**Job description:**

**Staff Mechanical Engineer - Rings**

**The Challenge**

The Rings team is responsible for the design, analysis, and optimization of the sealing ring and piston assemblies. These assemblies must contain pressures far in excess of 100 bar and withstand gas temperatures up to 1500C, all while traversing a half-meter stroke 10 times per second. To achieve oil-free, low-emissions operation, we make our rings out of graphite – a brittle material that can oxidize at high temperature, and wears out over time. All interfacing metal components are made from high-temperature superalloys. Increasing the interval between ring services is critical to Mainspring’s success as a company, with top executives contributing directly to the program. As a Senior Mechanical Engineer on this team, you will help to drive one of the most important development programs at the company.

**Responsibilities**

* **Lead R&D Projects:** Drive ring development projects from initial concept through to production. This includes setting project requirements, developing novel designs, and creating production plans.
* **Design & Analysis:** Design complex moving parts for the piston and ring system. This involves using CAD and structural FEA to optimize designs that can operate in a multiphysical environment with high pressure and temperature.
* **Root Cause Investigations:** Assess and troubleshoot failure modes that are driven by complex thermal, structural, materials, and fluid interactions. Understand surrounding subsystems and their impact on ring performance.
* **Testing and Validation:** Design and run effective test campaigns using both benchtop rigs and in-generator experiments to validate designs and accelerate learning.
* **Collaboration:** Work closely with a talented cross-functional engineering team in a fast-paced, iterative environment.