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Company Overview

Laser Giosources Technologies is a pioneering company specializing in laser-based geothermal drilling and tunneling technologies. Our mission is to revolutionize the global energy sector through sustainable, contactless, and Ultra-deep drilling solutions that unlock the Earth's vast geothermal potential – providing clean, continuous, and renewable power to the world. Founded and led by a team of expert engineers and energy consultants, the company combines cutting-edge laser physics, thermal management systems, and deep-drilling innovation to deliver efficient, cost-effective, and eco-friendly solutions for the global energy transition.



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2. Vision & Mission

Vision:

To lead the global shift towards sustainable geothermal energy using next-generation laser drilling systems

Mission:

To develop and deploy laser drilling technologies capable of reaching unprecedented depths safely and economically transforming geothermal heat into reliable electricity and water for future generations

3. Core Technology: Laser Drilling & Tunneling

Our proprietary system integrates high-power laser beams with thermal induction and nitrogen circulation to melt rock formations at depths up to 15,000 meters

This technology eliminates the mechanical friction and wear seen in traditional drilling systems

Key Features:

- Drilling speed: 20–30 meters/hour (vs. 1–3 m/h in conventional systems)
- Economically viable at depths up to 15 km
- Zero contact with rock formations – no vibrations or tool erosion
- Reaches geothermal zones of 500°C No chemicals or pollutants released
- Enables transverse drilling via optical beam deflection
- Closed-loop water cycle — zero waste

Our R&D draws inspiration from global pioneers such as Quays Energy (USA) and Fraunhofer IPT (Germany), combining laser photonics, plasma physics, and heat flow modeling for scalable deep drilling applications



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4. Geothermal Energy Applications

We harness deep geothermal heat to generate electricity and potable water using a closed steam-turbine system

Benefits:

- Renewable requires no fuel 100%
- Zero greenhouse gas emissions
- Reliable and continuous power supply
- Produces both electricity (up to 1 GW/h per 1,000 m²) and fresh water for agriculture

Implementation Process:

- Drill two wells (injection + production) to 15 km depth
- Heat water using geothermal energy
- Convert steam to electricity via turbines
- Condense steam to produce drinkable and irrigation water.



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5. Market Opportunity

The global geothermal market represents a multi-billion-dollar opportunity, with over 2,600 deep wells drilled between 2015–2019, and growing demand for clean base in energy .Laser drilling can reduce drilling time and cost by more than 60%, making it a transformative solution for energy utilities and developers.

6. Target Markets & Clients

Germany:

RWE Power AG Steag GmbH
Rheinenergie Köln Stadtwerke
Siegen

BGE (Federal Waste Disposal uthority)

Egypt:

Egyptian Electricity Holding
Company Egyptian Electricity
Transmission Company Ministry
of Electricity & Renewable
Energy

Oman:

Muscat Electricity Distribution Co.
Majan Electricity Co.
Mazoon Electricity Co.
Dhofar|Power Co.



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7. Global Expansion Strategy

Laser Giosources Technologies plans regional hubs and pilot projects in

- Europe (Germany, Iceland)
- Middle East (Egypt, Oman, Saudi Arabia)
- Asia-Pacific (Indonesia, Japan, Philippines)

Future development includes partnerships with EPC contractors, energy ministries, and academic research institutions.



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8. Other Application Fields

- Deep geothermal drilling
- New oil & gas wells and redevelopment Underground pipeline installation Tunneling & mining
- Water well drilling
- Rare earth element exploration
- Sustainable nuclear waste disposal

9. Strategic Partnerships

We collaborate with global technology leaders in laser systems and energy innovation

- Fraunhofer IPT (Germany) High-Power Laser Systems Quaise Energy (USA) – Geothermal Laser Drilling Schlumberger (SLB) – Advanced Drilling and Subsurface Solutions



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