

At Etiam Engineering we specialize in the research, design, validation and operational optimization of **Space-based In-Situ-Resource-Utilization (ISRU) projects** (e.g. asteroids, Mars, Moon, etc), under the specialties of Life Support / Propellants and Metals / Plastics.

We have global experience in over \$US 40 billion of successful Minerals / Energy projects, from concept level to construction, operation and optimization, and at the concept / pre-feasibility level for Space-based production plants.

Our expertise and capabilities include:

- Innovative technical solutions development during scoping, design, construction and operation,
- Integrated optimization using 100+ scenario simulations,
- R&D test-work development, management and analysis,
- Process option and Flowsheet development and optimization,
- Complex data analysis and problem solving using big data techniques,
- Strong Health, Safety, Environment and Community emphasis in all design matters,
- Detailed capital and operating cost estimation with financial scenario modelling,
- Energy Management System (EMS) review, development and optimization,
- Experienced in proposals, development and reporting for studies funded by NASA NIAC, NASA SBIR, NASA Tipping Point, EU Horizon H2020, plus others,
- Due diligence and technical auditing,
- Reporting and presentation at Board / CEO level.



Etiam Engineering has extensive experience in:

- Hydrometallurgical, pyrometallurgical and mineral processing projects in Nickel / Cobalt (sulfides and laterites), Uranium, Copper, Gold, plus others,
- Oil refining and gas processing, with licensor management and integration for petrochemical facilities and steam crackers,
- Power plants, complex multi-level steam systems, water recovery, cooling water, natural gas, hydrogen, sulphur, quicklime, limestone, plus transport analysis,
- In-Situ Resource Utilization (ISRU) of regolith and atmospheric gases to produce water, CO₂, oxygen, fuels and oxidizers, from asteroids, the Moon, and Mars.