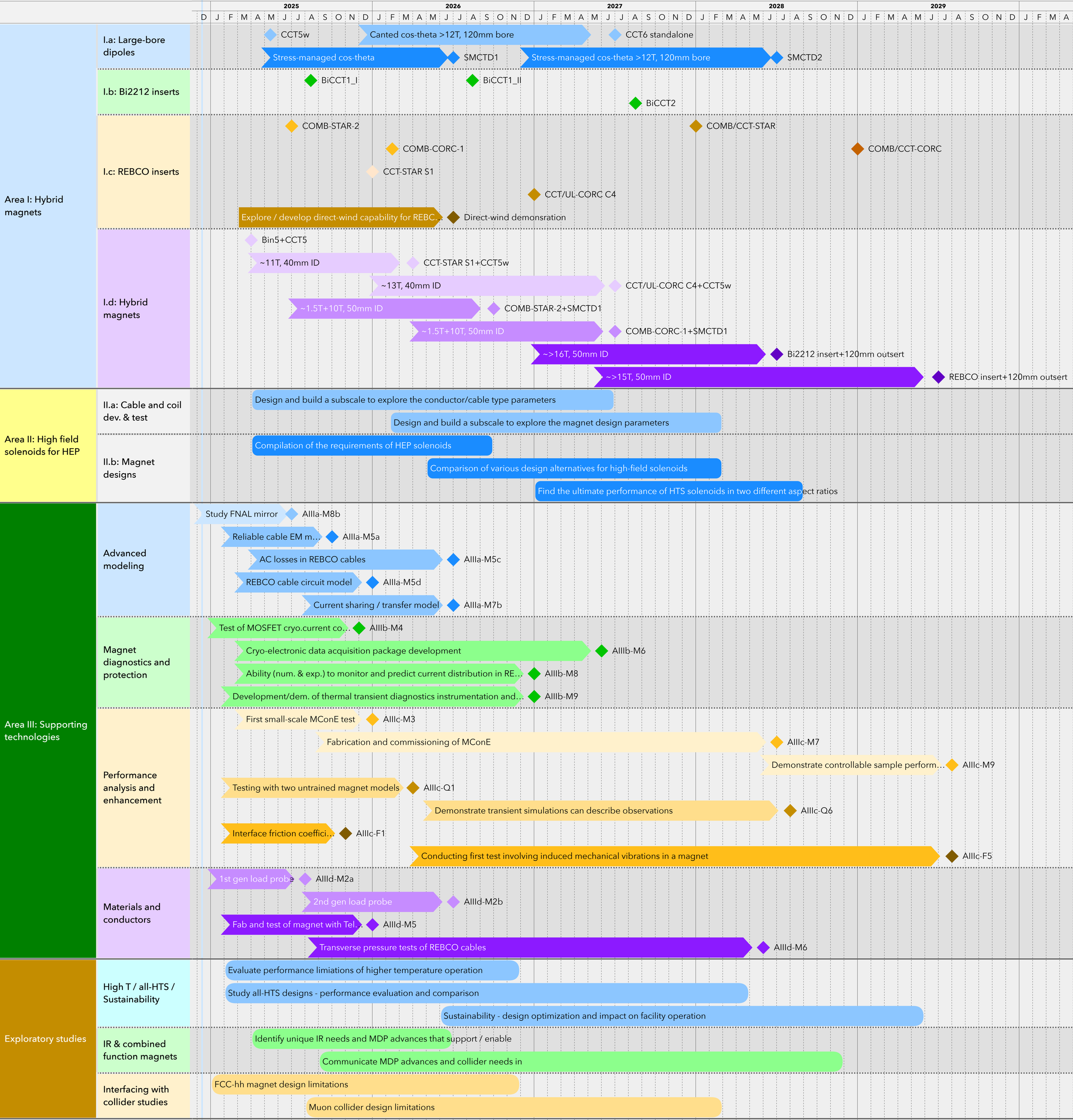
2025
2026
2027
2028
2029
D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A
Area I: Hybrid magnets
I.a: Large-bore dipoles
CCT5w
Canted cos-theta >12T, 120mm bore
CCT6 standalone
Stress-managed cos-theta
SMCTD1
Stress-managed cos-theta >12T, 120mm bore
SMCTD2
I.b: Bi2212 inserts
BiCCT1_I
BiCCT1_II
BiCCT2
I.c: REBCO inserts
COMB-STAR-2
COMB/CCT-STAR
COMB-CORC-1
COMB/CCT-CORC
CCT-STAR S1
CCT/UL-CORC C4
Explore / develop direct-wind capability for REBC...
Direct-wind demonsration
I.d: Hybrid magnets
Bin5+CCT5
~11T, 40mm ID
CCT-STAR S1+CCT5w
~13T, 40mm ID
CCT/UL-CORC C4+CCT5w
~1.5T+10T, 50mm ID
COMB-STAR-2+SMCTD1
~1.5T+10T, 50mm ID
COMB-CORC-1+SMCTD1
~>16T, 50mm ID
Bi2212 insert+120mm outsert
~>15T, 50mm ID
REBCO insert+120mm outsert
Area II: High field solenoids for HEP
II.a: Cable and coil dev. & test
Design and build a subscale to explore the conductor/cable type parameters
Design and build a subscale to explore the magnet design parameters
II.b: Magnet designs
Compilation of the requirements of HEP solenoids
Comparison of various design alternatives for high-field solenoids
Find the ultimate performance of HTS solenoids in two different aspect ratios
Area III: Supporting technologies
Advanced modeling
Study FNAL mirror
AIIIa-M8b
Reliable cable EM m...
AIIIa-M5a
AC losses in REBCO cables
AIIIa-M5c
REBCO cable circuit model
AIIIa-M5d
Current sharing / transfer model
AIIIa-M7b
Magnet diagnostics and protection
Test of MOSFET cryo.current co...
AIIIb-M4
Cryo-electronic data acquisition package development
AIIIb-M6
Ability (num. & exp.) to monitor and predict current distribution in RE...
AIIIb-M8
Development/dem. of thermal transient diagnostics instrumentation and...
AIIIb-M9
Performance analysis and enhancement
First small-scale MConE test
AIIIc-M3
Fabrication and commissioning of MConE
AIIIc-M7
Demonstrate controllable sample perform...
AIIIc-M9
Testing with two untrained magnet models
AIIIc-Q1
Demonstrate transient simulations can describe observations
AIIIc-Q6
Interface friction coeffici...
AIIIc-F1
Conducting first test involving induced mechanical vibrations in a magnet
AIIIc-F5
Materials and conductors
1st gen load probe
AIIId-M2a
2nd gen load probe
AIIId-M2b
Fab and test of magnet with Tel...
AIIId-M5
Transverse pressure tests of REBCO cables
AIIId-M6
Exploratory studies
High T / all-HTS / Sustainability
Evaluate performance limiations of higher temperature operation
Study all-HTS designs - performance evaluation and comparison
Sustainability - design optimization and impact on facility operation
IR & combined function magnets
Identify unique IR needs and MDP advances that support / enable
Communicate MDP advances and collider needs in
Interfacing with collider studies
FCC-hh magnet design limitations
Muon collider design limitations