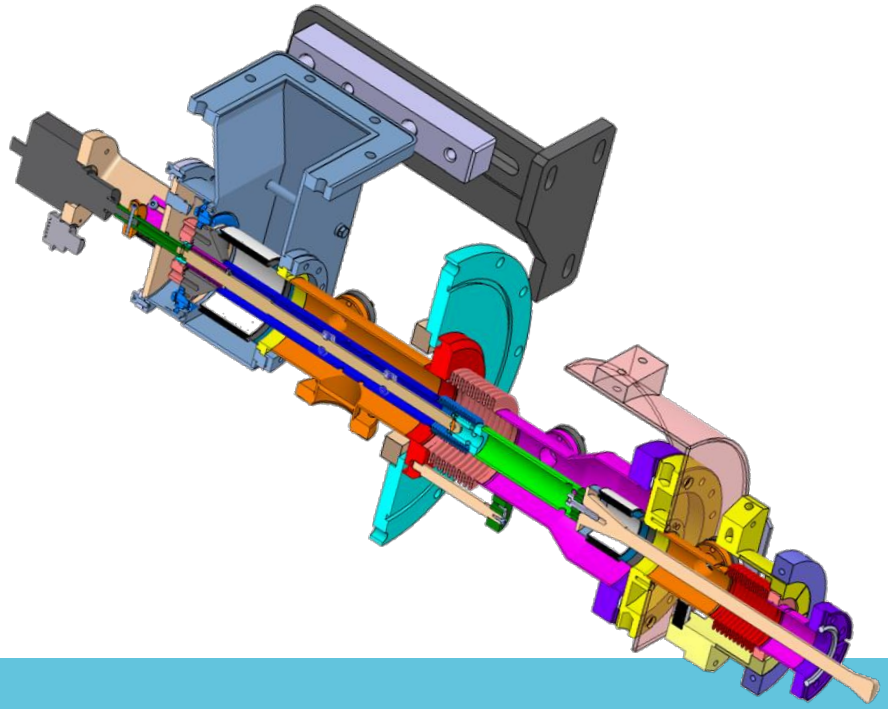
ILC-HiGrade Scientific and Annual Meeting

(LAL, 12 October, 2011)

Mickaël LACROIX (LAL)

ILC HiGrade WP7 couplers



ILC HiGrade WP7 couplers

Summary

- Strategy
- Subcontractor status (nov 2010)
- Issues
- Subcontractor status (last update)
- Situation on WP7

ILC HiGrade WP7 couplers

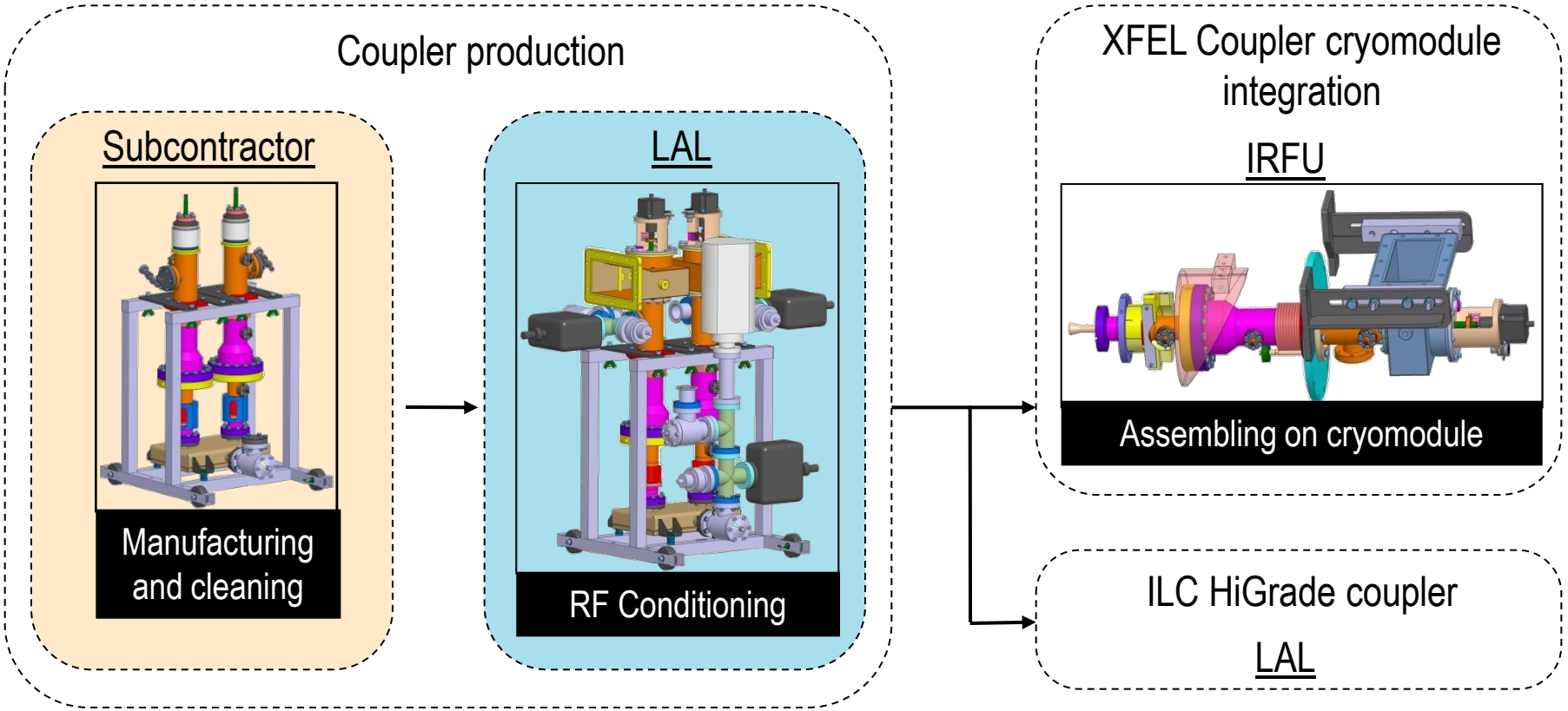
Strategy

- Goal
  - Add the ILC HiGrade coupler order to the XFEL order
- Advantages
  - Good XFEL production follow up
  - Mass production cost
- Disavantage
  - Linked with the XFEL schedule

ILC HiGrade WP7 couplers

Coupler production

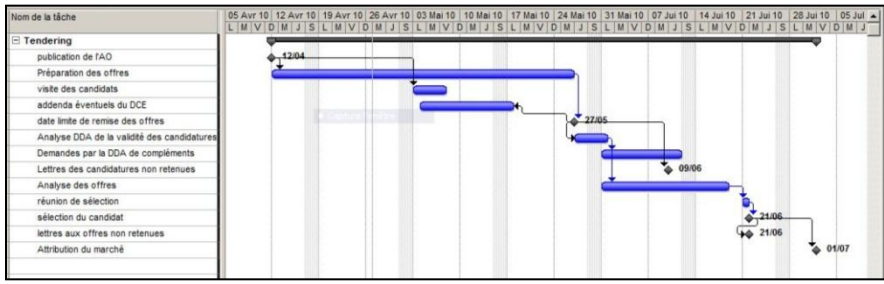
- Strategy

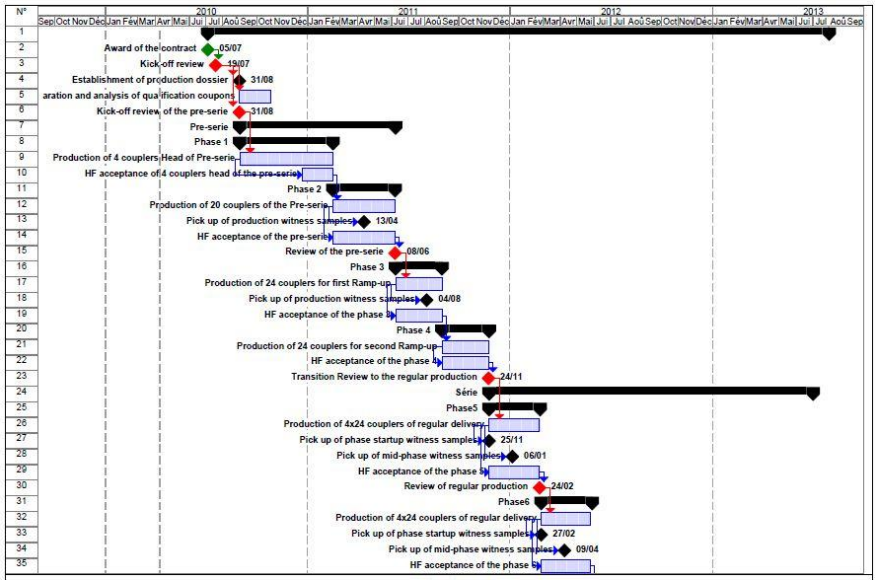


ILC HiGrade WP7 couplers

Coupler production

- Subcontractor status (november 2010)
  - Contract signed with Thalès RI on July 2010 with the following previous spliting:
    - 640 XFEL couplers
    - 24 ILC Higrade couplers
  - Deliveries:
    - 4 couplers expected by end of Feb 2011
    - 20 couplers expected by end of May 2011
    - 24 couplers expected by end of July 2011
    - …
    - Last 24 couplers expected by end of July 2013

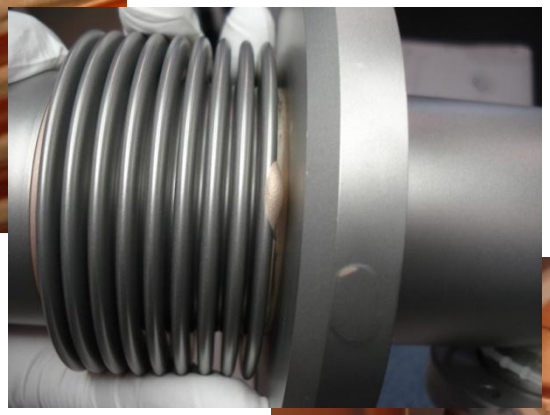


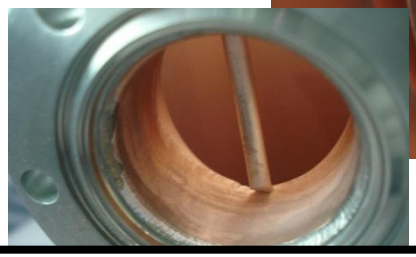


ILC HiGrade WP7 couplers

Coupler production

- Issues
  - 4 half prototypes with defects (April 2011):
    - Copper plating
    - Brasing junction
      - Miss of brazing material
      - Drop of brasing material
    - Welding



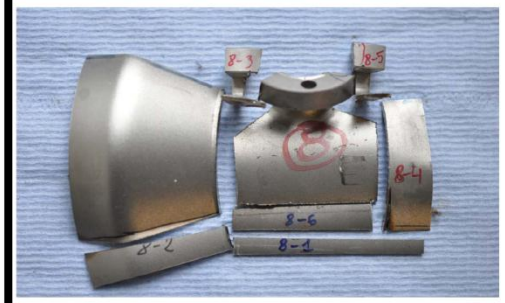


  - RRR measurement (August 2011):
    - Out of tolerance

    → new manufacturing process
      - Brasing and copper plating
      - Or welding and copper plating (with an extra cost!!!??? But TTF3 technology)

RRR Measurements of the Thales Prototype Outer Conductor

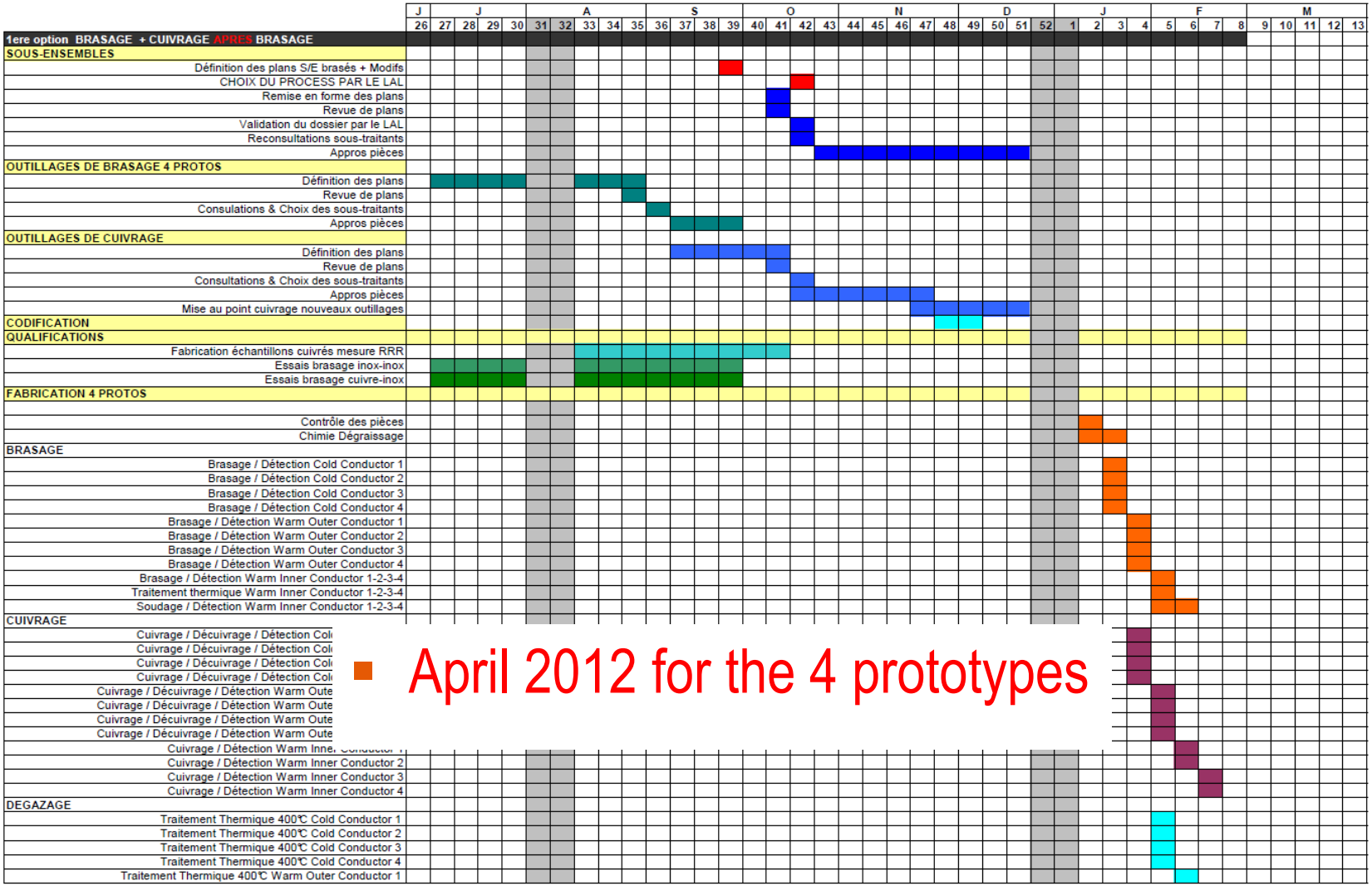
X. Singer DESY 5.08.2011



Probe	8-1	8-6	7-4	7-5
RRR(Cu)	1.35	1.49	1.4	1.37
RRR(Cu+St)	*1.45*	*1.44*	*1.39*	*1.42*
RRR(St.)	1.45	1.46	1.38	1.36

ILC HiGrade WP7 couplers

Schedule (last update)



- April 2012 for the 4 prototypes

ILC HiGrade WP7 couplers

Situation of WP7

1. LAL is not able to complet his task before February 2012
2. The money will be refund to ILC HiGrade
3. As the order has been already signed by LAL to Thales-RI, the collaboration has to find a solution to be able to pay these couplers.
   Moreover, as noticed before, an extra cost is possible which will not simplify the situation