

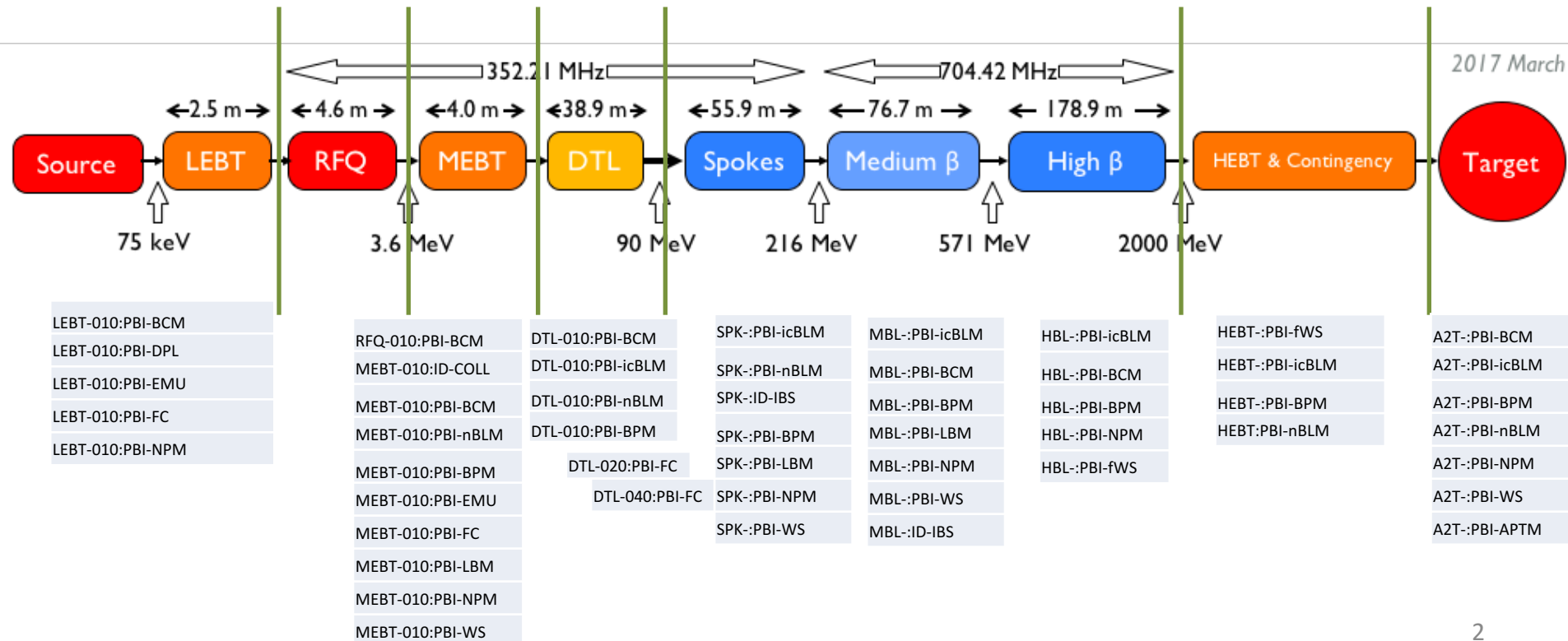
Overview of ESS linac general installation and BD plans and current status

Viatcheslav Grishin

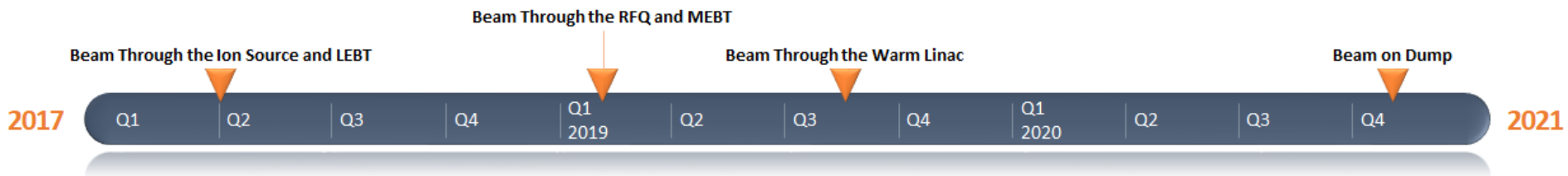
www.europeanspallationsource.se

20/11/2017 V.Grishin 4th BI Forum Paris

The ESS Linac & BD equipment



Beam schedule



Ciprian Plostinar

Organization & Meetings

- G01 installation coordination meeting (Dennis de Wit)
- G02 integration task force meeting (Anders Sunesson)
- FEB meeting (?)

Cable DB (Edvard Bergman)

Rack layout (Johan Norin)

Stub

Drawing

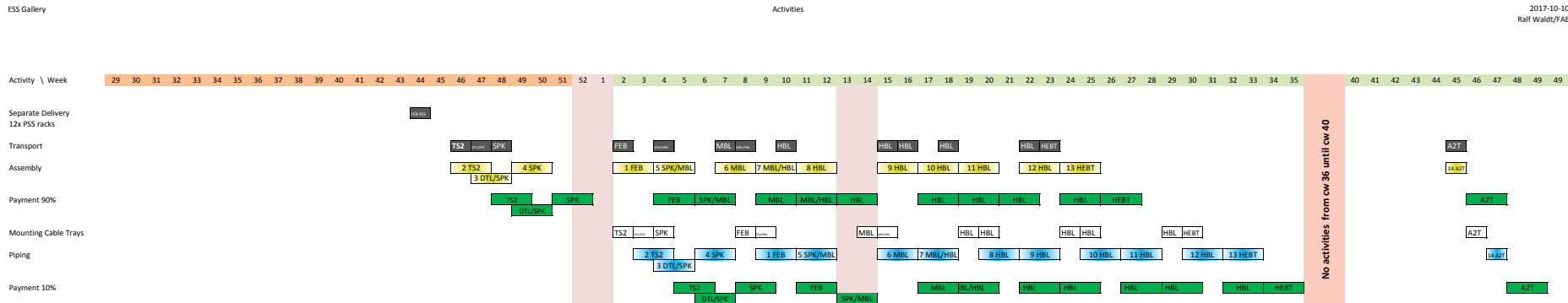
Ongoing installation/schedule and resources (manpower)

Cables, trays

- Cable tray installation in the tunnel: starts in December 2017
- Cable tray installation in the FEB: starts asap (contractor Skanska), together with cable pulling for Ion Source and LEBT
- FEB racks arrive in January (next slide)
- Framework for cable supply and installation to be published in February 2018, installation will start immediately after contract award.

Evangelia Vaena : “this NOT solidified though”

Racks delivery and installation schedule



Delivery of racks, panel boards etc. → Week 2, 2018.

Ion source deliveries, 12 december, preparational works for installation and installation.

ISRC - decision for the delivery of components: first part December 12, 2017, second part January 15, 2018, assembly starts January 16, 2018.

Tungalyft crane for ISRC, RFQ, MEBT is ordered.

- Delivery of crane required in December.

Note from BAS-U

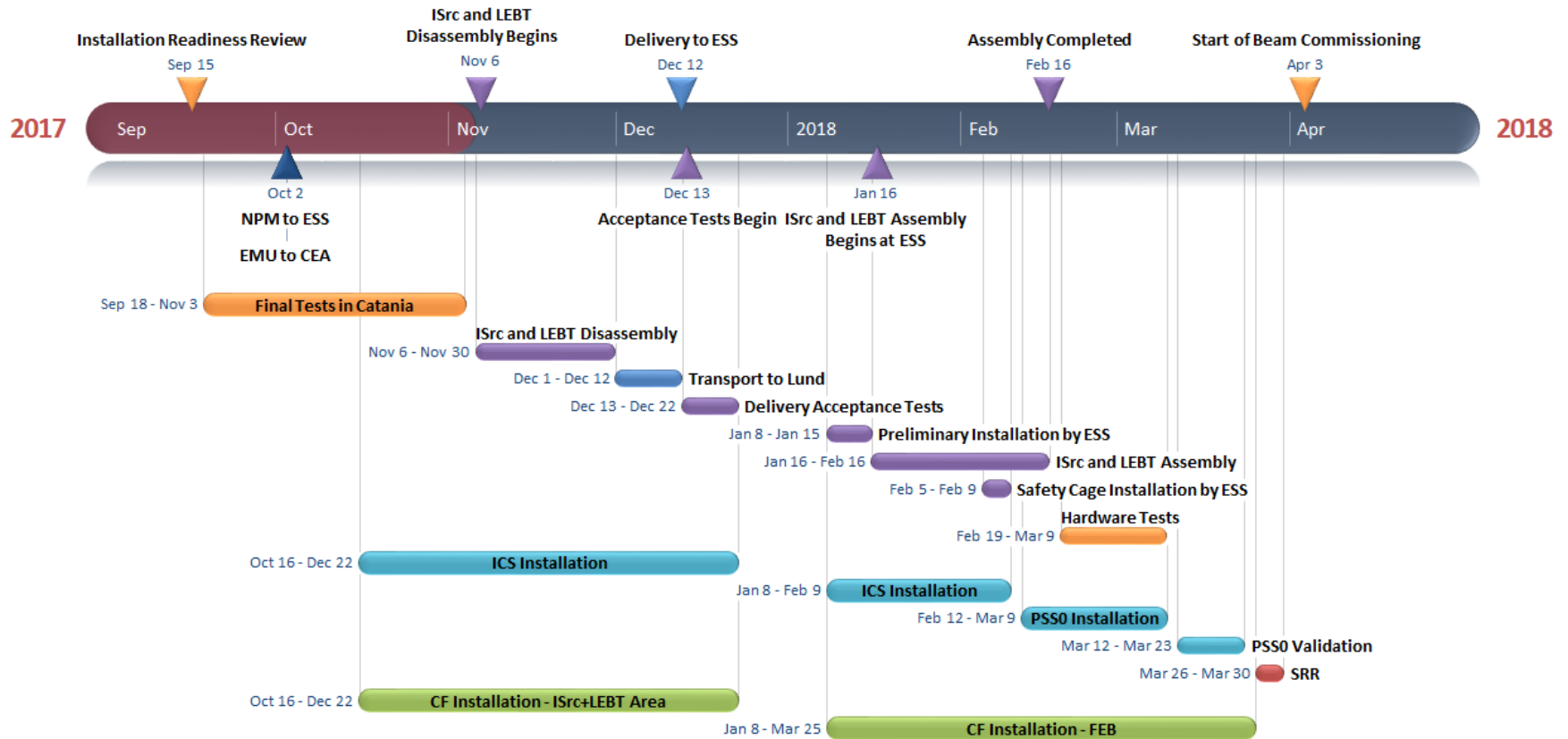
Employer responsibility

Safety responsibility of WP leaders as employer towards contractors performing work.

Work instructions to be reviewed by employer.

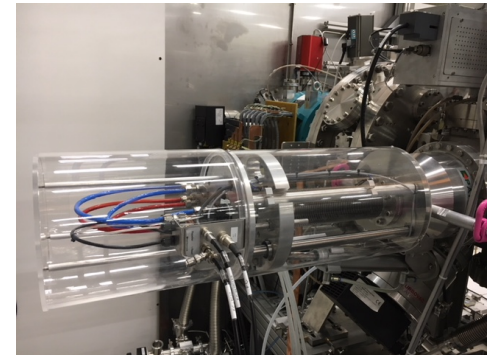
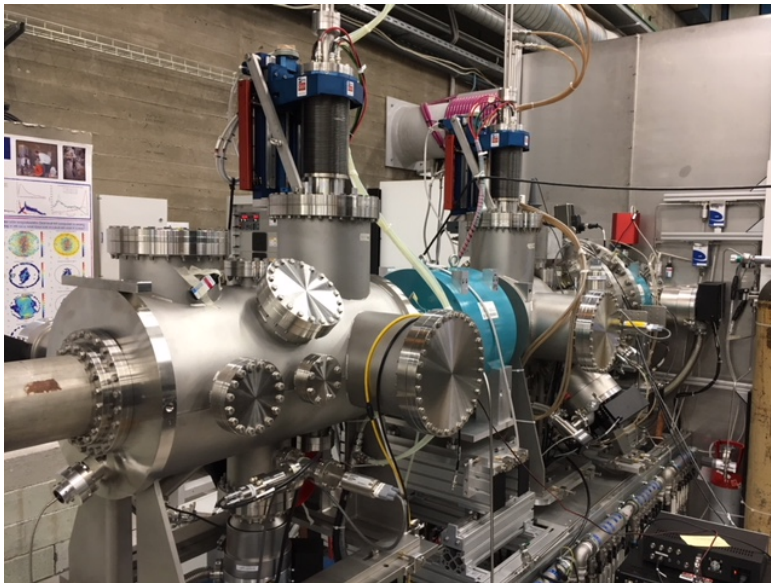
CF will issue a document with restrictions for drilling in the tunnel floor, wall and ceiling

Ion Source and LEBT



Ion Source and LEBT BD equipment

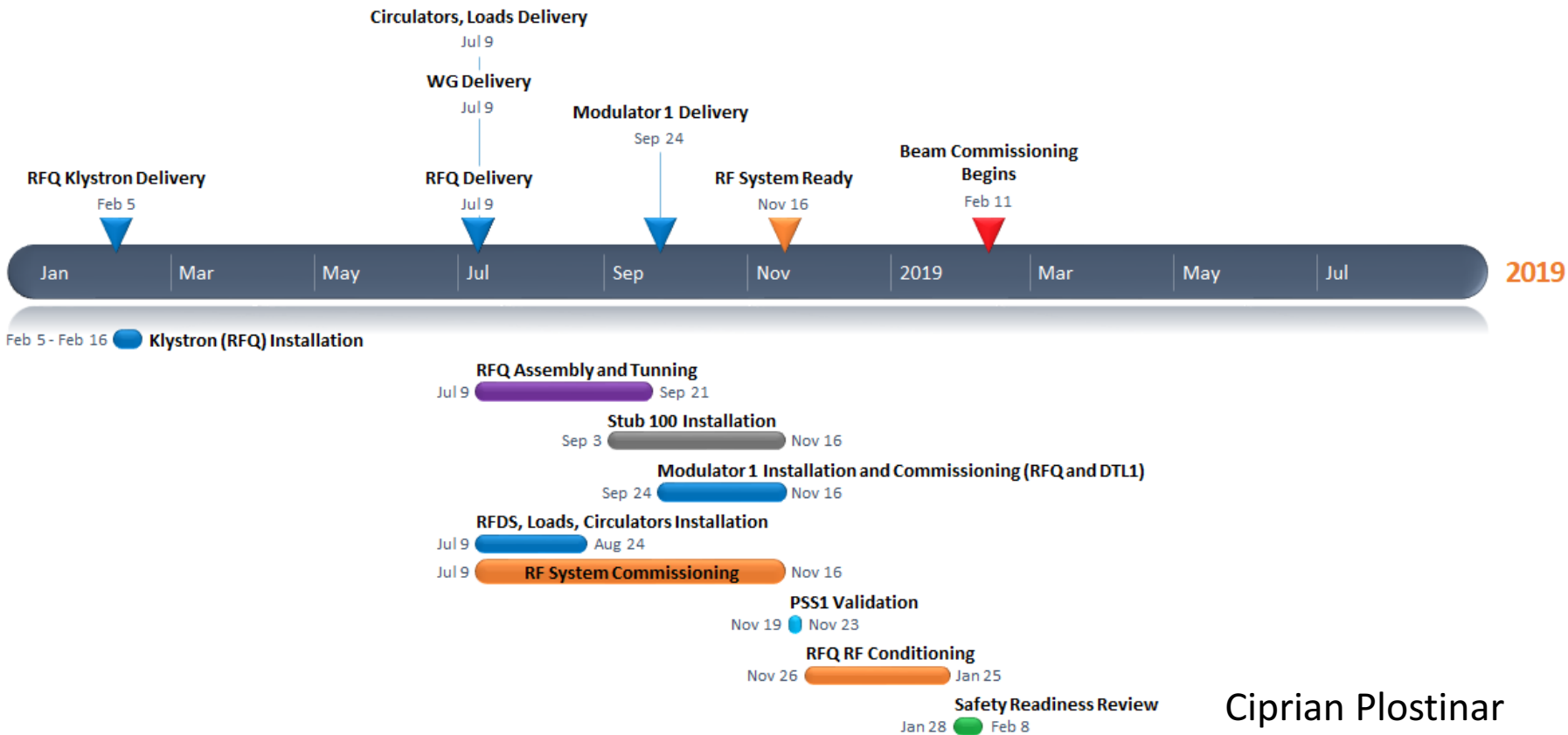
- Shipping from Catania to ESS and CEA done: 08/11/2017
- Regarding the box to ESS: transit time is 5-7 working days and we can expect the delivery in the end of this week.



- Major RFQ milestones:
 - RFQ Delivery: July 2018
 - RFQ Klystron: February 2018
 - RFQ Modulator: September 2018 (Commissioned December 2018)
 - RFQ Circulators, Loads, WG, etc – February – March 2019
- Affected by RF delivery delays for the entire NC Linac.
- Several solutions are being investigated to allow RFQ conditioning to begin in 2018
 - Borrow RF components
 - Direct procurement of any missing RF equipment.
 - Temporary relocate existing ESS RF equipment.

Ciprian Plostinar

RFQ Scenario 2 - Preliminary

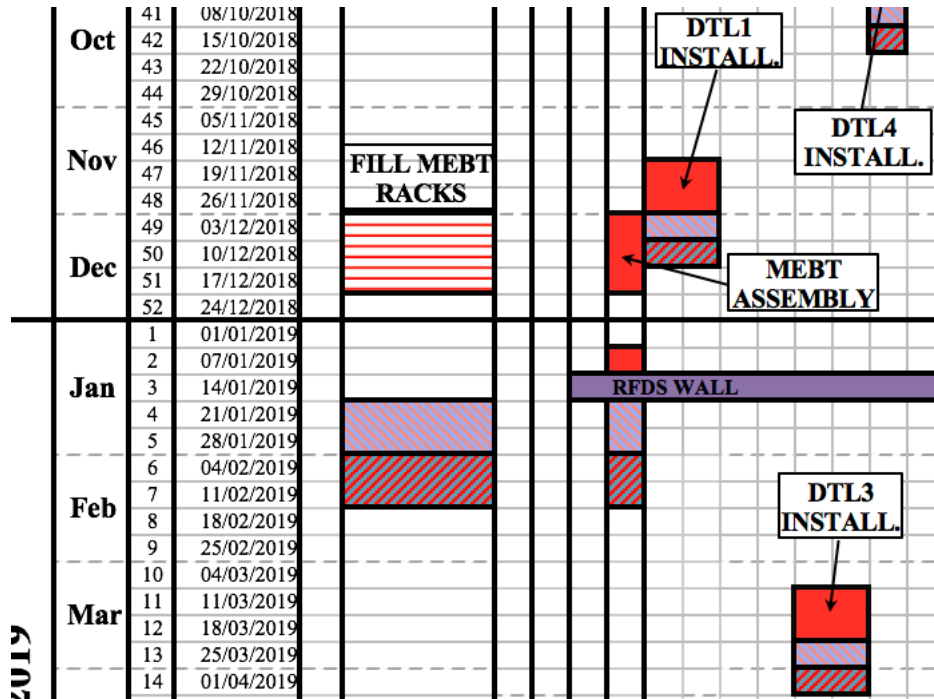


Ciprian Plostinar

- Currently scheduled for December 2018.
- Assembly to be coordinated with RFQ/DTL conditioning activities.
- No power amplifiers for the bunchers (expected March/April 2019)
 - Simulations indicate that the beam modes planned for this stage of commissioning would still be transported to the end of the MEBT.
- Ideally to be beam commissioned at the same time as the RFQ.

Ciprian Plostinar

MEBT and BD



[the ESS tunnel visit ESS Bilbao for the MEBT installation preparation](#) :08-11-17:

ESS:

- D.de Wit (DdW) Area Supervisor.
- G.Hulla (GH) WP3 (MEBT) coordinator.
- S. Grishin (SG) PBI installation supervisor WP7.
- E. Sargsyan (ES) WP3 coordinator.
- T. Shea (TS) PBI section leader (WP7)

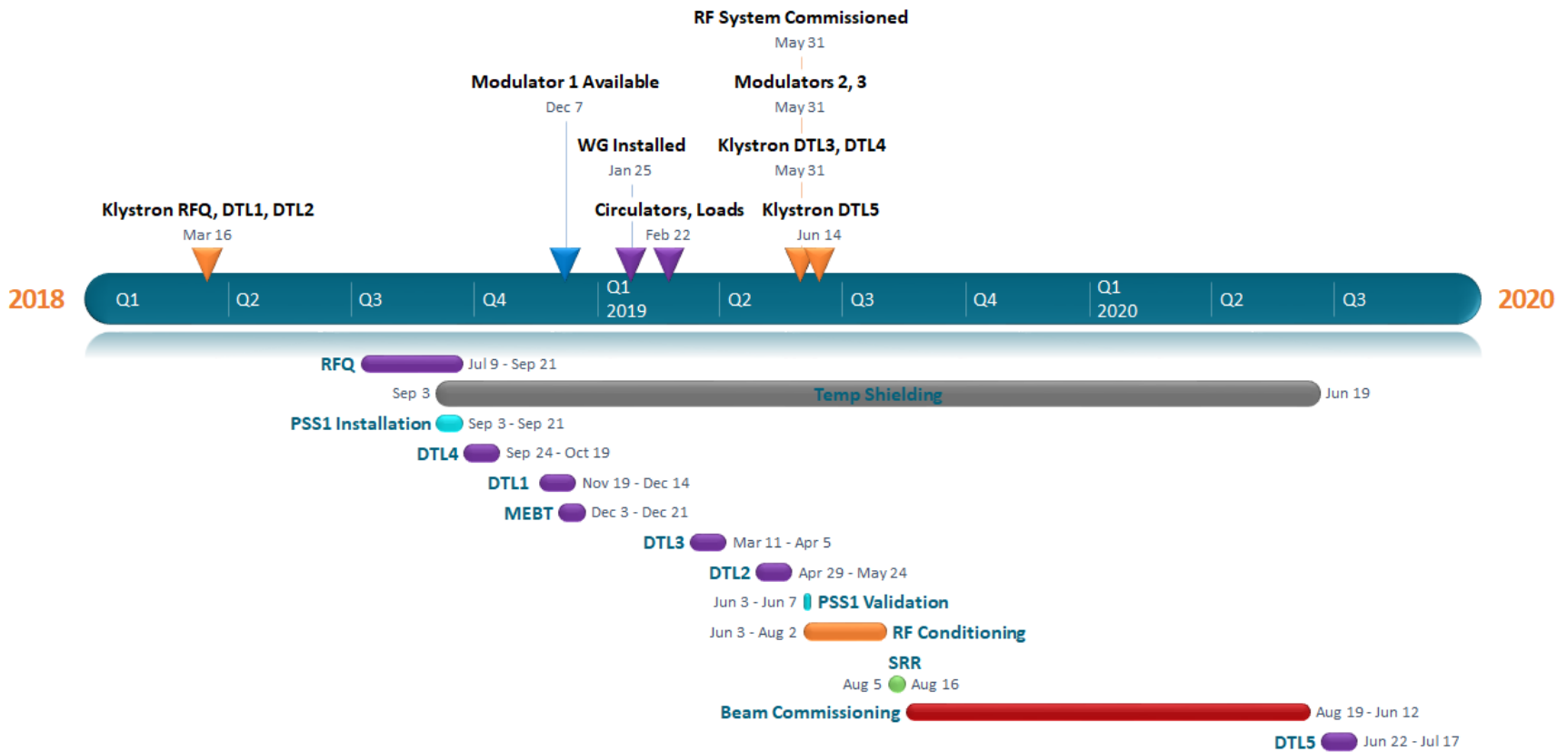
ESS Bilbao:

- I.Bustinduy (IB) MEBT (WP3, WP7, WP12,etc.) coordinator and Accelerator Division Head
- F.Garcia-Toriello (FGT) Building and Infrastructures manager

The scope of work of the MEBT installation for Bilbao is limited to 40k€, which mainly covers installation supervision. At the meeting held in Bilbao (30th Oct. 2017), Mats Lindros requested ESS-Bilbao to consider including the installation of the complete MEBT in their scope. Motivated by this, and to identify resources to be assigned a Team from Bilbao visits Lund 8-9 Nov 2017.

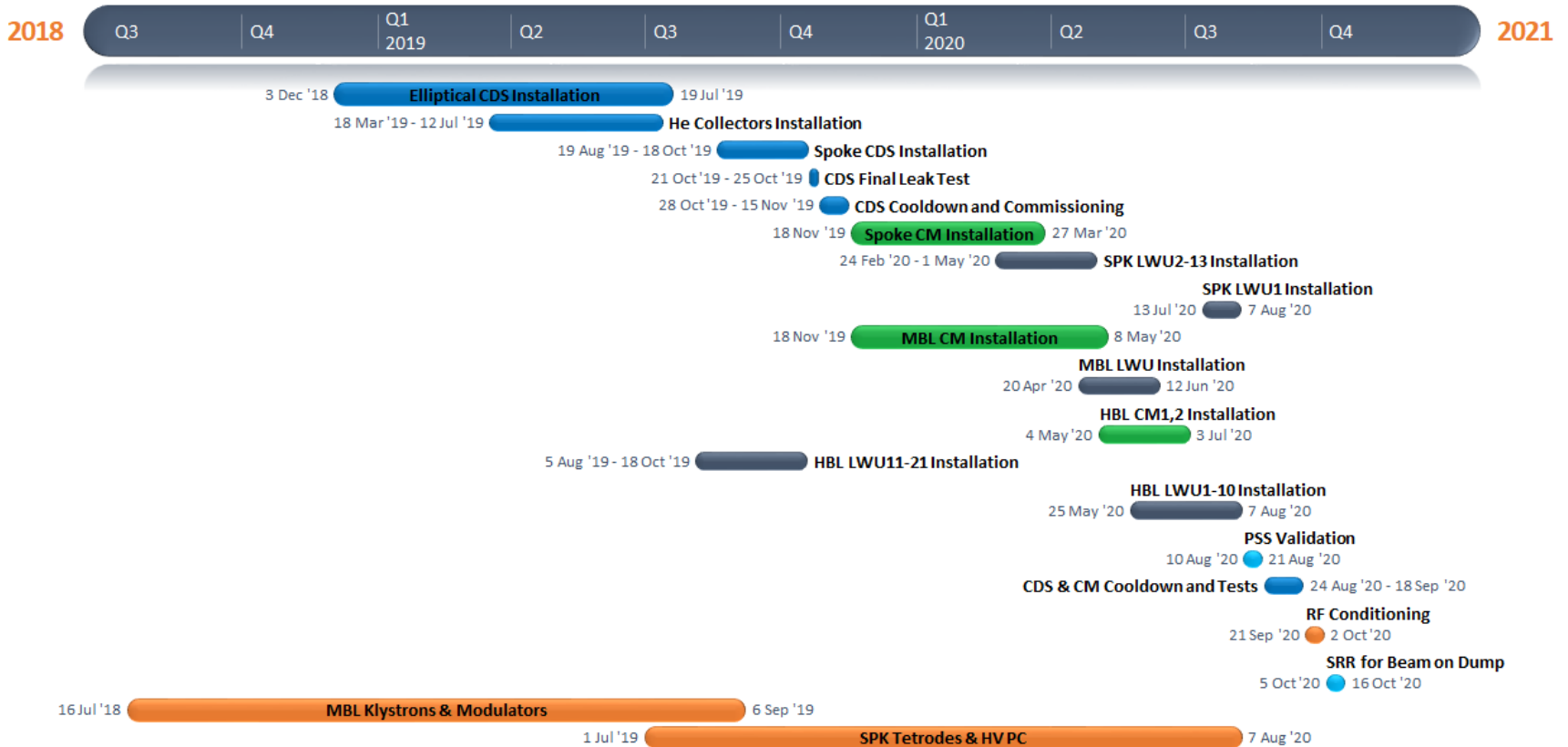
- DTL RFI Dates:
 - DTL4: September 2018
 - DTL 1: November 2018
 - DTL 3: March 2019
 - DTL 2: April 2019
 - DTL 5: October 2019
- Also affected by the RF delays.
- Gallery backbone installation about to begin.
 - Waveguide support systems, Racks, Pipping, Cable trays, Waveguides, etc.

DTL Timeline – Tunnel



Ciprian Plostinar

Superconducting Linac

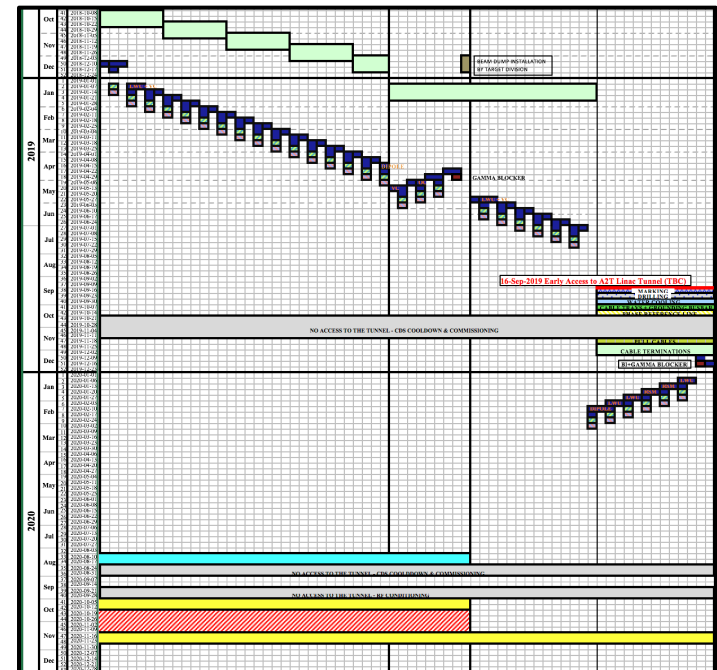


Ciprian Plostinar

HEBT, DogLeg, A2T and Dump Line

- Vacuum and LWUs installation can take place earlier (as soon as magnets become available)
 - HEBT vacuum ready for installation in January 2018.
- Tuning Beam Dump:
 - Shielding to be delivered March 2018
 - Beam Dump System: November 2018
- A2T Installation depends on access dates
 - Part of D02. As things stand, early access to be granted in September 2019

HEBT Installation Example



Ciprian Plostinar

The relevant information is:

- Shipment of the ACCT electronics (AIU, ACCT FE, Fast BCM FE and differential modules) to ESS: 2018/08/22
- Installation on site: 2018/09/18
- Site acceptance tests: 2018/10/02
- Official completion of the project (i.e. WUT contribution to the BCM): 2018/10/30

WS and Elettra Trieste

	WBS 11.7.7	Delivery of the first series at ESS	July 2018	Partner	ESS ERIC		
--	------------	-------------------------------------	-----------	---------	----------	--	--

12	WBS 11.7.7	Start of the installation of the Wire Scanner in the ESS Linac (NCFE) + Spoke	November 2018	ESS ERIC	ESS ERIC	Start of the installation of the Wire Scanner in the ESS Linac	0%
13	WBS 11.7.7	MEBT beam commissioning support	Jan 2019	ESS ERIC	ESS ERIC	MEBT beam commissioning with support of The Partner	0%

Mario Ferianis & Benjamin Cheymol

- the BCM appendix
- the appendix with cabling/rack layout for all 52 racks and the installation for 6 FEB racks.

Krzysztof Czuba , Wednesday, 15 November 2017 at 10:58:

“I have almost finalized the agreement, but I'm still waiting for reply from WUT financial department”

Conclusion

**In January 2018 we'll start the
tunnel and FEB installation !!!**