Compressor trains and their drivers lie at the heart of LNG processes. Our consultant’s knowledge and operating experience of LNG facilities onshore and offshore (FLNG) cover every aspect of drivers and driven equipment, solutions to on-going problems and the cutting-edge technology that is progressing in the field.

Our familiarity with all types of rotating equipment within the LNG sector - including compressors gas turbine drivers Fr5,6,7, and 9, LM2500, LM6000, RR RB211 & Trent60, and more - enables us to advise on most design and operational aspects.

With regards to Gas Turbines, the top demanded services are the selection process of the refrigerant compressor drivers and the technology qualification of new turbines for mechanical drive application. This is almost true for aero-derivative GT that are spreading in the LNG business.
ARE THE SELECTED TURBINES RELIABLE AND READY TO BE DEPLOYED?

The selection process has the aim to identify the optimum gas turbine driver for the process; it covers:

- Available site power and speed range within which the subject gas turbine model can be used;
- Interactions of the proposed turbine model with the licensor technology, plant capacity and refrigerant compressor selection;
- Acceptable fuel gas range;
- References analysis;
- Analysis of scheduled maintenance and GT package availability;
- Whether the turbines are ready to be deployed without any additional work other than the normal project bid conditioning or otherwise what additional work is required.

EQUIPMENT NOVELTY LEVEL NEED TO BE IDENTIFIED IN THE CONCEPTUAL PHASE

The technology qualification purpose is to identify risks, benefits, possible mitigations, fall backs and controls of novelty equipment, it includes, however it is not limited to, the review of:

- the engine design details and other components design and developments;
- turbine site performances;
- overall and systems availability and reliability;
- failure history and investigation findings;
- results of testing of upgrades from previous versions;
- maintenance strategy;
- in progress research and development plans to improve reliability, emissions and availability.

The study is performed through a series of meetings at the equipment manufacturer’s facilities, visits and interviews with end users operating the assessed engines, and reviewing and cross-checking various design, manufacturing, testing, and packaging aspects. An important aspect of the review is to examine previous failures and design issues of the core engine hot gas path components, review subsequent failure studies performed by the OEM, and the remedies implemented in the existing and future engines.

The customer’s benefits from these services are the optimization of plant capacity through the correct selection of equipment duty to avoid under-sizing of over-design, the awareness of the novelty level of the selected equipment, the clear advanced identification of critical areas and risks and the mitigation actions needed over the project phases, and the awareness of the effective reliability and availability of the selected equipment.