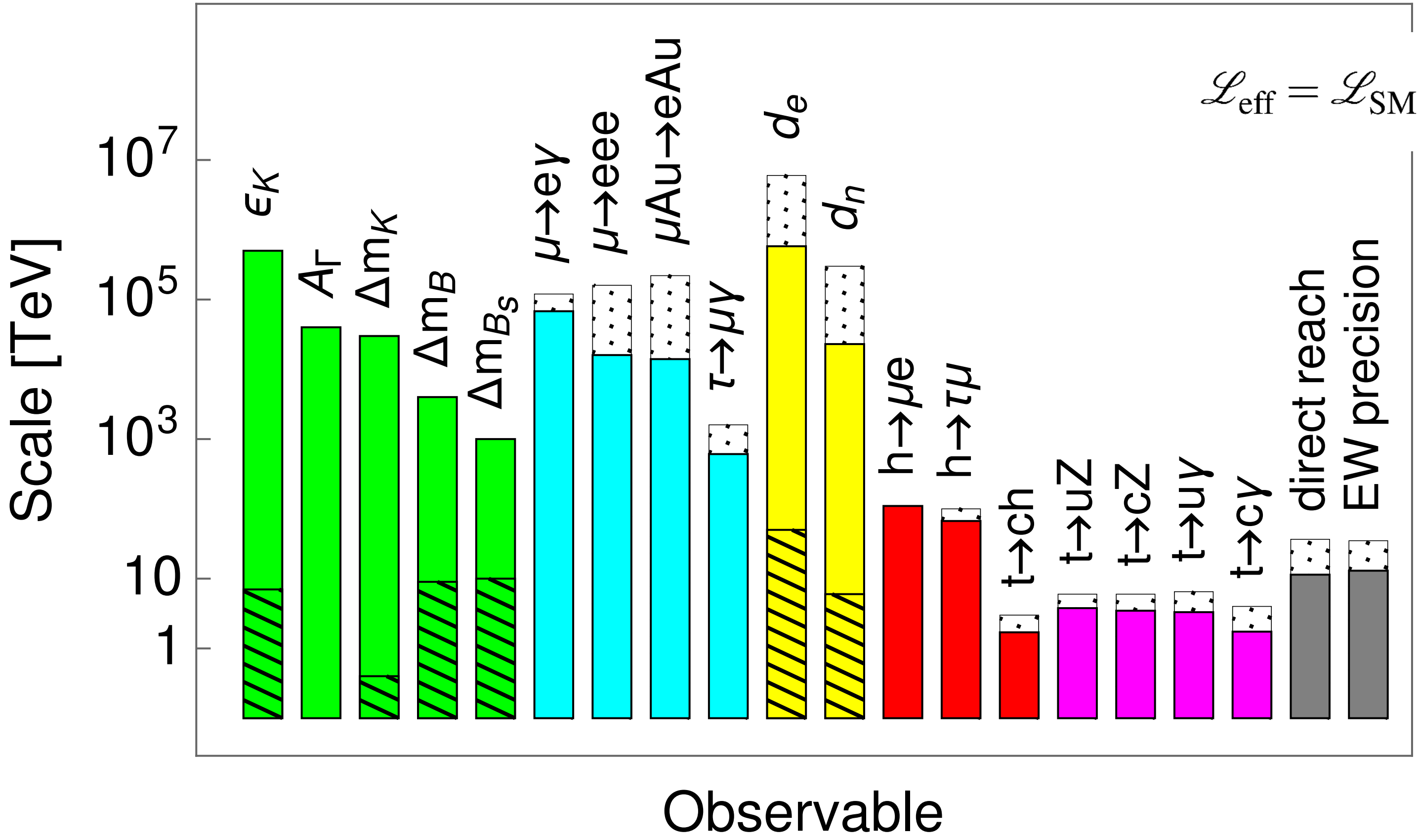
Do you think flavour physics should play an important role in the future long-term strategy of particle physics ?

If so, how and in which direction?

$$\mathcal{L}_{\rm eff} = \mathcal{L}_{\rm SM} + \frac{C_5}{\Lambda_M}\mathcal{O}^{(5)} + \sum_a \frac{C_6^a}{\Lambda^2}\mathcal{O}_a^{(6)} + \cdots$$



Several assumptions and caveats in making this figure...

Despite the caveats, this illustrates the unique power of flavour physics to probe NP!

Physics Briefing Book: Input for the European Strategy for Particle Physics Update (**2019)**

« *The combination of quark and lepton searches for flavour and CP violation at different frontiers is a formidable tool to discover new physics.* ***Flavour physics must be a crucial ingredient of the future strategy of particle physics.*** »

5 years later...

→ The long-term future of particle physics remains quite uncertain

→ Sad example: Cancellation of the rare-K program at CERN

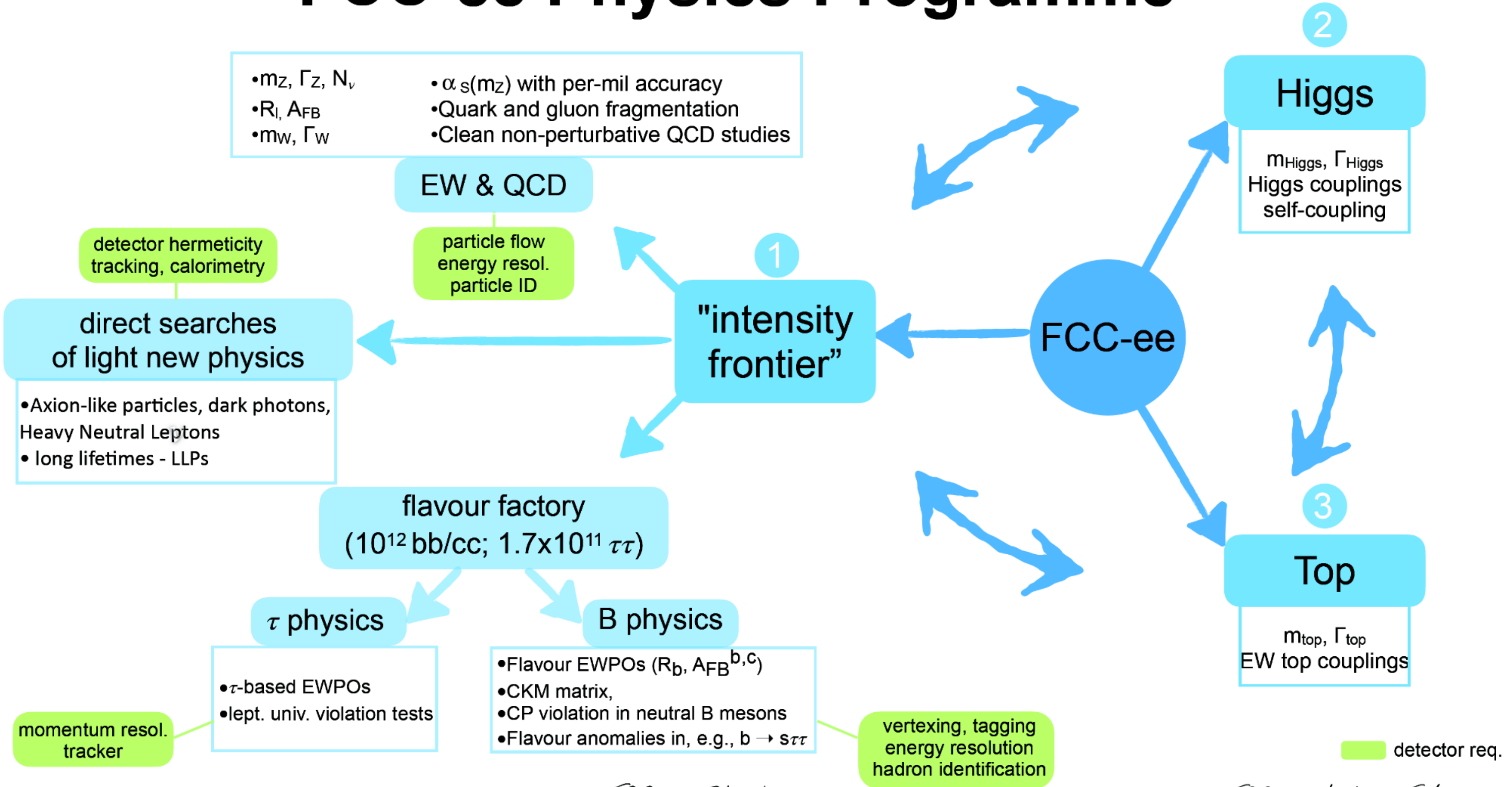
→ Are the priorities of the theory community well presented?

Need for better communication and alignment within the field?

Forthcoming European Strategy Symposium: **June 2026**

Deadline for submitting written inputs: 31 March 2025

FCC-ee Physics Programme



- Rare semileptonic decays and leptonic decays:
  - $b \to s\tau^+\tau^-$, e.g. $B^0 \to K^{*0}\ \tau^+\tau^-$.
  - $b \to s\nu\nu$, e.g. $B_s \to \phi\nu\nu$
  - $Bc \to \tau\nu$; $b \to s(d)\,\ell\ell$

- *CP* violation studies:
  - The CKM γ angle, e.g. $B_s \to D_s K$.
  - The semileptonic asymmetries (*CP* breaking in mixing).
  - The CKM α angle, e.g. $B^0 \to (\pi^0\pi^0)$.
  - The matrix elements V_{ub} and V_{cb} ....

- Tau Physics:
  - Lepton flavour violating τ decays
  - Lepton-universality tests in τ decays.

- Charm Physics:
  - The rare decays, e.g. $D \to \pi\nu\nu$, $D^0 \to \gamma\gamma$
  - The hadronic decays, $D^+ \to \pi^+\pi^0$ ...