Production and Integration Status

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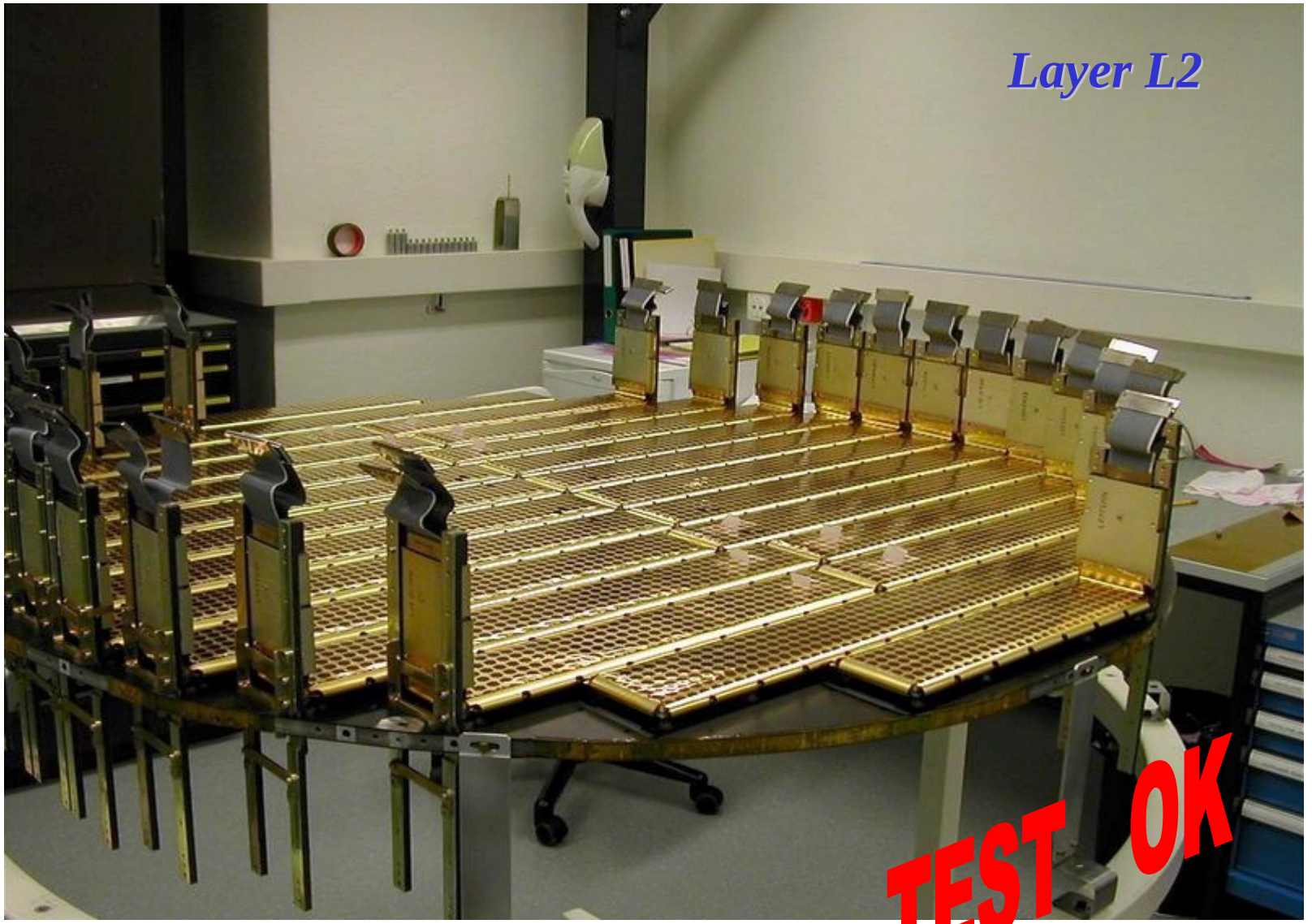
Ladders installed on planes...

ON LAYER L1	ON LAYER L2	ON LAYER L3	ON LAYER L4	ON LAYER L5	ON LAYER L6	ON LAYER L7	ON LAYER L8
	L07PI002 (L2) L07PI004 (L2) L09GI003 (L2) L09GI006 (L2) L09GI010 (L2) L09GI013 (L2) L10PI005 (L2) L10GI014 (L2) L11GI004 (L2) L11GI008 (L2) L11GI009 (L2) L11GI016 (L2) L12AH024 (L2) L12AH029 (L2) L12AH057 (L2) L12AI001 (L2) L12AI003 (L2) L12AI004 (L2) L12AI005 (L2) L12AI006 (L2) L12AJ051 (L2) L12AJ021 (L2) L14AI031 (L2) L14AI042 (L2)		L09GI005 (L4) L09AI075 (L4) (70μm) L09AI076 (L4) (70μm) L09AI077 (L4) (70μm) L10GI015 (L4) L10AI079 (L4) L11GI017 (L4) L11AI081 (L4) (70μm) L11AI082 (L4) (140μm) L11AI083 (L4) (140μm) L12AH059 (L4) (70μm) L12AH060 (L4) L12AH061 (L4) L12AI015 (L4) L12AI048 (L4) L12AI063 (L4) L12AI064 (L4) L12AI065 (L4) L12AJ018 (L4) L12AJ019 (L4)				
0/30	24/24	0/22	20/20	0/20	0/22	0/24	0/30

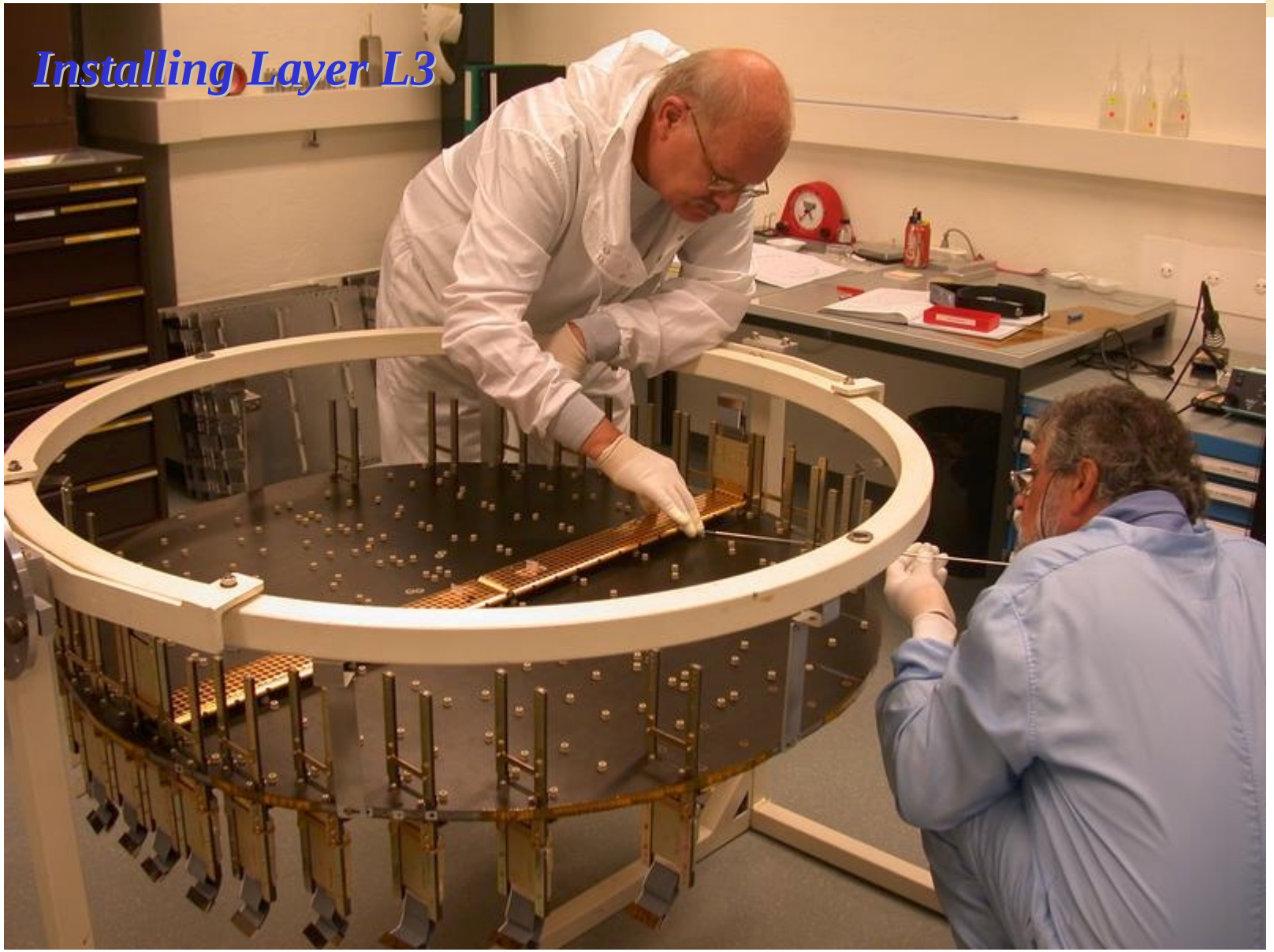
…and ladders being manipulated

SHIELDED	READY TO BE SHIELDED	ON PHASE-2	ON REPARATION	STAND-BY
L10AI078 (*L5*) (70μm) L12AH030 (*L7*) (70μm) L12AH045 (*L5*) (70μm) L12AI066 (*L5*) L12AI068 (*L5*) L12AJ020 (*L5*) L12AJ022 (*L5*) L12AJ023 (*L7*) (70μm) L12AJ047 (*L7*) L12AJ053 (*L7*) L14AI041 (*L7*)	L09AI089 (*L5*) (140μm) L09AI090 (*L5*) (140μm) L09AI091 (*L5*) (140μm) L09AI102 (*L7*) (140μm) L10AI080 (*L5*) (140μm) L11AI085 (*L5*) (140μm) L12AH046 (*L5*) (70μm) L12AJ054 (*??*) (TB) L12AJ055 (*??*) (TB) L12AJ056 (*??*) (TB) L14AI039 (*L7*) (140μm) L14AI040 (*??*) (140μm)	L09AI092 (*L7*) L09GI012 (*L5*) L12AI017 (*L5*) L13AO025 (*??*) (M) L13AO028 (*??*) (M) L13AO073 (*??*) L15AN100 (*??*) *(diff. waf.)* L15AN101 (*??*) L15AO093 (*??*) L15AO095 (*??*) L15AO097 (*??*) L15AP099 (*??*) L15AP109 (*??*)	L11GI001 (*L5*) (Hk) L12AH027 (*L7*) (M) (Hk) L14AI043 (*??*) (K6) L15AP098 (Hk) L15AP110 (Hk) L11AI084 (*L5*) (Hs) (140μm) L12AI002 (S2.3) L12AI009 (S7.8) L12AI010 (Hk) *(still probl.)* L12AI011 (Hs.k) (S1.8) L12AI012 (Hs) L12AI013 (Hs)* (S3.7) L12AI016 (Hs.k) L15AO094 (S15)	L11GI007 (E) *(vibr.)* NEEDED FROM PG: 2*L07XI0XX (*L7*) (*1 av.*) 2*L09XI0XX (*L7*) (*1 av.*) 2*L10XI0XX (*L7*) (*5 av.*) 2*L11XI0XX (*L5*) (*1 av.*) 4*L11XI0XX (*L7*) (*5 av.*) 2*L12XI0XX (*L5*) (*2 av.*) 5*L12XI0XX (*L7*) (*5 av.*) 1*L12XJ0XX (*L5*) (*4 av.*) LEGENDA: E: elec. prob. M: metrology S: sensor prob. H: hybrid prob. *av*: available in PG TB: test beam K6: kapton misplaced
L07PI003 (*??*) (E) L09GI002 (*??*) (E) L09GI011 (*??*) (E) L10PI001 (*??*) (E) L12AH028 (*??*) (E) L14AI032 (*??*) (E)	L11GI018 (*??*) (E)*			
17 (11+6)	13 (12+1)	13	14	1

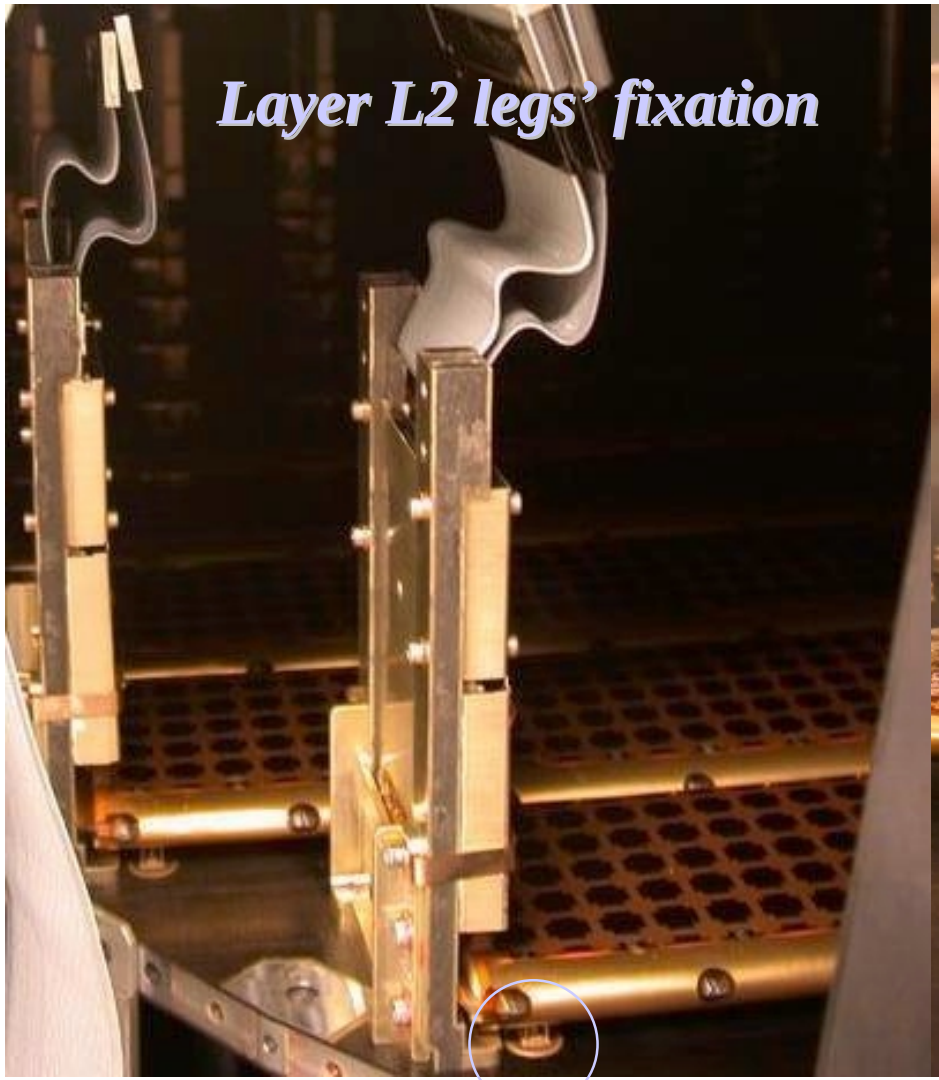

Layer L2
TEST OK

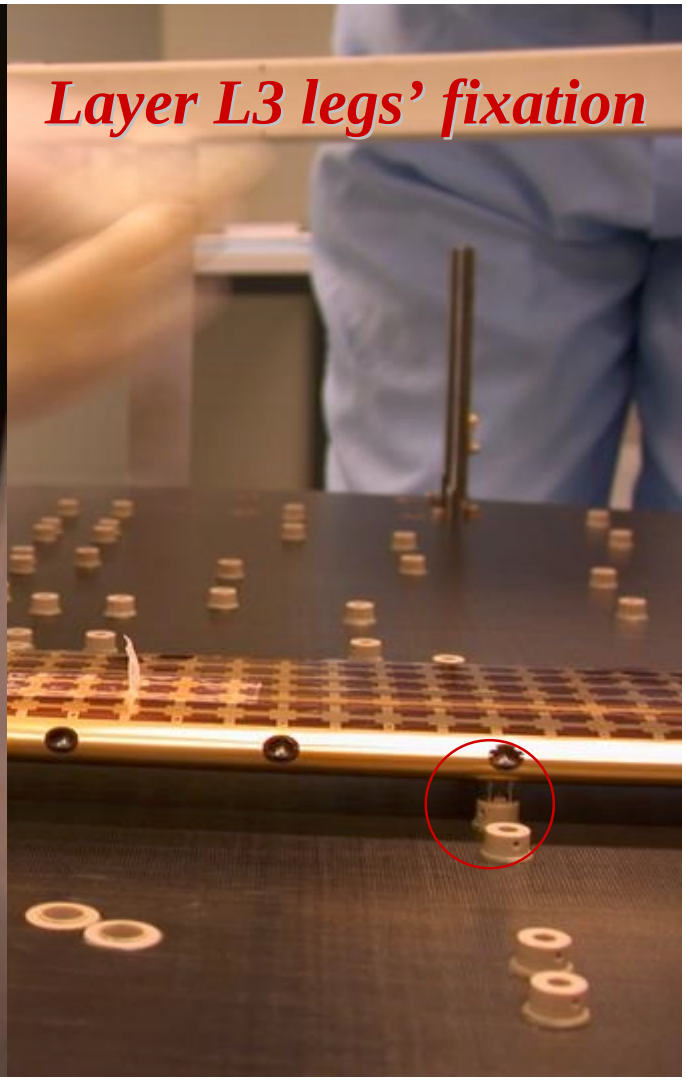

Layer L2 upside down

Installing Layer L3




Not enough distance between facing ladders!!!


Layer L2 legs' fixation


Layer L3 legs' fixation

What's the matter:

the distance between ladders should be enough to prevent them from touching each other (and eventually break) during vibrations which will take place at the launch, with the particular legs' fixations used for layers L3, L5 and L6 the space left is less than the minimum needed (300 μm) !

Solution:

gain flexibility gluing legs on ladders more away from Hybrids box

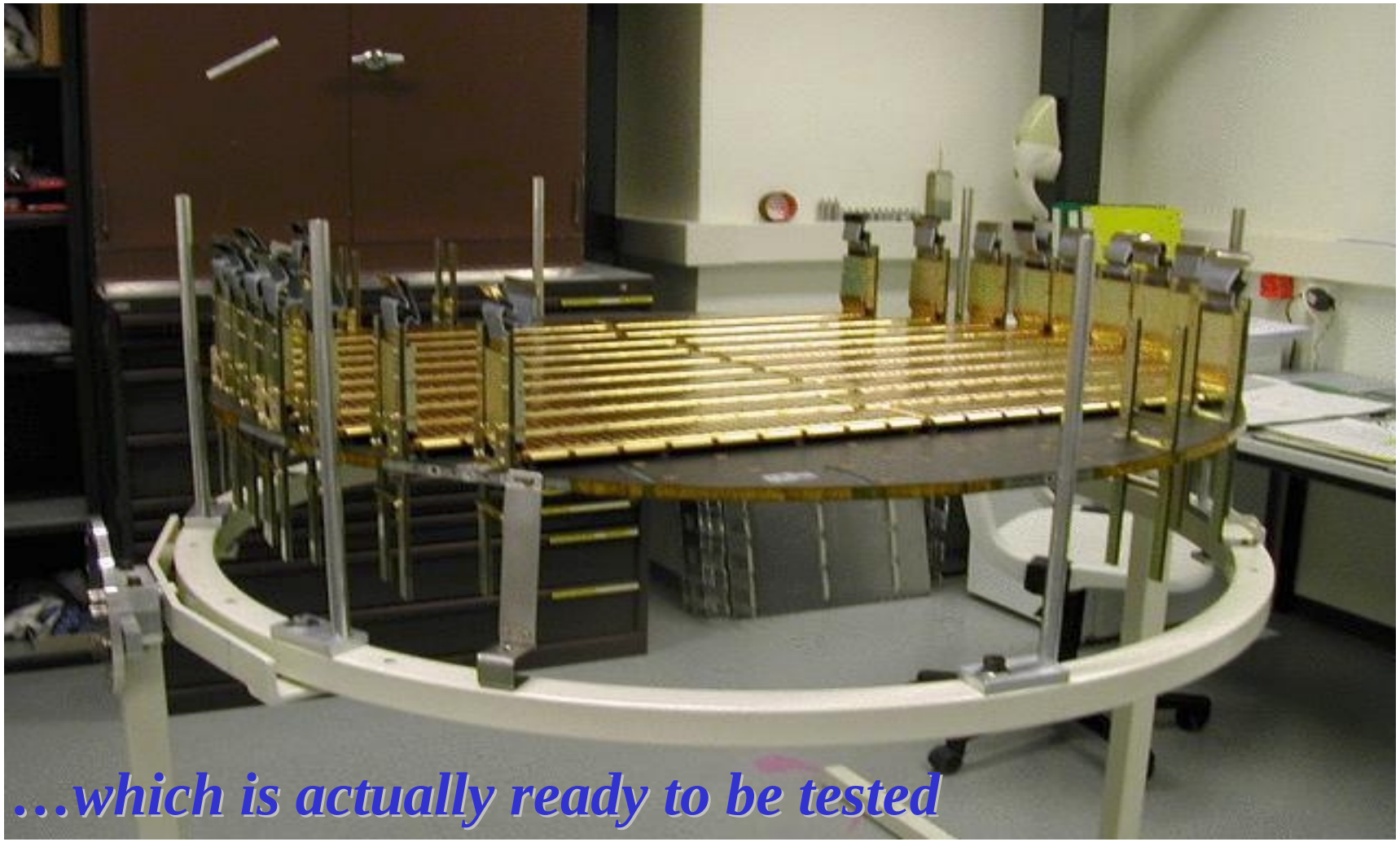
First attempt: ***70 μm*** ***STILL NOT ENOUGH***

Second attempt: ***140 μm*** ***OK***

From now on this procedure has been adopted for every ladder entering phase-2 manipulations ***(No effects on upper layers)***

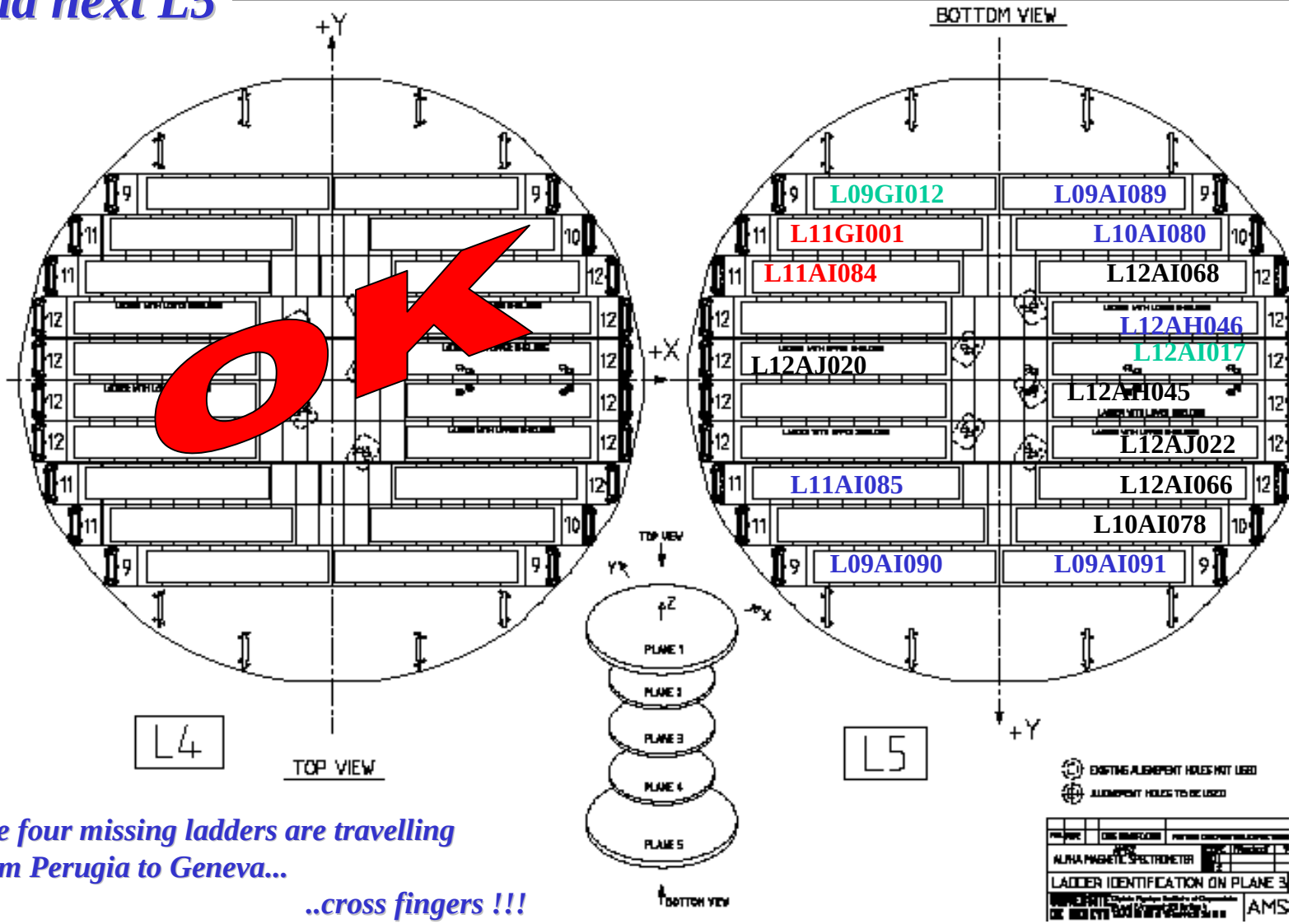
Use "old " ladders for non problematic layers (L4 and L7)

Then layer L4 was next:



…which is actually ready to be tested

And next L5



The four missing ladders are travelling from Perugia to Geneva...

..cross fingers !!!

L5 ladders' status summary:

- 6/20 ready to be installed
- 6/20 ready to be shielded
- 2/20 on phase-2
- 2/20 on reparation
  ready to be sent to Perugia for bonding
- 4/20 travelling from Perugia to Geneva
  they will enter phase-2 with high priority

Plane 3 foreseen to be completed by the end of February

Ladders' reparations:

No more bonding facility in Geneva: it has to be done in Perugia

Six ladders have been repaired and are ready to be sent to Perugia for bonding:

- **L11GI001 (assigned to L5, high priority)**
- **L11AI084 (assigned to L5, high priority)**
- **L12AH027 (assigned to L7)**
- **L14AI043**
- **L15AP098**
- **L15AP110**

One more ladder will be soon repaired:

- **L15AO094 (assigned to L1, silicon sensor num. 15 to be replaced)**

Still to be repaired :

- L12AI002 Silicon sensors num. 2 and 3 to be replaced
- L12AI009 Silicon sensors num. 7 and 8 to be replaced
- L12AI010 peculiar case
- L12AI011 Hybrids S and K and Silicon sensors num. 1 and 8 to be replaced
- L12Ai012 Hybrid S to be replaced
- L12AI013 Hybrid S and Silicon sensors num. 3 and 7 to be replaced
- L12AI016 Hybrids S and K to be replaced

Ladders needing Silicon sensors replacement will be kept in stand-by

No more S Hybrids available for replacements

We cannot go further with reparations !

What's next :

- depending on ladders' delivering from Perugia/G&A we can proceed with layers L7 and/or L1

What we need:

- 15/24 ladders for L7
  - 2 L07XIYYY
  - 2 L09XIYYY
  - 2 L10XIYYY
  - 4 L11XIYYY
  - 5 L12XIYYY
- 20/30 ladders for L1
  - 4 L10XOYYY
  - 2 L11XOYYY
  - 2 L12XOYYY
  - 1 L13XOYYY
  - 6 L14XOYYY
  - 4 L15XOYYY
  - 1 L15XNYYY

- in the meanwhile we will have fun with the new Hybrids' production :)