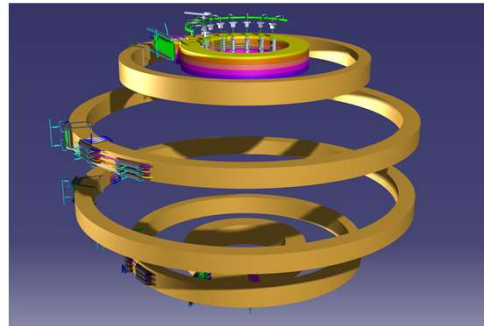


Information Day on SUPERCONDUCTING POLOIDAL FIELD COILS PROCUREMENT



DTT project: status and tender plans

Aldo Pizzuto

Chief of DTT Project Board

Web event: 26/04/21 14.30 CET (via zoom)

The material and information contained in this presentation are provided for information only



Outline



- DTT Scarl shareholders
 - DTT Organization
 - Status of the project
 - Contracts and Tenders
 - Concluding remarks
-

DTT S.c.a r.l. shareholders



After its establishment (10 Oct 2019) by **ENEA** and **CREATE**, the following shareholders joined DTT:

- **ENI**, by February 2020
- **Consortium RFX, INFN, PoliTo, Uni Bicocca, Uni Tor Vergata, Uni Tuscia**, by March 2021

Furthermore, **CNR** is going to finalise its membership.

The main shareholders are ENEA (71%) and ENI (25%)

Organization



The main DTT organization consists of:

- **Board of Directors**, President plus two members
- Three areas covering the following roles:
 - Scientific and Technology, in charge of the definition and consolidation of the project (**Project Board**)
 - Execution of the construction, in charge of the integration, procurement and commissioning of the project, including HSEQ functions (**Project manager**)
 - Administration and Finance (**CFO**)
- Four Technical divisions (three deal with work packages –WP- and the system integration), all belonging to PM
 - **WP-Hall**, in charge of the realization of the Tokamak and all the systems and component belonging to the experimental Hall, including Dia and RH;
 - **WP-Heating and Current Drive**, in charge of the realization of the three additional heating systems (NNBI, ECH, ICH)
 - **WP-BoP**, in charge of the design and construction of the Auxiliary Systems, Buildings, Electric Power Distribution
 - **System Integration**, in charge of the project integration, project requirements and operation

Each division is articulated in a number of Technical Units

The team consists of about 40 person belonging to DTT and 150 at disposal from shareholders

Status of the project

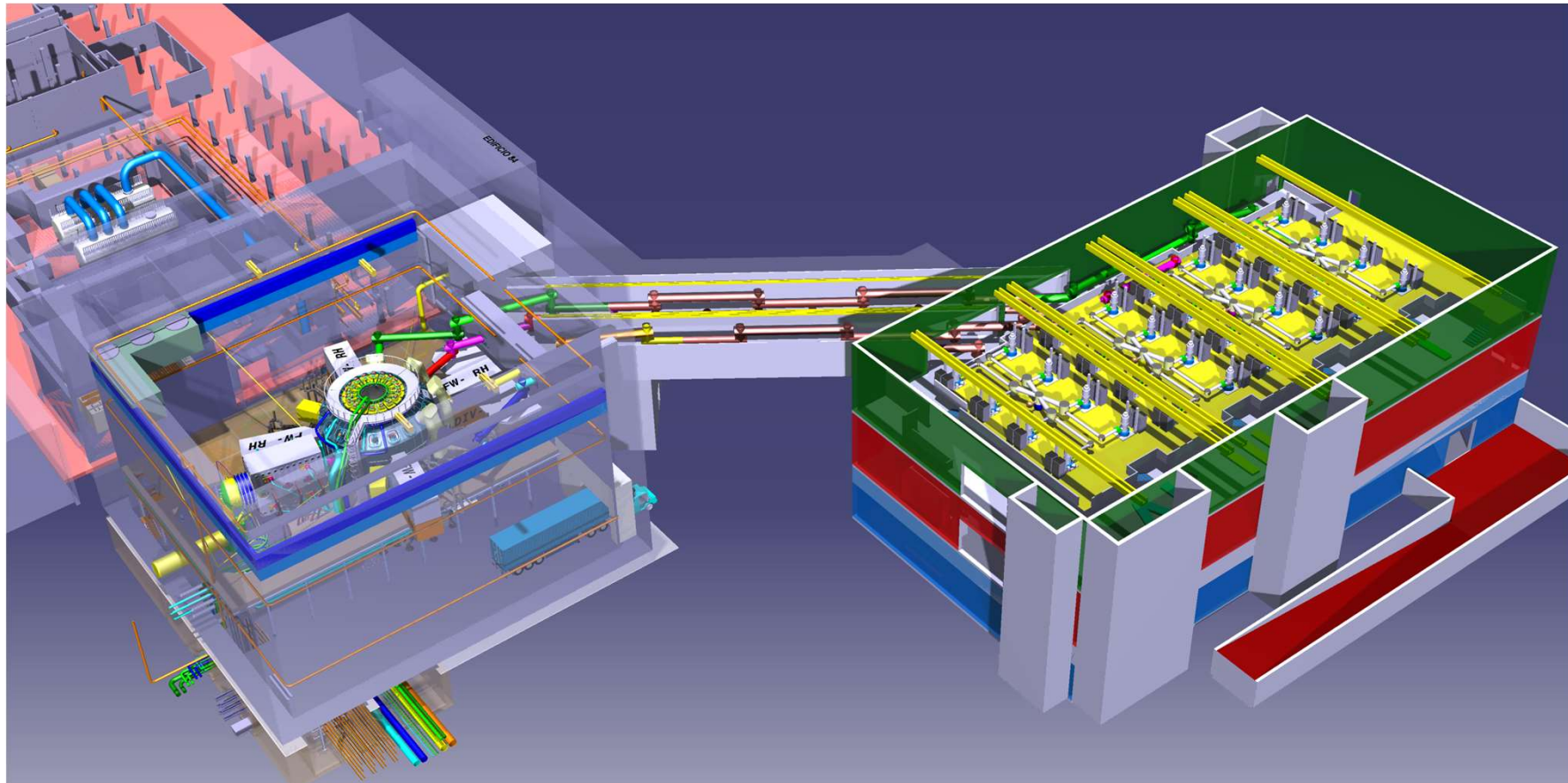


Even though the project activities are suffering the constraints due to the pandemic, the progress of the project can be considered fairly satisfactory, with the understanding that improvements are necessary to keep the schedule.

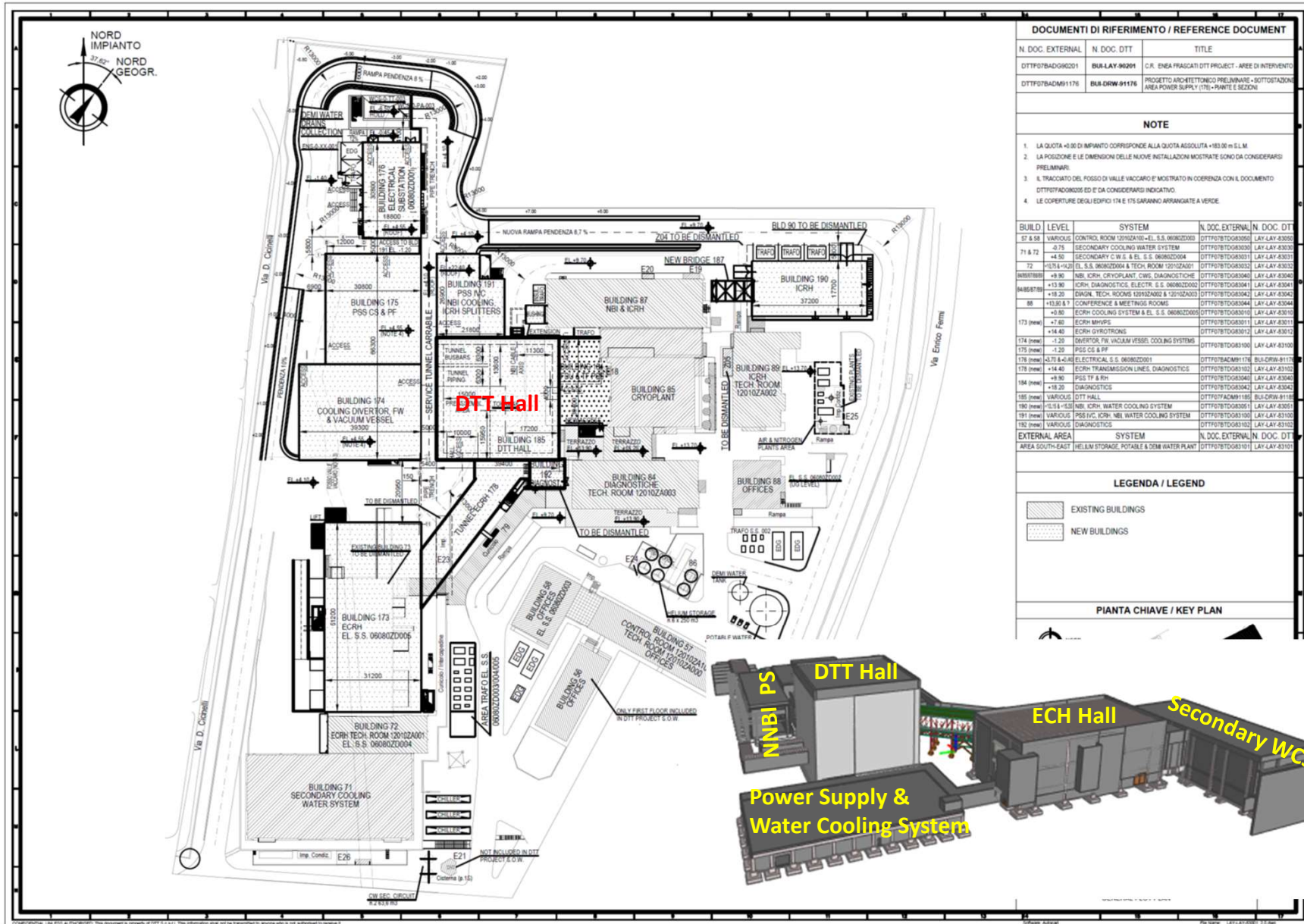
The design of the main systems and components are progressed and the remaining activities to complete the design are addressed with the involvement of the shareholders, few examples:

- TF and PF Magnet system design complete, CS in progress
 - Plasma facing components, Vacuum vessel, cryostat and thermal shield design are progressing, Vacuum vessel being the most critical in terms of time schedule
 - Power Supplies systems (including SNU's and FDU's) done
 - Lay out of the Hall and the BoP very advanced
 - Electron Cyclotron Heating Gyrotrons specs defined
 - CODAS architecture defined
 - Feasibility design of the Building completed
 - Water cooling plant well advanced
-

Status of the project: Tokamak and ECH Halls



Status of the project: Buildings



Contracts and Tenders



Contracts awarded:

- Strands and copper wires, four lots:
 - Nb₃Sn for TF Coils
 - Nb₃Sn for CS and PF1/ PF6 coils
 - NbTi for 4 PF Coils
 - Copper, Cr and Ni plated for Nb₃Sn and NbTi cables respectively
- Eighteen Toroidal Field Coils Modules
- Superconductor Cables for all the magnets

Tender ongoing:

- Eighteen casings for TF Coils
- Sixteen 170 GHz Gyrotron (Call launched jointly with F4E)

Total commitment: about € 170 million

Contracts and Tenders cont'd



Major Tenders to be launched

- by I semester 2021:

- Power Supply for Toroidal Coils
- Power supply for Central Solenoid
- Poloidal Field Coils
- Power supply for Poloidal field coils

- by II semester 2021:

- Buildings First Lot (DTT Hall and ECH Buildings)
- Vacuum vessel
- Cryostat
- Thermal Shield
- Water cooling system

Some of the tenders foreseen in 2021 will be postponed to 2022, however they don't impact on the schedule, among them:

- Central Solenoid
 - In vessel coils including power supply
 - Sensors for magnetic diagnostics
-

Concluding remarks



DTT is quite on track, pandemic constraints notwithstanding

2021 is a crucial year for the accomplishment of the critical project milestones

The financial commitment amounts to about 1/3 of the total budget so far and will exceed 50% by the end of the current year

We rely on an effective and productive interaction with the industry in order to reduce the risks of the project both from technical and planning standpoints

For updates please refer to our website

<https://www.dtt-project.it/>
