)
0 09 49 89 92 80 82 12



FROM : R. Kramer
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RK/md/92.319

page 2

To : Members JSMB-T

Copies : E. Kamerbeek
H. Meyer

Re : Letter Shotton

Enclosed you will find a letter from H. Meyer about a procedure to answer some questions in the letter of K. Shotton.

I agree with his proposal and I suggest the following sequence.

Dr. P. Tischer is kindly requested to answer the first question and distribute this answer to all of us.

I will answer the second and third question and will distribute my proposal to you.

Based upon your reactions to me on all three questions, I shall make the three final answers and forward these to H. Meyer and E. Kamerbeek.

Regards,



Roel Kramer

30 JUNI 1992



Drs. Kamerbeek
ASM/AMTC

JESSI Office
Office of the JESSI Organization
Elektrastraße 62
Postfach 81 04 60
D-8000 München 81
Tel: xx49 89 92 80 82-0
Fax: xx49 89 92 80 82-12
Ttx 897360 = JESSI

Drs. Kramer
Philips International B.V.

Munich, June 29, 1992
HM/sm

Letter of Mr. Shotton, dated April 24, 1992

Dear Gentlemen,

The letter of Mr. Shotton is on the agenda of the next JESSI Board meeting and most of the questions raised in this letter will be given within the next October Review.

I believe, however, that for some of the questions, a separate answer should be prepared and your resp. your Subprogram Management Boards' experience is required.

I have highlighted the relevant questions on the enclosed letter and if you do not object, I will recommend to the JESSI Board that the answers are provided by you (maybe with the help of the Program Officers).

I have already checked the situation with Mr. Paletto, but if you disagree with our proposal, please let me know before the JESSI Board meeting on July 2, 1992.

Kind regards

A handwritten signature in black ink, appearing to read "Hans Meyer".

H. Meyer

Encl.:
JOINT EUROPEAN SUBMICRON SILICON

Mr Raimondo Paletto
Chairman of the JESSI Board
The JESSI Office
Electrastrasse 6A
D-8000 MUNICH 80
GERMANY

Department of
Trade and Industry

151 Buckingham Palace Road
London SW1W 4SN

Enquiries
071-215 3000

Tel: 8813148 DIHQ 6
Fax: 071-215 2909

Direct line 071-215 1239
Our ref IED2/460/10/004
Your ref
Date 14 May 1992

Dear Mr Paletto

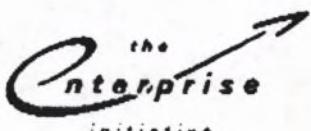
JESSI BOARD/JESSI COMMITTEE MEETING, LONDON, 24 APRIL 1992

During our meeting, I said that I would write to you to provide the JESSI Board with a formal response from the JESSI Committee to the JESSI Review and to take up a number of other issues which arose in our discussions.

Let me begin by congratulating you on the JESSI Review. The JESSI Organisation has clearly taken account of the comments of the JESSI Committee on previous Reviews and has produced a substantial and helpful document which records the excellent progress now being made. The JESSI Committee was happy to approve the Review although, of course, we did have some ideas which, we hope, might help to make future versions even better.

The JESSI Committee's suggestions for future Reviews are that:

- greater attention should be given to the Executive Summary section of the Review (because it is likely to be read by Ministers and Commissioners). The Committee felt that the summary in the April 1992 Review did not adequately describe your achievements
- although the Flagship concept is working well, more needs to be done on the relationships within and between the clusters, in particular, between those in Technology and Equipment & Materials, and on the role of "single projects" in the Programme



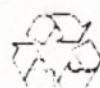
- more work will be needed on the milestones / deliverables - specifying and updating these regularly; indeed, because the Flagship concept will evolve continually then the document describing it (including these updated milestones / deliverables) will require periodic revisions
- the market section, while setting the scene, should link Flagship clusters to market sectors and offer further analysis showing why the impact of JESSI is important.

While discussing the Review, the JESSI Committee raised some further issues with the Board. Although you gave us your initial reactions, I am summarising these issues again here so that, when the Board has had time to consider them, you will be in a position to add to your earlier comments. The issues were that:

- the restructuring of the JESSI Programme into Flagship clusters appears to fit uneasily with the existing management organisation; what plans has the Board to reorganise its management structures to better reflect this new structure?
- → { is there a danger that European semiconductor companies are over-specifying their requirements on chemical purity thus forcing European suppliers to leave the market and leading to increased strategic dependence on Japan?
- → { can the European semiconductor companies offer tangible commitments to European equipment companies in the "bench-marking" of prototype equipment developed in JESSI and give a similar longterm commitment to supporting CAD developed in the JESSI Programme?
- → { is the Board concerned over the lack of European suppliers of materials and equipment for semiconductor packaging?

The JESSI Committee looks forward to receiving the Board's response.

There are three points which arose from later agenda items and which I should also like to put to the Board. First, we all recognise the difficulties in creating a common JESSI Budget Frame when the various Public Authorities have often quite different financial procedures. The figures provided to the Board for this year are our best estimate at this time of the support to be given by the PAs to JESSI and are not necessarily the final figures. We agreed at our meeting to re-establish the GAT/Board Support Group (BSG) Working Group on Funding to draw-up the 1993 Budget Frame for our October 1992 meeting and I suggest that we liaise through this Group on the 1992 budget.





the department for Enterprise

Second, we discussed the Basic and Longterm Research Sub programme. There is already a great deal of JESSI-relevant basic research taking place in publicly-funded European Research Centres and perhaps the GAT/BSG could be asked to consider how this activity could be used to benefit JESSI.

Third, we agreed a Press Notice at our meeting but several JESSI Committee members were anxious that we all take action to improve the present rather poor "image" of JESSI. Again, I would suggest that the GAT/BSG be delegated this task and report to us at our October 1992 meeting. We have a good story to tell and we should ensure that Europe knows about it.

With best wishes.

Yours sincerely

KEITH SHOTTON
On behalf of the JESSI Committee

cc: Members of the JESSI Committee



Funding Status of JESSI-Projects in July 1992 [MECU]

Basic and Longterm Research (BLR)

Project / Cluster	Fa)	G	Ia)	NL	UKa)	CECa)
0.25 μ CMOS- ADEQUAT (BT 1)	-	1,0	-	-	-	9,3 ²
SUM: BLR	-	1,0	-	-	-	9,3 ²

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

JESSI-GAT 920709/UW/DO-A1

The future role of the PA's in JESSI

Premise

JESSI is a joint activity of Industry and the Public Authorities.

A better coordination of the activities of the National governments and the EC is necessary if we want to make this cooperation more effective.

This requires a common understanding about the respective roles of and interfaces between EUREKA and the Community RDT programs.

The future role of the PA's in JESSI

The 4th Framework Program provides an excellent opportunity to achieve an optimum relation between the National Governments and the Commission.

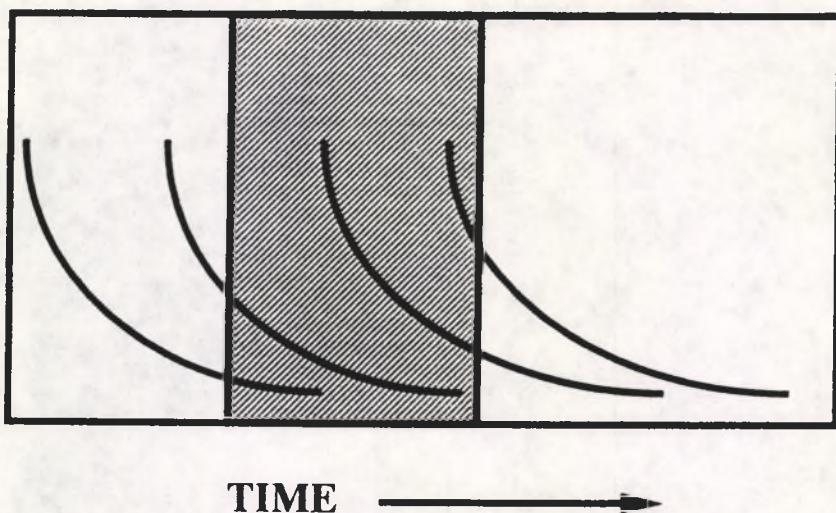
We have to keep in mind that development of a new generation of integrated circuits (from scratch) takes often longer than the duration of the various government programs

A well-planned activity is required to bring products at the right time on the market.

Discontinuities may become deadly.

The Time Window of a program is often not compatible with the product development time.

Continuity within a given product development cycle is very important



Within a given window, work on 3 or 4 generations might be going on simultaneously.

The future role of the PA's in JESSI

Define a set of Large Targeted Projects which are commonly agreed between Industry, National Governments and the EC on industrially-oriented key technologies which aim at a set of clearly defined products.

BASIC AND LONG TERM RESEARCH IN JESSI

Objectives Status and Problems

OBJECTIVES

- To undertake a complementary programme of Applied Research in SUPPORT of JESSI Goals
- To undertake a programme of BASIC an LONG TERM RESEARCH to prepare for the FUTURE needs of JESSI

STATUS

- Only 15-25% of BLR programme funded
- Only 2 projects started
- Only 20-25 % of "flagship" project funded
- All of CAD Methodology cancelled

PROBLEMS

- LACK of FUNDS

BASIC AND LONG TERM RESEARCH IN JESSI

Questions and Solutions ?

QUESTIONS

- Do you want ACADEMIC-INDUSTRIAL Collaboration within JESSI ?
- Do you believe JESSI needs BLR ?
- Will you commit to an

* AGREED
* GUARANTEED
* ADEQUAT

BLR programme ?

Any PA or CEC plans for ADDITIONAL Funds for BLR?

- Within reasonable limits and with agreed monitoring will you allow JESSI to DEFINE and MANAGE the details ?

SOLUTION

- Provide an AGREED , RESERVED budget for BLR within JESSI 1993-1996
- PAs and CEC to agree BROAD Outline of Programme Industry in consultation with Institutes to define PROJECTS , RESOURCE LIMITS and key OBJECTIVES
- JESSI to APPROVE , IMPLEMENT and MANAGE
- PAs and CEC to MONITOR and not "second guess"
- Research Directions for Technology

JESSI BLR PROJECTS

Priority List for ESPRIT Funding

PRIORITY

- BT1 0.25 Micron CMOS
- BD2 System & Tech Circuit Design
- BT4 Packaging
- BD4 Circuit Simulation
- BD1 ULSI System Design
- BD6 Advanced Floorplanning
- BD3 ULSI Chip Design



LOW PRIORITY

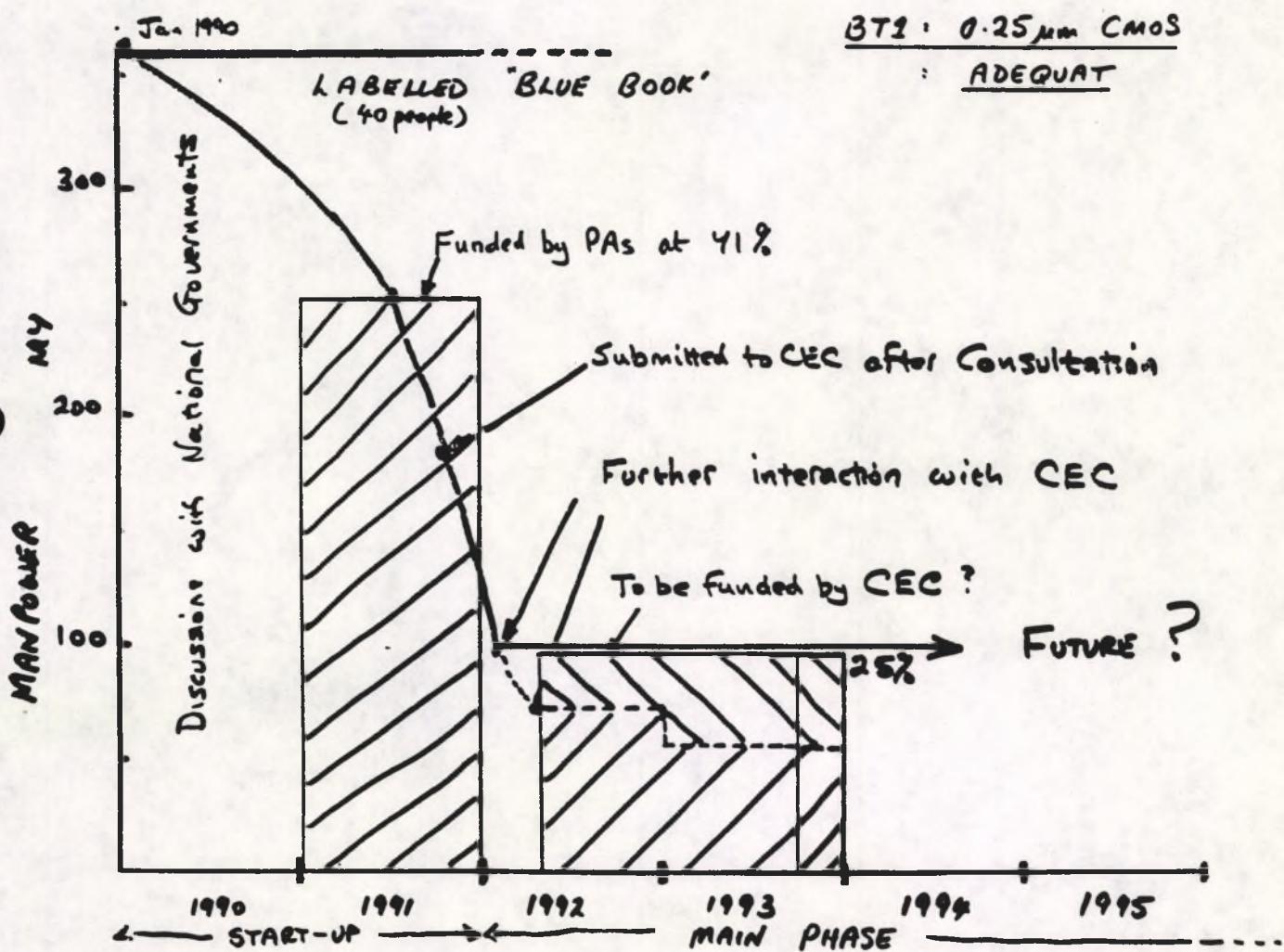
- BD5 Neural Networks
- BT2 Alternative Devices



WITHDRAWN

- BT3 BICMOS
- BT5 X-ray Lithography

R A Lawes 24\4\92



15 JULI 1992 /265

Distribution list to the
minutes of the GAT-BSG
meeting held in Brussels
on July 10, 1992

Tel. Jen.

Gouvernement



GAT - BSG.

CONFIDENTIAL

JESSI

From R. Kramer

JESSI Office
Office of the JESSI Organization
Elektrastraße 6a
Postfach 81 04 60
D-8000 München 81
Tel.: xx49 89 92 80 82-0
Fax: xx49 89 92 80 82-12
Ttx: 897360 = JESSI

Munich, July 14, 1992
HM/sm

To: the Chairman of the JESSI Board
the members of the Board Support Group
the members of the GAT Interface Group
the members of the JESSI Office
the members of the Working Group Budget 1993

Dear Sirs:

Enclosed please find the minutes of the GAT-BSG meeting held in Brussels.

Best regards

Dr. H. Meyer

GAT - BSG.

Buxelles -
Brussels

10 July 92

Encl.:



Distribution list to the
minutes of the GAT-BSG
meeting held in Brussels
on July 10, 1992

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D-8000 München 81
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Ttx: 897360 = JESSI

Munich, July 14, 1992
HM/sm

To the Chairman of the JESSI Board:

Mr. Paletto

To the members of the Board Support Group:

Prof. Radelaar
Mr. Ernest
Dr. Friedrich
Dr. Haeppe
Drs. Kamerbeek
Drs. Kramer
Mr. Lepetit
Mr. Monnier

To the members of the GAT Interface Group/the members of the Working Group Budget 1993:

Prof. Radelaar
Mr. Ernest
Mr. Guyot
Mr. Haserer
Drs. Kamerbeek
Drs. Kramer
Dr. Sauer
Dr. Villa

Dr. Dekkers
Mr. Le Goascoz
Mr. Sethi
Dr. Tischer

To the members of the JESSI Office:

Dr. Dekkers
Dr. Grünewald
Mr. Le Goascoz
Mr. Sethi



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 Ttx: 897360 = JESSI

Munich, July 14, 1992
 HM/sm

**Minutes of the GAT-BSG meeting held in
 Brussels on July 10th, 1992**

0. Participants:

GAT

Mr. Babinet
 Mr. Broster
 Dr. Dudde
 Mr. German
 Mr. Gislon
 Mr. v.'t Hof
 Dr. Oertl

GAT-Interface Group (ESG)

Working Group Budget 1993
 Prof. Radelaar (part time)
 Mr. Le Goascoz
 Mr. Guyot
 Drs. Kamerbeek
 Dr. Meyer
 Mr. Sethi
 Dr. Tischer

1. Public Relation for JESSI

The GAT recommended that the JESSI Organization should ask all JESSI partners to include acknowledgements to JESSI in their publications. JESSI agreed that acknowledgements could be a useful support for a positive image of the program. As the influence of the JESSI Organization in this respect is limited, the JESSI Board members will be asked for support.

2. Strategic points for the discussion in the JESSI Board/ JESSI Committee meeting in October

The GAT members agreed on the proposal of JESSI to discuss the points "Public Relation activities" and "Basic and Longterm Research-concept in JESSI".

Several other suggestions were made:

- Relation between Equipment and Technology in JESSI
- Opinion of the monopole commission in Germany on the situation of the European Semiconductor Industry
- Update of the JESSI Strategy resp. JESSI Greenbook
- Specific questions (like "Flash-EPROM")

Dr. Dудde will be in contact with Dr. Meyer in order to come to a final conclusion.

3. Overview on the EC funding situation

The GAT discussed the actual situation of EC funding for JESSI projects. Enclosure 1 gives an "inofficial" overview on the funding situation 1992 and a possible outlook.

4. JESSI Budget 1993

The GAT members informed JESSI about their (preliminary) plans regarding their financial support. In comparison to the first Working Group meeting, the Public Authorities' representatives gave more precise figures which can now be taken into account in the evaluation of the "overbudgeting problem". The handwritten remarks on enclosure 2 are the result of the discussion and indicate the changes relative to the result of the first Working Group meeting.

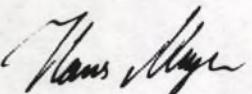
The Subprogram Management Boards are now asked to prepare a budget proposal for 1993 which takes the Working Group information into account and which remains within the given budget limits. Preliminary information on these budget plans have to be mailed by the JESSI Office to the GAT and to the Board Support Group before August 31st and will be on the agenda of the next GAT/Board Support Group meeting on September 4th, in Rome.

5. Any other business

- a) The GAT asks the JESSI Organization to avoid the confusing "budget splitting" in projects like E19/T14

(the manpower in these projects is attributed to different Subprograms). Drs. Kamerbeek promised to contact the Subprogram Chairman Technology and clarify the situation.

- b) The GAT distributed an overview on the funding status of JESSI projects (see **enclosure 3**). In view of the fact that JESSI is generally using budget and funding figures per calender year (while the overview of the GAT shows figures annualized for an undefined time frame of 12 months), the JESSI Office will prepare a corrected version of the overview.



H. Meyer

EC-Funding in 1992

Project

JL
MST
Com.Frame
Adequate

Basis first contract

25 * 9/13m = 17.30	
12 * 9/8m = 13.50	
7 * 9/12m = 5.25	
14 * 6/18m = <u>4.70</u>	
40.75	=====

(Assumption: Adequate starts at 01/07/92)

Possible outlook

The intention of the Commission is to spend on JESSI an amount of 200 MECU during the years 1992 - 1994, this is about 55% of the Microelectronics budget in ESPRIT-III. Following the Call for Participation and the Open Call the ITC has decided on a budget of 127 MECU for four JESSI projects (see paragraph 1) and a budget of 2 MECU for one JESSI related project (ASPRO). This implies that an amount of 71 MECU (200 - 127 -2) is still available for JESSI (related) projects.

The present expectation is that of the remaining amount 20 MECU might be needed for the extension of MST (period: 04/94 - 04/95) and an amount of 20 MECU might be needed for the extension of Adequate (period: 01/94 - 07/95).

This implies that an amount of 31 MECU should be available for "new" JESSI projects in 1993 and 1994.

Page No.
07/08/92

1

JESSI BUDGET 93 - WORKING DOCUMENT -
 PARTICIPATION PER CLUSTER AND PER COUNTRY
 REV 2.1
 SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
--------	---------	-------------------------	-------	--	---------	---------

* CLUSTER: AUTOMATED CLEAN ENVIRONMENT(ACE)

(Previously "wafer Handling")

* COUNTRY: FRA

E109C	LETI	JL	6.85	1027.50 Y	YP YES	NAT
E109C	CYBERNETIX	JL	8.20	1230.00 Y	YP Yes	NAT
E109C	SOGELERG	JL	2.60	390.00 Y	YP /	NAT
E109C	AIR LIQUIDE	JL	1.30	195.00 Y	YP /	NAT
E109C	IT NEU	JL	0.80	120.00 Y	YP /	NAT
E109C	IBM FRANCE	JL	4.20	630.00 Y	YP Yes	NAT
E109C	STM	JL	0.80	120.00 Y	YP Yes	NAT
E109C	THOMSON TMS	JL	0.50	75.00 Y	YP Yes	NAT
E109C	MHS	JL	2.00	300.00 Y	YP Yes	NAT
E19./T1	LETI	JL	0.60	90.00 Y	YP	NAT
4C						
T14C/E1	MHS	JL	5.00	1250.00 Y	YP	NAT

9

* Subsubtotal *

32.85 5427.50

* COUNTRY: FRG

E109C	MEISSNER & WURST	JL	8.20	1230.00 Y	YES	NAT
E109C	ACR	JL	7.30	1095.00 Y	YES	NAT
E109C	ANDROMEDA	JL	0.90	135.00 Y	YES	NAT
E109C	IBM GERMANY	JL	3.30	495.00 Y	YES	NAT
E109C	TELEFUNKEN EG	JL	3.00	450.00 Y	YES	NAT
E109C	SIEMENS	JL	0.00	0.00 Y	YES	NAT
E19./T1	MEISSNER & WURST	JL	3.00	450.00 Y	YP Yes	NAT
E19./T1	ACR	JL	3.00	450.00 Y	YP Yes	NAT
4C						
E19./T1	FHG IPA	JL	1.50	225.00 Y	2.3	YP Yes NAT
4C						
E19./T1	FHG AIS	JL	0.50	75.00 Y	YP Yes	NAT
4C						
T14C/E1	TELEFUNKEN EG	JL CRQ	19.00	5700.00 Y	YP Yes	NAT

9 * Subsubtotal *

49.70 10305.00

S.R

* COUNTRY: UK

T14C/E1	PLESSEY GEC	JL	5.00	1000.00 Y	XP Yes	NAT
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9

* Subsubtotal *

5.00 1000.00

** Subtotal **

87.55 16732.50

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
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** CLUSTER: AUTOMOTIVE SAFETY ELECTRONICS

* COUNTRY: FRA

AC8C	STM	JL	13.00	2145.00 Y	YES	NAT
AC8C	THOMSON TMS	JL	3.00	495.00 Y	YES	NAT
AC8C	BULL	JL	6.00	990.00 Y	YES	NAT
AC8C	INPG/CSI	JL	5.50	907.50 Y	YES	NAT
AE11B	STM	JL	18.00	2970.00 Y	YES	NAT
AE11B	IMAG GRENOBLE	JL	3.00	495.00 Y	YES	NAT
Subsubtotal *			48.50	8002.50 OK		

* COUNTRY: FRG

AC8C	SIEMENS	JL	37.00	5550.00 Y 5	YES	NAT
AC8C	SIEMENS NIXDORF	JL	2.00	300.00 Y 0.2	YES	NAT
AC8C	ROBERT BOSCH	JL	1.00	150.00 Y 0.2	YES	NAT
AE11B	ROBERT BOSCH	JL	28.50	5700.00 Y 3.4	YES	NAT
AE11B	SIEMENS	JL	2.50	500.00 Y 0.2	YES	NAT
AE11B	ALCATEL SEL	JL	2.00	400.00 Y 0.2	YES	NAT
AE11B	PORSCHE	JL	1.50	300.00 Y 0.2	YES	NAT
AE11B	UNI HANNOVER	JL	1.50	300.00 Y 0K	YES	NAT
Subsubtotal *			76.00	13200.00 9.7		

* COUNTRY: NL

AC8C	PHILIPS	JL	6 5.00	675.00 Y 0.495	YES	NAT
Subsubtotal *			5.00	675.00		

* COUNTRY: SW

AC8C	IM	JL	4.00	660.00 Y	YES	NAT
Subsubtotal *			4.00	660.00		

* COUNTRY: UK

-AC8C	GEC PLESSEY	JL	8.00	880.00 Y		NAT
>AC8C	AHL	JL	2.00	220.00 Y	YES	NAT
Subsubtotal *			10.00	1100.00	OK	

** Subtotal **

143.50 23637.50

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAS KECUS
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** CLUSTER: BROADBAND COMMUNICATION

* COUNTRY: BEL							
AE15C	ALCATEL BELL	JL	21.00	3465.00 Y	YES	NAT	
AE15C	SDM	JL	3.00	495.00 Y	YES	NAT	
* Subsubtotal *				24.00	3960.00		
* COUNTRY: DK							
AE55E	JYDSK TELEFON	JL	2.25	371.25 Y	YES	NAT	
* Subsubtotal *				2.25	371.25		
* COUNTRY: FRA							
AC61	BULL	PEND DELEG	19.00	3135.00 P	<u>P</u>	NAT	
AE15C	STM	JL	3.00	495.00 Y	YES	NAT	
AE15C	ALCATEL CIT	JL	0.75	123.75 Y	YES	NAT	
AE55E	MATRA COM	JL	9.20	1518.00 Y	<u>P</u>	NAT	
AE55E	MHS	JL	16.45	2714.25 Y	<u>P</u>	NAT	
* Subsubtotal *				48.40	7986.00		
* COUNTRY: FRG							
AC61	SIEMENS NIXDORF	PEND DELEG	19.00	2850.00 P	<u>P</u>	NAT	
AE15C	ALCATEL SEL	JL	1.00	200.00 Y	YES	NAT	
AE55E	PHILIPS PKI	JL	11.00	2200.00 Y	YES	NAT	
AE55E	SIEMENS	JL	5.00	1000.00 Y	YES	NAT	
AE55E	DORNIER DB	JL	7.50	1500.00 Y	YES	NAT	
* Subsubtotal *				43.50	7750.00	3.5	<u>K</u>
* COUNTRY: UK							
AC61	ICL	PEND DELEG	8.00	880.00 Y	YES	NAT	
AC61	RACAL REDAC	PEND DELEG	12.50	1375.00 Y	YES	NAT	
* Subsubtotal *				20.50	2255.00	<u>K</u>	
** Subtotal **				138.65	22322.25		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAS KECUS
--------	---------	-------------------------	---------------	-----------------------	-------------------	--------------------	----------------------

** CLUSTER: CLEAN CHEMICALS AND SUPPLY SYSTEMS

* COUNTRY: BEL
E77D SOLVAY JL 0.20 30.00 Y YES NAT

* Subsubtotal *

0.20 30.00

* COUNTRY: FRA

E20C MHS JL 0.42 63.00 Y P NAT

E2AB LETI JL 2.50 375.00 Y YES NAT

E2AB STM JL 3.00 450.00 Y YES NAT

E77D PLASTIC OMNIUM JL 2.50 375.00 Y YES NAT

3P

E77D LABEILLE JL 1.50 225.00 Y YES NAT

E77D PLASTACID JL 0.00 0.00 Y YES NAT

E77D ASTI JL 0.00 0.00 Y YES NAT

E77D IBM FRANCE JL 2.00 300.00 Y YES NAT

E88B BLOMME JL 3.00 450.00 Y P NAT

E88B LETI JL 0.25 37.50 Y P NAT

E88B PHILIPS RTC JL 0.50 75.00 Y P NAT

E88B SAPI JL 3.00 450.00 Y P NAT

* Subsubtotal *

18.67 2800.50

OK

* COUNTRY: FRG

E13D HAMATECH JL 6.10 915.00 Y 1.2 YES NAT

E13D FHG AIS JL 1.30 195.00 Y YES NAT

E13D FHG IPA JL 0.50 75.00 Y YES NAT

E13D TELEFUNKEN EG JL 0.70 105.00 Y 0.2 YES NAT

E20C HOECHST JL 0.88 132.00 Y 0.2 YES NAT

E20C POKORNY JL 0.83 124.50 Y 0.16 YES NAT

E20C TELEFUNKEN EG JL 1.13 169.50 Y 1.1 YES NAT

E20C IBM JL 0.50 75.00 Y 0.3 YES NAT

E20C RIEDEL DE HAEN JL 0.17 25.50 Y 0.1 YES NAT

E2AB MERCK JL 5.70 855.00 Y 1.1 YES NAT

E2AB RIEDEL DE HAEN JL 7.50 1125.00 Y YES NAT

E2AB FHG AIS B JL 2.00 300.00 Y YES NAT

E2AB SIEMENS JL 2.00 300.00 Y YES NAT

E2AB GEMETEC JL 0.50 75.00 Y YES NAT

E77D GEMU JL 0.00 0.00 Y YES NAT

* Subsubtotal *

29.81 4471.50

1.4

* COUNTRY: NL

E2AB PHILIPS JL 0.00 0.00 Y YES NAT

* Subsubtotal *

0.00 0.00

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
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IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
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* CLUSTER: CLEAN GASES AND SUPPLY SYSTEMS

COUNTRY: FRA

E181C	INERIS/CERCHAR	JL	2.90	435.00 Y	P YES	NAT
E181C	AIR LIQUIDE	JL	0.30	45.00 Y	P YES	NAT
E181C	LETI	JL	0.20	30.00 Y	P YES	NAT
E2BC	AIR LIQUIDE	JL	2.70	405.00 Y	YES	NAT
E2BC	COMURHEX	JL	0.00	0.00 Y	YES	NAT
E2BC	IBM FRA	JL	0.50	75.00 Y	YES	NAT
E2BC	LETI	JL	4.50	690.00 Y	YES	NAT
E2BC	MHS	JL	3.00	450.00 Y	YES	NAT
Subsubtotal *			14.10	2130.00	6K	

COUNTRY: FRG

E181C	LINDE	JL	0.20	30.00 Y	YES	NAT
E181C	MESSER	JL	0.50	75.00 Y	YES	NAT
GRIESHEIM						
E2BC	LINDE	JL	10.00	1500.00 Y	1.2	YES
E2BC	SIEMENS	JL	1.00	150.00 Y	YP	NAT
E2BC	MESSER	JL	9.90	1485.00 Y	YP	NAT
GRIESHEIM						
Subsubtotal *			21.60	3240.00	1.2	(1.4)

COUNTRY: ITA

E181C	SAES GETTERS	JL	0.10	15.00 Y	YES	NAT
SPA						
BC	STM	JL	2.60	210.00 Y	YES	NAT
Subsubtotal *			2.70	225.00	12	

COUNTRY: UK

E181C	VG ELEMENTAL	JL	0.30	40.50 Y	YES	NAT
Subsubtotal *			0.30	40.50	12	
* Subtotal **			38.70	5635.50		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY

REV 2.1

SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAs KECUS
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** CLUSTER: CLUSTERED ETCHING AND DEPOSITION OPTIMIZATION (CLUEDO)

"(TIPS")

* COUNTRY: FL

E74C BALZERS

JL

1.00

150.00 Y

SF

NAT

* Subsubtotal *

1.00 150.00

* COUNTRY: FRA

E106B LETI

JL

1.20

180.00 P

P

NAT

E164C IBM FRANCE

JL

1.00

150.00 Y

P

NAT

E208. CYBERNETIX

JL

0.50

75.00 Y

YES

NAT

E208. STM

JL

0.50

75.00 Y

YES

NAT

E208ext TT

EXTENS

2.00

300.00

YES

NAT

E5B LETI

JL

4.00

600.00 Y

YP

NAT

E63D CYBERNETIX

PEND

4.55

682.50 Y

P

YL

E63D LETI

DELEG

2.10

315.00 Y

X

YP

E63D RECIF

PEND

3.00

450.00 Y

X

YP

DELEG

* Subsubtotal *

18.85 2827.50

* COUNTRY: FRG

E164C AST ELEKTRONIK

JL

5.00

750.00 Y

YES

NAT

E164C SIEMENS

JL

1.00

150.00 Y

YES

NAT

E164C FHG AIS

JL

2.00

300.00 Y

YES

NAT

E208. LEYBOLD

JL

0.50

75.00 Y

YES

NAT

E208. AST

JL

0.00

0.00 Y

YES

NAT

E208. PLASMOS

JL

2.70

405.00 Y

YES

NAT

E208. FHG

JL

1.00

150.00 Y

YES

NAT

E208. SIEMENS

JL

0.50

75.00 Y

YES

NAT

E208. IBM GERMANY

JL

0.50

75.00 Y

YES

NAT

E208ext TT

EXTENS

5.00

750.00

P

YP

E5B SIEMENS

JL

2.00

300.00 Y

YES

NAT

E5B PLASMOS

JL

9.00

1350.00 Y

YES

NAT

E5B UNI KOLN

JL

6.00

900.00 Y

YES

NAT

E69C PLASMOS

JL

4.00

600.00 P

YES

NAT

E69C EUROSIL

JL

1.50

225.00 P

YES

NAT

E69C TELEFUNKEN EG

JL

2.50

375.00 P

YES

NAT

E74C DEGUSSA

JL

4.00

600.00 Y

YES

NAT

E74C VAW(V.ALUMINIUM

JL

1.00

150.00 Y

YES

NAT

W

E74C SIEMENS

JL

1.20

180.00 Y

YES

NAT

E96D LEYBOLD

JL

2.50

375.00 P

YES

NP

E96D IBM GERMANY

JL

2.00

300.00 P

YES

NP

E96D AST

JL

3.50

525.00 P

YES

NP

E96D FHG IMT

JL

3.50

525.00 P

YES

NP

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 CQST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. FUND 93	FUND PAS KECUS
* Subsubtotal *							
			60.90	9135.00	<u>2.6</u>	+ X	
* COUNTRY: FRG/NBL							
E69C	IHP	JL	3.00	450.00	P C. 45%	YES	NAT
* Subsubtotal *							
E63	FRG	REB	0.15	3.00	450.00		
COUNTRY: ITA							
E106B	STM	JL	1.50	225.00	P	YES	NAT
E208ext	TT	EXTENS	2.00	300.00	P	YES	NAT
E74C	STM	JL	1.30	195.00	Y	YES	NAT
* Subsubtotal *							
			4.80	720.00			
* COUNTRY: NL							
E106B	PHILIPS I&E	JL	7.50	1012.50	P	0.933 YES	NAT
E106B	PHILIPS	JL	1.50	202.50	P	YES	NAT
RESEARCH							
E208.	ASM AMTC	JL	4.00	540.00	Y	0.493 YES	NAT
E208.	PHILIPS	JL	10.50	67.50	Y	0.218 YES	NAT
E208ext	TT	EXTENS	30.00	4050.00	P	Y	NAT
E5B	ASM AMTC	JL	10.80	1080.00	Y	1.991 YES	NAT
E5B	PHILIPS	JL	0.50	67.50	Y	0.109 YES	NAT
E5B	BILLITON	JL	2.25	708.75	Y	0.277 YES	NAT
E6B.	ASM AMTC	JL	5.25	270.00	Y	0.311 YES	NAT
E6B.	PHILIPS RES LAB	JL	2.00	135.00	Y	0.218 YES	NAT
E6Bext	Couc	EXTENS	1.00	225.00	P	V	NAT
E74C	PHILIPS	JL	10.00	81.00	Y	0.109 YES	NAT
* Subsubtotal *							
			70.85	9564.75			
* COUNTRY: UK							
E208.	ELECTROTECH	JL	3.5	337.50	Y	0.570 YES	NAT
E208ext	TT	EXTENS	2.50	1080.00	P	Y	NAT
E5B	QUEEN MARY COLLEG	JL	8.00	135.00	Y	0.140 YES	NAT
E63D	ELECTROTECH	PEND	1.00	540.00	Y	YP	NAT
E63D	WED	DELEG	4.00	472.50	Y	YP	NAT
E63D	PLESSEY GEC	PEND	3.50	67.50	Y	YP	NAT
* Subsubtotal *							
			19.50	2632.50			
** Subtotal **							
			178.90	25479.75			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS COST KECUS	EXPECT.	FUNDING
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** CLUSTER: CMOS LOGIC TECHNOLOGY FOR EUROPROJECTS AND ADVANCED APPLICATION

* COUNTRY: BEL

T22	MIETEC	JL	16.00	4000.00 Y	YES	NAT
TYY	MIETEC	STRAT	5.50	1375.00	W	
TZZ	NN	STRAT	2.00	500.00	W	
* Subsubtotal *			23.50	5875.00		

* COUNTRY: FRA

T22	STM	JL	12.00	3000.00 Y	YES	NAT
T22	MHS	JL	18.00	4500.00 Y	YES	NAT
TYY	PHILIPS	STRAT	6.00	1500.00	W	
TYY	MHS	STRAT	5.00	1250.00	W	
TZZ	NN	STRAT	3.00	750.00	W	
* Subsubtotal *			44.00	11000.00		

* COUNTRY: FRG

T22	PHILIPS	JL	9.00	2700.00 Y	YES	NAT
T22	SIEMENS	JL	15.00	4500.00 Y	YES	NAT
TYY	TELEFUNKEN EG	STRAT	10.00	3000.00	W	
TYY	SIEMENS	STRAT	17.00	5100.00	W	
TYY	PHILIPS	STRAT	6.00	1800.00	W	
TYY	INSTITUT	STRAT	2.00	600.00	W	
TZZ	NN	STRAT	3.00	900.00	W	
* Subsubtotal *			62.00	18600.00		

* COUNTRY: ITA

T22	STM	JL	13.00	3250.00 Y	YES	NAT
TYY	STM	STRAT	21.00	5250.00	W	
TZZ	NN	STRAT	3.00	750.00	W	
* Subsubtotal *			37.00	9250.00		

* COUNTRY: NL

T22	PHILIPS	JL	25.00	5500.00 Y	5.714 YES	NAT
TYY	PHILIPS	STRAT	10.00	2200.00	W	
TZZ	NN	STRAT	3.00	660.00	W	
* Subsubtotal *			38.00	8360.00		

* COUNTRY: ROE

TYY	INSTITUT	STRAT	7.00	1750.00	W	
* Subsubtotal *			7.00	1750.00		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS	EXPECT. FUNDING KECUS
* COUNTRY: UK					
TYY	PLESSEY GEC	STRAT	11.00	2200.00	W
TYY	INSTITUT	STRAT	1.00	200.00	W
TZZ	NN	STRAT	2.00	400.00	W
* Subsubtotal *			14.00	2800.00	
** Subtotal **			225.50	57635.00	

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS	EXPECT.	FUNDING KECUS
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**** CLUSTER: COMPETITIVE CMOS MANUFACTURING**

* COUNTRY: BEL

T32B	MIETEC	JL	14.00	3500.00 Y	YP	NAT
T4C	MIETEC	JL	6.00	1500.00 Y	YP	NAT
* Subsubtotal *						
			20.00	5000.00		

* COUNTRY: **FRA**

5B	STM	JL	24.50	6125.00 Y	YES	NAT
T15B	IBM	JL	29.00	7250.00 P	P	NAT
T15B	MHS	PEND JL	9.00	2250.00 P	P	NAT
T15B	PHILIPS	PEND JL	0.00	0.00 P	P	NAT
T1B	STM	JL	80.00	20000.00 Y	YES	NAT
T32B	MHS	JL CRQ	3.00	500.00 Y	YES	NAT
T32B	STM	JL CRQ	6.00	1500.00 Y	YES	NAT
T4C	MHS	JL	11.00	2750.00 Y	YES	NAT
T4C	STM/LETI	JL CRQ	5.00	1250.00 Y	YES	NAT
* Subsubtotal *						
			167.50	41625.00		

to put on a Special line.

* COUNTRY: FRG

T1B	SIEMENS	JL	79.00	23700.00 P	PP	NAT
T32B	TELEFUNKEN EG	JL CRQ	3.00	900.00 Y	P	NAT
* Subsubtotal *						
			82.00	24600.00		

* COUNTRY: **ITA**

15B	STM	JL	10.00	2500.00 Y	YES	NAT
T1B	STM	JL	158.00	39500.00 Y	YES	NAT
* Subsubtotal *						
			168.00	42000.00		

* COUNTRY: NL

T15B	PHILIPS	PEND JL	10.00	2200.00 P	PP	NAT
T32B	PHILIPS	JL	15.00	3410.00 Y	3.29 YES	NAT
T4C	PHILIPS	JL	8.00	1760.00 Y	1.157 YES	NAT
* Subsubtotal *						
			33.00	7370.00		

* COUNTRY: UK

T32B	PLESSEY GEC	JL	3.00	400.00 Y	YES	NAT
T4C	PLESSEY GEC	JL CRQ	3.00	600.00 Y	YES	NAT
* Subsubtotal *						
			6.00	1000.00		

**** Subtotal ****

476.50 121595.00

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT	EXPECT.	FUNDING 92 FUND 93 FUND PAS KECUS
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** CLUSTER: DIGITAL AUDIO BROADCASTING(DAB)

* COUNTRY: BEL							
AC5C	ALCATEL BELL	JL	1.50	247.50	Y	YES	NAT
AC5C	KIHWV	JL	1.50	247.50	Y	YES	NAT
* Subsubtotal * <i>inner out</i>							
			3.00	495.00			
* COUNTRY: DK							
AC5C	ELEKTRONIK CENTR	JL	7.00	1155.00	Y	YES	NAT
* Subsubtotal *							
			7.00	1155.00			
* COUNTRY: FRA							
AC5C	MATRA ESPACE	JL	8.00	1320.00	Y	YES	NAT
AC5C	MHS	JL	6.00	990.00	Y	YES	NAT
AE14C	CCETT	JL	3.00	495.00	Y	YES	NAT
AE14C	STM	JL	2.00	330.00	Y	YES	NAT
* Subsubtotal *							
			19.00	<u>3135.00</u>			
* COUNTRY: FRG							
AC5C	SIEMENS NIXDORF	JL	11.00	1650.00	Y	YES	NAT
AC5C	ABB	JL	3.00	450.00	Y	YES	NAT
AC5C	DAIMLER BENZ	JL	3.00	450.00	Y	YES	NAT
AE14C	IRT	JL	3.00	600.00	Y <i>0.4</i>	YES	NAT
AE14C	GRUNDIG	JL	3.00	600.00	Y <i>0.6</i>	YES	NAT
AE14C	FHG WES LIS	JL	10.00	2000.00	Y <i>1.0</i>	YES	NAT
AE14C	THOMSON TCE	JL	4.20	840.00	Y <i>1.3</i>	YES	NAT
AE14C	BLAUPUNKT-BOSCH	JL	5.00	1000.00	Y <i>0.9</i>	YES	NAT
AE14C	TELEFUNKEN ST	JL	5.00	1000.00	Y <i>1.1</i>	YES	NAT
AE14C	AEG	JL	7.00	1400.00	Y <i>1.0</i>	YES	NAT
* Subsubtotal *							
			54.20	9990.00			
* COUNTRY: FRG NBL							
AC5C	EFN	JL	1.00	150.00	Y	YES	NAT
AC5C	MTG DRESDEN	JL	2.00	300.00	Y	YES	NAT
AC5C	GfaI	JL	1.00	150.00	Y	YES	NAT
* Subsubtotal *							
			4.00	600.00			
* COUNTRY: ITA							
AC5C	ITALTEL	JL	3.00	495.00	Y	YES	NAT
AC5C	BULL HN ITALIA	JL	4.00	660.00	Y	YES	NAT
AE14C	STM	JL	3.00	495.00	Y	YES	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93 MAIN PHASE	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS COST KECUS	EXPECT.	FUNDING
* Subsubtotal *						
			10.00	1650.00		
* COUNTRY: NL						
AC5C	PHILIPS	JL	7.5	7.00	945.00	Y 0.742 YES
AE14C	PHILIPS	JL	14.5	13.75	1718.75	Y 2.304 YES
* Subsubtotal *						
			20.75	2663.75		
COUNTRY: UK						
AC5C	VECTOR FIELD LTD	JL	2	3.00	330.00	Y YES NAT
AC5C	PHILIPS REDHILL	JL	To be adjusted	1 2.00	220.00	Y YES NAT
* Subsubtotal *						
			5.00	550.00	300	
** Subtotal **						
			122.95	20238.75		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
				FORECAST	92 FUND	93 FUND	PAS
			COST	KECUS			

*** CLUSTER: FINAL PRODUCT TESTING
Kernellen Rekes care to develop solution.*

* COUNTRY: FRA

E179C	SET NANOMASTER	JL	4.80	720.00	Y	P	NAT
E179C	LETI	JL	2.00	300.00	Y	P	NAT
E179C	CYBERNETIX	JL	1.50	225.00	Y	P	NAT
E179C	SCHLUMBERGER	JL	2.70	405.00	Y	P	NAT
E179C	STM	JL	1.00	150.00	Y	P	NAT
E179C	IBM	JL	0.75	112.50	Y	P	NAT
E183B	SCHLUMBERGER	JL	14.75	2212.50	Y	YES	NAT
E183B	STM	JL	2.00	300.00	Y	YES	NAT
E183B	CNET	JL	1.00	150.00	Y	YES	NAT
* Subsubtotal *			30.50	4575.00			

* COUNTRY: FRG

E179C	TRF	JL	2.00	300.00	Y	YES	NAT
E179C	SIEMENS	JL	0.17	25.50	Y	YES	NAT
E179C	ERS	JL	1.80	270.00	Y	YES	NAT
E183B	SIEMENS	JL	2.00	300.00	Y	0.3 YES	NAT
* Subsubtotal *			5.97	895.50			
** Subtotal **			36.47	5470.50			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAS KECUS
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** CLUSTER: HIGH DEFINITION TELEVISION (HDTV)

* COUNTRY: AUST

AC6B	SIEMENS	JL	5.50	907.50	Y	YES	NAT
AE10B	SIEMENS	JL	2.00	330.00	Y	YES	NAT
				7.50	1237.50		

* COUNTRY: BEL

C6B	ALCATEL BELL	JL	3.00	495.00	Y	YES	NAT
				3.00	495.00		

* COUNTRY: FRA

AC6B	STM	JL	8.00	1320.00	Y	YES	NAT
AC6B	THOMSON TMS	JL	3.00	495.00	Y	YES	NAT
AC6B	INPG/TIM3	JL	2.10	346.50	Y	YES	NAT
AE10B	PHILIPS SC	JL	6.00	990.00	Y	YES	NAT
AE10B	THOMSON TCE	JL	16.00	2640.00	Y	YES	NAT
AE10B	STM TCE	JL	28.00	4620.00	Y	YES	NAT
AE56B	STM	JL	13.00	2145.00	Y	P	NAT
				76.10	12556.50		

* COUNTRY: FRG

AC6B	PHILIPS	JL	3.00	450.00	Y	YES	NAT
AC6B	SIEMENS	JL	13.70	2055.00	Y	YES	NAT
AC6B	SIEMENS NIXDORF	JL	24.50	3675.00	Y	4.7	NAT
AE10B	PHILIPS SC	JL	8.50	1700.00	Y	1.0	NAT
AE10B	THOMSON TCE	JL	6.00	1200.00	Y	1.2	NAT
AE10B	SIEMENS	JL	20.00	4000.00	Y	3.7	NAT
AE45D	SIEMENS	JL	1.00	0.00	P	SF	NAT
AE56B	THOMSON TCE	JL	7.00	1400.00	Y	P	NAT
AE56B	SIEMENS	JL	7.00	1400.00	Y	P	NAT
				90.70	15880.00		

* COUNTRY: ITA

AE45D	SELECO	JL	18.00	2970.00	P	YES	NAT
AE45D	STM	JL	9.00	4485.00	P	YES	NAT
				27.00	4455.00		

* COUNTRY: NL

AC6B	PHILIPS	JL	13.22	1647.00	Y	1.143	YES	NAT
AE10B	PHILIPS CE	JL	27.00	3375.00	Y	3.829	YES	NAT
AE10B	PHILIPS SC	JL	4.50	562.50	Y	YES	NAT	
AE56B	PHILIPS	JL	24.00	3000.00	Y	NO	NAT	

Page No. 16
07/08/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS COST KECUS	EXPECT.	FUNDING
* Subsubtotal *			67.70	8584.50		
* COUNTRY: SF AE45D	NOKIA	JL	21.00	3465.00 P	YES	NAT
* Subsubtotal *			21.00	3465.00		
* COUNTRY: UK E10B	PHILIPS SC	JL	4.00	500.00 Y	YES	NAT
* Subsubtotal *			4.00	500.00		
** Subtotal **			297.00	47173.50		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY

REV 2.1

SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAS
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EXYY = Meister Blaenke.

** CLUSTER: LITHOGRAPHY AND RELATED SUBJECTS

* COUNTRY: BEL

E104B	PHILIPS RESEARCH	JL	0.00	0.00	Y	YES	NAT
E60B.	UCB	JL	0.00	0.00	Y	YES	NAT
E60Bext	IMEC	EXTENS	1.00	150.00		P	NAT
EXX/TXX		STRAT	3.00	450.00		W	
T8C	MIETEC	JL CRQ	6.00	1500.00	Y	YES	NAT
XX/EXX	IMEC	STRAT	2.00	500.00		W	
TXX/EXX	MIETEC	STRAT	1.00	250.00		W	
* Subsubtotal *			13.00	2850.00			

* COUNTRY: FRA

E162D/T	LETI	JL	1.00	150.00	Y	P	NAT
5D							
> E60Bext	STM-CNET	EXTENS	3.00	450.00		P	NAT
E64AB	NANO-MASTER (MICR)	JL	6.75	1012.50	Y	YES	NAT
EXYY	DU PONT	PEND BBA	3.00	450.00		W	NAT
TXX/EXX	LETI	STRAT	2.00	500.00		W	
TXX/EXX	CNET	STRAT	3.00	750.00		W	
* Subsubtotal *			18.75	3312.50			

* COUNTRY: FRG

E104B	ICT	JL	5.25	787.50	Y	YES	NAT
E104B	SIEMENS	JL	0.00	0.00	Y	YES	NAT
E162D/T	LAMBDA PHYSIK	JL	2.00	300.00	Y 0.3	YES	NAT
5D							
E162D/T	BASF	JL	4.00	600.00	Y 1.0	YES	NAT
5D							
E162D/T	FHG IMT	JL	1.50	225.00	Y 0.225	YES	NAT
5D							
E162D/T	CONVAC	JL	2.00	300.00	Y 1.7	YES	NAT
5D							
E39.	ZEISS	JL	13.80	2070.00	Y	YES	NAT
E39.	HERAEUS	JL	4.00	600.00	Y	YES	NAT
E60B.	ZEISS	JL	0.00	0.00	Y	YES	NAT
E60B.	HOECHST	JL	0.00	0.00	Y	YES	NAT
E60B.	SIEMENS	JL	0.00	0.00	Y	YES	NAT
E60Bext	ZEISS	EXTENS	5.00	750.00		W	NAT
E60Bext	IBM GERMANY	EXTENS	2.00	300.00		P	NAT
E60Bext	FHG AIS	EXTENS	1.00	150.00		P	NAT
E64AB	SIEMENS	JL	0.50	75.00	Y	YES	NAT
EXX/TXX		STRAT	2.00	300.00		W	
EXYY	LEYBOLD	PEND BBA	0.00	0.00		W	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAS
EXYY	SIEMENS	PEND BBA	0.00	0.00			NAT
T5D/E16	IBM GERMANY	JL	12.50	3750.00	Y 5.6	P YES	NAT
2D							
T5D/E16	SIEMENS	JL	1.80	540.00	Y	P YES	NAT
2D							
T8C	ROFIN SINAR LASER	JL	1.00	300.00	Y	P YES	NAT
T8C	LASER ZENTRUM	JL	2.50	750.00	Y	P YES	NAT
TXX/EXX	SIEMENS	STRAT	3.00	900.00		W	
TXX/EXX	PHILIPS	STRAT	3.00	900.00		W	
* Subsubtotal *			66.85	13597.50	12.6		
* COUNTRY: FRG NBL							
EXYY	BQL	PEND BBA	4.00	600.00		W	NAT
EXYY	DESAG	PEND BBA	3.30	495.00		W	NAT
* Subsubtotal *			7.30	1095.00			
* COUNTRY: ITA							
E60B.	STM	JL	0.00	0.00	Y	YES	NAT
E64AB	STM	JL	0.75	112.50	Y	YES	NAT
EXX/TXX		STRAT	1.00	150.00		W	
PT5D/E16	STM	JL	1.50	375.00	Y	P YES	NAT
2D							
TXX/EXX	STM	STRAT	4.00	1000.00		W	
* Subsubtotal *			7.25	1637.50			
* COUNTRY: NL							
E104B	PHILIPS I&E	JL	19.75	2666.25	Y 2.12	YES	NAT
E104B	PHILIPS COMPONENT	JL	0.15	20.25	Y	YES	NAT
E162D/T	ASM L	JL	4.30	580.50	Y	YES	NAT
5D							
E60B.	ASM L	JL	0.00	0.00	Y	YES	NAT
E60B.	PHILIPS	JL	0.00	0.00	Y	YES	NAT
E60Bext	ASM LITHO	EXTENS	40.00	5400.00		P P	NAT
E60Bext	PHILIPS	EXTENS	3.00	405.00		P P	NAT
EXX/TXX		STRAT	2.00	270.00		W	
T5D/E16	PHILIPS	JL	2.00	400.00	Y 0.213	P yes	NAT
2D							
* Subsubtotal *			71.20	9782.00			
* COUNTRY: UK							
E104B	RAL	JL	2.00	270.00	Y 0.3	YES	NAT
E104B	UNI EDINBURGH	JL	0.00	0.00	0.1	YES	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS COST KECUS	EXPECT.	FUNDING
E104B	GEC PLESSEY	JL	0.00	0.00 Y	0.05	YES
EXX/TXX		STRAT	7.00	945.00	W	NAT
T8C	COMPUGRAPHICS	JL CRQ	4.00	800.00 Y	YES	NAT
T8C	UNI DUNDEE	JL	1.00	200.00 Y	YES	NAT
T8C	RAL	JL	3.00	600.00 Y	YES	NAT
TXX/EXX RAL		STRAT	2.00	400.00	W	
* Subsubtotal *			19.00	3215.00		
** Subtotal **			203.35	35489.50		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
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** CLUSTER: MOBILE RADIO

* COUNTRY: AUST					YES	NAT
AC12C EZM		JL	5.00	825.00 Y		
* Subsubtotal *			5.00	825.00		
* COUNTRY: BEL					YES	NAT
AE13C ALCATEL BELL		JL	5.90	973.50 Y	YES	NAT
AE13C KATHO UNI LEUVEN		JL	1.00	165.00 Y	YES	NAT
* Subsubtotal *			6.90	1138.50		
* COUNTRY: CH					YES	NAT
AC12C CSEM		JL	4.00	660.00 Y	YES	NAT
AE31D PHILIPS FASELEC		JL	1.00	165.00 Y	YES	NAT
AE31D ETH		JL	6.00	990.00 Y	YES	NAT
* Subsubtotal *			11.00	1815.00		
* COUNTRY: FRA					YES	NAT
AC12C STM		JL	6.00	990.00 Y	P	NAT
AC12C ANACAD FRANCE		JL	5.00	825.00 Y	YES	NAT
AC12C MHS		JL	7.00	1155.00 Y	YES	NAT
AE13C ALCATEL ATR		JL	5.50	907.50 Y	YES	NAT
AE13C STM		JL	6.15	1014.75 Y	PP	NAT
AE31D PHILIPS RTC		JL	6.00	990.00 P	PP	NAT
* Subsubtotal *			35.65	5882.25		
* COUNTRY: FRG					YES	NAT
AC12C SIEMENS		JL	15.50	2325.00 Y 2.2	YES	NAT
AC12C DAIMLER BENZ		JL	15.00	2250.00 Y 1.8	YES	NAT
AC12C ROBERT BOSCH		JL	6.50	975.00 Y 1.6	YES	NAT
AC12C ANACAD GERMANY		JL	5.00	750.00 Y 0.6	YES	NAT
AC12C SIEMENS NIXDORF		JL	4.00	600.00 Y 0.2	YES	NAT
AE31D PHILIPS PKI		JL	10.00	2000.00 P	PP	NAT
* Subsubtotal *			56.00	8900.00		
* COUNTRY: FRG					YES	NAT
AC12C ZKI EAS		JL	4.00	600.00 Y 6.6	YES	NAT
* Subsubtotal *			4.00	600.00	6.6	
* COUNTRY: IRL					YES	NAT
AC12C S3 SILIC & SOFTW.		JL	3.50	577.50 Y		

Page No. 21
07/08/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 BUDGET 93 FORECAST COST	COMMIT FUND 92 KECUS	EXPECT. FUND 93 PAS	FUNDING
* Subsubtotal *						
			3.50	577.50		
* COUNTRY: NL						
AC12C	PHILIPS	JL	10.00	1350.00	Y 1.061 YES	NAT
AE31D	PHILIPS COMPONENT	JL	2.00	250.00	Y 0.256 YES	NAT
* Subsubtotal *						
			12.00	1600.00		
** Subtotal **						
			134.05	21338.25		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
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* CLUSTER: PACKAGING

* COUNTRY: BEL						
BT4B	PHILIPS SEMIC.IND	JL	0.80	96.00 Y	YES	NAT
BT4B	IMEC	JL	1.20	144.00 Y	YES	NAT
BTXX		STRAT	5.00	600.00	W	
* Subsubtotal *			7.00	840.00		

* COUNTRY: FRA						
BTXX		STRAT	5.00	600.00	W	
T9D	ES2	JL	11.20	2800.00 Y	P	NAT
T9D	SOREP	JL	3.83	957.50 Y	P	NAT
* Subsubtotal *			20.03	4357.50		

* COUNTRY: FRG						
BT4B	SIEMENS	JL	4.00	480.00 Y	1.2 YES	NAT
BT4B	SIEMENS	JL	2.00	240.00 Y	P	NAT
BT4B	TU BERLIN	JL	5.00	600.00 Y	0.6 YES	NAT
BTXX		STRAT	5.00	600.00	W	
E9.	HOECHST	JL	8.00	1200.00 Y	P Y	NAT
E9.	SIEMENS	JL	3.00	450.00 Y	YP	NAT
E9.	TU BERLIN	JL	3.00	450.00 Y	YP	NAT
T9D	TELEFUNKEN EG	JL CRQ	3.00	900.00 Y	P	NAT
* Subsubtotal *			33.00	4920.00	1.8	

* COUNTRY: ITA						
BTXX		STRAT	5.00	600.00	W	
* Subsubtotal *			5.00	600.00		

* COUNTRY: NL						
BT4B	PHILIPS CFT	JL	6.50	780.00 Y	6.75T YP YES	NAT
BTXX		STRAT	5.00	600.00	W	
* Subsubtotal *			11.50	1380.00		

* COUNTRY: SW						
T9D	SMS	JL	1.84	460.00 Y	YES	NAT
T9D	TEC	JL	5.20	1300.00 Y	YES	NAT
T9D	IVF	JL	4.20	1050.00 Y	YES	NAT
T9D	SAAB	JL	2.20	550.00 Y	YES	NAT
* Subsubtotal *			13.44	3360.00		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAs COST KECUS	EXPECT.	FUNDING
* COUNTRY: UK						
BT4B	MARCONI GEC	JL	5.00	600.00 Y	YES	NAT
BT4B	PLESSEY GEC	JL	9.00	1080.00 Y	YES	NAT
BT4B	UNI NEWCASTLE	JL	1.00	120.00 Y	YES	NAT
BTXX		STRAT	5.00	600.00	W	
T9D	LUCAS INDUSTRIES	JL	3.61	722.00 Y	YES	NAT
T9D	MCE Ltd	JL	2.20	440.00 Y	YES	NAT
* Subsubtotal *			25.81	3562.00		
● Subtotal **			115.78	19019.50		

Subsubtotal of Plessey Gec

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS COST KECUS	EXPECT.	FUNDING
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** CLUSTER: SILICON AND RELATED SUBJECTS

* COUNTRY: FRA

E191E	PHOTEC	JL	10.35	1552.50 Y	P	NAT
E191E	LETI	JL	0.50	75.00 Y	P	NAT
E191E	SODETAL	JL	1.00	150.00 Y	P	NAT
* Subsubtotal *			11.85	1777.50		

* COUNTRY: FRG

E11B	LEYBOLD	JL	5.00	750.00 Y	YES	NAT
E11B	WACKER	JL	0.00	0.00 Y	YES	NAT
CHEMITRON						
E11B	JULICH	JL	0.00	0.00 Y	YES	NAT
E11B	UNI ERLANGEN	JL	0.00	0.00 Y	YES	NAT
E15B	GEMETEC	JL	1.50	225.00 Y	YES	NAT
E15B	SIEMENS	JL	0.50	75.00 Y	YES	NAT
E15B	WACKER	JL	0.20	30.00 Y	YES	NAT
CHEMITRON						
E66B	WACKER	JL	49.37	7405.50 Y 3.0	NP YES	NAT
CHEMITRON						
E66B	SIEMENS	JL	2.00	300.00 Y	YP YES	NAT
E66B	TELEFUNKEN EG	JL	0.50	75.00 Y	YP YES	NAT
E66B	GMN	JL	5.00	750.00 Y	YP YES	NAT
* Subsubtotal *			64.07	9610.50		

* COUNTRY: ITA

E5B	MEMC	JL	0.20	30.00 Y	YES	NAT
E191E	TEMAV	JL	0.00	0.00 Y	YES	NAT
E66B	STM	JL	0.50	75.00 Y	YES	NAT
* Subsubtotal *			0.70	105.00		

* COUNTRY: NL

E66B	PHILIPS	JL	0.50	67.50 Y C. 216	YES	NAT
* Subsubtotal *			0.50	67.50		

** Subtotal **

77.12 11560.50

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 FORECAST COST	BUDGET 93 COMMIT FUND KECUS	EXPECT. 92 FUND	FUND PAS
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**** CLUSTER: SINGLE PROJECT APPLICATION**

* COUNTRY: BEL

AC41C	ALCATEL BELL	JL	3.00	495.00 Y	YES	NAT
AC41C	MIETEC	JL	7.00	1155.00 Y	YES	NAT
AC75	PHILIPS	JL	0.00	0.00 N	P	NAT
AC75	EDC	JL	0.00	0.00 N	P	NAT
AC75	IMEC	JL	0.00	0.00 N	P	NAT
AE23B	IMEC	JL	5.00	825.00 Y	YES	NAT
* Subsubtotal *			15.00	2475.00		

* COUNTRY: CH

AC3C	SPEED	JL	6.00	990.00 P	YES	NAT
* Subsubtotal *			6.00	990.00		

* COUNTRY: DK

AE23B	ELEKTRONIK CENTR	JL	8.00	1320.00 Y	YES	NAT
* Subsubtotal *			8.00	1320.00		

* COUNTRY: FRA

AC3C	STM	JL	8.00	1320.00 P	P	YD	NAT
AC3C	ANACAD FRANCE	JL	2.00	330.00 P	P	YD	NAT
AC3C	BULL	JL	6.50	1072.50 P	P		NAT
AC3C	CNET	JL	2.00	330.00 P	P		NAT
AC3C	IBM FRANCE	JL	4.00	660.00 P	P		NAT
AC3C	INPG	JL	4.00	660.00 P	P		NAT
AC3C	LEDA	JL	2.00	330.00 P	P		NAT
AC3C	THOMSON TMS	JL	10.00	1650.00 P	P		NAT
AC3C	UNI J. FOURIER	JL	3.50	577.50 P	P	YD	NAT
AC41C	BULL	JL	2.50	412.50 Y	YES		NAT
AC41C	STM	JL	4.50	742.50 Y	YES		NAT
AE23B	CNFM LETI	JL	15.00	2475.00 Y	YES		NAT
AE36C	SEXTANT AVIONIQUE	JL	10.90	1798.50 Y	X NO		NAT
AE36C	ES2	JL	2.90	478.50 Y	X NO		NAT
* Subsubtotal *			77.80	12837.00			

* COUNTRY: FRG

AC41C	ALCATEL SEL	JL	10.00	1500.00 Y	YES	NAT	
AC41C	ROBERT BOSCH	JL	3.30	495.00 Y	YES	NAT	
AC41C	IMS	JL	4.00	600.00 Y	YES	NAT	
AC41C	SIEMENS	JL	3.60	540.00 Y	YES	NAT	
AE23B	FHG IIS	JL	5.00	1000.00 Y	10	YES	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAS	
AE23B	IAM	JL	5.00	1000.00	Y-1.2	<u>YES</u>	NAT	
AE36C	ATLAS ELEKTRONIK	JL 2/3 for	9.90	1980.00	Y	P yes	NAT	
AE36C	FHG IIS	JL	5.30	1060.00	Y	P yes	NAT	
AE36C	FHG IGD	JL	3.00	600.00	Y	P yes	NAT	
* Subsubtotal *			49.10	8775.00				
* COUNTRY: FRG NDK AE23B EAST GERMAN			JL	5.00	1000.00	Y	<u>Y</u> P	NAT
* Subsubtotal *				5.00	1000.00			
* COUNTRY: ITA								
AC3C	OLIVETTI	JL	9.00	1485.00	P	<u>P</u>	NAT	
AE23B	CNR PFM ROMA	JL	5.00	825.00	Y	<u>YES</u>	NAT	
AE36C	ALENIA	JL	14.00	2310.00	Y	<u>YES</u>	NAT	
* Subsubtotal *			28.00	4620.00				
* COUNTRY: NL								
AC3C	PHILIPS	JL	4.00	540.00	P	<u>NO</u>	NAT	
AE23B	SCME	JL	4.00	500.00	Y	<u>Y</u> P	NAT	
* Subsubtotal *								
AC75 Philips			?	8.00	1040.00			
			?	3	— 0.545	<u>Y</u> P		
* COUNTRY: PORT								
AC3C	INESC	JL	1.00	165.00	P	NAT		
* Subsubtotal *				1.00	165.00			
* COUNTRY: SW								
AC3C	SIM	JL	5.00	825.00	P	NAT		
* Subsubtotal *				5.00	825.00			
* COUNTRY: UK								
AE23B	RAL	JL	1	5.00	625.00	<u>Y</u> P	NAT	
* Subsubtotal *				5.00	625.00			
** Subtotal **			207.90	34672.00				

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 2.1
SITUATION AS TO DATE JULY 7, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 COMMIT FORECAST 92 FUND 93 FUND PAS	EXPECT.	FUNDING COST KECUS
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** CLUSTER: SINGLE PROJECT E AND M

* COUNTRY: FRA

E17C	LETI	PEND	20.00	3000.00 P	NO	NAT
E17C	STM	PEND	1.00	150.00 P	NO	NAT
* Subsubtotal *			21.00	3150.00		

* COUNTRY: FRG

E17C	FHG AIS	PEND	7.00	1050.00 P	NO	NAT
E17C	FHG IPA	PEND	7.00	1050.00 P	NO	NAT
E17C	SIEMENS	PEND	1.00	150.00 P	NO	NAT
E17C	IBM GERMANY	PEND	1.00	150.00 P	NO	NAT
E17C	TELEFUNKEN EG	PEND	0.00	0.00 P	NO	NAT
* Subsubtotal *			16.00	2400.00		

** Subtotal **

			37.00	5550.00		
*** Total ***			2569.6	480852.00		

Funding Status of JESSI-Projects in July 1992 [MECU]

Overview

Subprogramm	Fa)	G	Ia)	NL	UKa)	CECa)	TOT
Application	13.4 +? + 2,19FT	21.7 +0.4 ² +?	x	6.6	1.9+?	7.0	50.6 ¹ + 0,4 ² + 2,2
Technology	11.4 ¹ +4.0 ² +?	2.60	10.4	4.9	0.3	41.0	70.6 ¹ + 4.0 ²
BLR	-	1,0	-	-	-	9,3 ²	1,0 + 9,3 ²
Equip. & Mat.	5,7+? + 1,0 ²	21.4 +0.6 ² +?	0.04+? ²	8,2	1.8 ¹ +2.5 ²	-	37.1 ¹ + 4,1 ²
SUB-TOT.	30,5 ¹ + 5,0 ² + 2,2FT	46,7 ¹ + 1,0 ²	10,4	19,7	4,0 ¹ + 2,5 ²	48,0 ¹ + 9,3 ²	159,3 ¹ + 17,8 ² + 2,2FT
TOTAL	37,7	47,7	10,4	19,7	6,5	57,3	179,3

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

JESSI-GAT 920709/UW/DO-A1

Funding Status of JESSI-Projects in July 1992 [MECU]

Application

Project / Cluster	F ^{a)}	G	I	NL	UK ^{a)}	CEC ^{a)}
Automotive Safety						
Electronics (AE 11, AC 8B)	2,89	4.5	-	0.33	0.1	-
Broadband Communication (AE 15B, AE 55B)	0.64FT +?	1,55+?	-	-	-	-
DAB (AE 14, AC 5B)	1,04	4.5+?	x	1.51	0.3	-
HDTV (AE 10, AC 6, AE 56)	5.04	5.21+0.42	x	3.3	0.32	-
Mobile Radio (AE 13B, AC 12B, AE 31)	1.491+1.55FT	2.75	-	0.83	-	-
Standards (AC 41B)	0.41	1.4	-	-	-	-
CAD-Frame (AC 1)	-	-	-	-	-	-
Advanced Display (AE 36B)	-	0.55+?	x	-	-	7.0
SMI AE 23) (AC 61)	2.5	1.2	x	0.65	-	-
SUM: Application	13.36 + 2,19FT	21.65+0.42 +?	x	6.62	1.88+?	7.0

Status: no index or 1: contract prepared or issued;
x : Participation planned
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a) annualised figures

Funding Status of JESSI-Projects in July 1992 [MECU]

Equipment & Materials

Project / Cluster	F ^{a)}	G	I ^{a)}	NL	UK ^{a)}	CEC ^{a)}
Wafer Handling (T 14C, E 19, E 109C)	1.69+0.42 ^{2+?}	2.3	-	-	0.72	-
Packaging (BT 4, T9C, E9)	?	1.4	-	0.5	0.82 ¹ +0.89 ²	-
Lithography (T8B, E39, E60, E64A, E162C, E104)	0,57+?	7.6	x	4.00	0.74 ¹ +0.26 ²	-
Wet Chemicals (E2A, E13C, E20, E77C, E88)	1,06+0,64 ^{2+?}	2.8	-	-	-	-
Clean Gases (E2B, E181B, E186)	0,87+?	0.8	0.04+? ²	-	0.03	-
Cluster Deposition and Etching Processes (IVPS) (Exx, E5, E6B, E63C, E69, E74B, E164, E208)	?	1.65+0.6 ² +?	x	3,59	0.18 ¹ +0.64 ²	-
Silicon (E191, E66, E11, E15)	x	3.48	x	0.12	-	-
Testing (E179B, E183B)	1.55 ¹ +? ²	0.3	-	-	-	-
SUM: Equipment & Materials	5,74+1,06² +?	21.4 +0.6^{2+?}	0.04+?²	8,20	1.77¹+2.48²	-

Status: no index or 1: contract prepared or issued;
 x : participation planned
 FT : under responsibility of France Telecom

2: application received and/or funding planned
 a) annualised figures

Funding Status of JESSI-Projects in July 1992 [MECU]

Technology

Project / Cluster	Fa)	G	Ia)	NL	UKa)	CECa)
Basic Technology (Competitive CMOS Manufacturing / Manufacturing Science & Technology) (T1, T4, T15, T30, T32)	11.38 ¹ +1.37 ² +?	-	10.40	2.25	0.29	18,0
Joint Logic T20, T22	2.62 ²	2.60	x	2.61	-	23.0
SUM: Technology	11.38 ¹ +3,99 ² +?	2.60	10.4	4.86	0.29	41,0

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

JESSI-GAT 920709/JW/DO-A1

File: Goverm



VLG/ma
August 14, 1992

To the members of the GAT:

Mr. Babinet
Mr. Broster
Dr. Dudde
Mr. Gislon
Mr. van't Hof
Mr. McAuley

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JESSI BUDGET PLAN 1993

Rev. 3

To the members of the Board Support Group:

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Prof. Lawes
JESSI Office

Dear Gentleman,

Following our second meeting in Brussels on July 10, 1992, the documents related to the budget plan have been updated.

You have to notice some minor changes.

- The request of the GAT and Board Support Group has been taken into account and we do not have any more projects splitted between the different Subprograms. Then only the projects T14/E19 and E162/T5 remain in our list and gather all the partners. Then the projects E19/T14 and T5/E162 do not exist any more.
- Some clusters have changed their name.

Then "Wafer Handling" becomes "Automated Clean Environment (ACE)" and "Clustered Depositions and Etching Process (IVPS)" is replaced by "Clustered Etching and Deposition Optimization (CLUEDO).

Appendix 1: list of projects per cluster

You have to notice that E6Bext. has been mentioned as "cancelled", but this needs to be formalised.

Regarding projects already labelled in the start up phase, the projects AC61 and E63D have been approved by the JESSI Board but the JESSI labelling is still delegated to the JESSI Board chairman.

List of projects per cluster, the title and status:

JL=	JESSI labelled
JL CRQ=	JESSI labelled with a change request in progress
PEND DELEG=	The project has to meet some conditions and then the chairman is delegated to give the JL
PEND BBA=	The project leader will provide a new BBA; to be approved by the JESSI Organization
EXTENS=	Corresponds to an extension of an existing and labelled project.
STRAT=	New project to come

Appendix 2a and 2b

List of projects per cluster with manpower and cost

- one list for EEC related projects
- one list for National PAs projects

The glossary of the column EXPECT '93 FUND is the following:

YES: means the project/partner is retained for funding in the relevant country

YP: means the decision to fund is still pending but the project is in a positive situation

P: means decision has to be taken

PP: funding is unlikely

SF: means the partner will self-fund his participation in the project

W: wait for more information (mostly in the case of strategic projects)

No: no funding for this project



This appendix gathered the latest information given during our meeting in Brussels.

The PAs representatives are requested to contact the office if they consider there are still some mistakes in the content of this document.

The cost in KECUS given here corresponds to the amount provided by the PAs.

Appendix 3

"Overview per Subprogram and per Country"

This page gives the full summary per Subprogram and country, of the information which are detailed in Appendix 4.

Then it is possible to compare the national budget frame 93 (280 Mecus) provided by the PAs, to the total of "Retained Projects" plus "Positive Pend" (261,91 + 41,14 = 303 Mecus)

The difference is less than 10% and should be discussed during our next meeting.

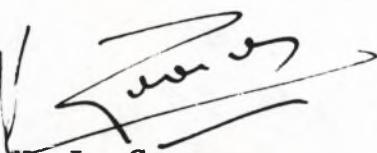
Appendix 4

"Detailed Summary per Subprogram/Country"

The content of these charts is extracted from the appendix 2 and takes into account the funding situation for each project and each country.

Please do not hesitate to contact me if any mistakes or changes to be done.

Best regards,



V. Le Goascoz
(Technical Coordinator)

Enclosure

JESSI BUDGETPLAN 1993

R E V. 3.0

LIST OF PROJECTS PER CLUSTER

TITLE

PROJECT LEADER

		<u>ST</u>	<u>REV. 3.0</u>	
	m×g (93)			RECO
	It.	Fr.	It.	Fr.
T 20	18	12	4500	3000
T 22	13	12	3250	3000
T 30	12	13.6	3,000	3400
T 32	-	6	-	1500
T 1	158	80	39,500	20,000
TYY	21	12	-	1500
T 15	10	24.5	2,500	6,125

E 109 - 0.8 - 120

AE 11 - 18 - 2970

E 2A - 3 - 450

E 2B 2.6 - - 210

E 208 - 0.5 - 75

E 106 1.5 - 225 -

E 179/183 ~ 3 - 450

13/08/92

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
** CLUSTER: AUTOMATED CLEAN ENVIRONMENT(ACE)					
E109C	AUTOMATED WAFER ENVIRONMENT CONTROL (AUTOWEC)	SIMON	MEISSNER & WURST	FRG	JL
T14C/ E19	FLEXIBLE AUTOMATED WAFER PRODUCTION - FAW -	STEPHANY	TELEFUNKEN EG	FRG	JL
** CLUSTER: AUTOMOTIVE SAFETY ELECTRONICS					
8C	SYNTHESIS, OPTIMIZATION AND ANALYSIS	DUZY	SIEMENS	FRG	JL
AE11B	ULTRA LARGE SCALE INTEGRATION OF A CONTROL UNIT FOR SAFETY-CRITICAL SYSTEMS	GLAUERT	ROBERT BOSCH	FRG	JL
** CLUSTER: BROADBAND COMMUNICATION					
AC61	EURO CAD PROJECT FOR BOARD DESIGN	TUAL	BULL	FRA	PEND DELEG
AE15C	ADVANCED VLSI COMPONENTS FOR B-ISDN ATM NETWORKS	GUEBELS	ALCATEL BELL	BEL	JL
AE55E	ADVANCED VLSI CHIPSET FOR ISDN VIDEOPHONE	WEYAND	PHILIPS PKI	FRG	JL
** CLUSTER: CLEAN CHEMICALS AND SUPPLY SYSTEMS					
E13D	SINGLE WAFER CLEAN (SWC)	FELDHOFER	HAMATECH	FRG	JL
E20C	MEGA CLEAN -FULLY AUTOMATED ULSI CLEANING SYSTEM	GAIL	HOECHST	FRG	JL
E2AB	ULTRA PURE WET CHEMICALS AND SUPPLY SYSTEMS FOR SEMICONDUCTOR PROCESSING	GEELHAAR	MERCK	FRG	JL
E77D	DEVELOPMENT OF CONTAMINATION FREE DISTRIBUTION COMPONENTS FOR THE TRANSPORT OF ULTRAPURE CHEMICALS	MOURLEVAT	PLASTIC OMNIUM FRA 3P	FRA	JL
E88B	CLOSED CHAMBER WET PROCESSING DEVELOPMENT	BAUJON	BLOMME	FRA	JL

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
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** CLUSTER: CLEAN GASES AND SUPPLY SYSTEMS

E181C DEVELOPMENT AND MAZZA INERIS/CERCHAR FRA JL
 APPLICATION OF THE
 INDUCTIVELY COUPLED
 PLASMA-HIGH RESOLUTION
 MASS
 SPECTROMETRY (ICP/HRMS) FOR
 TRACE ANALYSIS

BC GASES TECHNOLOGY.ULTRA STENGER LINDE FRG JL
 CLEAN TECHNOLOGY IN GASES
 AND CHEMICALS FOR ULTRA
 LARGE SCALE INTEGRATED
 SEMICONDUCTOR
 MANUFACTURING

** CLUSTER: CLUSTERED ETCHING AND DEPOSITION OPTIMIZATION (CLUEDO)

E106B WAVELENGTH DISPERSIVE X GOTZ PHILIPS I&E NL JL
 RAY FLUORESCENCE WAFER
 ANALYZER

E164C GATE DIELECTRICS BY RAPID KALTENBRUNNE AST ELEKTRONIK FRG JL
 THERMAL PROCESSING IN A R
 MULTI CHAMBER SYSTEM

E208e IVPS (INTEGRATED VACUUM DE LEEUW TT NL EXTENS
 PROCESSING SYSTEM)

E208. IVPS (INTEGRATED VACUUM DE LEEUW ASM AMTC NL JL
 PROCESSING SYSTEM)

E5B PLANARIZED METALLIZATION PIEKAAR ASM AMTC NL JL
 BASED ON Al,Cu AND TiN
 CVD

E63D CLEAN AND INTELLIGENT CASTELDACCIA CYBERNETIX FRA PEND
 WAFER AUTOMATIC ROBOTIC MODULE (CIWARM)

E69C IN PRODUCTION FILM PADUSCHEK PLASMOS FRG JL
 QUALITY CONTROL BASED ON ELLIPSOMETRY

E6Bex INTEGRATION TECHNOLOGY DE BLANK NL CANC
 t FOR HIGH RELIABILITY CMOS
 GATES

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
BER					
E6B.	INTEGRATION TECHNOLOGY FOR HIGH RELIABILITY CMOS GATES	DE BLANK	ASM AMTC	NL	JL
E74C	TARGET MATERIALS FOR SUBMICRON METALLIZATION	JONSSON	DEGUSSA	FRG	JL
E96D	MULTIPROCESSING MODULES BASED UPON ADVANCED PLASMA SOURCES (ECR)	PONGRATZ	LEYBOLD	FRG	JL
** CLUSTER: CMOS LOGIC TECHNOLOGY FOR EUROPROJECTS AND ADVANCED APPLICATION					
T20C	JOINT LOGIC PROJECT	GRAEF	PHILIPS	NL	JL
T22	EMBEDDED MEMORIES	BROCK	PHILIPS	FRG	JL
TYY	BICMOS FOR ADVANCED APPLICATIONS				STRAT
TZZ	LOGIC FOR ADVANCED SYSTEMS				STRAT
** CLUSTER: COMPETITIVE CMOS MANUFACTURING					
T15B	8 " MANUFACTURING	MONTIER	STM	FRA	JL
T1B	ADVANCED TECHNOLOGY FOR VOLUME PRODUCTION	IANNUZZI	STM	ITA	JL
T30C	MANUFACTURING SCIENCE AND GRIESSING TECHNOLOGY FOR FRONT END AND BACK END IC PRODUCTION		SIEMENS	FRG	JL
T32B	SUPPORT TOOLS AND SYSTEMS FOR ADVANCED IC PRODUCTION	SCHOLS	MIETEC	BEL	JL
T4C	SPECIAL TOOLS AND METHODS FOR HIGH RELIABILITY	DE PROST	MHS	FRA	JL
** CLUSTER: DIGITAL AUDIO BROADCASTING (DAB)					
AC5C	DEVELOPMENT OF AN EMC WORKBENCH FOR MICROELECTRONIC APPLICATION	JOHN	SIEMENS NIXDORF	FRG	JL

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
BER					
AE14C	IMPLEMENTATION OF PROTOTYPE BUILDING BLOCKS FOR A DAB STANDARD	KREUWELS	PHILIPS	NL	JL
** CLUSTER: FINAL PRODUCT TESTING					
E179C	EUROPROBER (A CLEAN WAFER TEST SYSTEM)	SCHMIDT	SET NANOMASTER	FRA	JL
E183B	AUTOMATIC MIXED VLSI TESTER	VILLEMAIN	Schlumberger	FRA	JL
** CLUSTER: HIGH DEFINITION TELEVISION (HDTV)					
AC6B	TEST GENERATION AND DESIGN FOR TESTABILITY SUPPORT	SEGERS	PHILIPS	NL	JL
AE10B	HDTV	MULLER	PHILIPS RES	NL	JL
AE45D	IMPROVED QUALITY TELEVISION - IQTV -	VINDIGNI	SELECO	ITA	JL
AE56B	EUROPROJECT SIGNAL PROCESSING FOR SD/HD VCR	HOEVE	PHILIPS	NL	JL
** CLUSTER: LITHOGRAPHY AND RELATED SUBJECTS					
E104B	ELECTRON BEAM METROLOGY SYSTEM	JACKMAN	PHILIPS I&E	NL	JL CRQ
E162D	DEEP UV IMAGE PROCESSING /T5D FOR 0.3 micron LITHOGRAPHY IN PRODUCTION	VAN HOUT	ASM L	NL	JL
E39.	NEW TECHNOLOGIES FOR HALF MICRON AND SUBHALF MICRON STEPPER OPTICS	ITTNER	ZEISS	FRG	JL
E60Be xt	PRODUCTIVITY FOR I-LINE TECHNOLOGY (PROFIT)	VAN HOUT	ASM LITHO	NL	EXTENS
E60B.	I - LINE PRODUCTION LITHOGRAPHY FOR 0.5 MICRON	VAN HOUT	ASM L	NL	JL
E64AB	AUTOMATIC METROLOGY	LACOMBAT	NANO-MASTER (MICR	FRA	JL

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
EXX/T	PHASE SHIFT MASKS	IANNUZZI		ITA	STRAT
XX					
EXYY	MASK BLANKS	HEINDORF	BQL	FRG	PEND BBA
T8C	MASK AND RETICLE TECHNOLOGY DEVELOPMENT	LEECE	COMPUGRAPHICS	UK	JL
XX/E	PHASE SHIFT MASKS	IANNUZZI	STM	ITA	STRAT
XX					
** CLUSTER: MOBILE RADIO					
AC12C	ANALOG EXPERT DESIGN SYSTEM	SCHINAGEL	SIEMENS	FRG	JL
AE13C	ADVANCED VLSI COMPONENTS FOR THE GSM PAN EUROPEAN DIGITAL CELLULAR RADIO SYSTEM	RABAЕY	ALCATEL BELL	BEL	JL
AE31D	MOBILE AUTOMATIC CELLULAR VAN NIELEN RADIO		PHILIPS COMPONENT	NL	JL
** CLUSTER: PACKAGING					
BT4B	PACKAGING	VAN KESSEL	PHILIPS CFT	NL	JL
DTXX	ADVANCED INTERCONNECTION TECHNOLOGY				STRAT
E9.	HIGH LEAD COUNT CERAMIC PACKAGE FOR HIGH RELIABILITY	BRANDENBURGE HOECHST R		FRG	JL
T9D	SILICON HYBRIDS	VERNET	ES2	FRA	JL
** CLUSTER: SILICON AND RELATED SUBJECTS					
E11B	EQUIPMENT FOR THE PRODUCTION OF Si CRYSTALS BY THE CCZ/MCZ PROCESS	ALTEKRUGER	LEYBOLD	FRG	JL
E15B	ELYMAT TECHNIQUE FOR IN LINE MONITORING OF METAL CONTAMINATION	EICHINGER	GEMETEC	FRG	JL

JESSI PROGRAM - MAIN PHASE 1992 -
LIST OF PROJECTS PER CLUSTER

mphalist.frm

IDNUM BER	TITLE	PROJECT LEADER	COMPANY	COUNTRY	STATUS MAIN PHASE
E191E	COST EFFECTIVE SLICING OF SGARD LARGE DIAMETER SILICON WAFERS FOR SUBMICRON COMPONENT MANUFACTURING		PHOTEC	FRA	JL
E66B	SILICON WAFERS FOR SUBMICRON TECHNOLOGY	DIETL	WACKER CHEMITRON	FRG	JL
<u>CLUSTER: SINGLE PROJECT APPLICATION</u>					
AC1C	JESSI CAD FRAME	STEINMULLER	SIEMENS NIXDORF	FRG	JL
AC3C	HDL, COMPONENT MODELLING & TRILHE LIBRARIES		STM	FRA	JL
AC41C	TECHNOLOGY ASSESSMENT	WILBERSCHEID	ALCATEL SEL	FRG	JL
AC75	PRODUCTIZING CAD TOOLS FOR A DSP ASIC DESIGN METHODOLOGY	EGGERMONT	PHILIPS CFT AUTO	NL	JL
AE23B	SMALL AND MEDIUM SIZED INDUSTRIES SUPPORT	SCHWIPPERT	SCME	NL	JL
AE36C	DIGITAL CONTROL FOR HIGH RESOLUTION DISPLAY	CAVALCANTI	ALENIA	ITA	JL
<u>CLUSTER: SINGLE PROJECT BLR</u>					
BT1C	"ADEQUAT" ADVANCED DEVELOPMENT FOR 0.25 micron CMOS TECHNOLOGIES	DE KEERSMAECKER	IMEC	BEL	JL
<u>CLUSTER: SINGLE PROJECT E AND M</u>					
E17C	JOINT R & D GROUP "SEMICONDUCTOR MANUFACTURING EQUIPMENT AND MATERIALS"	RYSEL	FHG AIS	FRG	PEND

LIST OF PROJECTS PER CLUSTER

E E C R E L A T E D

M A N Y E A R

C O S T M E C U S

R E V. 3.0

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT FUND 92	EXPECT. FUND 93	FUND PAs KECUS
** CLUSTER: CMOS LOGIC TECHNOLOGY FOR EUROPROJECTS AND ADVANCED APPLICATION							
* COUNTRY: BEL							
T20C	MIETEC	JL	12.00	3000.00	YES	YES	EEC
T20C	IMEC	JL	2.00	500.00	YES	YES	EEC
* Subsubtotal *							
			14.00	3500.00			
* COUNTRY: FRA							
T20C	ES2	JL	11.00	2750.00	YES	YES	EEC
T20C	MHS	JL	16.00	4000.00	YES	YES	EEC
T20C	STM	JL	<u>12.00</u>	<u>3000.00</u>	YES	YES	EEC
T20C	CNET	JL	2.00	500.00	YES	YES	EEC
* Subsubtotal *							
			41.00	10250.00			
* COUNTRY: FRG							
T20C	SIEMENS	JL	30.00	7500.00	YES	YES	EEC
T20C	TELEFUNKEN EG	JL	9.00	2250.00	YES	YES	EEC
* Subsubtotal *							
			39.00	9750.00			
* COUNTRY: ITA							
T20C	STM	JL	<u>18.00</u>	<u>4500.00</u>	YES	YES	EEC
* Subsubtotal *							
			18.00	4500.00			
* COUNTRY: NL							
T20C	PHILIPS	JL	30.00	7500.00	YES	YES	EEC
* Subsubtotal *							
			30.00	7500.00			
* COUNTRY: UK							
T20C	PLESSEY GEC	JL	18.00	4500.00	YES	YES	EEC
* Subsubtotal *							
			18.00	4500.00			
** Subtotal **							
			160.00	<u>40000.00</u>			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
				FORECAST	92 FUND	93 FUND	PAs
			COST	KECUS			

**** CLUSTER: COMPETITIVE CMOS MANUFACTURING**

* COUNTRY: BEL							
T30C	MIETEC	JL	10.80	2700.00	YES	YES	EEC
* Subsubtotal *			10.80	2700.00			
* COUNTRY: FRA							
T30C	ES2	JL	5.60	1400.00	YES	YES	EEC
T30C	MHS	JL	7.60	1900.00	YES	YES	EEC
T30C	STM	JL	<u>12.00</u>	<u>3000.00</u>	<u>YES</u>	<u>YES</u>	<u>EEC</u>
* Subsubtotal *			25.20	6300.00			
* COUNTRY: FRG							
T30C	SIEMENS	JL	27.20	6800.00	YES	YES	EEC
T30C	TELEFUNKEN EG	JL	11.60	2900.00	YES	YES	EEC
* Subsubtotal *			38.80	9700.00			
* COUNTRY: ITA							
T30C	STM	JL	<u>13.60</u>	<u>3400.00</u>	<u>YES</u>	<u>YES</u>	<u>EEC</u>
* Subsubtotal *			13.60	3400.00			
* COUNTRY: NL							
T30C	PHILIPS	JL	25.60	6400.00	YES	YES	EEC
* Subsubtotal *			25.60	6400.00			
* COUNTRY: UK							
T30C	PLESSEY GEC	JL	14.00	3500.00	YES	YES	EEC
* Subsubtotal *			14.00	3500.00			
** Subtotal **			128.00	32000.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 FORECAST COST	BUDGET 93 92 FUND	COMMIT FUND 93	EXPECT. FUND PAs	FUNDING KECUS
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** CLUSTER: SINGLE PROJECT APPLICATION

* COUNTRY: BEL

AC1C	IMEC	JL	2.50	289.25	Y	P	EEC
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* Subsubtotal *

x France ?

* COUNTRY: FRG

AC1C	SIEMENS NIXDORF	JL	46.00	5322.20	Y	P	EEC
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AC1C	SIEMENS	JL	13.60	1573.52	Y	P	EEC
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AC1C	FZI KARLSRUHE	JL	8.00	925.60	Y	P	EEC
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AC1C	ROBERT BOSCH	JL	2.00	231.40	Y	P	EEC
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AC1C	GMD	JL	4.50	520.65	Y	P	EEC
------	-----	----	------	--------	---	---	-----

AC1C	UNI HAGEN	JL	2.75	318.17	Y	P	EEC
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AC1C	UNI PADERBORN	JL	11.70	1353.69	Y	P	EEC
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AC1C	TU DARMSTADT	JL	1.50	173.55	Y	P	EEC
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* Subsubtotal *

90.05 10418.78

* COUNTRY: ITA

AC1C	STM	JL	<u>3.10</u>	358.67	Y	P	EEC
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* Subsubtotal *

3.10 358.67

* COUNTRY: NL

AC1C	PHILIPS	JL	5.20	600.64	Y	P	EEC
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AC1C	TU DELFT	JL	9.00	1041.30	Y	P	EEC
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* Subsubtotal *

14.20 1641.94

* COUNTRY: PORT

AC1C	INESC	JL	1.42	164.30	Y	P	EEC
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* Subsubtotal *

1.42 164.30

* COUNTRY: UK

AC1C	PLESSEY GEC	JL	2.00	230.40	Y	P	EEC
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AC1C	UNI MANCHESTER	JL	2.75	318.16	Y	P	EEC
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AC1C	NMRC	JL	2.00	231.40	Y	P	EEC
------	------	----	------	--------	---	---	-----

AC1C	ICL	JL	3.00	347.10	Y	P	EEC
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* Subsubtotal *

9.75 1127.06

** Subtotal **

121.02 14000.00

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
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** CLUSTER: SINGLE PROJECT BLR

* COUNTRY: BEL

BT1C	IMEC	JL	13.00	1915.78	YP	YP	EEC
* Subsubtotal *							
			13.00	1915.78			

* COUNTRY: FRA

BT1C	GRESSI	JL	26.00	3831.57	YP	YP	EEC
* Subsubtotal *							
			26.00	3831.57			

* COUNTRY: FRG

BT1C	FHG IMT	JL	6.50	957.89	YP	YP	EEC
BT1C	FHG AIS	JL	6.50	957.89	YP	YP	EEC
BT1C	SIEMENS	JL	14.00	2063.16	YP	YP	EEC
* Subsubtotal *							
			27.00	3978.94			

* COUNTRY: ITA

BT1C	STM	JL	2.00	294.74	YP	YP	EEC
BT1C	UNI BOLOGNA	JL	4.00	589.50	YP	YP	EEC
BT1C	UNI PARMA/PISA	JL	2.00	294.74	YP	YP	EEC
* Subsubtotal *							
			8.00	1178.98			

* COUNTRY: NL

BT1C	DIMES	JL	4.00	589.47	YP	YP	EEC
WT1C	PHILIPS	JL	12.00	1768.42	YP	YP	EEC
* Subsubtotal *							
			16.00	2357.89			

* COUNTRY: UK

BT1C	PLESSEY GEC	JL	3.00	442.10	YP	YP	EEC
BT1C	UNI SURREY	JL	1.00	147.37	YP	YP	EEC
BT1C	UNI SALFORD	JL	1.00	147.37	YP	YP	EEC
* Subsubtotal *							
			5.00	736.84			

** Subtotal **

			95.00	14000.00			
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*** Total ***

			504.02	100000.00			
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LIST OF PROJECTS PER CLUSTER

NATIONAL PAs RELATED

MANYEAR

COST MECUS

REV. 3.0

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
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** CLUSTER: AUTOMATED CLEAN ENVIRONMENT (ACE)

* COUNTRY: FRA

E109C	LETI	JL	6.85	1027.00	Y	YES	NAT
E109C	CYBERNETIX	JL	8.20	1230.00	Y	YES	NAT
E109C	SOGELERG	JL	2.60	390.00	Y	YES	NAT
E109C	AIR LIQUIDE	JL	1.30	195.00	Y	YES	NAT
E109C	IT NEU	JL	0.80	120.00	Y	YES	NAT
E109C	IBM FRANCE	JL	4.20	630.00	Y	YP	NAT
E109C	<u>STM</u>	JL	0.80	120.00	Y	YES	NAT
E109C	THOMSON TMS	JL	0.50	75.00	Y	YES	NAT
E109C	MHS	JL	2.00	300.00	Y	YES	NAT
T14C/E1	MHS	JL	5.00	1250.00	Y	YP	NAT
9							
T14C/E1	LETI	JL	0.60	90.00	Y	YP	NAT
9							
* Subsubtotal *			32.85	5427.00			

* COUNTRY: FRG

E109C	MEISSNER & WURST	JL	8.20	1264.00	Y	YES	NAT
E109C	ACR	JL	7.30	1126.00	Y	YES	NAT
E109C	ANDROMEDA	JL	0.90	138.00	Y	YES	NAT
E109C	IBM GERMANY	JL	3.30	509.00	Y	YES	NAT
E109C	TELEFUNKEN EG	JL	3.00	463.00	Y	YES	NAT
E109C	SIEMENS	JL	0.00	0.00	Y	YES	NAT
T14C/E1	TELEFUNKEN EG	JL CRQ	19.00	1618.00	Y	YES	NAT
9							
T14C/E1	MEISSNER & WURST	JL	3.00	256.00	Y	YES	NAT
9							
T14C/E1	ACR	JL	3.00	256.00	Y	YES	NAT
9							
T14C/E1	FHG IPA	JL	1.50	127.00	Y	YES	NAT
9							
T14C/E1	FHG AIS	JL	0.50	43.00	Y	YES	NAT
9							
* Subsubtotal *			49.70	5800.00			

* COUNTRY: UK

T14C/E1	PLESSEY GEC	JL	5.00	1000.00	Y	YES	NAT
9							
* Subsubtotal *			5.00	1000.00			
** Subtotal **			87.55	12227.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs CUS
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** CLUSTER: AUTOMOTIVE SAFETY ELECTRONICS

* COUNTRY: FRA

AC8C	STM	JL	13.00	2145.00	Y	YES	NAT
AC8C	THOMSON TMS	JL	3.00	495.00	Y	YES	NAT
AC8C	BULL	JL	6.00	990.00	Y	YES	NAT
AC8C	INPG/CSI	JL	5.50	907.50	Y	YES	NAT
AE11B	STM	JL	<u>18.00</u>	<u>2970.00</u>	<u>Y</u>	YES	NAT
AE11B	IMAG GRENOBLE	JL	3.00	495.00	Y	YES	NAT
Subsubtotal *			48.50	8002.50			

* COUNTRY: FRG

AC8C	SIEMENS	JL	37.00	5000.00	Y	YES	NAT
AC8C	SIEMENS NIXDORF	JL	2.00	200.00	Y	YES	NAT
AC8C	ROBERT BOSCH	JL	1.00	200.00	Y	YES	NAT
AE11B	ROBERT BOSCH	JL	28.50	3400.00	Y	YES	NAT
AE11B	SIEMENS	JL	2.50	200.00	Y	YES	NAT
AE11B	ALCATEL SEL	JL	2.00	200.00	Y	YES	NAT
AE11B	PORSCHE	JL	1.50	200.00	Y	YES	NAT
AE11B	UNI HANNOVER	JL	1.50	300.00	Y	YES	NAT
Subsubtotal *			76.00	9700.00			

* COUNTRY: NL

AC8C	PHILIPS	JL	5.00	495.00	Y	YES	NAT
Subsubtotal *			5.00	495.00			

COUNTRY: SW

AC8C	IM	JL	4.00	660.00	Y	YES	NAT
Subsubtotal *			4.00	660.00			

* COUNTRY: UK

AC8C	GEC PLESSEY	JL	8.00	880.00	Y	YES	NAT
AC8C	AHL	JL	2.00	220.00	Y	YES	NAT
Subsubtotal *			10.00	1100.00			

** Subtotal **

143.50 19957.50

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
** CLUSTER: BROADBAND COMMUNICATION							
* COUNTRY: BEL							
AE15C	ALCATEL BELL	JL	21.00	3465.00	Y	YES	NAT
AE15C	SDM	JL	3.00	495.00	Y	YES	NAT
* Subsubtotal *							
			24.00	3960.00			
* COUNTRY: DK							
AE55E	JYDSK TELEFON	JL	2.25	371.25	Y	YES	NAT
* Subsubtotal *							
			2.25	371.25			
* COUNTRY: FRA							
AC61	BULL	PEND DELEG	19.00	3135.00	P	P	NAT
AE15C	STM	JL	3.00	495.00	Y	YES	NAT
AE15C	ALCATEL CIT	JL	0.75	123.75	Y	YES	NAT
AE55E	MATRA COM	JL	9.20	1518.00	Y	P	NAT
AE55E	MHS	JL	16.45	2714.25	Y	P	NAT
* Subsubtotal *							
			48.40	7986.00			
* COUNTRY: FRG							
AC61	SIEMENS NIXDORF	PEND DELEG	19.00	2850.00	P	P	NAT
AE15C	ALCATEL SEL	JL	1.00	200.00	Y	YES	NAT
AE55E	PHILIPS PKI	JL	11.00	1600.00	Y	YES	NAT
AE55E	SIEMENS	JL	5.00	700.00	Y	YES	NAT
AE55E	DORNIER DB	JL	7.50	1000.00	Y	YES	NAT
* Subsubtotal *							
			43.50	6350.00			
* COUNTRY: UK							
AC61	ICL	PEND DELEG	8.00	880.00	Y	YES	NAT
AC61	RACAL REDAC	PEND DELEG	12.50	1375.00	Y	YES	NAT
* Subsubtotal *							
			20.50	2255.00			
** Subtotal **							
			138.65	20922.25			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
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**** CLUSTER: CLEAN CHEMICALS AND SUPPLY SYSTEMS**

* COUNTRY: BEL

E77D SOLVAY

* Subsubtotal *

JL	0.20	30.00	Y	YES	NAT
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0.20	30.00
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* COUNTRY: FRA

E20C MHS	JL	0.42	63.00	Y	P	NAT
E2AB LETI	JL	2.50	375.00	Y	YES	NAT
2AB STM	JL	<u>3.00</u>	<u>450.00</u>	<u>Y</u>	YES	NAT
E77D PLASTIC OMNIUM	JL	2.50	375.00	Y	YES	NAT
3P						
E77D LABEILLE	JL	1.50	225.00	Y	YES	NAT
E77D PLASTACID	JL	0.00	0.00	Y	YES	NAT
E77D ASTI	JL	0.00	0.00	Y	YES	NAT
E77D IBM FRANCE	JL	2.00	300.00	Y	YES	NAT
E88B BLOMME	JL	3.00	450.00	Y	P	NAT
E88B LETI	JL	0.25	37.50	Y	P	NAT
E88B PHILIPS RTC	JL	0.50	75.00	Y	P	NAT
E88B SAPI	JL	3.00	450.00	Y	P	NAT
* Subsubtotal *		18.67	2800.50			

* COUNTRY: FRG

E13D HAMATECH	JL	6.10	920.00	Y	YES	NAT
E13D FHG AIS	JL	1.30	200.00	Y	YES	NAT
E13D FHG IPA	JL	0.50	80.00	Y	YES	NAT
E13D TELEFUNKEN EG	JL	0.70	200.00	Y	YES	NAT
E20C HOECHST	JL	0.88	200.00	Y	YES	NAT
E20C POKORNY	JL	0.83	160.00	Y	YES	NAT
E20C TELEFUNKEN EG	JL	1.13	1100.00	Y	YES	NAT
E20C IBM	JL	0.50	300.00	Y	YES	NAT
E20C RIEDEL DE HAEN	JL	0.17	100.00	Y	YES	NAT
E2AB MERCK	JL	5.70	1100.00	Y	YES	NAT
E2AB RIEDEL DE HAEN	JL	7.50	1125.00	Y	P	NAT
E2AB FHG AIS B	JL	2.00	300.00	Y	YES	NAT
E2AB SIEMENS	JL	2.00	300.00	Y	YES	NAT
E2AB GEMETEC	JL	0.50	75.00	Y	YES	NAT
E77D GEMU	JL	0.00	0.00	Y	YES	NAT
* Subsubtotal *		29.81	6160.00			

* COUNTRY: NL

E2AB PHILIPS

* Subsubtotal *

JL	0.00	0.00	Y	YES	NAT
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0.00	0.00
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Page No. 5
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
		MAIN		FORECAST	92 FUND	93 FUND	PAs
		PHASE			COST	KECUS	
** Subtotal **							
			48.68		8990.50		

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAs KECUS
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** CLUSTER: CLEAN GASES AND SUPPLY SYSTEMS

* COUNTRY: FRA

E181C	INERIS/CERCHAR	JL	2.90	435.00 Y	YES	NAT
E181C	AIR LIQUIDE	JL	0.30	45.00 Y	YES	NAT
E181C	LETI	JL	0.20	30.00 Y	YES	NAT
E2BC	AIR LIQUIDE	JL	2.70	405.00 Y	YES	NAT
E2BC	COMURHEX	JL	0.00	0.00 Y	YES	NAT
E2BC	IBM FRA	JL	0.50	75.00 Y	YES	NAT
E2BC	LETI	JL	4.50	690.00 Y	YES	NAT
E2BC	MHS	JL	3.00	450.00 Y	YES	NAT
* Subsubtotal *			14.10	2130.00		

* COUNTRY: FRG

E181C	LINDE	JL	0.20	30.00 Y	YES	NAT
E181C	MESSER	JL	0.50	75.00 Y	YES	NAT
GRIESHEIM						
E2BC	LINDE	JL	10.00	1200.00 Y	YES	NAT
E2BC	SIEMENS	JL	1.00	150.00 Y	YP	NAT
E2BC	MESSER	JL	9.90	1485.00 Y	YP	NAT
GRIESHEIM						
* Subsubtotal *			21.60	2940.00		

* COUNTRY: ITA

E181C	SAES GETTERS	JL	0.10	15.00 Y	YES	NAT
E2BC	SPA	JL	2.60	210.00 Y	YES	NAT
STM						
Subsubtotal *			2.70	225.00		

* COUNTRY: UK

E181C	VG ELEMENTAL	JL	0.30	40.50 Y	YES	NAT
* Subsubtotal *			0.30	40.50		

** Subtotal **

38.70 5335.50

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING FORECAST 92	FUND 93	FUND PAs COST KECUS
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** CLUSTER: CLUSTERED ETCHING AND DEPOSITION OPTIMIZATION (CLUEDO)

* COUNTRY: FL							
E74C	BALZERS	JL	1.00	150.00	Y	SF	NAT
* Subsubtotal *							
			1.00	150.00			
* COUNTRY: FRA							
E106B	LETI	JL	1.20	180.00	P	P	NAT
E164C	IBM FRANCE	JL	1.00	150.00	Y	P	NAT
208.	CYBERNETIX	JL	0.50	75.00	Y	YES	NAT
E208.	STM	JL	<u>0.50</u>	<u>75</u> .00	Y	YES	NAT
E208ext	TT	EXTENS	2.00	300.00		YES	NAT
E5B	LETI	JL	4.00	600.00	Y	YP	NAT
E63D	CYBERNETIX	PEND	4.55	682.50	Y	YP	NAT
		DELEG					
E63D	LETI	PEND	2.10	315.00	Y	YP	NAT
		DELEG					
E63D	RECIF	PEND	3.00	450.00	Y	YP	NAT
		DELEG					
* Subsubtotal *							
			18.85	2827.50			
* COUNTRY: FRG							
E164C	AST ELEKTRONIK	JL	5.00	750.00	Y	YES	NAT
E164C	SIEMENS	JL	1.00	150.00	Y	YES	NAT
E164C	FHG AIS	JL	2.00	300.00	Y	YES	NAT
E208.	LEYBOLD	JL	0.50	75.00	Y	YES	NAT
E208.	AST	JL	0.00	0.00	Y	YES	NAT
E208.	PLASMOS	JL	2.70	405.00	Y	YES	NAT
E208.	FHG	JL	1.00	150.00	Y	YES	NAT
E208.	SIEMENS	JL	0.50	75.00	Y	YES	NAT
E208.	IBM GERMANY	JL	0.50	75.00	Y	YES	NAT
E208ext	TT	EXTENS	5.00	750.00		YP	NAT
E5B	SIEMENS	JL	2.00	300.00	Y	P	NAT
E5B	PLASMOS	JL	9.00	1350.00	Y	YES	NAT
E5B	UNI KOLN	JL	6.00	900.00	Y	YES	NAT
E63D	ASYS	PEND	1.00	150.00		YP	NAT
		DELEG					
E69C	PLASMOS	JL	4.00	300.00	P	YES	NAT
E69C	IHP	JL	3.00	450.00	P	YES	NAT
E69C	EUROSIL	JL	1.50	225.00	P	YES	NAT
E69C	TELEFUNKEN EG	JL	2.50	375.00	P	YES	NAT
E74C	DEGUSSA	JL	4.00	600.00	Y	P	NAT
E74C	VAW(V.ALUMINIUM	JL	1.00	150.00	Y	P	NAT
		W					
E74C	SIEMENS	JL	1.20	180.00	Y	P	NAT
E96D	LEYBOLD	JL	2.50	375.00	P	YP	NAT

Page No. 8
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 FORECAST COST	BUDGET 93 92 FUND	COMMIT 93 FUND	EXPECT. FUND	FUNDING PAs
E96D	IBM GERMANY	JL	2.00	300.00 P		YP	NAT
E96D	AST	JL	3.50	525.00 P		YP	NAT
E96D	FHG IMT	JL	3.50	525.00 P		YP	NAT
* Subsubtotal *			64.90	9435.00			
* COUNTRY: ITA							
E106B	STM	JL	1.50	225.00 P		YES	NAT
E208ext	TT	EXTENS	2.00	300.00 P		P	NAT
E74C	STM	JL	1.30	195.00 Y		YES	NAT
Subsubtotal *			4.80	720.00			
* COUNTRY: NL							
E106B	PHILIPS I&E	JL	7.50	777.00 P		YES	NAT
E106B	PHILIPS RESEARCH	JL	1.50	156.00 P		YES	NAT
E208.	ASM AMTC	JL	4.00	493.00 Y		YES	NAT
E208.	PHILIPS	JL	0.50	218.00 Y		YES	NAT
E208ext	TT	EXTENS	30.00	4050.00		YP	NAT
E5B	ASM AMTC	JL	8.00	1991.00 Y		YES	NAT
E5B	PHILIPS	JL	0.50	109.00 Y		YES	NAT
E5B	BILLITON	JL	5.25	277.00 Y		YES	NAT
E6B.	ASM AMTC	JL	2.00	311.00 Y		YES	NAT
E6B.	PHILIPS RES LAB	JL	1.00	218.00 Y		YES	NAT
E6Bext		CANC	10.00	0.00		P	NAT
E74C	PHILIPS	JL	0.60	109.00 Y		YES	NAT
* Subsubtotal *			70.85	8709.00			
* COUNTRY: UK							
E208.	ELECTROTECH	JL	2.50	570.00 Y		YES	NAT
E208ext	TT	EXTENS	8.00	1080.00		YP	NAT
E5B	QUEEN MARY COLLEG	JL	1.00	140.00 Y		YES	NAT
E63D	ELECTROTECH	PEND DELEG	4.00	540.00 Y		YP	NAT
E63D	WED	PEND DELEG	3.50	472.50 Y		YP	NAT
E63D	PLESSEY GEC	PEND DELEG	0.50	67.50 Y		YP	NAT
* Subsubtotal *			19.50	2870.00			
** Subtotal **							
			179.90	24711.50			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING FORECAST 92	FUND 93	FUND PAs COST KECUS
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** CLUSTER: CMOS LOGIC TECHNOLOGY FOR EUROPROJECTS AND ADVANCED APPLICATION

* COUNTRY: BEL

T22	MIETEC	JL	16.00	4000.00	Y	YES	NAT
TYY	MIETEC	STRAT	5.50	1375.00		W	
TZZ	NN	STRAT	2.00	500.00		W	
			23.50	5875.00			

* Subsubtotal *

COUNTRY: FRA

T22	STM	JL	<u>12.00</u>	<u>3000.00</u>	Y	YES	NAT
T22	MHS	JL	<u>18.00</u>	<u>4500.00</u>	Y	YES	NAT
TYY	PHILIPS	STRAT	6.00	1500.00		W	
TYY	MHS	STRAT	5.00	1250.00		W	
TZZ	NN	STRAT	3.00	750.00		W	
			44.00	11000.00			

* COUNTRY: FRG

T22	PHILIPS	JL	9.00	2700.00	Y	YES	NAT
T22	SIEMENS	JL	15.00	4500.00	Y	YES	NAT
TYY	TELEFUNKEN EG	STRAT	10.00	3000.00		W	
TYY	SIEMENS	STRAT	17.00	5100.00		W	
TYY	PHILIPS	STRAT	6.00	1800.00		W	
TYY	INSTITUT	STRAT	2.00	600.00		W	
TZZ	NN	STRAT	3.00	900.00		W	
			62.00	18600.00			

COUNTRY: ITA

T22	STM	JL	<u>13.00</u>	<u>3250.00</u>	Y	YES	NAT
TYY	STM (BICHOS)	STRAT	<u>21.00</u>	<u>5250.00</u>		W	
TZZ	NN	STRAT	3.00	750.00		W	
			37.00	9250.00			

* COUNTRY: NL

T22	PHILIPS	JL	25.00	5714.00	Y	YES	NAT
TYY	PHILIPS	STRAT	10.00	2200.00		W	
TZZ	NN	STRAT	3.00	660.00		W	
			38.00	8574.00			

* COUNTRY: ROE

TYY	INSTITUT	STRAT	7.00	1750.00		W
			7.00	1750.00		

* Subsubtotal *

Page No. 10
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 FORECAST	BUDGET 93 FUND 92 COST	COMMIT FUND 93 KECUS	EXPECT. PAs
* COUNTRY: UK						
TYY	PLESSEY GEC	STRAT	11.00	2200.00		W
TYY	INSTITUT	STRAT	1.00	200.00		W
TZZ	NN	STRAT	2.00	400.00		W
* Subsubtotal *						
			14.00	2800.00		
** Subtotal **						
			225.50	57849.00		

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. Page No. 11
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
** CLUSTER: COMPETITIVE CMOS MANUFACTURING							
* COUNTRY: BEL							
T32B	MIETEC	JL	14.00	3500.00	Y	YP	NAT
T4C	MIETEC	JL	6.00	1500.00	Y	YP	NAT
* Subsubtotal *							
			20.00	5000.00			
* COUNTRY: FRA							
T15B	<u>STM</u>	JL	24.50	6125.00	Y	YP	NAT
15B	IBM	JL	29.00	7250.00	P	YP	NAT
T15B	MHS	PEND JL	9.00	2250.00	P	P	NAT
T15B	PHILIPS	PEND JL	0.00	0.00	P	P	NAT
T1B	<u>STM</u>	JL	80.00	20000.00	Y	YES	NAT
T32B	MHS	JL CRQ	3.00	500.00	Y	YES	NAT
T32B	<u>STM</u>	JL CRQ	6.00	1500.00	Y	YES	NAT
T4C	MHS	JL	11.00	2750.00	Y	YES	NAT
T4C	STM/LETI	JL CRQ	5.00	1250.00	Y	YES	NAT
* Subsubtotal *							
			167.50	41625.00			
* COUNTRY: FRG							
T1B	SIEMENS	JL	79.00	23700.00	P	PP	NAT
T32B	TELEFUNKEN EG	JL CRQ	3.00	900.00	Y	P	NAT
* Subsubtotal *							
			82.00	24600.00			
* COUNTRY: ITA							
T15B	<u>STM</u>	JL	10.00	2500.00	Y	YES	NAT
11B	<u>STM</u>	JL	158.00	39500.00	Y	YES	NAT
* Subsubtotal *							
			168.00	42000.00			
* COUNTRY: NL							
T15B	PHILIPS	PEND JL	10.00	2200.00	P	PP	NAT
T32B	PHILIPS	JL	15.00	3290.00	Y	YES	NAT
T4C	PHILIPS	JL	8.00	1157.00	Y	YES	NAT
* Subsubtotal *							
			33.00	6647.00			
* COUNTRY: UK							
T32B	PLESSEY GEC	JL	3.00	400.00	Y	YES	NAT
T4C	PLESSEY GEC	JL CRQ	3.00	600.00	Y	YES	NAT
* Subsubtotal *							
			6.00	1000.00			
** Subtotal **							
			476.50	120872.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs COST KECUS
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** CLUSTER: DIGITAL AUDIO BROADCASTING (DAB)

* COUNTRY: BEL

AC5C	ALCATEL BELL	JL	1.50	247.50	Y	YES	NAT
AC5C	KIHWV	JL	1.50	247.50	Y	YES	NAT
* Subsubtotal *				3.00	495.00		

* COUNTRY: DK

C5C	ELEKTRONIK CENTR	JL	7.00	1155.00	Y	YES	NAT
* Subsubtotal *				7.00	1155.00		

* COUNTRY: FRA

AC5C	MATRA ESPACE	JL	8.00	1320.00	Y	YES	NAT
AC5C	MHS	JL	6.00	990.00	Y	YES	NAT
AE14C	CCETT	JL	3.00	495.00	Y	YES	NAT
AE14C	STM	JL CRQ	5.00	825.00	Y	YES	NAT
* Subsubtotal *				22.00	3630.00		

* COUNTRY: FRG

AC5C	SIEMENS NIXDORF	JL	11.00	1650.00	Y	YES	NAT
AC5C	ABB	JL	3.00	450.00	Y	YES	NAT
AC5C	DAIMLER BENZ	JL	3.00	450.00	Y	YES	NAT
AC5C	EFN	JL	1.00	150.00	Y	YES	NAT
AC5C	MTG DRESDEN	JL	2.00	300.00	Y	YES	NAT
C5C	GfaI	JL	1.00	150.00	Y	YES	NAT
AE14C	IRT	JL	3.00	400.00	Y	YES	NAT
AE14C	GRUNDIG	JL	3.00	600.00	Y	YES	NAT
AE14C	FHG IIS	JL	10.00	1000.00	Y	YES	NAT
AE14C	THOMSON TCE	JL	4.20	1300.00	Y	YES	NAT
AE14C	BLAUPUNKT-BOSCH	JL	5.00	900.00	Y	YES	NAT
AE14C	TELEFUNKEN ST	JL	5.00	1100.00	Y	YES	NAT
AE14C	AEG	JL	7.00	1000.00	Y	YES	NAT
* Subsubtotal *				58.20	9450.00		

* COUNTRY: ITA

AC5C	ITALTEL	JL	3.00	495.00	Y	YES	NAT
AC5C	BULL HN ITALIA	JL	4.00	660.00	Y	YES	NAT
AE14C	STM	JL	3.00	495.00	Y	YES	NAT
* Subsubtotal *				10.00	1650.00		

* COUNTRY: NL

AC5C	PHILIPS	JL	7.00	742.00	Y	YES	NAT
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• Page No. 13
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 FORECAST COST	BUDGET 93 FUND 92 KECUS	COMMIT	EXPECT.	FUNDING FUND 93 PAs
AE14C	PHILIPS	JL	13.75	2304.00	Y	YES	NAT
* Subsubtotal *			20.75	3046.00			
* COUNTRY: UK							
AC5C	VECTOR FIELD LTD	JL	2.00	200.00	Y	YES	NAT
AC5C	PHILIPS REDHILL	JL	1.00	100.00	Y	YES	NAT
* Subsubtotal *			3.00	300.00			
Subtotal **			123.95	19726.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAs KECUS
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** CLUSTER: FINAL PRODUCT TESTING

* COUNTRY: FRA

E179C	SET NANOMASTER	JL	4.80	720.00	Y	P	NAT
E179C	LETI	JL	2.00	300.00	Y	P	NAT
E179C	CYBERNETIX	JL	1.50	225.00	Y	P	NAT
E179C	SCHLUMBERGER	JL	2.70	405.00	Y	P	NAT
E179C	<u>STM</u>	JL	1.00	150.00	Y	P	NAT
E179C	IBM	JL	0.75	112.50	Y	P	NAT
E183B	SCHLUMBERGER	JL	14.75	2212.50	Y	YES	NAT
E183B	<u>STM</u>	JL	2.00	300.00	Y	YES	NAT
E183B	CNET	JL	1.00	150.00	Y	YES	NAT
* Subsubtotal *			30.50	4575.00			

* COUNTRY: FRG

E179C	TRF	JL	2.00	300.00	Y	P	NAT
E179C	SIEMENS	JL	0.17	25.50	Y	P	NAT
E179C	ERS	JL	1.80	270.00	Y	P	NAT
E183B	SIEMENS	JL	2.00	300.00	Y	YES	NAT
* Subsubtotal *			5.97	895.50			
** Subtotal **			36.47	5470.50			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST 92	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAs COST KECUS
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** CLUSTER: HIGH DEFINITION TELEVISION (HDTV)

* COUNTRY: AUST

AC6B	SIEMENS	JL	5.50	907.50	Y	YES	NAT
AE10B	SIEMENS	JL	2.00	330.00	Y	YES	NAT
* Subsubtotal *			7.50	1237.50			

* COUNTRY: BEL

AC6B	ALCATEL BELL	JL	3.00	495.00	Y	YES	NAT
Subsubtotal *			3.00	495.00			

* COUNTRY: FRA

AC6B	STM	JL	8.00	1320.00	Y	YES	NAT
AC6B	THOMSON TMS	JL	3.00	495.00	Y	YES	NAT
AC6B	INPG/TIM3	JL	2.10	346.50	Y	YES	NAT
AE10B	PHILIPS SC	JL	6.00	990.00	Y	YES	NAT
AE10B	THOMSON TCE	JL	16.00	2640.00	Y	YES	NAT
AE10B	TCEC	JL	28.00	4620.00	Y	YES	NAT
AE56B	STM	JL	13.00	2145.00	Y	P	NAT
* Subsubtotal *			76.10	12556.50			

* COUNTRY: FRG

AC6B	PHILIPS	JL	3.00	450.00	Y	YES	NAT
AC6B	SIEMENS	JL	13.70	2055.00	Y	YES	NAT
AC6B	SIEMENS NIXDORF	JL	24.50	1700.00	Y	YES	NAT
AE10B	PHILIPS SC	JL	8.50	1000.00	Y	YES	NAT
AE10B	THOMSON TCE	JL	6.00	1200.00	Y	YES	NAT
AE10B	SIEMENS	JL	20.00	3700.00	Y	YES	NAT
AE45D	SIEMENS	JL	1.00	0.00	P	SF	NAT
AE56B	THOMSON TCE	JL	7.00	1400.00	Y	P	NAT
AE56B	SIEMENS	JL	7.00	1400.00	Y	P	NAT
* Subsubtotal *			90.70	12905.00			

* COUNTRY: ITA

AE45D	SELECO	JL	18.00	2970.00	P	YES	NAT
AE45D	STM	JL	9.00	1485.00	P	YES	NAT
* Subsubtotal *			27.00	4455.00			

* COUNTRY: NL

AC6B	PHILIPS	JL	12.20	1143.00	Y	YES	NAT
AE10B	PHILIPS CE	JL	27.00	3291.00	Y	YES	NAT
AE10B	PHILIPS SC	JL	4.50	538.00	Y	YES	NAT
AE56B	PHILIPS	JL	24.00	0.00	Y	NO	NAT

• Page No. 16
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
		MAIN		FORECAST	92 FUND	93 FUND	PAs
		PHASE		COST	KECUS		
* Subsubtotal *							
			67.70		4972.00		
* COUNTRY: SF							
AE45D	NOKIA	JL	21.00	3465.00	P	YES	NAT
* Subsubtotal *							
			21.00	3465.00			
* COUNTRY: UK							
AE10B	PHILIPS SC	JL	4.00	500.00	Y	YES	NAT
Subsubtotal *							
			4.00	500.00			
** Subtotal **							
			297.00	40586.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
				FORECAST	92 FUND	93 FUND	PAs
				COST	KECUS		

** CLUSTER: LITHOGRAPHY AND RELATED SUBJECTS

* COUNTRY: BEL

E104B	PHILIPS RESEARCH	JL	0.00	0.00	Y	YES	NAT
E60B.	UCB	JL	0.00	0.00	Y	YES	NAT
E60Bext	IMEC	EXTENS	1.00	150.00		P	NAT
EXX/TXX		STRAT	3.00	450.00		W	
T8C	MIETEC	JL CRQ	6.00	1500.00	Y	YES	NAT
TXX/EXX	IMEC	STRAT	2.00	500.00		W	
XX/EXX	MIETEC	STRAT	1.00	250.00		W	
* Subsubtotal *			13.00	2850.00			

* COUNTRY: FRA

E162D/T	LETI	JL	1.00	150.00	Y	P	NAT
5D							
E60Bext	STM-CNET	EXTENS	3.00	450.00		P	NAT
E64AB	NANO-MASTER (MICR)	JL	6.75	1012.50	Y	YES	NAT
EXYY	DU PONT	PEND BBA	3.00	450.00		W	NAT
TXX/EXX	LETI	STRAT	2.00	500.00		W	
TXX/EXX	CNET	STRAT	3.00	750.00		W	
* Subsubtotal *			18.75	3312.50			

* COUNTRY: FRG

E104B	ICT	JL	5.25	787.50	Y	YES	NAT
E104B	SIEMENS	JL	0.00	0.00	Y	YES	NAT
E162D/T	LAMBDA PHYSIK	JL	2.00	300.00	Y	YES	NAT
5D							
E162D/T	BASF	JL	4.00	1000.00	Y	YES	NAT
5D							
E162D/T	FHG IMT	JL	1.50	225.00	Y	YES	NAT
5D							
E162D/T	CONVAC	JL	2.00	1700.00	Y	YES	NAT
5D							
E162D/T	IBM GERMANY	JL	12.50	5600.00	Y	YES	NAT
5D							
E162D/T	SIEMENS	JL	1.80	540.00	Y	YES	NAT
5D							
E39.	ZEISS	JL	13.80	2070.00	Y	YES	NAT
E39.	HERAEUS	JL	4.00	600.00	Y	YES	NAT
E60B.	ZEISS	JL	0.00	0.00	Y	YES	NAT
E60B.	HOECHST	JL	0.00	0.00	Y	YES	NAT
E60B.	SIEMENS	JL	0.00	0.00	Y	YES	NAT
E60Bext	ZEISS	EXTENS	5.00	750.00		P	NAT
E60Bext	IBM GERMANY	EXTENS	2.00	300.00		P	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
E60Bext	FHG AIS	EXTENS	1.00	150.00	P	NAT	
E64AB	SIEMENS	JL	0.50	75.00 Y	YES	NAT	
EXX/TXX		STRAT	2.00	300.00	W		
EXYY	BQL	PEND BBA	4.00	600.00	W	NAT	
EXYY	DESAG	PEND BBA	3.30	495.00	W	NAT	
EXYY	LEYBOLD	PEND BBA	0.00	0.00	W	NAT	
EXYY	SIEMENS	PEND BBA	0.00	0.00	W	NAT	
T8C	ROFIN SINAR	JL	1.00	300.00 Y	YES	NAT	LASER
T8C	LASER ZENTRUM	JL	2.50	750.00 Y	YES	NAT	
TXX/EXX	SIEMENS	STRAT	3.00	900.00	W		
TXX/EXX	PHILIPS	STRAT	3.00	900.00	W		
* Subsubtotal *			74.15	18342.50			
 * COUNTRY: ITA							
E162D/T	STM	JL	1.50	375.00 Y	YES	NAT	
5D							
E60B.	STM	JL	0.00	0.00 Y	YES	NAT	
E64AB	STM	JL	0.75	112.50 Y	YES	NAT	
EXX/TXX		STRAT	1.00	150.00	W		
TXX/EXX	STM	STRAT	4.00	1000.00	W		
* Subsubtotal *			7.25	1637.50			
 * COUNTRY: NL							
E104B	PHILIPS I&E	JL	19.75	2105.00 Y	YES	NAT	
E104B	PHILIPS COMPONENT	JL	0.15	16.00 Y	YES	NAT	
E162D/T	ASM L	JL	4.30	580.50 Y	YES	NAT	
5D							
E162D/T	PHILIPS	JL	2.00	218.00 Y	YES	NAT	
5D							
E60B.	ASM L	JL	0.00	0.00 Y	YES	NAT	
E60B.	PHILIPS	JL	0.00	0.00 Y	YES	NAT	
E60Bext	ASM LITHO	EXTENS	40.00	5400.00	P	NAT	
E60Bext	PHILIPS	EXTENS	3.00	405.00	P	NAT	
EXX/TXX		STRAT	2.00	270.00	W		
* Subsubtotal *			71.20	8994.50			
 * COUNTRY: UK							
E104B	RAL	JL	2.00	200.00 Y	YES	NAT	
E104B	UNI EDINBURGH	JL	0.00	100.00	YES	NAT	
E104B	GEC PLESSEY	JL	0.00	50.00 Y	YES	NAT	
EXX/TXX		STRAT	7.00	945.00	W		
T8C	COMPUGRAPHICS	JL CRQ	4.00	800.00 Y	YES	NAT	
T8C	UNI DUNDEE	JL	1.00	200.00 Y	YES	NAT	

Page No. 19
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
		MAIN		FORECAST	92 FUND	93 FUND	PAs
		PHASE		COST	KECUS		
T8C	RAL	JL	3.00	600.00	Y	YES	NAT
TXX/EXX	RAL	STRAT	2.00	400.00		W	
* Subsubtotal *			19.00	3295.00			
** Subtotal **			203.35	38432.00			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUND PAs KECUS
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** CLUSTER: MOBILE RADIO

* COUNTRY: AUST

AC12C	EZM	JL	5.00	825.00	Y	YES	NAT
* Subsubtotal *			5.00	825.00			

* COUNTRY: BEL

AE13C	ALCATEL BELL	JL	5.90	973.50	Y	YES	NAT
AE13C	KATHO UNI LEUVEN	JL	1.00	165.00	Y	YES	NAT
* Subsubtotal *			6.90	1138.50			

* COUNTRY: CH

AC12C	CSEM	JL	4.00	660.00	Y	YES	NAT
AE31D	PHILIPS FASELEC	JL	1.00	165.00	Y	YES	NAT
AE31D	ETH	JL	6.00	990.00	Y	YES	NAT
* Subsubtotal *			11.00	1815.00			

* COUNTRY: FRA

AC12C	STM	JL	6.00	990.00	Y	YES	NAT
AC12C	ANACAD FRANCE	JL	5.00	825.00	Y	P	NAT
AC12C	MHS	JL	7.00	1155.00	Y	YES	NAT
AE13C	ALCATEL ATR	JL	5.50	907.50	Y	YES	NAT
AE13C	STM	JL	6.15	1014.75	Y	YES	NAT
AE31D	PHILIPS RTC	JL	6.00	990.00	P	PP	NAT
Subsubtotal *			35.65	5882.25			

* COUNTRY: FRG

AC12C	SIEMENS	JL	15.50	2200.00	Y	YES	NAT
AC12C	DAIMLER BENZ	JL	15.00	1800.00	Y	YES	NAT
AC12C	ROBERT BOSCH	JL	6.50	1000.00	Y	YES	NAT
AC12C	ANACAD GERMANY	JL	5.00	600.00	Y	YES	NAT
AC12C	SIEMENS NIXDORF	JL	4.00	200.00	Y	YES	NAT
AC12C	ZKI EAS	JL	4.00	600.00	Y	YES	NAT
AE31D	PHILIPS PKI	JL	10.00	2000.00	P	PP	NAT
* Subsubtotal *			60.00	8400.00			

* COUNTRY: IRL

AC12C	S3 SILIC & SOFTW.	JL	3.50	577.50	Y	YES	NAT
* Subsubtotal *			3.50	577.50			

Page No. 21
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
		MAIN		FORECAST	92 FUND	93 FUND	PAs
		PHASE		COST	KECUS		
* COUNTRY: NL							
AC12C	PHILIPS	JL	10.00	1061.00	Y	YES	NAT
AE31D	PHILIPS	JL	2.00	256.00	Y	YES	NAT
COMPONENT							
* Subsubtotal *							
			12.00	1317.00			
** Subtotal **							
			134.05	19955.25			

• Page No. 22
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
** CLUSTER: PACKAGING							
* COUNTRY: BEL							
BT4B	PHILIPS SEMIC.IND	JL	0.80	96.00 Y	YES	NAT	
BT4B	IMEC	JL	1.20	144.00 Y	YES	NAT	
BTXX		STRAT	5.00	600.00	W		
* Subsubtotal *			7.00	840.00			
COUNTRY: FRA							
BTXX		STRAT	5.00	600.00	W		
T9D	ES2	JL	11.20	2800.00 Y	P	NAT	
T9D	SOREP	JL	3.83	957.50 Y	P	NAT	
* Subsubtotal *			20.03	4357.50			
* COUNTRY: FRG							
BT4B	SIEMENS	JL	4.00	800.00 Y	YES	NAT	
BT4B	SIEMENS	JL	2.00	400.00 Y	YES	NAT	
BT4B	TU BERLIN	JL	5.00	600.00 Y	YES	NAT	
BTXX		STRAT	5.00	600.00	W		
E9.	HOECHST	JL	8.00	1200.00 Y	YP	NAT	
E9.	SIEMENS	JL	3.00	450.00 Y	YP	NAT	
E9.	TU BERLIN	JL	3.00	450.00 Y	YP	NAT	
T9D	TELEFUNKEN EG	JL CRQ	3.00	900.00 Y	P	NAT	
* Subsubtotal *			33.00	5400.00			
COUNTRY: ITA							
BTXX		STRAT	5.00	600.00	W		
* Subsubtotal *			5.00	600.00			
* COUNTRY: NL							
BT4B	PHILIPS CFT	JL	6.50	755.00 Y	YES	NAT	
BTXX		STRAT	5.00	600.00	W		
* Subsubtotal *			11.50	1355.00			
* COUNTRY: SW							
T9D	SMS	JL	1.84	460.00 Y	YES	NAT	
T9D	TEC	JL	5.20	1300.00 Y	YES	NAT	
T9D	IVF	JL	4.20	1050.00 Y	YES	NAT	
T9D	SAAB	JL	2.20	550.00 Y	YES	NAT	
* Subsubtotal *			13.44	3360.00			

- Page No. 23
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
* COUNTRY: UK							
BT4B	MARCONI GEC	JL	5.00	600.00	Y	YES	NAT
BT4B	PLESSEY GEC	JL	9.00	1200.00	Y	YES	NAT
BTXX		STRAT	5.00	600.00		W	
T9D	LUCAS INDUSTRIES	JL	3.61	722.00	Y	YES	NAT
T9D	MCE Ltd	JL	2.20	440.00	Y	YES	NAT
* Subsubtotal *							
			24.81	3562.00			
Subtotal **							
			114.78	19474.50			

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
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** CLUSTER: SILICON AND RELATED SUBJECTS

* COUNTRY: FRA

E191E	PHOTEC	JL	10.35	1552.50	Y	P	NAT
E191E	LETI	JL	0.50	75.00	Y	P	NAT
E191E	SODETAL	JL	1.00	150.00	Y	P	NAT
* Subsubtotal *			11.85	1777.50			

● COUNTRY: FRG

E11B	LEYBOLD	JL	5.00	750.00	Y	YES	NAT
E11B	WACKER	JL	0.00	0.00	Y	YES	NAT
CHEMITRON							
E11B	JULICH	JL	0.00	0.00	Y	YES	NAT
E11B	UNI ERLANGEN	JL	0.00	0.00	Y	YES	NAT
E15B	GEMETEC	JL	1.50	225.00	Y	YES	NAT
E15B	SIEMENS	JL	0.50	75.00	Y	YES	NAT
E15B	WACKER	JL	0.20	30.00	Y	YES	NAT
CHEMITRON							
E66B	WACKER	JL	49.37	3000.00	Y	YES	NAT
CHEMITRON							
E66B	SIEMENS	JL	2.00	300.00	Y	YES	NAT
E66B	TELEFUNKEN EG	JL	0.50	75.00	Y	YES	NAT
E66B	GMN	JL	5.00	750.00	Y	YES	NAT
* Subsubtotal *			64.07	5205.00			

* COUNTRY: ITA

E115B	MEMC	JL	0.20	30.00	Y	YES	NAT
E191E	TEMAV	JL	0.00	0.00	Y	YES	NAT
E66B	STM	JL	0.50	75.00	Y	YES	NAT
* Subsubtotal *			0.70	105.00			

* COUNTRY: NL

E66B	PHILIPS	JL	0.50	216.00	Y	YES	NAT
* Subsubtotal *			0.50	216.00			

** Subtotal **

77.12 **7303.50**

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
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** CLUSTER: SINGLE PROJECT APPLICATION

* COUNTRY: BEL

AC41C	ALCATEL BELL	JL	3.00	495.00	Y	YES	NAT
AC41C	MIETEC	JL	7.00	1155.00	Y	YES	NAT
AC75	PHILIPS	JL	0.00	0.00	N	P	NAT
AC75	EDC	JL	0.00	0.00	N	P	NAT
AC75	IMEC	JL	0.00	0.00	N	P	NAT
AE23B	IMEC	JL	5.00	825.00	Y	YES	NAT
Subsubtotal *			15.00	2475.00			

* COUNTRY: CH

AC3C	SPEED	JL	6.00	990.00	P	YES	NAT
Subsubtotal *			6.00	990.00			

* COUNTRY: DK

AE23B	ELEKTRONIK CENTR	JL	8.00	1320.00	Y	YES	NAT
Subsubtotal *			8.00	1320.00			

* COUNTRY: FRA

AC3C	STM	JL	8.00	1320.00	P	YP	NAT
AC3C	ANACAD FRANCE	JL	2.00	330.00	P	YP	NAT
AC3C	BULL	JL	6.50	1072.50	P	YP	NAT
AC3C	CNET	JL	2.00	330.00	P	YP	NAT
AC3C	IBM FRANCE	JL	4.00	660.00	P	YP	NAT
AC3C	INPG	JL	4.00	660.00	P	YP	NAT
AC3C	LEDA	JL	2.00	330.00	P	YP	NAT
AC3C	THOMSON TMS	JL	10.00	1650.00	P	YP	NAT
AC3C	UNI J.FOURIER	JL	3.50	577.50	P	YP	NAT
AC41C	BULL	JL	2.50	412.50	Y	YES	NAT
AC41C	STM	JL	4.50	742.50	Y	YES	NAT
AE23B	CNFM LETI	JL	15.00	2475.00	Y	YES	NAT
AE36C	SEXTANT AVIONIQUE	JL	10.90	0.00	Y	NO	NAT
AE36C	ES2	JL	2.90	0.00	Y	NO	NAT
Subsubtotal *			77.80	10560.00			

* COUNTRY: FRG

AC41C	ALCATEL SEL	JL	10.00	1435.00	Y	YES	NAT
AC41C	ROBERT BOSCH	JL	3.30	474.00	Y	YES	NAT
AC41C	IMS	JL	4.00	574.00	Y	YES	NAT
AC41C	SIEMENS	JL	3.60	517.00	Y	YES	NAT
AE23B	FHG IIS	JL	5.00	1000.00	Y	YES	NAT

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS MAIN PHASE	MY 93 COST	BUDGET 93 FORECAST	COMMIT 92 FUND	EXPECT. 93 FUND	FUNDING PAs KECUS
AE23B	NBL COMPANY	JL	5.00	1000.00	Y	YP	NAT
AE23B	IAM	JL	5.00	1200.00	Y	YES	NAT
AE36C	ATLAS ELEKTRONIK	JL	9.90	800.00	Y	YES	NAT
AE36C	FHG IIS	JL	5.30	300.00	Y	YES	NAT
AE36C	FHG IGD	JL	3.00	100.00	Y	YES	NAT
* Subsubtotal *			54.10	7400.00			
COUNTRY: ITA							
AC3C	OLIVETTI	JL	9.00	1485.00	P	P	NAT
AE23B	CNR PFM ROMA	JL	5.00	0.00	Y	NO	NAT
AE36C	ALENIA	JL	14.00	2310.00	Y	YES	NAT
* Subsubtotal *			28.00	3795.00			
* COUNTRY: NL							
AC3C	PHILIPS	JL	4.00	0.00	P	NO	NAT
AC75	PHILIPS	JL +CRQ	3.00	545.00		YP	NAT
AE23B	SCME	JL	4.00	500.00	Y	YP	NAT
* Subsubtotal *			11.00	1045.00			
* COUNTRY: PORT							
AC3C	INESC	JL	1.00	165.00	P	P	NAT
* Subsubtotal *			1.00	165.00			
COUNTRY: SW							
AC3C	SIM	JL	5.00	825.00	P	P	NAT
* Subsubtotal *			5.00	825.00			
* COUNTRY: UK							
AE23B	RAL	JL	5.00	100.00	Y	YP	NAT
* Subsubtotal *			5.00	100.00			
** Subtotal **			210.90	28675.00			

Page No. 27
08/14/92

JESSI BUDGET 93 - WORKING DOCUMENT -
PARTICIPATION PER CLUSTER AND PER COUNTRY
REV 3.0
SITUATION AS TO DATE AUGUST 13, 1992 pa2bud93

IDNUMB	COMPANY	STATUS	MY 93	BUDGET 93	COMMIT	EXPECT.	FUNDING
		MAIN		FORECAST	92 FUND	93 FUND	PAs
		PHASE		COST	KECUS		

** CLUSTER: SINGLE PROJECT E AND M

* COUNTRY: FRA

E17C	LETI	PEND	20.00	3000.00	P	NO	NAT
E17C	STM	PEND	1.00	150.00	P	NO	NAT
* Subsubtotal *			21.00	3150.00			

* COUNTRY: FRG

E17C	FHG AIS	PEND	7.00	1050.00	P	NO	NAT
E17C	FHG IPA	PEND	7.00	1050.00	P	NO	NAT
E17C	SIEMENS	PEND	1.00	150.00	P	NO	NAT
E17C	IBM GERMANY	PEND	1.00	150.00	P	NO	NAT
E17C	TELEFUNKEN EG	PEND	0.00	0.00	P	NO	NAT
* Subsubtotal *			16.00	2400.00			

** Subtotal **

			37.00	5550.00			
*** Total ***			2573.6	456038.00			

**OVERVIEW PER
SUBPROGRAM
(COST MECUS)**

REV. 3.0

B3GLOB XLS

REV3.0		BUDGET PLAN 1993					STATUS ON AUGUST 13,92						
		COST IN MECUS											
SUBPROGRAM		COST	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE	
		MECUS						National		MECUS			
TECHNOLOGY													
	BUDGET FRAME 92		34	12	39	10	8	102	94	196.4			
	BUDGET PLAN 93			*									
	RETAINED	33.50	10.55	45.25	10.16	4.76	104.22	72	176.22	5.50	3.36		
	Positive Pend	14.72					14.72		14.72	5.00			
	Pending	6.01	1.80		2.20		10.01		10.01	0.00			
	Strategic	4.75	13.20	7.00	2.86	3.20	31.01		31.01	2.63	1.75		
	TOTAL	58.97	25.55	52.25	15.22	7.96	159.96	72	231.96	13.13	5.11		
E AND M													
	BUDGET FRAME 92		19	26	2.5	16.3	3.4	67.20	0	67.20			
	BUDGET PLAN 93												
	RETAINED	11.44	33.82	0.86	7.79	1.10	55.02		55.02	0.03			
	Positive Pend	2.68	6.36	0.30	4.05	2.16	15.55		15.55		0.15		
	Pending	5.69	4.15	0.00	5.81	0.00	15.65		15.65	0.30	0.00		
	Strategic	0.00	0.30	0.15	0.27	0.95	1.67		1.67	0.45	0.00		
	TOTAL	19.81	44.63	1.31	17.92	4.21	87.88		87.88	0.78	0.15		
APPLICATION													
	BUDGET FRAME 92		35	48	4.3	13.3	10	110.60	16	126.60			
	BUDGET PLAN 93												
	RETAINED	30.36	45.56	8.42	9.83	4.16	98.32	14	112.32	8.56	12.42		
	Positive Pend	6.93	1.00	0.00	1.05	0.10	9.08		9.08				
	Pending	11.33	7.65	1.49			20.47		20.47		0.99		
	Strategic												
	TOTAL	48.62	54.21	9.91	10.88	4.26	127.86	14	141.86	8.56	13.41		
BLR													
	BUDGET FRAME 92							0.00	20	20.00			
	BUDGET PLAN 93												
	RETAINED	0	1.8	0	0.755	1.8	4.36	14	18.36	0.24	0		
	Positive Pend	0	0	0	0	0		0		0	0		
	Pending	0	0	0	0	0		0		0	0		
	Strategic	0.6	0.6	0.6	0.6	0.6	3.00		3.00	0.6	0		
	TOTAL	0.6	2.4	0.6	1.355	2.4	7.36	14	21.36	0.84	0		
TOTAL													
	BUDGET FRAME 92		88	86	45.8	39.5	20.9	280.20	130	410.20			
	BUDGET FRAME 93		97	86	34	39	24	280.00	100	380.00	**		
	BUDGET PLAN 93												
	RETAINED	75.30	91.73	54.53	28.54	11.82	261.91	100	361.91	14.33	15.78		
	Positive Pend	24.32	7.36	0.30	5.10	4.06	41.14		41.14	5.00	0.15		
	Pending	23.03	13.60	1.49	8.01	0.00	46.12		46.12	0.30	0.99		
	Strategic	5.35	14.10	7.75	3.73	4.75	35.68		35.68	3.68	1.75		
	TOTAL	128	126.8	64.068	45.371	18.828	383.05	100	483.05	23.31	18.67		
* PENDING SITUATION IN GERMANY FOR													
PROJECT	T1B				23.70				23.70				
RETAINED		Retained for funding by Nat PAs, JULY 10,92											
Positive Pend		decision still pending but positive situation											
Pending		decision pending											
Strategic		new projects to come./The origin of the funding still not defined											
**		EEC Budget frame is not clearly defined											

**DETAILED SUMMARY
PER SUBPROGRAM/COUNTRY
(COST MECUS)**

R E V. 3.0

**TECHNOLOGY
EQUIPMENT/MATERIALS**

APPLICATION

B L R

B3GLOB.XLS

REV3.0		JESSI BUDGET PLAN 1993				TECHNOLOGY SUBPROGRAM				PAs specific MY cost			8/13/92
CLUSTERS/PROJECTS		COST/MECUS		FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE
									NAT.GOV'T		MECUS		
COMPETITIVE CMOS MANUFACTURING	T1B	LABELLED		20.00		39.50			59.50		59.50		
	T4C	LABELLED		4.00			1.16	0.60	5.76		5.76	1.50	
	T15	LABELLED	13.38		2.50				15.88		15.88		
	T32	LABELLED	2.00	0.90		3.29	0.40		6.59		6.59	3.50	
	T30C	LABELLED								32	32.00		
	T15	PENDING	2.25			2.20			4.45		4.45		
CMOS LOGIC FOR EUROPROJECTS	T20C	LABELLED								40	40.00		
	T22	LABELLED	7.50	7.20	3.25	5.71			23.66		23.66	4.00	
LITHOGRAPHY(partial)	T8C	LABELLED			1.05			1.60	2.65		2.65	1.50	
PACKAGING(partial)	T9D	LABELLED	3.76	0.90				1.16	5.82		5.82		3.36
AUTOMATED CLEAN ENVIRONMENT(ACE) (PREVIOUSLY:WAFER HANDLING) (partial)	T14/E19	LABELLED	1.34	2.30			?	1.00	4.64		4.64		
NEW STRATEGIC PROJECTS TO COME(TENTATIVE SPLIT PER COUNTRY)													
PHASE SHIFT MASK	TX	STRATEGIC	1.25	1.80	1.00	0.00	0.40	4.45	**	4.45	0.75	0.00	
BiCMOS FOR ADVANCED APPLICATIONS	TY	STRATEGIC	2.75	10.50	5.25	2.20	2.40	23.10	**	23.10	1.38	1.75	
LOGIC FOR ADVANCED SYSTEMS	TZ	STRATEGIC	0.75	0.90	0.75	0.66	0.40	3.46	**	3.46	0.50	0.00	
TOTAL MECUS		RETAINED	33.50	10.55	45.25	10.16	4.76	104.22	72.00	176.22	5.50	3.36	
		Positive Pend	14.72					14.72		14.72	5.00		
		Pending	6.01	1.80		2.20		10.01		10.01			
		STRATEGIC	4.75	13.20	7.00	2.86	3.20	31.01	**	31.01	2.63	1.75	
		TOTAL	58.97	25.55	52.25	15.22	7.96	159.96	72.00	231.96	13.13	5.11	
PENDING SITUATION FOR GERMANY	T1B				23.70				23.70				
BOLD TYPEFACE=Retained for funding by Nat. PAs, JULY 10, 92													
NORMAL TYPEFACE=Positive Pending situation to get funding													
SMALL SIZE TYPEFACE=Decision to fund is still Pending			**	THE ORIGIN OF THE FUNDING STILL NOT DEFINED									
STRATEGIC=NEW PROJECTS TO COME		MYEAR COST PER COUNTRY		0.25	0.3	0.25	0.22	0.2		0.25	0.25	0.25	0.25

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REV3.0		JESSI BUDGET PLAN 1993			APPLICATION - CAD -				PAs specific MY cost			8/13/92
CLUSTERS/PROJECTS	COST/MECUS	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE	
							NAT.GOVT		MECUS			
AUTOMOTIVE SAFETY ELECTRONICS	AC8B	LABELLED	4.54	5.40		0.50	1.10	11.53		11.53	0.66	
BROADBAND COMMUNICATION												
	AC61	DELEG	3.14	2.85			2.26	8.24		8.24		
DIGITAL AUDIO BROADCAST(DAB)	AC5C	LABELLED	2.31	3.15	1.16	0.74	0.30	7.66		7.66	0.50	
HDTV	AC6B	LABELLED	2.16	4.21		1.14		7.51		7.51	0.50	
MOBILE RADIO	AC12C	LABELLED	2.15	6.40		1.06		9.61		9.61	2.06	
	AC12C	LABELLED	0.83					0.83		0.83		
SINGLE PROJECTS APPLICATION												
	AC41C	LABELLED	1.16	3.00				4.16		4.16	1.65	
	AC75	LABELLED				0.55		0.55	*	0.55		
	AC1C	LABELLED						0.00	14	14.00		
	AC3C	LABELLED	6.93		1.49			8.42		8.42	0.99	
	AC3C	LABELLED						0.00		0.00	0.99	
BOLD TYPEFACE=Retained for funding by Nat. PAs, JULY 10,92												
NORMAL TYPEFACE=POSITIVE PENDING FOR FUNDING												
SMALL SIZE TYPEFACE=PENDING FOR FUNDING												
		My cost ,APPLICATION:Mechus	0.165	0.15	0.165	0.135	0.11		0.1157		0.165	

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REV3.0	JESSI BUDGET PLAN 1993				APPLICATION - EUROPROJECTS						8/13/92		
CLUSTERS/PROJECTS	COST/MECUS	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE		
								NAT.GOV'T	PAs specific MY cost				
AUTOMOTIVE SAFETY ELECTRONICS	AE11B	LABELLED	3.47	4.30				7.77		7.77			
BROADBAND COMMUNICATION	AE15C	LABELLED	0.62	0.20				0.82		0.82	3.96		
	AE55E	LABELLED	4.23	3.30				7.53		7.53		0.37	
DIGITAL AUDIO BROADCAST(DAB)	AE14C	LABELLED	1.32	6.30	0.50	2.30		10.42		10.42			
HDTV	AE10B	LABELLED	8.25	5.90		3.83	0.50	18.48		18.48		0.33	
	AE56B	LABELLED	2.15	2.80				4.95		4.95			
	AE45D	LABELLED	0.00	4.46				4.46		4.46		3.47	
MOBILE RADIO	AE13C	LABELLED	1.92					1.92		1.92	1.14		
	AE31C	LABELLED	0.99	2.00		0.26		3.25		3.25		1.16	
SINGLE PROJECTS APPLICATION													
	AE36C	LABELLED	0.00	1.20	2.31			3.51		3.51			
	AE23B	LABELLED	2.48	2.20	0.00	0.50	0.10	5.28		5.28	0.83	1.32	
	AE23B	LABELLED	1.00					1.00		1.00			
TOTAL MECUS CAD + EUROPROJECTS		RETAINED	30.36	45.56	8.42	9.83	4.16	98.32	14.00	112.32	8.56	12.42	
		Positive Pend	6.93	1.00		1.05	0.10	9.08		9.08			
		Pending	11.33	7.65	1.49			20.47		20.47		0.99	
		STRATEGIC						0.00	**	0.00			
		TOTAL	48.62	54.21	9.91	10.88	4.26	127.86	14.00	141.86	8.56	13.41	
BOLD TYPEFACE=Retained for funding by Nat. PAs, JULY 10,92													
NORMAL TYPEFACE=Positive Pending situation to get funding													
SMALL SIZE TYPEFACE=Decision to fund is still Pending		**	THE ORIGIN OF THE FUNDING STILL NOT DEFINED										
STRATEGIC=NEW PROJECTS TO COME	My cost	Application:Mecus	0.165	0.2	0.165	0.125	0.125		0.1157		0.165	0.165	

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REV3.0		JESSI BUDGET PLAN 1993			EQUIPMENT AND MATERIAL SUBPROGRAM								8/13/92
CLUSTERS/PROJECTS	COST/MECUS	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE		
							NAT.GOV'T		MECUS				
CLEAN CHEMICALS	E2AB	LABELLED	0.83	1.78				2.60		2.60			
	E13D	LABELLED		1.40				1.40		1.40			
	E20C	LABELLED	0.06	1.86				1.92		1.92			
	E77D	LABELLED	0.90					0.90		0.90	0.03		
	E88B	LABELLED	1.01					1.01		1.01			
	E2AB	LABELLED		1.13				1.13		1.13			
CLEAN GASES	E181C	LABELLED	0.51	0.11	0.02		0.04	0.67		0.67			
	E2BB	LABELLED	1.62	1.20	0.21			3.03		3.03			
	E2BB	LABELLED		1.64									
CLUSTERED ETCHING AND DEPOSITION	E164C	LABELLED	0.15	1.20				1.35		1.35			
OPTIMIZATION(CLUEDO)	E69C	LABELLED		1.35				1.35		1.35			
(previously IVPS cluster)	E74C	LABELLED		0.93	0.20	0.11		1.23		1.23	0.15		
	E106B	LABELLED	0.18		0.23	0.93		1.34		1.34			
	E208	LABELLED	0.15	0.78		0.71	0.57	2.21		2.21			
	E5B	LABELLED	0.60	2.25		2.38	0.14	5.37		5.37			
	E5B	LABELLED		0.30				0.30		0.30			
	E6B	LABELLED				0.53		0.53		0.53			
	E63D	DELEG	1.45	0.15			1.08	2.68		2.68			
	E96D	DELEG		1.73				1.73		1.73			
	E208ext	extention	0.30	0.75	0.30	4.05	1.08	6.48		6.48			
LITHOGRAPHY(partial)	E39	LABELLED		2.67				2.67		2.67			
	E60B	LABELLED		0.00	0.00	0.00		0.00		0.00			
	E64AB	LABELLED	1.01	0.08	0.11			1.20		1.20			
	E162D	LABELLED	0.15	9.37	0.38	0.80		10.69		10.69			
	E104B	LABELLED		0.79		2.12	0.35	3.26		3.26			
	E60Bext	extention	0.45	1.20		5.81		7.46		7.46	0.30		
FINAL PRODUCT TESTING	E179C	LABELLED	1.91	0.60				2.51		2.51			
	E183B	LABELLED	2.66	0.30				2.96		2.96			
	My cost E AND M: Mecus			0.15	0.15	0.15	0.135	0.135		0.15		0.15	0.15

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REV3.0	JESSI BUDGET PLAN 1993					EQUIPMENT AND MATERIAL SUBPROGRAM								8/13/92
CLUSTERS/PROJECTS	COST/MECUS	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE			
							NAT.GOV'T	MECUS						
PACKAGING(partial)	E9	LABELLED		2.10					2.10		2.10			
SILICON	E11B	LABELLED		0.75					0.75		0.75			
	E15B	LABELLED		0.33	0.03				0.36		0.36			
	E66B	LABELLED		4.13	0.08	0.22			4.42		4.42			
	E191E	LABELLED	1.78						1.78		1.78			
AUTOMATED CLEAN ENVIRONMENT(ACE) (PREVIOUSLY:WAFER HANDLING)(partial)	E109C	LABELLED	3.46	3.50					6.96		6.96			
	E109C	LABELLED	0.63											
SINGLE PROJECT E & M	E17C	PENDING	0.00	0.00					0.00		0.00			
NEW STRATEGIC PROJECTS TO COME(TENTATIVE SPLIT PER COUNTRY)														
PHASE SHIFT MASK	EXX/TXX	STRATEGIC	0.00	0.30	0.15	0.27	0.95	1.67		1.67		0.45		
TOTAL MECUS														
	RETAINED	11.44	33.82	0.86	7.79	1.10	55.02	0	55.02		0.03			
	Positive Pend	2.68	6.36	0.30	4.05	2.16	15.55		15.55		0.15			
	Pending	5.69	4.15	0.00	5.81	0.00	15.65		15.65		0.30			
	STRATEGIC	0.00	0.30	0.15	0.27	0.95	1.67	**	1.67		0.45		0.00	
	TOTAL	19.81	44.63	1.31	17.92	4.21	87.88	0	87.88		0.78		0.15	
BOLD TYPEFACE=Retained for funding by Nat. PAs, JULY 10,92														
NORMAL TYPEFACE=Positive Pending situation to get funding														
SMALL SIZE TYPEFACE=Decision to fund is still Pending														
STRATEGIC=NEW PROJECTS TO COME														
		**	THE ORIGIN OF THE FUNDING STILL NOT DEFINED											

REV3.0	JESSI BUDGET PLAN 1993					BASIC AND LONG TER			PAs specific MY cost					8/13/92
CLUSTERS/PROJECTS	COST/MECUS	FRA	FRG	ITA	NL	UK	TOTAL	EEC	TOTAL	BEL	ROE			
							NAT.GOV'T		MECUS					
SINGLE PROJECT BLR									*					
ADEQUAT(0.25 micron technology development)	BT1C	LABELLED							0	14	14			
PACKAGING(partial)	BT4B	LABELLED		1.8		0.755	1.8	4.355		4.355	0.24			
ADVANCED INTERCONNEXION TECHNOLOGY	STRATEGIC		0.6	0.6	0.6	0.6	0.6	3		3	0.6		0	
TOTAL MECUS		RETAINED		1.8		0.755	1.8	4.355	14	18.36	0.24			
		Positive Pend						0		0.00				
		Pending		0				0		0.00				
		STRATEGIC	0.6	0.6	0.6	0.6	0.6	3	**	3.00	0.6		0	
		TOTAL	0.6	2.4	0.6	1.355	2.4	7.355	14	21.36	0.84		0	
BOLD TYPEFACE=Retained for funding by Nat. PAs,JULY 10,92														
NORMAL TYPEFACE=Positive Pending situation to get funding														
SMALL SIZE TYPEFACE=Decision to fund is still Pending														
STRATEGIC=NEW PROJECTS TO COME			**	THE ORIGIN OF THE FUNDING STILL NOT DEFINED										
		My cost BLR:Mecus		0.12	0.12	0.12	0.12	0.12		0.14737		0.12	0.12	

Drs. R. P. KRAMER
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11 SEP. 1992/459

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JESSI

Distribution list to the
minutes of the GAT-BSG
meeting held in Rome
on September 4, 1992

JESSI Office
Office of the JESSI Organization
Elektrastraße 6a
Postfach 81 04 60
D-8000 München 81
Tel.: xx49 89 92 80 82-0
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Ttx: 897360 = JESSI

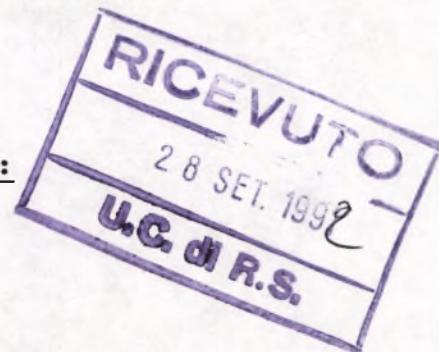
Munich, September 10, 1992
HM/sm

To the Chairman of the JESSI Board:

Mr. Paletto

To the members of the Board Support Group:

Prof. Radelaar
Mr. Ernest
Dr. Friedrich/Dr. Tischer
Dr. Haeppl
Drs. Kamerbeek
Drs. Kramer
Mr. Lepetit
Mr. Monnier



To the members of the GAT Interface Group

Prof. Radelaar
Mr. Ernest
Mr. Guyot/Mr. Vasuth
Mr. Haserer
Drs. Kamerbeek
Drs. Kramer
Dr. Sauer
Dr. Villa

6AT - B56 .

To the members of the JESSI Office:

Dr. Dekkers
Dr. Grünewald
Mr. Le Goascoz
Mr. Sethi



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Munich, September 10, 1992
 HM/sm

Minutes of the GAT-BSG meeting held in Rome on September 4th, 1992

0. Participants:

Governmental Action Team (GAT)

Mr. Babinet
 Mr. Broster
 Dr. Dudde
 Mr. German
 Mr. v.'t Hof
 Mr. McAuley
 Dr. Weigmann

GAT-Interface Group/ Board Support Group

Prof. Radelaar
 Dr. Dekkers
 Mr. Ernest
 Mr. Haserer
 Drs. Kamerbeek
 Drs. Kramer
 Mr. Le Goascoz
 Dr. Meyer
 Mr. Sethi
 Dr. Sauer
 Mr. Vasuth

1. Funding situation 1992

a) Overview prepared by the GAT

The GAT members explained the funding status summarized in **enclosure 1**. The next overview from the GAT will be prepared beginning of October and distributed in time before the JESSI Board/ JESSI Committee meeting. The UK representatives informed JESSI that due to general budget restrictions in the UK, the funding situation for JESSI partners in the UK might be severely influenced.

With regard to the EC funding figures, JESSI repeated its position that only the funding share belonging to 1992 should be taken into account (which leads to 41 MECU funding instead of 57.3 MECU).

b) Funding overview for the total JESSI Program

Dr. Meyer explained overviews on the funding situation in the first period of JESSI, ranging from 1989 to 1992 (see **enclosure 2**). The GAT recommended that the budget scenario for the second period (1993 - 1996) should take the JESSI-EC Agreement (document dated May 27, 1991) into account and should be agreed upon between the JESSI Board and the JESSI Committee in order to use consistent data in the public.

2. **Funding and budget plan 1993**

Mr. Le Goascoz gave a short introduction to the budget plan '93.

In view of the open points (e.g. funding of projects T9/ T15 or funding of projects AC61/AC3), the GAT asked the responsible Subprogram Management Boards to set priorities or alternatively to adjust the budgets to the given frames.

Mr. Le Goascoz is asked to coordinate the preparation of the final budget plan with the chairmen of the Subprogram Management Boards and the GAT members before September 16th.

With regard to the "rest" of the budget dedicated by the EC to JESSI projects, JESSI will send a letter to Dr. Grata in order to clarify the situation (timetable, procedure).

3. **Strategic points in the JESSI Board/JESSI Committee meeting**

a) Presentation of the Basic & Longterm Research situation

The GAT proposed to have this presentation been made by a representative of industry.

b) Public Relation activities in JESSI

The GAT recommended that JESSI explains in the public how it treats questions like:

- Answers of JESSI to the SIEMENS/IBM/TOSHIBA contract
- Reasoning for "local" support for "international" projects
- Why do we need a JESSI Program? (Why is it not sufficient to support individual projects?)

c) Coordination and management of JESSI Clusters and Flagships

JESSI informed the GAT members that this point will specially be taken into account in the report on results of the selected project cluster which will be presented to the JESSI Committee.

JESSI informed the GAT that back up material for the two strategic points (BLR and PR) will be distributed in time.

4. Preparation of the JESSI Board/JESSI Committee meeting

JESSI confirmed the time schedule for the preparation of the documents.

The GAT recommended to check once more the timing of the meeting, in order to avoid any delays. The details of the agenda will be agreed between Dr. Dudde and Dr. Meyer.

5. Cluster management and cluster cooperation in JESSI

The Program Officers, Dr. Dekkers and Mr. Sethi, gave an overview on the organization of project clusters established in JESSI. They underlined that the procedures established for reporting and monitoring, have generally been accepted by the JESSI partners as useful tools to coordinate the cluster activities. Dr. Dekkers will distribute a copy of his presentation by separate mail. Mr. Sethi distributed a copy of the key data of the Application clusters and projects during the meeting. JESSI promised to distribute also similar key data booklets for the other Subprograms.

6. Legal aspects of the JESSI/SEMATECH cooperation

The GAT recommended to inform all JESSI partners about the necessity to comply with the individual national or EC rules regarding cooperation, information exchange and exchange of results with non-European companies. In view of the fact that the legal background is different for every country, a general "multi-national agreement" with regard to the JESSI/SEMATECH cooperation is not possible, but the GAT confirms the positive attitude of the Public Authorities towards the JESSI/SEMATECH cooperation.

JESSI is asked to send a copy of the JESSI/SEMATECH Cooperation Agreement to the GAT members.

7. Public Relation activities in JESSI

Prof. Radelaar explained the running activities (like preparation of the "What" and "Why" brochure) and offered a close contact with the GAT members on the preparation of the "Why" brochure.

Dr. Meyer informed the GAT that a complete overview on existing and planned PR activities is part of the preparation for the JESSI Board/JESSI Committee meeting and will be distributed to the GAT members. The GAT recommended to be involved in the preparation of the PR activities and offered their advice.

8. Any other business

a) Technical Report of the project AE23

The GAT recommended to check whether and how the project partners of AE23 can get access to necessary results of other JESSI projects. Dr. Sauer will discuss this issue in the next Application Board meeting.

b) JESSI presentation at the EUREKA Minister Conference

The GAT members recommended to consider a specific booth of presentation of JESSI during the EUREKA Conference, June next year.

c) Future organization of the meetings with the GAT

The GAT recommended to have at least four fixed meetings (one before and one after each JESSI Committee meeting); specific work (like budget planning) should be delegated to task forces. JESSI should be represented in the meetings by the Director, the Office Manager and the Chairmen of the Subprogram Management Boards and - depending on the agenda - by other persons for specific contributions.

JESSI will discuss this proposal in the next Board Support Group meeting. The JESSI members recommended to change the time schedule for the meetings in a way that the JESSI internal pre-meeting can take place in the morning and the common meeting with the GAT in the afternoon of the same day.

d) Next meeting: 11.11.92, 2:00 p.m., JESSI Office, Munich

H. Meyer

Funding Status of JESSI-Projects in August 1992 [MECU]

Overview

Subprogramm	Fa)	G	Ia)	NL	UKa)	CECa)	TOT
Application	13,4 + ? + 2,2FT	21,7 + 0,4 ² + ?	x	6,6	1,9 + ?	7,0	50,61 + 0,4 ² + 2,2FT
Technology	11,4 ¹ + 4,0 ² + ?	4,0	10,4	5,4	1,1 ¹ + 0,9 ²	41,0	73,31 + 4,9 ²
BLR	-	1,0	-	-	-	9,3 ¹	10,3 ¹
Equip, & Mat,	5,7 + 1,1 ² + ?	20,0 + 0,9 ² + ?	0,04 + ? ²	7,5	0,9 ¹ + 1,9 ²	-	34,1 ¹ + 3,9 ²
SUB-TOT,	30,5 ¹ + 5,1 ² + 2,2FT	46,7 ¹ + 1,3 ²	10,4	19,5	3,9 ¹ + 2,8 ²	57,3 ¹	168,3 ¹ + 9,2 ² + 2,2FT
TOTAL	37,8	48,0	10,4	19,5	6,7	57,3	179,7

Status: no Index or 1: contract prepared or issued; 2: application received and/or funding planned

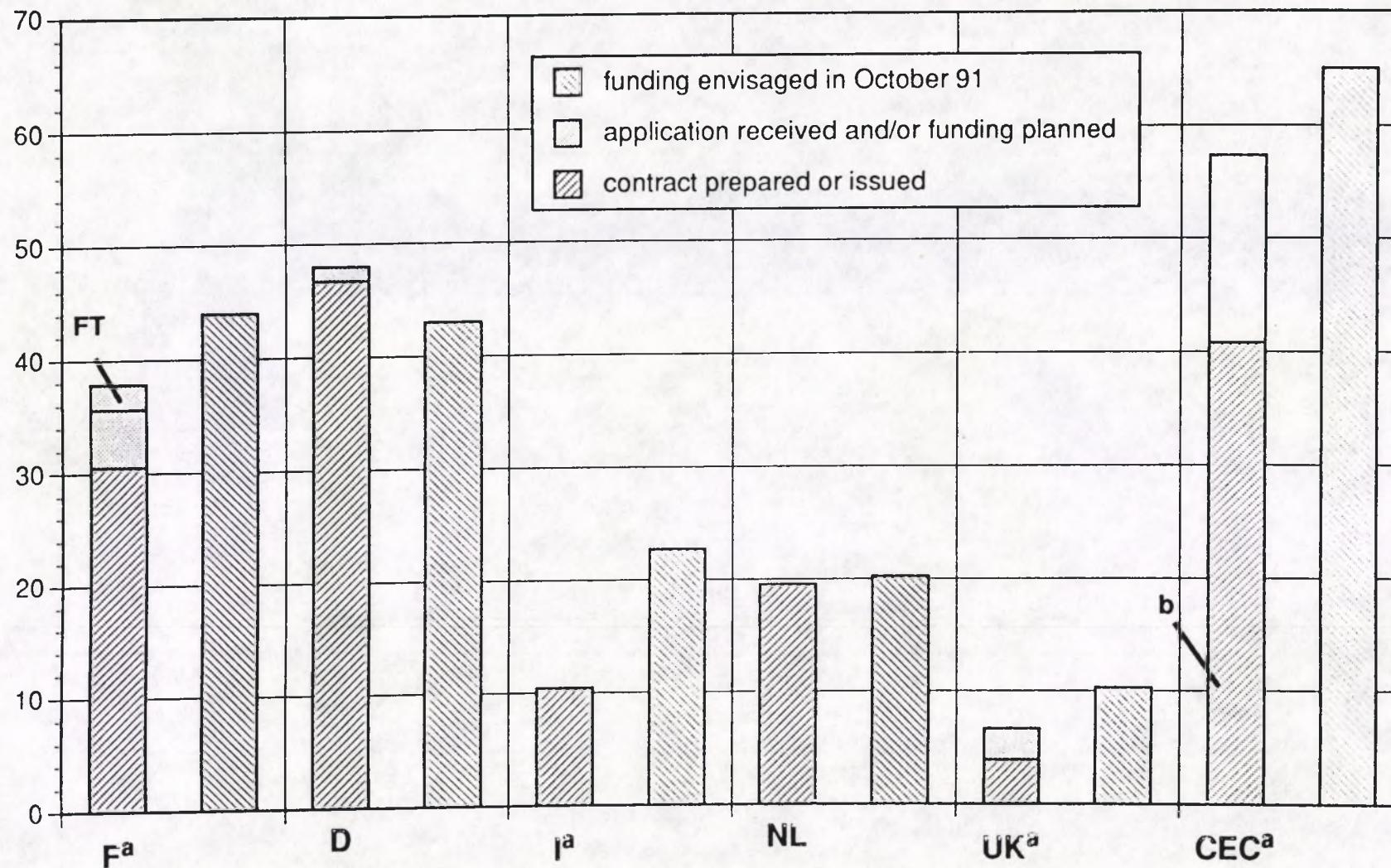
x : Participation planned

FT : under responsibility of France Telecom

a) annualised figures

JESSI-GAT 92Aug20/UW/DO-V1

Funding Status of JESSI - Projects for 1992 (08.92) Overview (Funding in MECU)



a: annualised figures

b: part of contract in '92

FT: France Telecom

JESSI - GAT 92Aug20/UW/DO/OJ-1

Funding Status of JESSI-Projects in August 1992 [MECU]

Application

Project / Cluster	F ^{a)}	G	I	NL	UK ^{a)}	CEC ^{a)}	TOT
Automotive Safety Electronics (AE 11, AC 8B)	2,89	4,5	-	0,33	0,1	-	7,82
Broadband Communication (AE 15B, AE 55B, AC61)	0,64FT + ?	1,55 + ?	-	-	1,17	-	2,72 ¹ + 0,64FT
DAB (AE 14, AC 5B)	1,04	4,5 + ?	x	1,51	0,3		7,35 ¹
HDTV (AE 10, AC 6, AE 56)	5,04	5,2 ¹ + 0,4 ²	x	3,3	0,32	-	13,86 ¹ + 0,42
Mobile Radio (AE 13B, AC 12B, AE 31)	1,49 ¹ + 1,55FT	2,75	-	0,83	-	-	5,07 ¹ + 1,55FT
Standards (AC 41B)	0,4 ¹	1,4	-	-	-	-	1,8 ¹
CAD-Frame (AC 1)	-	-	-	-	-	7,0	7,0
Advanced Display (AE 36B)	-	0,55 + ?	x	-	-	-	0,55 ¹
SMI AE 23)	2,5	1,2	x	0,65		-	4,35 ¹
SUM: Application	13,36 + 2,19FT	21,65 +0,4 ² +?	x	6,62	1,88 + ?	7,0	50,51 ¹ + 0,40 ² + 2,19FT

Status: no Index or 1: contract prepared or issued; 2: application received and/or funding planned

x : Participation planned

FT : under responsibility of France Telecom

a) annualised figures

JESSI-GAT 92Aug20/UW/DO-V1

Funding Status of JESSI-Projects in August 1992 [MECU]

Equipment & Materials

Project / Cluster	F ^{a)}	G	I ^{a)}	NL	UK ^{a)}	CEC ^{a)}	TOT
Wafer Handling (T 14C, E 19, E 109C)	1,69 + 0,42 ² + ?	2,71	-	-	0,72	-	4,40 ¹ 1,12 ²
Lithography (T8B, E39, E60, E64A, E162C, E104)	0,57 + ?	7,6	x	3,99	0,74 ¹ + 0,26 ²	-	12,90 ¹ + 0,26 ²
Wet Chemicals (E2A, E13C, E20, E77C, E88)	1,06 + 0,64 ² + ?	2,8	-	-	-	-	3,86 ¹ + 0,64 ²
Clean Gases (E2B, E181B, E186)	0,87 + ?	0,8	0,04 + ? ²	-	0,03	-	1,74 ¹
Cluster Deposition and Etching Processes (IVPS) (Exx, E5, E6B, E63C, E69, E74B, E164, E208)	?	1,65 + 0,6 ² + ?	x	3,35	0,16 ¹ + 0,90 ²	-	5,16 ¹ + 1,50 ²
Silicon (E191, E66, E11, E15)	x	3,48	x	0,12	-	-	3,6 ¹
Testing (E179B, E183B)	1,55 ¹ + ? ²	1,0 + 0,3 ²	-	-	-	-	2,55 ¹ + 0,3 ²
SUM: Equipment & Materials	5,74 +1,06 ² +?	20,04 +0,9 ² +?	0,04 + ? ²	7,46	0,93 ¹ + 1,86 ²	-	34,21 + 3,8 ²

Status: no Index or 1: contract prepared or issued; 2: application received and/or funding planned

x : Participation planned

a) annualised figures

FT : under responsibility of France Telecom

JESSI-GAT 92Aug20/UW/DO-V1

Funding Status of JESSI-Projects in August 1992 [MECU]

Technology

Project / Cluster	Fa)	G	Ia)	NL	UKa)	CECa)	TOT
Basic Technology (Competitive CMOS Manufacturing / Manufacturing Science & Technology) (T1, T4, T15, T30, T32)	11,38 ¹ + 1,37 ² + ?	-	10,40	2,25	0,29	18,0	42,32 ¹ + 1,37 ²
CMOS Logic T20, T22	2,62 ²	2,60	x	2,61	-	23,0	28,21 ¹ + 2,62 ²
Packaging (BT 4, T9C, E9)	?	1,4	-	0,5	0,82 ¹ + 0,88 ²	-	2,72 ¹ + 0,88 ²
SUM: Technology	11,38 ¹ + 3,99 ² + ?	4,0	10,4	5,36	1,11 ¹ + 0,88 ²	41,0	73,25 ¹ + 4,87 ²

Status: no Index or 1: contract prepared or issued; 2: application received and/or funding planned

x : Participation planned

FT : under responsibility of France Telecom

a) annualised figures

JESSI-GAT 92Aug20/UW/DO-V1

Funding Status of JESSI-Projects in August 1992 [MECU]

Basic and Longterm Research (BLR)

Project / Cluster	Fr ^{a)}	G	I ^{a)}	NL	UK ^{a)}	CEC ^{a)}	TOT
0,25 µ CMOS- ADEQUAT (BT 1)	-	1,0	-	-	-	9,31	10,3 ¹
SUM: BLR	-	1,0	-	-	-	9,31	10,3 ¹

Status: no Index or 1: contract prepared or issued; 2: application received and/or funding planned

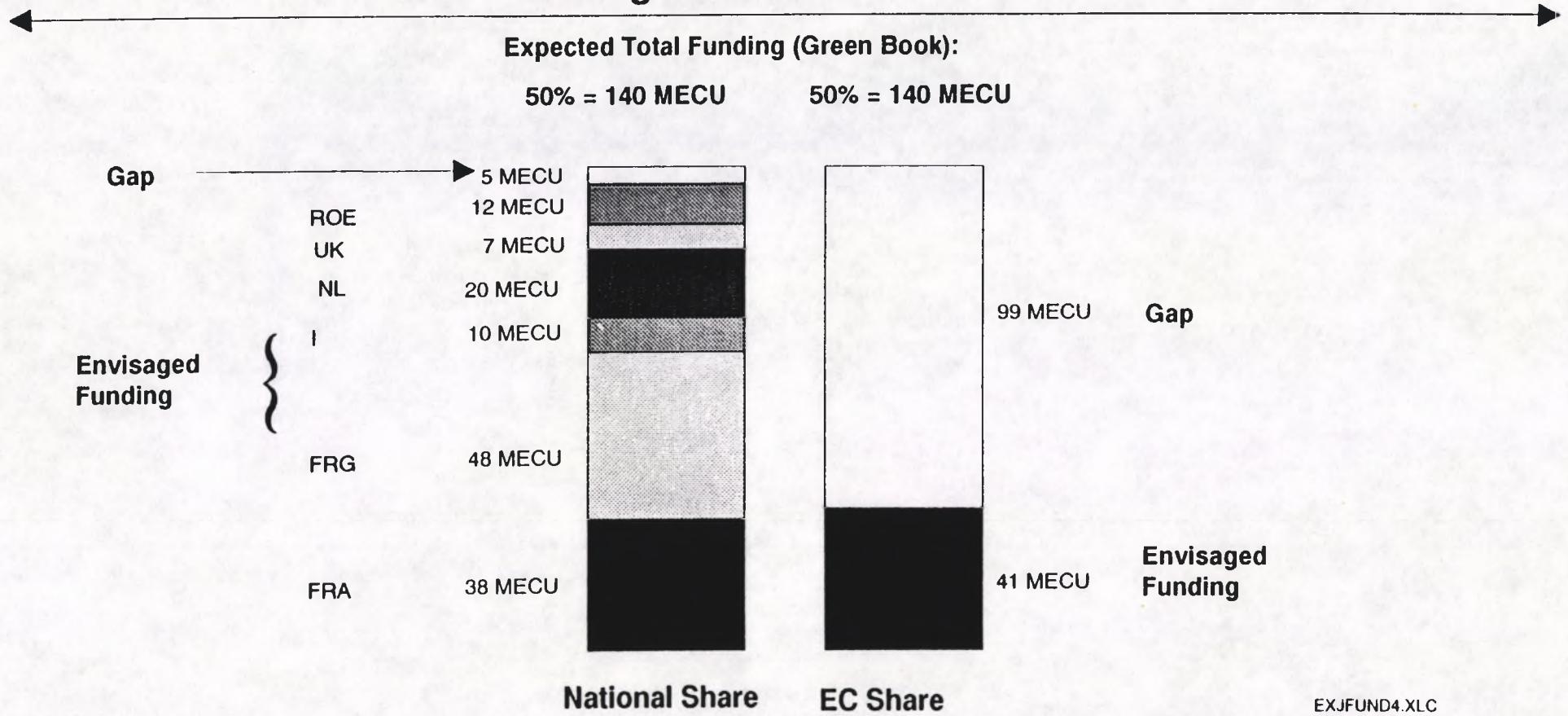
x : Participation planned

FT : under responsibility of France Telecom

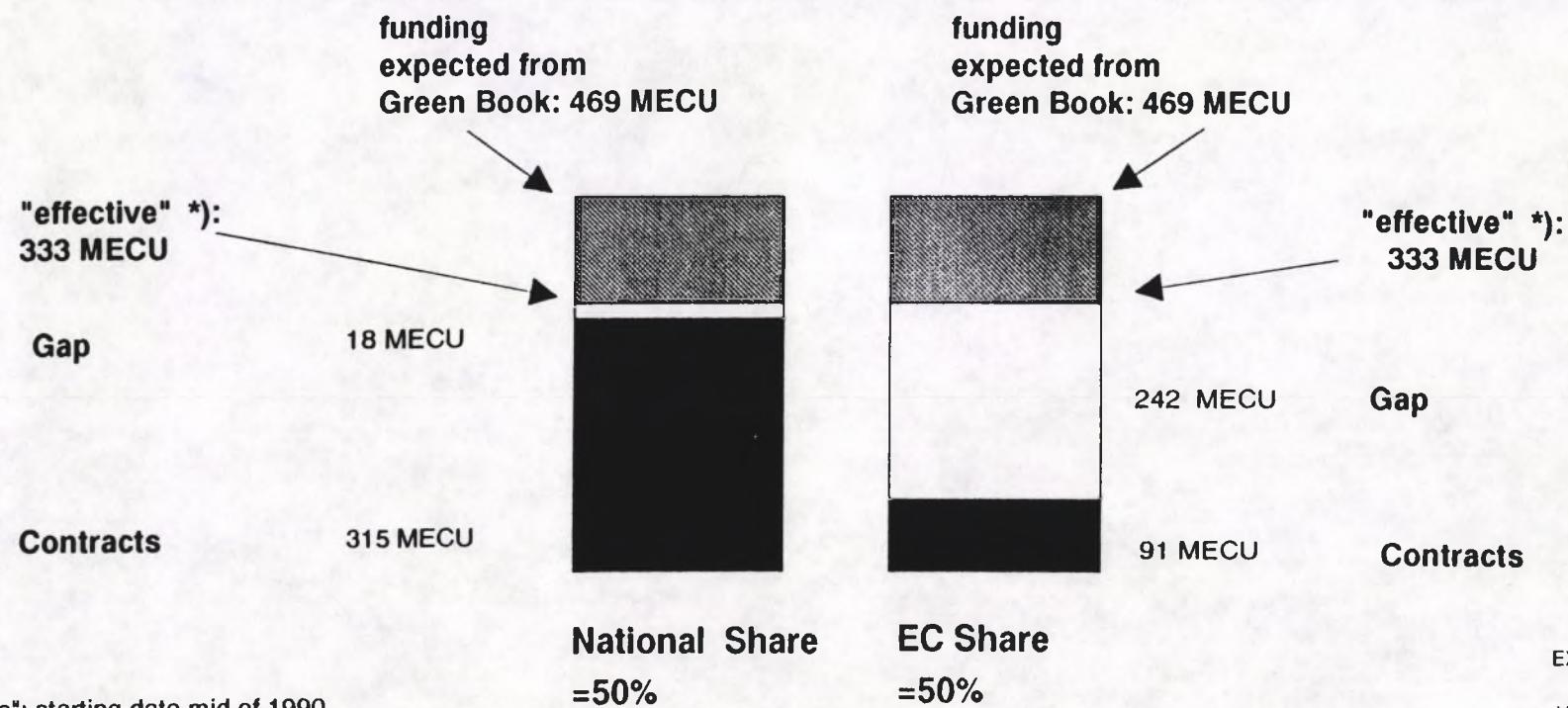
a) annualised figures

JESSI-GAT 92Aug20/UW/DO-V1

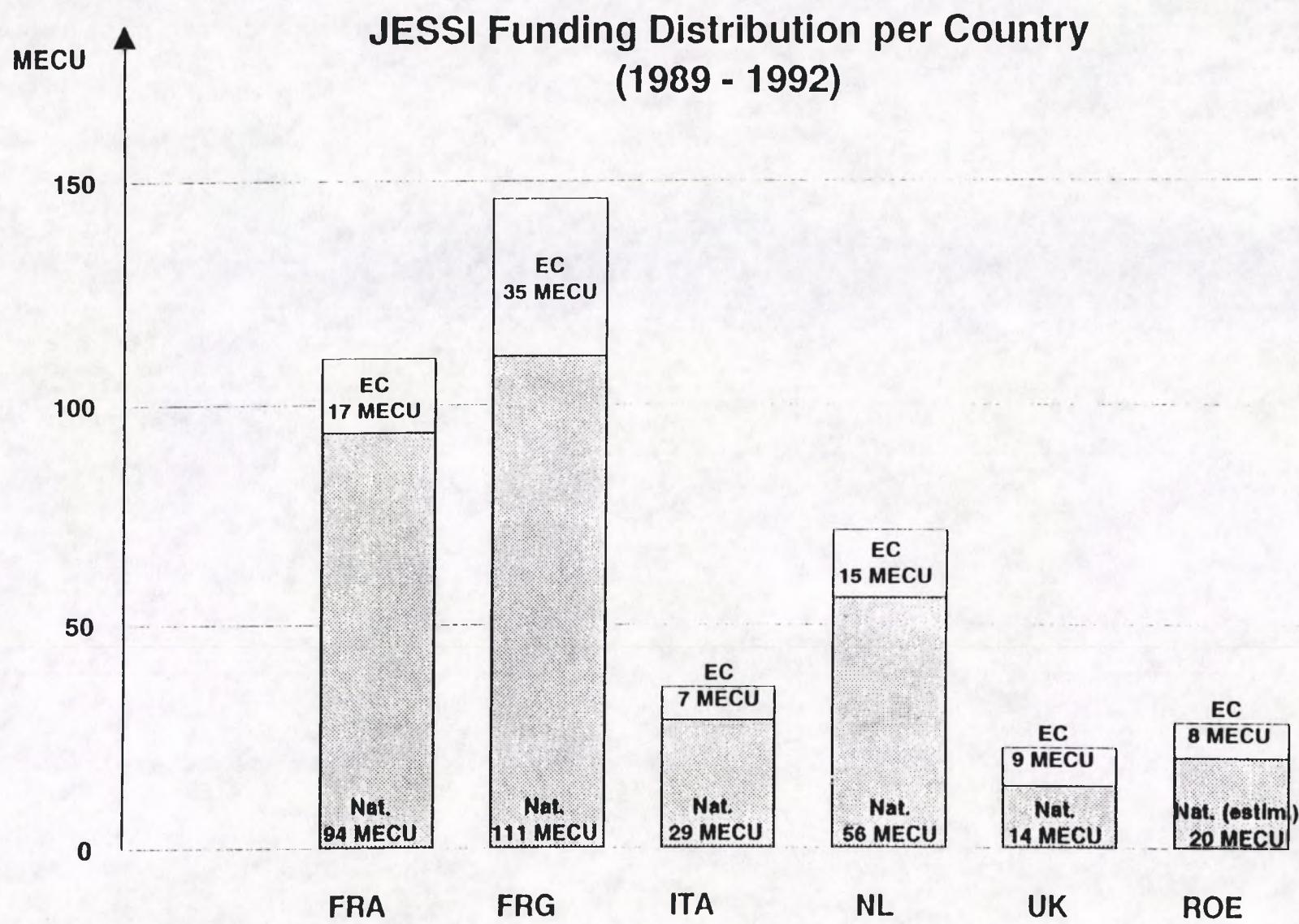
JESSI Funding Estimation for 1992



JESSI Funding Situation (1989 - 1992)



EXJFUND3.XLC
HRM 1-9-92



File Government.

JESSI

To: GAT/JBSG meeting participants
Rome 92.08.04

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92.09.08



Gentlemen,

you herewith receive a copy of the sheets that I presented during the meeting in Rome on Sept. 4, 1992. They are part of a presentation, which was given earlier for the JEMT.

Best regards.

Dr. Nico Dekkers
Program Officer

Overview on Program Control
presented at the GAT/JBSG meeting
in Rome on 92.09.04

1. *CLUSTERS*
2. *PROJECT MONITORING*
3. *CONCLUSIONS*

CLUSTERS

- overview E/M and T clusters
 - constitution of clusters
 - cluster structure diagram
- cluster management
 - contact persons, mentors
 - meetings
 - participants
 - frequency
- cluster meeting discussion items
 - relationships between projects in cluster
 - cluster targets/specification list
 - cluster road map
 - project progress control
 - relationships of E/M with T and A clusters
 - critical aspects
 - missing elements
 - actions

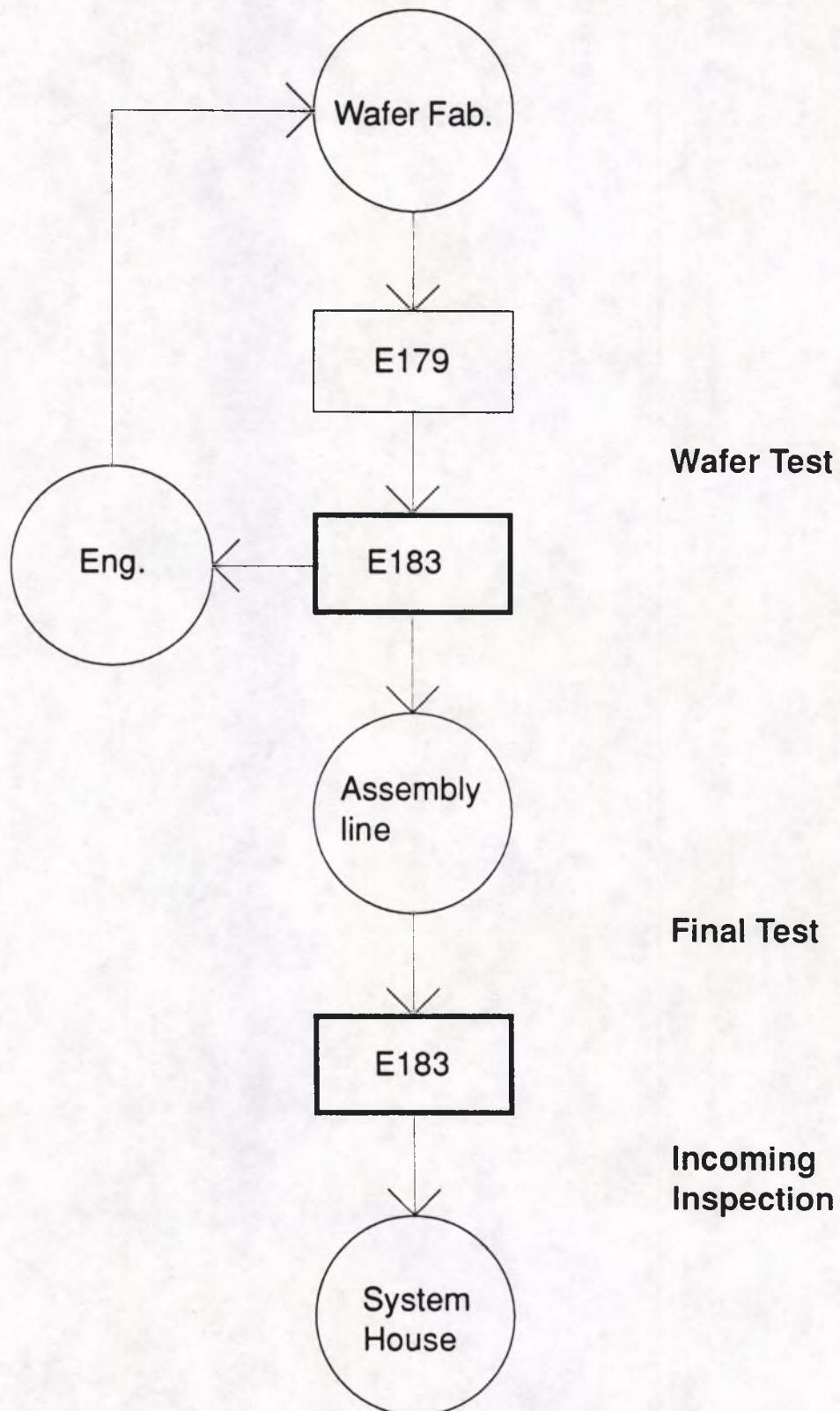
cluster coordination

<u>cluster</u>	<u>projects</u> (first project is flagship)	<u>contact person</u>	<u>reviewers</u> (mentor is first name)	<u>meeting dates</u>			
LITHO	E162, E39, E60, E64, E104, T8	D'Hoore (E162, E60)	Cullmann, D'Hoore, Huber	01.31(1)	03.31(2)	06.30(3)	11.10(4)
				JO	Eindhoven	Sindelf.	
CLUEDO	E208, E5, E6, E63, E69, E74, E96, E106, E164	Piekaar (E5)	Bauchamp, Bruel, Kamerbeek, Roessger	02.07(1)	04.28(2)	07.08(3)	10.08
				JO	JO	JO	JO
SILICON	E66, E11, E15, E191	Dietl (E66)	Bruel, Altekrueger, Huber	02.05(1)	04.29(2)	09.17(3)	
				JO	JO	JO	
CHEMICALS	E2A, E13, E20, E77, E88	Mourlevat (E77)	Cauquil, Doche, Huber	02.06(1)	04.27(2)	09.02(3)	02.03
				JO	JO/E66	JO	JO
GASES	E2B, E181	Eschwey (E2B)	Ryssel, Cauquil, van Velzen	03.10(1)	04.06/08(2)	07.01(3)	10.28/9(4)
				JO	JO	Unt.Schl.	
ACE	E109, E19/T14	Simon (E109)	Doche, Furhrmann, D'Hoore	03.17(1)	09.07(2)		
				JO	JO		
TESTING	E183, E179, (AC12)	Villemain (E183).	Kamerbeek, Roessger, Rousseau	02.04(1)	05.26(2)	09.24(3)	
				JO	St.Etienne	Geneva	
PACKAGING	E9, T9, BT4	Brandenburger (E9) ad interim	Rousseau, Kamerbeek				
CCM	T1B, T4, T15, T30, T32	Iannuzzi (T1B)	Zocchi, Dumas, Montier Ruettenauer, Tischer,	03.26(1)	05.21(2)	09.11(3)	
				JO	Paris	Agrate	
LOGIC	T20B, T22	Graeff (T20)	Kramer, Schutz, Zocchi				

N.H.D. , September 3, 1992

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cluster Testing



TESTING - 1 -

Ramts from IC manufacturing 93.07

		tester	prober
Requirements	mid-93 horizon	E183	E179
Throughput	better than competition* (30s for prober)	+	+
Set-up time	% TBD (<1s for prober, if data on line)	?	+
Cost of ownership	no absolute figure		
MTBF/MTTR	1500-2000/2 hrs	+	+
Pin count	512 (256 for mixed)	+	+
Data rate (logic + emb. memb.)	40 MHz -> 100 MHz	+	N/A
Timing accuracy (logic + emb.m.)	375 ps -> 200 ps	+	N/A
Conversion - HDTV	100 MHz/8 bits	+	N/A
Conversion - TV	20 MHz/12 bits	+	N/A
Conversion - Audio	1MHz/14 bits	+	N/A
Conversion - Telecom/ISDN	Compliance with CCIR spec.	+	N/A
Conversion - HiFi Audio/DAB	20 kHz/20 bits	+	N/A
Wafer size	8"	N/R	+
Handling	Adaptability (tester/prober and v.v.) compatibility with CR class 100	+	+

* absolute values depending on components and test procedures.

TESTING - 2 -

Ramts from mixed sianal IC/users companies

tester (E183)	mixed signal		HDTV		DAB	
	rqmt.	spec.	rqmt.	spec.	rqmt.	spec.
characterization (wafer fab.)	93Q1	+				
wafer test (wafer fab.)	93Q3	?*				
final test (assembly line)	93 Q4	+				
incoming inspection (system house)	94/95	+				

prober (E179)	rqmt.	spec.
wafer test	93.07	?*

* funding of prober project not solved yet

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N.H.D. 92.05.27

D_Test21.xls

ROAD MAP ITEMS

environmental control

particles in	cleanroom wafer environment liquids gases	X particles/ft ³ at Y µm X particles/ft ³ at Y µm < X particles/ml at > Y µm < X particles/ft ³ at > Y µm	+ + +	+ + +	+ +		+
chemical impurities	in environment cationic species in liquids	< X parts per billion < X parts per trillion	+ +	+ +			+
wafer contamination	trace impurities in gases (N ₂) oxygen tolerance total atoms, after clean from equipment surface/crystal defects	< X parts per trillion +/- X% < X x 10 ⁸ /cm ² < X particles per wafer pass	+ + + +	+ + +	+ +		+
cross contamination control	yes/no		+ +	+ +			
temperature/humidity control	X +/- dX°C/Y +/- dY%			+ +			+
e.s.d. control	yes/no		+ +	+ +			

process control

feature size, resolution	prototype prod.syst.	X µm X µm	+ +	+ +	+ +	+ +	+	+
accuracy, wafer geometry		< +/- X nm		+ +	+ +	+ +		
aspect ratio		X:1 at Y µm		+ +	+ +			
flexibility			+ +	+ +				
SMIF, MESC		yes/no		+ +	+ +			
standard connections/container sizes		yes-no/X,Y,Z lt.		+ +				
chemicals consumption		<Xcc/proc.step/wafer		+ +				
MTBF/MTTR		X hr/Y hr	+ +	+ +	+ +	+ +	+	+
size (of wafers)		X mm and Y µm epi	+ +	+ +	+ +	+ +	+	+
throughput		X wafers/hr	+ +	+ +	+ +	+ +		
throughput of aut./prod.system		%	+ +					
WIP of aut./prod.system		%	+ +					
line yield of aut.line/non-aut. line		%	+ +					

ing/electr. speed issues

metrology

feature size/accuracy		X µm / Y nm	+ +	+ +				
overlay range/precision		X/Y nm		+ +				
particle size	unpatterned wafer gas phase liquids	X nm X nm X nm						+
impurities	metals on silicon metals in silicon liquids, gases	X x 10 ⁸ per cm ² X x 10 ⁸ per cm ³ X parts per trillion	+ + +	+ + +	+ +	+ +		
gate oxide	thickness (equivalent) accuracy in situ measurement	X angstrom +/- X angstrom yes/no	+ + +	+ + +				+

ACE	CHEM	IVPS	LITHO	SI	TEST	GAS

TESTING cluster road map.

		89	90	91	92	93	94	95	96	97	98
Process control											
mixed tester	prototype										avail.
	prod. system										avail.
pad size	prober			80					60		
positioning abs. acc.	(μ) prober			+/- 2.5							
probe to pad alignment					t.b.d.						
size of wafers	prober			6"			</= 8"				
adaptability tester/prober v.v.					O.K.						
MTBF/MTTR	hrs			n.a.			2000/24				
set-up time (change of product/probe card)							< 1 min.				
throughput (die to die)/(wafer to wafer)			200 ms/ 60 s			100 ms/ 30s					
pin count (mixed) A/D = N/512-8N				N</=8			N</=64				
data rate (logic + emb.mem.)	(MHz)			40			100				
timing asc. (logic + emb.mem.)	ps			375			200				
conversion	HDTV			n.a.			100 MHz/8bits				
	TV		n.a.			20 MHz/12bits					
	Audio			n.a.			1 MHz/14 bits				
	Telecom/ISDN				n.a.		CCIR spec.				
	Hifi Audio/DAB							20 kHz/20 bits			
Environmental control											
compatibility with CR class	prober			1000			100				
temperature/humidity control				above dew point							

JESSI confidential

N.H.D. 92.05.27

d_roate.xls

Contacts

- cluster spokesman PL 183 Villemain
- cluster mentor Kamerbeek
- contacts to JESSI via program officer Dekkers

Action/meetings

- SET -> French Gov. re: funding
- Schlumberger -> DTI re: Univ. of Sussex
- Schlumberger look for alternative (Univ of Sussex)
- or alter project plan
- meeting E183 with Application
- 26 May St. Etienne next meeting TEST cluster
- competitive situation per cluster according format

TESTING - 6 -

missing elements

- low cost testing (relation MST ?)
- testing of MCMs (unsure market perspective)
- probing foils
- automatic diagnostics
- low cost testing
 - SW
 - stripped tester
 - built-in test
 - design for testability

TESTING

Reliability and quality are of prime objectives for today's IC makers. Both ends are achieved by testing, which is then a critical step within IC manufacturing. As mixed ICs become the core of key segments of Europe's electronic industry (e.g. ISDN, DAB, HDTV), mixed testing capabilities must be secured locally (E183). Moreover, cost-effective testing stresses wafer screening as opposed to final test; an European prober (E179) is then required for competitive manufacturing. The TEST cluster offers European test solutions well-suited for today's and tomorrow's European needs.

Market (estimates)

	World Market 1991	Euro-pean Market 1991	CAGR 91/96	JESSI Partners Market Share
E179	1,000 units	10 %	-	0 %
E183	600 M\$	10 %	10 %	10 % (W) 20 % (E)

Technical Relevance of the Project Activities

E183: The only European test solution for mixed IC testing; targets the digital-predominant segment, that is to produce core ICs for targeted domains (HDTV, DAB, ISDN).

E179: The awaited and unique European alternative for the IC manufacturers.

Technical Capability of Project Partners

E183: Schlumberger has been an ATE supplier for more than 20 years with world-class hits like S20, S15/S1650, ITS 9000; operates in Europe with R&D, Marketing and Manufacturing; serves a worldwide market.

E179: SET has 15 years of experience in producing and selling probing equipment. TRF acts as the worldwide specialist to define the needs and evolution of probing industry.

Effect of JESSI Support

- Enables vertical cooperation between E/M suppliers and end-users.
- Enables horizontal cooperation between complementary suppliers.
- Makes developments of new equipment possible with PA funding.

Relationship of JESSI T and E/M projects.

	T1	T4	T8	T9	T14	T15	T20	T22	T30	T32
lithography	+					+	+		+	
plasma etch	+						+		++	
thermal proc.	+					++			++	
deposition	+						+		++	
process modules	+			(+)	+					
equipment	+				+	+				
materials	+					+				+
design	+	+		+				+		
modelling/simulation	+						+	+		
test/electr.char.	+			+			+	+		+
packaging	+	+		+						+
reliability/defect mgt.	+	+		+		+	+	+		+
masks	+		+							+
factory control/mfg.			+							+
ind.eng./automation			+		++	+			+++	+

PROJECT MONITORING

- *half yearly reporting procedure*
 - *instructions for reporting (PO)*
 - *review of report by JSMB*
 - evaluation of report by JSMB and PO*
 - request for update by PO*
 - review of update by JSMB-EM and PO*
 - *review of report by JBSG*
 - evaluation sheet by JBSG reviewer*
 - *approval by JB*
 - *control of procedure by PO*
- *review in cluster meetings*
- *visits to individual projects*

CONCLUSIONS

- *increased efficiency inside clusters
(horizontal cooperation)*
- *start of tuning between clusters E/M and T
(vertical cooperation)*
- *more focus on business aspects
(time to market, market relevance)*
- *efficient approach
(management, information)*

Drs. R. P. KRAMER
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Distribution list to the
minutes of the GAT-BSG
meeting held in Dresden
on October 6, 1992



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Munich, October 13, 1992
HM/sm

To the Chairman of the JESSI Board:

Mr. Paletto

To the members of the Board Support Group:

Prof. Radelaar
Mr. Ernest
Dr. Haepp
Drs. Kamerbeek
Drs. Kramer
Mr. Lepetit
Mr. Monnier
Dr. Tischer

6AT - B56.
6th Oct. 92

To the members of the GAT Interface Group

Prof. Radelaar
Mr. Ernest
Mr. Guyot
Mr. Haserer
Drs. Kamerbeek
Drs. Kramer
Dr. Sauer
Dr. Villa

To the members of the JESSI Office:

Dr. Dekkers
Dr. Grünwald
Mr. Le Goascoz
Mr. Sethi
Dr. Trilhe
Mr. van den Hurk



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Munich, October 13, 1992
 HM/sm

**Minutes of the GAT-BSG meeting held in
 Dresden on October 6th, 1992**

0. Participants:

**Governmental Action Team
 (GAT)**

Mr. Babinet
 Mr. Broster
 Mr. Dominé
 Dr. Dudde
 Mr. German
 Mr. Gislon
 Drs. v.'t Hof
 Mr. McAuley
 Dr. Oertl
 Dr. Weigmann

JESSI

Mr. Guyot
 Mr. Haserer
 Drs. Kamerbeek
 Drs. Kramer
 Mr. Le Goascoz
 Dr. Meyer
 Dr. Sauer
 Mr. Sethi

1. Funding situation 1992

The GAT members presented updated funding figures for 1992. Besides several minor changes, an expected increase of the EC funding was reported. The figures distributed (see enclosure 1) still contain several mistakes, a final version of the papers will be distributed by the GAT before October 12th.

The GAT agreed to supply the JESSI Office regularly with the detailed funding status per project and per partner, in order to have a consistent database agreed between Public

Authorities and JESSI Organization. The information provided by the GAT has to be considered as confidential information. The information provided will be regularly checked by the JESSI Office and a feed back will be given to the Public Authorities.

2. Preparation of the JESSI Board/JESSI Committee meeting

2.1. Agenda

The GAT agreed on the proposed agenda (see **enclosure 2**). With regard to the press release, the JESSI Office is asked to prepare a proposal before October 19th.

2.2 JESSI October Review 1992

The GAT is generally content with the draft review prepared and considers the paper as coherent and complete.

As a general recommendation for the next Review, it was suggested to improve the reasoning for clustering of projects and to put still more emphasis on the description of results.

2.3 Strategy discussions

It was agreed that the revised JESSI Strategy paper will be discussed in the next GAT/Board Support Group meeting in November.

2.4 Strategy discussion in the JESSI Board/JESSI Committee meeting

The GAT was informed that the two back up papers for the strategy discussion will be distributed before October 8th and that the GAT members are invited to give a feed back before October 15th.

3. Budget plan 1993

The GAT members explained overviews on the funding provisions for 1993 (see **enclosure 3**). As the figures for Italy deviate significantly from previous overviews, Mr. Le Goascoz is asked to check the situation together with Mr. Gislon. The figures given by the EC include already an additional amount of 26.5 MECU for new project proposals that could be supported out of the remaining 70 MECU of ESPRIT funds which have not yet been allocated in detail to JESSI projects.

The GAT will provide the JESSI Office with an updated Budget Frame '93 before the JESSI Committee meeting.

The GAT distributed a list (see **enclosure 4**) which includes only those projects which have been unanimously agreed upon between all funding Public Authorities.

4. Funding frame 1993 - 1996

The GAT members explained an overview on the funding frames envisaged for the period 1993 - 1996. The EC funding situation for 1994 to 1996 is still under discussion (see enclosure 5). As for the '93 Budget Frame, the GAT will provide the JESSI Office with updated figures.

5. JESSI letter to Mr. Shotton, dated Sept. 18, 1992

The GAT members discussed the possibility to receive more detailed technical explanations regarding the different questions. JESSI recommended to use already established Monitoring meetings for more detailed information and to distinguish between the more general and strategic answers given to Committee members and the detailed information required by experts.

6. Future GAT/Board Support Group meetings

The GAT members recommended once more to consider their proposal made in the last meeting (only few official meetings with the regular presence of the Board Support Group Chairman, the Head of the JESSI Office and the Chairmen of the Subprogram Management Boards, other persons should be invited on request). JESSI was asked to come up with a proposal in the next meeting on November 11th.

7. Status of the JESSI/SEMATECH relation

JESSI explained the content and objective of the agreement presently in discussion with SEMATECH and informed the GAT that Drs. Kamerbeek has been nominated as official contact person for JESSI/SEMATECH discussions.

8. JESSI PR-activities

Dr. Meyer gave a short overview on the running and planned actions and asked the GAT to support JESSI-PR with suggestions and inputs. The GAT recommended to improve the contact with the national press.

9. Any other business

- a) The latest version of the keydata for E/M clusters and flagships was distributed to the GAT members.
- b) Next meetings: 11.11.92; 2 p.m., JESSI Office, Munich

H. Meyer

Funding Status of JESSI-Projects in October 1992 [MECU]

Application

Project / Cluster	F ^{a)}	G	I	NL	UK ^{a)}	CEC ^{a)}	TOT
Automotive Safety Electronics (AE 11, AC 8B)	2,89	4,5	-	0,33	0,1	-	7,82
Broadband Communication (AE 15B, AE 55B, AC61)	0,64FT + ?	1,55 + ?	-	-	1,17	-	2,72 ¹
DAB (AE 14, AC 5B)	1,04	4,5 + ?	x	1,51	0,3		7,35 ¹
HDTV (AE 10, AC 6, AE 56)	5,04	5,21 + 0,4 ²	-	3,3	0,32	-	13,86 ¹
Mobile Radio (AE 13B, AC 12B, AE 31)	1,49 ¹ + 1,55FT	2,75	-	0,83	-	-	5,07 ¹
Standards (AC 41B)	0,4 ¹	1,4	-	-	-	-	1,8 ¹
CAD-Frame (AC 1)	-	-	-	-		5,25	5,25
Advanced Display (AE 36B)	-	0,55 + ?	x	-	-	-	0,55 ¹
SMI AE 23)	2,5	1,2	-	0,65		-	4,35 ¹
SUM: Application	13,36 + 2,19FT	21,65 + 0,4 ² + ?	x	6,62	1,88 + ?	5,25	45,21 + 0,40 ² + 2,19FT

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

JESSI-GAT 92Oct05/UW/DO-V2

Funding Status of JESSI-Projects in October 1992 [MECU]

Equipment & Materials

Project / Cluster	F ^{a)}	G	I ^{a)}	NL	UK ^{a)}	CEC ^{a)}	TOT
Automated Clean Environment (T 14C, E 19, E 109C)	1,69 + 0,42 ² + ?	2,71	-	-	0,74 ¹	-	5,14 ¹ 0,42 ¹
Lithography (T8B, E39, E60, E64A, E162C, E104)	0,57 + ?	7,6	0,14 0,09 ²	3,99	0,82 ¹	-	13,12 ¹ + 0,09 ²
Clean Chemicals (E2A, E13C, E20, E77C, E88)	1,06 + 0,64 ² + ?	2,83	-	-	-	-	3,89 ¹ + 0,64 ²
Clean Gases (E2B, E181B, E186)	0,87 + ?	0,8	0,01 + ? ²	-	0,03	-	1,71 ¹
Clustered Deposition and Etching Optimisation (E5, E6B, E63C, E69, E74B, E96, E106, E164, E208)	?	1,65 + 0,62 + ?	0,09 ²	3,35	1,06 ²	-	5,00 ¹ + 1,75 ²
Silicon (E191, E66, E11, E15)	-	3,48	0,07 +0,06 ²	0,12	-	-	3,67 ¹ +0,06 ²
Testing (E179B, E183B)	1,55 ¹ + ? ²	1,0 + 0,3 ²	-	-	-	-	2,55 ¹ + 0,3 ²
SUM: Equipment & Materials	5,74 +1,06² + ?	20,07 +0,9² + ?	0,22 +0,24² + ?²	7,46	1,59¹ + 1,06²	-	35,11 + 3,32

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

Funding Status of JESSI-Projects in October 1992 [MECU]

Technology

Project / Cluster	Fr a)	G	Ia)	NL	UK a)	CEC a)	TOT
Basic Technology (Competitive CMOS Manufacturing) (T1, T4, T15, T30, T32)	12,75 ¹ + ?	-	11,60	2,25	-	13,25	39,85 ¹
CMOS Logic T20, T22	2,62 ²	2,60	-	2,61	-	23,0	28,21 ¹ + 2,62 ²
Packaging (BT 4, T9C, E9)	?	1,1	-	0,5	0,52 ¹ + 0,3 ²	-	2,12 ¹ + 0,3 ²
SUM: Technology	12,75 ¹ + 2,62 ² + ?	3,7	11,6	5,36	0,52 ¹ + 0,3 ²	36,25	70,21 ¹ + 2,92

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

Funding Status of JESSI-Projects in October 1992 [MECU]

Basic and Longterm Research (BLR)

Project / Cluster	Fa)	G	Ia)	NL	UKa)	CECa)	TOT
0,25 µ CMOS- ADEQUAT (BT 1)	-	1,0	-	-	-	3,5 ¹	4,5 ¹
SUM: BLR	-	1,0	-	-	-	3,5 ¹	4,5 ¹

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

JESSI-GAT 92Oct05/UW/DO-V2

Funding Status of JESSI-Projects in October 1992 [MECU]

Overview

Subprogramm	Fr) Fa)	G	Ia)	NL	UK) + ? a)	CEC) a)	TOT
Application	13,4 + ? + 2,2FT	21,7 + 0,4 ² + ?	x	6,6	1,9 + ?	5,3	48,91 + 0,42 + 2,2FT
Technology	12,8 ¹ + 2,6 ² + ?	3,7	11,6	5,4	0,5 ¹ + 0,3 ²	41,0	75,01 + 2,92
BLR	-	1,0	-	-	-	3,5 ¹	4,5 ¹
Equip, & Mat,	5,7 + 1,1 ² + ?	20,1 + 0,9 ² + ?	0,2 0,2 ² + ? ²	7,5	1,6 ¹ + 1,1 ² -	-	35,11 + 3,32
SUB-TOT,	31,9 ¹ + 3,7 ² + 2,2FT	46,5 ¹ + 1,3 ²	11,8 + 0,2 ²	19,5	4,0 ¹ + 1,4 ²	49,8 ¹	163,5 ¹ + 6,6 ² + 2,2FT
TOTAL	37,8	47,8	12,0	19,5	5,4	49,8	172,3

Status: no index or 1: contract prepared or issued;
x : Participation planned
FT : under responsibility of France Telecom

2: application received and/or funding planned
a) annualised figures

Agenda or the JESSI Board/JESSI Committee meeting
(October 20th, 1992, JESSI Office, Munich)

12:00 o'clock	Lunch (buffet, close to meeting room)	
1:00 p.m.	<u>Review</u> - Welcome Address - Report on project cluster "Automated Clean Environment" - Approval of the JESSI Review - Approval of the JESSI Budget 1993 - Open points/action points	(chaired by JESSI Committee Chairman) (JESSI Committee Chairman) (Project Leader) (Committee) (Committee) (Committee Board)
2:15 p.m.	<u>Strategic issues</u> - Introduction - Presentation Basic & Longterm Research in JESSI JESSI Public Relation Activities	(Chaired by JESSI Board Chairman) (JESSI Board Chairman) (JESSI Board Vice-chairman)
3:15 p.m.	<u>Summary</u> - Agreement on press release (if required)	(chaired by JESSI Committee Chairman)
3:30 p.m.	End	JESSI Office 11-9-92 JBLOCOT.XLS-HM/sm

Overview on Funding Provisions

[MECU Cost in '93*]

Subprogramm	F	G	I	NL	UK	CEC	TOT
Application	37,0	47,40	17,63	10,8	3,3	14,0	130,13
Equip, & Mat,	16,2	42,61	0,96	17,3	7,2	-	84,27
Technology	46,8	9,6	11,6 <i>a 15 milioni di</i>	10,9	2,8	70,0	151,7
BLR	-	-	-	-	-	18,6	18,6
Project CEC	-	-	-	-	-	26,5	26,5
TOTAL	100,0	99,61	30,19	39,0	13,3	129,1	411,20

* Decision on funding rate wil be done on project level by respective PA

Application

(Cost Estimations for '93 in MECU)

Project / Cluster	F	G	I	NL	UK	CEC	TOT
Automotive Safety	7,2	9,7	-	0,5	0,22	-	17,62
Electronics (AC 8C, AE 11B)							
Broadband Communication (AC61, AE 15C, AE 55E)	5,7	5,5	-	-	1,84	-	13,04
DAB (AC 5C, AE 14C)	3,3	9,1	5,0	3,0	0,56	-	20,96
HDTV (AC6B, AE10B, AE45D, AE56B)	9,3	8,3	1,23	5,0	0,68	-	24,51
Mobile Radio (AC 12C, AE 13C, AE 31D)	4,4	6,4	-	1,3	-	-	12,1
CAD-Frame (AC1B)	-	-	-	-	-	14,0	14,0
HDL Modelling (AC3C)	3,9	-	1,4	-	-	-	5,3
Standards (AC 41C)	1,0	3,0	-	-	-	-	4,0
SMI AE 23B)	2,2	3,0	-	0,5	-	-	5,7
<u>Advanced Display</u> (AE 36C)	-	2,4	10,0	-	-	-	12,4
CAD- Tools (AC 75)	-	-	-	0,5	-	-	0,5
SUM: Application	37,0	47,40	17,63	10,8	3,3	14,0	130,13

Equipment & Materials

(Cost Estimations for '93 in MECU)

Project / Cluster	F	G	I	NL	UK	CEC	TOT
ACE (Wafer Handling) (T14/E 19, E 109C)	5,1	6,63	-	-	2,4		14,13
Lithography (E39, E60B, E64AB, E104B, E162D, T8C)	1,1	13,94	0,52	8,7	2,2		26,46
Clean Chemicals (E2AB, E13D, E20C, E77D, E88B)	2,6	6,5	-	-	-		9,10
Clean Gases (E2BC, E181C)	2,1	2,9	0,03	-	0,2		5,23
CLUEDO (IVPS) (E5B, E6B, E63D, E69C, E74C, E96D, E106B, E164C, E208)	1,9	7,14	0,17	8,4	2,4		20,01
Silicon (E11B, E15B, E66B, E191E)	-	5,2	0,24	0,2	-		5,64
Testing (E179C, E183B)	3,4	0,3	-	-	-		3,70
SUM: Equipment & Materials	16,2	42,61	0,96	17,3	7,2		84,27

Technology

(Cost Estimations for '93 in MECU)

Project / Cluster	F	G	I	NL	UK	CEC	TOT
Competitive CMOS Manufacturing (T1B, T4C, T15B, T32B)	36,4	-	11,6	4,4	-	30,0	82,4
CMOS Logic (T20, T22)	6,9	7,2	-	5,7	-	40,0	59,8
Packaging (BT4B, T9D, E9)	3,5	2,4	-	0,8	2,8	-	9,5
SUM: Technology	46,8	9,6	11,6	10,9	2,8	70,0	151,7

* '92 figure - funding planned

Basic and Longterm Research (BLR)

(Cost Estimations for '93 in MECU)

Project / Cluster	F	G	I	NL	UK	CEC	TOT
ADEQUAT (0,25 μ CMOS) (BT 1)		-				18,6	18,6
SUM: BLR						18,6	18,6

Agreed Projects 1993 (Oct 1992)

Subprogramme	Cluster/Project	Agreed Projects
Application	Automotive Safety Electronics	AC 8C, AE 11B,
	Broadband Communication	AC 61, AE 15C, AE 55D
	DAB	AC 5C, AE 14C
	HDTV	AC 6B, AE 10B
	Mobile Radio	AC 12 C, AE 13C
Single Projects Application	CAD-Frame	AC 1B
	Standards	AC 41C
	CAD-Tools	AC 75
	Advanced Display	AE 36C
Equipment & Materials	Automated Clean Environment (ACE) (Wafer Handling)	T 14C / E 19, E 109C
	Clean Chemicals	E 2AB, E 13D, E 20C, E 77D, E 88B
	Clean Gases	E 2BB, E 181C,
	CLUEDO (IVPS)	E 5B, E 6B, E 63D, E 69C, E 74C, E 96D, E 164C, E 208
	Lithography	T 8C, E 39, E 60B, E 64AB, E 162D/T5D, E 104 B
	Silicon	E 11B, E 15B, E 66B,
	Testing	E 179C, E 183B
Technology	Competitive CMOS Manufacturing	T 4C, T 30
	CMOS Logic for Europrojects	T 20, T 22
	Packaging	BT 4B, E 9, T 9D
BLR	ADEQUAT	BT 1C

Funding frame envisaged [MECU]

(Oct 1992)

	1993	1994	1995/1996	Total
F	50,0	52,0	88,0	190,0
D	49,8	43,0	86,0	178,8
I	15,1	17,0	34,0	66,1
NL	19,5	20,0	38,0	77,5
UK	6,7	5,0	10,0	21,7
CEC	64,6	76,0	?	140,6 +?
Total	205,7	213,0	256,0	674,7

Drs. R. P. KRAMER
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14 DEC. 1992 /507

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Munich, December 10, 1992
TvdH/kk

Distribution list to the minutes of the GAT-BSG
meeting held in Brussels
on December 1st, 1992

Mr. Paletto

Prof. Radelaar
Mr. Ernest
Dr. Haapp
Mr. Kamerbeek
Mr. Kramer
Prof. Dr. Lawes
Mr. Lepetit
Mr. Monnier
Dr. Sauer
Dr. Tischer



Mr. Guyot

Dr. Dekkers
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Mr. Le Goascoz
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Munich, 1992-12-11
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Minutes of the GAT/GIG meeting
held in Brussels on Dec. 1st 1992

o. Participants

GAT

Mr. Broster
Mr. Cochet
Dr. Dudde
Dr. German
Mr. van't Hof
Dr. Weigmann

JESSI

Mr. Ernest
Mr. Guyot
Dr. Holtwijk
Mr. Kamerbeek
Mr. Kramer
Prof. Dr. Lawes
Dr. Meyer
Prof. Dr. Radelaar
Dr. Tischer
Mr. T.v.d. Hurk

(invited for point 6)

Agenda

1. Opening and approval of the agenda
2. Review of the comments of the JEMT
3. Discussion of the letter of Dr. Rupf and the answer from Mr. Paletto
 - 3.1 The role of Equipment and Materials within JESSI
 - 3.2 CAD
 - 3.3 Broadband Communication
 - 3.4. BLR
 - 3.5 Contact persons from GAT
4. Format of future meetings
5. SEMATECH
6. Strategy paper
7. Why brochure
8. Funding
9. A.O.B.
10. Planning dates GAT

1. Opening and approval of the agenda

The agenda has been approved.

2. Review of the comments of the JEMT

Comments of the JEMT:

The committee was pleased by the Review. They were especially happy with the good working relations they have with the JESSI Office. They are impressed by the procedures.

Six clusters have been reviewed:

- Broadband Communication
- Competitive CMOS Manufacturing (good cooperation, some items however need to be improved)
- Cluedo (some difficulties with partners)
- Automatic Clean Environment MST included (very good)
- Silicon Cluster (nothing but progress)
- Mobile Radio (ok)

A meeting should be held by two or three people from the GAT and the PO's from the JESSI Office for further detailed discussion which was agreed by Prof. Radelaar.

How could JESSI take advantage of the positive regarded results. The GAT answered that these will be used in the discussions reporting to the parliaments, but there was some doubt whether it would be convenient to go public with it.

3. Discussion of the letter of Dr. Rupf and the answer from Mr. Paletto

3.1. Role of Equipment and Materials within JESSI

E&M working group

Mr. Kamerbeek points on the difficulty in the evaluation of equipment. The three parties, governments, equipment industries and the equipment users should meet: During the discussion several topics were raised, such as:

- The relation between evaluation and buying
- The number of European users compared to those with Sematech in relation with the focus of the equipment makers
- The real interest of the European users (IC industry)

It was decided to discuss this in the next BSG meeting.

3.2. CAD

There was some discussion, a.o. on the JCF, but since there was no representative of JSMBBA this issue was not really addressed.

3.3. Broadband Communication

AE55: The GAT mentioned that there were some difficulties in the cooperation. A new proposal will be made.

3.4. BLR

Prof. Radelaar: the BLR community was disappointed with the results of the JC meeting.

Dr. Tischer presented a status paper from the working group (see enclosure1):

- roadmap of the prep. work
- technical topics to be discussed during the BLR-workshop
- workpackages
- example of a proposal
- evaluation of BLR support topics
- definition of BLR work within JESSI
- JESSI BLR, apart from European research of MEL

Dr. Duppe raised the question about the issue of having BLR as a separate subprogram or not.

Prof. Radelaar explained once more the outline which was presented to the JESSI Committee.

Dr. Meyer remarked that for BLR an agreed budget envelope is needed as it has been initially agreed for all subprograms.

3.5 Contact persons from the GAT:

Dr. Duppe for BLR
Mr. van't Hof for E&M and
Mr. German for P.R.

4. Format of future meetings (see proposal T.v.d.Hurk, enclosure 2)

Accepted without comments.

5. SEMATECH

The general question of the GAT is: "is SEMATECH" really interested to cooperate"?

Mr. Kamerbeek: in SEMATECH there is a strong "buy

"American" thinking! but there are examples of cooperation and exchange of information certainly when there is no reliable American solution. e.g. in the projects:

- mini environment
- mask blanks
- metrology tools

The interest is to work together as much as possible.

The GAT mentioned the name and address of a possible contact person from Darpa. She deals with 500 projects:

Mrs. Arati Prabhaka,
Director of Microelectronics,
Techn. Office, DARPA/MIL
Tel. +1-703 696 2236
Fax: +1-703 696 2201

6. Strategy paper

The GAT welcomes a draft document before the end of '92 as it was requested by the JC as well.

7. Why brochure (see enclosure 3 paper Mr. Th. Holtwijk)

There were a lot of individual remarks made by the GAT. They will be taken into account in the discussion with Dr. Holtwijk (meeting Dec. 6th, 1992).

8. Funding

The GAT members informed JESSI about the present funding situation:

Germany: The 25% blocking has not yet changed. It should be considered as an internal parliament discussion which is expected to be solved soon. With regard to the '92 funding there are no problems.

The Netherlands: There existed a general block by the Dutch government which is now released.

France: no problems

Italy: no input from Italy

EC: A question mark can be put on how far the 1.6 BECU for FW-III extension will be reliable?
Next call probably January 1993.

The GAT agreed to update the detailed funding information for JESSI until early January.

9. A.O.B.

- a) the paper "Preparation of the JESSI April Review 1993" (Dr. Meyer Nov 30th, 1992) was handed over to the GAT.
- b) GAT has difficulty in filing some information from JO. Action: Prof. Radelaar.

10. Planning dates GAT'93

11 Jan	The Hague	GAT
27 Feb	Paris	GAT
25/26 Mar	Rome	GAT
15 Apr	London	GAT
16 Apr	London	GAT/GIG
26 Apr	Brussels	JC
27 Apr	Brussels	JC/JB
6 May	Bonn	GAT
7 May	Bonn	GAT/GIG

Th. van den Hurk.

Th. van den Hurk

BLR Workshop: Roadmap of the Preparatory Work

Activity	Status
* Distribution of an inquiry list with 130 technological themes	done
* Evaluation of these themes by the IC companies	done
* Definition of 10 technical topics for the workshop	done
* Selection of the top 50 themes of the inquiry list	done
* Nomination of industrial experts (one per IC company per topic) for the preparation of the workshop	done
* Proposals of workshop attendees from research institutes from different countries	in progress
* Definition of industrial experts groups	done
* Information of the expert groups about the preparation of the workshop	done
* Preparation of one proposal (needs, objectives, work packages, milestones, manpower) for each top 50 theme by the expert groups	in progress
* Invitation of the attendees of the workshop corresponding to the proposals of the expert groups	calendar week 49, 1992
* Distribution of the proposals to the participants of the workshop	calendar week 49, 1992
* Workshop	Dec. 14th/15th
* Follow up activities	

Technical Topics to be discussed during the
BLR Workshop

- 1 Lithography
- 2 Plasma Etching
- 3 Cleaning, Deposition, EPI
- 4 Implantation, Annealing, RTP
- 5 Metallization, Interconnects
- 6 Packaging + MCM's
- 7 Reliability + Characterization
- 8 Materials
 - Chemicals, Gases
 - Silicon
- 9 Device + Modelling
- 10 Process Control + Manufacturing

Process-Modelling + Metrology + Clustering +
Contamination at each topic

Workpackages:

WP1: Simulation of the influence of various ARCs on the imaging quality on flat and non-flat surfaces

WP2: ARC on flat substrates

- Measurement of substrate reflectivity
- Deposition of ARC, adhesion problems, reflectivity, homogeneity, stripping, etching
- Lithographic process without and with ARC / Imaging quality
- Compatibility with a full process

WP3: ARC on real (topography) wafers (needs close contact to industrial partners)

- Same points as for WP2
- Special problems at steps, rims, holes and with depth of focus

WP4: Comparison of various ARC techniques (and dyed resist)

Milestones

Milestones per sub-topic of the workpackages

Manpower

Estimated manpower per workpackage per year

Example of a Proposal

Technical Topic of the BLR Workshop: Lithography

Theme: Antireflective Coatings (ARC)

Need:

A center of excellent knowledge of

- * the reflection and interference processes
- * the optical properties of materials on chip and the ARC-materials.

Necessary Equipment/Techniques for Experimental Work

- * Deposition: Sputtering or Spin-on
- * Exposure: Wafer stepper or experimental exposure unit
- * Resist processing
- * Measurement of reflectivity and of critical dimensions
- * Thickness measurement
- * Measurement of optical constants

Recommended Institute

- * Name, Address, Leader
- * Reasons for this recommendation

EVALUATION OF BfR SUPPORT TOPICS

Ranking within Sub-Headings: Highest Rank First

Plasma Etching

Ser.	No.	* Improved etching control	Tick. results	Total Rank
26	- Mechanisms of etching (selectivity and anisotropy)	7 1 0	7 1	4
25	- Physics and chemistry of plasmas	3 3 2	8 0	20
29	- Methods for exact endpoint detection	5 3 0	6 1	21
27	- Plasma diagnostics (real time)	3 5 0	7 0	24
28	- Wafer clamping/cooling for low temperature etching	4 3 1	2 5	124
Ser.	No.	* Defect Generation and Elimination	Tick. results	Total Rank
30	- Radiation damage	8 0 0	7 1	2
32	- Local charging	6 0 2	7 1	10
34	- Impact of different defects on device characteristics	5 3 0	6 2	28
31	- Ionic contamination	5 3 0	5 2	39
35	- Polymer deposition	6 2 0	4 3	69
36	- Microloading effects	7 1 0	3 4	116
33	- Particle generation	8 0 0	3 5	126
Ser.	No.	* Dry Etching of multi layer resists	Tick. results	Total Rank
37		1 3 2	2 2	96
Ser.	No.	* New Solutions	Tick. results	Total Rank
41	- New chemistries, low temperatures	3 4 1	8 0	19
38	- Low pressure, high density plasmas	5 2 1	5 2	41
39	- Photo induced etching	0 4 4	4 2	92
40	- Laser ablation	0 2 6	2 2	97

Statements

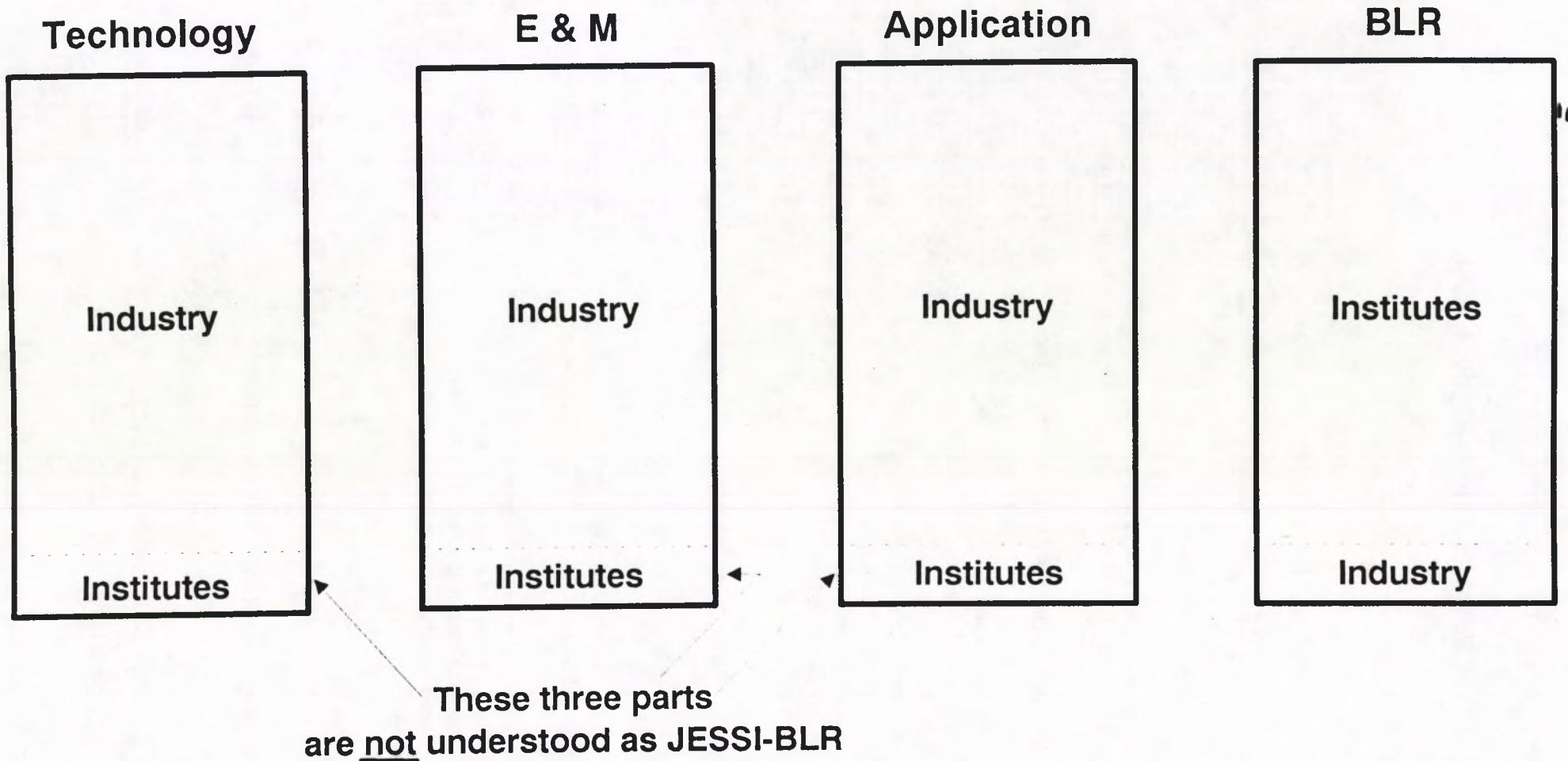
* Combine etching with lithography

Tick. results
+ o - Y N
1 3

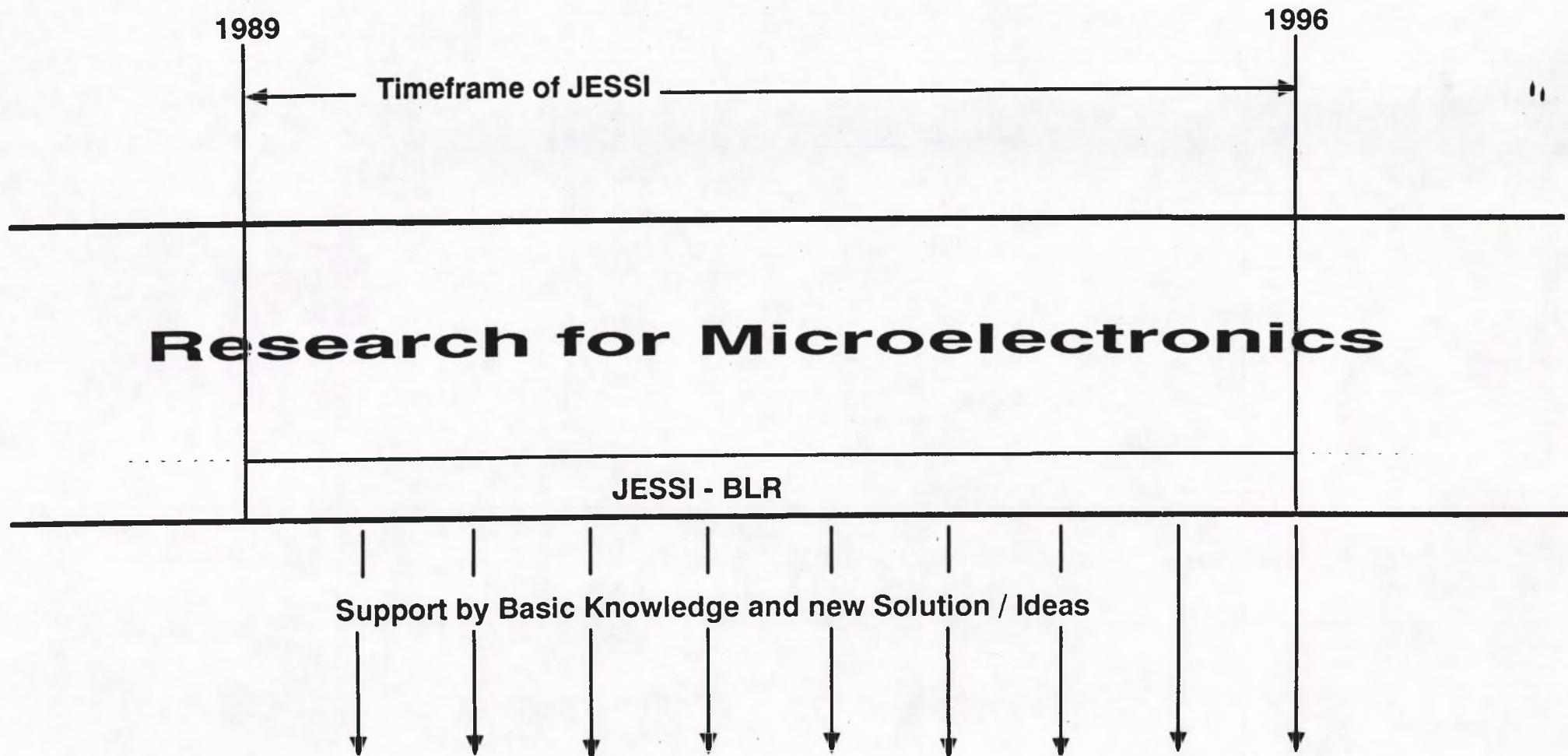
* Etching with conventional systems should not be a large field of investigations

Tick. results
+ o - Y N
3 1

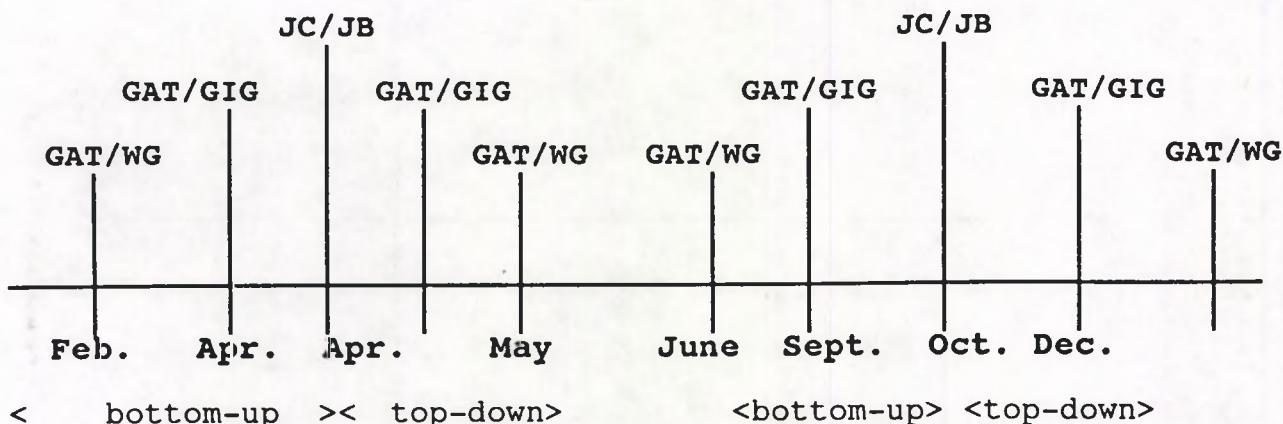
Definition of "BLR" - Work within JESSI



JESSI - BLR. a part of European Research for Microelectronics



- Proposal for GAT-JESSI Meetings



1. The JC/JB meetings in April and October are the two leading events to which the GAT/GIG and GAT/WG's are synchronised.

2. There are four GAT/GIG meetings:
participants are:

- (GAT)
- JESSI Board-vice-chairman
- BSG
- Chairmen of JSMB's
- JESSI Office people: office manager, the responsible coordinator
- those involved in and/or invited for special points of the agenda

The issues here are a.o. strategy, PR, funding, preparation and follow up on JB/JC meetings.

3. There are approx. 4 to 6 Working Group meetings (GAT/WG), working on relevant issues such as budgets etc.
participants are:

- (GAT representatives)
- invited members from the BSG and the JESSI Office (depending on topics)
- those involved in and/or invited for special points of the agenda.

4. Mr. T. van den Hurk is responsible for the organisation of the activities (from the JESSI side) including preparation of the minutes.

WHY brochure :-

An outline of the current thinking about the WHY brochure.

Three parts:

1. A one page textual summary of the reasons behind JESSI
2. A management summary in the form of a set of compact statements covering all essential elements
3. A multipage illustrated story explaining the reasons behind JESSI

Management summary

1. The importance of microelectronics
2. The essence of microelectronics
3. World-wide competition in microelectronics
4. JESSI

The illustrated story

1. The history of electronics
2. The evolution of microelectronics
3. The applications industry
4. The exploitation of microelectronics
5. Europe's position
6. World-wide competition
7. The rationale for public support

**These documents were distributed
during the GAT meeting**

Enclosed please find copy of it for your convenience.

EUROPEAN PARLIAMENT

COMMITTEE ON ENERGY, RESEARCH AND TECHNOLOGY

Monday, 30 November 1992
from 3 p.m. to 6.30 p.m.
97-113, rue Belliard

VAN MAERLANT Building, Room 3

BRUSSELS

PROGR A MME

for the hearing on

semiconductors: role and prospects
for research and technological development in Europe

3 p.m.

General introduction

RTD and the semiconductor industry in Europe: a review
following the recent major industrial agreements

Institution standpoints

- Mr GRATA, Commission of the European Communities

Industry standpoints

- Mr DAUVIN, SGS-Thomson

3.15 p.m.

Session I

Introduction and prospects: a product and market approach

- Car industry sector: Mr BOMHARDT (TEMIC Telefunken/
Daimler-Benz)
- Telecommunications sector: Mr PETIT (ALCATEL)
- Mass market sector (multimedia): Mr DINKLO
(Philips)

3.40 p.m. - 4.25 p.m. Discussion with the members of the committee

12 November 1992

4.25 p.m.-

Session II

Standpoints of semiconductor manufacturers

- . Mr PISTORIO, SGS-THOMSON
- . Mr KNORR, SIEMENS
- . Mr SAXBY, ARM (Advanced RISC Machines)
- . Mr HAGMEISTER, Philips

4.55 p.m. - 5.40 p.m. Discussion with the members of the committee

5.40 p.m.

Session III

Research and development - the European programmes

- . Mr LACOUR, CEA; former director, LETI, Grenoble

5.50 p.m. - 6.20 p.m. Discussion with the members of the committee

6.20 p.m.

Conclusions

File. 60 document.

(2)
JESSI
D.S.G

Drs. R. P. A. AMER
RECEIVED
22 APR. 1993
COPY TO JSMB-T

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Munich, 1993-04-15
TvdH/KK

**GAT/GIG Meeting held in the JESSI Office in Munich
on March 26th 1993**

0. Present:

GAT:

Mr. Broster
Mr. Cochet
Dr. Dominet
Dr. Dudde
Dr. German
Dr. Gislon
Mr. van't Hof
Dr. Weigmann

Working Group JSMBT/BLR:

Prof. Dr. Heuberger (point 1)
Mr. Kamerbeek
Dr. Tischer

BSG and Chairmen JSMB's:

Dr. Dumas
Dr. Glauert
Dr. Sauer

JESSI Office:

Dr. Dekkers (point 1)
Mr. van den Hurk
Mr. Le Goascoz
Dr. Meyer
Mr. Sethi

1. Discussion on the Technology-BLR workshop document

Because of efficiency reasons this discussion of the JESSI working group with the GAT representatives was connected to the subsequent GAT/GIG meeting and put as the first point on the agenda.

The draft document March'93 was sent to the GAT and the BSG on March 22nd. Dr. P. Tischer gave a presentation at the beginning of the meeting. It was well explained how the work was organized the topics inventorized and the results obtained.

- The general conclusion from the GAT was that a valuable document is generated, the action was very much appreciated.
- With respect to stimulation/funding, PA's saw as possibilities for pushing increasing resources:
 - * the better use of existing resources,
 - * the capability to drive new resources,
 - * to generate proposals.
- It should not be restricted to ESPRIT.

JESSI: There is a lot of danger for JESSI projects of being shifted from national PA's to EC and visa versa.

This document was an initiative of Technology and BLR. JESSI will decide on the status and distribution of and on possible extension to E/M and Application topics.

2. April Review

- 2.1 Executive summary has a wider distribution.
Should not simply follow technical notes out of the body text.
JESSI: We know this and are working on it.
- 2.2 With respect to application, take the comments into account made at the event of the Oct.'92 review.
JESSI: This is a draft, improvements will be made.
- 2.3 Show the added value of cooperation in JESSI.
JESSI: We introduced a chapter "Cooperation in JESSI". Two presentations on market relevance will be given in the JC/JB meeting on April 27th, one on CAD, one on Technology.
- 2.4 CEC regrets the negative point in the JSMBT +/- report on differences in JESSI and ESPRIT procedures.
(Red: I checked this point later on; it was a mistake. It will be left out in the final version).
- 2.5 The results in the JSMB subprogram reviews are not enough pointed out, they should be more convincing.
- 2.5.1 Leave out many years lists in JSMB subprogram reviews.
JESSI: we will do so.
- 2.5.2 Application review was not done on cluster bases whereas the other JSMBs were.
JESSI: next time.
- 2.5.3 AE56 only one line reported. Sleeping?
JESSI: this is only a summary, condensed 10:1.
(Red. After checking this: real work was done, this project is not sleeping, as a plus point in the +/- report could eventually be added that the prototype of the recorder is finalized).
- 2.6 The Strategy update.
- # Milestones for results rather weak set.
 - # Not understandable how topics were chosen.
 - # JESSI could say things in a more positive way.
 - # Goals are weak.
 - # Addressed markets not explicitly said.
- The GAT admitted that we are converging, that the document already was a great improvement.
- # Exploitation of results might be stressed more.
 - # Still JESSI is very much technology oriented, missing additional arguments are:
 - the importance of local suppliers,
 - the early access to the latest technology.
 - # The conclusive section should not be a list but convincing text.
- JESSI: we will do our best to integrate the comments before Tuesday March 31st and send this "update strategy document" out as part of this April'93 review. Furthermore the strategy is a continuing story.

As a user, the GAT remarked that the strategy update document among the other papers as e.g. (the why brochure) etc. is the most important outstanding document for them in their relations with their governments.

Final remark EC: "Milestones to be most important".

3. E&M / Technology discussion

Mr. E. Kamerbeek gave a presentation on the JESSI discussion held on March 18th in Eindhoven. After the meeting with the GAT, his sheets are mailed to the GAT.

Main conclusions from the March 18th meeting on three topics:

1. More information exchange.
2. Participation of E&M in Technology projects and visa versa.
3. Combined use of results.

Comments from the GAT:

- valuable progress
 - it helps
 - good starting point
 - need more commitment from technology
 - responsibility for T should be more evolved
 - we cannot rely on European standards, welcome outsiders as far as balanced.
 - evaluation of E&M in institutes under conditions.
- Proposal E. Kamerbeek: evaluation of proposals, "do that together".

But also critics from the GAT:

- it took too much time before this started
- only part of the problems are considered
- want to hear more of a "Buy European Philosophy".

Use the JC/JB meeting as a forum for the discussion.

Remark Mr. Kamerbeek:

Even if this is beyond the scope: "IC industry should inform European equipment makers on short-term replacement". Maintain existing strength.

4. Budget 1994

Mr. Le Goascoz presented the draft budgetplan as it was discussed in the 42nd BSG meeting.

5. JB/JC meeting on April 27th '93

The draft agenda was presented by Dr. H. Meyer.
The EC will be represented by Mr. Grata.

6. PR

A list of major PR related issues was presented by JESSI. There was an extensive discussion on the idea of a JESSI-Day eventually to be held in October'93. The intention is to present midterm JESSI results sufficiently technical and at the same time sufficiently open.

7. **Relation with SEMATECH**
On April 5/6th a meeting will take place in the JESSI Office with Sematech representatives.

The French government questions whether the balance in information exchange is sufficiently assured and requests to monitor the situation.

8. **Any other business**

Next meeting:
May 19th in Rome,
host: Dr. R. Gislon

T. v. d. Hurk

H. van den Hurk.

cc: Mr. H. Hagmeister
Board Support Group
Chairmen JSMB's
JESSI Office

D melezy
1993

envi nai

GAT, meeting



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Munich, 1993-05-28
ThvdH/KK

DRAFT

Notes on the GAT/GIG (GAT/BSG+) meeting held in Rome on May 19th'93

0. Participants

GAT

Mr. D. Broster
Mr. C. Cochet
Dr. A. German
Dr. R. Gislon
Mr. W. van't Hof
Mr. D. Oertel
Dr. U. Weigmann

JESSI

Dr. G. Dumas
Mr. J. Ernest
Mr. Th. van den Hurk
Mr. E. Kamerbeek
Dr. A. Sauer
Dr. P. Tischer

Agenda

1. Wrap-up and action points of the April 27th '93 JB/JC meeting.
2. Project and/or partner related funding problems if any
3. Organisational issues in the JESSI Office
4. JESSI < - > SEMATECH
5. E/M < - > BLR
6. Preparation October '93 review report
7. BLR
8. Next meeting dates
9. Any other business:
 - a. ST-Mitsubishi
 - b. Interactions JESSI-ESPRIT
 - c. Japanese owned company
 - d. JESSI News, JESSI "In brief":
 - distribution lists,
 - general (dis)satisfaction?
 - e. - Future of JESSI

1. Wrap-up and action points of the April 27th '93 JC/JB meeting.
 - The GAT expressed the general positive feelings in the committee after the presentations made by JESSI. The letter which will be sent by Mr. Grata to Mr. Hagmeister will reflect this positive sense.
 - Mr. Broster remarked that a restriction of the number of topics is desirable for this meeting.
 - A meeting on June 9th will be held between representatives of the GAT (McAuley, van't Hof) and the JO Program Officers to discuss the comments made by the JEMT.
 - The JEMT report is confidential and for governmental use only but, once given to parliaments, leakage is out of control. The GAT took note that JESSI doesn't feel happy with this situation.
 - Dr. Dumas will intensify his contacts with Dr. Le Pair to have him better informed.
 - The new tasks for the JEMT as asked by the JC:
 - * Look for JESSI strategy
 - * international cooperation (wider than Europe, also Japan and Sematech)
 - * flagship cluster, links to other European projects

2. Project and partner related funding problems

E213

Leica "Metrology Tools". It was confirmed by the BMFT in Dec. '93 that it would not be funded at the cost of other projects. But two weeks ago it became a problem. Therefore Leica cannot start now. This project is of high interest for the JESSI-Sematech cooperation and it was labelled with the advice that it would be funded (Dr. Dudde).

Short comment Dr. Weigmann:

At this time the BMFT cannot accept new projects, due to momentarily changes in the government and the near future gives reason to be pessimistic.

E63 (CIWARM)

Yesterday still no contract in France and also not in the UK. It is expected that the problem will be solved within one month.

McAuley: UK waiting for application from Plessey.

E164

IBM France stepped out (but not because of lack of funding). Introducing of GRESSI as a new partner can only occur if French industry is involved.

E162 (DEEP UV project)

Still waiting for funding in The Netherlands since ASM-L application for funding is missing.

Mr. Kamerbeek to check.

3. Organisational issues JESSI Office

- In a few weeks a document on the JESSI P.O. role will be ready.
- Technical reporting:
 - Broster: The EC is prepared to change/adapt its calendar for technical reports (not for financial report; it can be disconnected).
 - Mr. Broster (again) insisted that the EC does not require

so much paperwork (such as e.g. 200 pages).

4. JESSI / SEMATECH

- The question of Mr. del Prado was repeated by the GAT. "Do we get any information back?", a warning against an unbalanced situation
- Mr. Kamerbeek presented the conclusions and discussions of the JESSI - SEMATECH meeting of April 5/6 in Munich (see enclosure 1) in 15 sheets distributed to the GAT.
- 1. Progress report on the joint project Mini-environment / Autowec
- 2. Balance of benefits between JESSI and SEMATECH (Mr. Kamerbeek remarked that getting technical info from SEMATECH will be limited).
- 3. SEMATECH's mission will become broader
- 4. There has been proposed a meeting between Mr. Hagmeister and Mr. Spencer.
- 5. Experience on information exchange agreement in the mini-environment.
 - *Remarks were made on the restrictions from the US government side to disclose any information when US partners have to sign. e.g. an alliance disclosure document.
- It is expected that these strong regulations will even be enforced in the near future.
- 6. Mask Blanks
- 7. Modelling
- 8. Mask technology
 - * On PSM tools dependency a discussion with Prof. R. Lawes is needed (also related to chart 2).
- 9. Phase Shift Mask Technology
- 10. IVPS
- 11. Wet cleaning
- 12. Silicon next wafer size
- 13. Cost of ownership model
- 14. Standard future mask work
- 15. Next meeting: October week 40 or 41 in Austin

5. E & M Technology

The GAT emphasized the following already known issues:

- Stimulate MST to take on board E&M suppliers
- The GAT warmly welcomes that some user companies will inform E&M companies on the replacement of equipment. The GAT would like to be informed about progress made.
- The GAT would like to be invited as an observer to first MSIG meeting (Mr. van't Hof is contact).
- The possibilities for funding β-site testing will be investigated by the GAT.
- The GAT would like to receive the document in which the commitments of suppliers and users will be detailed (common E&M development and evaluation strategy).
- The GAT would like to be informed about the outcome of the analysis of the roadmap for future E&M and manufacturing technologies.
- Changing the attitude of the European IC-producers is more an action for industry than it is for governments.

- The GAT will investigate the possibilities for stimulating institutes to buy European E&M.
- The proposed workshop for BLR/EM/T/PO's is something that might be organised by the MSIG and/or the MSST-consortium.

6. Preparation October '93 review

- JESSI explained that its preparation is part of a more or less established procedure which of course will continuously be improved.
- The GAT asked again to focus on results in the executive summary and asked for a wider distribution of this summary (note: Eureka Secretariat is added to the distribution list).
- The GAT was concerned about leaving out a positive statement on funding in the final April 27th document. (Chapter 1.6). It was explained by JESSI that this was done on request of the JC in order to stop the argument.

7. BLR

The following remarks were made:

- There exists much appreciation for the BLR Technology initiative.
- Hope that something similar will occur for the other areas of cooperation.
- The GAT sees a difficulty in the effect of a distribution of the documents in institutes and universities which had not participated in the workshops. Don't raise expectations which at the end result in a negative effect. In order to avoid this danger an accompanying letter will serve.

8. Next meeting dates

As a reaction on the already proposed date by JESSI the GAT supplied a scheme. The only difference was the date of the GAT/GIG meeting for October 7th. It was agreed that this meeting now will take place on October 1st in The Hague. On July 8th the GAT proposed to have an informal meeting. JESSI will react on this. So far now all the meetings with the GAT are confirmed.

Meetings 1993

17 June	GAT	Brussels
8 July (afternoon)	GAT/BLR//E&M WG	Paris
9 July	<i>Budget '94</i> GAT/Funding WG	
6 September	<i>Budget '94</i> Funding WG	London
7 September	GAT	
30 September	GAT	The Hague
1 October	GAT/BSG <i>(Budget '94 approval)</i>	
14 October	GAT	Paris

cont'd.

cont'd.

8 November	GAT	Munich
9 November	GAT/BSG	
2 December	GAT	Italy
3 December		

9. Any other business

9.a. SGS-Thomson / Mitsubishi

Dr.G. Dumas will take action to get more information from SGS-Thomson to allow a possible JESSI attitude and not only a reaction to negative comments.

9.b. Interactions JESSI - ESPRIT

- Parallel submission AC79(HIFRESI) and AC85 (KISSME).
 - * There will be no parallel submission.
- after the unofficial review by Tischer, Sauer, Kamerbeek (solicited by Mr. Hugen) of microelectronics projects submitted and judged close to JESSI by the Hugen team.

Projects can be listed into 3 categories:

- I. Projects which are not applicable for one reason or another.
 - II. Projects that seem technically in the general targets of JESSI but which are not in the priority list of JESSI such as defined by JB due to financial possibilities.
 - III. Projects which eventually could be added to MST, TIBIA etc. (55% category).
- GAT will get all accepted PDD's by the subprogram boards.

9.c. Japanese owned company (Kratos).

A letter will be sent to J.McAuley about the rejection of the project E224 (see enclosure 2).

9.d. JESSI News, JESSI "In brief"

- distribution lists will be prepared by each GAT member and sent to the JO within 2 weeks.
- In contrast to the remark made by Mr. Dominé the GAT showed its satisfaction with the current JESSI News publications.

9.e. Future JESSI

GAT: Come up with convincing proposals to continue JESSI containing new ideas and not a single JESSI continuation along the same wording.

Th. van den Hurk

Th. van den Hurk

cc: Mr. H. Hagmeister
members of the Board Support Group
chairmen of the JSMB's
members of the JESSI Office

JESSI - SEMATECH MEETING
April 5 and 6, 1993
JESSI OFFICE, MUNICH

Conclusions and decisions

EK/05 '93-0

enclosure 1

JESSI - SEMATECH MEETING
April 5 and 6, 1993

1. Progress report on the joint project Mini-environment/Autowec

- Progress report by Davis and Honold accepted.
- It was concluded that good progress has been made, particularly in the area of standards and information exchange.
- Comparison has to be made on the usefulness for both parties and the balance of the information shared. Report at the next meeting requested.

JESSI - SEMATECH MEETING
April 5 and 6, 1993

2. Balance of benefits between JESSI and SEMATECH(1)

- Project info on JESSI projects shared with SEMATECH.
- Marketing information from SEMATECH and market opportunities in the USA for E&M companies.
- Exchange on standards and specifications such as the next wafer size discussion.
- An agreement could be reached that both parties accept to be dependant on each others capabilities in certain areas.

JESSI - SEMATECH MEETING

April 5 and 6, 1993

2. Balance of benefits between JESSI and SEMATECH(2)

- JESSI/SEMAPTECH taskforce needed to define the "Balance of information exchange".

Sofar we observed the following activities that take place either in Europe or in the USA.

Europe

- Silicon
- Mask Metrology
- Mask Blanks
- Mini environments.

USA

- Ion Implantation
- PSM Tools?
- Cost of ownership program

More activities by JESSI in the area of packaging would be appreciated by SEMATECH, since there are no specific programs in this area in the USA.

Combined activities are observed in the following areas:

- Standards
- Modelling.

The issue of cross-dependency has to be further investigated and explored.

JESSI - SEMATECH MEETING
April 5 and 6, 1993

3. **SEMAPTECH's mission will become broader** and this means that more cooperation opportunities will occur.

The JESSI Technology Subprogramme should become involved in the discussion during the next JESSI-SEMAPTECH meeting.

JESSI - SEMATECH MEETING
April 5 and 6, 1993

4. A **meeting** between **Mr. Hagmeister and Mr. Spencer** is proposed.
Amongst others a ratification on a joint approach on Silicon and PSM tools
should be discussed.

JESSI - SEMATECH MEETING
April 5 and 6, 1993

5. Experience on **Information Exchange Agreement** in the Mini environment joint project should be used to have a model for next joint projects.
 - Initiate next IEA's timely. (action *Johnson*)
 - Regular update and improvement of IEA'S (action *Johnson*)
 - Alert project leaders and legal officers on cooperation agreement. (action *Kamerbeek/Gotz*)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

6. Mask Blanks

- Update on Mask Blanks schedule and specification to SEMATECH
(action *Kamerbeek/Heindorf*)
- DuPont to supply regular progress update
- SEMATECH to supply benchmark information based on evaluation of BQL
blanks
(action *Singh*)
- JESSI to evaluate productive participation by SEMATECH.
(action *Kamerbeek*)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

7. Modelling

- JESSI to resolve the modelling project. SEMATECH has high interest to participate in a joint project. (action *Kamerbeek--> BSG*)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

8. Mask Metrology

- Leica to present to the MASC the model LMS 20xx
(action *Bläsing*)
- Establish a working interface between Leica and SEMATECH
(action *Smith/Bläsing*)
- SEMATECH to poll its members about Leica via questionnaire.
(action *Smith*)

JESSI - SEMATECH MEETING April 5 and 6, 1993

9. Phase Shift Mask Technology

- JESSI to label PSM first before any next action
(action *Rüttenauer/Kamerbeek*)
- Propose a joint workshop on PSM tools (action *Singh*)
- JESSI to define participants to such workshop (from the "project" partners).
(action *Rehländer*)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

10. IVPS

- SEMATECH to find out whether a cooperation is feasible via SEMATECH or via its member companies (action *Harper*)
- JESSI to label phase 2 and phase 3
- Standard wafer handler and standard software are desirable.

JESSI - SEMATECH MEETING
April 5 and 6, 1993

11. Wet Cleaning

- Keep SEMATECH updated. (action *project leaders* and *Venu Menon*)

JESSI - SEMATECH MEETING

April 5 and 6, 1993

12. Silicon next wafer size

- SEMATECH proposal to form a joint team
 - SEMATECH to provide its Silicon roadmap
 - JESSI to provide silicon technology and sub-technologies
- JESSI conclusion needed (action Kamerbeek)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

13. Cost-of-ownership model

- CoO software programme in Excel or Lotus 123 can be made available on a royalty free license agreement basis via the JESSI organisation to the JESSI members.
(action *Gotz*)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

14. Standard future Mask work

- Is JESSI interested to participate in MASC workshop?
(Kamerbeek to check with Rüttenauer)

JESSI - SEMATECH MEETING
April 5 and 6, 1993

15. Next meeting: October week 40 or 41 in Austin

- Agenda amongst other items: SEMATECH to report on new activities.



Mr. J. McAuley
Department of Trade and Industry

UK-London SW1W 9SS
London
151 Buckingham Palace Road

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Munich, May 24, 1993

en0524_3

Dear Sir,

It is with regret that we realise that the letter sent by JESSI to the project leader of the project "Quality Control of 0.25 CMOS Technology, Using Surface Multi-Imaging" (JESSI-project file nr. E224) has been formulated in an inappropriate way and does not properly present the JESSI position towards the projects proposal in general and the Kratos position in particular.

The JESSI SMB for Equipment and Materials has evaluated the proposal and came to the following conclusions.

The technique proposed is in comparison to other proposals challenging but not crucial for sub-0.25 μ CMOS device technology.

This is also demonstrated by the lack of potential equipment users in the proposal. The consortium consists of one equipment maker, two universities and an industry which is not clearly involved as a user or evaluator of the equipment. It is stated that Thomson CSF will participate but they certainly do not play the role of user-evaluator of the equipment. There is doubt that the limited funds available within JESSI should be spent on this project and the commercial relevance of the project or the product is also not very clear.

EVALUATION OF THE PROPOSAL.

- The application is almost uniquely in the research area.
- The technical content of the proposal is vague. It is not clear whether a UHV-SEM with Auger detector, a complex combined instrument with SIMS, ESCA SNMS and AES/SAM or any other combination is the target: a surface analytical microscope is mentioned.
- Supposing it is a UHV-SEM/SAM, then it is questionable whether the mentioned chemical composition variation at nanometer scale is feasible.
- The market mentioned is unclear to us: what segments, which applications (e.g. including Hitachi S7000/S8000 for instance). This needs clarification.
- The software part of the York work is already included in the Basic and Longterm project "ADEQUAT", so we see no reason for duplication.
- In this market Kratos is a small player compared to VG, Perkin Elmer PHI and Cameca. It is in our opinion an issue to be addressed whether this development can be covered by a small company as Kratos. By the PDD as submitted it has therefore not been demonstrated that Kratos provides the unique added value as needed for inclusion of a non-European company.

Basically the question that arises in our minds is: Why do the major players, given the market figures as presented in the document, not appear on the scene. Are the technical risks too high or is the market not so attractive?

While the ownership of the company was discussed, the above were the reasons why the proposal was rejected.

We certainly hope, that this explanation justifies, also in your view, the decisions taken and, once more, we apologize for all inconvenience caused.

Best regards.

Dr. Dumas
Vice-Chairman
of the JESSI Board

Drs. Kamerbeek
Chairman of the Subprogram
Equipment and Material

File: Government



D
JESSI

JESSI Office
Office of the JESSI Organization

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Munich, 15 July 1993
TvdH/KK

To: Mr. H. Hagmeister
The members of the Board Support Group
The chairmen of the JSMBs
Press Officer
JESSI Office
cc: Mr. Wim van't Hof

Dear Madam,
Dear Gentlemen,

From the Dutch representative of the GAT (Mr. W. van't Hof) I received the enclosed letter from the Dutch Minister of Economic Affairs in which he is defending and explaining JESSI to the Dutch Parliament. He is presenting status, financing, results and BLR.

I made a (unauthorised) translation of it to give it a wider distribution in JESSI.

Kind regards,

Th. van den Hurk

Th. van den Hurk
(JESSI Program Coordinator)

copy.
F. VILLER
G. NATHENAN
G. ZOCCHI
AC. VASUTH

encl.

Unauthorised translation

21620 JESSI-Program

nr.9 Letter from the Minister of Economic Affairs.

To the chairman of 'de Tweede Kamer der Staten-Generaal' (the Dutch parliament)

The Hague, May 13th '93

During the Extended Commission Meeting of March 25th '93 on industrial policy, the financing possibilities and the information technology policy I have promised to inform the parliament on the status with respect to the Eureka-program JESSI (Joint European Submicron Silicon). The specific cause for this was the question ' why had JESSI in the evaluation of the information-technology-policy '89/'92, not been taken into consideration'. With a project of the size and complexity of JESSI however in fact one can speak of a continuous evaluation.

With the annex of my letter of May 27th 1993 to the chairman of 'de vaste Commissie voor Economische zaken' (permanent commission for economic affairs), I have informed the parliament on the international evaluation of JESSI which took place in the middle of 1991. Besides that, there are independent national and international expert-commissions which are reporting each half year on the progress of the programme and which, if necessary, are indicating where improvements will be possible. With respect to the latter I would also like to point at the related paragraph in the June 1992 report of 'de Algemene Rekenkamer' (the department for checking and controlling governmental activities and its financial expenses).

Moreover there exists a very intensive and frequent contact between the ministeries of the involved countries, the Commission of the European Communities - together as well as individually - and with the involved companies. All together through this there has been built up a structure which makes careful monitoring and checking of the program possible.

Status of JESSI

After the start-up phase of JESSI per 31 December 1991 it was decided to restructure JESSI following the so-called <>flagship-concept<>. This concept means that coherent projects (JESSI nowadays already has more than 60

projects) are clustered in so-called flagship-clusters. The goal of this restructuring is to increase the internal consistency while this restructuring at the same time should lead to a better tuning of the objectives and the time schedules of the various projects, even beyond the boundaries of the flagship-clusters (i.e. the enforcement of the ties between technology and (future) application). This restructuring is completed now and the conclusion cannot be anything else than that this has led to positive results. The better connection between the projects is now becoming more clearly visible. Besides this the contacts between the different technology areas within JESSI, which are the production facilities for integrated circuits (IC's), the IC-production-techniques and the applications of IC's, are strongly improved.

This does not mean that there are no more improvements possible or necessary. The companies participating in JESSI are encountering changing markets and opinions which they have to deal with. Consequencely, the strategy which was formulated in 1990 must be re-adjusted. The industrial JESSI organisation is strongly working on this and the first results are looking encouraging. Part of this re-adjusted strategy will be at the same time that JESSI will pay more attention to disseminate acquired results to other companies.

Financing of JESSI

As I have indicated in the annex of my letter of May 27th '92 most of the authorities involved in JESSI as well as the EEC (organised in the JESSI Committee) had given indications about the amount of money they had allocated for JESSI in 1992. In total an amount of Mfl 440 was involved, of which the Netherlands should take Mfl 43 on their account. Looking backwards about Mfl 390 had been spent by the members of the JESSI Committee in 1992 on JESSI.

This difference can be explained through:

- a. internal procedures of the CEC by which as a consequence some projects started later than planned;
- b. the slow decision making process in Italy.

The Netherlands stuck to their commitment.

Although, in spite of the agreements made, some discrepancies were met, the end conclusion cannot be anything else than that the made agreements have contributed to an enforcement of JESSI and by that, to the enforcement of the position of the industry. Also the industry itself is of this opinion.

As a consequence it has been decided by the members of the JESSI Committee to indicate also for 1993, which amounts of money are reserved for JESSI. For 1993 a total

amount of about Mfl 480 is allocated. The increase compared to 1992 will be caused by a larger contribution of the CEC. The Dutch contribution remains roughly at the same level as in 1992.

Results of JESSI

More important than the amount of money flowing into JESSI are of course the outcoming results.

The only conclusion is that a first stream of results with a highlevel technology content is now clearly visible. In this respect the following examples can be mentioned:

- 16 Megabit EPROMS(Electrically Programable Read Only Memories) are being made available to users for further evaluation;
- 0,5 micron CMOS process-technology will be made available to European users. This means that it will be possible for these users to have an IC made at a European IC-manufacturers facility using the most modern technology;
- the development of a very advanced stepper at ASM Lithography, a machine which is crucial for the production of advanced IC's;
- CAD tools which are developed within JESSI are being brought to market
- the realisation of an IC for receivers of digital radio broadcasting. This IC finds its way now further on in the Eureka 147 project (Digital Audio Broadcasting).

Besides this there are also other signals showing the success of JESSI. Philips Semiconductors, also thanks to JESSI, moved one place up from the 10th to the 9th position on the worlds ranking list of IC-manufacturers while at the same time its profits are strongly improved. In the meantime the cooperation between Philips and SGS-Thomson in the area of IC-technology was structurally shaped. Further on ASM Lithography worked itself up to a position of the third producer of steppers in the world behind two Japanese companies to which it comes ever closer.

These last examples are exclusively related to the Dutch situation, but also for companies from other countries such positive examples can be mentioned.

Basic and Long-term Research

In the annex to my letter of May 1992 I concluded that the part Basic and Long-term Rearch (BLR) within JESSI did not yet develop well, nationally nor internationally. This situation in fact did not change in 1992 but a huge step in the good direction has been made. The industry has made an inventory of the BLR-subjects it really needs and how universities and institutes (possibly within

their already current activities) can play a role herewith.

This will be worked out further on now. I am intending to take into consideration the results from this into the discussions on the enforcement of the cooperation between industries and research institutes (the so-called cluster formation).

Conclusion

From the above it may be clear that the situation within JESSI is satisfying and that the first results are concrete. Although the European micro-electronics industry finds itself still in a relative weak position because of the valley in which the European market is situated, I am of the opinion that surely JESSI will contribute to the enforcement of this branch of industry which is so important for the Netherlands and Europe.

Minister van Economische Zaken,
(Minister of Economic Affairs)
J.E.Andriessen

Tweede Kamer, vergaderjaar 1992-1993, 21 620, nr. 9

Vergaderjaar 1992-1993

21 620

JESSI-programma

Nr. 9

BRIEF VAN DE MINISTER VAN ECONOMISCHE ZAKEN

Aan de Voorzitter van de Tweede Kamer der Staten-Generaal

's-Gravenhage, 13 mei 1993

Tijdens de UCV van 25 maart jl. over het industriebeleid, de financieringsfaciliteit en het informatietechnologiebeleid heb ik toegezegd de Kamer nader te informeren over de stand van zaken met betrekking tot het Eureka-programma JESSI (Joint European Submicron Silicon). De concrete aanleiding hiertoe was de vraag waarom JESSI buiten beschouwing bleef in de evaluatie van het informatietechnologiebeleid 1989/1992. Bij een project van een omvang en complexiteit als JESSI is er echter in feite sprake van een permanente evaluatie.

Met de bijlage bij mijn brief van 27 mei 1992 aan de Voorzitter van de Vaste Commissie voor Economische Zaken heb ik de Kamer geïnformeerd over de internationale evaluatie van JESSI die medio 1991 heeft plaatsgevonden. Daarnaast bestaan er nationaal en internationaal onafhankelijke expert-commissies die ieder half jaar rapporteren over de voortgang van het programma en die, indien noodzakelijk, aangeven waar verbeteringen mogelijk zijn. Wat dit laatste betreft wil ik u tevens wijzen op de desbetreffende passage in het Juniverslag 1992 van de Algemene Rekenkamer.

Daarnaast is er een zeer intensief en frequent contact tussen de ministeries van de betrokken landen en de Commissie van de Europese Gemeenschappen onderling en – gezamenlijk en individueel – met de betrokken bedrijven. Al met al is hiermee een structuur opgebouwd die een zorgvuldig volgen en toetsen van het project mogelijk maakt.

Stand van zaken JESSI

Na afloop van de startfase van JESSI per 31 december 1991 is besloten tot een herstructurering van JESSI conform het zogenaamde «flagship-concept». Dit concept houdt in dat samenhangende projecten (JESSI kent thans meer dan 60 projecten) worden gegroepeerd in zogenaamde flagship-clusters. Het doel van deze herstructurering is het

verhogen van de interne consistentie terwijl dit tevens moet leiden tot een betere afstemming van de doelen en tijdslijnen van de verschillende projecten, ook over de grenzen van de flagship-clusters heen (het versterken van de banden tussen technologie en (toekomstige) toepassing).

Deze herstructurering is thans voltooid en de conclusie kan niet anders zijn dan dat deze tot positieve resultaten heeft geleid. De betere samenhang tussen de projecten begint duidelijk zichtbaar te worden. Daarnaast zijn de contacten tussen de verschillende technologie gebieden die binnen JESSI worden bestreken, te weten produktiemiddelen voor geïntegreerde schakelingen (ic's), ic-productietechnieken en toepassingen van ic's, sterk verbeterd.

Dit betekent niet dat er geen verbeteringen meer mogelijk of noodzakelijk zouden zijn. De aan JESSI deelnemende bedrijven hebben te maken met in de tijd veranderende markten en inzichten waarop zij moeten inspelen. Dit heeft tot gevolg dat de in 1990 geformuleerde JESSI strategie moet worden bijgesteld. Door de industriële JESSI Organisatie wordt hieraan hard gewerkt en de eerste resultaten zien er bemoedigend uit. Onderdeel van deze bijgestelde strategie zal tevens zijn dat JESSI meer aandacht zal geven aan het uitstralen van de behaalde resultaten naar andere bedrijven.

Financiering van JESSI

Zoals ik in de bijlage bij mijn brief van 27 mei 1992 heb aangegeven zijn door de meeste bij JESSI betrokken overheden van de Commissie ^{en} van de Europese Gemeenschappen (verenigd in het JESSI Committee) indicaties afgegeven over de gelden die zij voor 1992 hadden gealloceerd voor JESSI. In het totaal ging het hier om een bedrag van circa f 440 mln. waarvan Nederland f 43 mln. voor zijn rekening zou nemen. Achteraf bekijken is door de leden van het JESSI Committee in 1992 circa f 390 mln. besteed aan JESSI. Het verschil is te verklaren door: a interne procedures bij de Commissie van de Europese Gemeenschappen waardoor bepaalde projecten later dan gepland van start zijn gegaan; b de trage besluitvorming in Italië.

Nederland is zijn toezegging nagekomen.

Hoewel zich dus, ondanks de gemaakte afspraken, toch enige strubbelingen hebben voorgedaan kan de eindconclusie niet anders zijn dan dat de gemaakte afspraken hebben bijgedragen aan een versterking van JESSI en daarmee op termijn ook bijdragen aan het versterken van de positie van de industrie zelf. Ook de industrie is deze mening toegedaan. Besloten is dan ook om ook voor 1993 aan te geven welke bedragen de leden van het JESSI Committee voor JESSI hebben gereserveerd. Voor 1993 gaat het hierbij om een totaalbedrag van circa f 480 mln. De toename ten opzichte van 1992 wordt met name veroorzaakt door een hogere bijdrage van de Commissie van de Europese Gemeenschappen. De Nederlandse bijdrage blijft ongeveer op hetzelfde niveau als in 1992.

Resultaten van JESSI

Belangrijker dan de gelden die in JESSI gaan zijn natuurlijk de resultaten die eruit komen. Hier kan de constatering niet anders zijn dan dat een eerste stroom van resultaten met een hoog technologisch gehalte thans

duidelijk zichtbaar is. In dit verband kunnen bijvoorbeeld worden genoemd:

- 16 Megabit EPROMs (Electrically Programmable Read Only Memories) worden ter beschikking gesteld aan gebruikers voor verdere proefingen;
- 0,5 micron CMOS procestechnologie wordt ter beschikking gesteld aan Europese gebruikers. Dit betekent dat deze gebruikers bij de Europese ic-producenten een ic kunnen laten vervaardigen met behulp van de modernste technologie;
- de ontwikkeling bij ASM Lithography van een zeer geavanceerde stepper, een machine die cruciaal is bij de produktie van ic's.
- Binnen JESSI ontwikkelde ontwerp middelen voor ic's worden thans naar de markt gebracht;
- de gereedkoming van een ic voor ontvangsttoestellen van digitale radio-omroep. Dit ic vindt nu verder zijn weg in het Eureka 147 project (Digital Audio Broadcasting).

Daarnaast zijn er ook andere signalen die aantonen dat JESSI een succes is. Zo is Philips Semiconductors, mede dank zij de JESSI resultaten, op de wereldranglijst van ic-producenten geklommen van de tiende naar de negende plaats terwijl tegelijkertijd de resultaten sterk zijn verbeterd. Tevens heeft de samenwerking tussen Philips en SGS Thomson op het gebied van ic-technologie structureel vorm gekregen. Verder heeft ASM Lithography zich weten op te werken tot de derde producent van steppers ter wereld achter twee Japanse bedrijven die het bovendien steeds dichter weet te benaderen.

Deze laatste voorbeelden hebben uitsluitend betrekking op de Nederlandse situatie, ook voor bedrijven uit andere landen zijn echter dergelijke positieve feiten te melden.

Basic and Long-term Research

In de bijlage bij mijn brief van 27 mei 1992 constateerde ik dat het onderdeel Basic and Long-term Research (BLR) binnen JESSI zowel nationaal als internationaal nog niet goed op gang is gekomen. Deze situatie is in 1992 feitelijk niet veranderd maar er is een flinke stap in de goede richting gezet. De industrie heeft geïnventariseerd aan welke BLR-onderwerpen men daadwerkelijk behoeft heeft en hoe universiteiten en onderzoeksinstututen (mogelijk binnen hun reeds lopende activiteiten) hierbij een rol kunnen spelen. Dit wordt thans verder uitgewerkt. Ik heb het voornemen de resultaten daarvan te betrekken bij de discussies over het versterken van de samenwerking tussen bedrijven en onderzoeksinstellingen (de zogenaamde cluster-vorming).

Afronding

Uit het bovenstaande moge duidelijk zijn dat de situatie binnen JESSI bevredigend is en dat de eerste resultaten er mogen zijn. Hoewel de Europese micro-elektronica industrie zich nog steeds in een relatief zwakke positie bevindt doordat de Europese markt momenteel in een dal zit, ben ik van mening dat JESSI zeker zal bijdragen aan het versterken van deze voor Nederland en Europa zo belangrijke industrie.

**Minister van Economische Zaken,
J. E. Andriessen**

MESSAGE

Subject: GAT/BSG JESSI MEETING - AMSTERDAM OCT. 1ST
Sender: Gerard MATHERON/GRENOB/01

Dated: 10/07/93 at 06:05.

Contents: 2.

Part 1.

FROM: Gerard MATHERON/GRENOB/01

TO: Jo BOREL/GRENOB/01
Michel MONTIER/GRENOB/VX
Jean-Claude VASUTH/GENTIL/01
Enrico VILLA/AGRATE/01
Giuseppe ZOCCHI/AGRATE/01

CC: Joel MONNIER/GRENOB/01



Part 2.

MAIN ISSUES DISCUSSED :

1. T1 PROJECT :

BMFT OFFICIALLY NOTIFIED SIEMENS THEY WILL NOT FUND T1 AS IT IS.
T1 IS THUS AGAIN ENDANGERED.

AFTER SEPARATE MEETING WITH DUMAS AND DOMINE (SERICS), IT HAS BEEN PROPOSED THAT A LETTER SHOULD BE SENT TO MR. LOMBARD TO AGAIN EXPLAIN THE INTEREST OF ST TO COOPERATE WITH SIEMENS ON A "LARGE VOLUME MANUFACTURING" PROJECT. MR. LOMBARD COULD THEN TRY TO CONVINCE DR. RUPF TO SUPPORT SIEMENS WORKING ON IT. THE SAME COULD BE DONE IN ITALY. ST WILL CONTINUE PROPOSING FLASH EEPROM AS THE DEMONSTRATOR EVEN IF THE PROPOSAL HAS TO BE PARTLY REWRITTEN MOSTLY ON SIEMENS SIDE BEFORE GOING TO JESSI BOARD FOR LABEL.

2. JESSI BOARD - JESSI COMMITTEE - PARIS OCTOBER 29TH

AN INTERESTING TOPIC TO BE DISCUSSED IS :

"A VIEW FROM INDUSTRY ON JESSI 1995-96 AND BEYOND". GOVERNMENTS ARE EXPECTING FROM JB STRATEGIC VIEWS AND PRIORITIES, NOT JUST REQUEST FOR FUNDING.

THE ESPRIT FRAMEWORK IV WILL NOT BE DISCUSSED AS SUCH IN THE JB/JC COMMITTEE. HOWEVER JB COULD REGRET THE ABSENCE OF ANY REFERENCE TO JESSI IN THE IT SPECIFIC PROGRAMME TECHNICAL ANNEX.

A COORDINATED LOBBY AT ITC AND CREST LEVEL COULD BE ALSO USEFUL, PROVIDED INDUSTRY CAN DRAW A PROPOSAL FOR THE "POST JESSI". THE FINAL PROPOSAL SHOULD BE SUBMITTED TO THE COUNCIL RESEARCH FOR DECISION MID-DECEMBER.

3. JESSI "OCTOBER REVIEW" DOCUMENT

THE GAT CRITICISED A FEW POINTS OF THE DOCUMENT :
RELEVANCE TO THE MARKET (BENCHMARKING) STILL MISSING, LACK OF EXPLANATION ON THE "ADDED VALUE" OF THE DUSTERS, STRATEGY NOT WELL DEVELOPED (E.G. FOR CAD). COMPLEMENTARY LEAFLETS ON "SUCCESSES" WILL BE ISSUED BY THE JESSI OFFICE. SUBJECTS : EPROM, I-LINE LITHO, SIFRAME, 0.5 MICRON LOGIC,...

4. SEMATECH

GAT WILL REPORT AT OCTOBER 29TH MEETING ON THEIR VISIT TO SEMATECH. MAIN ISSUES : FUNDING OF 90 M\$ SECURED FROM ARPA, MORE WORK WITHIN COMPANIES PREMISES, CONGRESS PRESSURE FOR PRIORITY TO U.S. COMPANIES FOR DELIVERY OF OUTPUTS, TECHNICAL CONTENT TO BE ENLARGED TO TESTING TOOLS AND CAD. JSMB-T SHOULD PARTICIPATE IN THE NEXT JESSI VISIT TO AUSTIN.

5. 1994 BUDGET

ALMOST SECURED FIGURES ARE :

MECUS COST	F	G	I	NL	UK	EC
-----	-	-	-	--	--	--
TECHNOLOGY	45.2	4.4	33.1	7.4	1.7	88.7
E&M	22.2	42.4	3.1	22.8	4.7	-
APPLICATION	39.6	50.6	14.5	17.1	2.7	14.0
BLR	-	4.8	-	1.0	1.7	23.2
-----	-----	-----	-----	-----	-----	-----
TOTAL	107.0	102.2	50.7	48.3	10.8	125.9
1993 REFERENCE	97	100	45	39	13	103

BEST REGARDS

G. MATHERON
End of Item.