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The FCC-ee SRF system, machine layouts and cryomodules

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In the past year, infrastructure and integration studies have led to a new choice of the two straight sections dedicated to the FCC-ee SRF system. Point H is now entirely dedicated to the collider while Point L integrates the booster. This new configuration offers a more convenient arrangement of the cryomodules which are now all placed at ground level for the collider and at a higher level for the booster for integration compatibility with the arcs. Meanwhile, the SRF requirements have evolved to comply with updated physics parameters and cavity operational parameters. Cavity numbers, types and RF designs have evolved and provide now a stable basis for the layout studies. The baseline architecture of the machines features standalone cryomodules individually cooled via cryogenic distribution lines. This configuration, which is the most effective in terms of tunnel installation for staged energy upgrades and offers the best operational flexibility, is now being challenged by continuous cryostat architectures which are more cost-effective and energy efficient. Tunnel integration needs for these new architectures will be compared with the present baseline and future work will be outlined.

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