



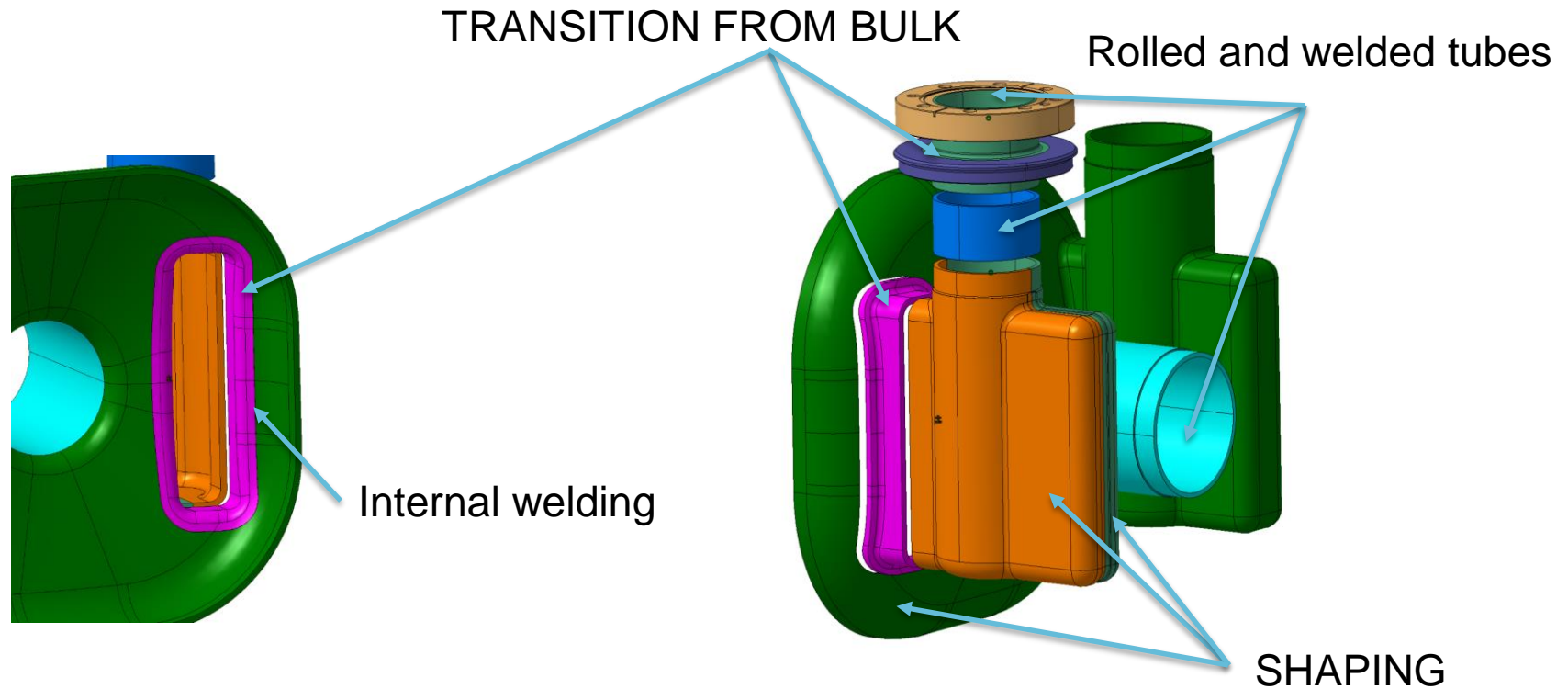
# Crab – RFD prototype: Production Status Update

M. Garlaschè & L. Prever-Loiri with contributions from all



17<sup>th</sup> November, 2017

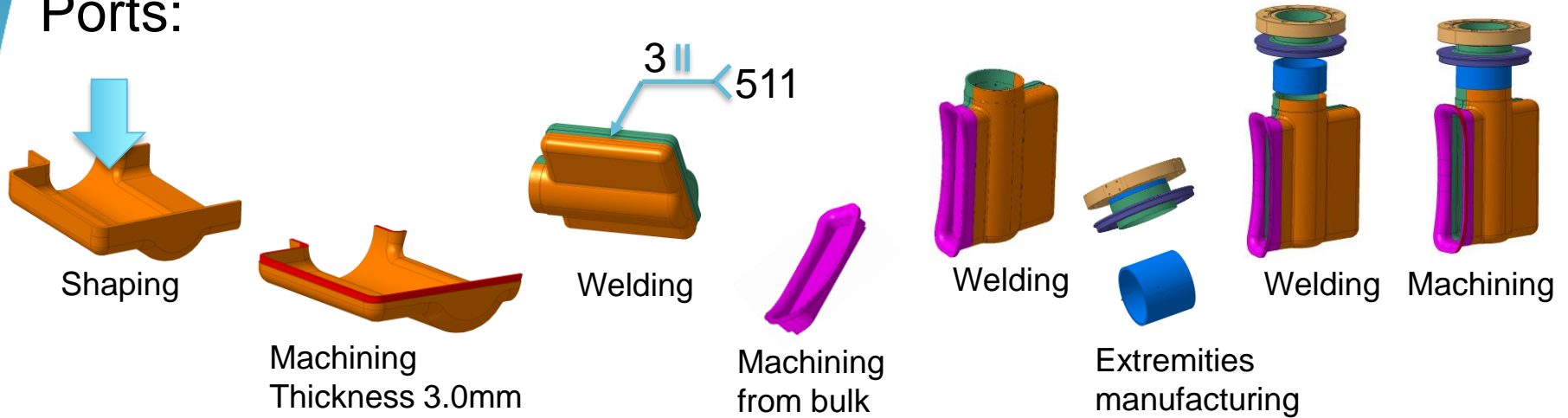
# RFD Manufacturing Strategy



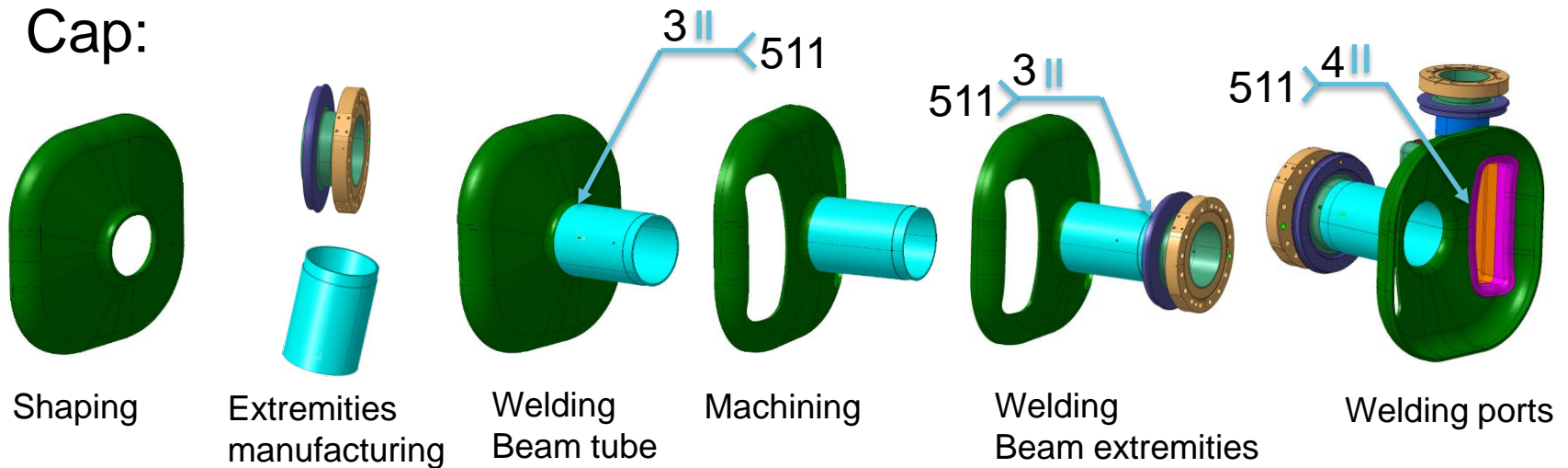
**All welding seams will be welded by the RF side when possible**

# RFD Manufacturing Strategy

## Ports:

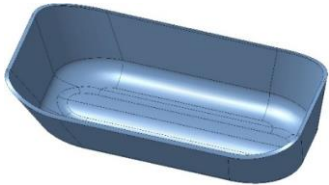


## Cap:

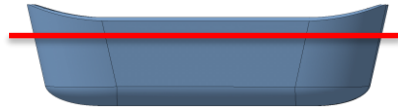


# RFD Manufacturing Strategy

- Main Body subassembly



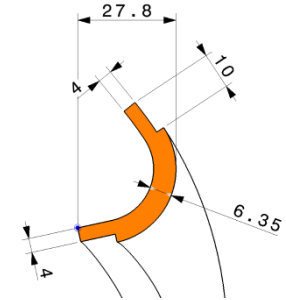
BOWL Shaping



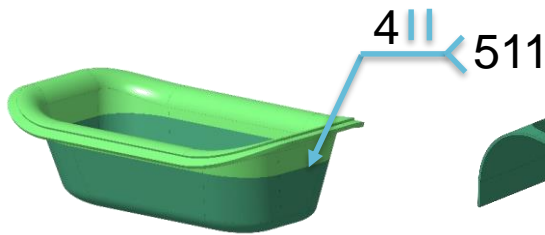
BOWL Machining



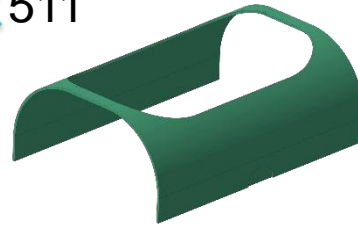
CORNER Shaping



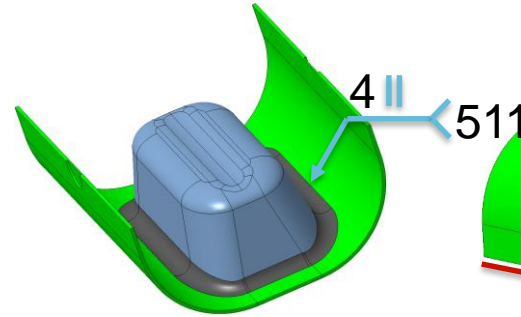
CORNER Machining



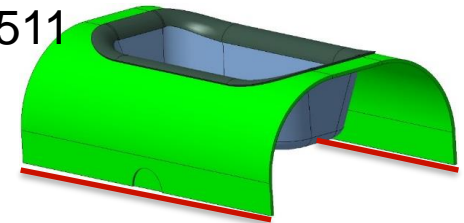
BOWL/CORNER  
Welding



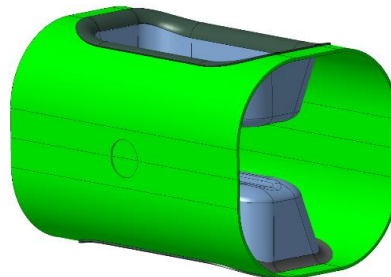
Half BODY Forming  
+ Machining



CORNER/Half BODY  
Welding



Half BODY Machining

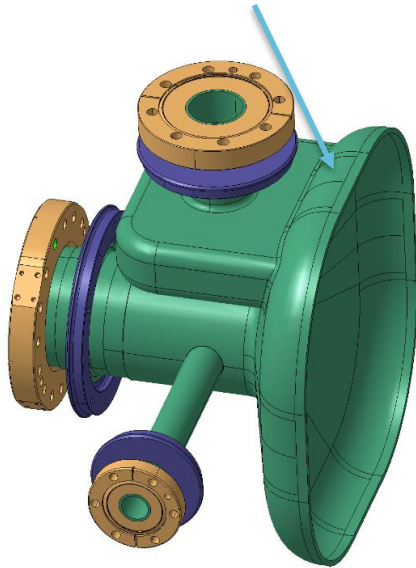


**BOWL, CORNER on Half Body will be welded from RF side**

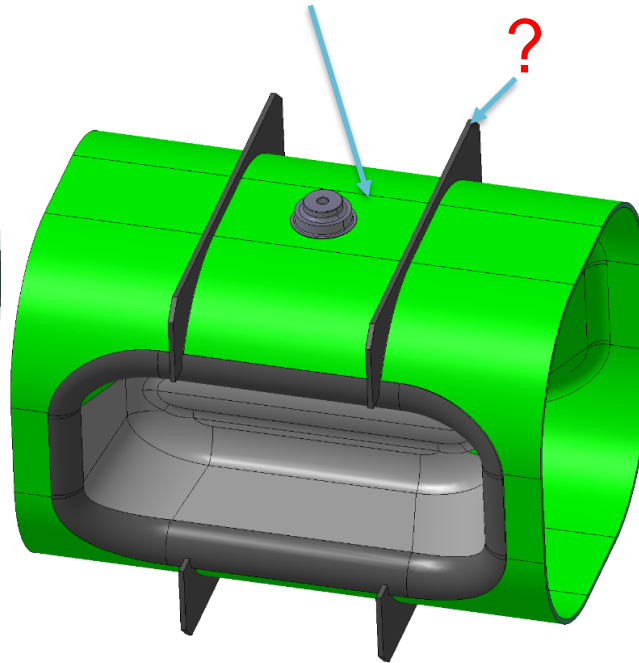
# RFD Manufacturing Strategy

3x main subassemblies

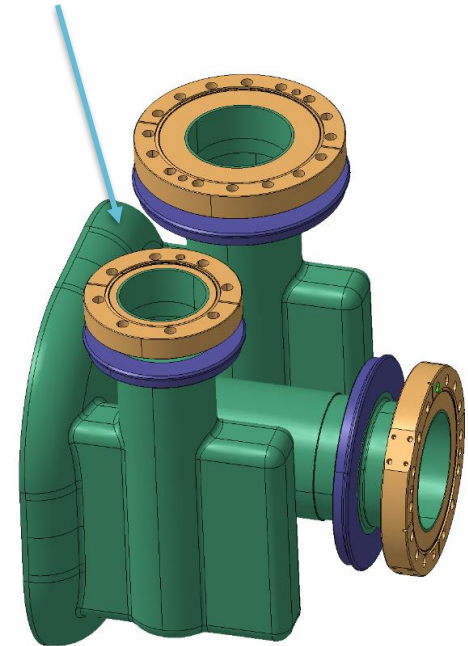
V-HOM and antenna side



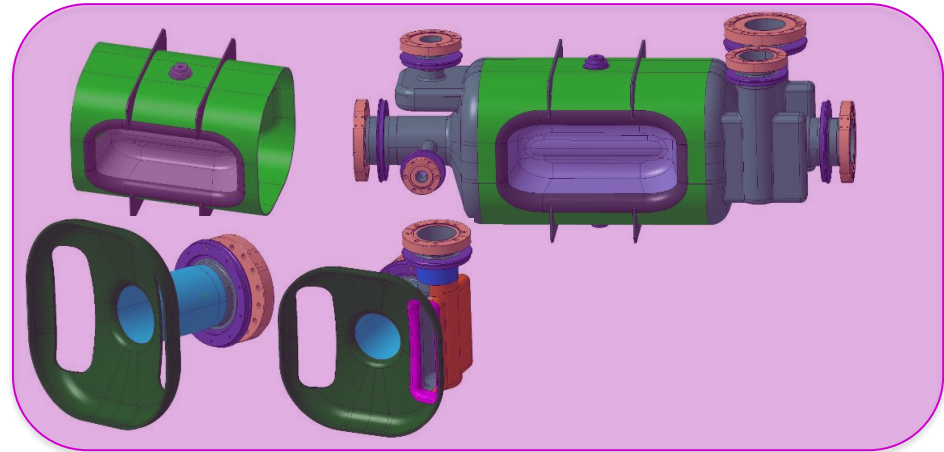
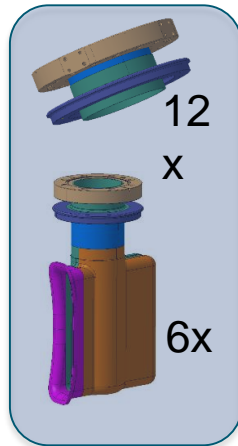
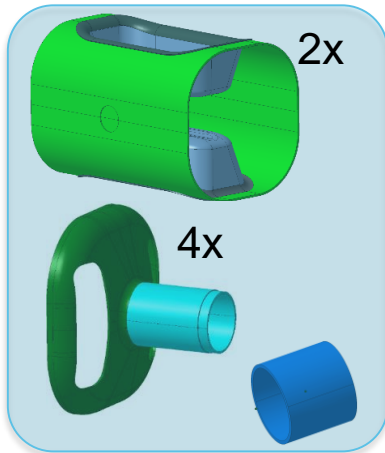
Central Body



H-HOM an FPC side



# RFD Manufacturing Strategy: Jobs & Actors



Job	Deliverable	Deliverable	Deliverable
Pilot	J-Pierre B	J-Marie G	Thierry T
Prepa	Marco G	Manuele N	Marco G
Rep. MECA.	Pierre N	Pierre N	Pierre N
Rep. SHAP.	Laurent PL	Laurent PL	Laurent PL
Rep. EB	Thierry T	Thierry T	Thierry T
Rep. METR.	Bartosz B	Bartosz B	Bartosz B

The prepa/follow up Team:

- Pilots
- **Representatives** are responsible for:
  - Defining main fabrication strategy (Zeroσ Zeroε, welding interfaces, ...)
  - Steering choices of tooling design

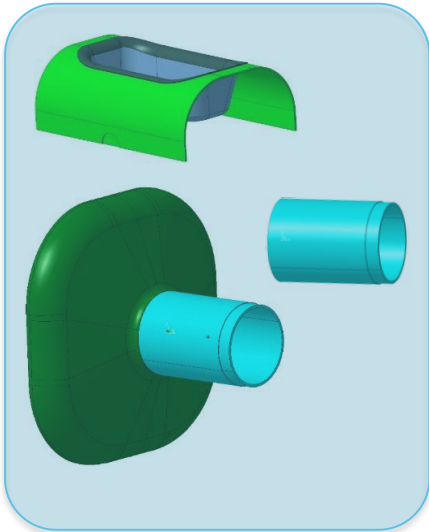
**Further people** needed:

- manufacturing coordination (Marco)
- Weld/Quality/Traceability Engineer (Paula/Thomas)
- Subcontracting (Marco & Manuele)

Future separated jobs:

- HOMs, Antenna, Feedthroughs, Pre-Tuner
- Titanium Tank manufacturing and cavity assembly

# RFD Manufacturing Strategy: Status



Design still on Standby (waiting for AUP feedback) :

- Main Body Thickness
- Ports position

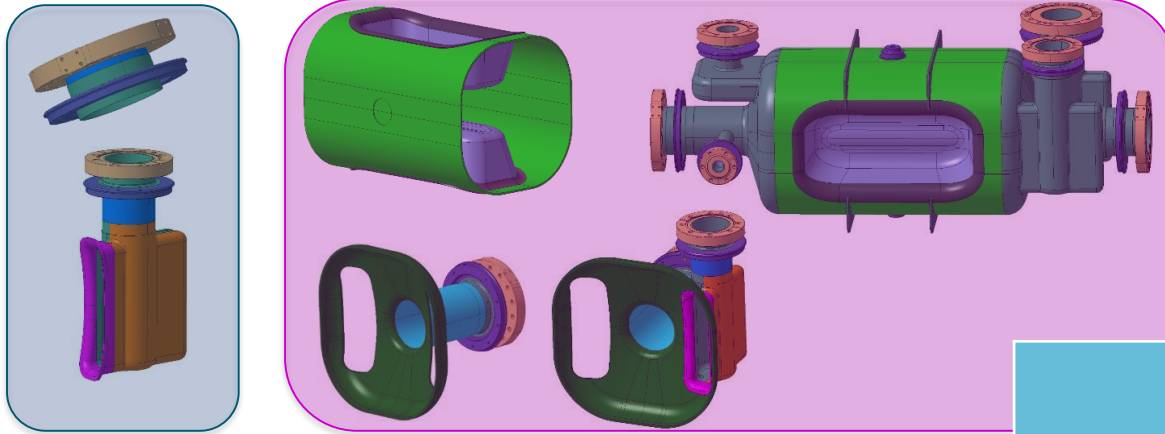
Design for production started on major shaping challenges : Bowl, Corner

	Bowl	Corner
Mat. For Test (Cu)	Green	Green
Mat Production	Green	Red
Shaping Tool Design (3D)	Green	Yellow
Shaping Tool Design (2D)	Green	Red

Current ACTIONS:

- Validation of Material in stock in terms of cleanliness and thickness (Ningxia)
- BOWL: 2D of tool → Procurement
- Cut out of cavity and subcomponents, reservation of CDD numbers (for prepa. main body subassembly)

# RFD Manufacturing Strategy: Status



Design still on Standby (waiting for AUP feedback) :

- Need of stiffeners + Tuner Pin
- Ports position
- Extremity length

Current ACTIONS:

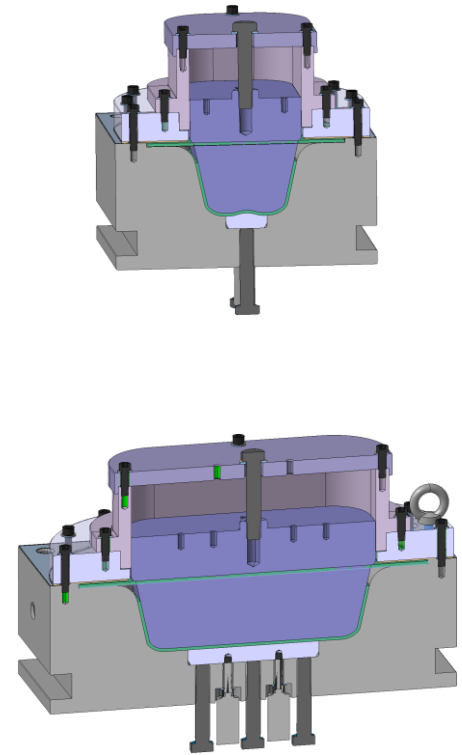
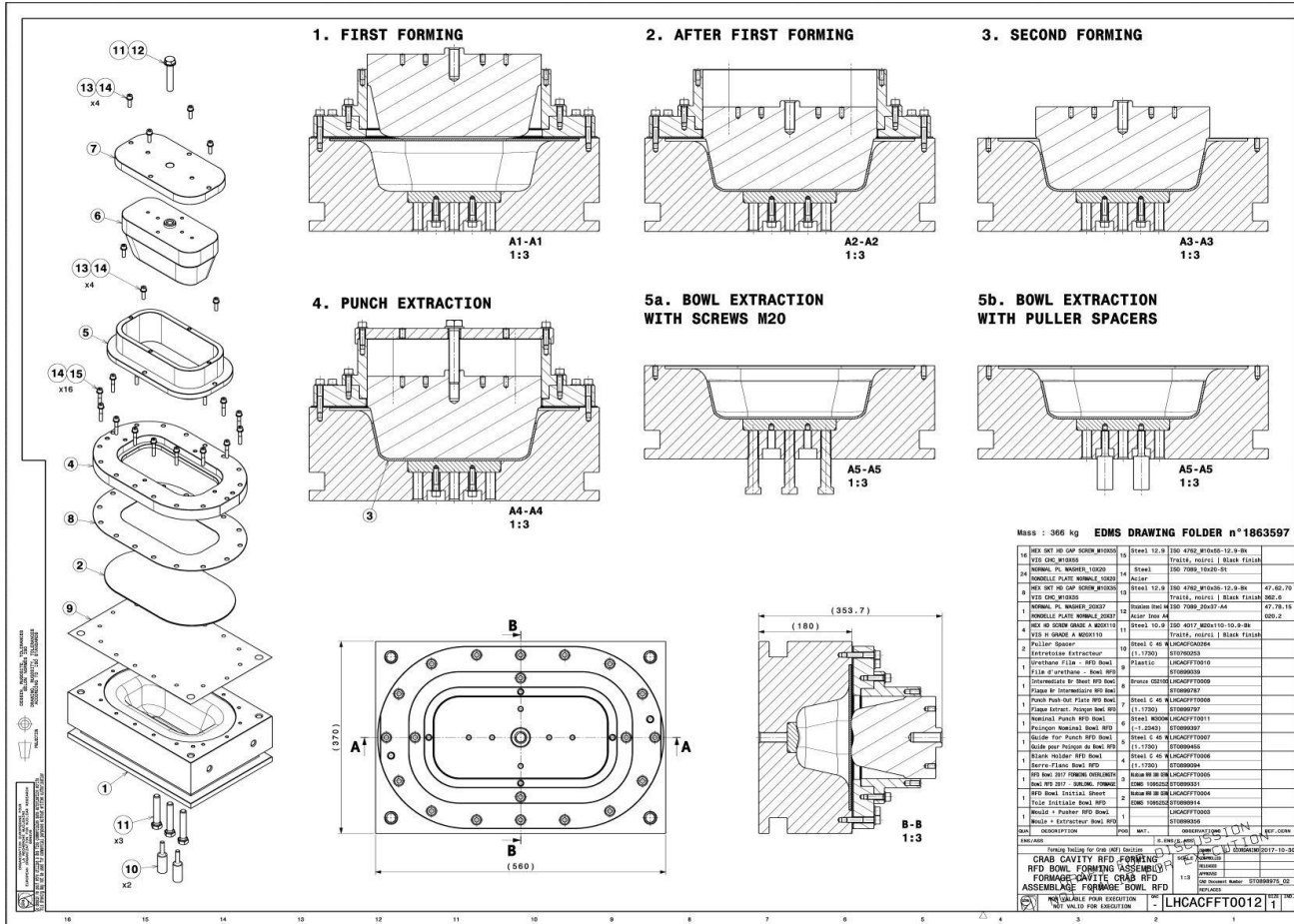
- Cut out of cavity and subcomponents, reservation of CDD numbers (for prepa extremities)
- Validation of Material in stock (Ningxia)

	Extremities	...
Components design	Red	Red
Mat. For Test (Cu)	Green	Green
Mat Production	Green	Yellow
Tool Design	Green	Red



# RFD Manufacturing Strategy: Status

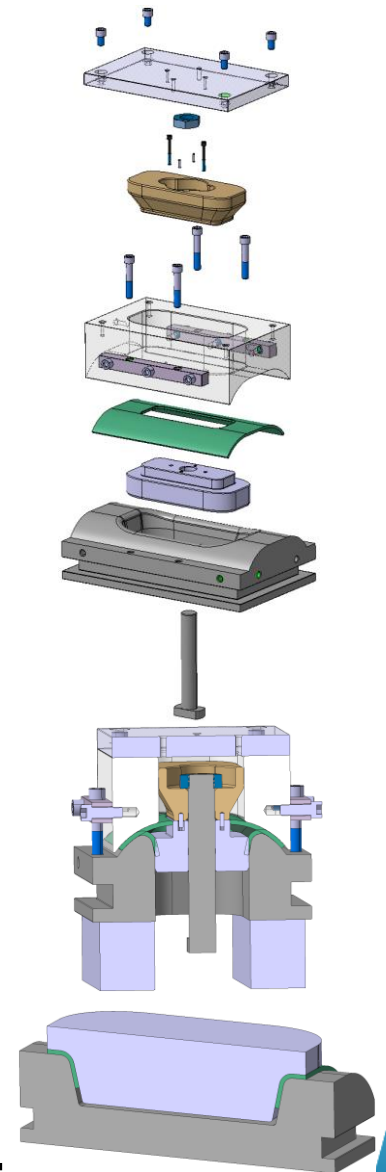
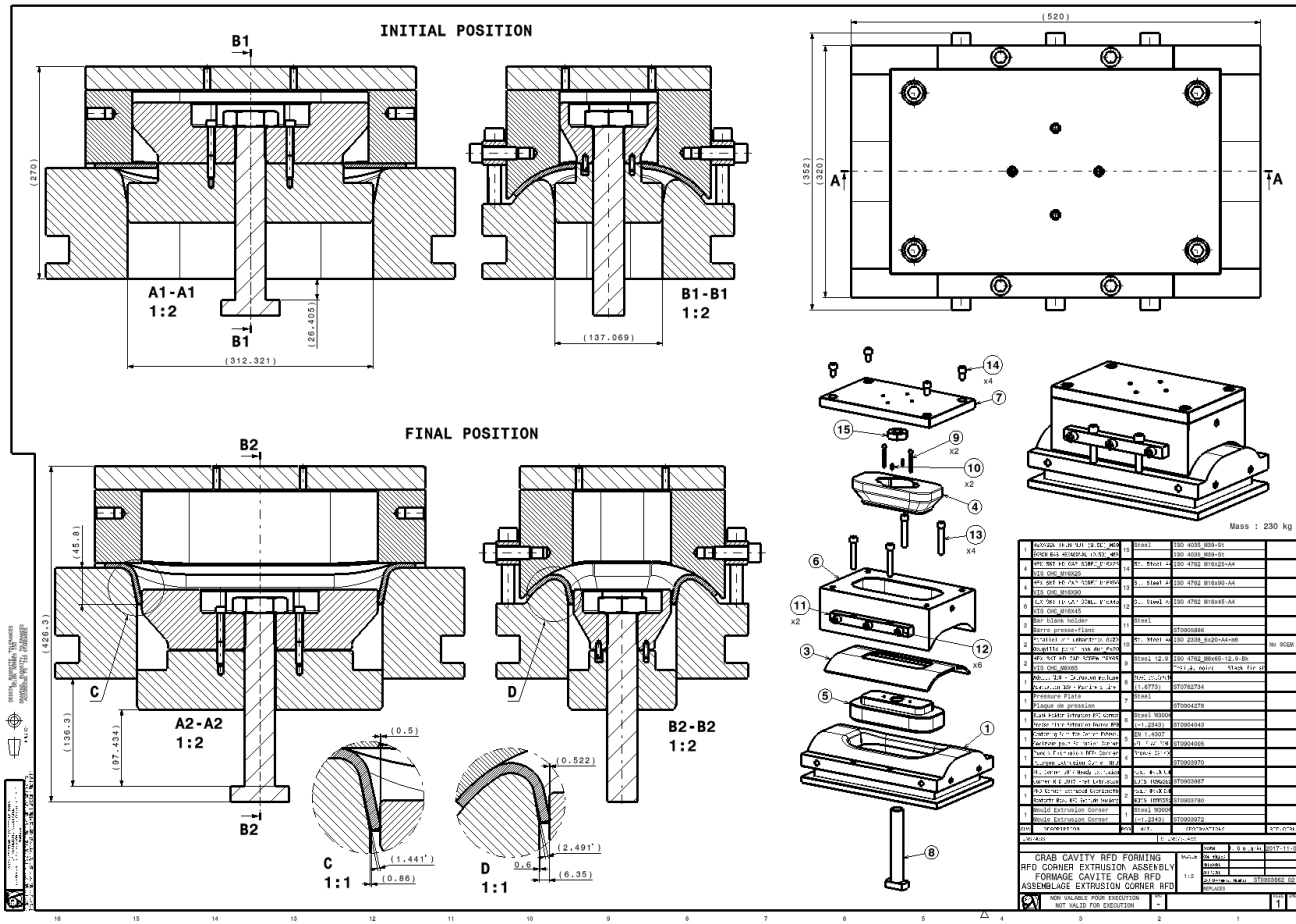
## BOWL Tooling: LHCACFFT0012



**BOWL Tooling, is ready for manufacturing**

# RFD Manufacturing Strategy: Status

## CORNER Tooling: ST0903862, ST0903945



**CORNER tooling, Design in progress...**



# Status design

- Specification drawing existing
- Few modifications under discussion – will be solved in the coming weeks
  - Diameter of the pick-up port
  - Angle of the end caps (modification expected in the ~mm order)
  - Reinforcements configuration to be confirmed



***Thank you!***

