

000113.1.0

AGENDA

BOL | QMW | M | 0031.10

MANAGEMENT ISSUES

10.00 - 12.30

1. PROJECT ORGANOGRAM
2. ICC MANAGEMENT STRUCTURE
3. NUMBER & LIST OF Co-Is
4. ACTIONS & DEADLINES FOR MANAGEMENT PROPOSAL

AO BRIEFING PREPARATION

(WRITTEN QUESTIONS TO ESA DUE ON NOV. 10 (MONDAY))

1. REVIEW OF QUESTIONS 13.30
  - H/W
  - ICC
  - MANAGEMENT & FINANCIAL
2. FINALISE LIST OF QUESTIONS 14.30
  - MAIN AO
  - IID-A
  - SIRB
  - SMP

## ALTERNATIVE BOL ORGANOGRAM / MANAGEMENT STRUCTURE:

- FURTHER DEFINITION / ITERATION NEEDED

COMMENTS ON LAURENT'S NOTE; AND ALTERNATIVE SUGGESTIONS:

### 1.3.1 PI AND Co-PI:

- PI ROLE DEFINED IN SMP
- PI AND Co-PI ROLES/RESPONSIBILITIES ARE NOT EXACTLY THE SAME

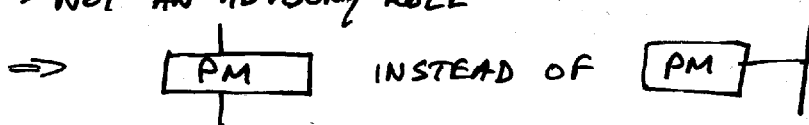
### 1.3.2 BOL STEERING GROUP

- AGREE IT IS ESSENTIAL
- "CO-CHAIRMANSHIP" BY PI AND Co-PI IS AMBIGUOUS
- AGREE WITH MEMBERSHIP AS PROPOSED

### 2.1 PROJECT MANAGER

- PM IS DELEGATED BY PI TO MANAGE PROJECT AND IS RESPONSIBLE TO PI

⇒ NOT AN ADVISORY ROLE



## 2.2 S/W PROJECT MANAGER

- COORDINATING ROLE IS IMPORTANT
- SHOULD IT BE A MANAGERIAL ROLE?
  - ARGUMENTS AGAINST:
    - LINES OF ACCOUNTABILITY PM — LOCAL MANAGERS ARE CONFUSED
    - MANAGEMENT OF ICC CONFUSED

ALTERNATIVE — THIS FUNCTION SHOULD BE PART OF SYSTEMS ENGINEERING

## 2.3 PROJECT SCIENTIST

- SOME ADDITIONAL RESPONSIBILITIES (SEE SEPARATE VIEWGRAPH)

## 2.4 INSTRUMENT SCIENTIST

- AS ABOVE

## 2.5 SYSTEM TEAM

### • VARIOUS OPTIONS:

- CHAIRED BY SINGLE "SYSTEMS ENGINEER"
- SPLIT INTO H/W AND S/W?
- WORK AS A TEAM RATHER THAN SPLIT RESPONSIBILITIES?

- MEMBERSHIP: SYSTEMS ENG. (CHAIR)
  - PM IS
  - PS
  - SPECIALIST ENGINEERS
  - AIV AND PA EXPERTS
  - CONFIGURATION CONTROLLER
  - OTHERS AS APPROPRIATE

## • CO-INVESTIGATORS

- HAVING SMALL NO. MAY POSE PROBLEMS WITH NATIONAL AND INSTITUTE SUPPORT (AT LEAST IN ITALY, USA ---)
- HAVING CO-IS ASSOC WITH INDIVIDUAL TOPICS
  - OK FOR SCIENCE ACTIVITIES (E.G. GUARANTEED TIME PROG. DEFINITION)
  - OTHER TOPICS AS LISTED INCLUDE PS AND IS RESPONSIBILITIES ⇒ POSSIBLE CONFUSION
- ALTERNATIVE PROPOSAL FOR NO OF CO-IS:

<u>UK</u> 6	<u>FR</u> 5	<u>USA</u> 2	<u>Italy</u> 2	SWE 1
PI 1	Co-PI 1	CALTECH 1	IFSI 1	STOCKH. 1
QMW 1	SACLAY 1	GODDARD 1	ARCETRI 1	
IC 1	LAS 1		PADUA 1	
RAL 1	IAS 1			
MSSL 1	<del>GREENBELT</del>			
ROE 1	MEVDON 1			

TOTAL: 16 +

## • ASSOCIATE SCIENTISTS

- NO LIMIT (BUT SHOULD AVOID "ASSOCIATE SCIENTIST INFLATION")

## ICC MANAGEMENT

- PREFER "ICC STEERING GROUP" ~~TO~~ INSTEAD OF "ICC SCIENCE TEAM"
- CHAIRMANSHIP OF THIS GROUP ?
- ICC PROJECT MANAGEMENT ?
  - SUGGEST OVERALL MANAGER AS SEEN BY ESA  $\equiv$  OPERATIONS CENTRE MANAGER
- ICC ACTIVITIES
  - WOULD BE USEFUL TO ADOPT SIMILAR CATEGORIES TO PLANCK

LEVEL 0	}	OPERATIONS
LEVEL 1		
LEVEL 2	}	DATA PROC <del>AND</del> SCIENCE ANALYSIS S/W CENTRES
LEVEL 3		
- ICC DEVELOPMENT PLAN NEEDED
  - BASED ON EM, QM, FM INTEGRATION & TEST PLANS

• SW Manager → OK under Systems Eng

• Manager? No [Under PM]

• Calib: Spec. PS ✓

Calib = Grand Calib

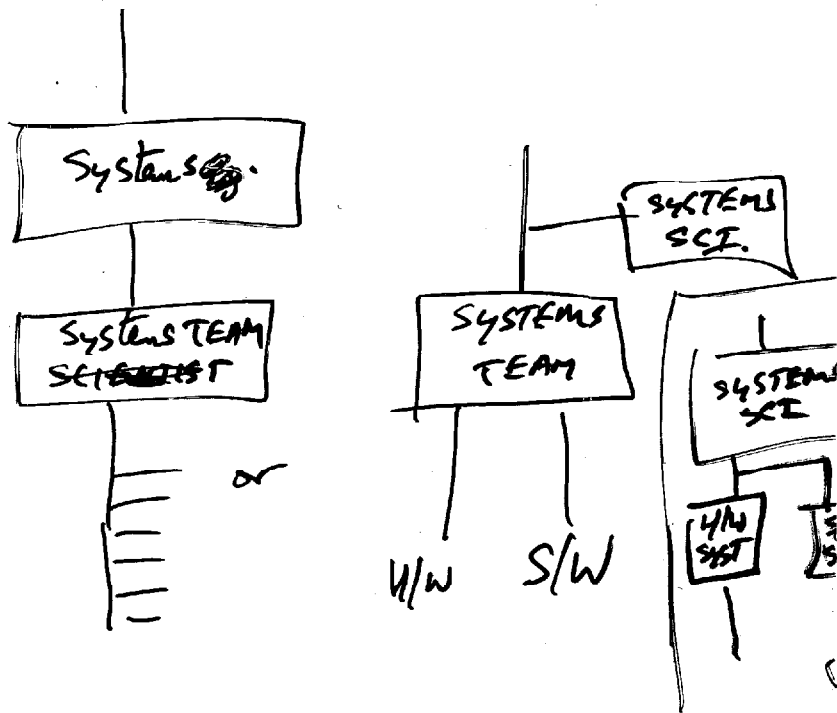
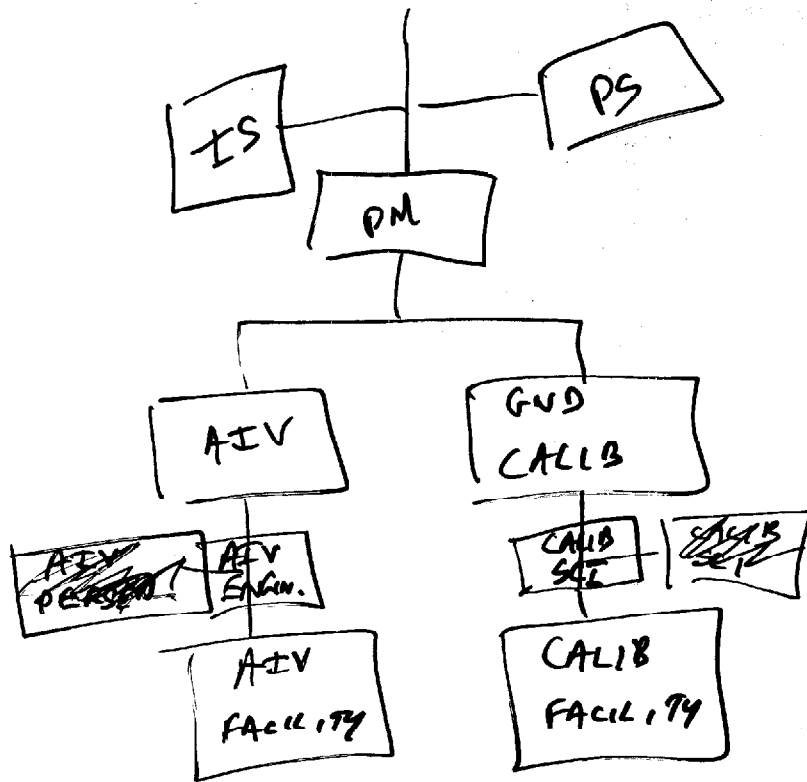
IS directs team w/ Calib Sci.

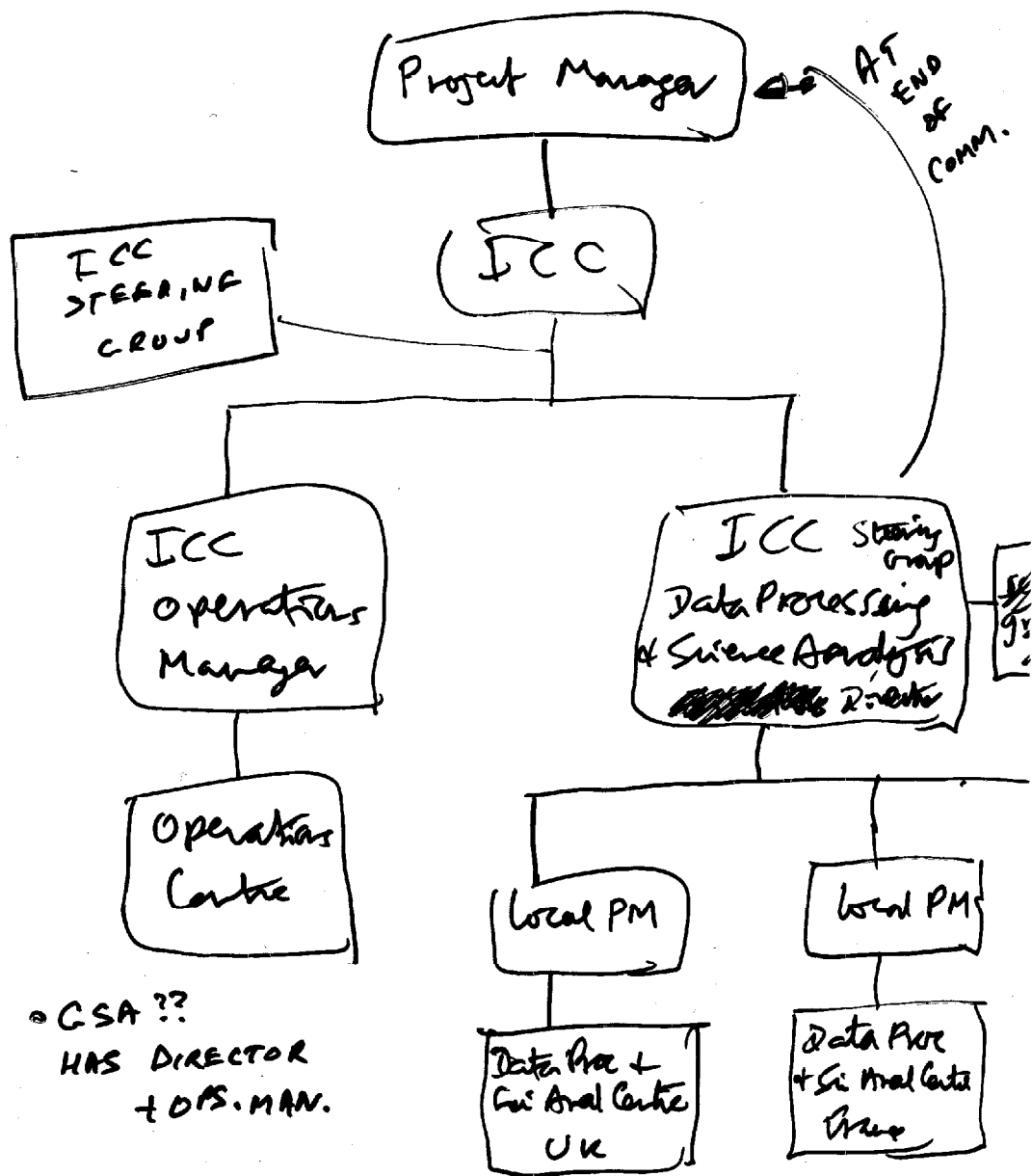
• AIIV and Grand Calib

• Systems Team

• One charac. ≡ "Scientist"

• Need to



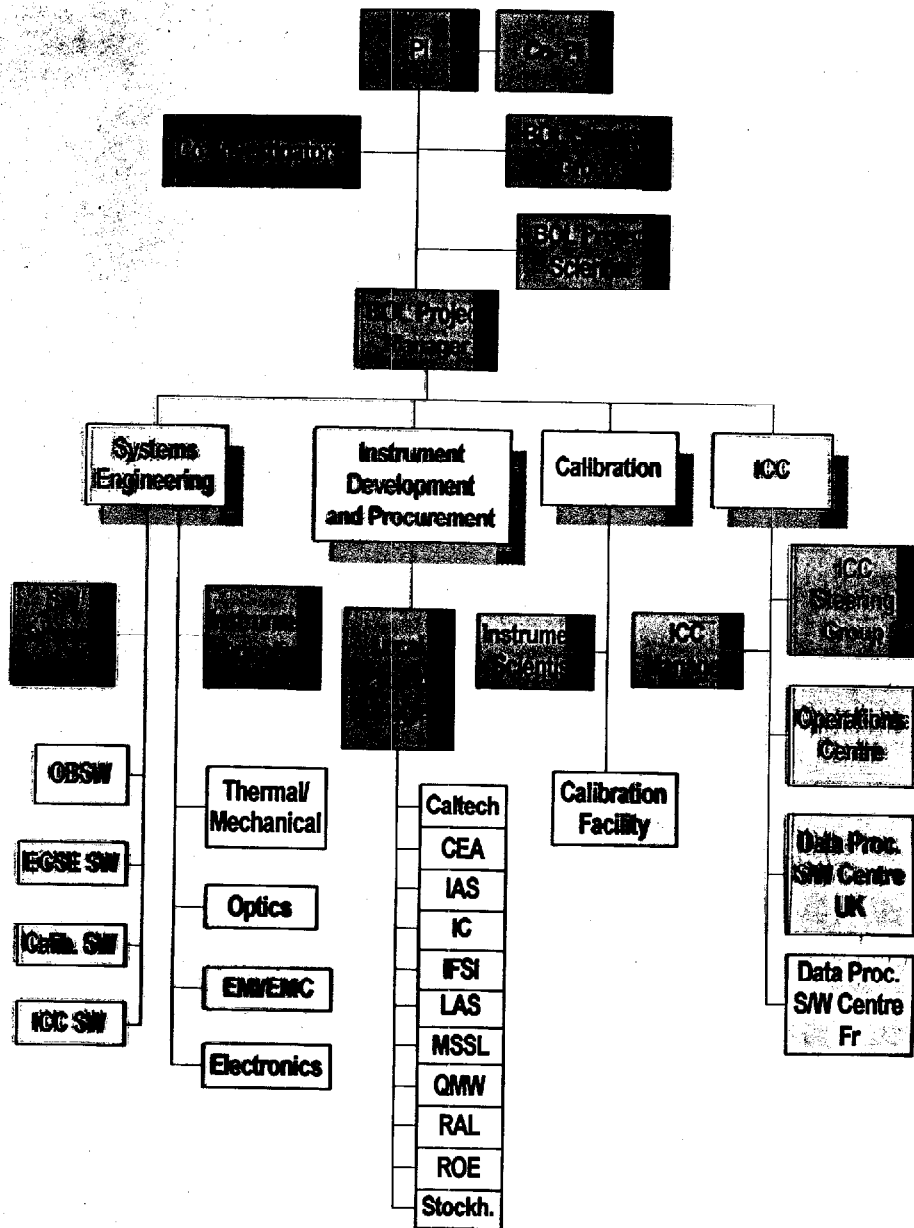


• GSA ??  
 HAS DIRECTOR  
 + OPS. MAN.

• PRE COMMISSIONING : ICC MANAGEMENT UNDER PM

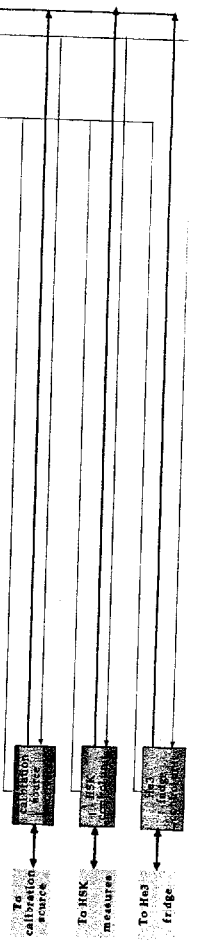
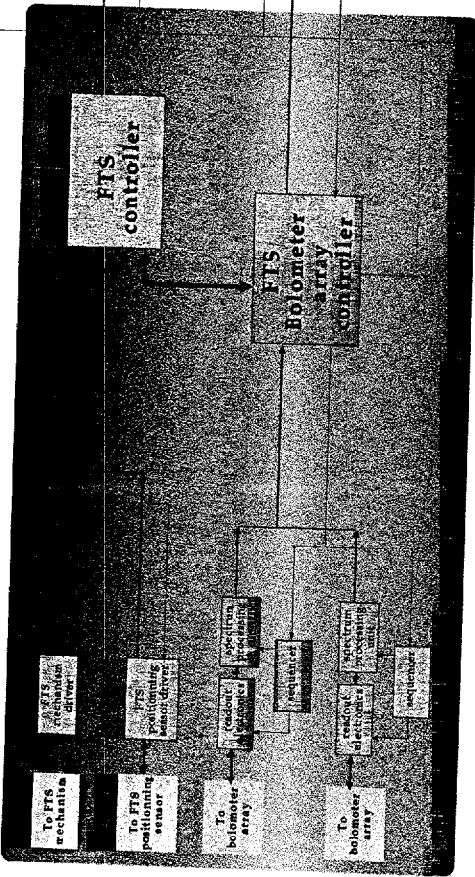
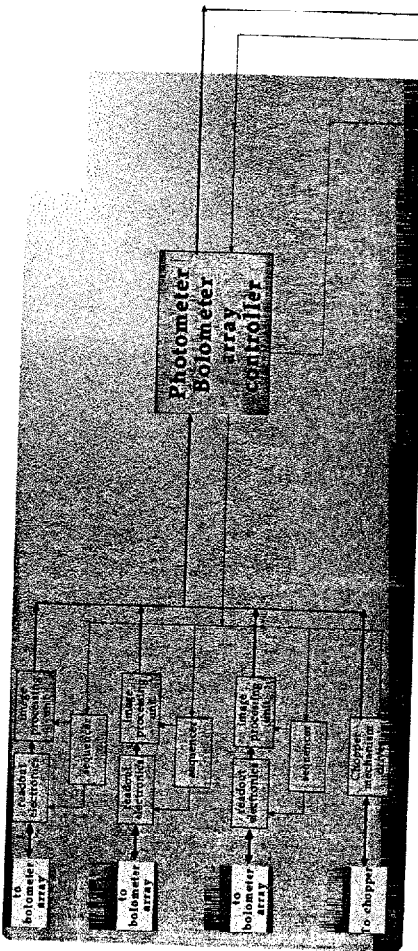
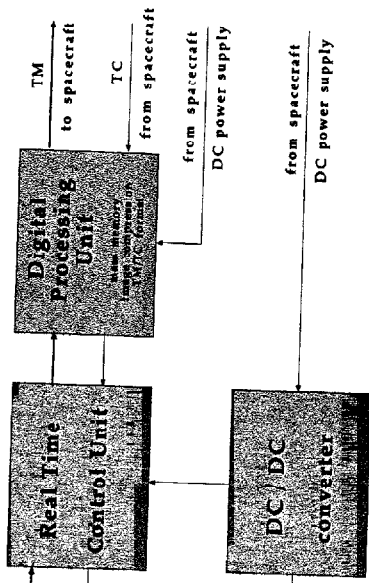
• ROUTINE OPS : UNDER ICC DIRECTOR





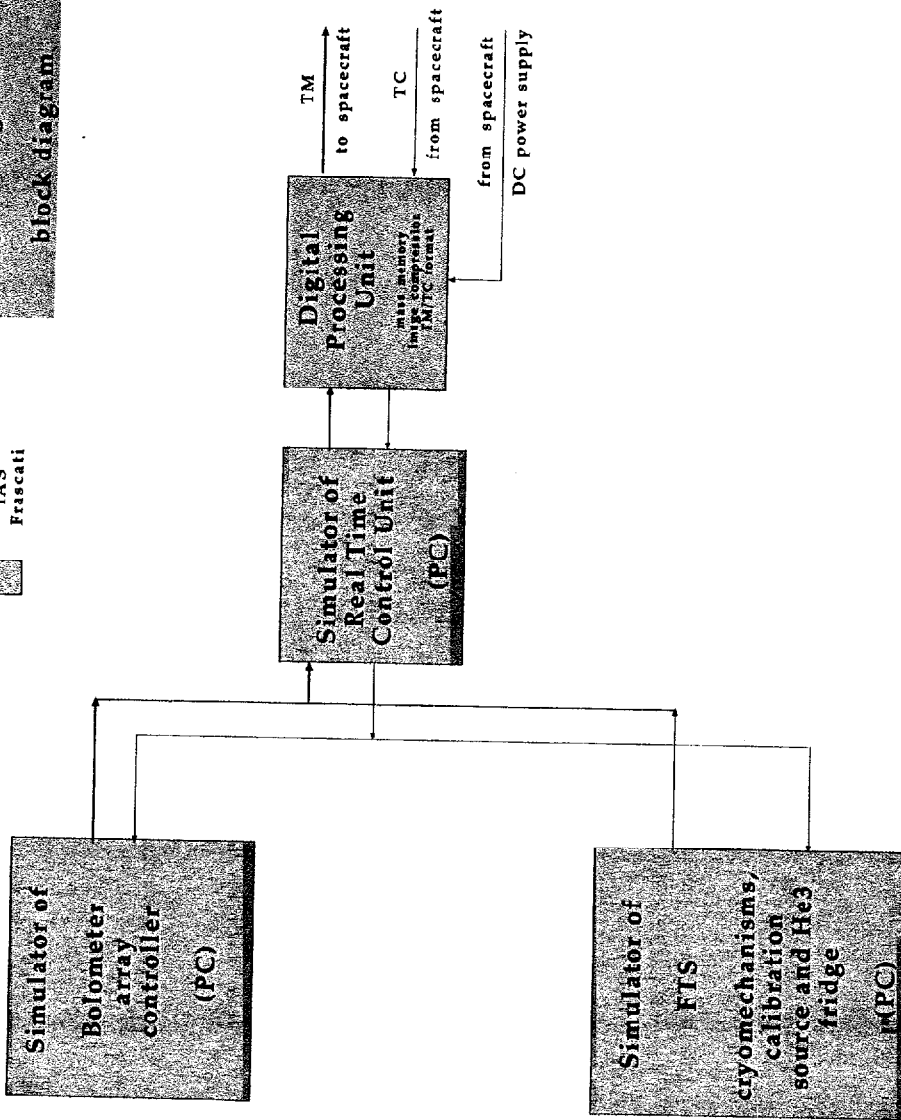
# FIRST BOL Instrument FM block diagram

CEA  
IAS Frascati



FIRST  
BOL Instrument  
Engineering Model  
block diagram

- CEA
- IAS  
Frascati



## **ICC development**

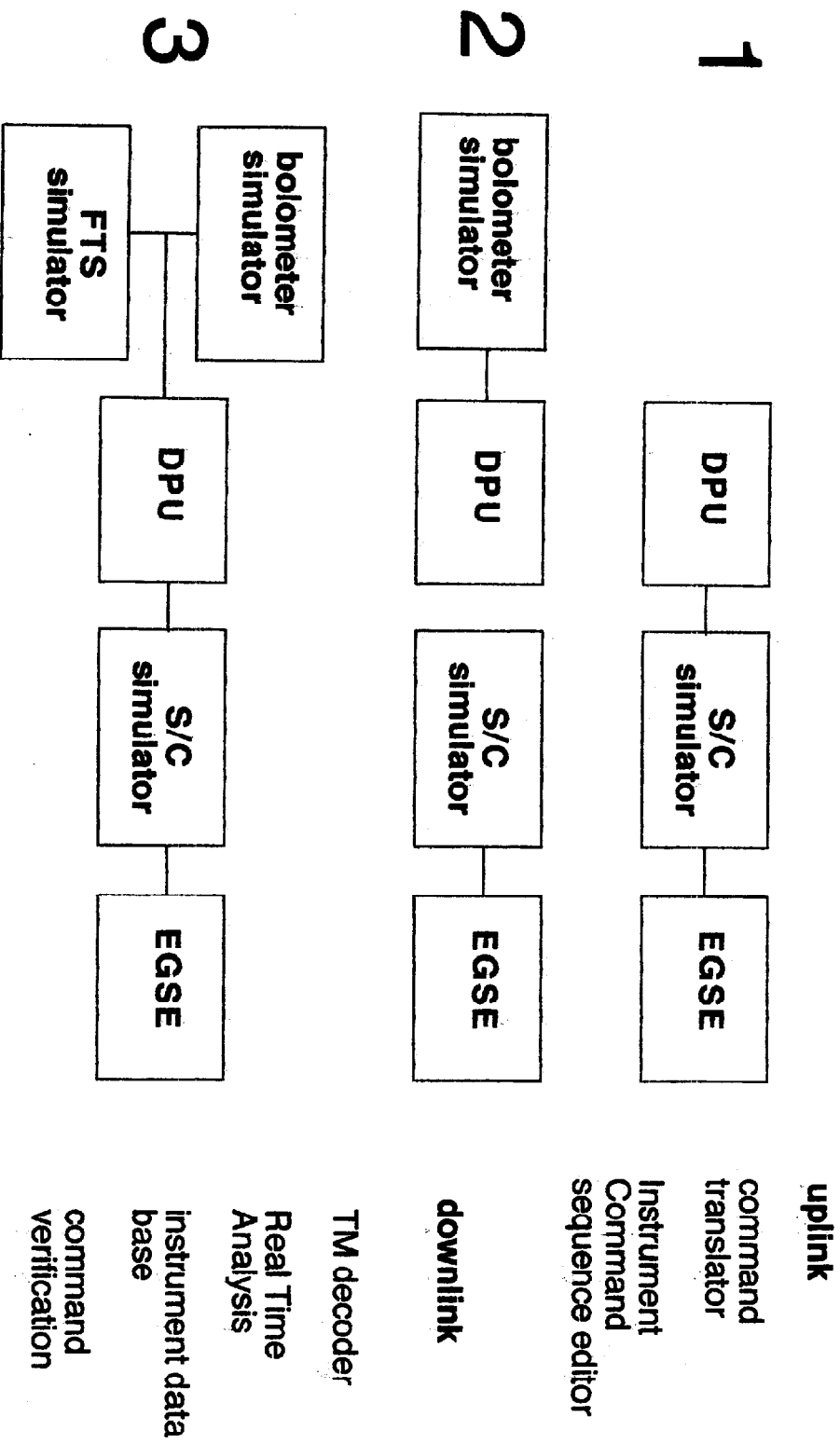
**must be linked with instrument development**

**must start very early**

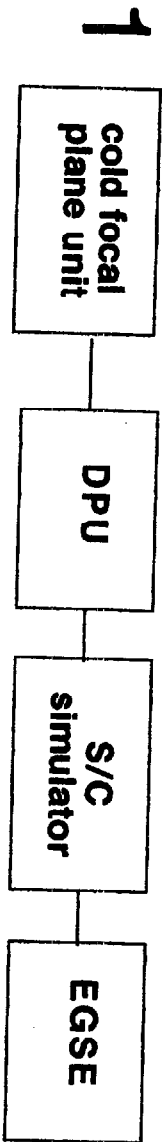
- Phase 1 :**            integration of engineering model in labs  
                         integration of engineering model in FIRST SVM
- Phase 2 :**            integration of Qualification Model  
                         integration of QM in FIRST payload  
                         integration of Flight Model
- Phase 3 :**            calibration of Flight Model  
                         integration of Flight Model in FIRST
- Phase 4 :**            flight operation

This development plan is not (?) compliant with AO

# Integration of engineering model

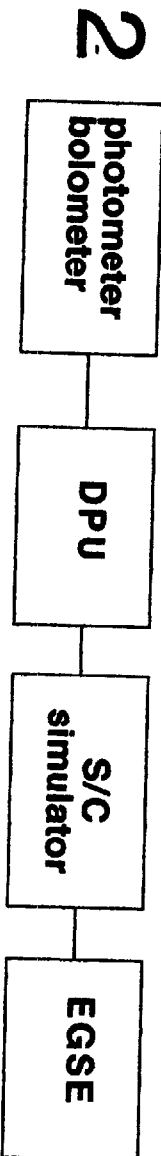


# Integration of qualification model



**uplink**  
command translator

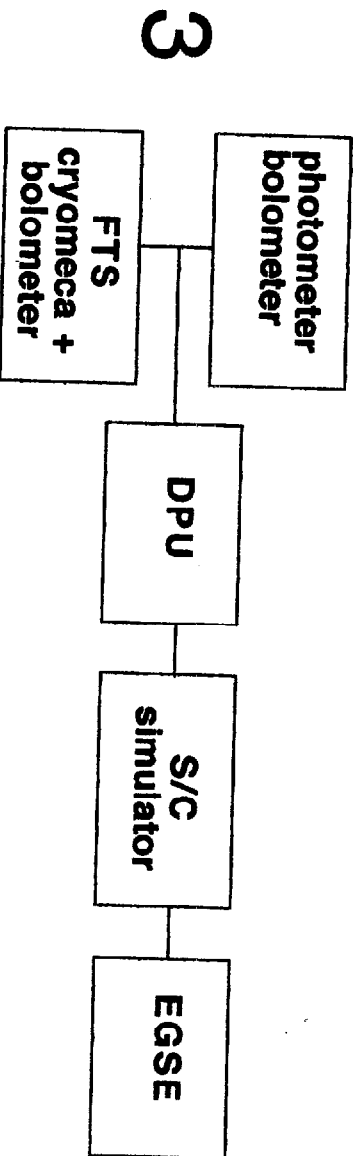
Instrument Command sequence editor



**downlink**

TM decoder  
Real Time Analysis

Instrument data base

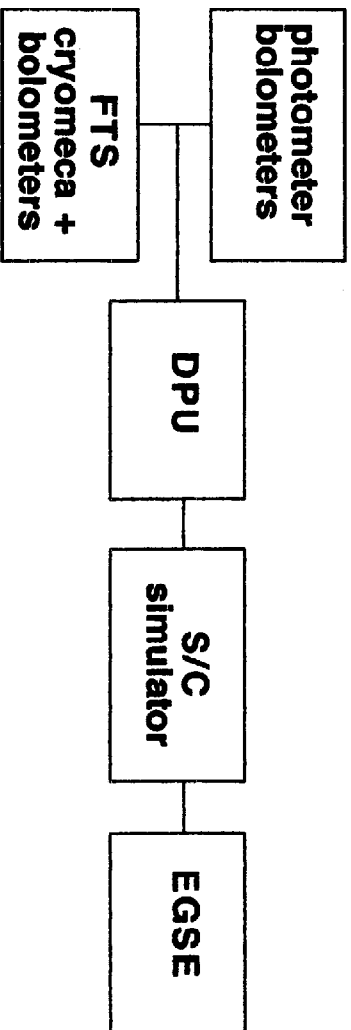


command verification  
limit check

Quick Look Analysis

off line processing

## calibration of Flight model (instrument level)



**uplink**  
command  
translator

Instrument  
Command  
sequence editor

calibration AOT  
logic

**downlink**

TM decoder

Real Time  
Analysis

instrument data  
base

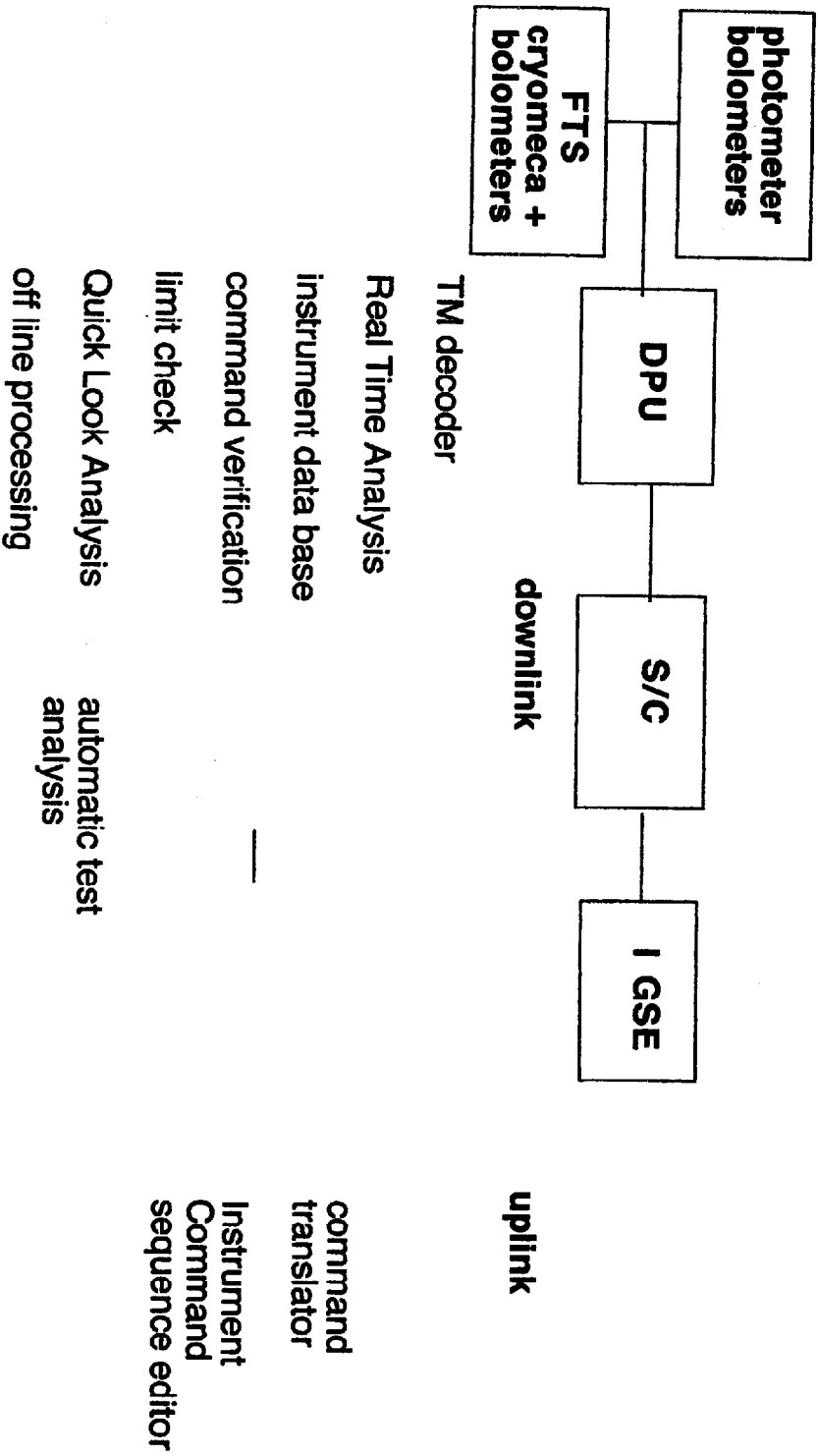
command  
verification

limit check

Quick Look  
Analysis

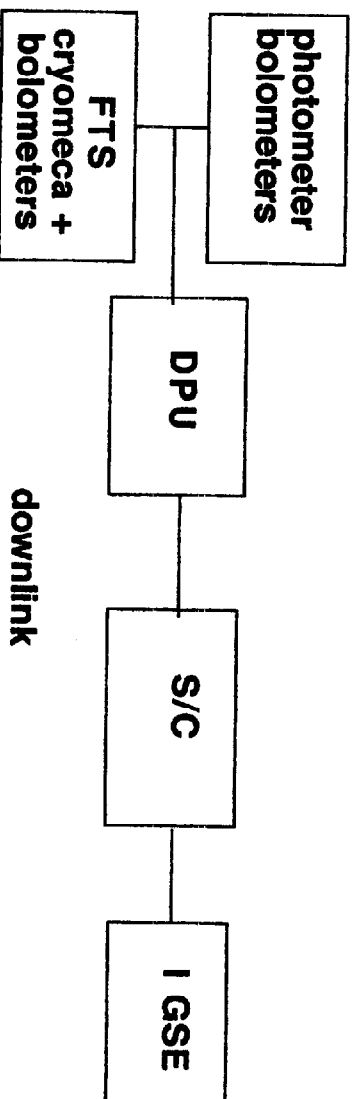
off line processing

# Integration of Flight model (system level)





# Flight operation



downlink

uplink

TM decoder

Real Time Analysis

instrument data base

command verification

limit check

Quick Look Analysis

quality check

automatic test analysis

trend analysis

off line processing

calibration data base

command translator

Instrument Command sequence editor

AOT logic

Calibration observation logic